INITIAL STUDY/
MITIGATED NEGATIVE DECLARATION

CHERRY SOLAR PROJECT
AND GEN-TIE LINE

CUP 22-05

Kings County Community Development Agency

September 2022

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ACRONYMS AND ABBREVIATIONS

AADT	Annual Average Daily Traffic
AB 32	Assembly Bill 32 (California Global Warming Solutions Act of 2006)
AC	alternating current
ADA	Americans with Disabilities Act
ADT	Average Daily Traffic
AF or af	acre-feet
AFY or afy	acre-feet per year
AMP	Agricultural Management Plan
APN	Assessor's Parcel Number
BMPs	best management practices
CAISO	California Independent System Operator
CAL FIRE	California Department of Forestry and Fire Protection
CalGEM	California Department of Conservation (CDOC), Geologic Energy Management Division
CALGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CBSC	California Building Standards Commission
CDA	Community Development Agency
CDC	Centers for Disease Control
CDFW	California Department of Fish and Wildlife
CDOC	California Department of Conservation
CDOJ	California Department of Justice
CDPH	California Department of Public Health
CDWR	California Department of Water Resources
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CNDDB	California Natural Diversity Data Base
CNEL	community noise equivalent level
CO2e	Carbon Dioxide Equivalents
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CVP	Central Valley Project
CWA	Clean Water Act
CWML	Chemical Waste Management Landfill
cy	cubic yards
dB	decibels
dBA	decibels in "A-weighted" scale
DC	direct current
DMR	Division of Mine Reclamation

ACRONYMS AND ABBREVIATIONS (Cont'd)

DOC	California Department of Conservation
DOD	Department of Defense
DPR	California Department of Pesticide Regulation
DSRP	Decommissioning and Soil Reclamation Plan
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FSZ	Farmland Security Zone
g	gravity - unit of ground acceleration; 1.0 g = force of gravity
GHG	greenhouse gas
gpd	gallons per day
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
HCP	Habitat Conservation Plan
HMBP	Hazardous Materials Business Plan
I&R	Illingworth & Rodkin
IS/MND	Initial Study/Mitigated Negative Declaration
ISR	Indirect Source Review
JLUS	Joint Land Use Study (NAS Lemoore)
JLUSPC	JLUS Policy Committee
KCAG	Kings County Association of Governments
KCDEHS	Kings County Division of Environmental Health Services
KCFD	Kings County Fire Department
KCSO	Kings County Sheriff's Office
kV	kilovolt (unit of electrical potential)
KWRA	Kings Waste and Recycling Authority
L_{dn}	day-night average noise level
L_{eq}	equivalent hourly average noise level
L_{max}	maximum instantaneous noise level
LAMP	Local Agency Management Program
LOA	Live Oak Associates
LOS	Level of Service
M&I	Municipal and Industrial (water supply)
MBTA	Migratory Bird Treaty Act
MM	Mitigation Measure
MMT	Million Metric Tons
MND	Mitigated Negative Declaration
MTA	Moore Twining Associates

ACRONYMS AND ABBREVIATIONS (Cont'd)

MW	Megawatt
NAHC	Native American Heritage Commission
NASL	Naval Air Station Lemoore
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NIOSH	National Institute for Occupational Safety and Health
NOD	Notice of Determination
NOI	Notice of Intent
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NPIC	National Pesticide Information Center
OEHHA	California Office of Environmental Health Hazard Assessment
O&M	operations and maintenance
OPR	Governor's Office of Planning and Research
OWTS	Onsite Wastewater Treatment System
PEIR	Program (or Programmatic) Environmental Impact Report
PG&E	Pacific Gas and Electric Company
PMWAP	Pest Management and Weed Abatement Plan
POCO	Point of Change of Ownership
POI	Point of Interconnection
PPA	Power Purchase Agreement
PPA	Power Purchase Agreement
PPV	Peak Particle Velocity (vibration measure)
PRC	California Public Resources Code
PV	photovoltaic
ROW	Right of Way
RPS	Renewables Portfolio Standard
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCADA	Supervisory Control and Data Acquisition
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SGF	Solar Generating Facility
SGMA	Sustainable Groundwater Management Act
SHPO	State Historic Preservation Office
SJVAPCD	San Joaquin Valley Air Pollution Control District
SLOCAPCD	San Luis Obispo County Air Pollution Control District
SMAQMD	Sacramento Metropolitan Air Quality District
SoCalGas	Southern California Gas Company
SR	State Route
SRP	Soil Reclamation Plan

ACRONYMS AND ABBREVIATIONS (Cont'd)

SSC	species of special concern
SWMP	Solid Waste Management Plan
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
TCP	Traditional Cultural Place
TCR	Tribal Cultural Resource
TPM	Tentative Parcel Map
USA	Underground Service Alert
USACE	U.S. Army Corps of Engineers
USBR	U.S. Bureau of Reclamation
USDOT	U.S. Department of Transportation
USEIA	U.S. Energy Information Administration
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VdB	vibration velocity level in decibels
VMT	Vehicle Miles Traveled
WAC	Williamson Act Contract
WRP	Water Resources Planning
WSA	Water Supply Assessment
WSP	Westlands Solar Park
WWD	Westlands Water District

CHAPTER 1 – INTRODUCTION

1.1. PREPARATION OF AN IS/MND UNDER CEQA

This document is an Initial Study and Mitigated Negative Declaration (IS/MND) prepared pursuant to the California Environmental Quality Act (CEQA) for the proposed Cherry Solar Project and Gen-Tie Line. This MND has been prepared in accordance with the CEQA, Public Resources Code Sections 21000 et seq., and the State CEQA Guidelines.

An Initial Study is conducted by a lead agency to determine if a project may have a significant effect on the environment. In accordance with the CEQA Guidelines, Section 15064, an Environmental Impact Report (EIR) must be prepared if the Initial Study indicates that the proposed project under review may have a potentially significant impact on the environment. A Negative Declaration may be prepared instead, if the lead agency prepares a written statement describing the reasons why a proposed project would not have a significant effect on the environment, and, therefore, why it does not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a Negative Declaration shall be prepared for a project subject to CEQA when either:

a) *The Initial Study shows there is no substantial evidence, in light of the whole record before the agency, that the proposed project may have a significant effect on the environment, or*

b) *The Initial Study identified potentially significant effects, but:*

   (1) *Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed negative declaration is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and*

   (2) *There is no substantial evidence, in light of the whole record before the agency, that the proposed project as revised may have a significant effect on the environment.*

If revisions are adopted into the proposed project in accordance with the CEQA Guidelines Section 15070(b), a Mitigated Negative Declaration is prepared. This document includes such revisions in the form of mitigation measures. Therefore, this document is a Mitigated Negative Declaration and incorporates all of the elements of an Initial Study. Hereafter this document is referred to as an MND.

CHAPTER 2 – DESCRIPTION OF THE PROPOSED PROJECT

2.1. BACKGROUND INFORMATION

1. Project Title

Cherry Solar Project and Gen-Tie Line
Kings County Conditional Use Permit File No: CUP 22-05.

2. Lead Agency Name and Address

Kings County Community Development Agency
1400 West Lacey Boulevard, Building #6
Hanford, CA 93230

3. Contact Person, Phone Number, and Email Address

Noelle Tomlinson, Planner
559-852-2697
Noelle.Tomlinson@co.kings.ca.us

4. Project Location

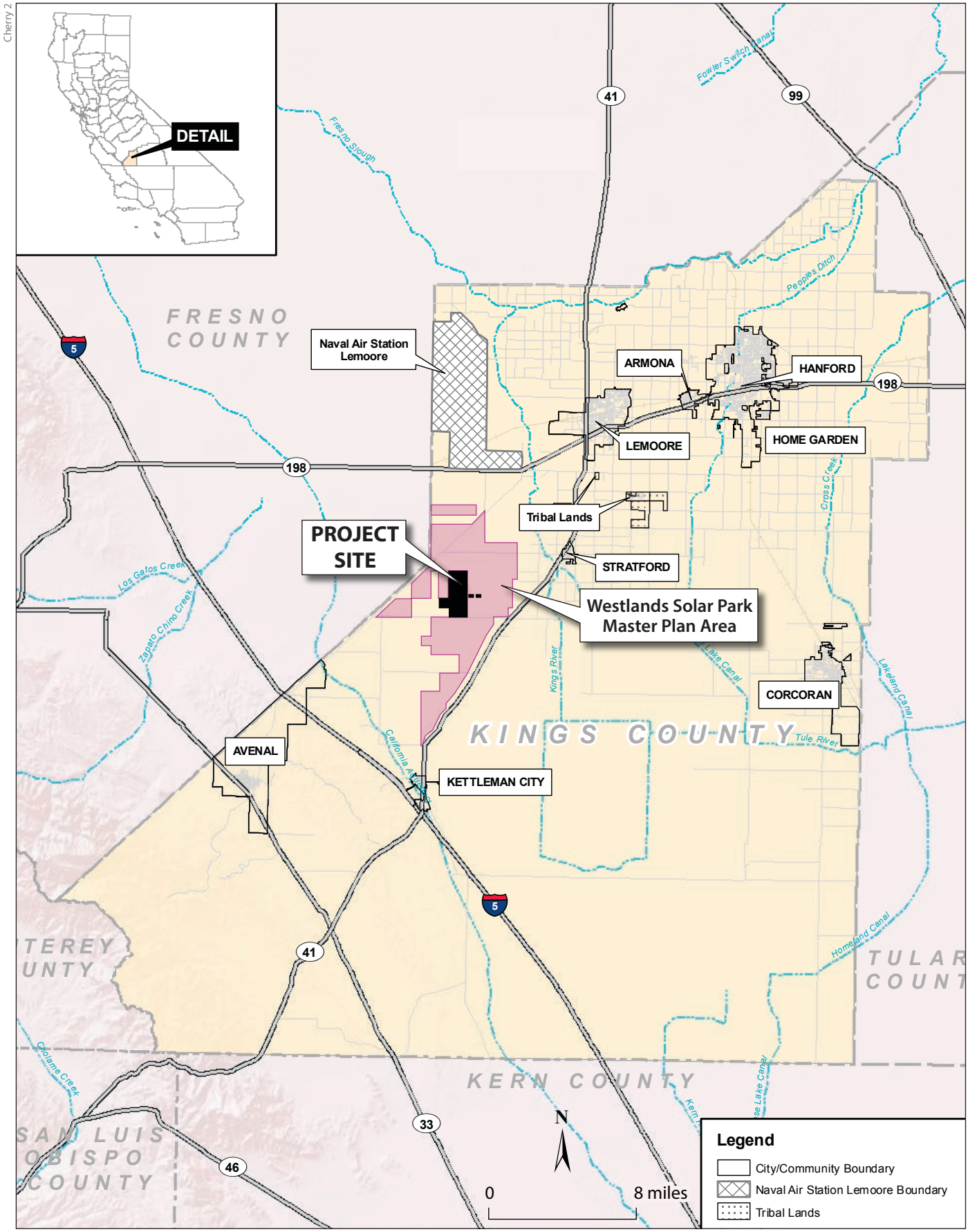
Cherry Solar Project. The 2,079-acre Cherry Solar Project site is located on the north side of Nevada Avenue, approximately 2.5 miles west of SR-41. The southern site boundary fronts onto Nevada Avenue for a distance of 1.5 miles (see Figure PD-1 – Regional Location, and Figure PD-2 – Project Vicinity). The project site includes several Assessor's Parcel Numbers as listed in the table below. All of the project parcels are under Farmland Security Zone Contract under the Williamson Act.

Assessor's Parcel Number	Acres
026-300-034	320.0
026-320-006	640.0
026-320-017	479.1
026-320-020	640.0
Total	2079.1

Gen-Tie Line. The CUP application includes a 230-kV Gen-Tie Line extending 1.14 miles from the planned on-site substation eastward across the adjacent Grape Solar Project site to the completed central switchyard on the approved Chestnut Solar Project site (see Figures PD-1 and PD-2).

5. Project Sponsor's Name and Address

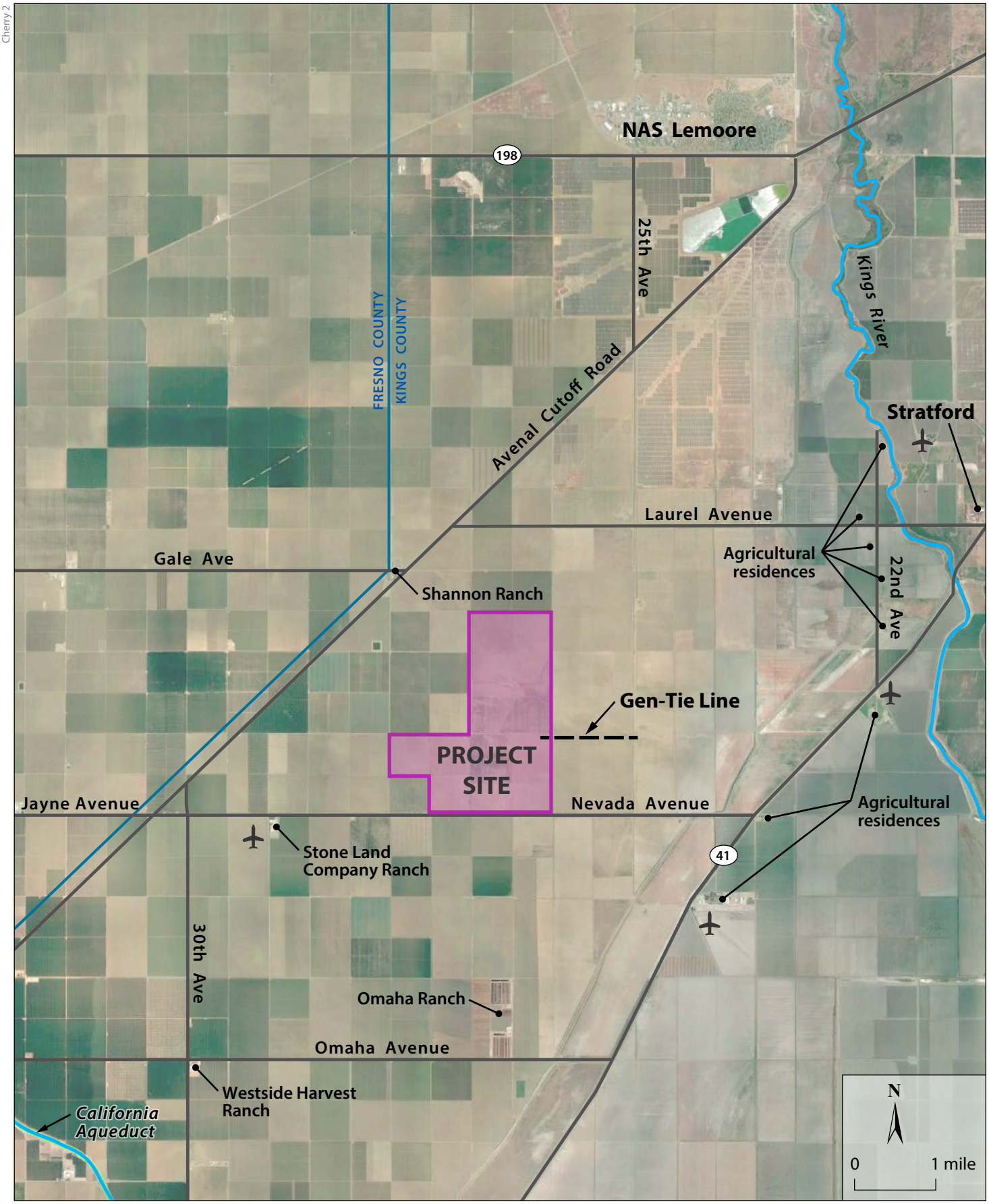
Westlands Cherry, LLC
Robert G. Dowds, Manager
4700 Wilshire Boulevard
Los Angeles, CA 90010
Contact: Mohammed T. Kabir



Source: Kings County Community Development Agency

Regional Location

Figure PD-1



Source: Google Earth, 2021

Project Vicinity

Figure PD-2

6. General Plan Designation

The 2035 Kings County General Plan designates most of the project site (1,919 acres) as "General Agriculture – 40 acre." The quarter-section comprising the western-most 160 acres of the site is designated "Exclusive Agriculture – 40 acre."

7. Zoning

Pursuant to the Kings County Development Code, the entire project site is located within the General Agricultural – 40 acre minimum (AG-40) zone district.

2.2. PROJECT DESCRIPTION

SITE LOCATION AND DESCRIPTION

Cherry Solar Project Site

The Cherry Solar Project will occupy an approximately 2,079-acre site located on the north side of Nevada Avenue, approximately 2.5 miles west of SR-41 (see Figure PD-1 – Regional Location, and Figure PD-2 – Project Vicinity). The project site includes several Assessor's Parcel Numbers as listed in the previous section. All of the project parcels are under Farmland Security Zone Contract under the Williamson Act.

The Cherry Solar Project site is virtually level with elevations ranging from a high of 240 feet above mean sea level (amsl) in the northwestern corner of the site to a low of 215 feet amsl at the southeast corner. The only improved County road providing direct access to the site is Nevada Avenue which runs along the southern site boundary for a distance of 1.5 miles. On the eastern site boundary there is 30-acre area occupied by a former tailwater basin which historically received irrigation return flows but has been dry for the past several years with the advent of drip irrigation which eliminated such return flows. Several former agricultural irrigation canals and ditches run alongside and within the project site, but these are no longer used and are also dry. Historically, the project site has been used for the cultivation of crops such as tomatoes, cotton, and wheat; and in recent years has been cultivated for winter wheat and left fallow during the dry season. The project site includes one agricultural well located in the northwest corner of the site. Other on-site structures include: several irrigation pump stations, filter stations, tanks, and standpipes in various locations; three WWD water transmission pipelines (described below), and three former oil/gas wells (described below); a 12-kV electric distribution line along the Nevada Avenue frontage; and a 12-kV power line running along the east site boundary from Nevada Avenue north to the former pump station at the former tailwater basin. There are no other structures on the site.

Three agricultural water distribution pipelines traverse the project site from west to east, two of which run along section lines defined by the unimproved Madison and Manteca Avenue alignments. A third distribution pipeline partially runs along the Nevada Avenue frontage of the project site. These pipelines are owned and managed by the Westlands Water District and are part of the District-wide system of lateral pipelines that deliver imported surface water from the California Aqueduct for the purpose of agricultural irrigation. The buried pipelines and their easements will remain on the project site and will be incorporated into the project site plan.

There are three former oil/gas wells in the southwest portion of the site, one of which has been plugged and two of which are currently idle. All three wells will be retained within fenced-off areas of sufficient size to accommodate large pieces of equipment and provided with direct and unimpeded access to Nevada Avenue via dedicated dirt roads to be fenced off from the solar facility.

All of the lands surrounding the project site consist of agricultural lands planted in row crops or tree crops, with some fields fallowed seasonally. The existing structures in the vicinity include: the Shannon Ranch complex (including 20 dwellings) located on Avenal Cutoff Road 1.0 mile northwest, and the Stone Land Company Ranch located 1.5 miles east on Nevada Avenue. The 250-MW Aquamarine Solar Project, completed in late 2021, is located just over 1.0 mile east at its nearest point; and the 250-MW Solar Blue Project and the 150-MW Chestnut Solar Project, located adjacent to the northeast and east, are planned to commence construction in July 2022. A 230-kV gen-tie line, completed in 2021, runs along the south side of Nevada Avenue opposite the Cherry project site.

Gen-Tie Line

The planned gen-tie line to serve the Cherry Solar Facility will occupy a 250-foot wide corridor extending eastward from the proposed Cherry Solar substation located on the eastern site boundary approximately 1.0 mile north of Nevada Avenue. The gen-tie corridor traverses the adjacent Grape Solar Project site for a distance of 1.1 miles to the completed Chestnut-Grape switchyard located just east of the unimproved 25th Avenue alignment on the Chestnut Solar Project site. The lands to be traversed by the gen-tie corridor are currently planted in winter wheat during the wet season and left fallow during the dry season.

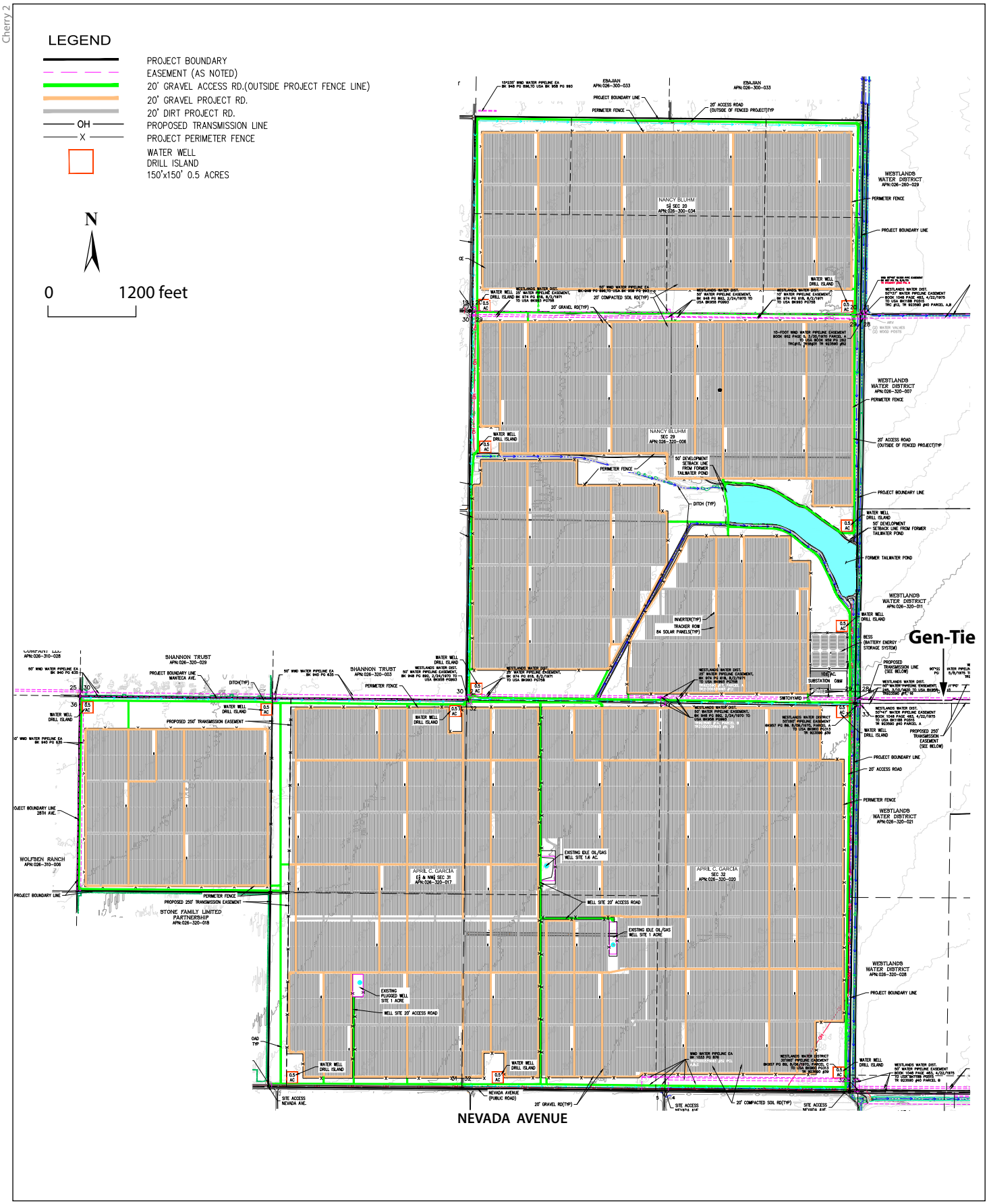
PROJECT OVERVIEW

Solar Generating Facility

The Cherry Solar Project is planned to generate at total of 250 MW (AC) of electrical output from solar photovoltaic (PV) modules (see Figures PD-3a-d). The project is planned to be constructed over a 12-month period in 2024.

The solar modules will be mounted on a series of horizontal single-axis trackers which will be oriented north-south and will rotate the solar arrays in an east-west direction. The solar modules produce direct current (DC) power and the electricity travels to power conversion stations (PCS) via underground cables to be converted to alternating current (AC) power. The project will include a total of 77 PCSs with a power rating of 3.25 MW each, which will step up the generated power to a collection voltage of 34.5-kV.

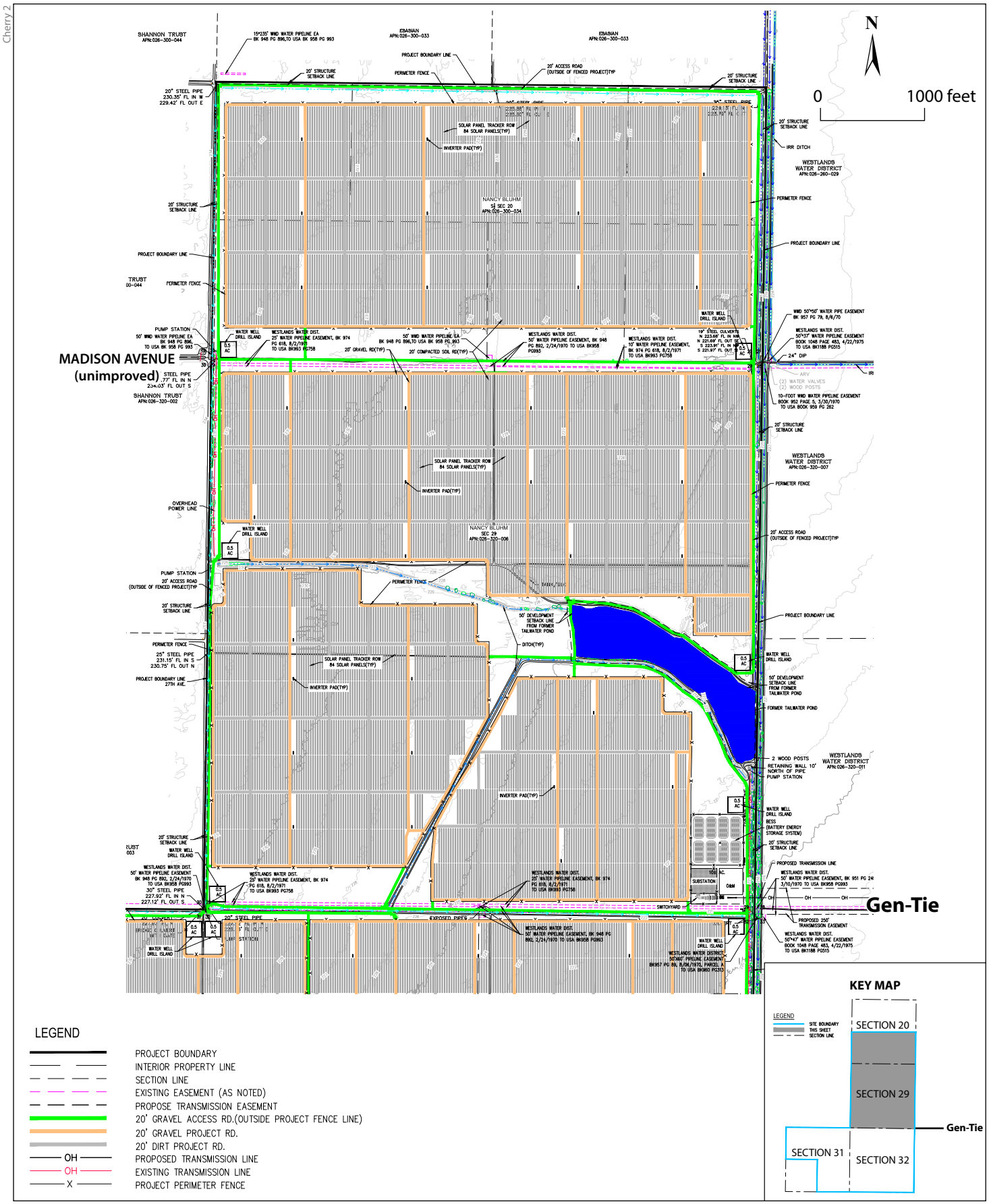
The Cherry Solar Project will include an electrical substation, a battery storage facility, and an Operations and Maintenance (O&M) facility, all of which will be located together within a 10-acre area in the east-central area of the project site. The on-site substation will step up the generated power from 34.5-kV collection voltage to 230-kV for transfer to the adjacent switchyard where the solar generation will be conveyed to the gen-tie line described below.



Source: DK Engineering

Overall Site Plan

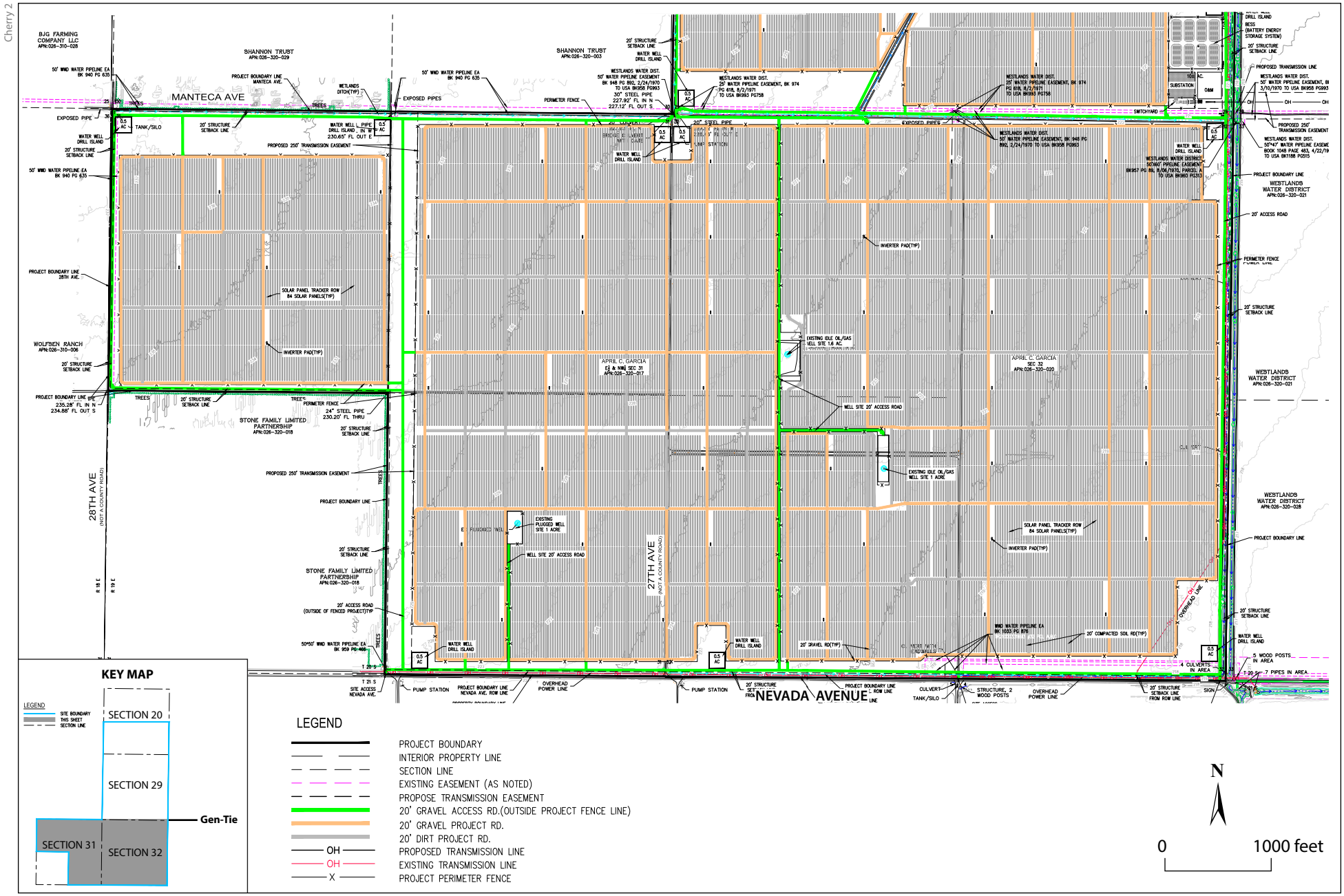
Figure PD-3a



Source: DK Engineering

Site Plan - North

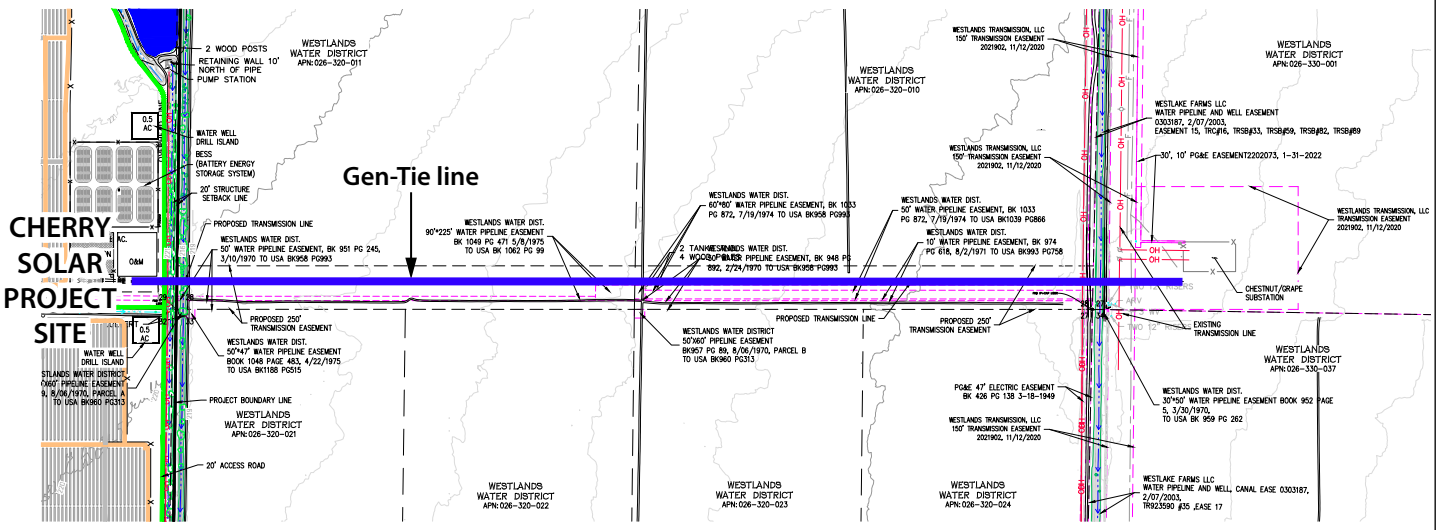
Figure PD-3b



Source: DK Engineering

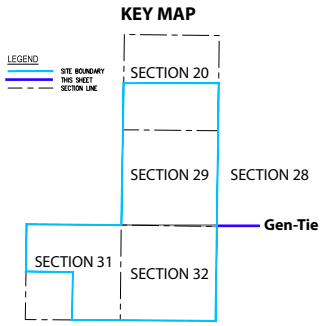
Site Plan - South

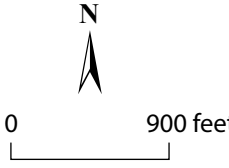
Figure PD-3c



LEGEND

- PROJECT BOUNDARY
- INTERIOR PROPERTY LINE
- SECTION LINE
- EXISTING EASEMENT (AS NOTED)
- PROPOSE TRANSMISSION EASEMENT
- 20' GRAVEL ACCESS RD.(OUTSIDE PROJECT FENCE LINE)
- 20' GRAVEL PROJECT RD.
- 20' DIRT PROJECT RD.
- OH — PROPOSED TRANSMISSION LINE
- OH — EXISTING TRANSMISSION LINE
- X — PROJECT PERIMETER FENCE





Source: DK Engineering

Site Plan - Gen-Tie

Figure PD-3d

The on-site battery storage facility will include 250 battery containers which will be used to optimize power delivery to the grid by storing excess generation during low demand periods, and supplying power to the grid when demand is high. The energy storage systems are planned to consist of lithium-ion batteries housed in pre-fabricated metal structures resembling cargo containers. Each battery storage unit would have a storage capacity of approximately 4 MW hours, so the project battery storage facility would provide a total energy storage capacity of up to 1,000 MW hours.

Gen-Tie Line

The solar generation from the Cherry Solar Facility will be transferred to a new 230-kV gen-tie line extending 1.14 miles eastward to the central switchyard at the Chestnut Solar Project site. The gen-tie line will run within a 250-foot wide easement through the Grape Solar Project site located between the Cherry and Chestnut Solar Project sites. At the main Chestnut switchyard, the electrical generation will be transferred to the completed 230-kV Nevada-Jayne gen-tie line which will transmit the power south along the 25th Avenue alignment and then west along Nevada-Jayne Avenues to the PG&E Gates Substation approximately 12 miles to the west.

PROJECT PURPOSE AND OBJECTIVES

The purpose and objectives of the Cherry Solar Project are as follows:

- Generate up to 250 megawatts (MW) of clean, renewable electrical power utilizing solar photovoltaic (PV) technology.
- Help implement the State's goal of increased electrical generation with renewable resources under California's Renewables Portfolio Standard (RPS).
- Help implement the State's Global Warming Solutions Act of 2006 (AB 32), as supplemented in 2016 by SB 32, by providing a non-fossil fuel based source of electricity that will replace existing fossil-based generation and thereby contribute to the overall reduction in greenhouse gas emissions.
- Assist the State in achieving the energy storage target set forth in AB 1514 by providing a 250 MW battery energy storage system with a 4.0 hour capacity of approximately 1,000 MW hours.
- Provide for the economically viable and environmentally beneficial reuse of the site's physically impaired agricultural soils.
- Provide a utility-scale solar generation facility on highly disturbed lands which provide minimal habitat value for wildlife.
- Create new employment opportunities for local residents.
- Positively contribute to the local economy through stimulation of economic activity such as creation of secondary multiplier employment and the purchase of materials and services.

CONSTRUCTION OF THE SOLAR GENERATING FACILITY

The completion of the Cherry Solar generating facility will involve five major construction phases, including: 1) site preparation activities; 2) installation of solar arrays and related facilities; 3) installation of inverters/transformers and construction of the on-site substation/switchyard; 4) installation of the battery storage system; and 5) construction of gen-tie line. Each of these construction phases is described in turn below.

Site Preparation Activities

Pre-construction Activities

The site development process will begin with pre-construction activities such as surveying and staking for various project elements like internal gravel driveways, PV array locations, electrical trenches, equipment pads, and support structures. The next step will be construction mobilization, which will include delivering initial equipment, supplies, and temporary construction trailers to the site.

Clearing and Grading

Prior to facility construction, the site will be cleared of vegetation, graded and compacted. Site clearing and soil preparation will occur incrementally as needed, and will not proceed to a new area until that area is needed for the next construction phase. Vegetative cover will be retained as long as possible to minimize exposed soils and reduce potential for erosion and wind-blown dust.

Since the existing ground is generally level, with only agricultural furrows creating minor terrain roughness, the solar development can be accommodated without mass grading. Ground preparation will include tilling and grading to smooth out existing agricultural furrows, followed by compaction with rollers. The existing topsoil will not be removed. Final grades will be designed to provide for positive drainage. Measures for erosion and sediment control will also be implemented, as described in "Stormwater Management and Erosion Control" below.

Construction Staging

The project would include a central staging area for construction management and support, likely to be located on approximately 15 acres in the southern portion of the project site near Nevada Avenue. The staging area will include construction offices, a first aid station, worker parking, equipment storage areas, cleaning and maintenance, and truck unloading area. Portable chemical toilets will provide for sanitary needs and bottled drinking water will be delivered to the site. The staging area will require a power source for temporary lighting, which will either be supplied by portable generators or existing local distribution lines. The staging area will be enclosed by security fencing. During construction, the additional satellite staging areas may be located within the project site for temporary material storage and assembly.

Temporary Internal Driveways

Construction access through the project site will be provided by temporary all-weather driveways composed of native compacted soil and treated with dust palliative as needed. Temporary project entrances will include crushed stone and metal riffle plates for removing soil from the wheels of

construction vehicles prior to exiting in order to avoid tracking of mud and sediment onto Nevada Avenue.

Perimeter Fencing

Prior to installation of solar arrays, the perimeter of each project phase will be securely fenced and gated to prevent unauthorized access. The perimeter fencing will consist of 6-foot chain-link galvanized metal topped with standard three-strand barbed wire. Fence posts will either be drilled and grouted or driven into the soil profile using truck mounted vibratory drivers (see Figure PD-5 for fence detail). All fence posts will be capped to prevent the entrapment of small birds. Vehicle access gates will be installed at the project entrances on Nevada Avenue; these gates will remain locked when not in use.

In order to allow unimpeded passage of kit fox and other local wildlife through the Cherry Solar Project site, all security fencing will include a continuous 5-inch gap between the bottom of the fence and the ground surface.

Installation of Solar Arrays and Related Facilities

Solar Arrays

The photovoltaic modules selected for the project will be composed of poly-crystalline silicon solar cells arranged on larger panels (measuring approximately 6'-5" by 3'-3"), and protected with tempered glass panes (see Figure PD-4). The PV cells are dark in color to maximize absorption and minimize reflectance of sunlight.

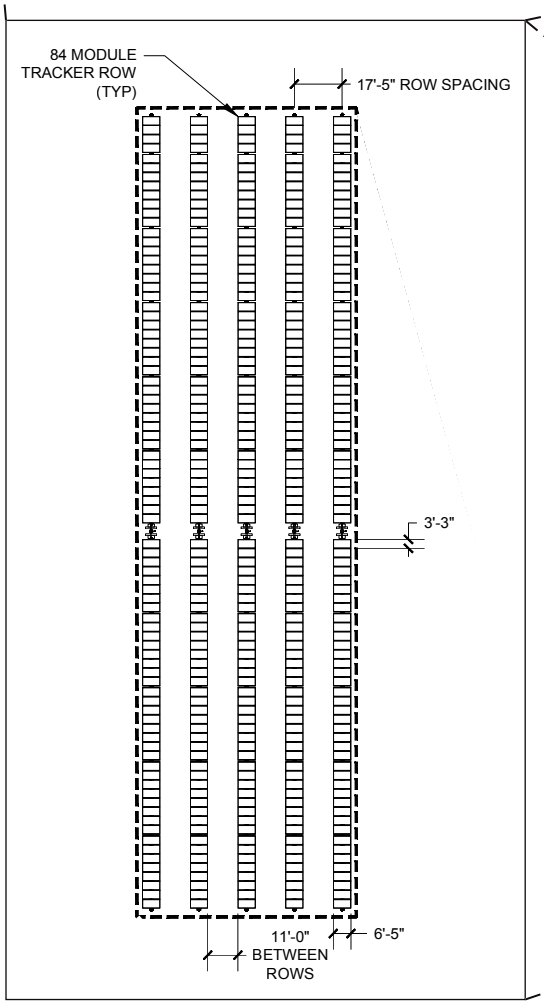
Construction of the solar arrays will begin with installation of the steel posts (cylindrical pipes, H-beams or similar) which will be driven into the ground using truck-mounted vibratory drivers. The posts will be installed at approximately 10 foot intervals to depths of 4 to 10 feet, with actual depths in depending on localized soil conditions and load factors. Next, the torque tubes and motor drivers for the single-axis trackers will be mounted on the installed posts in a north-south orientation. This will be followed by placement of metal racking systems on the trackers, and finally installation of solar modules on the racking systems.

The maximum planned length of the solar arrays will be 400 feet between internal 20-foot wide gravel driveways, although some arrays will be shorter to accommodate the irregular site boundaries. The completed solar arrays will be spaced approximately 17.5 feet apart (on center), with the pivot point approximately 5.0 feet from the ground surface, when the modules are in their horizontal resting positions. At maximum tilt, the solar modules would reach a height of approximately 8 feet above ground level, while the lower module edge would be approximately 2 feet from the ground surface. The parallel arrays will be separated by approximately 11 feet of clear area when in the horizontal position.

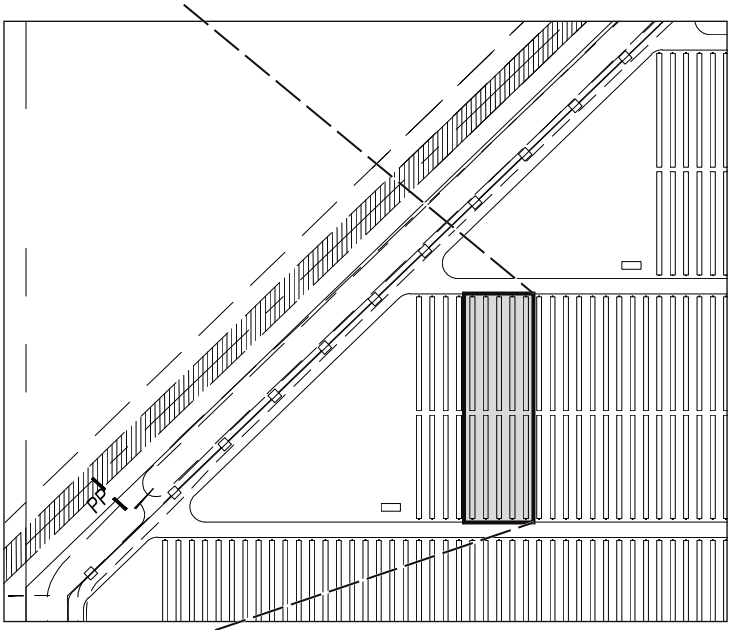
The electrical output from the PV modules will be collected as DC (direct current) in combiner boxes at each array and delivered via underground cables to the Power Collection Stations (PCSs). The cables will be laid in trenches approximately 3 feet wide and up to 4 feet deep which will be backfilled with native material after cables are laid.



Solar PV Modules on Horizontal Trackers



Solar Array

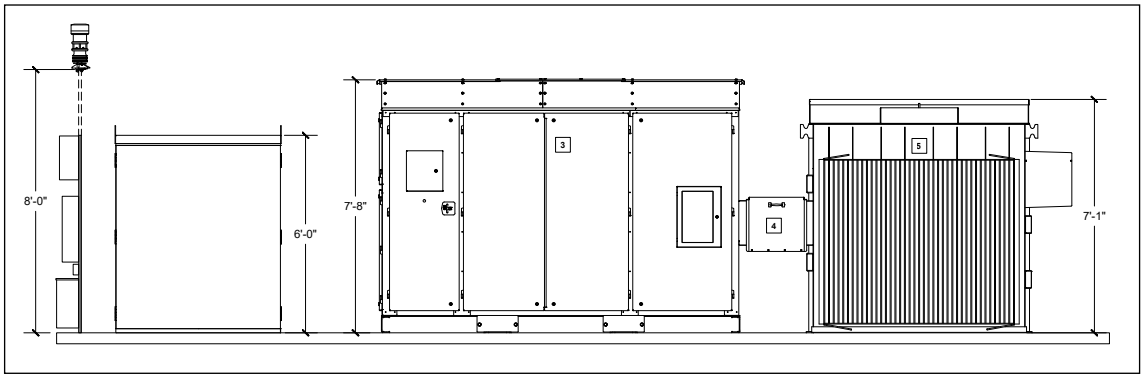


Plan Detail

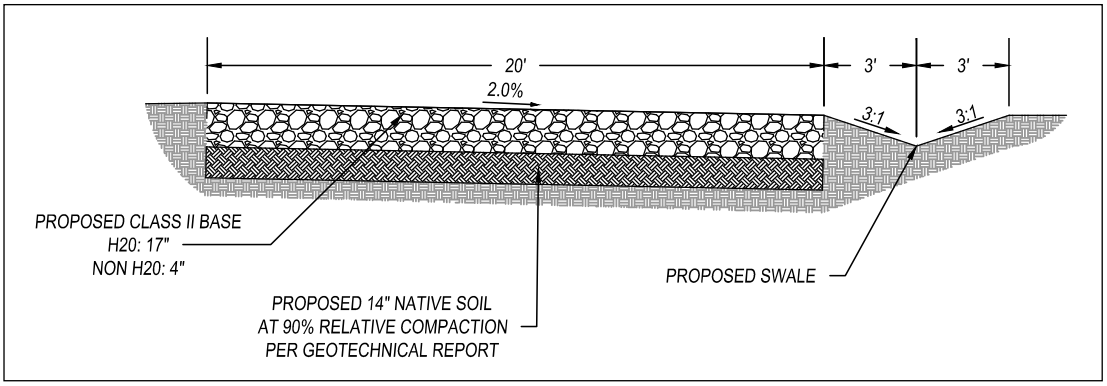
Source: Stellavise

Solar Array Details

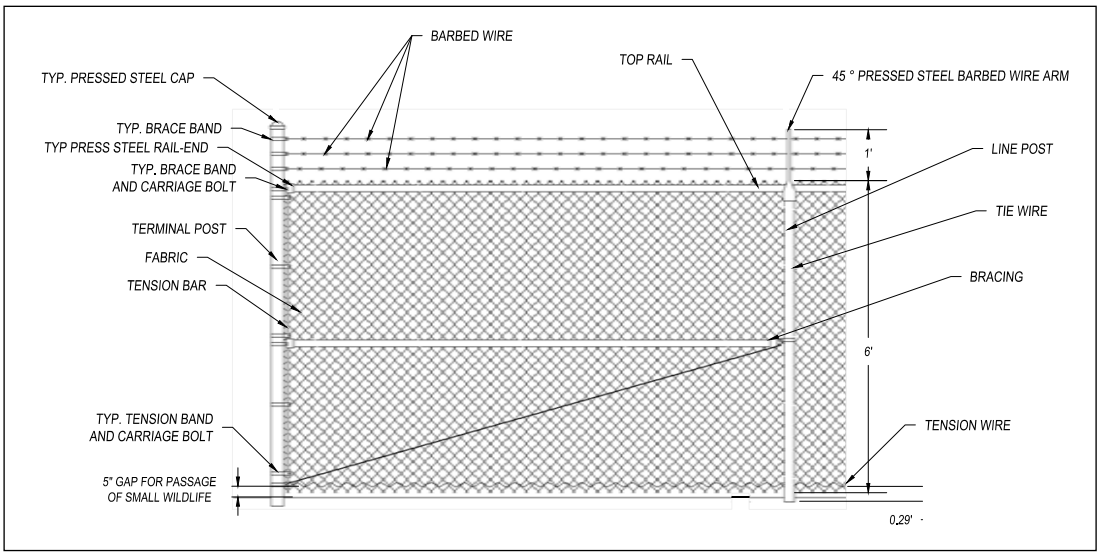
Figure 4



Inverter/Transformer Pad



Internal Gravel Maintenance Road



Perimeter Fence

Source: Stellavise; 4 Creeks Engineering

Solar Facility Details

Figure 5

Operations Yard and Buildings

The Cherry Solar Project will include an operations yard which will provide storage for operational equipment and materials, and provide parking and maneuvering areas for staff vehicles, delivery trucks, and service vehicles. The operations yard will occupy and area of up to 5 acres, and will include a pre-manufactured operations and maintenance (O&M) building for storage, occasional visits/meetings for maintenance crew and to house the on-site telecommunications server. The yard will also include one or more metal storage buildings or containers for storing spare modules and other materials. The parking area will include 10 spaces including one ADA space. Domestic wastewater disposal would be provided by a septic tank and leachfield system located adjacent to the O&M building. The septic system will be designed and constructed per Kings County standards and will be subject to the approval of the Kings County Building Official. During construction, sanitary needs would be provided by portable chemical toilets which would be serviced as needed by a private contractor.

Project Entrances and Internal Gravel Driveways

The Cherry Solar Project will have direct vehicular access from one or more project entrances on Nevada Avenue. The project entrances will be designed and constructed in accordance with the Kings County Improvement Standards.

Permanent access through the project will be provided primarily by internal gravel roadways which will run along the interior of the site perimeter and across the solar fields in north-south direction at intervals of 400 feet or less. The internal gravel roadways will be 20 feet wide to allow passage and maneuvering of emergency and maintenance vehicles. The distance between the parallel internal gravel driveways will provide sufficient access throughout the project to provide access for emergency vehicles and personnel. The internal gravel driveways will be designed and constructed to have a continually durable dust free surface, in accordance with the Kings County Improvement Standards, and will be permeable to allow percolation of rainfall into the underlying soil.

Signage

Project signage will consist primarily of identification signs at the permanent project entrances, and safety signage at electrical equipment. During the construction phase, temporary directional signage will be employed as needed. All signage will conform to the sign standards of the Kings County Development Code.

Exterior Lighting

Lighting for the solar facilities will be designed to provide minimum illumination for safety and security while avoiding direct light spillover onto public roadways or adjacent properties. Permanent exterior lighting will be installed at the site entrances, the operations yard, and the substation. Lighting systems will be light-activated to automatically come on in the evening and shut off in the morning. Lighting within the solar fields will be confined the PCSs, which will be activated only when needed by switch or motion sensors. There will be no lighting within the solar arrays, along any internal access driveways, or around the facility perimeters. Light fixtures will be hooded so as to be directed only on-site and away from other properties.

Telecommunications

The solar facility will include a Supervisory Control and Data Acquisition (SCADA) system to provide monitoring of facility operation and remote control of critical components. The solar arrays will be connected by fiber optic or other cabling that will be installed in buried conduit leading to a centrally located SCADA system cabinet. The SCADA systems will be connected to local telecommunications service via overhead lines or buried lines. Telecommunications may also be transmitted wirelessly via a communications tower up to 100 feet high adjacent to the O&M building. The SCADA servers will either be housed in the on-site O&M building or remotely in a cloud system.

Meteorological Stations

The project will include one or more meteorological monitoring stations ("met" stations) to record key data such as insolation (incident solar radiation), air temperature, precipitation, wind direction and speed, and relative humidity. The met stations will collect meteorological data from about 11 feet above the ground, or about 3 feet above the maximum height of nearby equipment to allow for accurate wind readings.

Installation of Inverters/Transformers and Construction of Substations/Switchyards

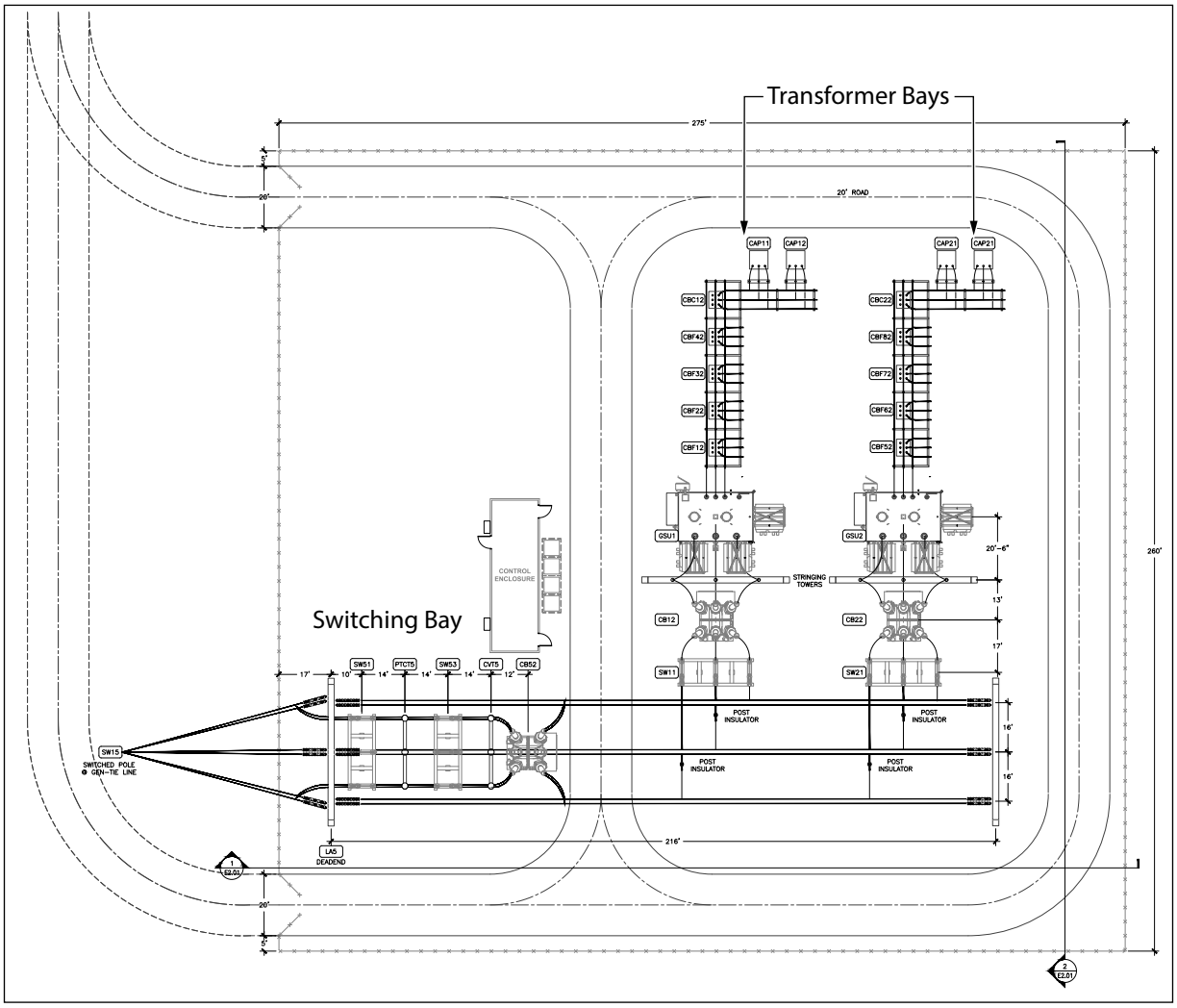
Inverters and Transformers

The electrical output from the PV modules will be transmitted as DC (direct current) by cables harnessed to the underside of the modules and collected in combiner boxes at each array and delivered via underground the cables to the Power Collection Stations (PCS). Trenching will occur along the internal roadways to bury the electrical cables connecting the arrays to the inverters and transformers distributed throughout the project site. The trenches will be approximately 3 feet wide and 4 feet deep and will be backfilled with native material after cables are laid. The PCSs will include inverters and transformers to convert the generated power to collection voltage. The inverters will convert the DC electrical output to AC, and the transformers will step up the generated voltage to intermediate collection voltage (e.g., 34.5-kV). The PCSs will be placed on equipment pads at predetermined locations where each PCS will serve approximately 3.25 MW of AC power, or the output from approximately 9,205 modules. Accordingly, the 250 MW Cherry Solar Project is planned to include approximately 77 PCSs, each on a concrete pad measuring approximately 32 by 13 feet.

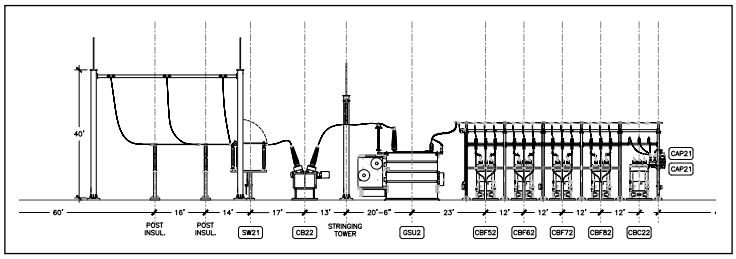
The medium voltage collection cables will need to cross under the on-site canals or ditches at several locations to access the on-site substation. This would be accomplished by boring and directional drilling, with boring pits located on both sides of the canals. Each pit would be approximately 10 feet deep to achieve the minimum undercrossing depth of 3 feet below the bottom of the canals.

Substation/Switchyard and Interconnection

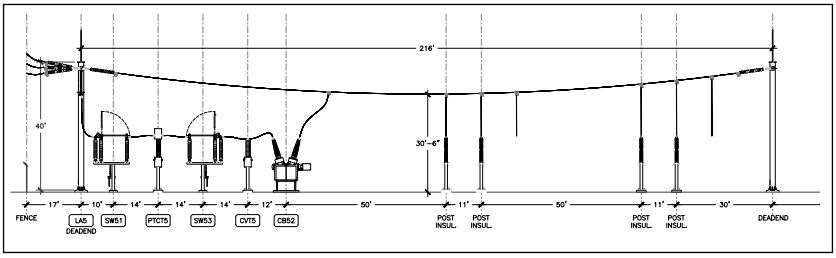
The project substation and switchyard will be constructed alongside the O&M yard on the east side of the Cherry Solar Project site. The substation will collect consolidated solar generation from the PV collection system and would step-up the collection voltage from 34.5-kV to 230-kV via high-voltage transformers for transfer to the adjacent switchyard and transmission to the electrical grid. The substation would include power transformers, a pre-fabricated control building, circuit breakers and related equipment (see Figure PD-6). The transformers would contain oil as an insulating fluid, and the substation would be designed to contain any accidental spill of transformer fluid.



230-Kv Substation Plan



Transformer Bay Elevation



Switching Bay Elevation

Source: CEI Engineering

Substation Plan

Figure 6

The tallest structural elements would be dead-end structures up to 75 feet high at the switchyard. Each dead-end structure would require foundations excavated to a depth of 20 feet or more. The high voltage power would be transferred from the switchyard to a short gen-tie line extending east for 1.1 miles to the central switchyard on the Chestnut Solar Project site. At the main switchyard, the electrical generation will be transferred to the existing 230-kV gen-tie line which will deliver the power to the Point of Interconnection (POI) with the PG&E system at the Gates Substation approximately 12 miles to the west.

Installation of Battery Energy Storage Systems (BESS)

The Cherry Solar Project will include a 6-acre dedicated battery storage area adjacent to the substation for the purpose of optimizing delivery of generated power to the electrical grid. The battery facilities would consist of 250 prefabricated battery modules or containers, each with a storage capacity of about 4 MW hours, for a total storage capacity of about 1,000 MW hours. The energy storage facility will allow storage of generated power when demand is low, and for delivery of stored power when demand is high. The battery storage units would consist of shipping containers 40 feet long by 8 feet wide by 8.5 feet high. Each storage unit would be self-contained and would include racks, switchboards, integrated HVAC units, inverters, and transformers. The transformers for the battery units would be located outside the battery containers on dedicated equipment pads with each transformer set serving two battery containers. Thus the project battery storage systems would include a total of 250 battery containers and 125 transformers.

An alternative to the energy storage configuration described above is possible but is unlikely to be selected. For example, instead of being clustered together near the project substations, the battery storage units could instead be distributed throughout the project and situated adjacent to each PCS.

The energy storage system would use one or more proven battery storage technologies such as Lithium Ion, Sodium-Sulphur, or Vanadium-Redox-Flow batteries, and could potentially include flywheel banks housed in electrical enclosures. The enclosures would have appropriate fire suppression systems built to code. The final design would include containment features to prevent the escape of liquids or spills from the energy storage site. Each energy storage unit used on site will be designed in compliance with Section 608 of the International Fire Code, which has been adopted by the State of California to minimize risk of fire from stationary storage battery systems and contain fire in the event of such an incident. Under California law, the energy storage also must comply with Article 480 of the Electrical Code, which presents requirements for stationary storage batteries. Article 480 provides the appropriate insulation and venting requirements for these types of systems, further preventing associated risk of fire from the energy storage facility.

Construction of Gen-Tie Line

The electrical generation from the Cherry Solar Project will be transferred to a short gen-tie line extending east for approximately 6,000 feet (1.1 miles) to the existing central switchyard on the Chestnut Solar Project site (see Figure PD-3d). From the central switchyard, the power will be transferred to the existing 230-kV gen-tie line which will convey the power to the PG&E Gates Substation approximately 12 miles to the west. The lands traversed by the project gen-tie lie within the Westlands Grape Solar Project for which the CUP was approved by the Kings County Planning Commission on June 7, 2021. The creation of a 250-foot wide easement across the Grape Solar Project site to accommodate the gen-tie line will not substantially alter the configuration of solar arrays in the Grape Solar Project. Within the easement area, the potential ground-level impacts associated with the

short gen-tie line would be the same as those associated with the Grape Solar Project which were fully addressed in IS/MND on the Grape Solar Project. The potential construction impacts resulting from installation of the gen-tie line, such as temporary increases in traffic, air emissions, and noise, are addressed in this IS/MND.

The tower structures of the gen-tie line will consist of self-supporting tubular steel poles (TSPs or monopoles). The tower-to-tower spans would average about 800 feet, and the monopoles would range in height from 100 to 150 feet depending location and span distances between monopoles. It is estimated that the gen-tie line will include 8 to 10 monopoles. The monopoles would consist of two main types of structures. At both ends of the gen-tie line, heavier and stronger monopoles would be bolted onto steel-reinforced concrete piers which would be cast in place in excavated holes in the ground. The concrete footings would be up to 30 feet deep and up to 8 feet in diameter. The remainder of the monopoles will consist of lighter poles which would not have concrete footings but would instead include a steel bottom section which would be imbedded directly into the ground to a depth of up to 25 feet. It is estimated that 2 of the monopoles would consist of heavier structures founded on concreted footings, with up to 8 remaining monopoles consisting of lighter-duty structures imbedded directly into the ground.

The monopoles would carry conductors ("wires" or "cables"), insulators, and ground wires for two electrical circuits. Each circuit consists of three phases, each of which is carried on a separate conductor cable. Conductors must meet minimum ground clearances (at the bottom of the conductor sag), typically 27 to 30 feet above the ground.

Impervious Surfaces

The coverage of the solar facility with impervious surfaces will be minimized in order to allow for revegetation and sheep grazing. Solar arrays have a minimal footprint since they are elevated above the ground and mounted on racks supported by narrow profile steel posts. Relatively small areas of impervious surfaces will be created by concrete pads and footings for the inverters/transformers, substation/switchyard, the O&M building, the battery containers, and asphalt pavement for site entrances and parking area. The internal driveways will be surfaced with decomposed granite or other approved permeable surface pursuant to the Kings County Improvement Standards, and will include no asphalt pavement or other impervious materials. Table PD-1 provides a breakdown of impervious surfaces by equipment and facility type. As shown in Table PD-1, over 90 percent of the ground surface of the project site would not be covered by impervious surfaces of the Cherry Solar Project.

Concomitant Agricultural Uses

Upon completion of each discrete area of the solar facility, the exposed soil would be revegetated with native seed mix which would support sheep grazing as a concomitant agricultural use to the solar operation. The sheep grazing would continue for the life of the solar project and the resulting agricultural production would ensure compliance with the County's Williamson Act Implementation Procedures, specifically in meeting the criteria for the solar facility to be deemed a "compatible use" under the Williamson Act. (See Section *4.3. Agriculture and Forestry Resources* for a detailed discussion of project consistency with the Williamson Act Implementation Procedures.)

TABLE PD-1

COVERAGE BY IMPERVIOUS SURFACES AND GRAVEL DRIVEWAYS AND PERCENTAGE REMAINING IN VEGETATIVE COVER

Equipment/Facility	Area of Coverage (Square Feet)
Impervious Surfaces	
Inverter/Transformer Pads	41,600
Substation Pad/Footings	2,866
Battery Containers	51,200
O&M Building	1,240
Operations Parking Area (paved area)	328
Total Impervious Surface Coverage	121,466
Total Coverage by Gravel Driveways (Pervious)	6,811,560
Total Site Area (2,079 acres)	90,561,240
Percentage Impervious in Project	**0.13%**
Percentage Gravel Driveways	7.52%
Percentage Impervious + Gravel Driveways	7.65%
Percentage Remaining in Vegetative Cover (= Total Area minus Impervious Surfaces and Gravel Driveways)	83,628,214 square feet **92.35%**

Construction Workforce and Equipment – Solar Facility

Workforce

During construction, the number of workers would fluctuate depending on the construction stage. As noted previously, completion of the Cherry Solar Project will involve four major construction phases, including: 1) site preparation activities; 2) installation of solar arrays and related facilities; 3) installation inverters/transformers and construction of substations/switchyards; and 4) installation of the battery energy storage systems. As shown in Table PD-2, on the next page, the workforce numbers would be greatest during the middle of the construction period when all construction stages will overlap to some degree. During this overlapping period, an average of 350 construction personnel would be on-site, with the number workers reaching a peak of 540 during the busiest time of construction.

Typically, construction would involve 10-hour working days from Monday through Thursday each week. The daily hours of construction would be staggered depending on the construction trade, with start times ranging from 5 to 7 AM, with end of shift times ranging from 2:30 to 5:30 PM. For safety reasons, certain construction tasks, such as final electrical terminations, must be performed after dark when no energy is being produced.

Assuming all workers commute to the site in single-occupant vehicles, they will generate maximum of 1,080 daily trips (in-bound and out-bound) or 540 round trips during the peak construction period. Employee traffic generated during less intensive construction periods will be substantially less.

TABLE PD-2

OFF-SITE CONSTRUCTION VEHICLE USAGE, BY CONSTRUCTION PHASE

Vehicles	**Estimated Usage**		
Phase 1 – Site Preparation *(90 work days)*	**Units**	**Miles/ Round Trip**	**Round Trips/Unit**
Water Trucks[1]	10	90	1
Flat Bed Trucks (Equipment Transport)	10	90	7
Freight Trucks (Delivery)	10	90	5
Gravel Trucks (End Dump)(Delivery)	20	50	356
Concrete Delivery Trucks	5	50	9
Worker Vehicles	110	93	90
Phase 2 – Installation of Solar Arrays *(180 work days)* *(Overlaps with Phase 1 for 90 work days)*	**Units**	**Miles/ Round Trip**	**Round Trips/Unit**
Flat Bed Trucks (Equipment Transport)	10	90	7
Freight Trucks (Delivery)	10	276	180
Freight Trucks (Delivery)	10	90	97
Worker Vehicles[2]	165	93	180
Phase 3 – Installation of Inverters, Transformers, Substation *(180 work days)* *(Overlaps with Phases 2 and 4 for 180 days)*	**Units**	**Miles/ Round Trip**	**Round Trips/Unit**
Flat Bed Trucks (Equipment and Material Transport)	3	90	6
Freight (Delivery)	10	276	12
Gravel Trucks (End Dump)(Delivery)	10	50	8
Concrete Delivery Trucks	10	50	11
Worker Vehicles[2]	55	93	180
Battery Energy Storage System - Installation *(180 work days)* *(Overlaps with Phases 2 and 3 for 180 days)*	**Units**	**Miles/ Round Trip**	**Round Trips/Unit**
Flat Bed Trucks (Equipment and Material Transport)	6	90	3
Freight (Delivery)	10	276	63
Gravel Trucks (End Dump)(Delivery)	10	50	13
Concrete Delivery Trucks	21	50	17
Worker Vehicles	20	93	180

[1] Water trucks are anticipated to be filled with water from existing agricultural wells in the vicinity, and remain on site throughout construction.
[2] No carpooling or transit use is assumed for workers' traveling to and from the project site.
[3] Freight deliveries are assumed to originate from the Port of Oakland and Fresno depending in contents.

The construction workforce for the Cherry Solar Project will be largely drawn from the surrounding communities, with the possible exception of project management personnel. Based on a gravity model using population and distance factors for communities within commuting range, it was determined that the average round-trip commute length for construction personnel would be 93 miles. All workers will be encouraged to carpool.

Construction Deliveries

The construction of the solar facility will involve the use of numerous pieces of construction equipment and support vehicles at various stages of construction. This will include grading and excavation equipment such as graders, scrapers, dozers, compactors, trenchers, and back-hoes; and general construction equipment like concrete mixers, cranes, hydraulic pile drivers, fork lifts, water trucks, ATVs, pick-up trucks, and generators. This equipment will be brought to the Cherry Solar Project site when needed and will remain on-site throughout the duration of the activities for which they are needed.

The estimated number of deliveries during all construction stages is shown in Table PD-2 on the preceding page. Over the entire 180-day construction period, the project will receive an average of 26 deliveries per day. Deliveries of solar modules and support structures, electrical components, concrete and aggregate will occur throughout the construction period. The equipment and material deliveries will originate in various locations in central California and will follow designated truck routes to travel to the project site. It is anticipated that deliveries of solar modules, tracking systems, and major electrical components would originate from the Port of Oakland. It is anticipated that aggregate supplies and ready-mix concrete would be obtained from the nearest source at Sierra Pacific Materials located on Highway 33 between Avenal and Coalinga. All other construction deliveries are expected to originate from the Fresno area.

Table PD-3 lists the types of equipment that will be utilized during the four main construction stages for the project.

TABLE PD-3

ON-SITE CONSTRUCTION EQUIPMENT USAGE, BY CONSTRUCTION PHASE

Equipment	Estimated Usage		
Phase 1 – Site Preparation *(90 work days)*	**Units**	**Hours/Day (4 days/week)**	**Days/Unit**
Water Trucks (5,000 gallon)	4	5	90
Graders	2	9	90
Skid Loaders	2	9	90
Front-End Loaders	4	9	35
Roller Compactors	9	9	40
Pickup Trucks	6	5	45
ATVs	5	9	90

Table continued on next page.

TABLE PD-3 (CONT'D)

ON-SITE CONSTRUCTION VEHICLE USAGE, BY CONSTRUCTION PHASE

Vehicles	**Estimated Usage**		
Phase 2 – Installation of Solar Arrays *(180 work days)(Overlaps with Phase 1 for 90 work days)*	**Units**	**Hours/Day (4 days/wk)**	**Days/Unit**
Water Trucks (5,000 gallon)	4	5	180
Skid Loaders	6	9	100
Post drivers	6	9	100
Forklifts	16	5	120
Welders	20	5	150
Trenchers	6	5	100
ATVs	30	9	180
Phase 3 – Installation of Inverters, Transformers, Substation, Connection *(180 work days)(Overlaps with Phases 2 and 4 for 180 days)*	**Units**	**Hours/Day (4 days/wk)**	**Days/Unit**
Water Trucks (5,000 gallon)	2	5	180
Skid Loaders	2	9	60
Front-End Loaders	3	9	60
Roller Compactors	1	9	30
Pile Drivers	2	9	90
Trenchers	4	5	120
Cranes	2	5	120
Aerial Lifts	2	5	60
Energy Storage System *(180 work days)(Overlaps with Phases 2 and 3 for 180 days)*	**Units**	**Hours/Day (4 days/wk)**	**Days/Unit**
Water Trucks (10,000 gallon)	1	5	180
Skid Loaders	2	9	60
Front-End Loaders	1	5	90
Roller Compactors	1	5	30
Pile Drivers	2	5	30
Trenchers	4	5	90
Backhoes	2	5	90
Cranes	1	5	90
Pickup Trucks	2	5	180

[1] Water trucks are anticipated to be filled with water from existing agricultural wells on the site or in the vicinity.
[2] No carpooling or transit use is assumed for workers' traveling to and from the project site.
[3] Freight deliveries include solar modules, racking systems, support structures, major electrical components, and energy storage system modules, all of which are assumed to originate from the Port of Oakland.

Construction Workforce and Equipment – Gen-Tie Line

Workforce

The gen-tie line is expected to be constructed over 20 work days and have an average workforce of approximately 20 construction workers on any given day, with a peak of 30 workers on the busiest days. It is expected that most of the construction personnel would be drawn from the communities in the region, although some specialized workers may need to be brought in from outside the area and be temporarily lodged in local hotels. Although some ridesharing would likely occur, it is assumed that all construction workers would be solo commuters.

During the 20-day construction period, the work activities would be distributed along the gen-tie route, with various crews engaged in surveying, ROW clearing, pole foundation installation, pole erection, conductor installation, and reclamation. Assuming that all 30 workers would commute solo, the peak traffic generated by construction personnel would be 30 AM trips and 30 PM trips.

Typically, construction would take place in 10-hour shifts during the hours of 6:30 AM to 5 PM, Monday through Thursday, although work could take place outside these hours if needed. For any work taking place after dark, night lighting would be required for safe working conditions, but the lights would directed toward the work areas.

Construction Deliveries

Equipment and Materials

The construction of the gen-tie line is expected to use approximately 32 pieces of construction equipment and support vehicles at various stages of construction. This would include equipment such as graders, back-hoes, drill trucks, cranes, fork lifts, puller trucks, tensioner trucks, aerial lifts, water trucks, skip loaders, tractor trailer trucks, and pick-up trucks/crew cabs. Equipment deliveries would include approximately 39 flatbed deliveries of monopoles, components, and equipment, plus 3 deliveries of gravel, and 4 deliveries of concrete.

Deliveries of power poles, equipment, aggregate and concrete would occur throughout the 20-day construction period. The equipment and material deliveries would originate from various locations in central California and would utilize regional highways and local roads to reach the gen-tie site.

In total, the gen-tie construction would involve approximately 46 deliveries of equipment and materials, or an average of 2.3 deliveries per day over the 20-day construction period.

Site Management during Construction

Dust Suppression and Soil Conditioning

During construction, non-potable water will be used for dust control and soil conditioning during earthwork. Based on past experience with similar projects, the water demand for preparation and construction of the 2,079-acre Cherry Solar Project would average 0.15 acre-feet per acre (af/ac), resulting in a total consumption of 312 acre-feet of water during the 12-month construction period. It is anticipated that water for grading and construction will be obtained from the existing agricultural well on the project site.

Curtailment of groundwater pumping to meet the project demand for construction water is not currently foreseen. However, in the unlikely event that such unforeseen curtailment occurs, the relatively small volumes of untreated water that would be temporarily required during construction would be purchased from alternative sources and trucked to the site.

Stormwater Management and Erosion Control

During grading and construction, soil stabilization and runoff control measures would be required to prevent erosion and sedimentation. The particular measures that would be appropriate for conditions within the Cherry Solar Project site would be specified in the Storm Water Pollution Prevention Plan (SWPPP), as required for all projects over 1 acre in size by the State Water Resources Control Board. The SWPPP would specify Best Management Practices (BMPs) such as stormwater runoff control and hazardous waste management measures, and include monitoring and reporting procedures.

Typical measures will include: diversion of runoff away from disturbed areas, protective measures for sensitive areas, mulching for soil stabilization, straw-bale barriers, and siltation or sediment ponds. Specific BMPs will be determined during the final engineering design stage for each project phase. The project SWPPPs would be submitted to the State Water Resources Control Board prior to initiation of ground disturbing activities for each project phase.

Construction Waste Recycling and Disposal

The waste generated during construction will primarily consist of non-hazardous waste materials such as packing containers and materials, waste lumber, wood pallets, scrap metal, glass and paper. These waste materials will be segregated on-site for recycling or disposal at a Class III landfill.

Some quantities of hazardous wastes will be generated during construction. These waste materials will include waste paint, waste solvents, waste oil, oily rags, used batteries, etc. Hazardous wastes generated during construction will be either recycled or disposed of at a Class I disposal facility, as required.

Revegetation of Completed Project Areas

Upon completion of each section of the solar facility, the exposed soils beneath and around the solar arrays will be vegetated to prevent erosion and provide dust control. The exposed areas will be planted with an approved native seed mix that will contain only “low water use” plant species, thus minimizing water use, discouraging weed infestation, and providing habitat value for native wildlife species.

OPERATION OF SOLAR GENERATING FACILITY

The Cherry Solar Project will involve facility operation and monitoring, facility maintenance, and security. These are described in turn below.

Facility Operation and Monitoring

Operational activities will primarily involve monitoring and management of solar generation, which will occur during daylight hours year-round. Operations staff will be stationed at the O&M building and will manage the facility via SCADA ("Supervisory Control and Data Acquisition") systems. Operators will monitor and analyze the collected data to determine maintenance needs, respond to automated alerts from the monitoring systems (i.e., in the event of equipment failures or abnormalities), and communicate with customers and transmission facility operators.

Facility Maintenance

Equipment and Infrastructure Maintenance

Up to 4 permanent staff would be on the solar facility site at any given time to conduct visual inspections of equipment, internal roadways, and fencing, and perform maintenance or make repairs as necessary. Up to 20 additional workers could be on-site intermittently if equipment needs to be repaired or replaced and when panel cleaning is in progress. On average, approximately 10 workers are expected to be on site on any given day. Table PD-4 provides details on equipment and vehicle usage for operations and maintenance purposes.

TABLE PD-4

EQUIPMENT AND VEHICLE USAGE DURING SOLAR FACILITY OPERATIONS AND MAINTENANCE

Equipment	Estimated Usage (Annual)		
	Units	Hours/Day/Unit	Total Days/Unit/Year
All-Terrain Vehicle (ATV)	2	4	100
Tractor	2	8	100
Portable Generator	2	8	60
Portable Water Trailer w/Pump	5	8	80
Vehicles	**Units**	**Daily Miles/ Unit**	**Total Days/ Unit/Year**
Pickup Truck (Routine O&M)	4	30	130
Pickup Truck (Panel Washing)	5	40	80

As mentioned, the operations yard will include a pre-manufactured O&M building for the maintenance crew and to house the on-site telecommunications server. The sanitary facilities in the O&M building will be connected to an adjacent septic tank and leachfield system which will be designed in accordance

with the Kings County Local Agency Management Program for Onsite Wastewater Treatment Systems ("OWTS").

Vegetation and Agricultural Management

Upon the completion of construction within a given area of the project, the exposed soils will be revegetated through seeding for slow-growing grasses, with the entire site revegetated upon completion of construction. Vegetative cover will generally be kept low to prevent shading of solar panels and to minimize buildup of combustible fuel loads. The short vegetation cover will also allow passage of emergency vehicles, and maintenance and panel washing vehicles.

The project site vegetation will be kept low primarily through seasonal sheep grazing and also through mechanical means (e.g., mowing, trimming, hoeing) where needed. The sheep grazing would take place on the project site in order to maintain agricultural activity on these lands in conformance with the Williamson Act. (The net vegetated area subject to grazing would be approximately 1,880 acres after subtracting internal driveways, equipment pads, O&M building, substation, battery storage containers, and paved parking area. The former tailwater basin area would also not be grazed.) The sheep grazing will be managed and controlled by temporary sheep enclosures which will be moved progressively through the project site. Grazing will occur from January until the end of the growing season in May, at which time the sheep will be removed. The details of the sheep grazing program will be further described in the Agriculture Management Plan (AMP) which will be prepared and implemented to ensure maintenance of sustainable agricultural operations on the site throughout the life of the project. The detailed requirements of the AMP are specified in Mitigation Measure AG-1 in this IS/MND (see section *4.2. Agriculture and Forestry Resources*). The AMP would be subject to County approval prior to issuance of building permits for the Cherry Solar Project. (See section *4.2. Agriculture and Forestry Resources* for detailed discussion of agricultural management requirements for the project.)

Weed and Pest Control

As required under the County Development Code, the Cherry Solar Project will include implementation of a Pest Management and Weed Abatement Plan (PMWAP). The Pest Management component will be directed toward prevention and control of infestations by rodents such as rats, ground squirrels, gophers, and voles which can cause damage to project structures and spread diseases. The primary objective will be to avoid rodent infestations through preventative measures such as vegetation management (described below) in order to avoid impacts to protected wildlife species. Natural or ecological control through predation by hawks would also provide incidental control of rodent populations. The use of eradication measures such as application of rodenticides would only be employed as a last resort.

The Weed Abatement component will specify measures to prevent infestation of invasive weed species which would reduce the grazing value of the site, pose a fire hazard, and potentially spread to neighboring farmland. Weed control will mainly consist of a combination of methods, including the use of weed-free seed mixes for site revegetation, and keeping vegetation low through sheep grazing and mechanical methods such as mowing, trimming, and hoeing. Herbicides would be used only selectively where needed using low impact chemicals and practices that minimize impacts to protected biological species. The Pest Management and Weed Abatement Plan will be submitted for County approval prior to issuance of building permits for the Cherry Solar Project.

Fire Safety

The project will include a number of design and operational measures for fire prevention and suppression. Design measures include incorporation of County design standards for minimum driveway widths, ground clearance, and accessibility to all areas of the project. The project proponent would also provide funds toward the purchase of an all-terrain firefighting vehicle capable of accessing the interior portions of the solar facility. Fire prevention measures will include vegetation management as described above to minimize the potential for grass fires. All electrical equipment (including inverters) not located within a larger structure will be designed specifically for outdoor installation, and all electrical equipment will be subject to product safety standards. Vehicles and equipment will be required to be parked or stored away from vegetated areas. All construction and operations personnel will be trained in fire prevention and suppression measures, including the safe shut-down of electrical equipment during emergency incidents. Portable carbon dioxide (CO2) fire extinguishers will be mounted at the inverter/transformer pads throughout the project. Employees will be required to be familiar with the use of fire safety equipment, and smoking will be permitted only in designated areas.

Prior to commencement of site work on the project, the fire prevention and emergency action plans to be implemented during project construction and operation would be prepared and formalized in coordination with the Kings County Fire Department.

As mentioned above, the project would include energy storage facilities consisting of a number of prefabricated electrical enclosures containing battery banks and associated switchboards, inverters and transformers. All battery containers would be installed on concrete foundations designed to provide secondary containment. The enclosures would have appropriate fire suppression systems built to code. Each energy storage unit used on site will be designed in compliance with Section 608 of the International Fire Code, which has been adopted by the State of California to minimize risk of fire from stationary storage battery systems and contain fire in the event of such an incident. Under California law, the battery enclosures also must comply with Article 480 of the Electrical Code, which presents requirements for stationary storage batteries. Article 480 provides the appropriate insulation and venting requirements for these types of systems, further preventing associated risk of fire from the battery enclosures on the project site. Depending on the technology and design of the battery units, the Kings County Fire Department may require purchase of specialized hazmat vehicles and equipment along with mandated training for Fire Department personnel.

Solar Module Cleaning

The PV modules will be washed periodically to remove dust in order to maintain efficient conversion of sunlight to electrical power. The cleaning interval will be determined by the rate at which electrical output degrades between cleanings. Periodic panel washing will likely be most needed during the dry summer months when there is an increased potential for deposition of windblown dust from nearby agricultural operations. It is anticipated that panel washing will be required two times per year, and will be accomplished using light utility vehicles with tow-behind water trailers. No chemical cleaners will be used for module washing. It is estimated that water demands from one complete cycle of panel washing will be approximately 12.5 acre-feet for the 250 MW project. This estimate is based on a reported average water usage rate of 0.05 acre-feet per MW at operating PV solar facilities in the southwestern U.S. (UCWR 2013). Two panel cleaning cycles per year will use approximately 25.0 acre-feet of water.

Overall Operational Water Demands

General operational activities, such as washing or rinsing equipment, hand washing, and other non-toilet uses, is estimated to require approximately 500,000 gallons (1.53 acre feet) of non-potable water annually. This is based on a conservative (high end) consumption rate of 2,000 gallons per MW per year.)

In addition, the sheep used for grazing will each require up to 3 gallons of water per day. Assuming a sheep grazing density of 0.5 sheep per acre over approximately 1,880 acres to be grazed, a total of 940 sheep would be employed. During the course of a 5-month (151-day) grazing period (January through May), the total water requirement for sheep watering would be 425,820 gallons, or 1.31 acre-feet per year.

As discussed above, the washing of solar modules will use approximately 25.0 acre-feet of water annually, based on two washing cycles per year.

Based on the annual water consumption estimates provided above, the combined operational water use by the Cherry Solar Facility for panel washing (25.0 afy), sheep watering (1.31 afy), and general operational uses (1.53 afy) will total approximately 27.84 acre-feet of water annually over the approximately 2,079-acre project site. This is equivalent to 0.0134 acre-feet per acre, or 2.144 acre-feet per quarter-section (160 acres).

Operational water supplies will be provided by Westlands Water District (WWD) through its existing system of lateral pipelines for conveyance of imported surface water. The WWD has established an annual allocation of water deliveries for PV solar projects within its service area. PV solar facilities are eligible to receive up to 5.0 acre-feet per quarter-section per year for operational uses. As noted above, the operational water usage rate at the Cherry Solar Facility is estimated to be 2.144 acre-feet per quarter-section per year, which is well within the WWD's maximum annual allowance of 5.0 acre-feet per quarter-section.

Small quantities of potable water will be required at the solar facilities for drinking and other uses. Potable water will be delivered to the facility by a water delivery service.

Operations Personnel

Facility operations would be conducted by remote monitoring of the solar operation and by on-site maintenance services as needed. It is estimated that the operation of the solar facility will require no more than 20 on-site workers at any given time, as follows. Up to 4 permanent staff will perform inspections, maintenance, and repair work, with up to 6 staff added as needed for major equipment repairs or replacement. Panel washing cycles will involve up to 6 workers for up to 6 weeks per wash cycle, which is expected to occur 2 times per year. During the growing season when sheep are grazing on site, up to 2 sheep herders could be required to manage the rotation of sheep flocks through the site.

Security

The perimeter of the solar facility will be securely fenced and gated to prevent unauthorized access, as described under "Perimeter Fencing" above. The facility operator will contract with a private security company to provide security services during construction and operation. Electronic surveillance

equipment such as infrared security cameras and motion detectors will be installed around the solar facility, with video feeds transmitted in real time to the off-site security contractor for monitoring. In the event that the surveillance system detects a breach, a security representative will be dispatched to the site, as needed, and the County Sheriff's office will be notified as appropriate.

DECOMMISSIONING AND SITE RECLAMATION

At the end of its useful life, the Cherry Solar facility will be decommissioned and the land returned to a farmable state. (It is anticipated that the initial purchase contract for solar generation will have a term of 35 years, although the term could be extended by several years through amendments to the purchase agreement.) Once the solar facility is de-energized, the facility will be decommissioned and the site will be reclaimed in accordance with the Decommissioning and Soil Reclamation Plan required by the County. The Decommissioning and Soil Reclamation Plan will be subject to County approval prior to issuance of a building permit.

Under the Decommissioning and Soil Reclamation Plan, the deconstruction process will involve removal of all solar arrays, equipment, substation, battery containers, concrete pads, electrical cables, fencing, and other material. Equipment and materials will be reused and/or recycled to the extent practicable. Since these decommissioning activities will involve exposure and disturbance of soils, measures for erosion and sediment control will be implemented in accordance with a Storm Water Pollution Prevention Plan (SWPPP) that will be required for decommissioning. Water for dust suppression would also be required, and the overall volume of water required is expected to be similar to or less than the volume used during construction. Upon complete removal of equipment and salvageable material, the site will be cleared of any remaining trash and debris.

After the last remnants of the solar facility are removed and hauled off-site, the land will be tilled to restore the soils to a density and consistency suitable for farming. Finally, the site will be reseeded with an appropriate weed-free seed mix in order to provide soil stability and moisture retention prior to the resumption of farming.

It is expected that the decommissioning of the Cherry Solar facility will involve a similar level of activity as the original project construction, since it will essentially involve construction in reverse. Decommissioning may involve less equipment use and fewer material deliveries, and the time required for decommissioning may be less than the duration of the original project construction.

2.3. SURROUNDING LAND USES AND SETTING

The lands surrounding the Cherry Solar Project site consist mainly of agricultural lands along with related irrigation canals, ditches, wells, pump stations, power lines, and farm roads (see Figure PD-2 – Project Vicinity). Other land uses in the project vicinity consist include ranches and agricultural dwellings, including: 1) The Shannon Ranch complex (including 20 dwellings) located on Avenal Cutoff Road 1.0 mile northwest; 2) The Stone Land Company Ranch located 1.5 miles west on Nevada Avenue; 3) Three ranch complexes (with a total of 8 dwellings) along the east side of SR-41, located 2.0 to 4.0 miles east of the project site; and 4) Five dispersed agricultural residences located 4.0 to 4.5 miles northeast of the project site along 22nd Avenue. The Omaha Ranch, a dairy feed lot located 2.0 miles south of the project site, includes no habitable structures.

To the northeast of the Cherry Solar Project site are several completed solar PV facilities which were constructed within the last 10 years. The nearest is the 250-MW Aquamarine Solar Project, completed in late 2021, located just over 1.0 mile east at its nearest point. The approved 250-MW Solar Blue Project and the 150-MW Chestnut Solar Project, located adjacent to the northeast and east, are both scheduled to commence construction in mid-2022. The Nevada-Jayne Avenue 230-kV gen-tie line, completed in 2021, runs along the south side of Nevada Avenue opposite the Cherry project site.

The nearest population centers include the community of Stratford located 5.5 miles northeast, the City of Huron located 8.0 miles northwest, the community of Kettleman City located 9.0 miles south, the City of Lemoore located 10.0 miles northeast, and the Santa Rosa Rancheria located 10.0 miles east. Naval Air Station Lemoore (NASL), and its associated base housing, is located 6.0 miles north of the project site. The Cherry Solar Project is partially located within an NASL Arrival Flight Track, and is also within the Military Influence Area for NASL.

2.4. RELATED PROJECTS

Approved and Pending Solar Projects

There are a number of solar photovoltaic generation projects in Kings County which have been approved by the County or are pending approval. As of July 2022, a total of 33 solar PV projects (including Cherry Solar) have approved or pending Conditional Use Permit applications in unincorporated areas of Kings County, representing a total generating capacity of 2,180 MW. To date, a total of 31 solar PV projects, with a total generating capacity of 1,927 MW, have been approved by Kings County. Of these, 25 solar projects have been completed or partially completed, for a total of 1,400 MW. The 6 remaining approved (but not yet constructed) solar projects have a total potential generating capacity of 677 MW. An additional two solar PV projects, with a potential generating capacity of 253 MW, have pending CUP applications with Kings County, including the subject 250 MW Cherry Solar Project. The nearest projects to the Cherry Solar Project site include the 150 MW Chestnut Solar Project (under construction) adjacent to the east, the 250 MW Solar Blue Project (under construction) adjacent to the northeast, and the 250 MW Aquamarine Solar Project (completed and operational) located 1.0 mile northeast. These related projects are considered in detail in the cumulative impact analysis in section *4.21. Mandatory Findings of Significance*. A table listing the details of these "cumulative projects" (Table MFS-1) is contained in section 4.21, along with an exhibit (Figure MFS-1) showing the location of each.

Westlands Solar Park Master Plan

The Cherry Solar Project site is largely surrounded by lands covered by the Westlands Solar Park (WSP) Master Plan which encompasses approximately 20,938 acres. The WSP Master Plan and Gen-Tie Corridors Plan PEIR provides programmatic environmental review for the large-scale solar development planned within the WSP plan area and gen-tie corridors planned to provide interconnection of the WSP solar development with the State electrical grid. The Program EIR for WSP and associated gen-tie corridors was certified by the Westlands Water District Board of Directors on January 16, 2018. To date, Kings County has approved five individual solar projects within the WSP, with a total generating capacity of 925 MW, which is accounted for above.

2.5. OTHER PERMITS AND APPROVALS THAT MAY BE REQUIRED

The following permits and approvals for the Cherry Solar Project may be required from Kings County and other permitting agencies:

County of Kings

- Tentative Parcel Maps (or Lot Line Adjustments) to create parcels corresponding to the project boundaries
- Encroachment Permits for work in County road rights-of-way, and for utility crossings at County roads.
- Transfer Permits obtained from Kings County Public Works Department for oversized or excessive loads on County Roads.
- Building Permits for all aspects of project construction.

Other Agencies

- San Joaquin Valley Air Pollution Control District (SJVAPCD): 1) Indirect Source Review (ISR) under Rule 9510; 2) Approval of construction Dust Control Plans under Regulation VIII; 3) Portable Equipment Registration, under Rule 2280, for portable generators and compressors used during construction; 4) Permit to Operate, under Rule 2010, for any equipment greater than 50 horsepower resulting in emissions, e.g., standby generators.
- Regional Water Quality Control Board – Central Valley Region (CVRWQCB): Administration of General Permit for Storm Water Discharges Related to Construction Activities under the National Pollutant Discharge Elimination System (NPDES), including oversight of Storm Water Pollution Prevention Plans (SWPPPs).
- State Water Resources Control Board (SWRCB): As the agency with primary jurisdiction for NPDES permitting in California, applicants for projects subject to the Storm Water General Permit (referenced under Regional Water Quality Control Board above) are required to file a Notice of Intent (NOI) with the SWRCB indicating the intent to comply with the General Permit and to prepare a SWPPP.
- California Department of Transportation (Caltrans): Single-trip transportation permits for oversized loads on State highways. Permits are issued in coordination with the California Highway Patrol.

CHAPTER 3 – ENVIRONMENTAL DETERMINATION

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project involving at least one impact that is a "Potentially Significant" as indicated by the checklist on the following pages.

	Aesthetics	X	Agriculture and Forestry Resources
X	Air Quality	X	Biological Resources
X	Cultural Resources		Energy
X	Geology/Soils		Greenhouse Gas Emissions
X	Hazards and Hazardous Materials	X	Hydrology/Water Quality
	Land Use/Planning		Mineral Resources
	Noise		Population/Housing
	Public Services		Recreation
X	Transportation		Tribal Cultural Resources
	Utilities/Service Systems		Wildfire
	Mandatory Findings of Significance		

DETERMINATION:

On the basis of this initial evaluation:

_____ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

__X__ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the proposed proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

_____ I find that the proposed project MAY have a significant effect on the environment and an ENVIRONMENTAL IMPACT REPORT is required.

_____ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measure based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

_____ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been adequately analyzed in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable legal standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measure that are imposed upon the proposed project, nothing further is required.

Signature_____ Date: 9/6/2022

Noelle Tomlinson, Planner
Kings County Community Development Agency

CHAPTER 4 – EVALUATION OF ENVIRONMENTAL IMPACTS

4.1. AESTHETICS

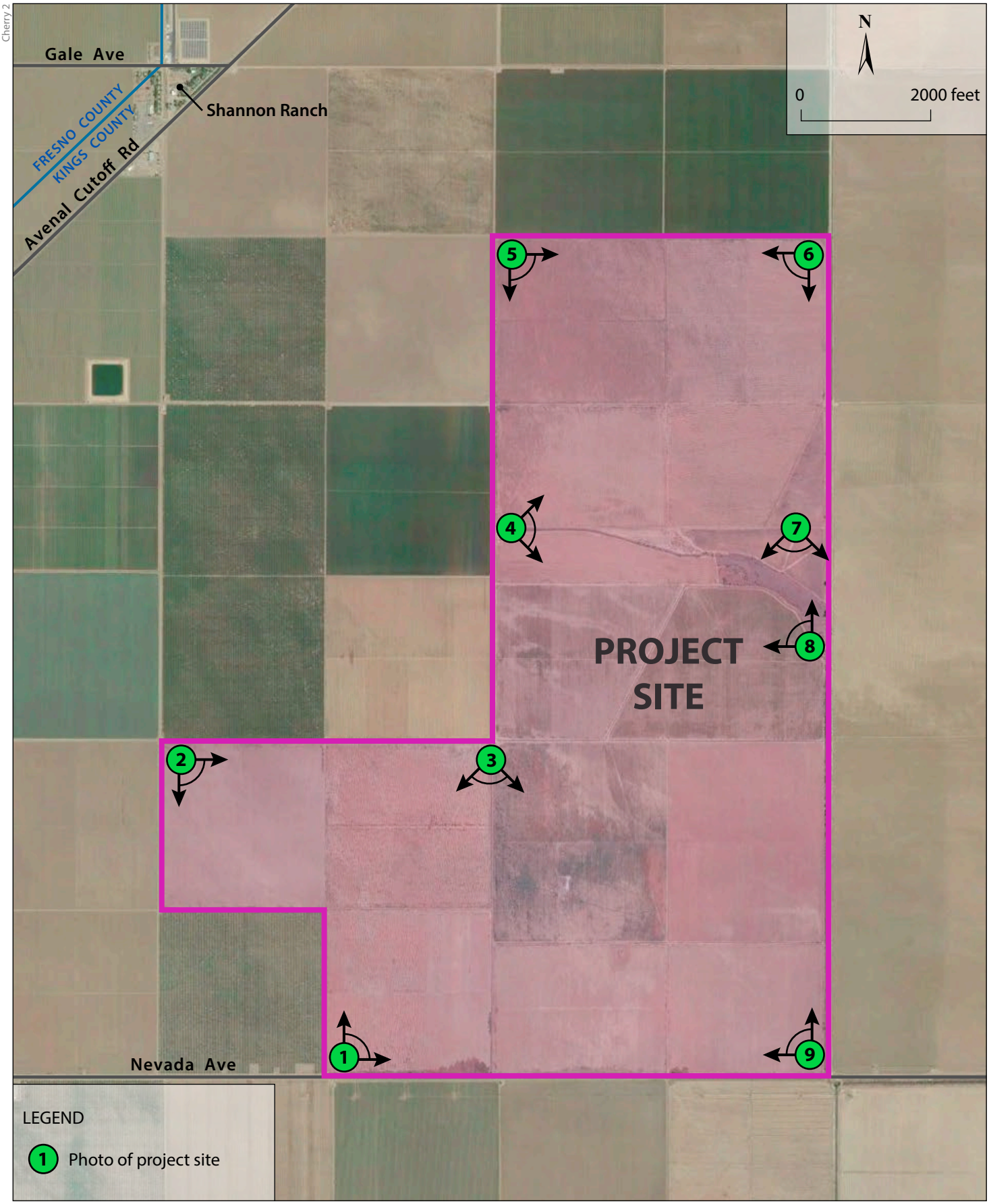
	Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant	No Impact
a)	*Have a substantial adverse effect on a scenic vista?*	☐	☐	■	☐
b)	*Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*	☐	☐	☐	■
c)	*In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*	☐	☐	■	☐
d)	*Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?*	☐	☐	■	☐

Environmental Setting

The 2,079-acre Cherry Solar Project site consists of virtually level cropland with typical agricultural infrastructure such as wells, standpipes, pump stations, farm roads, and electrical pole lines (see Figures AES-7a through 7d – Site Photos). On the eastern site boundary there is 30-acre area occupied by a former tailwater basin which historically received irrigation return flows but has been dry for the past several years with the advent of drip irrigation which eliminated such return flows. Several former agricultural irrigation canals and ditches run alongside and within the project site, but these are no longer used and are also dry. Scattered trees and shrubs are present around the edge of the former tailwater basin and along the eastern site boundary from the pond area to Nevada Avenue.

The lands surrounding the Cherry Solar Project site consist mainly of agricultural lands along with dispersed ranch complexes and agricultural residences. These include: 1) The Shannon Ranch complex (including 20 dwellings) located on Avenal Cutoff Road 1.0 mile northwest; 2) The Stone Land Company Ranch located 1.5 miles west on Nevada Avenue; 3) Three ranch complexes (with a total of 8 dwellings) along the east side of SR-41, located 2.0 to 4.0 miles east of the project site; and 4) Five dispersed agricultural residences located 4.0 to 4.5 miles northeast of the project site along 22nd Avenue. The Cherry Solar Project site may be visible in the distance from the Shannon Ranch and Stone Land Company Ranch but is not visible from ranches and residences located farther from the site boundaries.

The nearest population centers include the community of Stratford located 5.5 miles northeast, the City of Huron located 8.0 miles northwest, the community of Kettleman City located 9.0 miles south, the City of Lemoore located 10.0 miles northeast, and the Santa Rosa Rancheria located 10.0 miles east. The Cherry Solar Project site is not visible from any of the nearest communities.



Source: Google Earth, 2021

Site Photos - Key Map

Figure AES-1



Photo 1: Northeastward view from southwest corner of site



Photo 2: Southeastward view from western corner of site



Photo 3: Southeastward view from center of site

Site Photos
Figure AES-2



Photo 4: Eastward view from west side of site



Photo 5: Eastward view from northwest corner of site



Photo 6: Southwestward view from northeast corner of site

Site Photos
Figure AES-3



Photo 7: Southward view from north side of tailwater pond



Photo 8: Westward view from south side of tailwater pond



Photo 9: Northwestward view from southeast corner of site

Site Photos
Figure AES-4

There are several completed solar generating facilities in the project vicinity, including: the Aquamarine Solar Facility (1.0 mile northeast); Mustang 2 (2.0 miles northeast); Slate Solar (3.0 miles northeast); the Kent South, Orion, Mustang and Westside Solar (3.0 to 6.0 miles north); and Kettleman Solar (5.0 miles south). In addition, there are two approved solar projects adjacent to the east boundary of the Cherry Solar Project site, including the Solar Blue and Chestnut Solar projects, which are both anticipated to be completed by the time the Cherry Solar Project begins construction. The 230-kV Nevada-Jayne Gen-Tie Line, completed in late 2021, runs north to south along the unimproved 25th Avenue alignment to the east to Nevada Avenue where it turns west and follows Nevada and Jayne Avenues west to the Gates Substation in Fresno County.

Other visually prominent features in the project vicinity include Highway 41 and the adjacent Blakeley Canal, located 2.5 miles east, and the Kings River which is contained in an artificial channel running north to south approximately 5.0 miles east of the project site.

In the distance to the southwest, the foothills and mountains of the Coast Ranges are visible from the project site. The Kettleman Hills rise to an elevation of about 1,300 feet at a distance of approximately 11 miles from the project site. Beyond these foothills, first ridge of the Coast Ranges reaches elevations of approximately 5,000 feet at a distance of about 40 miles northwest. At these distances, the foothills and mountains make up a very small portion of the overall field of view from the project site.

Regulatory Context

State of California

California Scenic Highway Program

California's Scenic Highway Program was created in 1963 to preserve and protect scenic highway corridors from change which would diminish the aesthetic value of lands adjacent to highways. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. A highway may be designated as "scenic" depending on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the travelers' enjoyment of the view.

Within Kings County, there is one highway segment which is designated by the state as an eligible scenic highway. This segment comprises an 8-mile stretch of SR-41 extending southwest of SR-33 to the Kern County line and then on San Luis Obispo County. This scenic highway segment is located 18 miles southwest of the Cherry Solar Project site at its nearest point. None of the roadways in the project vicinity are designated or proposed scenic routes (Caltrans 2011). There are no County or City-designated or proposed scenic highways or routes in the project vicinity.

Kings County

2035 Kings County General Plan

The Open Space Element of the 2035 Kings County General Plan describes the important scenic resources of the County. The key landscape features include the Kings River to the east and the foothills and mountains in the western portion of County. As noted, the project site is 5.0 miles west of the Kings River, which is contained in an artificial channel with no riparian vegetation in the reach nearest to the project

site. The natural river channel and adjacent riparian corridor terminates approximately 5.0 miles northeast of the project site at the SR-41 bridge. At this distance, the project site is not integral to, nor does it contribute to, the scenic value of the river or its riparian corridor (Kings County 2010c).

The following General Plan policies related to aesthetics are relevant to the Cherry Solar Project:

Open Space Element

B. Scenic Resources

OS GOAL B1 Maintain and protect the scenic beauty of Kings County.

OS OBJECTIVE B1.1 Protect and enhance views from roadways which cross scenic areas or serve as scenic entranceways to cities and communities.

OS OBJECTIVE B1.2 Preserve roadside landscapes which have high visual quality and contribute to the local environment.

OS Policy B1.2.1 Review new development and utility projects for compatibility and potential for impacting scenic viewsheds along highly traveled scenic routes.

_____

OS OBJECTIVE B1.3 Protect the scenic qualities of human-made and natural landscapes and prominent view sheds.

OS Policy B1.3.1 Require new development to be designed so that it does not significantly impact or block view of Kings County's natural landscape or other important scenic features. Discretionary permit applications will be evaluated against this requirement as part of the development review process. New developments may be required, as appropriate to:

- Minimize obstruction of views from public lands and rights-of-way.
- Reduce visual prominence by keeping development and structures below ridgelines.
- Limit the impact of new roadways and grading on natural settings. Such limits shall be within design safety guidelines.

OS Policy B1.3.2 Protect the visual access to Kings River and other prominent watercourses by locating and designing new development to minimize visual impacts and obstruction of views of scenic watercourses from public lands and rights-of-way.

Resource Conservation Element

G. Energy Resources

RC Policy G1.2.5 Site new large-scale alternative energy facilities where they can be served by existing electrical transmission lines or where such lines can be located and designed to minimize visual, environmental, and agricultural disturbances.

Land Use Element

D. Community Districts

LU Policy D1.3.4 Preserve the existing nighttime environment by limiting the illumination of areas surrounding new development. New lighting that is part of residential, commercial, industrial, or recreational development shall be oriented away from sensitive uses and should be hooded, shielded, and located to direct light pools downward and prevent glare.

Environmental Evaluation

a) Would the project have a substantial adverse effect on a scenic vista?

Less-than-Significant Impact. The Cherry Solar Project site consists of essentially flat agricultural land that is typical of the valley floor, with no topographic variation or features to provide visual interest or vantage points for panoramic views. The nearest locally significant scenic resource is the Kings River, of which the nearest natural channel and adjacent riparian corridor is located approximately 5.0 miles from the Cherry Solar Project site, and not within view of the project site. The only potential scenic vistas in the region are of the Kettleman Hills and Coast Ranges to the west and southwest. The low profile of the nearest foothills can be discerned on the distant horizon at least 11 miles from the Cherry Solar Project site, and this comprises a very small portion of the overall southwesterly view from the project vicinity. The Cherry Solar Project's solar arrays will not exceed 8 feet in height, thus would not block publicly accessible views of the western hills from SR-41, which is at least 2.5 miles east of the project site. From Nevada Avenue, drivers' views of the low ridgeline in the distance to the northwest would be briefly obscured by the project solar modules when they are at maximum tilt in the very early morning and at sunset, and this would occur only along the 1.5 miles of project frontage along Nevada Avenue. The project solar arrays would not affect views of the foothills and mountains to the southwest. Therefore, the impacts of the Cherry Solar Project on scenic vistas would be *less than significant*.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. There are no State or County-designated or proposed scenic highways or routes in the vicinity of the Cherry Solar Project site (the nearest proposed scenic highway segment is 18 miles southwest of the project site), nor are there any recognized scenic resources or vistas in the immediate area (Caltrans 2011, Kings County 2010c). Additionally, there are no rock outcroppings or

significant trees on the project site or in the surrounding area. Similarly, there are no historic buildings on the Cherry Solar Project site or in the vicinity that are listed in the Kings County General Plan Resource Conservation Element (Kings County 2010b) or elsewhere. In summary, there are no known scenic resources that would be substantially damaged by the construction of the Cherry Solar Project, and there would be *no impact* to such scenic resources.

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less-than-Significant Impact. The Cherry Solar Project would involve installation of solar arrays throughout the 2,079-acre project site. The solar arrays would be relatively low in profile, reaching a height of about 8 feet at maximum tilt. The inverters and transformers that would be dispersed throughout the site would also have a maximum height of about 8 feet, and the meteorological station would reach a height of about 11 feet. The O&M building, substation, and battery storage facilities would be located together within an approximately 30-acre area located in the east central area of the site. The O&M building would be 14 feet tall at the roofline, and the battery storage containers would be 8.5 feet in height. The tallest structural elements at the on-site substation would include dead-end structures up to 75 feet high, and a potential communications tower could reach 100 feet in height. The solar facilities would be surrounded by perimeter fencing with an overall height of about 7 feet.

The Cherry Solar Project would replace the agricultural fields of the site with the relatively low profile structural elements of a solar generating facility. The rows of solar modules would be similar in scale to rows of tall corn or permanent tree crops. The hard edges of the solar equipment would contrast with the softer edges of the planted crops, but would not introduce a new dominant visual element that is substantially out of scale with its surroundings. In addition, over 90 percent of the project would be retained in vegetated ground cover, which would help visually integrate the project with its rural surroundings.

Although the project setting is predominantly rural and agricultural, there are existing structural elements in the immediate vicinity, including several completed solar facilities between one and six miles north and northeast of the Cherry Solar Project site. These include the Aquamarine, Mustang 2, Slate, Westside, American Kings, and Kent South/Orion/Mustang solar projects which collectively occupy approximately 8,600 acres. In addition, there are two approved solar projects adjacent to the project site on the east (Solar Blue and Chestnut Solar, on a total of 2,975 acres), which are anticipated to be completed by the time the Cherry Solar Project begins construction. Therefore, the project would not introduce new structural elements to the area.

As discussed under 'Environmental Setting' above, the visual quality of the project site and its surroundings is relatively low. The land itself is flat and featureless, and the area is not part of a recognized scenic resource. The number of visual receivers in the area, who would experience the visual changes resulting from the project, is also low. All existing residences in the vicinity are one mile or farther from the project site, distances at which the project solar arrays would be barely visible if at all. The only public road that passes alongside the project site is Nevada Avenue, which

runs along the southern project boundary for 1.5 miles. Motorists traveling along Nevada Avenue would have near-ground views of solar arrays and may have a glimpse of the project O&M facilities, substation, and battery storage facilities located at least one mile north of the roadway. Nevada Avenue is very lightly traveled, so the number of passing motorists who would have visual contact with the project along this roadway would be small. The next nearest public road – SR-41 to the east – is located 2.5 miles from the nearest project boundary. From this distance, the solar arrays of the completed facility would not be visible, and the taller structural elements of the project substation and switchyard may be barely visible as narrow profile vertical features on the horizon.

The Cherry Solar Project would result in a visual change of the project site from agricultural fields to solar fields. While this would represent a visual change to the project site, it would not result in a substantial visual change to the surrounding area which already includes several large solar facilities, and will be joined by two additional approved solar facilities which are anticipated to be completed adjacent to the Cherry Solar Project site before project construction begins. Given the relatively low visual quality of the site and its surroundings, and the very low number of visual receivers who would experience the change in visual setting, the introduction of a non-agricultural land use as represented by the Cherry Solar Project, within a visual setting that includes considerable existing and approved structural elements, would not substantially degrade the visual character or quality of public views of the site and its surroundings. Therefore, the visual impacts associated with the Cherry Solar Project would be *less than significant*.

d) Would the project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

The topics of lighting and glare are discussed separately below.

Lighting

Less-than-Significant Impact. Under existing conditions, the project vicinity is subject to night lighting mainly from headlights of vehicles occasionally traveling on Nevada Avenue and to a lesser extent from SR-41 which runs at least 2.0 miles southeast of the project site at its nearest point. The Cherry Solar Project will introduce new sources of light to the area, although permanent exterior lighting will be mainly located at the site entrances, the operations yard, and the on-site substation. Lighting within the solar fields will be confined to the inverter/transformer pads, which will be activated only when needed by switch or motion sensors. There will be no lighting along any internal access driveways, or around the project perimeter. Permanent lighting would be no brighter than required to meet safety and security requirements, and would be hooded and directed inward and downward to avoid direct illumination of adjacent properties and public rights-of-way.

During the construction phase, the staging areas would have security lighting. Temporary night lighting would be needed if and when construction activity extends into the nighttime hours. As with lighting during facility operations, the temporary lighting for construction would provide the minimum illumination needed and would be directed away from facility boundaries.

Potentially sensitive receptors to unwanted illumination from the project primarily include existing range dwellings at the Shannon Ranch (1.0 mile northwest) and the Stone Land Company Ranch (1.5 miles west). The motorists who would travel along Nevada Avenue at night and pass by the project

would notice the additional light sources associated with the project, but the volume of this nighttime traffic is very low and the effect would not be significant. Since all lighting within the Cherry Solar Project would be directed away from the roadway, the project lighting would not create direct illumination that could pose a safety hazard to passing traffic on Nevada Avenue. Motorists driving along SR-41 at night may notice the project lighting in the distance, but the project lighting would be negligible compared to the glare of headlights from on-coming traffic on the highway.

In summary, the Cherry Solar Project would introduce new sources of permanent and temporary nighttime lighting to the project area, although most of the solar facility would not be illuminated. There are no residential receivers in the immediate project vicinity, and the lighting introduced by the project would have minimal impact on existing residences which are all located more than 1.0 mile away. The small number of motorists on Nevada Avenue who would pass by the project site at night would notice an increase in permanent night lighting, but the overall effect would not be significant. The motorists on SR-41 would already be subject to lighting from traffic in this corridor, and thus the subdued project lighting over two miles away would not introduce a new source of night lighting to a previously dark rural nighttime setting. Therefore, the lighting impacts resulting from the Cherry Solar Project would be *less than significant*.

Glare

Less-than-Significant Impact. Glare is an intense light effect resulting primarily from the reflection of sunlight off reflective surfaces when the angle of the sun to the surface is such that sunlight is reflected toward the receiver, causing potential discomfort or distraction of the receiver, or potential impairment of vision under extreme conditions. The main source of potential glare from the project is solar panels, but other sources can include vehicle windshields and reflective building materials, as well as direct illumination.

All of the solar modules installed at the Cherry Solar Project will be composed of photovoltaic cells. Solar PV employs glass panels that are designed to maximize absorption and minimize reflection to increase electricity production efficiency. Untreated silicon reflects about one-third of incoming sunlight. To limit reflection, solar PV modules are constructed of dark, light-absorbing materials, and are given an anti-reflective coating or textured surface. With the addition of the anti-reflective coating or treatment, the reflectivity can be reduced to less than 4 percent of incoming sunlight (EE Times 2012). By comparison, the reflectivity of standard glass is over 20 percent, or about double that of uncoated solar panels. By contrast, concentrating solar thermal systems, which employ arrays of highly polished mirrors to refocus the solar radiation on a receiver tube or tower, reflect about 90 percent of the incoming sunlight (FAA 2018). (The potential for the project to create a source of glint or glare that would affect military pilots stationed at NAS Lemoore is also considered less than significant, and this is discussed in further detail in Section *4.9. Hazards and Hazardous Materials*.)

Further, PV solar systems are designed to maximize absorption of sunlight by keeping the panel surfaces oriented directly to the sun as much as possible. When the sun is high in the sky, sunlight light is reflected skyward. However, when the sun is low in the sky (i.e., at dawn or dusk), the angle of reflectance increases, thereby increasing the potential for reflection at or near ground level. The potential for ground-level reflection is greatest with fixed-tilt solar arrays, which are oriented lengthwise in an east-west direction. When the sun is very low in the sky at sunrise and sunset (i.e., in the east or west), there is a potential for sunlight to be reflected obliquely from the east-west oriented panels at a similarly low angle to observers at ground level. The potential for ground-level reflection is substantially reduced in tracking systems, such as those planned for the Cherry Solar Project, which

are arranged in north-south oriented rows and allow panels to follow the sun across the sky from east to west. Since tracking systems minimize the angle of incident sunlight at the panel surface, the angle of reflectance is also smaller and thus tends to direct reflected sunlight skyward even when the sun is low in the sky. Since tracking systems are arranged in north-south oriented rows, the potential for sunlight to be obliquely reflected to ground level receivers is further reduced since the sun is never low in the sky in a northerly or southerly direction.

Since solar panels are designed specifically to maximize absorption of sunlight and minimize loss of incident sunlight through reflection, the potential for glare is also greatly reduced even during occasional periods when sunlight from module surfaces may be reflected to ground-level receivers. The panels would therefore not be expected to result in intense glare that would adversely affect views in the area or cause discomfort to receivers.

Residences in the vicinity of solar facilities can be subject to potential low-intensity glare from solar panels. However, since there are no existing residences within at least one mile of the Cherry Solar Project site, there would be no potential glare effects upon residential receivers from the project.

Automobiles passing by the project solar facilities could be subject to low-intensity glare from nearby solar panels at certain times of day. As discussed above, the potential for glare would be greatest at sunrise and sunset when oblique reflections could be received at or near ground level, although ground-level reflection is expected to occur primarily with fixed-tilt mounting systems, and much less so with the tracker systems planned for the project. In summary, due to the low level intensity of reflection from the PV solar panels and the short duration of driver exposure, if any, to any low-intensity reflected light, the very low volume of traffic passing directly by the Cherry Solar Facility on Nevada Avenue would not be subject to significant visual impairment or a safety hazard due to potential glare.

In summary, the potential for glare effects from the project solar facilities to adversely affect daytime views or cause visual impairment would be *less than significant*. (See Section *4.9. Hazards and Hazardous Materials* for discussion of potential glare hazard to aviation.)

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4.2. AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection, including the Forest and Range Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

	Would the project:	**Potentially Significant Impact**	**Potentially Significant Unless Mitigation Incorporated**	**Less Than Significant**	**No Impact**
a)	***Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?***	☐	☐	■	
b)	***Conflict with existing zoning for agricultural use, or a Williamson Act contract?***	☐	☐	■	☐
c)	***Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)?***	☐	☐	☐	■
d)	***Result in the loss of forest land or conversion of forest land to non-forest use?***	☐	☐	☐	■
e)	***Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?***	☐	☐	■	☐

Agricultural Setting

The 2,079-acre Cherry Solar project site consists entirely of agricultural fields and supporting features such as, irrigation canals and piping, unimproved farm roads, and electric power lines. In recent years, the site has been mainly cultivated for cotton and winter wheat.

Geomorphology and Soils

The parent materials of the soils in the project area originate from marine sediments of the Coast Ranges formed millions of years ago when these lands were on the seabed. These formations, which primarily consist of fine-grained shales, were uplifted over time, and were then subject to erosional forces which transported these sediments downstream to the west side of the valley where they formed large alluvial fans. The geomorphologic processes resulted in the formation of two distinct landform types in the western San Joaquin Valley, including: 1) the upper and middle alluvial fans and fan terrace areas in the higher westerly elevations; and 2) the lower alluvial fans or fan skirts, interfan areas, and basin floors located in the lower lying eastern areas. The project site is located on the lower alluvial fan area which is underlain by clay layers at depths of 10 to 40 feet that impede the downward movement of water. The site area is also characterized by fine-textured clayey soils with low permeability and slow

groundwater movement. The upper clay layers combined with the slow draining soils result in a high or "perched" groundwater table that is typically within 5 to 15 feet of the ground surface throughout the project site (WWD 2017a, 2017b).

The sedimentary formations of the Coast Ranges retained high concentrations of salts resulting from evaporative processes over millions of years. Since these salts are soluble, they were dissolved by rainfall and mobilized in drainage courses that carried the salts downstream to be deposited with the formation of the alluvial fans. These salts include associated trace elements such as selenium (Se), a semi-metallic element which is essential to human health in very small amounts but hazardous to health in concentrations that exceed 30 parts per billion (ppb)(OEHHA 2010).

NRCS Soil Survey

The most recent comprehensive soil survey of Kings County was completed in 1985 by the National Resources Conservation Service (NRCS), formerly the Soil Conservation Service (SCS). According to the Kings County Soil Survey, the Cherry Solar Project site includes three different soil types. These soils are listed in Table AG-1 along with their NRCS land capability classification, Storie Index ratings, and Important Farmland Designations under the Department of Conservation Farmland Monitoring and Mapping Program (FMMP), along with brief notes on soil limitations as noted by NRCS.

TABLE AG-1

AGRICULTURAL CAPABILITY OF SOILS ON CHERRY SOLAR PROJECT SITE

Soil Unit	NRCS Map Unit Symbol	Acres in Cherry Site (Approx.)	NRCS Land Capability		Storie Index Rating*	NRCS Soil Limitations
			Irrigated	Non-Irrigated		
Lethent clay loam	139	1,417	IIIs-6	VIIs	41	S = soil limitations within the rooting zone such as salinity. Groundwater – Perched.
Twisselman silty clay, saline-alkali	166	612	IIIs-6	VIIs	20	S = soil limitations within the rooting zone such as salinity.
Calfax clay loam, saline-sodic	482	50	IIIs-6	VIIs	39	S = soil limitations within the rooting zone such as salinity.
Total Acres		2,079				

* Storie Index rating does not consider availability of water supply for irrigation.
Sources: NRCS 1986, CDOC 2020.

NRCS Land Capability Classification

Under the soils classification system of the NRCS, soils are classified according to eight broad 'Land Capability' classes, with Class I and II soils being the most fertile and well suited for cultivation, and Class VII and VIII soils having severe limitations for cultivation. According to the NRCS Soil Survey of Kings County, the soils on the Cherry Solar Project site consist largely of Lethent clay loam (68% of site), with a Twisselman silty clay, saline-alkali (29%) covering the northeast portion of the site, and a small area of Calflax clay loam, saline-sodic (3%) in the central area of the site. All of these soils have a Land Capability Class rating of VIIs (non-irrigated) and IIIs (irrigated). Class VII soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to pasture,

grazing, forestland, or wildlife habitat. Class III soils have severe limitations that restrict the choice of plants or require special conservation practices, or both. The letter "s" indicates that the soil has soil limitations in the root zone such as salinity. The on-site soils are similar in character and are described as very deep, moderately well-drained, saline-alkali soils. The shrink-swell (expansion) potential of these clayey soils is very high, runoff is very slow, permeability is very slow, and hazard to erosion is slight (NRCS 1986).

Storie Index Ratings

The second land capability system applied by NRCS, called the Storie Index, is specific to California. The Storie Index rates the suitability of soils for general intensive agriculture. Soils with a Storie Index rating of 80 or greater are classified as Grade 1 or prime soils. The Storie Index ratings for the soils of the Cherry Solar Project site consist of the following numeric ratings and a corresponding numeric grades: Lethent clay loam – 41 (Grade 3); Twisselman silty clay, saline-alkali – 20 (Grade 4); and Calflax clay loam, saline-sodic – 39 (Grade 4) (NRCS 1986).

The saline conditions that are native to the site soils have been exacerbated on the project site by perched groundwater, poor natural subsurface drainage, and the application of insufficient water to leach salt from the root zone. Groundwater in the area is high in salinity, carbonates and bicarbonates, and boron. These groundwater conditions are typically above the maximums recommended for tolerant crops. In addition, the added salts from the groundwater further increase the salinity of the surface soils. Therefore, growing crops on the site utilizing solely groundwater is not feasible.

Soil Impairment Due to Salinity

Under irrigated agriculture, substantial amounts of soluble salts and selenium in the native soils are dissolved and are leached into the groundwater. As discussed, subsurface drainage is restricted due to the presence of clay layers at depth (aquitards) as well as the high clay content of the near-surface soils. With the application of irrigation water, the impedance of downward drainage by the slow draining soils and the underlying clay layers result in rising groundwater levels. The salts and selenium in the near-surface groundwater are transported upward in the soil toward the surface through capillary action, or wicking. When the near-surface water evaporates, the precipitated salts are left behind, resulting in increased salinity in the surface soils (USBR 2006, p. 13-2).

Elevated salt concentration in soil and groundwater tends to inhibit plant growth and reduce yields. Since plants are able to absorb only pure water, the higher the salt concentration, the less water is available to plants, even though the soil may appear wet. This is known as "physiological drought" and has the same effect as an actual drought in terms of starving plants of water needed for growth. There is wide variation in the ability of plants to tolerate saline water, with each plant or crop having different thresholds of salinity tolerance where crop yields begin to diminish rapidly (CSU 2014). Soils are considered to be "saline" at salt levels of 2,000 milligrams per liter (mg/L) (note: 1 mg/L = 1 part per million [ppm]. Most tree crops (nuts and fruits) have salt tolerances of less than 1,000 mg/L; few vegetable and forage crops have salt tolerances greater than 2,000 mg/L; and a few grains and cotton can tolerate salt levels exceeding 3,000 mg/L (FAO 2002).

Sampling from perched groundwater (i.e., groundwater in the near-surface soils) conducted by USBR in the mid-2000s found that Total Dissolved Solids (TDS - a measure of groundwater salinity) on the Cherry Solar site ranged from 3,000 to 6,000 mg/L. More recent mapping and soil sampling have shown that salinity levels in the near-surface soils are in the same general range as shown in the 2006 mapping by

USBR. A study published by the University of California in 2017 described the results of measurement of salinity concentrations by remote sensing. That study showed that salt levels on approximately 75 percent of the Cherry Solar site are considered "saline" (ranging from 2,600 mg/L to 12,800 mg/L), with soils having lower salt concentrations dispersed among the saline soils (Cal Ag 2017). Additionally, soil samples on the nearby Aquamarine Solar Project site (located 1.0 mile northeast of the Cherry Solar site and composed predominantly of the same Lethent clay loam that covers 68 percent of the Cherry Solar site), found salt concentrations to range from approximately 4,400 mg/L to over 20,000 mg/L (Kings County 2019b). Due to the very high salt concentrations in the soils of the Cherry Solar Project site, the predominant crops grown on the project site are winter wheat and cotton (the latter only when irrigation water is abundant), which can tolerate salinity levels of about 4,000 and 5,000 mg/L, respectively, before crop yields begin to decrease significantly (CSU 2014). The recommended secondary maximum contaminant level (SMCL) set by the California Department of Public Health (CDPH) for TDS in drinking water is 500 mg/L, and the upper limit is 1,000 mg/L (SWRCB 2018b). (It is noted that the salt concentrations in surface water delivered from the California Aqueduct in the past year ranged from approximately 360 to 400 mg/L [DWR 2022a].)

Irrigation Water Supply Constraints

Historically, irrigation water for the project site has been largely provided by imported surface water from the federal Central Valley Project (CVP) delivered through the Westlands Water District (WWD). The maximum water allocation available to the site from the CVP for agricultural purposes is approximately 2.6 acre-feet per acre per year. During the mid-2010s, the actual deliveries of CVP contract water to WWD were dramatically curtailed due to prolonged drought conditions. Also, since WWD was one of the last water districts in California to obtain access to federal water, it has a junior entitlement to CVP water, which places it at a very low priority for water deliveries during times of scarcity. During the 10-year period between 2011 and 2020, WWD received an average of 36 percent of its contract water, and early estimates of available water for 2022 indicate that 0 percent of CVP contract water will be available to WWD growers. In 2014 and 2015, WWD also received 0 percent allocation of CVP water, and in 2016 received 5 percent of its contract water (WWD 2020). In order to meet the irrigation requirements of planted crops under such drought conditions, growers will augment reduced surface water supplies with pumped groundwater. But since the groundwater is high in salinity, the amount of groundwater that can be blended with the higher quality imported surface water is limited by the generally low salinity tolerance of crops. Due to the unavailability of imported surface water during the critically dry years of 2014 and 2015, combined with the quality and quantity constraints on groundwater pumping, an average of 153,475 acres were fallowed annually within the District between 2011 and 2020, representing 27 percent of the irrigable farmland in the District (WWD 2020).

In January 2020, the WWD Board of Directors adopted the Groundwater Sustainability Plan (GSP) for the 622,215-acre Westside Subbasin (this includes the entire WWD service area of 614,700 acres). The GSP determined that the long-term sustainable yield across the subbasin is 305,000 acre-feet per year (WWD 2022). The groundwater allocation program established under the GSP includes a "transition period" from 2022 to 2030, in which a uniform annual allocation is initially established at 1.3 acre-feet per acre and then subsequently reduced each year by 0.1 AF per acre until 2030 when the allocation would reach 0.6 AF per acre (WWD 2022). For purposes of this analysis, the available groundwater supply is defined as 0.6 AF per acre per year. (See Section *4.10. Hydrology and Water Quality*, item 'e', for a full discussion of WWD's Groundwater Sustainability Plan.) (Note: The maximum surface water allocation for agricultural uses is not the same as the maximum allocation for non-agricultural uses, also known as

Municipal and Industrial (M&I) uses, which is 5 acre-feet per 160 acres for solar facilities, as discussed in section *2.2. Project Description*.)

Farmland Mapping and Monitoring Program

The California Department of Conservation (CDOC) administers and maintains the statewide Farmland Mapping and Monitoring Program (FMMP), under which farmland is mapped by several categories including Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Grazing Land. The first three of these categories are identified as "Farmland" in CEQA Guidelines Appendix G (see item 'a' under Environmental Evaluation below). Figure AG-1 shows the most recent edition of the Important Farmland Map published by CDOC for areas of Kings County that include the Cherry Solar Project site and surrounding areas. As shown, approximately 1,045 acres of project site is mapped as "Farmland of Statewide Importance," another 954 acres is mapped as "Grazing Land," and the 80-acre area comprising the former tailwater basin and adjacent lands is mapped as "Urban and Built-up Land" (CDOC 2020). The "Farmland of Statewide Importance" is included among the categories that define "Farmland" in CEQA Guidelines Appendix G, while "Grazing Land" and "Urban and Built-up Land" are not included in the CEQA definition of "Farmland."

Williamson Act

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting the use of those lands to agricultural or compatible uses. There are two types of contracts available, including Land Conservation contracts, which have a term of 9 years, and Farmland Security Zone (FSZ) contracts, which have a term of 18 years. In return for placing their lands under these contracts, the restricted parcels are assessed at reduced valuations and therefore are subject to lower property taxes.

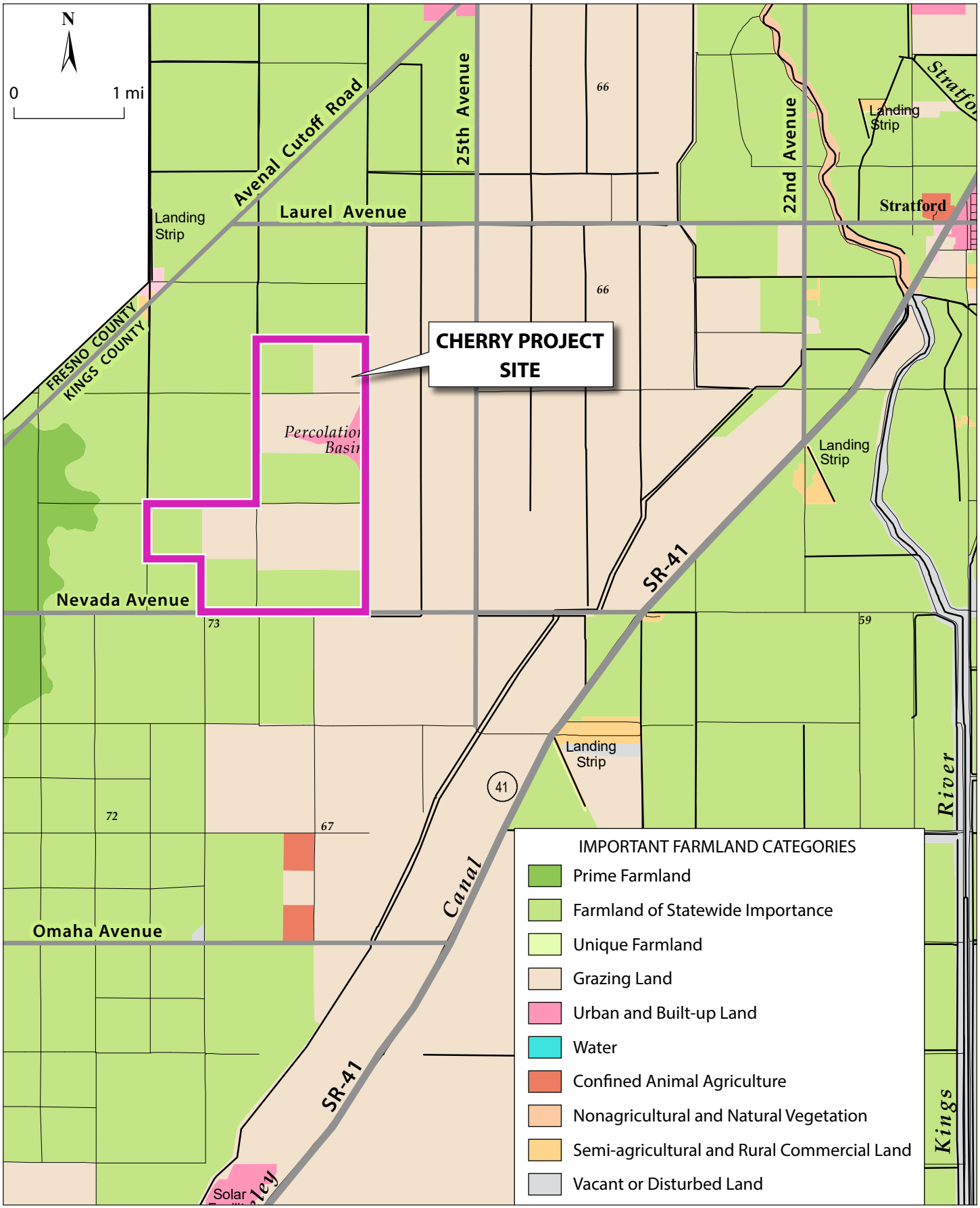
The Williamson Act stipulates that local governments adopt rules governing the administration of agricultural preserves, including rules related to compatible uses, provided the rules are consistent with the following principles of compatibility (Gov. Code § 51231).

Gov. Code § 51238.1. (a) Uses approved on contracted lands shall be consistent with all of the following principles of compatibility:

(1) *The use will not significantly compromise the long-term productive agricultural capability of the subject contracted parcel or parcels or on other contracted lands in agricultural preserve.*

(2) The use will not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels or on other contracted lands in agricultural preserves. Uses that significantly displace agricultural operations on the subject contracted parcel or parcels may be deemed compatible if they relate directly to the production of commercial agricultural products on the subject contracted parcel or parcels or neighboring lands, including activities such as harvesting, processing, or shipping.

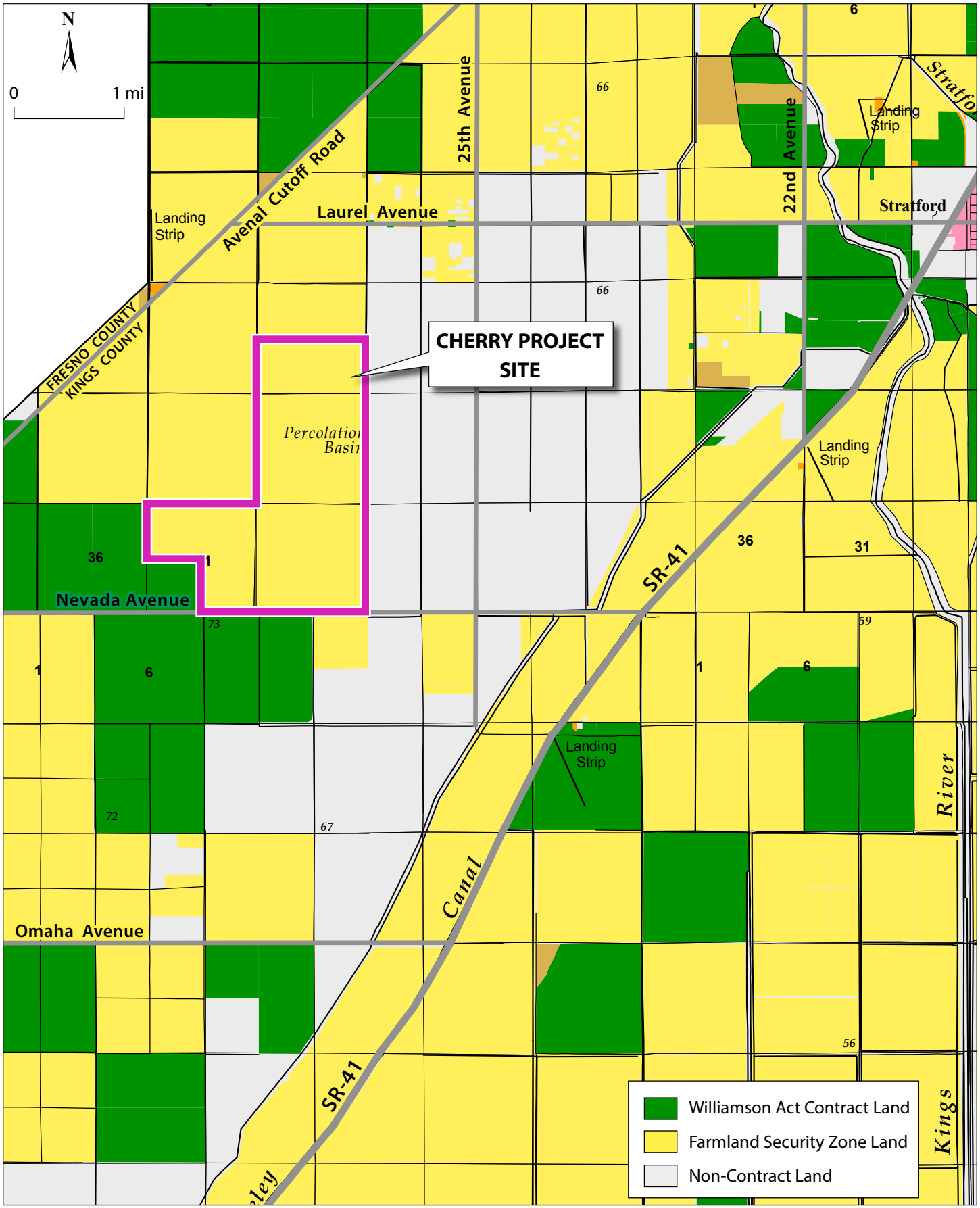
(3) The use will not result in the significant removal of adjacent contracted land from agricultural or open-space use.



Source: CDOC, 2020

Important Farmlands

Figure AG-1



Source: CDOC, 2015

Williamson Act Contract Lands

Figure AG-2

The Kings County Assessor's records indicate that the entire 2,079-acre Cherry Solar Project site is subject to Farmland Security Zone contracts under the Williamson Act. The contract information on parcels subject to the Williamson Act is listed in the following table.

Section	APN	Acreage	Contract No.	Preserve/Zone	Document No.	Date Recorded
20	026-300-034	320.0	265	Zone 50	0637216	12/19/06
29	026-320-006	640.0	265	Zone 50	0637216	12/19/06
31	026-320-017	479.1	266	Zone 50	0638152	12/28/06
32	026-320-020	640.0	266	Zone 50	0638152	12/28/06
		2,079.1				

Kings County Priority Agricultural Land Model

The Kings County Community Development Agency has developed a model which considers additional factors in defining the value of farmlands in order to rank County farmlands on a priority basis. The factors considered in the model include soil classification, crop value, availability of water resources, the need for open space buffers between urban areas, and the planned orderly growth of communities. The resulting mapping of Priority Agricultural Land, as mapped in the General Plan Resource Conservation Element (Figure RC-13) shows the following priority categories on the Cherry Solar Project site: easterly 1,600 acres – "Low-Medium Priority"; southwesterly 479 acres – "Low Priority (Kings County 2010b).

2035 Kings County General Plan

The Land Use Map of the 2035 Kings County General Plan Land Use Element shows the land use designation on the western-most 160-acre quarter-section of the Cherry Solar Project site as "Exclusive Agriculture – 40 acre," and the remaining 1,919 acres of the site as "General Agriculture – 40 acre." The Exclusive Agriculture designation applies to small western portion of the site that lies within the flight paths of military aircraft based at Naval Air Station Lemoore. Both of these land use designations fall under the broader General Plan category of Agricultural Open Space. In addition to a range of agricultural uses and ancillary activities, the General Plan LU Policy B7.1.3 allows solar voltaic generating facilities within the Agricultural Open Space areas of the County (Kings County 2010a). Energy producing facilities are allowed in the Exclusive Agriculture zone where such facilities would not create a hazard for aircraft, as set forth in RC Policy A1.2.4 (Kings County 2010b).

Kings County Development Code

As designated in the Kings County Zone Plan, the entire Cherry Solar Project site is zoned "AG-40 General Agricultural-40" (Kings County 1964). As provided in Article 4 of the Kings County Development Code, commercial solar photovoltaic electrical generating facilities are permitted in this zoning district subject to a granting of a Conditional Use Permit by the Kings County Planning Commission (Kings County 2020b).

Article 11, Section 1112(B)(2) of the Kings County Development Code requires that commercial-scale solar photovoltaic electrical facilities conform to specified standards. Most of these standards relate to agricultural land. The required standards, and the project's conformity with the standards, are addressed in item 'b)' in the Environmental Evaluation that follows (Kings County 2020b).

Kings County Right-to-Farm Ordinance

The Kings County Code of Ordinances Section 14-36.1, the "Notice of Disclosure and Acknowledgment of Agricultural Land Use Protection and Right to Farm Policies of the County of Kings" (Right-to-Farm) requires the approvals of rezonings, land divisions, zoning permits, and residential building permits include a condition that notice and disclosure be provided, which is to be recorded with the property title, that specifically acknowledges and notifies all future owners that they are in proximity to agricultural uses, and lists the types of operations and possible nuisances or inconveniences associated with farming such as equipment and animal noises; farming activities conducted on a 24-hour, 7-day a week basis; odors from manure, fertilizers, pesticides, chemicals, or other sources; the aerial and ground application of chemicals and seeds, dust; flies and other insects; and smoke. The ordinance states that the County does not consider normal farming operations involving these activities and effects to be a nuisance, and that current owners and future purchasers should be prepared to accept such annoyances or discomfort from normal, usual, and customary agricultural operations, facilities, and practices. This Right-to-Farm disclosure and acknowledgement establishes the primacy of agricultural operations over other land uses, and would reduce the potential for conflict which could adversely affect the continued viability of such adjacent agricultural operations (Kings County 2002).

Kings County Williamson Act Implementation Procedures

As required under the Williamson Act, the County has established procedures for implementation of the Act at the local level. Those implementation procedures include *Uniform Rules for Agricultural Preserves in Kings County*, which identifies the uses that shall be permitted as "Commercial Agricultural Uses," and "Compatible Uses," on lands under Williamson Act contracts, including Farmland Security Zone contracts. Permitted compatible uses include single-family residences, accessory structures, agricultural processing facilities, gas and oil wells, and public utility and public service structures and buildings, among other uses.

The current Kings County Williamson Act implementing procedures include the following uniform rules for agricultural preserves that pertain to solar photovoltaic facilities:

> "Commercial solar photovoltaic system facilities that are designed primarily for the production of electrical energy for third party consumption are not compatible under the provisions of Government Code Section 51238.1(a). For purposes of determining compatibility, a project must be determined consistent with the principles of compatibility under Section 51238.1(a). Ordinarily, a solar project will be found compatible if the applicant provides a soil reclamation plan and financial assurances, and if the economic output of agricultural operations on the contracted parcel or parcels on which the project is located will be 90-percent of pre-project output. However, on November 26, 2013, the Board of Supervisors adopted Resolution No. 13-058, recognizing that due to reduced surface water deliveries, poor groundwater quality and severe groundwater overdrafts, impaired soil conditions, and regulatory burdens, circumstances exist on agricultural preserves located within that portion of Kings County south of State Route 198, west of State Route 41, and northeast of Interstate 5 that limit the use of much of the land with the territory for agricultural activities, such that it is reasonably foreseeable that certain parcels located there that currently are used for more intensive agricultural activities will be used in the near future for less intensive uses, including dry farm seasonal grazing. Notwithstanding the present agricultural use of the land, solar farming as a concomitant use with dry farm seasonal grazing or similar commercial agricultural activity may be deemed a compatible use within this region of the County if the applicant provides a

soil reclamation plan and financial assurances, and if a finding can be made, based upon substantial evidence, and taking into account surface water availability, ground water quality and availability, and soil conditions, that the proposed concomitant commercial agricultural operation is a reasonably foreseeable use of the land (Kings County 2020a)."

As noted previously in this section, the entire 2,079-acre Cherry Solar Project site is subject to a Farmland Security Zone Contract under the Williamson Act. Therefore, all of the lands within the Cherry Solar Project site are subject to the County's Williamson Act Implementation Procedures. The project's conformity with the Implementation Procedures is addressed in item 'b)' in the Environmental Evaluation that follows.

Environmental Evaluation

a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Less-than-Significant Impact. Under DOC's Farmland Mapping and Monitoring Program (FMMP), approximately 1,045 acres of the Cherry Solar Project site are mapped "Farmlands of Statewide Importance," which is defined as lands which are similar to Prime Farmland but have minor shortcomings, and which have been in irrigated agriculture sometime during the prior four years. The remaining 934 acres on the site are mapped as "Grazing Land," which is defined as land on which the existing vegetation is suited to the raising of livestock (CDOC 2020). "Farmlands of Statewide Importance" is one of the farmland categories included in the definition of "Farmland" under CEQA Guidelines Appendix G. The Cherry Solar Project would occupy the site for a period of 35 years. During operation of the solar facility, the majority of the site area would be vegetated with native grasses. At the end of the productive life of the solar generating facility, the facility would be decommissioned.

Unless mitigated, the installation of the Cherry Solar project on the site would result in the conversion of 1,045 acres Farmland of Statewide Importance on the site to non-agricultural uses. This would represent a significant impact to Farmland. The solar development of the portion of the project site mapped as Grazing Land would result in a less-than-significant impact on Farmland.

In order to reduce the project impacts to agricultural resources of the Cherry Solar Project site to less-than-significant levels, the following mitigation measures shall be implemented in conjunction with the project.

Mitigation Measure AG-1: Agricultural Management Plan. *Prior to the issuance of a building permit, the applicant shall submit to Kings County an Agricultural Management Plan (AMP) that provides for the ongoing agricultural productivity of the project site for the life of the project. The AMP shall specify that at least 90 percent of this area of the site shall be vegetated with grasses and forbs and shall be managed for dry farm seasonal sheep grazing. The AMP shall include specific provisions for soil preparation and revegetation including specifications for a seed mix which is appropriate to the soil and climatic conditions in the absence of irrigation, methods of avoiding invasive species, and a list of acceptable vegetation that meets the dietary*

needs of sheep. The AMP shall include detailed provisions to ensure the successful establishment of the planned vegetative cover, and shall identify appropriate maintenance activities, including conditions under which herbicides may be used, and particularly the identification and selection of herbicides that are non-toxic to livestock and wildlife. The AMP shall also prescribe the management practices for sheep grazing. The AMP shall include provisions for ongoing monitoring and annual reporting of agricultural activity on the site to the Kings County Community Development Agency. The AMP shall also comply with the requirements of the Kings County Development Code related to weed abatement and pest control.

Mitigation Measure AG-2: Soil Reclamation Plan. *Prior to the issuance of a building permit, the applicant shall submit, for review and approval by the Kings County Community Development Agency, a Soil Reclamation Plan (Plan) for the restoration of the site at the end of the project's useful life. The Plan shall contain an analysis of general pre-construction conditions of the project site, and the site shall be photographically documented by the applicant prior to the start of construction. The Plan shall contain specific measures to restore the soil to approximate its pre-project condition, including (1) removal of all above-ground and below-ground project fixtures, equipment, and non-agricultural driveways, (2) tilling to restore the sub-grade material to a density and depth consistent with its pre-project condition, (3) revegetation using a Kings County-approved grasses and forbs seed mixture designed to maximize revegetation with noninvasive species shall be broadcast or drilled across the project site, and (4) application of weed-free mulch spread, as needed, to stabilize the soil until germination occurs and young plants are established to facilitate moisture retention in the soil. Whether the project area has been restored to pre-construction conditions shall be assessed by Kings County staff. Additional seedlings and applications of weed-free mulch shall be applied to areas of the project site that have been determined to be unsuccessfully reclaimed (i.e., restored to pre-project conditions) until the entire project area has been restored to conditions equivalent to pre-construction conditions. All waste shall be recycled or disposed of in compliance with applicable law. The applicant shall verify the completion of reclamation within 18 months after expiration of the project use permit with the Planning Division staff.*

Mitigation Measure AG-3: Financial Assurance. *Prior to the issuance of a building permit, the applicant shall post a performance or cash bond, submit a Certificate of Deposit, submit a letter of credit, or provide such other financial assurances acceptable to the County, in an amount provided in an Engineer's Cost Estimate, approved by the Kings County Community Development Agency, to ensure completion of the activities under the Soil Reclamation Plan. Every 5 years from the date of completion of construction of the project, the applicant shall submit an updated Engineer's Cost Estimate for financial assurances for the Plan, which will be reviewed every 5 years by the Kings County Community Development Agency to determine if the amount of the assurances is sufficient to implement the Plan. The amount of the assurances must be adjusted if, during the five-year review, the amount is determined to be insufficient to implement the Plan.*

By requiring that agricultural use continues on the project site for the life of the Cherry Solar Project, as specified in the Agricultural Management Plan in Mitigation Measure AG-1, the impact from the temporary and partial use of the Farmland of the project site for non-agricultural uses would be reduced to a less-than-significant level during the operational life of the project. By requiring that the entire project site be restored to its pre-project baseline conditions following decommissioning of the project, pursuant to the Soil Reclamation Plan specified in Mitigation Measure AG-2, as

ensured with the accompanying Financial Assurance stipulated in Mitigation Measure AG-3, the impact from the potential permanent conversion of Farmland and grazing land of the project site to non-agricultural use would be reduced to a less-than-significant level. In conclusion, with the incorporation of the above-specified agricultural mitigation measures into the project, the potential impact to the agricultural resources of the project site would be *less than significant*.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

Less-than-Significant Impact. The following discussion begins with a consideration of the Williamson Act, which is followed by a discussion of the applicable provisions of the Kings County Development Code, which constitutes the County's zoning ordinance.

Williamson Act

As discussed previously in this section, the entire Cherry Solar Project site is subject to Land Farmland Security Zone (FSZ) Contract under the Williamson Act. As such, the project applicant proposes to avoid any possible conflict with the FSZ contracts by maintaining a use on the site that meets the principles of compatibility pursuant to Government Code Section 51238.1(a) by maintaining reasonably foreseeable agricultural operations on the project site. The project's consistency with the applicable principles of compatibility, as set forth in the Government Code, is discussed below.

Government Code Section 51238.1 (a) Uses approved on contracted lands shall be consistent with all of the following principles of compatibility:

(1) The use will not significantly compromise the long-term productive agricultural capability of the subject contracted parcel or parcels or on other contracted land in agricultural preserves.

Discussion. The productive agricultural capability of the project site would be maintained during the life of the project by implementation of an Agricultural Management Plan (AMP) which specifies the ongoing maintenance of vegetative cover of the site for sheep grazing. Since more than 90 percent of the project site area would be maintained in vegetated cover, the use of the site for solar generation would not prevent the productive concomitant agricultural use of the site during project operation. The very light footprint of the solar generating facility upon the site would allow for the preservation of native soil cover in place and allow for low impact removal of solar arrays and electrical equipment at the end of the facility's productive life. The long-term productive agricultural capability of the project site after decommissioning of the solar generating facility would be ensured through implementation of Mitigation Measure AG-2 which requires implementation of a Soil Reclamation Plan and contains detailed provisions on decommissioning, soil conditioning, revegetation, waste disposal, monitoring, and follow-up measures to ensure that the site has been effectively restored to pre-project conditions.

Solar facility operations would generally involve low levels of on-site activity consisting mainly of maintenance, repair and inspection, and periodic visits by panel cleaning and vegetation maintenance crews. Traffic generation would be very light, thus minimizing the potential for conflicts with agricultural vehicles and equipment on public roadways. Dust generation during project operations would not occur since the project would include no exposed soils that could be mobilized as windborne dust (e.g., approximately 92 percent of the site would be vegetated; over

7 percent of the site would consist of durable dust free road surface as required by the County's Improvement Standards, and just over 1 percent of the site would be covered by impervious surfaces of equipment pads, the O&M building, battery storage facilities, and the paved project entries and parking areas). The potential introduction of invasive weed species by the project would be minimized through implementation of the Weed Abatement Plan required under Article 11, Section 1112.B.2.e of the Kings County Development Code. The County's Right-to-Farm Ordinance would ensure that adjacent and nearby agricultural operations are not constrained by the need to reduce or eliminate minor incidental effects of cultivation upon adjacent and nearby solar facility operations. During project construction and decommissioning, the disturbance of soil could potentially generate dust. However, these project phases would be temporary in duration, lasting less than one year. Thus the impact of potential dust generation on the long-term productive agricultural capability of adjacent and nearby lands would not be significant. The less-than-significant impact with respect to dust generation would be further reduced through implementation of the Dust Control Plan to be approved by the San Joaquin Valley Air Pollution Control District prior to commencement of ground disturbing activities on the project site, pursuant to Air District Rule 8021. In summary, the Cherry Solar Project would not compromise long-term agricultural capability on adjacent contracted lands.

(2) *The use will not significantly displace or impair current or other reasonably foreseeable agricultural operations. Uses that significantly displace agricultural operations on the subject contracted parcel or parcels may be deemed compatible if they relate directly to the production of commercial agricultural products on the subject contracted parcel or parcels or neighboring lands, including activities such as harvesting, processing, or shipping.*

Discussion. In accordance with Government Code Section 51231, Kings County has adopted procedures for implementing the Williamson Act at the local government level, including rules related to compatible uses that are consistent with the Williamson Act's principles of compatibility. As discussed under 'Agricultural Setting' above, the current Kings County Williamson Act implementing procedures provide the following specific guidance in considering the compatibility of solar photovoltaic facilities in agricultural preserves:

> "Ordinarily, a solar project will be found compatible if the applicant provides a soil reclamation plan and financial assurances, and if the economic output of agricultural operations on the contracted parcel or parcels on which the project is located will be 90-percent of pre-project output. However, on November 26, 2013, the Board of Supervisors adopted Resolution No. 13-058, recognizing that due to reduced surface water deliveries, poor groundwater quality and severe groundwater overdrafts, impaired soil conditions, and regulatory burdens, circumstances exist on agricultural preserves located within that portion of Kings County south of State Route 198, west of State Route 41, and northeast of Interstate 5 that limit the use of much of the land within the territory for agricultural activities, such that it is reasonably foreseeable that certain parcels located there that currently are used for more intensive agricultural activities will be used in the near future for less intensive uses, including dry farm seasonal grazing. Notwithstanding the present agricultural use of the land, solar farming as a concomitant use with dry farm seasonal grazing or similar commercial agricultural activity may be deemed a compatible use within this region of the County if the applicant provides a soil reclamation plan and financial assurances, and if a finding can be made, based upon substantial evidence, and taking into account surface water availability, ground water quality and availability, and soil conditions,

that the proposed concomitant commercial agricultural operation is a reasonably foreseeable use of the land (Kings County 2020a).

The following is a point by point evaluation of the project's consistency with the above County guidance with respect to the Cherry Solar Project.

First, the project site is located within the area identified in Board of Supervisors' Resolution No. 13-058 as being subject to circumstances, such as reduced surface water deliveries and impaired soil conditions that limit the use of much of this land to dry farm seasonal grazing as a reasonably foreseeable use of the land.

Second, as discussed under item 'a)' above, Mitigation Measure AG-2 requires the implementation of a Soil Reclamation Plan for the project, and Mitigation Measure AG-3 requires the provision of financial assurances for implementation of the project Soil Reclamation Plan.

Third, as described in Section *2.2. Project Description*, the project site plan retains permeable soil over 90 percent of the site area, which is to be vegetated with an approved seed mix for dry farm seasonal sheep grazing (which constitutes a reasonably foreseeable use of the land, as discussed in the first item above).

Fourth, there is substantial evidence that the project site is subject to reduced surface water availability, limitations due to groundwater quality and availability, and impaired soil conditions, such that dry farm seasonal grazing is a reasonably foreseeable use of the land. These conditions are discussed in turn below.

Surface Water Supply. The entire project site is dependent upon imported CVP surface water deliveries through Westlands Water District (WWD) for agricultural irrigation. For a number of years, the WWD has been subject to curtailment of delivered water due to ongoing drought conditions and environmental regulations which have reduced the volume of surface water available to lands within the District boundaries. In addition, WWD has a low priority position, compared to other CVP contractors, and thus receives less federal contract water than higher priority districts during years of water shortage. Consequently, during the last 10 years (between 2012 and 2021), WWD received an average of 32 percent of its contract water. In 2014 and 2015, WWD also received 0 percent allocation of CVP water, and in 2016 received 5 percent of its contract water (WWD 2020).

Groundwater Availability. In January 2020, the WWD Board of Directors adopted the Groundwater Sustainability Plan (GSP) for the 622,215-acre Westside Subbasin (which includes the entire WWD service area of 614,700 acres). The GSP determined that the current sustainable yield for the subbasin is 305,000 afy per acre (WWD 2022). The groundwater allocation program established under the GSP includes a "transition period" from 2022 to 2030, in which a uniform annual allocation is initially established at 1.3 acre-feet per acre and then subsequently reduced each year by 0.1 afy per acre until 2030 when the allocation would reach 0.6 afy per acre (WWD 2022). For purposes of this analysis, the available groundwater supply is therefore defined as 0.6 afy per acre per year (WRP 2022).

In recent years, the crops typically grown on the project site included wheat and cotton, which require approximately 1.5 and 2.5 acre-feet per acre per year of irrigation water, respectively. For comparison, tomatoes and other vegetables require about 1.5 afy per acre, and tree crops require 2.5 to 3.0 afy per acre, while alfalfa hay requires 3.5 afy per acre (WWD 2013). Thus, during years with substantial curtailment of surface water deliveries, groundwater pumping would not provide enough water to make up the difference in supporting any of these crops without exceeding the groundwater extraction limit of 0.6 afy per acre. During drought years with severe water shortages, many fields are fallowed or farmed for winter wheat which relies on rainwater during the wet season.

Groundwater Quality. As discussed in detail under 'Agricultural Setting', recent studies have shown that the groundwater of the Cherry Solar Project site and adjacent areas have high concentrations of sodium and boron and other constituents which limit the volumes that can be applied given the limited tolerance of crops to these elements. Sampling from perched groundwater (i.e., groundwater in the near-surface soils) conducted by USBR in the mid-2000s found that Total Dissolved Solids (TDS - a measure of groundwater salinity) on the Cherry Solar site ranged from 3,000 to 6,000 mg/L. In 2018, well samples taken for the nearby Aquamarine Solar Project site (located 1.0 mile northeast of the Cherry Solar Project site and mainly includes the same Lethant clay loam present over the majority of the Cherry site) found salt concentrations approximately 2,400 mg/L (Kings County 2019b). Due to the high salt concentrations in the groundwater, growing crops utilizing solely groundwater is not feasible.

Soil Conditions. Soils on the project site include Lethent clay loam, Calfax clay loam, saline-alkali, and Twisselman silty clay, saline-alkali. According the NRCS's Soil Survey of Kings County, when not irrigated, these soils have very severe limitations that make them unsuitable for cultivation and restrict their use mainly to pasture, grazing, forestland, or wildlife habitat. Even if irrigated, these soils would have moderate to severe limitations, reducing the choice of plants that can be cultivated or requiring special conservation practices (NRCS 1986). Soil studies conducted on the area farmlands have determined that the soils of the project site and neighboring sites have very high salt concentrations that place severe limitations on agricultural productivity (Cal Ag 2017). The saline soil conditions have been exacerbated by poor natural drainage which impedes flushing of salts from the near-surface soils (see "Agricultural Setting" above for detailed discussion). The short supply of high quality imported water limits the amount of surface water that can be applied to pre-irrigate the soil to leach out some salts. Thus long-term soil salinity conditions are expected to increase (Kings County 2019b).

In summary, due to the severe limitation of reliable water availability and significant impairment of soil quality due to high salinity, the project site is not suitable for sustaining long-term agricultural crop production, and a reasonably foreseeable agricultural use of the site would be dry land farming with seasonal grazing.

(3) The use will not result in the significant removal of adjacent contracted land from agricultural or open-space use.

Discussion. The Cherry Solar Project is a self-contained solar generating facility and does not include electrical infrastructure with excess capacity that could be used to support similar solar generating facilities on adjacent contracted land. In Kings County, proposed solar projects are subject to Kings County's Conditional Use Permit requirements, including the implementation of an Agricultural Management Plans (AMPs), as required under Mitigation Measure AG-1, for maintaining dry farm sheep grazing as a concomitant use in order to maintain agricultural productivity of the site during operation of the solar facility. Solar project CUPs would also be subject to Mitigation Measure AG-2 which would require implementation of reclamation plans when the solar facilities are decommissioned, thus providing for restoration of the agricultural soils to pre-project conditions. With the implementation of these conditions on any adjacent or nearby solar projects, the Williamson Act principles of compatibility for Williamson Act contracts on such project sites would be met. As such, the Cherry Solar Project would not result in the termination of existing Williamson Act contracts or Farmland Security Zone contracts on adjacent lands.

The Cherry Solar Project would not result in the construction of new roadways, beyond internal maintenance driveways for the solar facility. Since the project would not include any excess roadway access or capacity that could serve adjacent contracted land, it would not induce the owners of such lands to remove adjacent contracted lands from agricultural use due to newly available roadway access.

Unlike urban development, the solar generating facility would not induce other development nearby, either for the purpose of providing support services or for taking advantage of services provided by the project. Solar generating facilities neither provide nor require urban services and therefore would not attract or induce other development nearby. Moreover, since such urban development would not be permitted on adjacent or nearby lands under the applicable agricultural zoning, the project would not result in the removal of agricultural preserves from adjacent contracted land through urban growth inducement.

As discussed under item (1) above, the low intensity of solar facility operations would generally minimize the potential for operations-related impacts to adjacent agricultural lands. Therefore, the project would not result in the removal of adjacent contracted land by way of introducing an incompatible land use to the site.

In summary, the Cherry Solar Project would be consistent with the Williamson Act principles of compatibility, as further defined by the Kings County Implementation Procedures for the Williamson Act, and therefore would have *no impact* in this regard.

County Zoning

As designated in the Kings County Zoning Plan, the entire site is zoned "AG-40 General Agricultural-40." As provided in Article 4 of the Kings County Development Code, commercial solar photovoltaic electrical generating facilities are permitted in this zoning district subject to a granting of a Conditional Use Permit by the Kings County Planning Commission. Therefore, the Cherry Solar

Project would be consistent with the County's agricultural zoning for the site upon the granting of the subject Conditional Use Permit for the project.

Article 11, Section 1112(B)(2) of the Kings County Development Code (which is the County zoning ordinance) requires that commercial-scale solar photovoltaic electrical facilities conform to specified standards. Most of these standards relate to agricultural land. The required standards, and the project's conformance with those standards, are addressed in turn below.

a. *The proposed site shall be located in an area designated as either "Very Low Priority," "Low Priority," or "Low-Medium Priority" land according to Figure RC-13 Priority Agricultural Land (2035 Kings County General Plan, Resource Conservation Element, Page RC-20). "Medium Priority" land may be considered when comparable agricultural operations are integrated, the standard mitigation requirement is applied, or combination thereof.*

   Discussion. The General Plan Resource Conservation Element (Figure RC-13) shows the following priority categories on the Cherry Solar Project site: easterly 1,600 acres – "Low-Medium Priority"; southwesterly 479 acres – "Low Priority (Kings County 2010b). Therefore, the project meets the requirement that solar facilities be located on lands designated as either "Very Low Priority," "Low Priority," or "Low-Medium Priority" agricultural land.

b. *The proposed site shall be located within 1 mile of an existing 60 KV or higher utility electrical line.*

   Discussion. An existing 230-kV transmission electrical line runs along the south side of Nevada Avenue and is located less than 100 feet from the southern boundary of the project site. Therefore, the project would satisfy the finding that it is located within 1 mile of an existing 60-kV line or higher.

c. *Agricultural mitigation shall be proposed for every acre of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance converted for a commercial solar facility. The agricultural mitigation shall preserve at a ratio of 1:1 an equal amount of agricultural acreage of equal or greater quality in a manner acceptable to the County for the life of the project. Agricultural mitigation on land designated "Medium-High" or higher priority land shall preserve an equivalent amount of agricultural acreage at a ratio of 2:1.*

   Discussion. Approximately 1,045 acres of the Cherry Solar Project site is mapped as Farmland of Statewide Importance under the Department of Conservation's Farmland Mapping and Monitoring Program. However, as discussed above, the project would include continued agricultural use, in the form of dry farm seasonal sheep grazing on more than 90 percent of the site area, concomitantly with the solar facility use on that portion of the project site. As discussed, dry farm seasonal sheep grazing is a reasonably foreseeable agricultural use of the site under the compatibility principles of the Williamson Act, and thus would not be considered a conversion of farmland to a non-agricultural use. Implementation of the Agricultural Management Plan for the project, as required under Mitigation Measure AG-1, would ensure the maintenance of seasonal sheep grazing on the site for life of the project. Mitigation Measures AG-2 and AG-3 would ensure that all of the soils of the project site are reclaimed to pre-project conditions upon decommissioning of the solar facility. Therefore, the project would not result in the conversion of Farmland of Statewide Importance to non-agricultural use, and no further agricultural mitigation would be required. As such, this finding is not applicable to the proposed project.

d. The project shall include a reclamation plan and financial assurance acceptable to the County that ensures the return of the land to a farmable state after completion of the project life, and retains surface water rights.

Discussion. As discussed above, Mitigation Measures AG-2 and AG-3 would require a Soil Reclamation Plan along with Financial Assurance to ensure its implementation. The soil reclamation plan and financial assurance would be subject to approval by the County Community Development Agency prior to the issuance of construction permits. Since the project site has no surface water rights *per se*, there are no surface water rights to be retained. CVP surface water has historically been supplied to the site by Westlands Water District. However, landowners do not hold any rights to receive these water deliveries, but must instead apply for surface water deliveries each year, and are provided water allocations based on CVP water availability for that year. As discussed above, CVP surface water deliveries have averaged 32 percent of contract amounts over the past 10 years. In extreme drought years, such as 2014 and 2015, no CVP water allocation was provided to WWD farmers. Based on these facts, this project will comply with this provision of the Kings County Development Code.

e. The project shall include a pest management plan and weed abatement plan to protect adjacent farmland from nuisances and disruption.

Discussion. The project includes the preparation and implementation of a Pest Management Plan and Weed Abatement Plan, as required under the County Development Code. The Weed Abatement Plan would specify that the seed mixes used to revegetate the project site are free of weeds. The plan would also ensure that combustible vegetation on and near the project boundary would be actively managed during the construction and operational phases to minimize fire risk. Vegetation height would be kept low to the ground through sheep grazing and by mowing and trimming with mechanical equipment. The gravel driveways to be constructed around the project perimeter would provide fire breaks. Herbicides would be applied if warranted by site conditions as specified in the Weed Abatement Plan, but would be restricted to those considered environmentally safe. The Pest Management Plan would reduce the potential for pests to inhabit the project site. The Pest Management Plan would set action thresholds, identify pests, specify prevention methods as a first course of action, specify control methods as a second course of action, and establish a quantitative performance goal of nuisance reduction to adjacent farmland. Rodenticide would only be used as a last resort and would be selected and used in a manner that minimizes impacts to protected biological species. Since the project would implement these measures under the Pest Management Plan and Weed Abatement Plan for the project, this standard would be met.

f. The project shall space internal access driveways per Kings County Fire Department standards.

Discussion. The Fire Department's "Photovoltaic Solar Panel – Additional Requirements" set forth the following standards for internal access driveways:

> "Life safety and fire suppression access roads shall be not less than 20 feet in width around the perimeter of the site and shall include interior fire access roads of not less than 20 feet in width that are spaced so that there is not greater than 400 feet in separation between fire access roads on the interior of the site" (KCFD 2019).

As shown in Figure PD-3 – Site Plan, the project includes perimeter roads and parallel internal access lanes with a minimum width of 20 feet at intervals of less than 400 feet. Therefore, the project would conform to this standard.

g. The project includes a solid waste management plan for site maintenance and disposal of trash and debris.

Discussion. As required by Development Code Section 1112.B.2.g, solid waste management plan will be prepared for the project to prescribe internal procedures for site maintenance and collection and disposal of solid waste during project construction and operation. The non-hazardous waste generated during construction and operation would be segregated on-site for recycling or disposal at a Class III landfill. Hazardous wastes generated during project construction and operation would be either recycled or disposed of at a Class I disposal facility, as required. With the preparation and implementation of a solid waste management plan, as required, the Cherry Solar Project would conform to this standard.

h. The project site shall not be located on Williamson Act or Farmland Security Zone contracted land, unless it meets the principles of compatibility under Government Code section 51238.1(a). Otherwise, the contract shall be proposed for cancellation.

Discussion. As discussed in detail above, the proposed Cherry Solar Project would satisfy all of the Williamson Act principles of compatibility, as further defined by the Kings County Williamson Act Implementation Procedures.

In summary, the project is consistent with the zoning for the Cherry Solar Project site, and would be consistent with all of the Development Code provisions for the granting of Conditional Use Permits for solar generating facilities. Therefore, the Cherry Solar Project would result in *no impact* with respect to conflicts with the applicable zoning as set forth in the County Development Code.

c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)?

No Impact. Neither the Cherry Solar Project site nor other lands in the vicinity are zoned forest land, timberland, or Timberland Production under the cited statutes. No portion of the Cherry Solar Project site is zoned for forestland or timberland, according to the Kings County Zoning Plan (Kings County 1964). As such, the Cherry Solar Project would have *no impact* with respect to conflict with existing zoning for such land, or in terms of causing the rezoning of such lands.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. There is no forest land on the Cherry Solar Project site or in the site vicinity. As such, the Cherry Solar Project would have *no impact* in terms of loss or conversion of forest land.

e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Less-than-Significant Impact. As discussed under items 'a)' and 'b)' above, the Cherry Solar Project would not induce conversion of other farmlands to non-agricultural uses by way of providing excess infrastructure capacities that could facilitate development on adjacent or nearby lands, or by way of introducing a land use that is incompatible with agricultural production. The project would involve no other changes that could result in the conversion of farmland to non-agricultural use.

As noted in item 'd)' above, there is no forest land in the project vicinity, so the project would not involve other changes that could result in the conversion of forest land to non-forest uses.

In summary, the Cherry Solar Project would involve no other changes to the existing environment which could result in the conversion of Farmland or forest land, and therefore would have a *less-than-significant impact* in this regard.

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4.3. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.				
Would the project:	**Potentially Significant Impact**	**Potentially Significant Unless Mitigation Incorporated**	**Less Than Significant**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	■	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	■	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	■	☐
d) Result in other emissions (such as those leading to odors) affecting a substantial number of people?	☐	☐	■	☐

This section is based on the air quality assessment report prepared by Illingworth & Rodkin (I&R) in June 2022. The I&R technical air quality report is contained in Appendix A of this document. (Please refer to the I&R report for detailed discussions of climate and air basin characteristics, existing air quality conditions, health effects of air pollutants, regulatory setting, regional attainment of air quality standards, air quality plans, and detailed technical analysis of air quality impacts.)

In preparing the air quality assessment for the Cherry Solar Project, Illingworth & Rodkin followed the San Joaquin Valley Air Pollution Control District (SJVAPCD) guidance for air quality analysis contained in its Guide for Assessing and Mitigating Air Quality Impact (GAMAQI)(SJVAPCD 2015c).

Air Quality Setting

The primary air pollutants that would be emitted by the Cherry Solar Project include ozone (O_3) precursors (NO_x and ROG), carbon monoxide (CO), and suspended particulate matter (PM_{10} and $PM_{2.5}$). Other regulated (or "criteria") pollutants, such as lead (Pb) and sulfur dioxide (SO_2), would not be substantially emitted by the proposed project or project-generated traffic, and air quality standards for them are being met throughout the San Joaquin Valley Air Basin.

Existing Air Quality

The San Joaquin Valley experiences poor air quality conditions, due primarily to elevated levels of ozone and particulate matter.

Ozone (O_3)

In the upper atmosphere, O_3 serves a beneficial purpose by reducing ultraviolet radiation potentially harmful to humans. However, when it reaches elevated concentrations in the lower atmosphere, it can be harmful to the human respiratory system and to sensitive species of plants.

O_3 is formed in the atmosphere by a complex series of photochemical reactions that involve "ozone precursors" that comprise two families of pollutants: oxides of nitrogen (NO_x) and reactive organic gases (ROG). NO_x and ROG are emitted from a variety of stationary and mobile sources, primarily vehicle exhaust.

Ozone concentrations in the San Joaquin Valley are typically higher than in coastal areas because of the greater frequency of hot days and stagnant conditions that are conducive to ozone formation. Ozone precursor pollutants are also carried to the valley from upwind urban areas. While Kings County is fairly rural, exceedances of the ozone standard occurred on 13 to 29 days per year, based on the last 3 years of available monitoring data.

Nitrogen Dioxide (NO_2)

The major health effect from exposure to high levels of NO_2 is the risk of acute and chronic respiratory disease. Nitrogen dioxide is a combustion by-product, but it can also form in the atmosphere by chemical reaction. Nitrogen dioxide is a reddish-brown colored gas often observed during the same conditions that produce high levels of O_3 and can affect regional visibility. Nitrogen dioxide is one compound in a group of compounds consisting of oxides of nitrogen (NO_x). As described above, NO_x is an O_3 precursor compound.

Particulate Matter (PM)

Regulated fractions of particulate matter include PM_{10} which consists of particulate matter that is 10 microns or less in diameter, and $PM_{2.5}$ which consists of particulates that are 2.5 microns or less in diameter. Both PM_{10} and $PM_{2.5}$ can be inhaled and cause adverse health effects. $PM_{2.5}$ (including diesel exhaust particles) is thought to have greater effects on health because minute particles are able to penetrate to the deepest parts of the lungs.

Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. Some sources of particulate matter, such as mining and demolition and construction activities, are more local in nature, while others, such as vehicular traffic, are more regional in their effect.

In the three year period 2018-2020, PM_{10} levels in the San Joaquin Valley were estimated by CARB to have exceed the federal standards been on 104 to 132 days per year. It is noted that wildfire smoke contributed to the highest measured levels and the number of days that the standards were exceeded.

Carbon Monoxide (CO)

Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause dizziness and fatigue, and causes reduced lung capacity, impaired mental abilities and central nervous system function, and induces angina in persons with serious heart disease. Primary sources of CO in ambient air are exhaust emissions from on-road vehicles, such as passenger cars and light-duty trucks, and residential wood burning. Because CO levels are so low in the air basin, monitoring was discontinued after 2012.

Toxic Air Contaminants

Besides the "criteria" air pollutants, there is another group of substances found in ambient air referred to as Toxic Air Contaminants (TACs). Particulate matter from diesel exhaust is the predominant TAC in urban air and is estimated to represent about 70 percent of the cancer risk from TACs. The vast majority of diesel exhaust particles (over 90 percent) consist of $PM_{2.5}$, which are the particles that can be inhaled deep into the lung.

Regulatory Context

Federal and State

Air Quality Planning

At both the State and federal levels, air quality standards have been established for a range of air pollutants. These standards specify the concentrations of each criteria pollutant that the public may be exposed to without adverse health effects. Air quality monitoring data for each criteria air pollutant are used to determine if an air basin is in violation of an ambient air quality standard. Areas that do not violate federal and state ambient air quality standards are considered to have "attained" the standards. The San Joaquin Valley as a whole does not meet State or federal ambient air quality standards for ground level O_3 and the State standards for PM_{10} and $PM_{2.5}$. Accordingly, under the Federal Clean Air Act, the US EPA has classified the region as *extreme nonattainment* for the 8-hour O_3 standard and *nonattainment* for the 24-hour $PM_{2.5}$ standard. The US EPA recently reclassified the San Joaquin Valley as attainment of the federal PM_{10} standards. The US EPA classifies the region as *attainment* or *unclassified* for all other air pollutants, including carbon monoxide (CO). At the State level, where air quality standards are more stringent than the federal standards, the region is considered *severe non-attainment* for ground level O_3 and *non-attainment* for PM_{10} and $PM_{2.5}$, and is considered *attainment* or *unclassified* for all other pollutants.

In response to not meeting the air quality standards for ozone and PM, the San Joaquin Valley Air Pollution Control District (SJVAPCD) has prepared required attainment plans for each pollutant including the 2016 Ozone Plan and the 2018 $PM_{2.5}$ Plan. Both the ozone and $PM_{2.5}$ attainment plans include all measures (i.e., federal, state and local) that would be implemented through rule making or program funding to reduce air pollutant emissions.

San Joaquin Valley Air Pollution Control District

In order to reduce emissions of ozone precursors (i.e., ROG and NO_x) and PM_{10} from new land use development projects, and achieve the attainment plans for each pollutant, the SJVAPCD adopted the Indirect Source Review Rule (ISR or Rule 9510) in 2005. The rule requires projects to reduce both construction and operational period emissions by specified amounts by applying the SJVAPCD-approved mitigation measures and/or paying fees to support off-site mitigation programs that reduce emissions. Fees apply to the unmitigated portion of the emissions and are based on estimated costs to reduce the emissions from other sources plus expected costs to cover administration of the program. Off-site emission reduction projects to be funded through ISR include retrofitting heavy-duty engines, replacing agricultural machinery and pumps, paving unpaved roads and road shoulders, trading out combustion-powered lawn and agricultural equipment with electrical and other equipment, as well as a number of

other projects that result in quantifiable emissions reductions of PM_{10} and NO_X. In accordance with ISR, the project applicant will submit an application for approval of an Air Impact Assessment (AIA) to the SJVAPCD.

SJVAPCD controls PM_{10} from fugitive dust through several rules collectively known as Regulation VIII (Fugitive PM_{10} Prohibitions). The purpose of these rules is to reduce ambient concentrations of PM_{10} by requiring actions to prevent, reduce or mitigate anthropogenic (human caused) fugitive dust emissions. This applies to activities such as construction, bulk materials handling, and material transport on paved and unpaved roads, and agricultural activities. Development projects are required to provide dust control plans that meet the regulation requirements. The Air District's required dust control measures are summarized in item 'b)' below. Other Air District rules that apply to construction activities include Rule 4102, regarding creation of a nuisance, Rule 4601 which limits volatile organic compound emissions from architectural coatings, storage and cleanup, and Rule 4641 which limits emissions form asphalt paving materials.

Kings County

2035 Kings County General Plan

The 2035 Kings County General Plan contains the following goals, objectives and policies related to air quality that are relevant to the Cherry Solar Project:

Air Quality Element

C. Air Quality Management

AQ GOAL C1 Use Air Quality Assessment and Mitigation programs and resources of the SJVAPCD and other agencies to minimize air pollution, related public health effects, and potential climate change impacts within the County.

AQ OBJECTIVE C1.1 Accurately assess and mitigate potentially significant local and regional air quality and climate change impacts from proposed projects within the County.

AQ Policy C1.1.1: Assess and mitigate project air quality impacts using analysis methods and significance thresholds recommended by the SJVAPCD and require that projects do not exceed established SJVAPCD thresholds.

AQ Policy C1.1.2: Assess and mitigate project greenhouse gas/climate change impacts using analysis methods and significance thresholds as defined or recommended by the SJVAPCD, KCAG or California Air Resources Board (ARB) depending on the type of project involved.

AQ Policy C1.1.3: Ensure that air quality and climate change impacts identified during CEQA review are minimized and consistently and fairly mitigated at a minimum, to levels as required by CEQA.

AQ Policy C1.1.5: Assess and reduce the air quality and potential climate change impacts of new development projects that may be insignificant by themselves but, taken together, may be cumulatively significant for the County as a whole.

F. Hazardous Emissions and Public Health

AQ GOAL F1 Minimize exposure of the public to hazardous air pollutant emissions, particulates and noxious odors from freeways, major arterial roadways, industrial, manufacturing, and processing facilities.

AQ OBJECTIVE F2.1 Reduce emissions of PM10, PM2.5 and other particulates from sources with local control potential or under the jurisdiction of the County.

AQ Policy F2.1.2: Require all access roads, driveways, and parking areas serving new commercial and industrial development are constructed with materials that minimize particulate emissions and are appropriate to the scale and intensity of use.

Environmental Evaluation

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less-than-Significant Impact. The Air District's guidance document (GAMAQI) does not include methodologies for assessing the effect of a project on consistency with clean air plans developed by the SJVAPCD. Regional clean air plans developed by SJVAPCD rely on local land use designations to develop population and travel projections that are the basis of future emissions inventories. Air pollution control plans are aimed at reducing these projected future emissions. The project land uses would not alter population and vehicle related emissions projections contained in regional clean air planning efforts in any measurable way, and would not conflict with achievement of the control plans aimed at reducing these projected emissions. Therefore, the project would not conflict with or obstruct implementation of efforts outlined in the region's air pollution control plans to attain or maintain ambient air quality standards. This would be a *less-than-significant* impact.

As discussed above, in 2005 the SJVAPCD adopted the Indirect Source Review (ISR) Rule in order to fulfill the District's emission reduction commitments in its PM_{10} and Ozone attainment plans. The District has determined that implementation and compliance with the ISR would reduce the cumulative PM_{10} and NO_X impacts of growth anticipated in the air quality plans to a less-than-significant level. As discussed under item 'b)' below, the project proponent will be required to file an application for ISR Review to confirm that the project will meet its emissions reduction requirements. The final emissions calculations for the project will be performed in an Air Impact Assessment (AIA), as required under ISR to determine the specific ISR reductions (i.e., in tons) that are to be achieved through on-site and/or off-site measures. Upon its implementation of ISR emission reduction measures, the project would fulfill its share of achieving the District's emission reduction commitments in the PM_{10} and Ozone attainment plans. Therefore, the Cherry Solar Project would result in a *less-than-significant impact* in this regard since it would not conflict with or obstruct implementation of the applicable air quality plans.

b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less-than-Significant Impact with Mitigation Incorporated. The SJVAPCD has developed criteria to determine if a development project could result in potentially significant regional emissions. According to Section 7.14 of the GAMAQI ("Result in a Cumulatively Considerable Net Increase of Any Criteria Pollutant?"), any proposed project that would individually have a significant air quality impact (i.e., exceed significance thresholds for ROG or NO_x) would also be considered to have a significant cumulative air quality impact. The GAMAQI further states that "a Lead Agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program, including, but not limited to an air quality attainment or maintenance plan that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located" (SJVAPCD 2015, p. 66). For local impacts of PM_{10} from unrelated construction projects, the GAMAQI recommends a qualitative approach where construction activities from unrelated projects in the area should be examined to determine if enhanced dust suppression measures are necessary.

Project-Specific Emissions

Project-related air quality impacts fall into two categories: short-term impacts due to construction, and long-term impacts due to the project operation. During construction, the project would affect local particulate concentrations primarily due to fugitive dust sources and would contribute to ozone and PM_{10}/$PM_{2.5}$ levels from exhaust emissions. Over the long-term, the project would result in an increase in emissions of ozone precursors such as ROG and NOx, primarily due to increased motor vehicle trips (employee trips, truck deliveries, and on-site maintenance activities). The construction and operational emissions associated with the Cherry Solar Project are discussed below.

Construction Dust

Construction activities would generate particulate dust and other pollutants, which would temporarily affect local air quality in the surrounding area. Grading and site disturbance (e.g., vehicle travel on exposed areas) would likely result in the greatest emissions of dust and PM_{10}/$PM_{2.5}$. Windy conditions during construction could cause substantial emissions of PM_{10}/$PM_{2.5}$.

There are no residential receivers within one mile of the Cherry Solar Project site. The nearest residences include the following: 1) The Shannon Ranch complex (including 20 dwellings) located on Avenal Cutoff Road 1.0 mile northwest; 2) The Stone Land Company Ranch located 1.5 miles west on Nevada Avenue; 3) Three ranch complexes (with a total of 8 dwellings) along the east side of SR-41, located 2.0 to 4.0 miles east of the project site; and 4) Five dispersed agricultural residences located 4.0 to 4.5 miles northeast of the project site along 22nd Avenue.

To control dust emissions, the District emphasizes implementation of effective and comprehensive control measures. Regulation VIII essentially prohibits the emissions of visible dust (limited to 20-percent opacity) and requires that disturbed areas or soils be stabilized. Prior to construction, the applicant would be required to submit a Dust Control Plan that meets the regulation requirements. As specified in District Rule 8021, this plan is subject to the review and approval by SJVAPCD before any ground disturbing activity can begin.

The provisions of Regulation VIII and its constituent rules pertaining to construction activities generally require:

- Effective dust suppression (e.g., watering) for land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill and demolition activities.
- Effective stabilization of all disturbed areas of a construction site, including storage piles, not used for seven or more days.
- Control of fugitive dust from on-site unpaved roads and off-site unpaved access roads.
- Removal of accumulations of mud or dirt at the end of the workday or once every 24 hours from public paved roads, shoulders and access ways adjacent to the site.
- Cease outdoor construction activities that disturb soils during periods with high winds.
- Record keeping for each day dust control measures are implemented.
- Limit traffic speeds on unpaved roads to 15 mph.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Landscape or replant vegetation in disturbed areas as quickly as possible.
- Prevent the tracking of dirt on public roadways. Limit access to the construction sites, so tracking of mud or dirt on to public roadways can be prevented. If necessary, use wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.
- Suspend grading activity when winds (instantaneous gusts) exceed 25 mph or dust clouds cannot be prevented from extending beyond the site.

Anyone who prepares or implements a Dust Control Plan must attend a training course conducted by the Air District. Construction sites are subject to SJVAPCD inspections under this regulation. Compliance with Regulation VIII, including the effective implementation of a Dust Control Plan that has been reviewed and approved by the SJVAPCD, would reduce dust and PM_{10} emissions to a *less-than-significant* level.

Construction Exhaust Emissions

Equipment and vehicle trips associated with construction would emit ozone precursor air pollutants on a temporary basis. Construction equipment would also emit diesel particulate matter (DPM), which is a Toxic Air Contaminant (TAC), which can adversely affect local air quality. (See item 'c)' below for a discussion of potential TAC impacts.)

Emissions of air pollutants that could affect regional air quality were addressed by modeling emissions and comparing them to the SJVAPCD significance thresholds. Construction period air pollutant emissions were modeled using the CalEEMod model. Unmitigated and mitigated emissions from all phases of construction are shown in Tables AQ-1 and AQ-2 below.

Construction emissions were estimated based on the construction schedules, and anticipated construction vehicle and equipment use. The emissions computed using CalEEMod for this assessment address use of construction equipment, worker vehicle travel, on-site vehicle and truck use, and off-site truck travel by vendors or equipment/material deliveries. Also included are the emissions from the use of a helicopter for installation of the gen-tie line. Both criteria air pollutant exhaust and fugitive dust (i.e., PM_{10} and $PM_{2.5}$) were computed by CalEEMod. (Note that the unmitigated CalEEMod modeling does not include the effects of SJVAPCD Regulation VIII that would substantially reduce fugitive PM_{10} and $PM_{2.5}$ emissions.) The air quality calculations are included as attachments to the Air Quality Assessment, which is contained in Appendix A of this document. Attachment 1 includes the construction assumptions that were used to model emissions. Attachment 2 includes the CalEEMod modeling outputs for both uncontrolled and controlled emissions.

As shown in Table AQ-1, the unmitigated construction emissions from the project would exceed the applicable Air District thresholds for NO_x and PM_{10}. This represents a potentially *significant impact* to air quality.

TABLE AQ-1
UNCONTROLLED CONSTRUCTION EMISSIONS IN TONS PER YEAR*

Construction Year	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$
2024	1.20	**12.50**	11.04	**80.71**	8.58
Significance Thresholds	10	10	100	15	15
Uncontrolled emissions exceed threshold?	**No**	**Yes**	**No**	**Yes**	**No**

* Values reported for PM_{10} and $PM_{2.5}$ include fugitive dust emissions and diesel exhaust emissions combined. Fugitive dust emissions do not include the effect of measures implemented under Regulation VIII.
Source: Illingworth & Rodkin, 2022

In order to reduce the potentially significant air quality impacts from project construction to less-than-significant levels, Mitigation Measure AQ-1 shall be implemented.

> ***Mitigation Measure AQ-1 – Control of Construction Emissions:*** *During project grading and construction, utilize mobile off-road diesel construction equipment that meets US EPA Tier 4 interim or Tier 4 final engine standards for emissions of NOx to the extent feasible.*

The SJVAPCD Indirect Source Review Rule (Rule 9510) applies to construction emissions from the project. Regardless of whether a project's construction emissions of regional pollutants would exceed the Air District's CEQA significance thresholds for each pollutant or not, the project is still required to comply with Rule 9510, to ensure that the project contributes its fair share of emissions reductions in order to achieve the basin-wide reduction targets established in the Air District's Ozone and PM attainment plans. Rule 9510 requires that the project reduce construction exhaust emissions by 20 percent for NO_x and 45 percent for PM_{10} from calculated unmitigated levels. SJVAPCD encourages reductions through on-site mitigation measures. (Note: The use of the term "mitigation" under Rule 9510 does not refer to mitigation of impacts under CEQA; i.e., the ISR

emission reduction percentages are required without regard to whether the CEQA emissions thresholds are exceeded or not.) Fees to purchase or sponsor off-site reductions through SJVAPCD apply when on-site mitigation measures do not achieve the required percentage of emissions reduction. Using less-polluting construction equipment, such as newer equipment or retrofitting older equipment reduces construction emissions on-site. A combination of on-site and off-site measures can be implemented to meet the overall emission reduction requirements. The emissions reported in Table AQ-1 (above) do not include the reductions required by Rule 9510.

Effectiveness of Mitigation

Table AQ-2 shows annual construction period emissions utilizing fugitive dust control measures (e.g., Regulation VIII) and implementation of Rule 9510 (Indirect Source Review - ISR). The CalEEMod modeling indicates that site watering, unpaved roadway watering (or use of dust suppressants) and reduced vehicle speed would reduce PM_{10} emissions substantially. It was previously noted that under Rule 9510 (ISR), the project would be responsible for reducing construction PM_{10} emissions by 45 percent, and NOx emissions by 20 percent. SJVAPCD requirements (i.e., Regulation VIII) would reduce PM_{10} emissions substantially such that when controlled they would be below the significance threshold. NO_x emissions reduced through application of ISR would reduce emissions by 20 percent or 2.5 tons per year, such that controlled emissions would be just below the threshold. To meet the ISR requirements and ensure NO_x emissions are reduced below thresholds, *Mitigation Measure AQ-1* is to be implemented. This measure would require the utilization of newer construction equipment meets US EPA Tier 4 standards. The implementation of this measure would reduce NOx emissions by over 22 percent.

TABLE AQ-2
CONTROLLED CONSTRUCTION EMISSIONS IN TONS PER YEAR*

Construction Year	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$
2024	N/A	9.78	N/A	6.66	3.27
Significance Thresholds	10	10	100	15	15
Controlled emissions exceed threshold?	**No**	**No**	**No**	**No**	**No**

* Includes effect of effects of applying the Indirect Source Review Rule (9510). Application of Regulation VIII would further reduce PM10 emissions.
Source: Illingworth & Rodkin, 2022

A substantial portion of the emissions associated with construction would be emitted by haul trucks or vendors that travel to and from the project site. These emissions would not be directly affected by the application of the ISR Rule (9510), which would only apply to on-site equipment (i.e., haul truck emissions are regulated by State and federal standards, and are not subject to local regulation). Nevertheless, the total emissions associated with project construction, including emissions from haul trucks, would be reduced below the applicable thresholds with the implementation of Mitigation Measure AQ-1.

SJVAPCD regulations that would apply to construction activities include Regulation VIII, regarding dust control, Rule 4102, regarding creation of a nuisance, Rule 4601 which limits volatile organic compound emissions from architectural coatings, storage and cleanup, and Rule 4641 which limits emissions form asphalt paving materials.

As shown in Table AQ-2, construction period emissions of NO_x and PM_{10} would be reduced to below the thresholds used by SJVAPCD to judge the significance of construction air quality impacts under CEQA. Therefore, the overall emissions resulting from project construction activity would be *less than significant*. Thus, while the residual construction-related emissions of ozone precursors and particulates may result in a small decrease in overall air quality, and may therefore have a small adverse health affect (as described under "Criteria Air Pollutants and Their Health Effects" in the Air Quality Assessment in Appendix A), the overall health impact would be insignificant.

Project Operation

The operation of the Cherry Solar Project would result in emissions of regional air pollutants, primarily from project-generated traffic and maintenance equipment. The CalEEMod model was also used to predict annual emissions from operation of the Cherry Solar Project. Since 2025 is the first full year that the Cherry Solar Project could be operational, that year was used as the analysis year. Maintenance vehicles and some off-road equipment usage would occur on-site, as well as workers traveling and occasional equipment and vendor deliveries, would result in some emissions. The annual emissions from project operation are shown in Table AQ-3.

As shown in Table AQ-3, the annual emissions from the project operation would not exceed the applicable Air District thresholds for ROG, NO_x, PM_{10}, or $PM_{2.5}$. Therefore, the air quality impact of project operation, in terms of regional pollutants, would be *less than significant* under CEQA.

TABLE AQ-3
ANNUAL PROJECT OPERATIONAL EMISSIONS IN TONS PER YEAR

Phase	ROG	NO_x	CO	PM_{10}[1]	$PM_{2.5}$[1]
Project Operations	0.08	0.62	1.02	3.94	0.42
Significance Threshold	10	10	100[2]	15	15
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**

[1] Includes both exhaust and fugitive dust emissions.
[2] Significant if emissions exceed 100 tons per year and then contribute to violation of the NAAQS/CAAQS.
Source: Illingworth & Rodkin, 2022

Stationary combustion equipment that could emit air pollution during facility operation is not proposed for the project. Photovoltaic energy projects, such as this one, do not usually include these sources. If stationary sources are included in the project at a later date, they may require permits from SJVAPCD. Such sources could include combustion emissions from standby emergency generators (rated 50 horsepower or greater). These sources would normally result in minor emissions, compared to those from traffic generation and off-road maintenance equipment

reported above. Sources of stationary air pollutant emissions complying with all applicable SJVAPCD regulations generally will not be considered to have a significant air quality impact. Stationary sources that are exempt from SJVAPCD permit requirements due to low emission rates would not be considered to have a significant air quality impact.

As discussed above under 'Construction Exhaust Emissions', the project is subject to SJVAPCD's Indirect Source Review or Rule 9510 (ISR) to reduce NO_x and PM_{10} emissions. Although the project's operational emissions of regional pollutants would not exceed the Air District's CEQA significance thresholds for each pollutant, as shown in Table AQ-3, the project is still required to comply with Rule 9510, to ensure that the project contributes its fair share of emissions reductions in order to achieve the basin-wide reduction targets established in the Air District's Ozone and PM attainment plans. Under Rule 9510, the project would be required to reduce operational NO_x emissions by 33.3 percent and operational PM_{10} emissions by 50 percent over 10 years. The emissions in Table AQ-3 do not reflect any reductions that may be required under ISR. Due to the nature of the project as an lightly staffed solar facility in a rural location, it is not feasible to implement on-site reduction measures such as incentives for ridesharing or carpooling, or increasing transit access, or land use measures such as increased density near transit stops. Therefore, off-site mitigation fees will be paid by the applicant to achieve the required reductions under Rule 9510. These operational fees will be used to fund Air District air pollution reduction programs elsewhere and would fully mitigate the operational emissions under Rule 9510.

In summary, the operational emissions of ROG, NOx, PM_{10} and $PM_{2.5}$ would be below the significance thresholds applied by SJVAPCD to determine the significance of operational air quality impacts under CEQA. Thus the project's air quality impact from operational emissions would be *less than significant*.

Project Decommissioning

The Cherry Solar facility would be decommissioned at the end of its productive life after 35 years of operation. The activities associated with deconstruction would be comparable to construction, but emissions are expected to be substantially lower given anticipated reductions in vehicle and equipment emissions that will be phased-in over time per State and federal regulations, and also because of the generally lower intensity of equipment use associated with decommissioning. Thus emissions during decommissioning are not expected to exceed SJVAPCD significance thresholds for any criteria pollutants. With the application of Regulation VIII dust control requirements, fugitive PM_{10} emissions are likewise expected to be below the applicable significance thresholds, as they are for construction. Therefore, the emissions associated with project decommissioning would be *less than significant*.

Cumulative Emissions

Regional Air Pollutant Emissions

As discussed, cumulative ozone impacts would be considered significant if the project-specific emissions exceed the SJVAPCD significance thresholds for ozone precursors ROG or NO_X, or the project is not consistent with the regional clean air plan. As discussed in Item "(b) (and shown in Table AQ-2) above, project construction emissions of ozone precursor pollutants (ROG and NO_x) and PM were found to be less-than-significant after mitigation. As discussed in item 'b)' (and shown in Table AQ-3) above, project operational emissions of ozone precursor pollutants (ROG and NO_X) and

PM_{10} were found to be less-than-significant without mitigation. As discussed in item 'a)' above, the project would fulfill its share of achieving the Air District's emission reduction commitments in the PM_{10} and Ozone attainment plans through its obligation to implement ISR emission reduction measures under Air District Rule 9510. Therefore, the project would fully comply with the applicable air quality plans and would not conflict with or obstruct their implementation. Therefore, the project contribution to cumulative regional air quality impacts would be *less than significant*.

Local Air Pollutant Emissions

Construction period PM_{10} emissions would be localized. With implementation of SJVAPCD Regulation VIII, construction period impacts would be less than significant. Additional construction that may occur in the area concurrently with the project would be subject to SJVAPCD Regulation VIII, as well as the District's Indirect Source Review Rule 9510, which would reduce cumulative construction emissions to less-than-significant levels. In summary, the cumulative project impacts to localized air quality impacts from criteria pollutants for which the region is in non-attainment would be *less-than-significant*.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less-than-Significant Impact. Land uses that are considered sensitive to localized increases in emissions of air pollutants include hospitals, care facilities, schools, parks, and residential areas. The nearest sensitive receptors to the Cherry Solar Project site include: 1) The Shannon Ranch complex (including 20 dwellings) located on Avenal Cutoff Road 1.0 mile northwest; 2) The Stone Land Company Ranch located 1.5 miles west on Nevada Avenue; 3) Three ranch complexes (with a total of 8 dwellings) along the east side of SR-41, located 2.0 to 4.0 miles east of the project site; and 4) Five dispersed agricultural residences located 4.0 to 4.5 miles northeast of the project site along 22nd Avenue.

The two main types of pollutants that can occur in high localized concentrations are carbon monoxide from vehicular emissions and Toxic Air Contaminants (TACs) from diesel exhaust. Other pollutants, such as lead (Pb) and sulfur dioxide (SO_2) would not be substantially emitted by the project, and air quality standards for them are being met throughout the San Joaquin Valley Air Basin. The potential for the project to result in substantial concentrations of CO or TACs is discussed below.

Carbon Monoxide

Project traffic would slightly increase concentrations of carbon monoxide along roadways providing access to the project. Since the major source of carbon monoxide (CO) is automobile traffic, elevated concentrations of CO occur near areas of high traffic volume and congestion. Emissions and ambient concentrations of CO have decreased greatly in recent years. These improvements are due largely to the introduction of cleaner burning motor vehicles and reformulated motor vehicle fuels. No exceedances of the State or federal CO standards have been recorded at any of San Joaquin Valley's monitoring stations in the past 15 years. The San Joaquin Valley Air Basin has attained the State and National CO standards.

In order to determine whether a project has the potential to result in a violation of a CO standard, the SJVAPCD applies the following screening criteria: 1) the level of service (LOS) on one or more

streets or intersections would be reduced to LOS E of F by the project; and 2) the project would substantially worsen the LOS at a street or intersection in the vicinity operating at LOS F under pre-project conditions. As discussed in section *4.17. Transportation*, all roadway segments that would be affected by project traffic would operate at LOS C or better during the peak of construction activity when the greatest traffic volumes would be generated by the project. Since neither of the SJVAPCD screening criteria would thus be met, the Cherry Solar Project would not result in a violation of the CO standard and therefore would result in a *less-than-significant impact* in terms of exposing sensitive receptors to substantial concentrations of carbon monoxide.

Toxic Air Contaminants

The Toxic Air Contaminant (TAC) that is relevant to the Cherry Solar Project is Diesel Particulate Matter (DPM), which would be emitted by diesel-fueled equipment and vehicles during construction, and by diesel-fueled vehicles used during project operations including worker vehicles, delivery trucks, and maintenance vehicles.

The highest daily levels of DPM would be emitted during construction activities from use of heavy-duty diesel equipment such as graders, excavators, loaders, and diesel-fueled haul trucks. However, these emissions would be intermittent, and would vary throughout the project site area, and would be of a temporary duration (approximately 12-months of total construction activity). During project operations, low-level DPM emissions would result from worker vehicles and maintenance activities, but they would be constant over the lifetime of the project. Operational DPM emissions would mainly result from the use of pickup trucks with a portable water trailer (and pump) which would be used for panel cleaning.

Levels of DPM emissions can be generally inferred from PM_{10} emissions, of which diesel exhaust constitutes a substantial component. Tables AQ-1 and AQ-2 above show that PM_{10} emissions from solar project construction would be well below the applicable significance threshold. Table AQ-3 above shows that PM_{10} emissions from operational activities would also be well below the significance threshold.

Because of the relatively small levels of DPM emissions during project construction and operation, and due to the substantial distances to the nearest sensitive receptors (e.g., the nearest residence is at least 1.0 mile from the nearest project boundary), DPM emissions from project construction would disperse to negligible levels at the nearest receptor locations, and thus the health impacts associated with exposure to DPM from project construction and operation are not anticipated to be significant. Therefore, the Cherry Solar Project would result in a *less-than-significant impact* in terms of exposing sensitive receptors to substantial concentrations of Toxic Air Contaminants.

Cumulative Toxic Air Pollutant Impacts

With respect to cumulative emissions of Toxic Air Contaminants (TACs), it is important to note that Diesel Particulate Matter (DPM) concentrations diminish rapidly from the source. Pollutant dispersion studies by the California Air Resources Board (CARB) have shown that there is about a 70 percent drop-off in DPM concentrations at approximately 500 feet from the source (BAAQMD 2017, p. 8-7). This is reflected in the screening tables prepared by the Bay Area Air Quality Management District (BAAQMD) to determine setback distances where TAC exposures would be reduced to less than significant levels. For the largest construction projects, the recommended setback distance is

up to 1,000 feet from the sensitive receptor location (BAAQMD 2010, p. 9). Thus multiple sources of DPM emissions must all be proximate to a receptor to have a significant additive effect to DPM concentrations at the receptor site. Since the nearest sensitive receptors to the Cherry Solar Project are approximately 1.0 mile (5,200 feet) from the nearest site boundary, most DPM emissions from the project would disperse into the atmosphere before reaching the nearest sensitive receptor locations.

The SJVAPCD's TAC significance criterion for an individual project is an increase in cancer risk of more than 20 new cancer cases per million persons as measured over a 70-year lifetime for the maximally exposed individual (SJVAPCD 2015b). For context, it is noted that the lifetime cancer risk from all sources is approximately 250,000 cases per million (or 1 case per 4 individuals)(SJVAPCD 2015c, p. 100). The 20 per million significance criterion is applied to individual projects where there is a potential for a significant health impact to nearby sensitive receptors. This same significance threshold is applied by SJVACPD for cumulative TAC impacts, although the Air District considers it to be stringent (SJVAPCD 2015c, p. 110).

The nearest residential receptors to the Cherry Solar Project site comprise the 20 dwellings at the Shannon Ranch complex, the nearest of which is located approximately 5,200 feet northwest of the project site. Based on TAC analyses performed on another large solar project in the vicinity (i.e., American Kings), it is estimated that 0.9 new cancer cases per million would result from project TAC emissions at a receptor located 4,700 feet away, and that cancer risk at receptors located farther than 4,700 feet away would be lower than 1.0 per million, with the risk decreasing with distance from the source (Kings County 2018, p. 3-66, p. 3-94). This is well below the significance threshold of 20 cases per million. The nearest approved and pending solar projects which could potentially contribute TAC emissions at this receptor location are the Solar Blue Project located 1.8 miles east, Grape Solar Project located 2.4 miles southeast, and the Chestnut Solar Project located 2.8 miles southeast of the nearest Shannon Ranch dwellings. (Although the Grape, Chestnut, and Solar Blue projects would not be constructed concurrently with each other or the Cherry Solar Project, they are included in this analysis since TAC analyses consider the lifetime exposure of the receptors without regard to construction schedule.) At these distances, the increased cancer risk from each of these three projects would be far less than 1.0 cancer case per million, under the reasonable assumption that meteorological conditions would be very similar to those at the reference project (American Kings) located several miles to the north. Assuming for the sake of simplicity that that cancer risks associated with individual projects can be aggregated in absolute terms, the combined lifetime exposure from TAC emissions at the Shannon Ranch dwellings from all four projects (including Cherry Solar) would be less than 4.0 cancer cases per million, which is far less than the significance threshold of 20 cases per million. (Even if the TAC emissions from recently completed solar projects in the vicinity such as Aquamarine, Mustang 2, Slate, and American Kings, located from 2 to 5 miles northeast of the Shannon Ranch, were each assumed to result in increased cancer cases of 1.0 per 20 million, this would increase the cumulative effect to 8.0 increased cancer cases at most, and likely substantially fewer.) Thus it is not expected that the cumulative effects would result in a significant increase in cancer risk at the nearest sensitive receptor subject to diesel emissions from other solar projects in the vicinity of the Cherry Solar Project. Therefore, the cumulative health risk impact associated with the Cherry Solar Project would be *less than significant*, and the project contribution to the cumulative health risk impact would *not be considerable*.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less-than-Significant Impact. During construction, the various diesel powered vehicles and equipment in use on the Cherry Solar Project site would create localized odors. These odors would be temporary and would dissipate relatively quickly and thus would not likely be noticeable for extended periods of time beyond the project boundaries. Most if not all diesel odors carried off-site would disperse into the atmosphere before reaching the nearest sensitive receptors located at least 1.0 mile away. There are no other emissions sources associated with the Cherry Solar Project. Other than emissions discussed previously in this section, the Cherry Solar Project would not result in other emissions, including emissions leading to odors, adversely affecting a substantial number of people; therefore, the impact would be *less than significant*.

REFERENCES – AIR QUALITY

BAAQMD 2010 — Bay Area Air Quality Management District (BAAQMD). 2010. *Screening Tables for Air Toxics Evaluation During Construction*. May. http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/CEQA_Construction_Screening_Approach.ashx

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4.4. BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	■	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	■
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	■
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	■	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	■
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	■

This section summarizes the analysis and conclusions of the biological assessment report prepared by Live Oak Associates (LOA) in July 2022. The LOA report is contained in Appendix B of this document.

Biological Setting

Biotic Habitats/Land Uses

The entire 2,079-acre Cherry Solar project site consists of agricultural fields which have been cultivated in the recent past for cotton, tomatoes, and winter wheat. Several agricultural canals run through and along the site, and there is a former tailwater basin along the eastern side of the project site. These canals, ditches and basin features have not been used to convey or store water for several years and are now dry and somewhat overgrown. There are no buildings, sheds, or other structures on the Cherry Solar Project site.

Regular agricultural activities on the site create moderately suitable habitat for most animal species. Nonetheless, a number of animal species are expected to use the agricultural fields, including coyotes.

Agricultural canals occur along the eastern and northern boundaries. Ditches and canals that are hydrologically connected to the tailwater basin also extend east-west across the site. Agricultural ditches, which are narrower and shallower than the canals but are still prominent on the landscape and have clearly defined channels, occur along the western and southern boundaries.

The tailwater basin occupies approximately 19 acres in the eastern part of the site. Historically, the tailwater basin encompassed approximately 64 acres, but the construction of berms and levees has reduced the tailwater basin to its current size. The tailwater basin was not wet at the time of LOA's November 17, 2021, site visit. The rest of the former basin area has not functioned as a hydrologic feature in at least 10 years of surveying and has never been observed as holding water. [As reported by the landowner, over the past 15 years the agricultural fields on the project site and surrounding lands have been installed with drip irrigation systems to conserve water. As such, crop irrigation no longer generates "irrigation return flows" as historically occurred when the lands were under furrow irrigation where excess irrigation drain water was conveyed by ditches to the on-site tailwater basin. Thus the canal channels ceased to convey irrigation water to the fields and the ditches ceased to collect and direct drain water to the tailwater basin. In the absence of incoming drain water, the tailwater pond gradually dried up over the years. As such, the canals, ditches and tailwater basin have not held or conveyed water for several years and now appear dry and somewhat overgrown with ruderal species.]

The canals and levees of the tailwater basin would likely provide suitable habitat for burrowing owls in the local vicinity. Pacific chorus frogs and western toads may use the irrigation canals for breeding and may also disperse through the adjacent fields during the winter and spring or when the fields are not regularly disked. Reptile species that may forage in this habitat include lizards such as the side-blotched lizard and western whiptail, and snakes such as the gopher snake, and common kingsnake.

Resident bird species expected to use this habitat would include Brewer's blackbirds, brown-headed cowbirds, and European starlings, among others. Wintering birds that may utilize the disked fallow fields would be the savannah sparrow, American pipit, and Say's phoebe, among others. Summer migrants such as the barn swallow may forage on the site.

Burrowing rodent activity in the fields is expected to be minimal due to the ground disturbance regime. Botta's pocket gopher burrows may occur within the site, and California ground squirrel burrows may occur along the agricultural field perimeters.

The site offers limited foraging opportunities for mammalian and avian predators. Raptors such as red-tailed hawks, Swainson's hawks, great horned owls, burrowing owls, and barn owls may occasionally forage on the site, and burrowing owls are known to breed in the larger managed canals in the surrounding local vicinity. Disturbance-tolerant mammalian predators such as raccoons, striped skunks, coyotes, and red foxes may occasionally forage on or pass through the site.

Special Status Plants and Animals

Several species of plants and animals within the state of California have low populations and/or limited distributions. Such species may be considered "rare" and are vulnerable to extirpation as the state's human population grows and the habitats these species occupy are converted to agricultural and urban uses. State and federal laws have provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity

of plant and animal species native to the state. (See LOA's biological report in Appendix B for a full description of applicable laws and regulations.) A sizable number of native plants and animals have been formally designated as "threatened" or "endangered" under state and federal endangered species legislation. Others have been designated as candidates for such listing. Still others have been designated as "species of special concern" by the CDFW. The California Native Plant Society (CNPS) has developed its own set of lists of native plants considered rare, threatened, or endangered. Collectively, these plants and animals are referred to as "special status species."

A number of special-status species occur in the project vicinity. The LOA biological report lists a total of 3 plant species and 41 animal species with potential to occur in the project area. All three of the listed plant species (California jewel-flower, Kern mallow, and San Joaquin woollythreads) are considered to be absent from the project site. Twenty-seven animal species are either absent or are considered unlikely to occur on the Cherry Solar site. These include: vernal pool fairy shrimp, valley elderberry longhorn beetle, Delta smelt, California tiger salamander, California red-legged frog, giant garter snake, blunt-nosed leopard lizard, western yellow-billed cuckoo, Buena Vista Lake ornate shrew, Nelson's antelope squirrel, giant kangaroo rat, Fresno kangaroo rat, Tipton kangaroo rat, San Joaquin kit fox, Western spadefoot, Western pond turtle, Temblor legless lizard, Coast horned lizard, California glossy snake, San Joaquin whipsnake, American white pelican, black swift, Vaux's swift, Tulare grasshopper mouse, short-nosed kangaroo rat, American badger, and ringtail.

An additional 14 animal species may regularly or occasionally utilize the Cherry Solar site for foraging, including the Swainson's hawk, western snowy plover, tricolored blackbird, white-faced ibis, northern harrier, white-tailed kite, mountain plover, burrowing owl, long-eared owl, loggerhead shrike, yellow-headed blackbird, Townsend's big-eared bat, pallid bat, and California mastiff bat. The project site does not provide regionally important foraging habitat for these species. Migrant species such as the mountain plover pass through or over many types of habitats en route to breeding or wintering habitat. White-faced ibis may possibly forage in agricultural fields of the project vicinity from time to time.

The three bat species listed above, including the Townsend's big-eared bat, pallid bat, and California mastiff bat may forage over the site; however, roosting habitat is absent from the Cherry Solar site for these species.

TABLE BIO-1
SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

PLANTS ***Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts***			
Common and scientific names	**Status**	**General habitat description**	***Occurrence in the Project Site**
California jewelflower (*Caulanthus californicus*)	FE, CE, CRPR 1B.1	Habitat: Chenopod scrub, valley and foothill grassland, pinyon-juniper woodland. Elevation: 61-1000 meters. Blooms: February–May.	**Absent.** Suitable habitat for this species is absent from the Cherry Solar. Any suitable habitat that may have once been present has been highly modified for human use.
Kern mallow (*Eremalche parryi* ssp. *kernensis*)	FE, CRPR 1B.2	Habitat On dry, open sandy to clay soils; often at edge of balds in Chenopod scrub, Pinyon and juniper woodland, Valley and foothill grassland. Elevation: 70 – 1290 meters. Blooms: January - May.	**Absent**. Suitable habitat for this species is absent from the Cherry Solar site. Any suitable habitat that may have once been present has been highly modified for human use.
San Joaquin woolythreads *(Monolopia congdonii)*	FE CRPR 1B.2	Habitat: Chenopod scrub, valley and foothill grassland. Elevation: 60-800 meters. Blooms: February-May.	**Absent**. Suitable habitat for this species is absent from the Cherry Solar site. Any suitable habitat that may have once been present has been highly modified for human use.
ANIMALS ***Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts***			
Common and scientific names	**Status**	**General habitat description**	*** Occurrence in the Project Site**
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Occurs in vernal pools of California.	**Absent.** Suitable habitat in the form of vernal pools is absent from the Cherry Solar site.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Lives in mature elderberry shrubs of California's Central Valley and Sierra Foothills.	**Absent.** Suitable habitat in the form of elderberry shrubs is absent from the Cherry Solar site.
California tiger salamander *(Ambystoma californiense)*	FT, CT	Breeds in vernal pools and stock ponds of central California; adults aestivate in grassland habitats adjacent to the breeding sites.	**Absent**. No historic or current records of this species are known within the region. Intensively cultivated lands provide unsuitable habitat for this species.
Delta smelt (*Hypomesus transpacificus*)	FT, CT	Euryhaline species found in open waters of bays, tidal rivers, channels, and sloughs occurring in waters with salinity generally less than 10 ppt, and more usually around 2 ppt. Spawning occurs in freshwater further upstream. The majority occurs in Sacramento and Solano Counties in California; however, USFWS also indicates occurrences in other counties as well.	**Absent.** This fish species occurs only in the waters of the San Francisco Bay-Delta Estuary with the USFWS 2004 5-Year Review identifying Mossdale, California as the furthest upstream (southward) historical limit of their range within the San Joaquin River watershed. Since the project site is located 140 miles south of the Delta and more than 130 miles from Mossdale, this species will not occur on the project site or vicinity. Additionally, the project would not impact any waterways.

TABLE BIO-1 (CONT'D)
SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS ***Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts***			
Common and scientific names	**Status**	**General habitat description**	*** Occurrence in the Project Site**
California red-legged frog (*Rana draytonii*)	FT, CSC	Dense, shrubby riparian vegetation such as arroyo willow, cattails, and bulrushes with still or slow-moving water. Perennial streams or ponds are preferred, and a salinity of no more than 4.5‰.	**Absent.** In the San Joaquin Valley, suitable habitat for this species occurs along the east side of the valley as far south as Fresno County, and the Recovery Plan does not include the area of the site within Kings County as being within this species' current range (post 1985). Therefore, this species will not occur on the project site or vicinity.
Giant garter snake *(Thamnophis gigas)*	FT, CT	Habitat requirements consist of (1) adequate water during the snake's active season (early-spring through mid-fall) to provide food and cover; (2) emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat during the active season; (3) grassy banks and openings in waterside vegetation for basking; and (4) higher elevation uplands for cover and refuge from flood waters during the snake's dormant season in the winter.	**Absent**. Although the project site lies within the historic range of the giant garter snake, this species is no longer known to occur south of the San Joaquin River in Fresno County, approximately 45 miles north of the project site. Therefore, this species will not occur on the project site or vicinity.
Blunt-nosed leopard lizard (*Gambelia silus*)	FE, CE, CP	Frequents grasslands, alkali meadows and chenopod scrub of the San Joaquin Valley from Merced south to Kern County.	**Absent.** Habitats required by this species are absent from the Cherry Solar site and vicinity and there are no reported sightings of this species within 15 miles of the project site. Therefore, this species will not occur on the site or vicinity.
Swainson's hawk *(Buteo swainsoni)*	CT	Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	**Present.** Foraging habitat is available throughout the project area. Potential breeding habitat is present at the tailwater basin in the eastern portion of the site. Swainson's hawks were observed flying over the site during site visits for the adjacent WSP Master Plan site during the April 10 and May 28, 2018, and April 11, 2019 site visits; they are known to occur over and adjacent to the site, per previous surveys conducted by LOA as well.

TABLE BIO-1 (CONT'D)
SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS ***Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts***			
Common and scientific names	**Status**	**General habitat description**	*** Occurrence in the Project Site**
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FC, CE	Breed in large blocks of riparian habitats, particularly cottonwoods and willows.	**Absent**. Dense riparian habitat required by this species is absent from the Cherry Solar site.
Western snowy plover (*Charadrius alexandrines nivosus*)	FT, CSC	Uses man-made agricultural wastewater ponds and reservoir margins. Breeds on barren to sparsely vegetated ground at alkaline or saline lakes, reservoirs, ponds, and riverine sand bars.	**Possible.** Breeding and foraging habitat is available along agricultural canals within the Cherry Solar site.
Tricolored Blackbird (*Agelaius tricolor*)	CSC	Breeds near fresh water, primarily emergent wetlands, with tall thickets. Forages in grassland and cropland habitats.	**Possible.** Foraging habitat for this species is present within the Cherry Solar site in the form of cattails in the canals of the site; however, presence of breeding habitat on the site itself would depend on the type of crop planted from season to season. Tricolored blackbirds are known to nest in wheat fields.
Buena Vista Lake ornate shrew (*Sorex ornatus relictus*)	FE	Occurs in marshes on the edges of Lake Buena Vista, Kern County, may occur, but currently presumed absent from Tulare Basin.	**Absent.** The only water near the site consists of canals and the tailwater basin which has not held water in at least 10 years. A floodplain does not exist for either of these features and suitable habitat, including riparian or wetland habitats are absent from the site except for the tailwater pond, which used to support a more robust riparian habitat, but has not supported suitable riparian habitat since the tailwater basin has not held water for more than 10 years. Prey species for the BVLS are likely to be few on the site as well. Since none of the habitat elements required for the Buena Vista Lake ornate shrew are present on the site and it is not within the Kern Lake Preserve Unit, it is concluded that there is no potential
Nelson's antelope squirrel *(Ammospermophilus nelsoni)*	CT	Frequents open shrublands and annual grassland habitats.	**Absent**. Habitats required by this species are absent from the Cherry Solar site and surrounding agricultural lands due to intensive agricultural use.

TABLE BIO-1 (CONT'D)
SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS ***Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts***			
Common and scientific names	**Status**	**General habitat description**	*** Occurrence in the Project Site**
Giant kangaroo rat *(Dipodomys ingens)*	FE, CE	Inhabits grasslands on gentle slopes generally less than 10 percent, with friable, sandy-loam soils.	**Absent**. Habitats required by this species are absent from the Cherry Solar site and surrounding agricultural lands due to intensive agricultural use. Additionally, in California this species' range is confined to the western edge of the San Joaquin Valley and the foothills along the western edge of the San Joaquin Valley. Since this species is not present in agricultural areas of the central San Joaquin Valley, which does not support suitable habitat for this species, it will not occur on the project site or vicinity.
Fresno kangaroo rat (*Dipodomys nitratoides exilis*)	FE, CE	Inhabits grassland on gentle slopes generally less than 10 percent, with friable, sandy-loam soils.	**Absent**. Habitats required by this species are absent from the Cherry Solar site and surrounding agricultural lands due to intensive agricultural use.
Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	FE, CE	Inhabits arid land with grassland or salt scrub on level or near-level terrain on the San Joaquin Valley floor with alluvial fan and floodplain soils.	**Absent**. The site is within the historic distribution but the current distribution is more than 25 miles to the east of the site. The suitable alkali sink scrub habitat required for this species is not present on or near the site. This species distribution occurs mainly on the southern end of the San Joaquin Valley with the project site being at the northernmost edge of this species' range, and there are no reported sightings of this species west of the Kings River in the vicinity of the project site, which is three miles east of the project site and forms a barrier to westward movement toward the project site. Therefore, this species will not occur on the site or vicinity.

TABLE BIO-1 (CONT'D)
SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS ***Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Acts***			
Common and scientific names	**Status**	**General habitat description**	*** Occurrence in the Project Site**
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE, CT	Frequents desert alkali scrub and annual grasslands and may forage in adjacent agricultural habitats. Utilizes enlarged (4 to 10 inches in diameter) ground squirrel burrows as denning habitat.	**Unlikely.** Some burrows observed in the surrounding area were of suitable size for the kit fox. However, nearly all these burrows were within the vicinity of California ground squirrels or actively used by ground squirrels. The Cherry Solar site and the surrounding area have been highly modified for agricultural use and, as a result, provide only marginal foraging and breeding habitat for the kit fox. There are no documented sightings of this species on the Cherry Solar site or in the surrounding area, but there have been numerous documented sightings within a ten-mile radius of the Cherry Solar site between 1975 and 2000 (CNDDB 2022). Therefore, kit foxes are unlikely to breed within the Cherry Solar site but may occasionally forage within the site, and may use the site for dispersal movements.
ANIMALS ***State Species of Special Concern (adapted from CDFW 2016 and USFWS 2016)***			
Common and scientific names	**Status**	**General habitat description**	*** Occurrence in the Project Site**
Western spadefoot (*Scaphiopus hammondii*)	CSC	Primarily occurs in grasslands, but also occurs in valley and foothill hardwood woodlands. Requires vernal pools or other temporary wetlands for breeding.	**Absent.** Vernal pools required for breeding are absent from the Cherry Solar site. Terrestrial habitat required for estivation is absent from cultivated fields.
Western pond turtle *(Actinemys marmorata)*	CSC	Intermittent and permanent waterways including streams, marshes, rivers, ponds and lakes.	**Unlikely.** While marginal habitat, in the form of the canals, exists within the Cherry Solar site, the tailwater basin appears to have been dry for the last 10 years and estivation and breeding habitat is absent from the project site.
Temblor legless lizard *(Anniella alexanderae)*	CSC	The Temblor legless lizard (previously called silvery legless lizard) occurs mostly underground in warm moist areas with loose soil and substrate and is known only from two sites west of Highway 33 at the base of the Temblor Range between McKittrick and Taft in Kern County.	**Absent.** The Project site is outside this species' range.

TABLE BIO-1 (CONT'D)
SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS ***State Species of Special Concern (adapted from CDFW 2016 and USFWS 2016)***			
Common and scientific names	**Status**	**General habitat description**	*** Occurrence in the Project Site**
Coast horned lizard (*Phrynosoma blainvillii*)	CSC	Grasslands, scrublands, oak woodlands, etc. of central California. Common in sandy washes with scattered shrubs.	**Absent.** Habitats required by this species are absent because they have been heavily modified for human use.
California glossy snake (*Arizona elegans occidentallis*)	CSC	Occurs in arid areas with grassland, scrub, chaparral, and rocky washes. This species is nocturnal and spends the day in burrows.	**Absent.** Habitats required by this species are absent from the Cherry Solar site and vicinity.
San Joaquin whipsnake (*Masticophis flagellum ruddocki*)	CSC	Open, dry habitats with little or no tree cover. Found in valley grasslands and saltbush scrub in the San Joaquin Valley.	**Absent.** Habitats required by this species are absent from the Cherry Solar site and vicinity.
American white pelican *(Pelecanus erythrorhynchos)*	CSC	Nests on islands in large lakes or on ephemeral islands in shallower wetlands.	**Unlikely**. Nesting habitat is absent from the Cherry Solar site. This species has observed flying over the general area in previous years; however, the species is unlikely to stop and nest within the Cherry Solar site.
White-faced ibis *(Plegadis chihi)*	CSC	Salt and freshwater marsh as well as grain and alfalfa fields.	**Possible**. Foraging habitat required for this species is present in the form of the agricultural fields within the Cherry Solar. Breeding habitat is absent.
Northern harrier *(Circus cyaneus)*	CSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	**Possible.** Northern harriers were observed foraging over agricultural fields within the general area during previous surveys, and foraging and breeding habitat exists on the Cherry Solar site.
White-tailed kite *(Elanus leucurus)*	CP	Open grasslands and agricultural areas throughout central California.	**Possible.** Suitable foraging and breeding habitat occurs for this species within the Cherry Solar site.
Mountain plover *(Charadrius montanus)*	CSC	Forages in short grasslands and freshly plowed fields of the Central Valley.	**Possible.** The Cherry Solar site provides potential winter foraging habitat for this species; however, the species does not breed in this region.

TABLE BIO-1 (CONT'D)
SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS ***State Species of Special Concern (adapted from CDFW 2016 and USFWS 2016)***			
Common and scientific names	**Status**	**General habitat description**	*** Occurrence in the Project Site**
Burrowing owl (*Athene cunicularia*)	CSC	Frequents open, dry annual or perennial grasslands, deserts, and scrublands characterized by low growing vegetation. Dependent upon burrowing mammals, most notably the California ground squirrel, for nest burrows.	**Absent.** Past site visits in the local vicinity and adjacent WSP Master Plan area identified breeding burrowing owls along canals and identified a large number of overwintering burrowing owls on adjacent lands in the vicinity of the project site. Currently, suitable habitat onsite consists mainly of ground squirrel burrows along canals and the margins of agricultural fields. In 2022, LOA conducted breeding season surveys (four site visits) of the areas of the site where burrowing owls were most likely to occur in 2022 and burrowing owls were not observed on the site. Burrowing owls are absent from the site at this time, although they could move onto the site in the future.
Long-eared owl (nesting) *(Asio otus)*	CSC	Occurs on edge habitats including in clumps of trees or edges of open forests that are adjacent to grasslands, shrublands, wetlands, marshes, and farmlands. Need stick nests built by other birds in trees.	**Possible.** Although the Cherry Solar site does not support suitable nesting habitat for this species except for the potential for nesting to occur on utility poles (unlikely), small clumps of suitable trees exist at the tailwater basin on the eastern side of the project site. Therefore, long-eared owls may use the project site for breeding or foraging.
Black swift *(Cypseloides niger)*	CSC	Migrants found in many habitats of state; in Sierra nests are often associated with waterfalls.	**Absent.** The Cherry Solar site does not provide suitable breeding or foraging habitat for this species.
Vaux's swift *(Chaetura vauxi)*	CSC	Migrants move through the foothills of the western Sierra in spring and late summer. Some individuals breed in the region.	**Absent.** The Cherry Solar site does not provide suitable breeding or foraging habitat for this species.
Loggerhead Shrike *(Lanius ludovicianus)*	CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. Can often be found in cropland.	**Likely.** This species has been observed on adjacent lands during surveys for the WSP Master Plan. The Cherry Solar site may support marginal nesting habitat within vegetated canals and the tailwater basin.
Yellow-headed blackbird *(Xanthocephalus xanthocephalus)*	CSC	Occurs in freshwater marshes with cattails, tule, and bulrush during the summer and open, cultivated fields and pastures in the winter.	**Possible.** The canals and tailwater basin of the site support potential breeding and foraging habitat for this species.

TABLE BIO-1 (CONT'D)
SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

ANIMALS ***State Species of Special Concern (adapted from CDFW 2016 and USFWS 2016)***			
Common and scientific names	**Status**	**General habitat description**	*** Occurrence in the Project Site**
Tulare grasshopper mouse (*Onychomys torridus tularensis*)	CSC	Arid shrubland communities in hot, arid grassland and scrub desert associations. These include blue oak woodlands at 450 m (1476 feet); upper Sonoran subshrub scrub community; alkali sink and mesquite associations on the valley floor; and grasslands associations on the sloping margins of the San Joaquin Valley and Carrizo Plain region.	**Absent.** Suitable shrubland habitat is not present within the Cherry Solar site.
Short-nosed kangaroo rat (*Dipodomys nitratoids brevinasus*)	CSC	Occur in lighter, powdery soils such as the sandy bottoms and banks of arroyos and other sandy areas with slightly to highly saline soils on gently sloping and rolling low hill-tops with shrubs.	**Absent**. Habitats required by short-nosed kangaroo rats are absent from the study area and surrounding agricultural lands due to intensive agricultural use.
Townsend's Big-eared bat *(Corynorhinus townsendii)*	CSC	Primarily a cave-dwelling bat that may also roost in buildings. Occurs in a variety of habitats.	**Possible.** Suitable foraging habitat is present within the Cherry Solar site; however, roosting habitat is absent.
Pallid bat *(Antrozous pallidus)*	CSC	Roosts in rocky outcrops, cliffs, and crevices with access to open habitats for foraging. May also roost in caves, mines, hollow trees and buildings.	**Possible.** Although suitable habitat for the pallid bat is absent from the Cherry Solar site, the entire site supports suitable foraging habitat for this species.
California mastiff bat *(Eumops perotis ssp. californicus)*	CSC	Frequents open, semi-arid to arid habitats, including conifer, and deciduous woodlands, coastal scrub, grasslands, palm oasis, chaparral and urban. Roosts in cliff faces, high buildings, trees and tunnels.	**Possible.** Although suitable habitat for the California mastiff bat is absent from the Cherry Solar site, the entire site supports suitable foraging habitat for this species.
American badger *(Taxidea taxus)*	CSC	Found in drier open stages of most shrub, forest and herbaceous habitats with friable soils.	**Unlikely.** No burrows of the size and shape suitable for this species were observed on the Cherry Solar site. It is possible this species may establish burrows within the Cherry Solar site; however, it is unlikely that badgers would breed on the site or within the vicinity.
Ringtail *(Bassariscus astutus)*	CP	Riparian and heavily wooded habitats near water.	**Absent.** Habitat for this species is absent from the Cherry Solar site.

TABLE BIO-1 (CONT'D)
SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE PROJECT VICINITY

***Explanation of Occurrence Designations and Status Codes**
Present: Species observed within the project site at time of field surveys or during recent past.
Likely: Species not observed within the project site, but it may reasonably be expected to occur there on a regular basis.
Possible: Species not observed within the project site, but it could occur there from time to time.
Unlikely: Species not observed within the project site, and would not be expected to occur there except, perhaps, as a transient.
Absent: Species not observed within the project site, and precluded from occurring there because habitat requirements not met.

TABLE BIO-1 STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FPE	Federally Endangered (Proposed)	CR	California Rare
FC	Federal Candidate	CP	California Fully Protected
		CSC	California Species of Special Concern

CNPS	California Native Plant Society Listing
1A	Plants Presumed Extinct in California
1B	Plants Rare, Threatened, or Endangered in California and elsewhere
5	Plants Rare, Threatened, or Endangered in California, but more common elsewhere
6	Plants about which we need more information – a review list
7	Plants of limited distribution – a watch list

Source: Live Oak Associates, 2022

Endangered, Threatened, or Special Status Animal Species Meriting Further Discussion

Swainson's Hawk

The Swainson's hawk is designated as a California Threatened species, and has no federal listing status. The loss of agricultural lands (i.e., foraging habitat) to urban development and additional threats such as riverbank protection projects have contributed to its decline.

Swainson's hawks are large, broad-winged, broad-tailed hawks and have a high degree of mate and territorial fidelity. In the Central Valley they arrive at their nesting sites in March or April. The nest is likely to be a large stick nest (3 to 4 feet in diameter) constructed in a tree. In the Central Valley, Swainson's hawks typically nest in large trees within or peripheral to riparian systems adjacent to suitable foraging habitats. Other suitable nest sites include lone trees, groves of trees such as oaks, other trees in agricultural fields, and mature roadside trees. The young hatch sometime between March and July and do not leave the nest until some 4 to 6 weeks later. Swainson's hawks forage in large, open fields with abundant prey, including grasslands or lightly grazed pastures, alfalfa and other hay crops, and certain grain and row croplands.

Between 2010 and 2022, LOA biologists conducted multiple surveys for Swainson's hawk nests in the project area. The surveys found no nest sites within the Cherry Solar Project site. On several occasions during the surveys, a number of Swainson's hawks were observed foraging in agricultural fields in the project vicinity and flying over the tailwater basin. In 2015, a Swainson's hawk was observed landing in

a tree at the tailwater basin, but exhaustive searches that year and in other years failed to detect the presence of Swainson's hawk nest within trees surrounding the tailwater basin. (For a map showing Swainson's hawk nests, see Figure 1 in Appendix A of LOA's biological report, which is contained in Appendix B of this document.)

Multi-year nest surveys by LOA and others over the past 10 years indicate that there are 37 Swainson's hawk nests within a 10-mile radius of the Cherry Solar Project site, of which the nearest four nest sites are located between 5 and 6 miles to the northwest, north, northeast, and east of the Cherry Solar site. Since Swainson's hawks tend to return to the same nests each year, it is likely that most or all of these nests would be occupied in any given year.

Based on their field surveys, LOA biologists concluded that Swainson's hawks forage on the Cherry Solar Project site, and that potentially suitable nesting habitat occurs in the trees surrounding the tailwater basin in the east-central portion of the site.

Burrowing Owl

The burrowing owl is designated as a California Species of Special Concern, and has no federal listing status. This designation was based on the species' declining population within the state over the past 40 years. The population decline is mainly due to habitat destruction resulting from development and agricultural practices.

Burrowing owls are unique in that they are the only owl that regularly lives and breeds in underground nests. In California, these birds typically occur in the Central and Imperial Valleys, primarily utilizing ground squirrel burrows (or the burrows of other animals, e.g., badgers, prairie dogs and kangaroo rats) found in grasslands, open shrub lands, deserts, and, to a lesser extent, grazed and agricultural lands.

LOA conducted multiple surveys during the Spring of 2022 to determine the potential for the site to support breeding burrowing owls. Although no burrowing owls were observed, potential suitable habitat exits along portions of the on-site canal channels.

Previous surveys by LOA in the project vicinity identified breeding burrowing owls along canals and identified a large number of overwintering burrowing owls on adjacent lands in the vicinity of the project site. Potential suitable, but unoccupied habitat on-site, consists mainly of ground squirrel burrows along canals and the margins of agricultural fields.

San Joaquin Kit Fox

The San Joaquin kit fox is a federally-listed Endangered species, and a California-listed Threatened species. The smallest North American member of the dog family (Canidae), the kit fox historically occupied the dry plains of the San Joaquin Valley, from San Joaquin County to southern Kern County. Local surveys, research projects, and incidental sightings indicate that kit fox currently occupy available habitat on the San Joaquin Valley floor and in the surrounding foothills.

Kit foxes prefer open, arid habitats with loose soils. In the southern and central portion of the Central Valley, kit foxes are found in valley sink scrub, valley saltbrush scrub, upper Sonoran subshrub scrub, and annual grassland. Kit foxes may also be found in grazed grasslands, urban settings, and in areas adjacent to tilled or fallow fields. They require underground dens to raise pups, regulate body temperature, and avoid predators and other adverse environmental conditions. In the central portion of their range, they

usually occupy burrows excavated by small mammals such as California ground squirrels. Kit fox are primarily carnivorous, feeding on squirrels, black-tailed hares, desert cottontails, rodents, insects, and ground-nesting birds.

Conditions in the project area consist predominantly of cultivated and fallow agricultural fields, which are generally unsuitable for foraging kit fox. Having been modified for agricultural use, the project site provides a limited prey base especially in the cultivated fields and, therefore, constitutes poor foraging habitats for kit fox. No kit fox, or their sign, were observed during the any of the site visits by LOA ecologists between 2011 and 2022.

According to records of kit fox sightings in the region, there have been a total of 14 historical (1980s-2000) sightings within the 10 miles of the Cherry Solar Project site. All of these sightings occurred at least 5.0 miles from the project site. (For a map showing the locations of these kit fox sightings, see Figure 4 in LOA's biological report, contained in Appendix B of this document.) Considering the highly disturbed condition of the project site, its isolation from extant kit fox populations, and its marginal to poor suitability as foraging or denning habitat, it is unlikely any kit fox have taken up residence within the Cherry Solar site, although an errant individual may move through the site from time to time.

In summary, the Cherry Solar Project site may at most be used on rare occasions by dispersing kit foxes, which are highly unlikely to take up residence at the project site.

Other Migratory Birds

Other migratory birds include most bird species with the exception of house sparrow and European starling, among a few other non-native birds. Migratory birds and their nests are protected under the Federal Migratory Bird Treaty Act of 1918 and California Fish and Game Code (Sections 3503 and 3513). Between approximately February 1 and August 31, migratory birds nest throughout California and the Central Valley on the ground and in grasses, shrubs, and trees.

Ground nesting birds such as burrowing owl and killdeer, among other disturbance-tolerating birds, may utilize the ground and agricultural vegetation of the Cherry Solar Project site for nesting. Trees in and alongside the canals and tailwater basin on the site or adjacent to the site may also be used by tree-nesting birds.

Wildlife Movement Corridors

Wildlife movement corridors are areas where regional wildlife populations regularly and predictably move during dispersal or migration. Movement corridors in California are typically associated with valleys, rivers and creeks supporting riparian vegetation, and ridgelines. The nearest significant riparian corridor that likely facilitates regional movement of wildlife is the Kings River to the northeast of the Cherry Solar Project site. This riparian area is located approximately 5.0 miles to the northeast of the Cherry Solar site, the point at which the natural riparian corridor of the river becomes an unvegetated artificial channel south of the SR-41 bridge.

The canals and ditches within and adjacent to the Cherry Solar Project site can function as movement corridors for the regular home range or dispersal movements of native wildlife, including special status species.

REGULATORY CONTEXT

Jurisdictional Waters

Jurisdictional waters include rivers, creeks, and drainages that have a defined bed and bank and which, at the very least, carry ephemeral flows. Jurisdictional waters also include lakes, ponds, reservoirs, and wetlands. Such waters may be subject to the regulatory authority of the U.S. Army Corps of Engineers (USACE), the California Department of Fish and Wildlife (CDFW), and/or the California Regional Water Quality Control Board (RWQCB). The USACE regulates the filling or grading of jurisdictional waters under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by "ordinary high water marks" on opposing channel banks. The nearest known water of the U.S. is the Kings River, which is approximately 4.7 miles east of the project site at its nearest point, where the river is 30 feet lower in elevation than the lowest point on the project site.

Agricultural canals occur along the site's eastern and northern boundaries and are hydrologically connected to properties upstream and downstream from the site. The agricultural ditches are narrower and shallower than the canals and generally convey water within the site. These ditches occur along the western and southern boundaries and in the site's interior. The canals historically conveyed irrigation water imported via the California Aqueduct, and ditches were constructed to drain the irrigated fields on the project site. Based on a review of available aerial imagery, the onsite canals, ditches and tailwater basin do not replace or relocate historical waters of the U.S., nor do they appear to convey water that would otherwise be considered waters of the U.S. Additionally, these canals do not receive water from the Kings River, which is at a lower elevation than the Cherry Solar site at its nearest extent. Therefore, onsite canals, ditches and tailwater basin are likely not to be considered waters of the U.S., and thus are highly unlikely to fall under the jurisdiction of the USACE. However, a final determination of USACE jurisdiction can only be made by USACE.

The canals of the Cherry Solar Project site may be claimed as jurisdictional by the RWQCB under the broader definition of "Waters of State" under the Porter-Cologne Water Quality Control Act which encompasses any surface or groundwater within the boundaries of the State. Therefore, to the extent that water is present in the canals, ditches, and tailwater basin on the project site, these features would like be subject to the jurisdiction of the RWQCB.

The CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. The CDFW typically only asserts jurisdiction over ponds, lakes, and natural drainages or manmade features that replace natural drainages and, therefore, is unlikely to regulate alterations to the humanmade canals within the Cherry Solar Project site.

For a detailed discussion of jurisdictional waters, see the LOA biological report in Appendix B of this document.

Designated Critical Habitat

The USFWS often designates areas of "critical habitat" when it lists species as threatened or endangered. Critical habitat is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. There are no designated critical habitat areas in the project vicinity.

Natural Communities of Special Concern

Natural communities of special concern are those that are of limited distribution, have significant biological diversity, or provide important habitat for special status species. The California Department of Fish and Wildlife is responsible for the classification and mapping of all natural communities in California. Natural communities are assigned state and global ranks according to their degree of imperilment. Examples of natural communities of special concern in the vicinity of the project site include vernal pools, such as those found east of the Kings River, and various types of riparian forest, such as those found along the remaining natural channel of the Kings River to the northeast. The vegetation associations present on the project site are dominated by non-native species, and are not considered natural communities of special concern.

Habitat Conservation Plans (HCPs)

The only HCP that may apply to the Cherry Solar Project is PG&E's "San Joaquin Valley Operations and Maintenance Habitat Conservation Plan." This HCP covers 23 wildlife species and 42 plant species for 33 routine operations and maintenance activities for PG&E's electric and gas transmission and distribution systems within nine counties in the San Joaquin Valley, including Kings County. The HCP prescribes best management practices to ensure that PG&E's operational and maintenance activities comply with the federal and state Endangered Species Acts. The proposed project is within the boundaries of the HCP. Although the HCP mainly covers operational and maintenance activities, it also covers small construction projects such as minor extensions of electrical lines (J&S 2006).

There are no other HCPs or Natural Community Conservation Plans that cover the project area. However, the USFWS has adopted the *Recovery Plan for Upland Species of the San Joaquin Valley* which covers 34 species of plants and animals that occur in the San Joaquin Valley. The majority of these species occur in arid grasslands and scrublands of the San Joaquin Valley and the adjacent foothills and valleys. The plan includes information on recovery criteria, habitat protection, umbrella and keystone species, monitoring and research program, adaptive management, and economic and social considerations. The only species addressed in the recovery plan that potentially occurs in the project vicinity is the San Joaquin kit fox, although no sightings of this species have been recorded in the immediate vicinity of the Cherry Solar Project site, as discussed above. The Recovery Plan does not identify the project area or any other lands in the vicinity as areas that should be protected as Specialty Reserve Areas, Wildlife-Compatible Farmland to be Maintained, or Areas Where Connectivity and Linkages Should be Promoted (USFWS 1998).

Kings County

2035 Kings County General Plan

The 2035 Kings County General Plan contains the following goals, objectives, and policies related to biological resources that are relevant to the Cherry Solar Project:

Resource Conservation Element

D. Natural Plant and Animal Habitats

RC GOAL D1 Preserve land that contains important natural plant and animal habitats.

RC OBJECTIVE D1.1 Require that development in or adjacent to important natural plan area and animal habitats minimize the disruption of such habitats.

RC Policy D1.1.1: Evaluate all discretionary land use applications in accordance with the screening procedures contained in the Biological Resources Survey located in Appendix C. If the results of the project screening indicates the potential for important biological resources to exist on the site a biological evaluation (consistent with Appendix C) shall be performed by a qualified biologist. If the evaluation indicates that the project could have a significant adverse impact, mitigation shall be required or the project will be redesigned to avoid such impacts. Mitigation shall be provided consistent with the California Environmental Quality Act (CEQA), and applicable state and federal guidelines as appropriate. Mitigation may include habitat improvement or protection, acquisition of other habitat, or payment to an appropriate agency to purchase, improve, or protect such habitat.

RC Policy D1.1.2: Require project applicants to consult with the California Department of Fish and Game and the United States Fish and Wildlife Service and to obtain appropriate authority for any such take pursuant to Endangered Species Act requirements if new development or other actions are likely to result in incidental take of any threatened or endangered species.

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RC GOAL D2 Maintain the quality of existing natural wetland areas as required by the California Department of Fish and Game, the United States Fish and Wildlife Service and the United States Army Corp of Engineers.

RC OBJECTIVE D2.1 Maintain compatible land uses in natural wetland habitats designated by state and federal agencies.

RC Policy D2.1.1: Follow state and federal guidelines for the protection of natural wetlands. Require developers to obtain authorization from the appropriate local, state, or federal agency prior to commencement of any wetland fill activities.

RC Policy D2.1.2: Use the California Environmental Quality Act (CEQA) process to assess wetland resources, and require mitigation measures for development which could adversely impact a designated wetland.

RC Policy D2.1.3: "Prior Converted Croplands" as defined by state and federal regulations shall be exempt from consideration as wetlands under the County planning process.

E. Threatened and Endangered Species

RC GOAL E1 Balance the protection of the County's diverse plant and animal communities with the County's economic needs.

RC OBJECTIVE E1.1 Require mitigation measures to protect important plant and wildlife habitats.

RC Policy E1.1.1: Complete the inquiry process outlined in Appendix C in the initial project review for development permits to determine whether the project is likely to have a significant adverse impact on any threatened or endangered species habitat locations, and to assure appropriate consideration of habitat preservation by development. Maintain current copies of California Department of Fish and Game and United States Fish and Wildlife Service maps showing locations of known threatened and endangered species habitat. If shown to be necessary, require the developer to consult with the California Department of Fish and Game, the United States Fish and Wildlife Service, and the United States Army Corps of Engineers as to potential impacts, appropriate mitigation measures, and required permits.

RC Policy E1.1.2: Require as a primary objective in the review of development projects the preservation of healthy native oaks and other healthy native trees.

RC Policy E1.1.3: Maintain to the maximum extent practical the natural plant communities utilized as habitat by threatened and endangered species (see Appendix C for a listing and map of these plant communities).

Environmental Evaluation

a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less-than-Significant Impact with Mitigation Incorporated. The Cherry Solar Project would have a potentially significant impact upon four species of wildlife, including: San Joaquin kit fox, a federally-listed Endangered species and a California-listed Threatened species; Swainson's hawk, a California-listed Threatened species; burrowing owl, a California Species of Special Concern; and American badger, a California Species of Special Concern. The project could also have a potentially significant impact upon raptors and migratory bird species, which are protected under the Migratory Bird Treaty Act. The potential project impact to each of these special status species is discussed below, along with mitigation measures that would reduce the impacts to *less-than-significant* levels.

San Joaquin kit fox

Kit fox infrequently use the heavily farmed areas in the project vicinity as is evident from the lack of sightings within at least 5.0 miles of the Cherry Solar project site over the past 40 years. While the lands in the project area do not provide suitable forage and denning habitat for kit foxes, there is a small potential that kit fox may occasionally traverse the site vicinity while dispersing to another location. The Cherry Solar Project is expected to result in a less-than-significant impact on kit fox foraging and denning habitat, and it is not expected to impede regional movement patterns as their occurrence on or near the Cherry Solar site is expected to be rare.

Although the Cherry Solar Project site does not provide suitable kit fox habitat, any kit foxes traversing the area during the construction phases could be harmed, injured or killed. Therefore, there is a potentially significant impact to individual kit foxes, should they traverse the Cherry Solar Project site during construction. The potential impacts to San Joaquin kit fox would be reduced to a *less-than-significant* levels through implementation of the following mitigation measure.

Mitigation Measure BIO-1: San Joaquin Kit Fox Protection. *In order to minimize the potential for impacts to San Joaquin kit fox, the following measures shall be implemented in conjunction with the construction of the Cherry Solar Project:*

a. *Pre-construction Surveys. Pre-construction surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance, construction activities, and/or any project activity likely to impact the San Joaquin kit fox. These surveys shall be conducted in accordance with the "U.S. Fish and Wildlife Service Standardized Recommendations* for *Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance" (USFWS 2011). The primary objective is to identify San Joaquin kit fox habitat features (e.g., potential dens and refugia) on the project site and evaluate their use by San Joaquin kit fox. If an active San Joaquin kit fox den is detected within or immediately adjacent to the area of work, the USFWS shall be contacted immediately to determine the best course of action.*

b. *Kit Fox Avoidance Measures. Should San Joaquin kit fox be found using the Cherry Solar project site during preconstruction surveys, the construction activity shall avoid the habitat occupied by kit fox and the Sacramento Field Office of the USFWS and Fresno Field Office of CDFW shall be notified.*

c. *Employee Education Program. Prior to the start of construction, the applicant shall retain a qualified biologist to conduct an on-site training session to educate all construction staff on the San Joaquin kit fox. This training shall include a description of the San Joaquin kit fox, a brief summary of their biology; and a list of minimization measures and instructions on what to do if a San Joaquin kit fox is observed within the Cherry Solar project.*

d. *Minimization of Potential Disturbance to Kit Fox. Whether or not kit foxes are found to be present, all permanent and temporary construction activities and other types of project-related activities shall be carried out in a manner that minimizes disturbance to San Joaquin kit fox. Minimization measures include, but are not limited to: restriction of project-related vehicle traffic to established roads, construction areas, and other designated areas; inspection and covering of structures (e.g., pipes), as well as installation of escape structures, to prevent the inadvertent entrapment of San Joaquin kit fox; restriction of rodenticide and herbicide use; and proper disposal of food items and trash. The full list of protection*

measures required by the USFWS during construction and operation contained in USFWS Standardized Recommendations (USFWS 2011), and is presented in Table BIO-2. The protection measures set forth in Table BIO-1 are fully incorporated into this mitigation measure by reference.

e. *Mortality Reporting. The Sacramento Field Office of the USFWS and the Fresno Field Office of CDFW shall be notified in writing within three working days in case of the accidental death of or injury to a San Joaquin kit fox during project-related activities. Notification must include the date, time, location of the incident or of the finding of a dead or injured animal, and any other pertinent information.*

f. *Wildlife-friendly Fencing. The perimeter fencing surrounding each phase of the Cherry Solar Project shall consist of wildlife-friendly or permeable fencing that allows San Joaquin kit fox and other wildlife to move through the site unimpeded. The bottom of the perimeter fencing shall be 5 to 7 inches above the ground, as measured from the top of the ground to the lowest point of the fence. The bottom of the fence edges shall be knuckled (wrapped back to form a smooth edge) to allow wildlife to pass through safely. The fencing shall not be electrified.*

Raptors and Migratory Birds

In addition to the Swainson's hawk and burrowing owl (discussed below), several other raptor species such as the northern harrier, prairie falcon, peregrine falcon, and red-tailed hawk are known to forage in the project area. Additionally, the Cherry Solar Project site provides nesting habitat for a number of migratory bird species, including, but not limited to, the snowy plover, black-necked stilt, great-horned owl, common raven, loggerhead shrike, house finch, Brewer's blackbird, and tricolored blackbird. Nearly all native bird species are protected by the federal Migratory Bird Treaty Act. The canal/ditch habitat, trees adjacent to the tailwater basin (even dead trees), power poles, and barren ground on the Cherry Solar Project site provide potential nesting habitat for these species. If birds were to nest in these areas prior to construction, project-related activities could result in the abandonment of active nests or direct mortality to these birds. Construction activities that adversely affect the nesting success of raptors or result in mortality of individual birds constitute a violation of state and federal laws (see Section 3.2.2 and 3.2.3 of the LOA report in Appendix B) and would be represent a significant impact.

The potential impacts to ground nesting raptors and migratory birds would be reduced to a *less-than-significant* levels through implementation of the following mitigation measures.

Mitigation Measure BIO-2: Protection for Nesting Raptors and Migratory Birds. *In order to minimize construction disturbance to active raptor and other migratory bird nests, the following measures shall be implemented in conjunction with the construction of the Cherry Solar Project:*

a. *Pre-construction Surveys. If tree removal, site preparation, grading, or construction is planned to occur within the breeding season (February 1 - August 31), a qualified biologist shall conduct pre-construction surveys for active migratory bird nests within 10 days of the onset of these activities. If construction activity is planned to commence outside the breeding period, no pre-construction surveys are required for nesting birds and raptors.*

Table BIO-2

U.S. FISH AND WILDLIFE SERVICE STANDARDIZED RECOMMENDATIONS FOR PROTECTION OF THE ENDANGERED SAN JOAQUIN KIT FOX PRIOR TO OR DURING GROUND DISTURBANCE

CONSTRUCTION AND ON-GOING OPERATIONAL REQUIREMENTS

1. Project-related vehicles should observe a daytime speed limit of 20-mph throughout the site in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active. Night-time construction should be minimized to the extent possible. However if it does occur, then the speed limit should be reduced to 10-mph. Off-road traffic outside of designated project areas should be prohibited.
2. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of a project, all excavated, steep-walled holes or trenches more than 2-feet deep should be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the Service and the California Department of Fish and Wildlife (CDFW) shall be contacted as noted under measure 13 referenced below.
3. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the USFWS has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.
4. All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers and removed at least once a week from a construction or project site.
5. No firearms shall be allowed on the project site. (This prohibition does not apply to law enforcement personnel such as Sheriff's Deputies or the Fire Marshal.)
6. No pets, such as dogs or cats, should be permitted on the project site to prevent harassment, mortality of kit foxes, or destruction of dens.
7. Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the USFWS. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to kit fox. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative will be identified during the employee education program and their name and telephone number shall be provided to the USFWS.
8. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative will be identified during the employee education program and their name and telephone number shall be provided to the USFWS

(Continued on next page.)

Table BIO-2 (Cont'd)

U.S. FISH AND WILDLIFE SERVICE STANDARDIZED RECOMMENDATIONS FOR PROTECTION OF THE ENDANGERED SAN JOAQUIN KIT FOX PRIOR TO OR DURING GROUND DISTURBANCE

CONSTRUCTION AND ON-GOING OPERATIONAL REQUIREMENTS

9. An employee education program should be conducted for any project that has anticipated impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and/or agency personnel involved in the project. The program should include the following: A description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this information should be prepared for distribution to the previously referenced people and anyone else who may enter the project site.
10. Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc., should be re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with the USFWS, California Department of Fish and Wildlife (CDFW), and revegetation experts.
11. In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or the USFWS should be contacted for guidance.
12. Any contractor, employee, or military or agency personnel who are responsible for inadvertently killing or injuring a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the CDFW immediately in the case of a dead, injured or entrapped kit fox. The CDFW contact for immediate assistance is State Dispatch at (916) 445-0045. They will contact the local warden or Mr. Paul Hoffman, the wildlife biologist, at (530) 934-9309. The USFWS should be contacted at the numbers below.
13. The Sacramento Fish and Wildlife Office and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact is Mr. Paul Hoffman at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.
14. New sightings of kit fox shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed should also be provided to the Service at the address below.

Any project-related information required by the Service or questions concerning the above conditions or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at:

Endangered Species Division
2800 Cottage Way, Suite W2605
Sacramento, California 95825-1846
(916) 414-6620 or (916) 414-6600

b. *Monitoring Active Nests. Should any active nests be discovered in or near planned construction zones, a qualified biologist shall continuously monitor identified nests for the first 24 hours prior to any construction related activities to establish a behavioral baseline. Once work commences, continuously monitor all nests to detect any behavioral changes as a result of the project. If behavioral changes are observed, stop the work causing that change and consult with the California Department of Fish and Wildlife for additional avoidance and minimization measures*.

c. *Exclusion Zones for Active Nests. Alternatively, should any active nests be discovered in or near the planned construction zones, the biologist shall* establish a *250-foot construction-free buffer around the nest for non-listed birds, 500-foot buffer for unlisted raptors, and a half-mile for listed bird species. This buffer shall be identified on the ground with flagging or fencing, and shall be maintained until the biologist has determined that the young have fledged. Variance from these setback distances may be allowed if a qualified biologist provides compelling biological or ecological reasons to do so and if CDFW is notified in advance of implementation of a no disturbance buffer variance.*

d. *Tailgate Training for Workers. All construction and operations workers on the Cherry Solar Project shall be trained by a qualified biologist. The tailgate training shall include a description of the Migratory Bird Treaty Act, instructions on what to do if an active nest is located, and the importance of capping pipes and pipe-like structures standing upright in order to avoid birds falling into the pipes and getting stuck.*

e. *Capping of Hollow Poles and Posts. Should any vertical tubes, such as solar mount poles, chain link fencing poles, or any other hollow tubes or poles be utilized on the Cherry Solar project site, the poles shall be capped immediately after installation to prevent entrapment of birds.*

Burrowing Owl

Nesting Habitat

The Cherry Solar Project site provides potentially suitable nesting/denning habitat for burrowing owls in the form of California ground squirrel burrows along the edges of the agricultural fields, and in and along the canals, and in the form of pipes in or on the ground. The Cherry Solar Project site also provides foraging habitat within the agricultural fields. No burrowing owls were observed on the project site during LOA's Spring 2022 surveys; however, suitable habitat for burrowing owls is present within and along canals in the northeastern portion of the site as well as in and around the canal connecting to the west of the tailwater basin. Previous surveys in the vicinity identified breeding burrowing owls along canals and identified a large number of overwintering burrowing owls on adjacent lands. Since the Cherry Solar Project would not involve disturbance to the canals, ditches, or tailwater basin on the site, the potential nesting habitat associated with these features would be avoided. In addition, adequate suitable foraging habitat will remain on the site and on lands surrounding the site.

These small raptors are protected under the federal Migratory Bird Treaty Act and California Fish and Game Code. Should burrowing owls inhabit the site prior to ground disturbance, construction activities associated with the Cherry Solar Project may also result in the mortality of burrowing owls,

as they are known to retreat into their burrows ahead of approaching heavy equipment. Mortality of individual birds would be a violation of state and federal law, and would constitute a significant environmental impact.

The potential impacts to burrowing owls would be reduced to a *less-than-significant* levels through implementation of the following mitigation measures.

Mitigation Measure BIO-3: Burrowing Owl Protection. *In order to minimize the potential for impacts to burrowing owls, the following measures shall be implemented, as necessary, in conjunction with the construction of the Cherry Solar Project:*

a. *Pre-Construction Surveys. Pre-construction surveys shall be conducted for burrowing owls by a qualified biologist no more than 14 days prior to the onset of ground-disturbing activity. Pre-construction surveys shall be repeated if construction halts for more than 14 days. These surveys shall be conducted in accordance with the* Staff Report on Burrowing Owl Mitigation *(CDFG 2012) or the most recent CDFW guidelines. The surveys shall cover all areas of suitable habitat within the planned construction zones.*

b. *Avoidance of Active Nests During Breeding Season. If pre-construction surveys are undertaken during the breeding season (February through August) and active nest burrows are located within or near construction zones, a construction-free buffer of 150 to 250 feet shall be established around all active owl nests. The specific dimensions of the exclusion zone in each case shall be established by a qualified biologist based on site conditions and the level of intensity of the disturbance activity. The buffer zones shall be enclosed with temporary fencing, and construction equipment and workers shall not be allowed to enter the enclosed setback areas. These buffer zones shall remain in place for the duration of the breeding season. After the breeding season (i.e., once all young have left the nest), passive relocation of any remaining owls may take place, but only under the conditions described below.*

c. *Avoidance of Occupied Burrows During Non-Breeding Season, and Passive Relocation of Resident Owls. During the non-breeding season (September through January), any burrows occupied by resident owls in areas planned for construction shall be protected by a construction-free buffer with a radius of 150 feet around each active burrow. Passive relocation of resident owls is not recommended by CDFW where it can be avoided. If passive relocation is not avoidable, resident owls may be passively relocated according to a relocation plan prepared by a qualified biologist.*

d. *Tailgate Training for Workers. All construction workers shall attend a tailgate training session conducted by a qualified biologist. The training is to include a description of the species, a brief summary of its biology, and minimization measures and instructions on what to do if a burrowing owl is observed within or near a construction zone.*

Swainson's Hawk

Impacts to Swainson's Nesting Habitat

As discussed under 'Biological Setting,' there are no Swainson's hawk nests on Cherry Solar Project site or in the vicinity. The nearest previously observed nests are located more than five miles from

the Cherry Solar Project site. Marginally suitable nesting trees are present around the on-site tailwater basin, although most of the trees in this area have died due to lack of water. Construction activities occurring near an active Swainson's hawk nest could adversely affect nesting success or result in mortality of individual birds and would be considered a significant impact under CEQA. Therefore, the potential impact to nesting habitat for Swainson's hawk due to construction of the Cherry Solar Project would represent *a potentially significant impact*.

Mitigation Measure BIO-4: Swainson's Hawk Protection. *In order to minimize the potential for impacts to Swainson's hawks, the following measures shall be implemented, as necessary, in conjunction with the construction of the Cherry Solar Project:*

a. *Pre-Construction Surveys. During the nesting season prior to the construction on the Cherry Solar Project site, preconstruction surveys shall be conducted within a half-mile of a potential nest tree located on and within a half-mile of the project site to identify any nesting pairs of Swainson's hawks. These surveys will conform to the guidelines of CDFW as presented in* RECOMMENDED TIMING AND METHODOLOGY FOR SWAINSON'S HAWK NESTING SURVEYS IN CALIFORNIA'S CENTRAL VALLEY, Swainson's Hawk Technical Advisory Committee, May 31, 2000. *No preconstruction surveys are required for construction activity located farther than a half-mile from a potential nest tree.*

b. *Establish Buffers. Should any active nests be discovered in or near proposed construction zones, the qualified biologist shall establish a suitable construction-free buffer around the nest. This buffer shall be identified on the ground with flagging or fencing, and shall be maintained until the biologist has determined that the young have fledged.*

c. *Tailgate Training. All workers on the construction of the project shall attend tailgate training that includes a description of the species, a brief summary of its biology, and minimization measures and instructions on what to do if a Swainson's hawk is observed on or near the construction zone.*

Project Impacts to Swainson's Hawk Foraging Habitat

Swainson's hawks are known to forage in the vicinity of the Cherry Solar Project site, but given the regional abundance of foraging habitat, the loss of foraging habitat resulting from the Cherry Solar Project would represent a *less-than-significant* impact to foraging habitat for Swainson's hawk.

Cumulative Impacts to Swainson's Hawk Foraging Habitat

As mentioned, Swainson's hawks are known to forage in the vicinity of the Cherry Solar Project site. As part of its biological assessment for the Program EIR on the Westlands Solar Park Master Plan and Gen-Tie Corridors Plan, conducted in 2017, LOA completed a comprehensive analysis of potential impacts to Swainson's hawk foraging habitat associated with development of the WSP Master Plan area and all other approved, pending, and completed projects within a 10-mile radius of the WSP plan area. The analysis identified all known Swainson's hawk nests that were previously observed during surveys by LOA or others. In 2018 and 2019, LOA biologists conducted follow-up surveys to identify currently active nests. In 2022, LOA biologists also reviewed and updated their detailed 2017 analysis of foraging habitat within a 10-mile radius of the WSP plan area and concluded that abundant habitat would remain after full development of the WSP plan area, as well as all other cumulative projects (including projects proposed since 2017) within this 10-mile radius, and that this remaining habitat area would be more than sufficient to support all of the known Swainson's hawk

nests within this radius, with surplus capacity to support additional nesting pairs. The full analysis is contained in Appendix A of LOA's biological report, which is contained in Appendix B of this document, and is summarized below.

LOA's analysis of potential cumulative impacts to Swainson's hawk foraging habitat employed a study methodology established by Estep Environmental Consulting (Estep), and which has been applied in similar studies on other solar projects in Kings County. The first step in this analysis was to make a determination as to the amount of surplus foraging habitat available that is not considered to be required by existing Swainson's hawks that are currently nesting in the area. Based on LOA's 2022 application of Estep's methodology, it was calculated that there is currently a surplus of 133,311 acres of suitable foraging habitat within the study area. (See LOA's Biological Assessment in Appendix B of this document for a full description of the habitat calculations.)

In order to determine the potential cumulative impacts to foraging habitat, all of the pending, approved, and completed solar projects within the study area were identified and mapped. It was determined that the 24 cumulative projects (including the Cherry Solar project) occupy a total of 34,875 acres within the study area (this includes the entire WSP plan area of 20,938 acres). For purposes of analysis, the entire acreage of the cumulative project sites was conservatively assumed to comprise suitable foraging habitat, whereas the actual total would be less after subtracting acreage in tree crops and vineyards which provide little or no foraging value for Swainson's hawks.

In order to determine if this cumulative loss of foraging habitat represented a significant cumulative impact, Estep established that a reduction of surplus habitat to less than 70 percent relative to pre-project conditions would represent a cumulatively significant impact (Estep 2012). As presented in LOA's Biological Assessment (see Appendix B of this document), it was calculated that the cumulative projects would reduce the total surplus foraging habitat in the study area to 98,436 acres (i.e., 133,311-acre pre-project surplus minus 34,875 acres cumulative loss). This remaining acreage of surplus foraging area represents 73.8 percent of the pre-project total. Since the remaining surplus foraging acreage is greater than 70 percent of the pre-project surplus foraging acreage in the study area, the cumulative impact to the Swainson's hawk foraging acreage in the study area was determined to be *less than significant*.

American Badgers

Given the observations of American badgers, a California Species of Special Concern, on nearby lands with similar habitats to those of the Cherry Solar Project site, the potential exists that the American badger may reside within the Cherry Solar site or take up residence on the site prior to construction. No badgers or badger burrows were observed in the area during any of the biological surveys of the project site conducted from 2011 through 2022. Potential badger habitat was found on the Cherry Solar Project site in the form of agricultural fields. While the occurrence of badgers is expected to be unlikely, it cannot be ruled out. As such, there is a potential for *significant impact* to American badgers.

> ***Mitigation Measure BIO-5: American Badger Mitigation.*** *The following measures shall be implemented to minimize impacts to the American badger, as necessary, in conjunction with the construction of the Cherry Solar Project:*
>
> *a. Preconstruction Surveys for American Badger. During the course of pre-construction surveys prescribed for other species, a qualified biologist shall also determine the presence or*

absence of badgers prior to the start of construction. If badgers are found to be absent, a report shall be written to the applicant so stating and no other mitigations for the protection of badgers would be warranted.

b. *Avoidance of Active Badger Dens and Monitoring. If an active badger den is identified during pre-construction surveys within or immediately adjacent to an area subject to construction, a construction-free buffer of up to 300 feet shall be established around the den. Once the biologist has determined that the badger(s) have vacated the burrow, the burrow can be collapsed or excavated, and ground disturbance can proceed. Should the burrow be determined to be a natal or reproductive den, and because badgers are known to use multiple burrows in a breeding burrow complex, a biological monitor shall be present on-site during construction activities in the vicinity of the burrows to ensure the buffer is adequate to avoid direct impact to individuals or natal/reproductive den abandonment. The monitor shall be required to be present on-site until it is determined that young are of an independent age and construction activities would not harm individual badgers.*

c. *Tailgate Training for Workers. All construction workers shall attend a tailgate training session conducted by a qualified biologist. The training is to include a description of the species, a brief summary of its biology, and minimization measures and instructions on what to do if an American badger is observed.*

Loss of Habitat for Special Status Plants

Three special status vascular plant species are known to occur in the vicinity of the Cherry Solar Project site: California jewel-flower, Kern mallow, and San Joaquin woollythreads. Because of the many decades of agricultural disturbance, habitat for these plant species is absent from the site. Therefore, the impacts to regional populations of these species would be *less than significant*.

Loss of Habitat for Special Status Animals Absent or Unlikely to Occur in the Project Area

Of the 41 special status animal species potentially occurring in the region, 27 species would be absent or unlikely to occur within the Cherry Solar Project site due to unsuitable habitat conditions. These include the vernal pool fairy shrimp, valley elderberry longhorn beetle, California tiger salamander, California red-legged frog, western spadefoot, western pond turtle, Temblor legless lizard, coast horned lizard, blunt-nosed leopard lizard, giant garter snake, California glossy snake, San Joaquin whipsnake, American white pelican, black swift, Vaux's swift, western yellow-billed cuckoo, Buena Vista ornate shrew, Nelson's antelope squirrel, giant kangaroo rat, Fresno kangaroo rat, Tipton kangaroo rat, short-nosed kangaroo rat, Tulare grasshopper mouse, American badger, San Joaquin kit fox, and ringtail. Construction of the Cherry Solar Project would have no impact with regard to loss of habitat for these species because there is little or no likelihood that they are present. However, there is a small potential for the project to impact individual errant American badgers or San Joaquin kit foxes; therefore, to be prudent, measures have been included above for potential impacts to individuals of these species.

Loss of Habitat for Special Status Animals that May Occur as Occasional or Regular Foragers on the Project Site

There are 14 species that may occasionally utilize the Cherry Solar Project site for foraging. These include: western snowy plover, mountain plover, white-faced ibis, Swainson's hawk, northern harrier, white-tailed kite, burrowing owl, long-eared owl, loggerhead shrike, yellow-headed

blackbird, tricolored blackbird, Townsends's big-eared bat, pallid bat, and California mastiff bat. LOA's biologists determined that the Cherry Solar Project site does not provide regionally important foraging habitat for these species (see LOA Biological Assessment in Appendix B of this document). Considerable habitat suitable for migratory movements and winter foraging would continue to be available for these species on other lands within the region following development of the project. Therefore, project development would result in a *less-than-significant impact* on these species.

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

No Impact. As discussed in 'Biological Setting' above, LOA determined that the canals, ditches, and tailwater basin within the Cherry Solar Project site likely do not meet the requirements of the USACE which would qualify them as a jurisdictional wetland. These features would not be subject to the jurisdiction of CDFW, but may be subject to the jurisdiction of the RWQCB as discussed in item "c)" below. The construction of the Cherry Solar Project is not planned or expected to encroach upon or physically alter any of these features. The agricultural lands that occupy the Cherry Solar Project site are not considered sensitive habitats and do not provide significant habitat value to regional wildlife populations. Because riparian and other sensitive habitats are considered to be absent from the project site, construction of the Cherry Solar Project would have *no impact* on riparian habitat or other sensitive natural community.

c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. As discussed in 'Biological Setting' above, on-site waters, as contained in irrigation canals, ditches, and the tailwater basin within the Cherry Solar Project site, appear not to meet the jurisdictional requirements of the USACE as Waters of the United States. However, canals, ditches and basins that regularly contain water would be considered Waters of the State. Such waters would be subject to the jurisdiction of the Regional Water Quality Control Board. The construction of the Cherry Solar Project is not planned or expected to encroach upon or physically alter any these features. Because the project would avoid potential Waters of the U.S. and Waters of the State, as well as any associated wetlands or riparian habitat, potential project impacts would be *less-than-significant*.

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less-than-Significant Impact. It is likely that some species use the canal channels and ditches on and adjacent to the Cherry Solar Project site as movement corridors, including San Joaquin kit fox. The project site likely has some small value for the regional movements of some wildlife species; however, the canal system has greater value when placed in a regional context. Since the development of the Cherry Solar Project as a solar generating facility would not affect existing

canals and ditches, which would continue to be operated and managed as they are under current conditions, it is expected that wildlife that currently uses the canals for movement will continue to use the canal system to move through the area after the Cherry Solar Project is completed.

To allow for ground movement of wildlife through the project site, all fencing enclosing the solar facility is planned to consist of "wildlife friendly" fencing with a continuous 5- to 7-inch separation from the top of the ground to the lowest point of the bottom of the fence along the entire fence. Such fencing will not be electrified.

In summary, wildlife currently using the Cherry Solar Project site for movement are expected to continue to do so after project completion, given that wildlife friendly fencing will be installed around the Cherry Solar Project and considering that the canal and ditch system will be retained within the solar facility, thus allowing for wildlife movement through the site unimpeded. Therefore, the Cherry Solar Project would result in a *less-than-significant impact* on regional or local wildlife movements.

With respect to native wildlife nursery sites, to the extent that the currently dry canals, ditches, and tailwater basin on the project site could contain surface water in the future, aquatic habitat associated with these features could provide nursery sites for native wildlife. Since these features would be avoided by the Cherry Solar Project, the potential project impacts to wildlife nursery sites would be *less-than-significant*.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The "Resource Conservation Element" of the *2035 Kings County General Plan* contains several goals and policies pertaining to biological resources. The resource conservation goals of the Kings County General Plan relating to biological resources are summarized as follows: 1) protect the Kings River and associated riparian habitat; 2) preserve land that contains important natural plant and animal habitats; 3) maintain the quality of natural wetland areas; and 4) protect and manage riparian environments as valuable resources. The corresponding policies require biological assessments of proposed development projects, including coordination with the resource agencies and compliance with their permitting requirements, and mitigation for potential impacts to biological resources (Kings County 2010b). The project would assure consistency with the General Plan goals and policies on biological resource projection through completion of this environmental impact review pursuant to CEQA, including project incorporation of mitigations recommended by qualified biologists and the resource agencies. Thus the Cherry Solar Project would be consistent with the relevant General Plan goals and polices and would have *no impact* in terms of conflicts with those policies.

Kings County does not have any ordinances protecting biological resources, such as a tree preservation ordinance. However, General Plan Resource Conservation Policy E1.1.2 requires the preservation of healthy native trees as a primary objective in the review of development projects (Kings County 2010b). The Cherry Solar Project site includes a number of trees around the tailwater basin. However, since the basin would be avoided by the project, the project would have *no impact* in terms of a potential conflict with this tree preservation policy.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. As discussed in 'Biological Setting' above, the only HCP that may apply to the Cherry Solar Project is PG&E's "San Joaquin Valley Operations and Maintenance Habitat Conservation Plan." The proposed project is within the boundaries of the HCP. Although the HCP covers operational and maintenance activities, it also covers small construction projects such as minor extensions of electrical lines (J&S 2006). The HCP would not cover construction of Cherry Solar Project or its short gen-tie line, the latter of which would be privately constructed and not owned or operated by PG&E. The mitigation measures identified above for protection of wildlife during project construction and operation would be compatible with the requirements of the HCP since they also ensure compliance with the federal and state Endangered Species Acts. Therefore, the project would have *no impact* in terms of potential conflict with this HCP.

The USFWS has adopted the *Recovery Plan for Upland Species of the San Joaquin Valley* which covers 34 species of plants and animals that occur in the San Joaquin Valley. The majority of these species occur in arid grasslands and scrublands of the San Joaquin Valley and the adjacent foothills and valleys. The only species covered in the recovery plan that potentially occurs in the project vicinity is the San Joaquin kit fox, although no sightings of this species have been recorded in the project area since the 1980s, as discussed above. The Recovery Plan does not identify the project site or any other lands in the vicinity as areas that should be protected as Specialty Reserve Areas, Wildlife-Compatible Farmland to be Maintained, or Areas Where Connectivity and Linkages Should be Promoted (USFWS 1998). Because the San Joaquin kit fox has a small potential to occur on the site, the mitigation measures identified above in MM Bio-1 would mitigate any potential project impacts to kit fox. Therefore, the Cherry Solar Project would have *no impact* in terms of potential conflict with the "Recovery Plan."

The Cherry Solar Project site is not covered by any other existing Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP), or any other conservation plan adopted at the local, regional, state, or federal level. Therefore, the Cherry Solar Project would have *no impact* in terms of potential conflict with any such plans.

REFERENCES – BIOLOGICAL RESOURCES

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4.5. CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	■	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	■	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	■	☐	☐

The evaluation in this section is based on the cultural resources report prepared by Basin Research Associates in June 2022. The Basin Research Associates report is kept administratively confidential by the Kings County Community Development Agency (CDA) pursuant to Government Code Section 6254, subdivision (r) and Section 6254.10.

The research conducted for the cultural resources report by Basin Research Associates included a prehistoric and historic site records search through the California Historical Resources Information System, Southern San Joaquin Valley Information Center, California State University (CSU) Bakersfield. In addition, Basin Research conducted a review of pertinent literature and archival records, and cultural resources compliance reports on other projects in the area, among other sources.

The Native American Heritage Commission (NAHC) was contacted concerning resources listed on the *Sacred Lands Inventory*. The NAHC record search was negative for Native American resources in the immediate project area, and seven tribes or knowledgeable individuals were recommended that could provide additional information. Information outreach letters or emails were sent to the seven parties. Two responses were received, one from the Santa Rosa Rancheria Tachi Yokut Tribe and the other from the Wuksache Indian Tribe/Eshom Valley Band. Both tribes expressed concern about the cultural sensitivity of the area. The nearest federally recognized Indian tribe, Santa Rosa Rancheria Tachi Yokut Tribe, has previously entered into consultation with Kings County for solar projects in the area. The Tribe has provided recommended mitigation measures for cultural resources, which have been incorporated into this Initial Study/MND. Other Native American groups have generally deferred to the Tachi Yokut Tribe due to their proximity to the project area.

Basin Research Associates has conducted several archaeological field reviews within the Westlands Solar Park Master Plan Area, which surrounds the project site on three sides, from 2009 to 2020, and no evidence of prehistoric or historically significant cultural resources was observed in the vicinity during the field reviews. Previously, an intensive pedestrian survey was conducted on the Cherry Solar Project site in conjunction with a previously proposed solar project on the subject site in 2018. That survey noted two cultural resources within the project site: 1) an isolated flake, and 2) several miles of disused earthen lined irrigation canals and associated former tailwater pond. Neither of these features is eligible for inclusion on the California Register of Historical Resources. Basin Research Associates concluded that the project site has a low to moderate sensitivity for surface resources with sensitivity increasing toward the east approaching the former shoreline of Tulare Lake which generally corresponds to the current alignment of SR-41.

Setting

Native American Resources

Ethnography

Prehistoric occupation and use of the general area dates from perhaps as early as 12,000 years ago. The wetland environment of the nearby Tulare Lake would have provided a favorable environment for prehistoric Native Americans due to the availability of resources such as fresh water, fish and large game. In the later period beginning about 1,500 years ago, subsistence began to focus on processing of acorns and other plant foods, with a decreased emphasis on hunting and fishing.

The project site was within the territory of the Southern Valley Yokuts tribe known as the *Tachi (Tache)*, whose territory extended from the north and west shores of Tulare Lake to the Kettleman Hills and foothills of the Coast Ranges. The *Tachi* village of *Waiu*, one of eight in Tachi territory, was located south of Lemoore along the west side of Mussel Slough where the present rancheria of the Santa Rosa Indian Community is located. The location of the Santa Rosa Indian Community of the Santa Rosa Rancheria, California (a.k.a. Santa Rosa Rancheria Tachi Tribe) conforms to the former site of the *Tachi* village of *Waiu.* The community, a federally-recognized Indian tribe, is located approximately 10 miles east/northeast of the project site between Jersey and Kent Avenues, west of 17th Avenue. The "Santa Rosa Rancheria" is a designated State of California Ethnic Site.

Prehistoric Archaeology

The literature search by Basin Research found that one prehistoric resource, an isolated flake, has been identified within the project site. Isolated finds are not eligible for listing on either the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR).

> ***DL-I-01*** – This is an isolated prehistoric find, described as a single basalt interior flake, or alternatively as a black rhyolite tertiary/interior flake. The isolated find was observed on unimproved Madison Avenue approximately 1,000 feet to the west of the eastern project boundary. Isolated finds are not considered significant.

In addition, several prehistoric resources have been recorded at locations from 3.0 to 7.0 miles southeast of the Cherry Solar Project site. These resources are generally located along the western margins of the former Tulare Lake. These resources include four prehistoric sites (three of which included Native American remains), one combined prehistoric/historic-era sites, and 16 prehistoric isolates. None of these sites is listed on the State Office of Historic Preservation's *Archaeological Determinations of Eligibility* for Kings County.

No other prehistoric or combined prehistoric/historic-era sites or isolates have been recorded in the vicinity of the Cherry Solar Project site. No National Register of Historic Places or California Register of Historical Resources eligible or listed historic properties/cultural resources, or traditional cultural places (TCPs) have been identified in or adjacent to the Cherry Solar project site or access corridor.

The Native American Heritage Commission (NAHC) has indicated that a search of the Sacred Land File was negative for the presence of Native American resources in the immediate area of the Cherry Solar Project site.

Historic-Era Resources

The literature search by Basin Research identified one historic-era resource which is an unrecorded portion of a recorded linear resource (see P-16-000136 below) which passes through the project site.

> ***DL-S-01*** – This historic-era resource consists of three double canal irrigation water conveyance systems with associated components (e.g., shut off valves and gates) and an associated reservoir. These features are not in use and are dry. This former water conveyance system is not considered significant under any of the criteria of the California Register of Historical Resources.

No known Hispanic Period or American Period dwellings or other significant structures, features (e.g., adobe dwellings, or other structures, features, etc.) have been identified in or adjacent to the Cherry Solar Project site.

No local, state or federal historically or architecturally significant structures, landmarks, or points of interest have been identified within or immediately adjacent to the Cherry Solar Project site. No historic properties which have been listed, determined to be eligible or potentially eligible for inclusion on the National Register of Historic Places or the California Register of Historical Resources have been identified in or adjacent to the Cherry Solar project site or access corridor.

Regulatory Context

State of California

California Environmental Quality Act (CEQA)

Public agencies under CEQA must consider the effects of their actions on both "historical resources" and "unique archaeological resources." Pursuant to California Public Resources Code (PRC) Section 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment" (CEQA Guidelines Section 15064.5(b).) PRC 21083.2 requires agencies to determine whether a proposed project would have an effect on "unique" archaeological resources.

Historical Resources

"Historical resource" (see PRC 21084.1 and CEQA Guidelines Section 15064.5(a)) includes a resource listed in or determined to be eligible for listing in the California Register of Historic Resources (CRHR). The CRHR includes resources listed in or formally determined eligible for listing in the National Register of Historic Places (NRHP), as well as some California State Landmarks and Points of Historical Interest.

Properties of local historic significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be "historical resources" for purposes of CEQA unless a preponderance of evidence indicates otherwise (PRC 5024.1 and CEQA Guidelines Section 15064.5(a)(2)).

Generally, a lead agency considers a resource to be "historically significant" if the resource meets the criteria for listing on the CRHR, including the following:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or,
4. Has yielded, or may be likely to yield, information important in prehistory or history (State CEQA Guidelines Section 15064.5(a)(3)).

In addition to resources listed on the CRHR or included in a local register of historical resources as defined by PRC 5020.1(k) or identified as significant in an historical resource survey meeting the requirements of PRC section 5024.1(g), the lead agency has discretion to treat an object, building, structure, site, area, place, record, or manuscript as a historical resource for CEQA purposes if the lead agency has substantial evidence showing that such a resource is historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California (PRC 21084.1 and CEQA Guidelines Section 15064.5(a)(3)).

CEQA states that if a proposed project would result in an impact that might cause a substantial adverse change in the significance of a historical resource, then an EIR must be prepared and mitigation measures considered. A "substantial adverse change" in the significance of a historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired (CEQA Guidelines Section 15064.5(b)(1)).

Archaeological Resources

CEQA distinguishes between two classes of archaeological resources: archaeological sites that meet the definition of a historical resource, as described above, and "unique archaeological resources." Under CEQA, an archaeological resource is considered "unique" if it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that the resource meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC 21083.2(g)).

CEQA Guidelines (Section 15064.5(c)) provide specific guidance on the treatment of archaeological resources, depending on whether they meet the definition of a historical resource or a unique archaeological resource. If the site is not a historical resource, but meets the definition of a unique archaeological resource, it must be treated in accordance with the provisions of PRC 21083.2. PRC Section 21083.2 states that if it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. Examples of that treatment, in no order of preference, may include, but are not limited to:

(1) Planning construction to avoid archaeological sites.
(2) Deeding archaeological sites into permanent conservation easements.
(3) Capping or covering archaeological sites with a layer of soil before building on the sites.
(4) Planning parks, greenspace, or other open space to incorporate archaeological sites.

When an archaeological resource is listed in or is eligible to be listed in the CRHR, PRC Section 21084.1 controls, and it states that "[a] project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." PRC Sections 21083.2 and 21084.1 operate independently to ensure that potential effects on archaeological resources are considered as part of a project's environmental analysis.

Kings County

2035 Kings County General Plan

The 2035 Kings County General Plan contains the following goals, objectives, and policies related to cultural resources that are relevant to the Cherry Solar Project:

Resource Conservation Element

I. Archaeological, Cultural, and Historical Resources

RC GOAL I1 Preserve significant historical and archaeological sites and structures that represent the ethnic, cultural, and economic groups that have lived and worked in Kings County.

RC OBJECTIVE I1.1 Promote the rehabilitation or adaptation to new uses of historic sites and structures.

RC Policy I1.1.3: Encourage the protection of cultural and archaeological sites with potential for placement on the National Register of Historic Places and/or inclusion in the California Inventory of Historic Resources.

RC Policy I1.1.4: Refer applications that involve the removal, destruction, or alteration of proposed or designated historic sites or County landmarks to the Kings County Museum Advisory Committee or its successor for recommended mitigation measures.

_____

RC OBJECTIVE I1.2 Identify potential archaeological and historical resources and, where appropriate, protect such resources.

RC Policy I1.2.1: Participate in and support efforts to identify significant cultural and archaeological resources and protect those resources in accordance to Public Resources Code 5097.9 and 5097.993.

RC Policy I1.2.2: Continue to solicit input from local Native American communities in cases where development may result in disturbance to sites containing evidence of Native American Activity and/or to sites of cultural importance.

RC Policy I1.1.5: The County will respectfully comply with Government Code §6254.(r) and 6254.10 by protecting confidential information concerning Native American cultural resources. For example, adopting internal procedures such as keeping confidential archaeological reports away from public view or discussion in public meetings.

RC Policy I1.1.6: The County shall work in good faith with the Santa Rosa Rancheria Tachi Yokut Tribe ("Tribe"), the developer and other parties if the Tribe requests return of certain Native American artifacts from private development projects (e.g., for interpretive or educational value). The developer is expected to act in good faith when considering the Tribe's request for artifacts. Artifacts not desired by the Tribe shall be placed in a qualified repository as established by the California State Historical Resources Commission (see Guidelines for the Curation of Archaeological Collections, May 1993). If no facility is available, then all artifacts shall be donated to the Tribe.

No historical sites are noted within the Cherry Solar Project site or its immediate vicinity (see 2035 General Plan Resource Conservation Element – Figure RC-24 - Kings County Historical Sites).

Environmental Evaluation

a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

Less-than-Significant Impact with Mitigation Incorporated. The Cherry Solar Project site includes no historic properties determined to be eligible or potentially eligible for inclusion on the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR). According to the cultural resources report prepared by Basin Research Associates, there is a very low to low-moderate potential for the discovery of significant subsurface materials from the historic era within the project site, although it is possible that isolated historical materials may be encountered during subsurface excavation.

Construction activity could result in the inadvertent exposure of historical resources that could be eligible for inclusion on the CRHR. This potentially significant project impact to historic resources would be reduced to a *less-than-significant* level through the implementation of Mitigation Measure CR-1 below.

Mitigation Measure CR-1: Protection of Cultural Resources. *In order to avoid the potential for impacts to historic and prehistoric archaeological resources, the following measures shall be implemented, as necessary, in conjunction with the construction of the Cherry Solar Project:*

a. *Cultural Resources Alert on Project Plans. The project proponent shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources.*

b. *Pre-Construction Briefing. The project proponent shall retain Santa Rosa Rancheria Cultural Staff to provide a pre-construction Cultural Sensitivity Training to construction staff regarding the discovery of cultural resources and the potential for discovery during ground disturbing activities, which will include information on potential cultural material finds and on the procedures to be enacted if resources are found.*

c. *Stop Work Near any Discovered Cultural Resources. The project proponent shall retain a professional archaeologist on an "on-call" basis during ground disturbing construction for the project to review, identify and evaluate cultural resources that may be inadvertently exposed during construction. Should previously unidentified cultural resources be discovered during construction of the project, the project proponent shall cease work within 100 feet of the resources, and Kings County Community Development Agency (CDA) shall be notified immediately. The archaeologist shall review and evaluate any discoveries to determine if they are historical resource(s) and/or unique archaeological resources under CEQA.*

d. *Mitigation for Discovered Cultural Resources. If the professional archaeologist determines that any cultural resources exposed during construction constitute a historical resource and/or unique archaeological resource, he/she shall notify the project proponent and other appropriate parties of the evaluation and recommended mitigation measures to mitigate the impact to a less-than-significant level. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing and data recovery, among other options. Treatment of any significant cultural resources shall be undertaken with the approval of the Kings County CDA. The archaeologist shall document the resources using DPR 523 forms and file said forms with the California Historical Resources Information System, Southern San Joaquin Valley Information Center. The resources shall be photo-documented and collected by the archaeologist for submittal to the Santa Rosa Rancheria's Cultural and Historical Preservation Department. The archaeologist shall be required to submit to the County for review and approval a report of the findings and method of curation or protection of the resources. Further grading or site work within the area of discovery shall not be allowed until the preceding steps have been taken.*

e. *Native American Monitoring. Prior to any ground disturbance, the project proponent shall offer the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during ground disturbing activities during both construction and decommissioning. Tribal participation would be dependent upon the availability and interest of the Tribe.*

f. *Disposition of Cultural Resources. Upon coordination with the Kings County Community Development Agency, any prehistoric archaeological artifacts recovered shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resources laws and guidelines.*

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less-than-Significant Impact with Mitigation Incorporated. The Cherry Solar Project site includes no known prehistoric archaeological resources determined eligible or potentially eligible for inclusion on the National Register of Historic Places or the California Register of Historical Resources.

According to the cultural resources report prepared by Basin Research Associates, there is a very low to low-moderate potential for the discovery of significant subsurface cultural materials within the Cherry Solar Project site, although isolated prehistoric finds are possible. Construction operations in areas of native soil could result in the inadvertent exposure of buried prehistoric archaeological materials that could be eligible for inclusion on the CRHR (PRC Section 5024.1) and/or meet the definition of a unique archeological resource as defined in Section 21083.2 of the Public Resources Code (PRC). This potential impact to cultural resources would be reduced to a *less-than-significant* level through the implementation of Mitigation Measure CR-1 above.

c) Would the project disturb any human remains, including those interred outside of formal cemeteries?

Less-than-Significant Impact with Mitigation Incorporated. According to the cultural resources report by Basin Research Associates, no human burials have been recorded on the project site or immediate vicinity. The nearest recorded human remains were found at four sites along the former Tulare Lake shoreline, with recorded burials found 4.5 miles northeast of the Cherry Solar Project site and between 3 and 7 miles southeast. Basin Research concluded that there is a very low probability that human remains could be exposed at the project site; however, it is possible that human remains could be buried within the Cherry Solar Project site.

Subsurface excavation for the Cherry Solar Project could potentially result in the disturbance of buried human remains. This potential impact would be reduced to *less-than-significant* levels through implementation of Mitigation Measure CR-2 below.

> ***Mitigation Measure CR-2: Protection of Buried Human Remains***. *In order to avoid the potential for impacts to buried human remains, the following measures shall be implemented, as necessary, in conjunction with the construction of each phase of the Cherry Solar Project:*
>
> *a. Pursuant to State Health and Safety Code Section 7050.5(e) and Public Resources Code Section 5097.98, if human bone or bone of unknown origin is found at any time during on- or off-site construction, all work shall stop within 25 feet of the discovery, the Kings County Coroner shall be notified immediately and the resource shall be protected in compliance with applicable state and federal laws. If the remains are determined to be Native American, the Coroner shall notify the California State Native American Heritage Commission (NAHC), who shall identify the person believed to be the Most Likely Descendant (MLD) pursuant to Public Resources Code Section 5097.98. The project proponent and MLD, with the assistance of the archaeologist, shall make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines Sec. 15064.5(d)). The agreed upon treatment shall address the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final*

disposition of the human remains and associated or unassociated funerary objects. California Public Resources Code allows 48 hours for the MLD to make their wishes known to the landowner after being granted access to the site. If the MLD and the other parties do not agree on the reburial method, the project will follow Public Resources Code Section 5097.98(e) which states that ". . . the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."

b. Any findings shall be submitted by the archaeologist in a professional report submitted to the project applicant, the MLD, the Kings County Community Development Agency, and the California Historical Resources Information System, Southern San Joaquin Valley Information Center.

REFERENCES – CULTURAL RESOURCES

Basin 2022 — Basin Research Associates. 2022. *Cultural Resources Review Report – Cherry Solar Project, Kings County, California*. June. [Cultural Resources report is kept administratively confidential by Kings County Community Development Agency per Government Code Section 6254, subdivision (r) and Section 6452.10.]

Kings County 2010b — Kings County. 2010. *2035 Kings County General Plan – Resource Conservation Element*. Adopted January 26, 2010. http://www.countyofkings.com/home/showdocument?id=3112

4.6. ENERGY

Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	■	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	■

Energy Setting

State of California

In 2003, the three key energy agencies in California – the California Public Utilities Commission (CPUC), the California Energy Commission (CEC), and the California Power Authority (CPA) jointly adopted an "Energy Action Plan" (EAP) that established goals for California's energy future and set forth a commitment to achieve these goals through specific actions. Revised and updated in 2005 and 2008, the Plan identifies priorities for meeting the State's energy needs, including energy efficiency and greater reliance on renewable sources of power.

Energy consumption is closely related to greenhouse gas emissions, so reductions in overall energy consumption, particularly from non-renewable sources, also reduce GHG emissions. In an effort to avert the consequences of climate change, the California State Legislature enacted the California Global Warming Solutions Act (AB 32) in 2006. AB 32 established a state goal of reducing GHG emissions to 1990 levels by 2020 (a reduction of approximately 25 percent from forecast emissions levels), and required the California Air Resources Board (CARB) to establish a comprehensive program to implement this goal. In 2016, the legislature passed SB 32 which extended the goals of AB 32 and set a 2030 goal of reducing 2030 emissions by 40 percent from 2020 levels.

One of the key implementation programs under AB 32 is the Renewables Portfolio Standard (RPS) which has undergone several iterations mandating that renewable generation sources comprise an ever increasing share of electrical utilities' total power generation by certain target dates. Qualifying renewable generation sources include solar, wind, small hydro, geothermal, and biomass. In September 2018, Governor Brown signed SB 100, which increased the required renewables content of electricity generation to 50 percent by 2025 and 60 percent by 2030, and which puts California on the path to implement a zero-carbon electricity grid by 2045.

As of 2020, renewable energy sources, including biomass, geothermal, small-scale hydro, solar, and wind, accounted for an estimated 33.4 percent of California's power mix, with utility-scale solar generation accounting for 15.4 percent of the State's power mix (CEC 2022). In 2020, PG&E's power mix included 30.6 percent from renewable sources, with solar accounting for 15.9 percent of the total (PG&E 2021).

Kings County

2035 Kings County General Plan

The 2035 Kings County General Plan includes the following objective and policies on energy that are relevant to the Cherry Solar Project:

Resource Conservation Element

G. Energy Resources

RC OBJECTIVE G1.3 Conserve energy to lower energy costs and improve air quality.

RC Policy G1.3.1: Encourage developers to be innovative in providing landscaping that modifies microclimates, thus reducing energy consumption.

RC Policy G1.3.3: Participate, to the extent feasible, in local and State programs that strive to reduce the consumption of energy.

RC Policy G1.3.4: Coordinate with local utility providers to provide public education on energy conservation programs.

Environmental Evaluation

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less-than-Significant Impact. The following is a discussion of the potential impacts related to energy consumption in the construction and operational phases of the Cherry Solar Project.

Construction

The construction of the Cherry Solar Project would involve the short-term consumption of electricity for operation of tools, machinery, and lighting, and consumption of fuels for construction equipment, material truck deliveries, and vehicle trips generated by construction workers traveling to and from the project site. Energy would also be used in the manufacture of the solar modules and associated equipment, although the solar modules and other array components would be recyclable. As required by the CALGreen Code, 65 percent of construction and demolition waste would be diverted from the waste stream, allowing for reuse of these materials and thus saving energy that would otherwise be consumed in extraction, transport and processing of virgin materials (CSBC 2019).

The primary form of energy used during construction is petroleum-based fuels, primarily diesel. Natural gas is not used during construction-related activities, and the relatively small amounts of electricity used for power tools and lighting in building construction would not result in wasteful or unnecessary electricity demands. Fuel consumption by equipment during construction-related

activities was estimated based on construction CO_2 emissions calculated from CalEEMod outputs from the air quality analysis and converted to diesel. The results are shown in Table EN-1.

TABLE EN-1
Cherry SOLAR PROJECT – ENERGY CONSUMPTION AND PRODUCTION

Project Phase	Consumption			Production		Consumption as % of Annual Production
	MT CO_2e	Fuel Equivalent[1] (gallons)	MBtu Equivalent[2]	MWh/yr	MBtu Equivalent[3]	
Construction (total)	3,544	3,488,359	479,301	579,750[4]	1,978,107	24.2%
Operation (annual)	*172*	*169,300*	*23,262*			1.2%
Operation (30 years)	5,160	5,078,900	697,860			35.3%
Decommissioning (total)	3,544	3,488,359	479,301			24.2%
Project Lifetime (construction, operation, decommissioning,)	12,248	12,055,618	1,656,462	17,392,500	59,343,210	2.8%

Conversion Factors

1. GHG to Fuel: 10.16 $kgCO_2e$/gal diesel = 0.9843 gal/$kgCO_2e$ X 1,000 kg/MT = 984.3 gal/MT CO_2e
2. Fuel to Energy: 137,381 Btu/gal / 1,000 Btu/MBtu = 0.1374 MBtu/gal
3. Energy to Electricity: 3,412 Btu/kWh / 1,000 Btu/MWh / 1,000,000 Btu/MBtu = 3.412 MBtu/MWh
4. Based on Mustang Solar Facility 2020 generation for PV facilities of 2,473 MWh/MW/yr (CEC 2022).

Sources: Illingworth & Rodkin 2022; US EIA 2022a; US EIA 2022b.

As shown in Table EN-1 the total fuel consumption during all phases of on-site and off-site vehicle and equipment usage during construction for the Cherry Solar Project is estimated to be approximately 3.5 million gallons; primarily diesel fuel. [Gasoline will likely comprise a minor portion of the overall fuel consumption, mainly for use in passenger vehicles by commuting construction workers. Although it is unknown exactly how much gasoline would consumed relative to diesel fuel, it is known that gasoline is about 14 percent less carbon-intensive than diesel fuel (i.e., one gallon of diesel emits as much GHG as 1.14 gallons of gasoline)(US EIA 2022b). Therefore, the above fuel consumption estimate for project construction represents the worst case.]

The construction fuel consumption total was converted to British Thermal Units (Btu) to allow comparison with project solar energy production, which was converted from MWh/yr to Btus. As shown in Table EN-1, the total energy consumed in project construction is equivalent to about 24 percent of one year's electricity production at the Cherry Solar Project. As also shown, the total lifetime energy use of the Cherry Solar Project (including construction, decommissioning, and 30 years of operation) is equivalent to approximately 2.8 percent of total energy production over the project's useful life. Thus the overall energy efficiency of the Cherry Solar Project would be approximately 97.2 percent over the project's lifetime. By comparison, the energy efficiency of the most efficient combined-cycle natural gas fueled power plant in California is approximately 47 percent, which means that 53 percent of the energy input in the form of natural gas is wasted during electricity generation (CEC 2020c, p. 10). However, the 47 percent energy efficiency for natural gas plants does not take into account the energy consumed in plant construction or decommissioning. If energy inputs for construction and decommissioning of the solar facility are

ignored to allow for a valid comparison, the 1.2 percent annual energy input vs. output for the solar facility would be 44 times more energy efficient than the most efficient natural gas-fueled power plant with energy input vs. output of 53 percent.

Additionally, the efficiency of fuel use during construction the Cherry Solar Project would be increased through implementation of the San Joaquin Valley Air Pollution Control District's requirement for clean fleet construction equipment to minimize emissions under Rule 9510 (ISR) which would also indirectly result in greater fuel efficiency. Unnecessary idling of construction equipment and vehicles would be avoided through compliance with California Code of Regulations (CCR) Section 2485, which requires that non-essential idling for all diesel-fueled vehicles not exceed 5 minutes at any given location. The energy efficiency of fuel consumed by commuting workers and delivery vehicles would be ensured through federal fuel efficiency standards. For construction haul trucks, the State's regulation to reduce diesel emissions through replacement of older trucks with newer models with diesel emissions controls would also result in greater fuel efficiency for long-haul trucks. In addition, the project would be constructed in accordance with the California Building Standards Code and Energy Efficiency Standards, as enforced through plan review and site inspections by the County Building Official. Given that the project would comply with the above rules, regulations, and programs to maximize energy efficiency in vehicles and equipment used in construction, it is concluded that project construction would not result in the inefficient, wasteful, or unnecessary use of energy resources.

Operation

The Cherry Solar Project would be operationally non-intensive since it would be operated by a small staff of about 10 workers per day on average, who would perform inspections, maintenance and repairs, as well as panel washing. Thus the project would involve relatively small amounts of fuel consumption for staff travel to and from the site, and for fueling maintenance vehicles and equipment. Electricity consumption for project lighting and operation would also be light.

The primary purpose of the Cherry Solar Project is to generate renewable solar energy in order to provide for the reduced statewide reliance on non-renewable fossil fueled generation. The operation of the solar facility would allow for the decommissioning of equivalent generation from a natural gas fired power plant. As shown in Table EN-1, the annual energy consumed for project operation would be equivalent to approximately 1.2 percent of annual energy production at the Cherry Solar Project. In other words, the operating energy efficiency of the solar facility would be about 98.8 percent, which is extremely efficient compared to fossil-fueled power plants, of which even the most efficient plants achieve an energy efficiency of 47 percent. Thus the project consumption of energy would not be wasteful or inefficient, and the project would result in a substantial offset of non-renewable fossil fuel generation with renewable solar generation. Therefore, the Cherry Solar Project would not result in wasteful, inefficient, or unnecessary use of energy, and the impact to energy resources would be *less than significant*.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact. At the local level, there are several policies contained in the *2035 Kings County General Plan* which directly address renewable energy or energy efficiency. In the Resource Conservation Element, RC Policies G1.2.1 through G1.2.6 promote the use of renewable energy sources such as

solar, wind, and biomass projects, and provide guidance for their appropriate placement and project review. RC Policies G1.3.1 through G1.3.4 address energy conservation and project design measures for reducing energy demand (Kings County 2010b). The Cherry Solar Project would advance the implementation of these policies by providing a new source of renewable energy.

At the State level, there are numerous plans, policies, and regulations that directly and indirectly address renewable energy and energy efficiency. For energy efficiency in building construction, the applicable energy conservation requirements are contained in the California Building Standards Code and Energy Efficiency Standards, which have been incorporated into the Kings County Building Code. The Cherry Solar Project would incorporate the applicable energy efficiency standards in its construction, as enforced by the County Building Official.

The State's primary mandate for renewable energy is embodied by AB 32 – The California Global Warming Solutions Act, which is implemented through its Scoping Plan. The 2017 Climate Change Scoping Plan adopted by the California Air Resources Board outlines the strategies for achieving the emissions reduction target mandated in AB 32. One of the key strategies is the Renewables Portfolio Standard (RPS), which now requires all electric utilities in California to include a minimum of 60 percent renewable generation sources in their overall energy mix by 2030, and establishes a target of 100 percent renewables by 2045. As a solar photovoltaic generating facility, the Cherry Solar Project will help increase the proportion of renewables in the statewide energy portfolio, thereby furthering the implementation of RPS by the target years instead of obstructing its implementation. The addition of the project's solar generation to the state's electrical supply will help facilitate the retirement of existing older fossil-fueled generation plants, thereby avoiding or offsetting those sources of GHG emissions. Therefore, the Cherry Solar Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, thus would have *no impact* in this regard.

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4.7. GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	■
ii) Strong seismic ground shaking?	☐	☐	■	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	■	☐
iv) Landslides?	☐	☐	☐	■
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	■	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	■	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating direct or indirect risks to life or property?	☐	■	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	■	☐
f) Directly or indirectly destroy a unique paleontological resource or site of unique geologic feature?	☐	■	☐	☐

Geologic Setting

Site Geology

The Cherry Solar Project site is located in the Great Valley Geomorphic Province, a topographic and structural basin bounded on the east by the Sierra Nevada and on the west by the Coast Ranges. The Sierra Nevada are part of a fault block which dips gently to the southwest and forms the bedrock beneath the valley. This basement complex is composed of igneous and metamorphic rocks of pre-Tertiary age. These are in turn overlain by Quaternary period alluvium, including material from the Pleistocene Epoch (about 2.6 Million to about 11,700 years ago), which is covered by layer of Holocene Epoch (about 11,700 years ago to present) material of varying thickness.

Tectonics and Seismicity

There are no Alquist-Priolo Earthquake Fault Zones mapped in the vicinity of the Cherry Solar Project site (CGS 2014b). However, there are several active faults in the Coast Ranges to the west, including the San Andreas Fault Zone, the Nunez Fault Zone, and the Great Valley Fault System. (An "active fault" is defined as a fault that has had surface displacement within the Holocene age, i.e., within the last 11,700 years.)

The nearest segment of the San Andreas fault is located about 35 miles southwest of the project site and it is estimated to be capable of producing a magnitude 7.7 earthquake along the nearest segments to the project area. The Great Valley Fault System, which runs parallel to and east of the San Andreas Fault Zone, is composed of blind thrust faults, which do not intersect the ground surface but can cause significant shaking and ground deformation.

The most recent large earthquake near Kings County was the Kettleman Hills earthquake of magnitude 6.0 in August 1985, whose epicenter was located four miles from the Kings County border north of Avenal, and 20 miles west of the project site. It was preceded by the 1982 New Idria earthquake (M 4.8), approximately 30 miles west/northwest of the project site, and the May 1983 Coalinga earthquake (M 6.5), approximately 25 miles west of the project site, and the June-July 1983 Nunez earthquakes (M 6.0), occurring in the Nunez Fault Zone, a 3-mile long fault zone located 2 miles northwest of Coalinga. The Nunez fault is a designated Alquist-Priolo Earthquake Fault Zone and is located about 27 miles west of the project site at its nearest point. All four of these earthquakes produced low level ground shaking and low local magnitude in Kings County (Kings County 2010e; Kings County OES 2012).

Geomorphology and Soils

The parent materials of the soils in the project area originate from marine sediments of the Coast Ranges formed millions of years ago when these lands were on the seabed. These formations, which primarily consist of fine-grained shales, were uplifted over time, and were then subject to erosional forces which transported these sediments downstream to the west side of the San Joaquin Valley where they formed large alluvial fans. These geomorphological processes resulted in the formation of two distinct landform types in the western San Joaquin Valley, including: 1) the upper and middle alluvial fans and fan terrace areas in the higher westerly elevations; and 2) the lower alluvial fans or fan skirts, interfan areas, and basin floors located in the lower lying eastern areas. The project site is located on the basin floor area which is characterized by fine-textured clayey soils with low permeability and slow groundwater movement. The upper clay layers combined with the slow draining soils result in a high or "perched" groundwater table that is typically within 10 to 15 feet of the ground surface throughout the project site (WWD 2017a, 2017b).

NRCS Soil Survey

The most recent comprehensive soil survey of Kings County was completed in 1985 by the National Resources Conservation Service (NRCS), formerly the Soil Conservation Service (SCS). According to the NRCS Soil Survey of Kings County, the soils on the Cherry Solar Project site consist largely of Lethent clay loam (68% of site), with a Twisselman silty clay, saline-alkali (29%) covering the northeast portion of the site, and a small area of Calflax clay loam, saline-sodic (3%) in the central area of the site. All of the soils on the project site have very similar characteristics and are described as saline-alkali soils, with very slow permeability, very slow runoff, and very high shrink-swell (expansion) potential. The saline-alkali condition of the soils causes high corrosivity to steel and concrete (NRCS 1986).

Paleontological Resources

Paleontological resources comprise fossils – the remains or traces of once-living organisms preserved in sedimentary deposits – together with the geologic context in which they occur. Fossils are scientifically important as they provide the only available direct evidence of the anatomy, geographic distribution, and paleoecology of organisms of the past. Significant paleontological resources may include vertebrate fossils and their associated taphonomic (fossilization) and environmental indicators; invertebrate fossils;

and/or plant fossils. No vertebrate fossil localities have been recorded on the Cherry Solar Project site or in the vicinity.

The surface soils of the Cherry Solar Project site are underlain by alluvium deposited during the Quaternary period (approximately 2.6 million years to present). Quaternary alluvium is further divided into a number of subunits, including Quaternary basin deposits (Qb), consisting of materials deposited by Kings River flows and overbank flood events, which comprise all of the surface materials on the project site. Quaternary basin deposits have a low potential to yield fossils. These Qb surface materials extend approximately 1.5 miles east of site to the boundary of the Quaternary lake deposits (Ql), consisting of materials deposited on the lakebed of former Tulare Lake to the east and southeast (CGS 1965). Quaternary lake deposits are considered to have a high potential to yield paleontological resources (Paleo Solutions 2020).

On a temporal scale, the Quaternary period is divided into two epochs or ages, including the Pleistocene Epoch (about 2.6 million to 11.7 thousand years ago) and the more recent Holocene Epoch (about 11,700 years ago to present). The Pleistocene Epoch is informally termed the Ice Age, and this is the depositional period which yields vertebrate fossils. Within the areas with Quaternary basin deposits (Qb), the Holocene materials at the surface are typically too young to contain fossilized material. Within the Qb deposits, the more sensitive Pliestocene material is typically several feet or more below the surface which is the reason the Qb deposits have a low potential to yield paleontological resources. It is considered unlikely that fossils are present within Qb deposits at depths shallower than 5 feet below the ground surface (Paleo Solutions 2020).

Regulatory Context

State of California

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (formerly the Alquist-Priolo Special Studies Zone Act), requires the delineation of zones along active faults in California. The purpose of the Alquist-Priolo Act is to regulate development on or near active fault traces to reduce the hazards associated with fault rupture and to prohibit the location of most structures for human occupancy across these traces. Cities and counties must regulate certain development projects within the zones, including the preparation of geologic investigations in order to demonstrate that development sites are not threatened by future surface displacement. The nearest Alquist-Priolo Earthquake Fault Zones that are mapped in the project vicinity include the San Andreas Fault Zone located approximately 35 miles southwest of the project site at its nearest point, and Nunez Fault Zone located approximately 27 miles west of the project site.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act is intended to protect the public from the effects of strong groundshaking, liquefaction, landslides, or other ground failure/hazards caused by earthquakes. This act requires the State Geologist to delineate seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. Before a development permit is granted for a site within a seismic hazard zone, a geotechnical investigation of the site must conducted and appropriate mitigation measures incorporated into the project design. There are no Seismic Hazard Maps that include the Cherry Solar Project site.

California Building Code

The 2019 California Building Code (CBC) is Part 2 of the California Building Standards Code (CBSC) which is codified as Title 24 of the California Code of Regulations (CCR). The CBC is based on the 2018 International Building Code and includes additional provisions and modifications specific to California. The CBC pertains to building design and construction and is separate from other parts of the CBSC such as the electrical code, plumbing code, mechanical code, fire code, energy code, etc. In terms of providing seismic safety, the primary objective of the CBC standards is to ensure public safety and minimize property damage in the event of an earthquake. The 2019 version of the California Building Standards Code assigns a seismic design category (SDC) to each structure. The SDC is assigned as a means of capturing both the seismic hazard, in terms of mapped acceleration parameters (spectral values), site class (defining the soil profile), and the occupancy category (based on its importance or hazardous material contents). The SDC affects design and detailing requirements as well as the structural system that may be used and its height.

Kings County

2035 Kings County General Plan

The 2035 Kings County General Plan includes the following goals, objectives and policies related to geology, soils, and paleontology that are relevant to the Cherry Solar Project:

Health and Safety Element

A. Natural Hazards

HS GOAL A2 Minimize loss of life and personal property caused by geologic hazards.

HS OBJECTIVE A2.1 Regulate new construction to achieve acceptable levels of risk posed by geologic hazards.

HS Policy A2.1.4: Review all development proposals to determine whether a geotechnical soils report is required for new construction.

HS Policy A2.1.5: Consider the environmental review process for land use projects' seismic hazards, including subsidence, liquefaction, flooding, local soils, and geologic conditions.

Resource Conservation Element

B. Soil Resources

RC GOAL C1 Encourage the conservation of soil resources that are critical to the long-term protection and sustainability of the County's agricultural productivity and economy.

RC OBJECTIVE C2.2 Ensure that land use decisions are compatible with the control of soil erosion and the maintenance of soil quality.

RC Policy A2.2.1: Require erosion control measures for any development involving construction or grading near waterways, or on land with slopes over ten percent. Require that improvements such as roads and driveways be designed to retain natural vegetation and topography to the extent feasible.

RC Policy A2.2.2: Continue to require the application of construction related erosion control measures, including Stormwater Pollution Protection Plans (SWPPP) for all new construction.

Kings County has no policies or regulations which specifically address paleontological resources.

Kings County Code of Ordinances

Development Code

Land Subdivisions are regulated by Article 23 of the Kings County Development Code. The Development Code requires that a preliminary soils report be prepared by a registered civil engineer for all subdivisions. If the preliminary soils report indicates the presence of critically expansive soils or other soil problems, a detailed soils investigation is required which recommends corrective action for any soils problems which are likely to result in structural damage. Article 23 of the Development Code provides that one of its objectives is to ensure that land developments incorporate proper grading and erosion control, and that the Public Works Director shall be responsible for evaluating the planned method of erosion and sedimentation control.

Kings County Building Code

The County Code of Ordinances, at Section 5-36, adopts and incorporates by reference the 2013 Edition of the California Building Code (CBC) as the Kings County Building Code, which is applicable to all building construction in Kings County. The CBC is described earlier in this section.

Environmental Evaluation

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?

No Impact. The Cherry Solar Project site is not included in an earthquake fault zone designated by the California Geological Survey pursuant to the Alquist-Priolo Act. In addition, the Health and Safety Element of the 2035 Kings County General Plan states" "[t]he County has no known major

fault systems within its territory" (Kings County 2010e). Since there are no known earthquake faults on or near the project site, there are *no impacts* associated with the Cherry Solar Project relative to surface rupture of an earthquake fault.

ii) Strong seismic ground shaking?

Less-than-Significant Impact. The project site is located in one of the more seismically active areas of California, with several major faults within a 50-mile radius capable of generating maximum credible earthquakes with magnitudes of 6.5 or greater. Within the Cherry Solar Project site, the intensity of ground shaking (or Peak Ground Acceleration – PGA) during an earthquake is estimated to be 0.547g (g = force of gravity)(CGS 2008). This represents the intensity of ground motion with a 2 percent chance of being exceeded in 50 years, or the intensity of ground shaking anticipated once in 2,500 years (CGS 2016). This level of ground acceleration is perceived as severe shaking and is associated with moderate to heavy damage potential.

Groundshaking resulting from a large or moderate earthquake centered on faults in the Coastal Ranges would cause dynamic loading resulting in stress to structures at the project site. However, structures designed and built in accordance with the California Building Code are expected to respond well. The CBC structural design standards provide for high degree of seismic strength and resistance to lateral forces (strong shaking) in order to minimize risks to public safety and damage to property. The California Building Code has been adopted as the Kings County Building Code, which is implemented and enforced by the Kings County Building Official and Building Inspectors through building permit reviews, approvals, inspections, and final sign offs.

The following passage from page 8 of the "Health and Safety Element" of the *2035 Kings County General Plan* is relevant to this discussion:

> "Damage and injury resulting from geologic hazards can be reduced to acceptable levels through zoning and building permit review procedures and construction standards. New construction conforming to the standards of the California Building Code (CBC) will provide adequate protection."

In summary, the potentially significant impacts due to groundshaking at the Cherry Solar Project site would be reduced to *less-than-significant* levels through implementation of the applicable seismic design standards of the California Building Code, as enforced by the Kings County Building Division.

iii) Seismic-related ground failure, including liquefaction?

Less-than-Significant Impact. Seismic ground failures can include liquefaction and seismically-induced differential settlement, as discussed below.

Soil liquefaction is the phenomenon in which a saturated, cohesionless soil loses structural strength during an earthquake as a result of induced shearing strains, which essentially transforms the soil to a liquid state resulting in ground failure or surface deformation. Liquefaction can result in total and differential settlement of structures. Conditions required for liquefaction typically include fine, well-sorted, loose sandy soil, high groundwater, higher intensity earthquakes, and particularly long duration of ground shaking.

No regulatory mapping of liquefaction zones has been prepared by the California Geological Survey for the project area, with the nearest such mapping completed for Santa Clara County (CGS 2014b). All of the soils that cover the project site have high clay content, indicating a low susceptibility to liquefaction. The nearest groundwater within the project site was most recently (April 2017) mapped at 10 to 15 feet below the ground surface (WWD 2017b). Given the clayey soils of the project site, the relatively high groundwater conditions would not be sufficient to induce liquefaction during a seismic event.

In addition, the "Health and Safety Element" of the *2035 Kings County General Plan*, it states "[t]he risk and danger of liquefaction and subsidence occurring within the County is considered to be minimal" (Kings County 2010e). The potential impacts to the Cherry Solar Project due to liquefaction would be *less than significant*.

Seismic settlement can occur when saturated and unsaturated granular soils become rearranged during groundshaking resulting in a volume reduction and surface deformation. The magnitude of seismic settlement is a function of the relative density of the soil and the magnitude of cyclic shear stress caused by seismic ground motion. Seismic settlement has the greatest potential to occur in locations where loose granular materials such as sandy soils are present above the groundwater table. The relatively dense clay soils that cover the project site are associated with a low potential for surface deformation resulting from seismic settlement. However, the potential for seismic settlement would be addressed through geotechnical studies which would identify soil engineering specifications to ensure that foundations and footings would be designed meet applicable standards to prevent settlements. As such, the potential impacts to the Cherry Solar Project due to seismic settlement would be *less than significant*.

iv) Landslides?

No Impact. No regulatory mapping of landslide zones has been prepared by the California Geological Survey for the project area, with the nearest such mapping completed for Santa Clara County (CGS 2014a). The project area is not mapped as lying within a landslide hazard area by USGS landslide mapping which shows the nearest landslide areas in the foothills of the Diablo Range to the west (USGS 1997). In addition, the "Health and Safety Element" of the *2035 Kings County General Plan* indicates that project area is defined has having a "low" susceptibility to landslides (Kings County 2010e). The nearly level terrain of project area has a very low potential for landslides. As such, the Cherry Solar Project is associated with *no impact* relative to landslides.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less-than-Significant Impact. All of the soils on the project site have slow runoff potential with a correspondingly low hazard of water erosion (NRCS 1986). However, the seasonal high wind conditions (typically from March to June) results in high potential for wind erosion within the project area (Kings County 2010b).

Grading, excavation, vegetation removal, and ground disturbance during construction would expose the soil to potential erosion from wind and rain. As described in Section *2.2. Project Description*, existing vegetation within a given area of the project would only be removed when that area is scheduled for installation of solar arrays. Existing topsoil would not be removed, and once the

installation of solar arrays in a given area is complete, the affected area would be revegetated with a prescribed seed mix. In order to prevent erosion caused by stormwater runoff, soil stabilization and erosion control measures would be employed during grading and construction of each increment of solar development, as specified in Mitigation Measure HYD-1 (see Section *4.10. Hydrology and Water Quality,* item 'c').

The specific erosion controls to be implemented at the project site will be specified in the Storm Water Pollution Prevention Plans (SWPPP), as required for all projects over 1 acre in size by the State Water Resources Control Board's Construction Stormwater General Permit. The SWPPP for the project will specify Best Management Practices (BMPs) such as stormwater runoff control and hazardous waste management measures, and will include monitoring and reporting procedures.

Typical erosion control measures may include: scheduling construction activities to avoid forecasted rain events and implementing soil stabilization measures prior to rain events; designating restricted entry zones; sediment tracking control measures such as crushed stone or riffle metal plates at construction entrances; and soil stabilization such as mulching or revegetation once activities in an area are complete or suspended. Specific BMPs for the Cherry Solar Project will be determined during the final engineering design stages for the project. The project SWPPP will be prepared by a certified Qualified SWPPP Developer (QSD), who will ensure that the BMPs in the project-specific SWPPP will fully comply with the requirements of the General Permit. Regional Board staff is responsible for inspections of construction sites to ensure the effectiveness of BMPs specified in the SWPPP.

With the implementation of the measures specified in the SWPPP, the potential for the Cherry Solar Project to result in erosion impacts would be reduced to *less-than-significant* levels.

[Note: The potential erosion and siltation impacts are discussed in greater detail in section *4.10. Hydrology and Water Quality*.]

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less-than-Significant Impact. As discussed above, the project site is not susceptible to landslides, liquefaction, or seismic settlement. The potential for lateral spreading and land subsidence is discussed below.

Lateral spreading (or liquefaction-induced lateral spreading) can occur with seismic ground shaking on slopes where saturated soils liquefy and flow toward the open slope face. The project site is relatively flat and does not include significant slopes with the exception of the channel banks of the former irrigation canals, ditches, and tailwater basin that are present on the project site. However, since these canals, ditches, and tailwater basin have not been used to convey or store water for 10 years or more, the channels have become vegetated which provides slope stability. Additionally, the clay soils of the project area are not susceptible to liquefaction, so the similarly stiff clay soils along the open slope faces of the former irrigation canals, ditches, and tailwater basin would likewise not be subject to lateral spreading resulting from liquefied soils. In summary, the potential impact from lateral spreading on or near the Cherry Solar Project site would be *less than significant*.

Ground subsidence is typically caused when overdrafts of a groundwater basin reduces the upward hydraulic pressure that supports the overlying land surface, resulting in consolidation/settlement of the underlying soils. Subsidence has the potential to damage local, state, and federal infrastructure, including reducing the freeboard and flow capacity of the California Aqueduct and irrigation delivery canals and pipelines, as well as causing structural damage to bridges, roads, flood control facilities and other structures. Large areas of the San Joaquin Valley, including the project area, have been subject to subsidence from groundwater use for many of years. Mapping by the U.S. Bureau of Reclamation shows that from the years 1926 to 1970, the land at the project site subsided by more than 10 feet (USBR 2011). From 2007 to 2011, the land at the site subsided between 0.5 and 1.0 feet (CWF 2014). As discussed in Section *4.10. Hydrology and Water Quality*, groundwater pumping in the area can exceed the safe yield of the groundwater basin during drought years when severe curtailment in surface water deliveries from the Central Valley Project necessitates increased pumping of groundwater to make up for reductions in imported supplies. The overpumping of groundwater and resulting subsidence is the cumulative result of water withdrawals from many agricultural wells. As discussed in Section *4.10. Hydrology and Water Quality*, the Cherry Solar Project would use a small fraction of the groundwater that is typically used for agricultural irrigation over an equivalent area of farmland. Therefore, the project would have a beneficial impact in that it would help alleviate the ongoing cumulative subsidence impacts by causing a reduction in overall groundwater use in the valley. Therefore, the Cherry Solar Project would have *no adverse impact* in terms of land subsidence.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less-than-Significant Impact with Mitigation Incorporated. Expansive soils are typically associated with fine-grained clayey soils that have the potential to shrink and swell during seasonal wetting and drying cycles. The ability of clayey soil to change volume with variations in moisture content can result in uplift or cracking of foundation elements or other rigid structures such as slabs-on-grade, rigid pavements, or other slabs or hardscape founded on these soils. All of the soils covering the Cherry Solar Project site have a high shrink-swell potential (NRCS 1986). Figure HS-4 of the *2035 Kings County General Plan* "Health and Safety Element" also identifies the project site as having expansive soils (Kings County 2010e). As such, there is a potential for damage to project pads and foundations as a result of soils expansion beneath these structures. In order to reduce the potential impacts from soils expansion to less-than-significant levels, the following mitigation measure would be implemented in conjunction with the Cherry Solar Project.

> ***Mitigation Measure GEO-1: Expansive Soils within Cherry Solar Project Site.*** *Prior to the issuance of the first building permit for the Cherry Solar Project, the applicant shall retain a qualified registered civil engineer to prepare a preliminary soils report, based on soil borings or excavations, to determine the potential for soils expansion and to prepare recommendations for corrective actions to mitigate potential damage to project structures due to potential soils expansion. The preliminary soils report shall be submitted to Kings County Community Development Agency Building Division for review and approval. The potential damage from soils expansion can be reduced by one or more of several alternative engineering measures, as recommended by the registered civil engineer. These measures could include: overexcavation and replacement with non-expansive soils; extending foundations below the zone of shrink and*

swell; chemically treating the soils with quicklime or cement; or foundation design measures. The corrective measures specified would become conditions of Building Permit approval and would be subject to inspection and approval by the Kings County Building Official.

Although the entire project site is mapped as being underlain with expansive soils, there is potential for variability of expansiveness of the soils depending on location within the site. In addition, the project facilities that would be most subject to damage from soils expansion would be equipment pads and foundations. Since the precise locations of the equipment pads will not be determined until the final engineering design stage, the soil borings and/or excavations required to determine the soils expansion characteristics at those sites, as well as the recommendations for appropriate corrective actions to be undertaken at those sites, must be made in conjunction with the final engineering design for the project. The final engineering design for the project will take place after approval of the Conditional Use Permit and prior to issuance of the Building Permits for the project. With the implementation of Mitigation Measure GEO-1, the potential risks to life or property at the Cherry Solar Project due to potential soils expansion would be *less than significant*.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

Less-than-Significant Impact. The Cherry Solar Project will utilize an on-site septic tank and leachfield system for disposal of wastewater associated with the Operations and Maintenance (O&M) building. The general requirements for septic leachfield design are set forth on the County's "Septic Tank Absorption Map," which classifies the County soils into four broad categories and indicates general specifications for the number of square feet of leaching area required for each 100 gallons of septic tank capacity for each soil category. The entire Cherry Solar Project site is mapped as Soil Type "B" which requires 60 square feet of leaching area for each 100 gallons of septic tank capacity. The project site is outside the area where an engineered septic system would be required due to the presence of perched groundwater conditions (Kings County 2001). The project O&M building, and associated septic and leachfield system, are planned to be located in the southeast portion of the project site, adjacent to the eastern site boundary approximately 1.0 mile north of Nevada Avenue. This location is well within the Soil Type "B" area and at least one mile west-southwest of the area where engineering would be required for the on-site septic system. As such, soils in the planned leachfield area would be capable of adequately supporting the use of a septic tank for the project. Therefore, Cherry Solar Project would result in *a less-than-significant impact* in terms of capability of the site soils to adequately support septic systems.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less-than-Significant Impact with Mitigation Incorporated. As discussed in the Setting section above, no vertebrate fossil localities have been recorded on the Cherry Solar Project site or in the vicinity.

The entire project site is composed of Quaternary basin deposits (Qb) which have a surface layer of younger Holocene-era material. This surface material has a low potential for paleontological

resources because it is typically too young to contain fossils. The Holocene material is underlain with Pleistocene-era deposits at depth, and this buried material has the potential for yielding fossils. Thus there is a very low potential for paleontological resources to be encountered within the recent alluvium that characterizes the surface material over the Cherry Solar Project site, because these sediments are too recent to preserve significant fossils. There is a greater potential for paleontological resources to be encountered in the older alluvium that underlies the surface alluvium at depth, although the precise depth to older Pleistocene-era alluvium in the project area is unknown. Thus surface grading and excavations within the areas of Qb deposits are unlikely to uncover significant fossil vertebrate remains. However, there is a potential for encountering fossils if excavations penetrate below 5 feet within the area of Qb deposits. Most excavations for the Cherry Solar Project will involve trenching for electrical conduit which would involve excavation to a depth 3 to 4 feet; however, deeper utility lines may require excavations deeper than 5 feet, which could potentially disturb or destroy important fossils that may be present within the project site.

The potential impact to paleontological resources would be reduced to a *less-than-significant* level through implementation of Mitigation Measure GEO-2 below.

There are no unique geologic features which could be adversely affected by the Cherry Solar Project.

Mitigation Measure GEO-2: Protection of Paleontological Resources. *In order to avoid the potential for impacts to paleontological resources, the following measures shall be implemented, as necessary, in conjunction with the construction of the Cherry Solar Project:*

a. If paleontological resources are discovered during excavation activities at the project site, work within 100 feet of the find shall cease, and a qualified professional paleontologist shall be retained to evaluate the significance of the resources and make recommendations regarding the treatment, recovery, curation of the resources, as appropriate. Treatment of any significant paleontological resources shall be undertaken with the approval of the Kings County CDA.

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4.8. GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment?	☐	☐	■	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	■

Setting

The accumulation of greenhouses gases (GHGs) in the atmosphere has been determined to be a causative factor in climate change. The release of greenhouse gases creates a layer of gases around the earth which allows sunlight to pass through, but traps heat at the surface, preventing its escape into space. While this is a naturally occurring process known as the greenhouse effect, human activities have accelerated the generation of GHGs beyond natural levels where they are kept in balance by natural processes such as carbon absorption by forests and oceans. The overabundance of GHGs in the atmosphere has increased the average temperature of the atmosphere near the earth's surface and resulted in significant changes in global climate patterns. Impacts of global warming include a rising sea levels, reductions in Sierra snowpack, increase in extreme weather events, increased risk of large wildfires, and adverse changes to marine and terrestrial ecosystems.

Some GHGs are naturally occurring and are emitted through natural processes, like organic decay, while others are emitted solely from human activities. The predominant source of non-natural GHG emissions is the use of fossil fuels which produces carbon dioxide (CO_2) as a byproduct of combustion. Other GHGs include methane (CH_4), nitrous oxide (N_2O), hydroflourocarbons, perfluorocarbons, and sulfur hexafluoride. Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. The most persistent greenhouse gases have a stronger "Global Warming Potential" (GWP) than CO_2. High GWP gases include: CH_4 (methane) which has a GWP over 25 times greater than CO_2; and N_2O (nitrous oxide) with a GWP which is 298 times greater than CO_2. The application of these ratios for the various greenhouse gases allows all GHG emissions to be converted to CO_2 equivalents (CO_2e), providing for an accurate estimate of aggregate greenhouse effect.

Regulatory Context

State of California

In an effort to avert the consequences of climate change, the California State Legislature enacted the California Global Warming Solutions Act (AB 32) in 2006. AB 32 established a state goal of reducing GHG emissions to 1990 levels by 2020 (a reduction of approximately 25 percent from forecast emissions levels for 2020), and required the California Air Resources Board (CARB) to establish a comprehensive

program to implement this goal. In 2016, the legislature passed SB 32 which extended the goals of AB 32 and set a new goal of reducing 2030 emissions by 40 percent from 2020 levels.

One of the key implementation programs under AB 32 is the Renewables Portfolio Standard (RPS) which has undergone several iterations mandating that renewable generation sources comprise an ever increasing share of electrical utilities' total power generation by certain target dates. Qualifying renewable generation sources include solar, wind, small hydro, geothermal, and biomass. In September 2018, Governor Brown signed SB 100, which increased the required renewables content of electricity generation to 50 percent by 2025 and 60 percent by 2030, and which puts California on the path to implement a zero-carbon electricity grid by 2045.

San Joaquin Valley Air Pollution Control District

Under its mandate to provide local agencies with assistance in complying with CEQA in climate change matters, SJVAPCD has developed *Guidance for Valley Land-Use Agencies in Addressing GHG Emissions Impacts for New Projects under CEQA.* As a general principal to be applied in determining whether a proposed project would be deemed to have a less-than-significant impact on global climate change, the SJVAPC Guidance states that a project must be determined to have reduced or mitigated GHG emissions by 29 percent relative to Business-As-Usual conditions. Under the guidance, a project that meets this emissions reduction target is considered to meet the 29 percent State-wide GHG emission reduction target established in CARB's Scoping Plan for AB 32 implementation (SJVAPCD 2009a). However, the use of the Air District's 29 percent reduction metric was substantially limited by the 2015 Newhall Ranch decision (*Center for Biological Diversity v. California Department of Fish and Wildlife).* In the Newhall Ranch decision, the appellate court held that while the 29 percent reduction is the statewide goal under AB 32, there is no substantial evidence to show that a nexus exists between the statewide goal and the percent reduction that a specific land use project would need to achieve in order to be consistent with the goals of AB 32. Therefore, if specific percentage reduction targets are to be applied, they must be demonstrably applicable to the land use type proposed.

Kings County

2035 Kings County General Plan

The 2035 Kings County General Plan includes the following goal, objective, and policies related to greenhouse gas emissions that are relevant to the Cherry Solar Project.

Air Quality Element

C. Air Quality Management

AQ GOAL C1 Use Air Quality Assessment and Mitigation programs and resources of the SJVAPCD and other agencies to minimize air pollution, related public health effects, and potential climate change impacts within the County.

AQ OBJECTIVE C1.1 Accurately assess and mitigate potentially significant local and regional air quality and climate change impacts from proposed projects within the County.

AQ Policy C1.1.1: Assess and mitigate project air quality impacts using analysis methods and significance thresholds recommended by the SJVAPCD and require that projects do not exceed established SJVAPCD thresholds.

AQ Policy C1.1.2: Assess and mitigate project greenhouse gas/climate change impacts using analysis methods and significance thresholds as defined or recommended by the SJVAPCD, KCAG or California Air Resources Board (ARB) depending on the type of project involved.

AQ Policy C1.1.3: Ensure that air quality and climate change impacts identified during CEQA review are minimized and consistently and fairly mitigated at a minimum, to levels as required by CEQA.

AQ Policy C1.1.5: Assess and reduce the air quality and potential climate change impacts of new development projects that may be insignificant by themselves but, taken together, may be cumulatively significant for the County as a whole.

G. Climate Change

AQ GOAL G1 Reduce Kings County's proportionate contribution of greenhouse gas emissions and the potential impact that may result on climate change from internal governmental operations and land use activities within its authority.

AQ OBJECTIVE G1.1 Identify and achieve greenhouse gas emission reduction targets consistent with the County's proportionate fair share as may be allocated by ARB and KCAG.

AQ Policy G1.1.1: As recommended in ARB's Climate Change Adopted Scoping Plan (December 2008), the County establishes an initial goal of reducing greenhouse gas emissions from its internal governmental operations and land use activities within its authority to be consistent with ARB's adopted reduction targets for the year 2020. The County will also work with KCAG to ensure that it achieves its proportionate fair share reduction in greenhouse gas emissions as may be identified under the provisions of SB 375 (2008 Chapter 728) for any projects or activities requiring approval from KCAG.

Environmental Evaluation

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment?

Less-than-Significant Impact. The Cherry Solar Project would generate greenhouse gas (GHG) emissions through direct consumption of fossil fuels, primarily related to construction, traffic generation, and facility maintenance. The GHG emissions resulting from both project construction and operation were estimated by Illingworth & Rodkin using the CalEEMod model (see Appendix A of this document). The estimated emissions for the Cherry Solar Project are presented in Table GHG-1. As shown in the table, annual average project GHG emissions would be the equivalent of

approximately 408 Metric Tons per year. The operation of solar facilities results in very low GHG emissions, given that the operational activities mainly consist of incidental maintenance. As such, the emissions from the initial construction activity and the post-project decommissioning activities are amortized over a 30-year operating life of the facility and added to operational emissions to yield annual average GHG emissions from solar projects, as shown in Table GHG-1.

TABLE GHG-1

ESTIMATED PROJECT GREENHOUSE GAS EMISSIONS

Project	Construction and Decommissioning Emissions ($MTCO_2e$)[1]			Annual Emissions ($MTCO_2e$)		
	Construction Emissions (Total)	Decommissioning Emissions (Total)[2]	Total Construction/ Decommissioning Emissions	Construction/ Decommissioning (Amortized)[3]	Project Operation	Total Annual Emissions
Cherry Solar	3,544	3,544	7,088	236	172	408

[1] $MTCO_2e$ = Metric Tons CO_2 Equivalent
[2] Decommissioning emissions would likely be less than construction emissions, but are assumed to be same for purposes of this analysis.
[3] Although the Cherry Solar Project is planned for a 35-year operational life, construction and decommissioning emissions are amortized over a 30-year period which is consistent with current standard practice.
Source: Illingworth & Rodkin 2022.

Under its mandate to provide local agencies with assistance in complying with CEQA in climate change matters, SJVAPCD has developed *Guidance for Valley Land-Use Agencies in Addressing GHG Emissions Impacts for New Projects under CEQA.* As a general principal to be applied in determining whether a proposed project would be deemed to have a less-than-significant impact on global climate change, a project must be determined to have reduced or mitigated GHG emissions by 29 percent relative to Business-As-Usual conditions. Under the SJVAPC guidance, a project that meets this emissions reduction target is considered to meet GHG emission reduction targets established in CARB's Scoping Plan for AB 32 implementation (SJVAPCD 2009b). However, the use of the Air District's 29 percent reduction metric was substantially limited by the 2015 Newhall Ranch decision (*Center for Biological Diversity v. California Department of Fish and Wildlife).* In the Newhall Ranch decision, the appellate court held that while the 29 percent reduction is the statewide goal under AB 32, there is no substantial evidence to show that a nexus exists between the statewide goal and the percent reduction that a specific land use project would need to achieve in order to be consistent with the goals of AB 32. Therefore, if specific percentage reduction targets are to be applied, they must be demonstrably specific to the land use type proposed.

Kings County has not adopted its own significance thresholds for GHG emissions. However, CEQA allows lead agencies to rely on thresholds adopted or recommended by other agencies or recommended by experts (CEQA Guidelines Section 15064.7). Instead of applying percentage reduction targets to determine the significance of GHG emissions, per the SJVAPCD guidance, most California Air Districts utilize a mass emissions threshold, also known as a "bright-line" significance threshold which is expressed in terms of tons of annual emissions. Both the Bay Area Air Quality Management District (BAAQMD) and the Sacramento Metropolitan Air Quality Management District (SMAQMD) have adopted an emissions rate of 1,100 $MTCO_2e$/yr as the threshold of significance for defining GHG impacts for development projects under CEQA (BAAQMD 2017, SMAQMD 2019). In

addition, the South Coast Air Quality Management District (SCAQMD) and the San Luis Obispo County Air Pollution Control District (SLOCAPCD) have established a bright-line screening threshold of 10,000 $MTCO_2e$/yr for industrial projects, and SCAQMD's threshold specifically allows for amortization of construction emissions over 30 years, to be combined with annual operational emissions to determine total annual average GHG emissions (SCAQMD 2008, SLOCAPCD 2012). Also notable are the early recommendations by the California Air Pollution Control Officers Association (CAPCOA), which suggested a 900 $MTCO_2e$/yr threshold, which represents the most conservative threshold, and the California Air Resources Board (CARB), which recommended a threshold of 7,000 $MTCO_2e$/yr for industrial projects (CAPCOA 2008, CARB 2008). The Cherry Solar Project's estimated annual average emissions of 408 $MTCO_2e$/yr would fall well below all of the referenced thresholds adopted and recommended by other agencies and organizations. Therefore, the application of the bright-line methodology for determining the significance of the project's GHG emissions, employing thresholds adopted or recommended by other agencies and organizations, results in the conclusion that the project's GHG emissions would have a less-than-significant impact on the environment.

Upon completion, the 250 MW Cherry Solar Project would generate approximately 579,750 MWh/yr., which is based on the 2020 generation of 2,319 MWh/MW from the nearby Mustang Solar Facility (CEC 2022). This is equivalent to the average electrical consumption of 84,462 California homes in 2020 (at 6,864 KWh/yr per home)(US EIA 2021a). This electric power would be dispatched to the California Independent System Operator (CAISO) in accordance with a complex and dynamic formula that takes into account numerous variables in ongoing dispatching decisions to meet demand for electricity at any given time. One of those variables is compliance with the mandate to integrate electricity generated from renewable sources into the system at a predetermined rate, i.e., 60 percent renewables by 2030 as mandated by SB 100. Although the cost of fossil fuel sources is currently on par with renewable sources, fossil plants offer 24-hour reliability which solar cannot match. Thus it is expected that in the absence of an RPS mandate, these fossil sources would continue to be the dominant fuel source for electrical generation in California instead of being phased out. Therefore, renewable sources of electricity, such as solar generation, are considered to offset an equivalent amount of generation from other fuel sources, such as natural gas or coal, which would otherwise continue to be favored for dispatch to the grid by the CAISO in the absence of an RPS mandate. In other words, the installation and operation of solar facilities, like the Cherry Solar Project, would result in a net reduction of fossil-based generation, and hence a net reduction in CO_2 emissions, relative to overall CO_2 emissions that would occur without the project.

In order to quantify the net reduction in CO_2 emissions that would be represented by the project, the CO_2 emissions from a fossil plant with the same electrical output was considered for comparison. The carbon intensity for an average natural gas fueled power plant in the U.S. is currently 0.411 $MTCO_2e$/MWh)(US EIA 2021b). Based on this emissions factor, a gas-fired plant generating 579,750 MWh/yr (the equivalent of the Cherry Solar Project) would produce annual GHG emissions of approximately 238,277 $MTCO_2e$/yr. Compared to the Cherry Solar Project's GHG annual emissions shown in Table GHG-1 (i.e., operational emissions plus amortized construction and decommissioning emissions) of 408 $MTCO_2e$/yr (or 0.001 $MTCO_2e$/MWh), the annual emissions from gas-fired power plant would be approximately 584 times greater. The Cherry Solar Project would represent an annual net reduction of 237,869 $MTCO_2e$/yr, or a 99.8 percent net reduction in GHG emissions compared to the natural gas fueled alternative.

In summary, while the Cherry Solar Project would result in a relatively low level of GHG emissions during project construction and decommissioning, the near-zero emissions from electrical generation during project operation would result in a net reduction of overall GHG emissions from electricity generation in California. Therefore, the greenhouse gas emissions generated by the project would have a *less-than-significant* effect on the environment.

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact. Kings County's GHG policies are set forth in 2035 General Plan Air Quality Element in AQ Goal 1, AQ Objective G1.1, and AQ Policy G1.1.1., which encourage the reduction of greenhouse gas emissions in the County's internal governmental operations and land use activities within its authority. As discussed above, the Cherry Solar Project would result in a net overall reduction in GHG emissions, and therefore the project would be consistent with this General Plan goal, objective, and policy. In the Resource Conservation Element, RC Policies G1.2.1 through G1.2.6 promote the use of renewable energy sources such as solar, wind, and biomass projects, and provide guidance for their appropriate placement and project review (Kings County 2010b). The Cherry Solar Project would advance the implementation of these policies by providing a new source of renewable energy, thereby helping to reduce GHG emissions. There are no other local plans, policies or regulations contained in the *2035 Kings County General Plan*, the *Kings County Development Code*, or other local guidelines or regulations which are directed toward the reduction of GHG emissions associated with land development projects. Therefore, the Cherry Solar Project would not conflict with applicable local plans, policies, or regulations adopted for the purpose of reducing the emissions of greenhouse gases.

At the State level, the determination of significance under this criterion is based on whether the project would hinder or delay implementation of the statewide GHG reduction targets set forth in AB 32. The State's strategies for achieving the mandated 2030 GHG emissions reduction target are outlined in the 2017 Climate Change Scoping Plan adopted by the California Air Resources Board. One of the key strategies is the Renewables Portfolio Standard (RPS), which now requires all electric utilities in California to include a minimum of 60 percent renewable generation sources in their overall energy mix by 2030. As a solar photovoltaic generating facility, the Cherry Solar Project will help increase the proportion of renewables in the statewide energy portfolio, thereby furthering the implementation of RPS by the target year instead of hindering or delaying its implementation. The addition of the project's solar generation to the state's electrical supply will help facilitate the retirement of existing older fossil-fueled generation plants, thereby avoiding or offsetting those sources of GHG emissions. Therefore, the Cherry Solar Project would have *no impact* in terms of conflicting with a plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

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4.9. HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	■	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	■	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	■
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	■
e) For a project located within an airport land use plan or, where such plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	■	☐
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	■	☐

The following discussion of hazards and hazardous materials is partially based on the following documents: 1) Phase I Environmental Site Assessment (ESA) prepared on the project site by Moore Twining Associates (MTA) in February 2022; 2) Soil Sampling and Pesticide Analysis report prepared by MTA in February 2022; and 3) Limited Soil Sampling Report on the former Auxiliary Airfield No. 4 prepared by MTA in April 2022. The MTA reports are contained in Appendices D-1 through D-3 of this document.

The Phase I ESA by MTA consisted of the following: visual inspections of the site and surrounding areas; reviews of historical aerial photographs, historical topographic maps, local permit records, and other property data sources; reviews of federal and state regulatory lists of known or potential hazardous waste sites or landfills. As part of the Phase I ESA, a government records report, prepared by Environmental Data Resources (EDR), was obtained. This report searches federal and state databases, including California Government Code 65962.5 list (Cortese List) and databases maintained by the Regional Water Quality Control Board, for potential sources of hazardous substances or petroleum that might affect the soil and/or groundwater quality of the project site and its vicinity.

Environmental Setting

The Cherry Solar Project site is an irregularly-shaped property, approximately 2,079 acres in size, located north of Nevada Avenue and west of SR-41 in Kings County. The entire site consists of agricultural lands planted for row crops and fallow fields. The site includes several unlined irrigation canals and ditches, and a dry tailwater reservoir located adjacent to the eastern site boundary.

There are three inactive oil/gas wells in the south-central portion of the property. One of these wells ("B.L.C.1") is mapped by California Geologic Energy Management Division (CalGEM) as being dry and plugged, and the other two wells ("Eagle 1 North" and "Mary Bellocchi 1") are indicated as "idle" by CalGEM mapping (CalGEM 2022). The first well is fully buried per the standard for oil well abandonment. The second well is located within an approximately 1.5-acre rectangular area of mixed aggregate and soils, with empty dry 55-gallon drums and fencing debris located near the well. The third well is located within a ¼-acre square area of compacted soil. No major leaks or spills were observed at either of the idle well locations.

Four water wells were observed to be present on the site. One of the irrigation wells is located near the western site boundary at the southeast corner of the Manteca Avenue and 28th Avenue alignments. The remaining three wells are located in the central area of the site along the 27th Avenue alignment. Water storage tanks and associated filtration system are located adjacent to the Manteca Avenue alignment in the northern portion of the site. Concrete standpipes, pumps, and irrigation piping are located throughout the site. Historical records indicate that 13 additional wells were located on the site in the past, although there is no remaining surface evidence of those wells.

One pole-mounted transformer is located adjacent to the eastern site boundary south of the dry tailwater reservoir and appears to be associated with a pumping station for the tailwater reservoir. No staining or leaking was observed in the vicinity of the transformer.

There is a 7,000 square-foot concrete pad in the central area of the site near the western site boundary. There are no buildings, sheds or other structures on the Cherry Solar Project site.

Three agricultural water distribution pipelines pass through or adjacent to the project site from west to east, with the pipelines running east-west along the section lines at approximately one-mile intervals. These include: a southern lateral which follows Nevada Avenue; a central lateral which follows the through the center of the site; and a northern lateral which follows the Madison Avenue alignment through the northern portion of the site. These underground pipelines are owned and managed by the Westlands Water District and are part of the District-wide system of lateral pipelines that deliver imported surface water from the California Aqueduct for the purpose of agricultural irrigation. Above-ground features of this system typically include light blue valves and piping protruding from the ground. The WWD water distribution system will provide water for operational use after project completion. The pipelines and their easements will be retained intact and incorporated into the project design.

In the San Joaquin Valley, agricultural lands in active cultivation are typically subject to application of agricultural chemicals including pesticides. In order to determine whether any agricultural chemicals (specifically persistent pesticides) are present in the site soils in concentrations that exceed regulatory thresholds, MTA conducted a program of soil sampling and testing throughout the Cherry Solar Project site. The analytical results indicated that the soil samples are below regulatory action levels for

organochlorine pesticides (OCPs)(e.g., DDT), Persistent Organic Pesticides (POPs)(e.g., toxaphene), and heavy metals (e.g., lead). Arsenic was reported to exceed the Department of Toxic Substances Control (DTSC) screening levels, but the levels reported are often found in ambient background concentrations and are not of concern to DTSC. Chromium results did not exceed health screening levels but may exceed levels classified as hazardous waste (further laboratory testing would be required to make this determination). However, even if chromium concentrations do exceed the threshold for hazardous waste, this would only be of concern if soils were to be exported from the site. Thus if future testing of any soils proposed for removal from the site indicated chromium concentrations below hazardous waste thresholds, such soils could be exported to other properties instead of requiring disposal at a Class I landfill. Since there are no plans to remove soils from the site, the presence of chromium at the levels detected is not of concern (MTA 2022b).

During World War II, the US Army established seven temporary training airfields in the area which were associated with the former Lemoore Army Airfield – Lemoore Basic Flying School (not to be confused with NAS Lemoore). One of the temporary training airfields was located within Section 31 which includes the southwest corner of the Cherry Solar Project site. The airfield is listed on the State's EnviroStor and Geotracker websites as "Lemoore Auxiliary Field A-4." The EnviroStor listing states that the investigation of the site is "inactive" with no additional information given. MTA's research into the matter indicated that the US Army Corps of Engineers had made a determination of "No Defense Action Indicated" (NDAI) which was agreed to by DTSC. The Central Valley Regional Water Quality Control Board deferred to DTSC's determination and closed its case on the Site on April 11, 2011. Thus there is an apparent inconsistency between the "inactive" listing (instead of "closed") for the site in DTSC's EnviroStor database and DTSC's concurrence with USACE's no action determination.

In order to provide greater clarity as to whether any residual contamination from the former Army airfield may be present on the site, it was decided that soil sampling and testing program would be conducted on the former airfield site. However, there are no records or contemporaneous aerial photography indicating the precise location of the airfield within Section 31. Soon after the war ended, the airfield was removed and the site returned to farmland so there are now (76 years later) no physical traces to indicate the former location of the "landing mat" within the 622-acre parcel purchased by the Army for the airfield. In the absence of more specific information as to the location of the airfield, it was decided that soils on the entire on-site portion (479 acres) of the former airfield property be sampled and tested for potential contaminants. Accordingly, MTA collected surface and subsurface soil samples from throughout the 479-acre target area for testing. The soil analysis by MTA showed that the soils from the airfield site did not contain concentrations of petroleum hydrocarbons or volatile organic compounds (VOCs) above laboratory testing levels. The conclusion of the sampling and testing program was that there is currently no soil contamination on the Cherry Solar Project site as a result of the historic use of the property as an airfield (MTA 2022c).

There is no evidence that the Cherry Solar Project site includes any potential contamination due to disposal, spillage, or leakage of hazardous materials or any other source. A review of federal, state, and local databases indicated that there are no known hazardous materials sites on the project site or surrounding area.

Regulatory Context

State of California

California Health and Safety Code

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, State, or local agency or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined by the California Health and Safety Code Section 25501 as follows:

> "Hazardous material" means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment."

Under Government Code Section 65962.5, both the Department of Toxic Substances Control (DTSC) and the State Water Resources Control Board (SWRCB) are required to maintain lists of sites known to have hazardous substances present in the environment. Both agencies maintain up-to-date lists on their websites (EnviroStor and Geotracker, respectively). The project site is listed by the DTSC and SWRCB as a hazardous substances site on the list of hazardous waste sites compiled pursuant to Government Code § 65962.5 (Cortese List). As noted under 'Environmental Setting' above, the southwest portion of the project is noted as the former location of Army Auxiliary Airfield No. 4, which is listed as 'inactive' on the EnviroStor and Geotracker websites. This is discussed in detail in item 'd)' under 'Environmental Evaluation' below. A search of the DTSC and SWRCB lists identified no open cases of hazardous waste violations within one mile of the Project site.

Kings County

2035 Kings County General Plan

The 2035 Kings County General Plan contains the following goal, objective and policy related to hazardous materials that are relevant to the Cherry Solar Project:

Health and Safety Element

B. Community Health

HS GOAL B1 Promote the health and wellbeing of County residents, and support healthy living environments, physical activity opportunities, medical services, and readily available nutritious food sources.

HS OBJECTIVE B1.5 Ensure adequate protection of County residents from new generations of toxic or hazardous waste substances.

RC Policy B1.5.1: Evaluate development applications to determine the potential for hazardous waste generation and be required to provide sufficient financial assurance

that is available to the County to cover waste cleanup and/or site restoration in instances where the site has been abandoned or the business operator is unable to remove hazardous materials from the site.

Kings County Code of Ordinances

Regulation of Flammable Liquid Storage

Section 10-23 of the County Code provides that above-ground storage and handling of flammable liquids in quantities greater than 52 gallons at distances of less than 50 feet from a building or property line shall require a permit from the County Fire Chief.

Kings County Division of Environmental Health Services (EHS)

The Kings County Department of Public Health Services, Division of Environmental Health Services (DEHS) has primary authority for administration and enforcement of hazardous materials regulations in Kings County. In accordance with state law requirements, in 1996 the County created the Certified Unified Program Agency (CUPA) to consolidate all County hazardous materials programs under one agency. The DEHS is the designated the lead agency for hazardous materials programs and acts as the single point of contact for issuance of permits. Site inspections of all hazardous materials programs (e.g., aboveground tanks and underground tanks, hazardous waste treatment, hazardous waste generators, hazardous materials management plans, etc.) are consolidated and accomplished by a single inspection. All businesses that handle or store hazardous materials above 55 gallons for liquids, 400 pounds for solids; and 200 cubic feet for compressed gases are required to complete forms and file a Chemical Inventory with the DEHS. Lower thresholds are typically mandated for "Acutely Hazardous Substances." A site map and emergency plan are also required to be submitted by all businesses that submit a Hazardous Materials Business Plan (HMBP) and Chemical Inventory. The program provides emergency response to chemical events to furnish substance identification; health and environment risk assessment; air, soil, water and waste sample collection; incident mitigation and cleanup feasibility options and on-scene coordination for state superfund incidents. The program also provides for the oversight, investigation and remediation of unauthorized releases from underground tanks.

Kings County Fire Department

The Kings County Fire Department has responsibility for managing responses to the release or potential release of hazardous materials, as part of its role as the Office of Emergency Management (OEM) for Kings County.

Environmental Evaluation

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less-than-Significant Impact with Mitigation Incorporated. The Cherry Solar Project would involve the use of hazardous materials during construction, project operation, and decommissioning, as discussed below.

Construction

The hazardous materials used during construction of the Cherry Solar Project would include gasoline, diesel fuel, oils, lubricants, solvents, detergents, degreasers, paints, welding and soldering supplies, pressurized gases, etc. All hazardous materials would be stored in containers that are specifically designed for the materials to be stored. The fuels stored on-site would be in a locked container (aboveground storage tank) within a fenced and secure staging area.

During construction, substantial quantities of gasoline, diesel fuel, and transformer insulating oil (mineral oil) will be transported to the site. A spill of these hazardous liquids en route to the project site could result in significant impacts to soil, surface water, groundwater, or the public. However, such materials are routinely and safely transported on public roadways. The transport of large quantities of hazardous materials is strictly regulated by the California Highway Patrol (CHP). Large quantities of hazardous materials used during project construction would be transported along regulated routes by a licensed transporter, and would not pose a significant hazard to the public or the environment.

During construction of the solar facilities, minor spills or discharges of hazardous materials could occur due to improper handling, storage, and/or disposal. Unless mitigated, this would represent a significant impact. In order to reduce the potential impacts from hazardous materials to less-than-significant levels, the following mitigation measure shall be implemented in conjunction with the project.

Mitigation Measure HAZ-1: Protection from Hazardous Materials*. In order to protect the public from potential release of hazardous materials, the following measures shall be implemented during project construction, operation, and decommissioning:*

a. The project applicant shall prepare and implement a Hazardous Materials Business Plan (HMBP) in accordance with the requirements of, and to the satisfaction of, the Kings County Public Health Department Environmental Services Division;

b. The project applicant shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the requirements of the State Water Resources Control Board, and to the satisfaction of the Central Valley Regional Water Quality Control Board.

The potential for minor spills would be largely avoided through implementation of the Hazardous Materials Business Plan (HMBP), as required under the Hazardous Materials Release Response Plan and Inventory Act of 1985. Under this state law, the applicant is required to prepare an HMBP to be submitted to the Kings County Public Health Department, Environmental Health Services Division, which is the Certified Unified Program Agency (CUPA) for Kings County. The HMBP would include a hazardous material inventory, emergency response procedures, training program information, and basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of at the proposed project site, and procedures for handling and disposing of unanticipated hazardous materials encountered during construction. The HMBP would include an inventory of the hazardous waste generated on site, and would specify procedures for proper disposal. As required, hazardous waste would be transported by a licensed hauler and disposed of at a licensed facility. According to the HMBP reporting requirements, workers must be trained to respond to releases of hazardous materials in

accordance with State and federal laws and regulations governing hazardous materials and hazardous waste (e.g., HAZWOPER training required by OSHA). Any accidental release of small quantities of hazardous materials would be promptly contained and abated in accordance with applicable regulatory requirements and reported to the Environmental Health Services Division. As the CUPA for Kings County, the Environmental Health Services Division of the County Public Health Department is responsible for implementation and enforcement of HMBPs. Implementation of the HMBPs for each phase of the Cherry Solar Project would ensure that minor spills or releases of hazardous materials would not pose a significant risk to the public or the environment.

As specified in Mitigation Measure HAZ-1, the project proponent will be required to prepare, or to have prepared, and to implement a Storm Water Pollution Prevention Plan (SWPPP) for the project, as required by the State Water Resources Control Board (SWRCB)(for a detailed discussion, see Section *4.10. Hydrology and Water Quality*). The SWPPP will specify best management practices for control, containment of hazardous materials during construction, including housekeeping measures for control of contaminants such as petroleum products, paints and solvents, detergents, fertilizers, and pesticides, as well as vehicle and equipment fueling and maintenance practices, and waste management and disposal control practices, among other things. The project SWPPP will be prepared by a certified Qualified SWPPP Developer (QSD), who will ensure that the BMPs in the project-specific SWPPP will fully comply with the requirements of the General Permit. The enforcement of project SWPPP is the responsibility of the Central Valley Regional Water Quality Control Board, whose responsibilities include conducting inspections of the project construction sites to ensure effective implementation of Best Management Practices (BMPs) specified in the SWPPP prepared for the project.

Additionally, the use, storage, transport, and disposal of construction-related hazardous materials and waste would be required to conform to existing laws and regulations. These include the Hazardous Material Transportation Act, Resource Conservation and Recovery Act, California Hazardous Waste Control Act, Unified Program; and California Accidental Release Prevention Program. As the local Certified Unified Program Agency (CUPA), the Kings County Environmental Health Services Division (KCEH) coordinates and makes consistent the enforcement of several state and federal regulations governing hazardous materials. For example, KCEH administers the Accidental Reporting Program, Hazardous Materials Business Plans, Above Ground Storage Tank Program, and Underground Storage Tank Program.

In summary, the implementation of Mitigation Measure HAZ-1, and the compliance with applicable laws and regulations, would ensure that hazardous materials used in project construction are handled, stored, and disposed of in accordance with the SWPPP required to be implemented in conjunction with the project, with oversight by the responsible agencies. (Note: The HMBP applies only to project operations, discussed below.) Therefore, implementation of Mitigation Measure HAZ-1 would reduce potential for impacts to the public and the environment from routine transport, use, and disposal of hazardous materials during project construction to *less-than-significant* levels.

Project Operation

Operation and maintenance of the Cherry Solar Project would involve the transport, use, and disposal of minor amounts of hazardous materials, including motor vehicle fuel, lubricants, inverter coolant, cleaning chemicals, paint, pesticides, herbicides, and fire suppressant. Materials would be

stored in temporary above-ground storage tanks or in secure sheds or fenced areas. During operation, certain project components, such as switchgears, transformers, and inverters, may contain small quantities of hazardous materials. The transformers within the solar facility PCSs would contain mineral oil, although transformer oil does not ordinarily require replacement. The transformers would be provided with secondary containment to minimize hazard from any leaks or spills. Large quantities of hazardous substances would not be routinely transported or used during operation, except for transformer oil during major maintenance activities.

The project substation would be designed with secondary containment that would accommodate an accidental spill of transformer fluid. Should an oil spill occur, the oil would be captured by the secondary containment and disposed of by O&M personnel. During operation of the solar facilities, minor spills or discharges of hazardous materials could occur due to improper handling, storage, and/or disposal. Unless mitigated, this would represent a significant impact. In order to reduce the potential impacts from hazardous materials during project operations to less-than-significant levels, Mitigation Measure HAZ-1, as set forth above, would be implemented in conjunction with the project.

As described above for the construction phase, compliance with existing laws and regulations governing the handling, storage, containment, clean-up, and disposal of hazardous materials and hazardous waste would minimize the risk to the public and the environment of exposure to hazardous materials. Mitigation of such impacts would be ensured through implementation of Mitigation Measure HAZ-1.

Although not currently proposed, it is possible that the Cherry Solar Project could employ thin-film modules containing Cadmium-Telluride (CdTe) which is classified as a hazardous material. In any solar facility, it is expected that some modules will occasionally need replacement during the life of the facility. The potential hazards associated with CdTe PV modules are addressed in detail under item 'b)' below.

The project's energy storage facility would include a number of prefabricated electrical enclosures containing battery banks and associated switchboards, inverters and transformers. All battery containers would be installed on concrete foundations designed to provide secondary containment. The enclosures would have appropriate fire suppression systems built to code. Each energy storage unit used on site will be designed in compliance with Section 608 of the International Fire Code, which has been adopted by the State of California to minimize risk of fire from stationary storage battery systems and contain fire in the event of such an incident. Under California law, the battery enclosures must also comply with Article 480 of the Electrical Code, which presents requirements for stationary storage batteries. Article 480 provides the appropriate insulation and venting requirements for these types of systems, further preventing associated risk of fire from the battery enclosures on the project site. Depending on the technology and design of the battery units, the Kings County Fire Department may require purchase of specialized hazmat vehicles and equipment along with mandated training for Fire Department personnel.

Herbicides would be used at the Cherry Solar Project to control noxious weeds and invasive species, in accordance with the Weed Abatement Plan to be prepared for the project in accordance with the Kings County Development Code. The herbicides would be applied by a licensed herbicide applicator, in compliance with the regulations of the U.S. EPA, and the California Department of Pesticide Regulation (DPR). As discussed in item 'b)' below, modern herbicides and pesticides

degrade rapidly and therefore are not considered to pose a contamination hazard according to the California Department of Toxic Substances Control (DTSC 2008). As also discussed in item 'b)', past agricultural practices on the project site involved the use of environmentally persistent pesticides, although recent soil testing showed that residual concentrations of these "legacy" pesticides in soils at the site are well below hazardous levels (MTA 2022b).

In summary, the implementation of Mitigation Measure HAZ-1 would ensure that hazardous materials used in project operation are handled, stored, and disposed of in accordance with the HMBP and SWPPP required to be implemented in conjunction with the project, with oversight by the responsible agencies. Therefore, implementation of Mitigation Measure HAZ-1 would reduce potential for impacts to the public and the environment from routine transport, use, and disposal of hazardous materials during project construction to *less-than-significant* levels.

Decommissioning

As described in Section *2.2. Project Description*, when the Cherry Solar facility reaches the end of its productive life, the solar arrays and supporting infrastructure would be disassembled and removed, with all materials recycled, reused, or disposed of as appropriate in accordance with the Soil Reclamation Plan to be prepared as prescribed in Mitigation Measure AG-2. The materials to be removed would include solar arrays, inverters, transformers, cabling and wiring, perimeter fencing, batteries, among other things. During decommissioning of the solar facilities, minor spills or discharges of hazardous materials could occur due to improper handling, storage, and/or disposal. Unless mitigated, this would represent a significant impact. In order to reduce the potential impacts from hazardous materials during project decommissioning to less-than-significant levels, Mitigation Measure HAZ-1, as set forth above, would be implemented in conjunction with project decommissioning. At the time of decommissioning, the project SWPPP would be updated or replaced with a new SWPPP which would be tailored specifically to decommissioning activities.

As discussed above, the project could include solar modules containing Cadmium-Telluride (CdTe). The potential hazards associated with removal of CdTe PV modules are addressed in detail under item 'b' below.

In conclusion, the handling, use, storage, transport, and disposal of hazardous materials during the construction, operation, and decommissioning of the Cherry Solar Project could potentially result in significant hazards to the public and the environment. As previously mentioned, compliance with existing laws and regulations governing the handling, storage, containment, clean-up and disposal of hazardous materials and waste would minimize the risk to the public and the environment. The implementation of Mitigation Measure HAZ-1, as set forth above, would ensure that the potential hazard to the public or the environment from routine transport, use, or disposal of hazardous materials associated with the Cherry Solar Project is reduced to *less-than-significant* levels.

b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less-than-Significant Impact with Mitigation Incorporated. There are five conditions associated with the Cherry Solar Project that have the potential to release hazardous materials into the

environment. These include: 1) accidental release of hazardous materials from solar panels; 2) hazards associated with storage batteries; 3) exposure to valley fever; 4) exposure to residual agricultural chemicals; and 5) presence of three inactive oil/gas wells on the site. These conditions are discussed in turn below.

1. Hazardous Materials in Solar Panels

There are two dominant semiconducting materials used in photovoltaic technology including: crystalline silicon (c-si) which is the conventional material used in flat plate panels; and thin-film semiconductors such as amorphous silicon (a-si) and cadmium telluride (CdTe). The silicon-based solar cells do not contain hazardous materials, although they may use lead-containing solders. Improper decommissioning of the panels with lead-containing solders could result in lead leaching into landfills and eventually into waterbodies. The applicant would recycle, reuse, or dispose of solar PV cells in compliance with all applicable local, state, and federal regulations.

CdTe is a hazardous substance when not imbedded within a PV module. (Cadmium compounds are classified by US EPA as a probable human carcinogen (US EPA 2016)). Although highly unlikely, it is possible that the Cherry Solar Project could include thin film modules with CdTe. At present, CdTe is only contained in modules manufactured by First Solar Inc.

During the manufacturing process, the CdTe semiconductor layer is sealed between two sheets of glass. CdTe contained within PV modules is highly stable and no emissions of any kind are generated when PV modules are used under normal conditions (Fthenakis 2003). The primary manufacturer and operator of solar facilities with CdTe PV modules, First Solar, has a program for recycling modules at the end of their 25-year life cycle. During the recycling and refining process, up to 90 percent of the semiconductor material is recovered for reuse in new modules (First Solar 2022).

In summary, the potential for emissions of CdTe is negligible during normal use of CdTe PV modules. Recycling of CdTe modules is preferable to disposal at a landfill, from a waste reduction and materials recovery standpoint, and a manufacturer's program is in place to accept used CdTe PV modules. However, since the evidence indicates there is a negligible human health risk associated with CdTe modules, mandatory recycling of these modules is not required.

Under California law, PV modules are classified as universal waste (e-waste), and are not considered to be hazardous waste. In late 2020, the California Office of Administrative Law (OAL) approved regulations, effective January 1, 2021, for managing PV modules as universal waste (DTSC 2022b). The adopted regulations include specific requirements for handling, transport, treatment, and disposal of discarded PV modules. All PV modules brought to the project site that are deemed unusable will be recycled at a private facility by the project operator, or handled and disposed of as universal waste.

In conclusion, the potential use and disposal of PV modules at the Cherry Solar Project would not result in a significant risk of a release of hazardous materials that would be harmful to human health or the environment. Therefore, the potential for health hazard from PV modules would represent a *less-than-significant impact*.

2. Storage Batteries

The project would include energy storage facilities consisting of a number of prefabricated electrical enclosures containing battery banks and associated switchboards, inverters and transformers. The battery storage systems would be subject to potential explosion and fire hazards, and possible discharge of hazardous materials. The batteries would be enclosed in metal cargo containers which would be installed on concrete foundations designed to provide secondary containment. The enclosures would have appropriate fire suppression systems built to code. Each energy storage unit used on site will be designed in compliance with Section 608 of the International Fire Code, which has been adopted by the State of California to minimize risk of fire from stationary storage battery systems and contain fire in the event of such an incident. Under California law, the battery enclosures also must comply with Article 480 of the Electrical Code, which presents requirements for stationary storage batteries. Article 480 provides the appropriate insulation and venting requirements for these types of systems, further preventing associated risk of fire from the battery enclosures on the project site. Depending on the technology and design of the battery units, the Kings County Fire Department may require purchase of specialized hazmat vehicles and equipment along with mandated training for Fire Department personnel. Therefore, the potential hazards associated with storage batteries would represent a *less-than-significant impact*.

3. Valley Fever

The project site is located in an area that may harbor the fungus that causes Valley Fever (*coccidioidomycosis*), a lung disease common in the southwestern United States. Valley Fever is caused by the fungus *Coccidioides immitis*, which grows in soils in areas of low rainfall, high summer temperatures, and moderate winter temperatures. The fungus is prevalent in the soils of the San Joaquin Valley, including Kings County, where the average annual exposure rates are more than 100 in 100,000 people (CDPH 2021). The fungal spores become airborne when the soil is disturbed by winds, construction, farming, or other activities. Most people who inhale the spores do not get sick. Usually, susceptible individuals experience flu-like symptoms and will feel better on their own within weeks, although some people require antifungal medication (CDC 2020). There is an increased risk of exposure to people working in construction and agriculture due to their proximity to potential release of airborne spores.

The fungal spores that cause Valley Fever are most prevalent in undisturbed soils. Since the land in Kings County consists predominantly of disturbed agricultural land, the risk of infection due to developments on agricultural land is considered low (Kings County 2009b). However, the fungal spores are too small to be seen and it is unknown if the soils of the project site contain Valley Fever spores. As such, there is a potential for on-site workers to become infected. The potential for airborne release of Valley Fever spores would be greatest during construction and decommissioning when soils are temporarily exposed and disturbed by grading and excavation activity. The health risk to workers from potential exposure to valley fever represents a potentially significant impact. In order to reduce the potential health impacts from Valley Fever to less-than-significant levels, the following mitigation measures shall be implemented in conjunction with the project.

> ***Mitigation Measure HAZ-2: Preventing Valley Fever Exposure.*** *In order to protect the public and workers from Valley Fever, the following measures shall be implemented during project construction and decommissioning:*

a. *Implement the Dust Control Plan required to be approved for the project by the San Joaquin Valley Air Pollution District under District Rule 8021 prior to ground disturbing activity.*

b. *Provide workers with NIOSH-approved respiratory protection with particulate filters rated as N95, N99, N100, P100, or HEPA, as recommended in the California Department of Public Health publication "Preventing Work-Related Coccidioidomycosis (Valley Fever)," available at http://www.cdph.ca.gov/programs/hesis/Documents/CocciFact.pdf.*

The implementation of these measures in conjunction with project construction and decommissioning would minimize the risk of exposure of workers to Valley Fever. Therefore, the potential hazard to the public from potential exposure to Valley Fever would be reduced to *less-than-significant* levels.

4. Residual Agricultural Chemicals

Organochlorine Pesticides from Past Agricultural Practices

In the past, agricultural practices commonly included the application of environmentally persistent pesticides such as DDT, Aldrin, dieldrin, and mirex. Collectively known as organochlorine pesticides (OCPs), these compounds were found to be toxic and bioaccumulative, and were banned from use, beginning in 1974 for DDT, and quickly thereafter for other OCPs in California. Due to the environmental persistence of these compounds, residual concentrations may still be present in the soils where they were applied. For example, the half-life of DDT in soil is 2-15 years depending on local climate conditions, while most other OCPs (and POPs – Persistent Organic Pesticides, like Toxaphene) have half-lives of up to 12 years. Thus, a compound with a 15-year half-life would be 50 percent degraded after 15 years, 75 percent degraded after 30 years, 87.5 percent degraded after 60 years, and so on. Assuming DDT was applied on a site, and that the last application was in 1974, and also assuming the high end of the range for its half-life (i.e., 15 years), the concentration of DDT would have degraded to less than 20 percent of its original strength during the 48 years between 1974 and 2022.

While there is some potential for these "legacy pesticides" to be present on agricultural lands in hazardous concentrations, it is considered more likely that high concentrations would be found in areas where the chemicals were loaded, stored, or mixed. Incidences of such contamination are associated with the "hot spots" resulting from occasional spillage at chemical storage sites and have not been found to be associated with areas where the chemicals were merely broadcast over the crops. Thus, unless chemical mixing has occurred, there is typically a low potential for environmentally persistent pesticides/herbicides related to crop cultivation to exist in the near-surface soils at concentrations which would require regulatory action.

It is unknown whether OCPs or POPs were applied at the site before they were banned in the 1970s. If they were applied, there is a low likelihood that the soils are contaminated, particularly since there no evidence that mixing of agricultural chemicals occurred on the Cherry Solar Project site in the past. The project site was part of a much larger agricultural operation, and has not historically been used for mixing or loading of pesticides, which was conducted off the project site. Thus it is highly unlikely that legacy pesticides like DDT would be present on the project site in hazardous concentrations. In order to determine if the soil on the project site contains any significant concentrations of environmentally persistent agricultural chemicals, a program of soil sampling and

testing was performed by Moore Twining Associates (MTA) in February 2022. The analytical results showed that the soils are well below regulatory screening levels for organochlorine pesticides, as well as Toxaphene.

The lab tests found that the concentrations of arsenic in the soil samples ranged from 11 to 13 mg/kg, which exceed the Department of Toxic Substances Control (DTSC) screening levels (0.11 mg/kg residential and 0.42 mg/kg commercial). However, the DTSC has acknowledged that background concentrations of arsenic in California soils can average 12 mg/kg in some areas. As such, the elevated concentrations on the project site would not require cleanup to screening levels.

The MTA lab tests indicated that chromium concentrations did not exceed health screening levels but may exceed levels classified as hazardous waste (further laboratory testing would be required to make this determination). However, even if chromium concentrations do exceed the threshold for hazardous waste, this would only be of concern if soils were to be exported from the site. Thus if future testing of any soils proposed for removal from the site indicated chromium concentrations below hazardous waste thresholds, such soils could be exported to other properties instead of requiring disposal at a Class I landfill. Since there are no plans to remove soils from the site, the presence of chromium at the levels detected is not of concern (MTA 2022b).

The MTA report stated that no further action is necessary with regard to residual agricultural chemicals on the project site (MTA 2022b). Therefore, the potential impact due to exposure to residual agricultural chemicals is *less than significant*.

Recent Use of Agricultural Chemicals

The pesticides which may have been applied at the Cherry Solar Project site in the recent past consist of non-persistent compounds that degrade rapidly (within a few days or weeks) after application. The longest-lived pesticides include paraquat and glyphosate (Roundup), which have half-lives of approximately 1,000 days (ISU 2022) and 200 days (NPIC 2022). Since no pesticides have been applied on the site since at least 2021, any pesticide concentrations at the site from the applications in years prior to project development (planned for 2024) would have degraded to non-detectable levels by the time of site development for all pesticides except paraquat. The Department of Toxic Substances Control (DTSC) does not recommend sampling for currently permitted pesticides since they have relatively short half-lives. While paraquat does have a longer half-life in soil, it has not been detected or rarely detected at trace levels at sites which DTSC has had oversight; therefore, routine analysis for paraquat is not required for field areas. Analysis for paraquat may be required in storage and mixing/loading areas (DTSC 2008). There is no evidence that mixing or loading of paraquat or other pesticides has been conducted on the project site. Given these facts, and based on DTSC's guidance and experience, it is concluded that hazardous concentrations of paraquat are not present at the site.

It is also noted that the routine application of registered pesticides is not a Recognized Environmental Condition (REC) by the American Society for Testing and Materials (ASTM) if applied according to the labeling instructions (Lavey 2014, MTA 2022a).

Based on the information and analysis presented above, it is concluded that residual agricultural pesticides are not present on the Cherry Solar Project site in hazardous concentrations. Therefore,

the potential hazard to the public and workers from exposure to residual agricultural chemicals at the Cherry Solar Project site represents a *less-than-significant* impact.

5. Inactive Oil and Gas Wells

There are three inactive oil/gas wells in the south-central portion of the project site. One of these wells ("B.L.C.1") is mapped by California Geologic Energy Management Division (CalGEM) as being dry and plugged, and the other two wells ("Eagle 1 North" and "Mary Bellocchi 1") are indicated as "idle" by CalGEM mapping. These oil/gas wells are discussed in turn below.

The first well (B.L.C.1) was drilled in 1953 and reported to be a dry hole. In early 1954, the well was plugged by placing cement in the well bore at certain intervals as required by the State and buried by filling the bore hole with drilling mud. The section of pipe in the upper 5 feet of soil was removed and closed with a welded ½-inch steel cap, and then covered with soil. There are no remaining surface features associated with this abandoned well.

The second well (Eagle 1 North) was drilled in 2006 and no production was reported. The third well (Mary Bellochi 1) was drilled in 1986 and no production was reported. Both wells are currently listed by CalGEM as "idle" and are owned by an active oil production company (Victoria Petroleum), indicating that the well owner has not abandoned the wells and could reactivate them at any time. During MTA's February 2022 field inspection, no major leaks or spills were observed at either of the idle well locations (MTA 2022a). In addition, MTA's soil sampling and testing for petroleum hydrocarbons and volatile organic compounds on the project site did not detect these contaminants in the soil in the vicinity of the three inactive oil/gas wells on the site (MTA 2022c).

For developments proposed in the vicinity of idle wells, CalGEM recommends that a drilling pad be retained which provides sufficient area for operation and maneuvering of drill rigs and associated equipment and materials, and that adequate access to the wells is provided for such equipment to be transported to and from the drill pad. Although the first well (B.L.C.1) was plugged and abandoned in the 1950s, CalGEM requires that physical access to the well be maintained in the event re-abandonment becomes necessary in the future. On the CUP site plan for the Cherry Solar Project (see Figure PD-3c), each of the three on-site oil/gas wells is provided with a minimum 1-acre clear area for equipment operation and maneuvering. Each well site is also provided with vehicular access via compacted earth access road, at least 20 feet in width, to allow direct access to Nevada Avenue. The well sites and access roads are provided with their own perimeter fencing to provide physical separation from the solar facility, and also to provide unimpeded access to the well sites.

In summary, the Cherry Solar Project has been designed to provide the three inactive oil/gas wells on the project site with secure separation from project solar facilities and with direct physical access to the well sites for equipment and materials. Therefore, the Cherry Solar Project would have a *less-than-significant* impact upon the existing oil/gas wells on the site. In addition, field inspections and soil analyses indicated that there is no residual contamination associated with the on-site oil/gas wells. Therefore, potential hazard to project workers from residual contamination from the oil/gas wells is *less than significant*.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. There are no schools within one-quarter mile of the Cherry Solar Project site. The nearest schools are located in: Stratford (6.0 miles northeast), NAS Lemoore (6.3 miles north), Huron (8.0 miles northwest), and Kettleman City (9.0 miles south). The Cherry Solar Project would result in *no hazardous materials impacts* to schools in the vicinity.

d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. There is one site listed on the Department of Toxic Substances Control's (DTSC's) Hazardous Waste and Substances Site List (Cortese List) compiled pursuant to Government Code Section 65962.5 (DTSC 2022a). As described under 'Environmental Setting' above, the site is listed on the State's EnviroStor and Geotracker websites as "Lemoore Auxiliary Field A-4." During World War II, the US Army established seven temporary training airfields in the area which were associated with the former Lemoore Army Airfield – Lemoore Basic Flying School (not to be confused with NAS Lemoore). One of the temporary training airfields was located within Section 31 which includes the southwest corner of the Cherry Solar Project site. The EnviroStor listing states that the investigation of the site is "inactive" with no additional information given. MTA's research into the matter indicated that the US Army Corps of Engineers had made a determination of "No Defense Action Indicated" (NDAI) which was agreed to by DTSC. The Central Valley Regional Water Quality Control Board deferred to DTSC's determination and closed its case on the Site on April 11, 2011. Thus there is an apparent inconsistency between the "inactive" listing (instead of "closed") for the site in DTSC's EnviroStor database and DTSC's concurrence with USACE's no action determination.

In order to provide greater clarity as to whether any residual contamination from the former Army airfield may be present on the site, it was decided that soil sampling and testing program would be conducted on the former airfield site. However, there are no records or contemporaneous aerial photography indicating the precise location of the airfield within Section 31. Soon after World War 2 ended, the airfield was removed and returned to farmland so there are now (76 years later) no physical traces to indicate the former location of the "landing mat" within the 622-acre parcel purchased by the Army for the airfield. In the absence of more specific information as to the location of the airfield, it was decided that soils on the entire on-site portion (479 acres) of the former airfield property be sampled and tested for potential contaminants. Accordingly, MTA collected surface and subsurface soil samples from throughout the 479-acre target area for testing. The soil analysis by MTA showed that the soils from the airfield site did not contain concentrations of petroleum hydrocarbons or volatile organic compounds (VOCs) above laboratory testing levels. The conclusion of the sampling and testing program was that there is currently no soil contamination on the Cherry Solar Project site as a result of the historic use of the property as an airfield (MTA 2022c). Therefore, the former use of the Cherry Solar Project site as a temporary Army training airfield would have no impact in terms of potential site contamination.

A comprehensive search of all federal, state, and local database information systems indicated no other listed hazardous materials sites on the project site or vicinity. A review of files for the Cherry

Solar Project site and adjacent properties at the Kings County Environmental Health Department (KCEHD) and the State Water Resources Control Board (SWRCB) likewise identified no documentation for the project site or adjacent properties (MTA 2022a). Therefore, the project would have *no impact* to the public or environment by being located on a listed hazardous material site.

e) For a project located within an airport land use plan or, where such plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

Less-than-Significant Impact. The Cherry Solar Project site is not located within an airport land use plan or within two miles of a public airport or public use airport. The nearest public or public use airports include the municipal airports near Hanford, located 19 miles northeast, and Coalinga, located 18 miles west, and the Harris Ranch airfield, located 16 miles northwest of the project site.. The airfield at Naval Air Station Lemoore (NASL) is located 8 miles north of the Cherry Solar Project site. While the project site is not within an 'airport land use plan,' it is included in the Military Influence Area of NASL, and is within the study area of the NAS Lemoore Joint Land Use Study (JLUS). The JLUS has no jurisdictional effect on the project but includes relevant information regarding potential safety hazards posed by NASL operations upon the project. The project site is located 6.2 miles south of the nearest accident potential zone mapped for NASL. The project site is entirely outside NASL flight approach/departure zone, the southern end of which is approximately 4.2 miles north of the project site (JLUSPC 2011). Therefore, the project is not subject to the height restriction of 500 feet above ground level for this zone, as regulated by the Federal Aviation Administration. In any event, the tallest structures within the project would be well within this height limit. For example, the structural elements associated with the on-site substation would be as high as 75 feet; and the communications tower would be up to 100 feet tall. The solar arrays and inverter pads would be as tall as 8 feet, and meteorological stations would be approximately 11 feet high. The monopoles of the associated gen-tie line extending 1.1 miles east of the project site would to be 100 feet tall. Thus, even if the project were subject to the NASL height restrictions, the tallest project features would be well within the 500-foot height limit for physical obstructions within the nearest NASL approach/departure zone. The height of all of the project structures would also be below the 200 feet height limit above which structures are considered a potential collision hazard under federal law (CFR, Title 14, Aeronautics and Space, Section 77.17 Obstruction Hazards).

Given the proximity of NAS Lemoore to the Cherry Solar Project site, there is a potential concern with the effect of glare on flight operations originating from the base. All of the solar panels installed at the project will be composed of photovoltaic cells. Solar PV employs glass panels that are designed to maximize absorption and minimize reflection to increase electricity production efficiency. To limit reflection, solar PV panels are constructed of dark, light-absorbing materials, and are given an anti-reflective coating or a textured surface which can reduce reflectivity to less than 4 percent of incoming sunlight (EE Times 2012). When viewed from the air, solar arrays have a consistent dark gray color with little or no reflected light. In comparison, the reflectivity of standard glass is over 20 percent. By contrast, concentrating solar thermal systems, which employ arrays of highly polished mirrors to refocus the radiation on a receiver tube or tower, reflect about 90 percent of the incoming sunlight (FAA 2018).

The NAS Lemoore Joint Land Use Study (JLUS) addresses concerns with aviation hazards from reflection and glare. Solar facilities are mentioned specifically for their potential to produce reflective surfaces, but the JLUS acknowledged that the main concern is with highly reflective mirrors used in concentrating solar thermal facilities. The JLUS states that "if there is no central collection tower, the new solar panels can be made non-reflective and arrays could be installed to not cause any height or reflective issues" (JLUSPC 2011, p. 2-12). PV solar facilities have been installed within military air bases elsewhere the U.S. without adversely affecting flight operations. For example, as of 2017, the U.S. Air Force had solar PV facilities at 10 air bases in the United States, including Vandenberg AFB, Edwards AFB, Los Angeles AFB, and Nellis AFB (AFCEC 2022).

It is noted that a glint and glare study using the Sandia Laboratory's Solar Glare Analysis Tool (SGHAT) was prepared for the nearby Mustang Two Solar Project MND in August 2016. (The Mustang Two project is located two miles south of NAS Lemoore and is situated directly beneath the final approach corridor for incoming military aircraft.) In the analysis, impacts from solar glare were given three ranks, as follows: 1) potential for permanent eye damage; 2) potential for temporary after-image (a lingering image of the glare in the field of view); and 3) low potential for temporary after-image. Results from the analysis indicated that pilots flying over and near the Mustang Two solar facility would experience a low potential for a temporary after-image, and the potential would be limited to early morning from approximately April through September. The low potential for temporary after-image level is generally considered to be safe for pilots (Kings County 2017). The results of this glint and glare analysis are considered to be applicable to the Cherry Solar Project, which is 6 miles south NAS Lemoore, and only the extreme southwest corner of the Cherry Solar site is within the flight approach/departure path. Therefore, it is concluded that the PV solar panels installed at the Cherry Solar Project site would not produce light or glare that would pose a hazard to flight operations at NAS Lemoore.

With respect to aircraft noise from military overflights, the southwest corner of the project site is located within the NASL flight pattern and is mapped as land subject to noise levels ranging from under 60 dBA CNEL to just over 65 dBA CNEL, as mapped in the NAS Lemoore Joint Land Use Study. The westernmost portion of the project site (comprising less than 3% of the site area) is exposed to noise levels of over 65 dBA CNEL, while the southwest corner (~12% of the project site) is exposed to noise levels between 60 and 65 dBA CNEL, and the remaining 85 percent of the site area is exposed to noise levels of less than 60 dBA CNEL (JLUSPC 2011, p. 2-11). Noise levels exceeding 76 dBA CNEL are considered hazardous to health as determined by the US Environmental Protection Agency (US EPA 1974). Aircraft overflights would expose construction workers, who would be on the site temporarily, and the few operations personnel who would staff the completed facility, to worst-case noise levels of just over 65 dBA CNEL, with the majority of the site subject to aircraft noise levels of less than 60 dBA CNEL. Thus the project workers would be subject to aircraft noise levels of well below the 76 dBA CNEL threshold. Therefore, the project would not expose workers on the project site to excessive noise levels from flight operations as NAS Lemoore.

Additionally, the employment density at the Cherry Solar Project would be very low. An average of 10 permanent staff would be on the solar facility site at any given time to conduct visual inspections of equipment, internal roadways, and fencing, and perform maintenance or make repairs as necessary. Up to 20 additional workers could be on-site intermittently if equipment needs to be repaired or replaced and when panel cleaning is in progress. Therefore, the Cherry Solar Project would not result in a significant safety hazard to on-site employees due to the proximity of public

airports or public use airports. As such, the potential for the project to be adversely affected by aviation hazards is *less than significant*.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less-than-Significant Impact. In 2015, the Kings County Board of Supervisors adopted the County of Kings Emergency Operations Plan (EOP). The EOP, which is overseen and managed by the Kings County Office of Emergency Services (OES), addresses the County's response to extraordinary emergency situations associated with large-scale disasters, technological incidents, and national security emergencies which can pose major threats to life, property and the environment. The EOP does not apply to normal day-to-day emergencies or the established departmental procedures for responding to such emergencies. The EOP assigns functions and tasks consistent with California's Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS). In a large scale emergency, the plan would be activated by the Kings County OES which would take the lead in coordinating multiple jurisdictions in implementing the plan (Kings County 2015). The construction and operation of the Cherry Solar Project would not impair or interfere with the operations of the OES or its support system, including the Kings County Fire Department and Sheriff's Office, and other agencies and organizations responsible for implementing the EOP. For example, the project entrances and internal driveways would be designed and constructed in accordance with all applicable design standards for emergency access (e.g., minimum lane width and turning radius to allow the passage of emergency vehicles). The project would also incorporate all applicable design and safety requirements in the most current adopted fire codes, building codes, and nationally recognized fire and life safety standards of the County and KCFD. Compliance with these codes and standards is ensured through the County's and KCFD's development review and building permit processes. Also, the Cherry Solar Project would not be considered a critical facility to provide essential services during and after a disaster. As such, the Cherry Solar Project would not impair implementation of, or physically interfere with the Kings County Emergency Operations Plan.

In times of emergency or disaster response, the nearby State highways would serve as primary evacuation routes, and designated County arterial roadways in the area would serve as secondary routes. In the project vicinity, the primary evacuation routes include SR-41, SR-198, SR-269, and I-5, and the designated secondary routes consist of Avenal Cutoff Road and Laurel Avenue (Kings County 2010e). These nearby State highways and County roads provide several alternative escape routes with relatively low ambient traffic volumes. Nevada Avenue would provide a local escape route for the project. The Cherry Solar Project would not result in changes to the adjacent roadway network, and the solar facility's small operational workforce would not create or increase traffic congestion during times of emergency or disaster. During the construction phase, slow moving vehicles or trucks delivering large pieces of equipment or components could result in traffic slowdowns, although such conditions would be temporary and infrequent and would be managed pursuant to traffic controls specified in Mitigation Measure TR-1 (see Section *4.17. Transportation*).

In summary, the Cherry Solar Project would not impair implementation of, or physically interfere with, an adopted emergency response plan or an emergency evacuation plan, and therefore the potential impact in this regard would be *less than significant*.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less-than-Significant Impact. The Cherry Solar Project is not located within or near a wildland fire hazard area. The Fire Hazard Severity Zone (FHSZ) map for Kings County prepared by the California Department of Forestry and Fire Protection (CAL FIRE) shows the project site as "unzoned" for fire hazard. The nearest areas zoned on the FHSZ map are located in the foothills west of Interstate 5, which are zoned "Moderate Severity Fire Hazard" (CAL FIRE 2007). The Health and Safety Element of the Kings County General Plan includes a map of Potential Fire Hazards which shows project site as lying within an area "within 2400 feet of a moderate threat" with most of surrounding are mapped as being subject to "little or no threat" (Kings County 2010e). Therefore, the risk of wildland fire at the Cherry Solar Project is *less than significant*.

[For additional discussion on fire hazard and protection, see Sections *4.15. Public Services* and *4.20. Wildfire*.]

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4.10. HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant	No Impact
a) Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality?	☐	☐	■	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impact sustainable groundwater management of the basin?	☐	☐	■	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. result in substantial erosion or siltation on- or off-site;	☐	■	☐	☐
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	■	☐
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	■	☐
iv. impede or redirect flood flows?	☐	☐	☐	■
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation??	☐	☐	☐	■
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	■

Hydrologic Setting

Kings County receives runoff from the Sierra Nevada as it is carried in creeks, rivers and sloughs as far west as the Kings River which flows in a west-southwesterly direction to the Tulare Dry Lakebed, passing through the project vicinity approximately 4.7 miles to the east of the Cherry Solar Project site. The drainage courses originating in the Coast Ranges to the west dissipate west of the California Aqueduct, approximately 5 miles west of the project site. The project area is virtually level and has no natural drainage features. The relatively low annual rainfall (~6.6 inches) in the project area is absorbed by the soil and crop cover, with little or no runoff leaving the site (WRP 2022).

Several irrigation canals and ditches pass through and alongside the project site. These canals convey and distribute surface water and pumped well water throughout the area. Historically, a system of drainage ditches collected return flows from the irrigated fields and conveyed them to an artificial tailwater basin located adjacent to the eastern site boundary. In the past 15 years the site has been installed with drip irrigation systems which have eliminated irrigation return flows. Consequently, the canals, ditches, and tailwater reservoir on the site are no longer used and have dried up and become somewhat overgrown.

The Cherry Solar Project site includes one agricultural well located at the southeast corner of the Manteca Avenue and 27th Avenue alignments at the western site boundary. The well was drilled in 2013 to a depth of 2,250 feet. A well pump test indicated a yield of 3,500 gpm, which is not necessarily indicative of long-term yield.

Regulatory Context

Federal

Clean Water Act

The Clean Water Act (CWA) was enacted with the primary purpose of restoring and maintaining the chemical, physical, and biological integrity of the Nation's waters. The CWA directs states to establish water quality standards for all "waters of the United States" and to review and update such standards on a triennial basis. Other provisions of the CWA relate to basin planning including Section 208, which authorizes the preparation of waste treatment management plans, and Section 319, which mandates specific actions for the control of pollution from non-point sources. Section 303 requires states to adopt water quality standards for all surface waters of the U.S. Standards are based on the designated beneficial use(s) of the water body. Where multiple uses exist, water quality standards must protect the most sensitive use. Section 402 mandates that certain types of construction activity comply with the requirements of Environmental Protection Agency's National Pollution Discharge Elimination System (NPDES) stormwater program. The U.S. Environmental Protection Agency (USEPA) has delegated responsibility for implementation of portions of the CWA, including water quality control planning and control programs, such as the NPDES Program, to the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Board (RWQCB). Construction activities that disturb one or more acres of land must obtain coverage under the NPDES general construction activity stormwater permit, which is issued by Central Valley Regional Water Quality Control Board (RWQCB) (see detailed discussion on NPDES permit requirements below).

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities complying with FEMA regulations that limit development in floodplains. FEMA issues flood insurance rate maps (FIRMs) for communities participating in the NFIP. These maps delineate flood hazard zones in the community. Executive Order 11988 (Floodplain Management) addresses floodplain issues related to public safety, conservation, and economics. It requires: 1) avoidance of incompatible floodplain development; 2) consistency with the standards and criteria of the NFIP; and 3) restoration and preservation of the natural and beneficial floodplain values. (See 'Local' below for further discussion of flood regulations.)

State of California

Porter-Cologne Water Quality Control Act

Adopted in 1969, the Porter-Cologne Act is California's comprehensive water quality law, establishing an extensive regulatory program and planning and management functions to protect water quality and beneficial uses of the state's water. It established the State Water Resources Control Board and the nine Regional Boards, whose primary responsibility is the development and implementation of Basin

Plans (or Water Quality Control Plans). Pursuant to the authority delegated under CWA Section 303, the Regional Boards issue NPDES discharge permits and Waste Discharge Requirements (WDRs) to municipal wastewater treatment plants and industrial dischargers.

Central Valley Regional Water Quality Control Board

In southern San Joaquin Valley, the state water quality standards are regulated by the Central Valley Regional Water Quality Control Board (CVRWQCB or Regional Board). As noted above, the Regional Board establishes beneficial uses and water quality objectives for surface water and groundwater resources the region through the Tulare Lake Basin Plan. The Regional Board also implements Clean Water Act (CWA) Section 303(d) total maximum daily load (TMDL) process, which consists of identifying candidate water bodies where water quality is impaired or limited by the presence of pollutants. The TMDL process is implemented to determine the assimilative capacity of the water body for the pollutants of concern and to establish equitable allocation of allowable pollutant loading within the watershed. The only impaired waterbody in the project vicinity is the Lower Kings River which runs in a southerly direction approximately 4.7 miles east of the project site. The listed pollutants for the Lower Kings River include Electrical Conductivity (indicator of salinity) and Toxaphene (organochlorine pesticide banned by EPA in 1990)(SWRCB 2018a).

CWA Section 401 requires an applicant pursuing a federal permit to conduct any activity that may result in a discharge of a pollutant to obtain a water quality certification (or waiver) from the applicable RWQCB. The RWQCBs primarily implement basin plan policies through issuing waste discharge requirements for waste discharges to land and water. The RWQCBs have also been delegated responsibility for administering the NPDES permit program, which is designed to manage and monitor point and nonpoint source pollution.

NPDES General Permit for Discharges of Storm Water Associated with Construction Activity

As noted above, the portion of the NPDES program that regulates stormwater discharges associated with construction activities applies to construction sites which disturb over one acre. The NPDES General Permit for Discharges of Storm Water Associated with Construction Activity applies to all of California. Since the proposed project would disturb more than 1 acre of land, the project will be subject to the General Permit for stormwater discharges. Administration of the General Permit has not been delegated to cities, counties, or Regional Boards but remains with the State Board. Enforcement of permit conditions, however, is the responsibility of Regional Board staff, assisted by local municipal or county staff. Prior to construction grading for a project, applicants are required to file a "Notice of Intent" (NOI) with the State Board to comply with the General Permit and prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) which addresses measures to be included in the project to minimize and control runoff during and after construction. The SWPPP is required to specify the site-specific best management practices (BMPs) to control erosion and sedimentation and discharges of other construction-related pollutants (e.g., petroleum products, solvents, paints, concrete) that could contaminate nearby water resources during the construction phase. The SWPPP is also required to contain a summary of the structural and non-structural BMPs to be implemented during the post-construction period. The SWPPP is to be kept on-site during construction, and is to be updated each year as site development proceeds.

DWR's Awareness Floodplain Mapping Project

The California Department of Water Resources (DWR) initiated the Awareness Floodplain Mapping project in order to identify flood hazard areas for areas that are not mapped under the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program (NFIP) and to provide the community and residents an additional tool in understanding potential flood hazards currently not mapped as a regulated floodplain. The awareness maps identify the 100-year flood hazard areas using approximate assessment procedures. These floodplains are shown simply as flood prone areas without specific depths and other flood hazard data. These maps are not FEMA regulatory floodplain maps; however, at the request of the community, FEMA would include this data on their maps (DWR 2022b).

Sustainable Groundwater Management Act

In September 2014, Governor Brown signed the Sustainable Groundwater Management Act (SGMA). The goal of the legislation is to sustainability manage California's groundwater basins identified as medium to critically overdrafted subbasins. SGMA required that all medium to critically over drafted subbasins identified by DWR be managed by a groundwater sustainability agency (GSA). The GSA is responsible for locally managing the groundwater subbasin through the development and implementation a Groundwater Sustainability Plan (GSP). For medium and high priority groundwater basins and subbasins, the preparation of the GSPs is mandatory, with adoption deadlines of 2020 or 2022 depending on the basin's priority. As the primary water purveyor in the Westside Subbasin, the Westlands Water District is the designated Groundwater Management Agency for the subbasin. DWR has designated the Westside Subbasin as a critically overdrafted basin for which a draft GSP was adopted by WWD on January 7, 2020. The purpose of the GSP is to characterize groundwater conditions in the Westside Subbasin, evaluate and report on conditions of overdraft, establish sustainability goals and sustainability management criteria, and describe projects and management actions the GSA intends to implement to achieve sustainability by 2040.

Westlands Water District

The Westlands Water District provides agricultural irrigation water to growers and municipal and industrial users from surface water deliveries provided by the U.S. Bureau of Reclamation from the Central Valley Project (CVP) facilities that convey captured Sierra snowmelt to the west side of the San Joaquin Valley. In an ongoing effort to adapt to surface supply shortages, and to reduce groundwater overpumping, the District provides funding for education and technology, enabling growers to effectively utilize surface water allotments through efficiencies and conservation. The District also monitors the water quality and quantity of pumped groundwater as part of its Water Management Plan (WWD 2013).

A key component of the District's Water Management Plan is water conservation. This program consists of the following elements.

- Irrigation Guide for water requirements per crop
- Water Conservation and Management Handbook
- Workshops and meeting on water management information
- Technical assistance and conservation computer programs
- Meter repair and update program
- Groundwater monitoring

- Pump efficiency tests
- Conjunctive use of supplies
- Irrigation System Improvement Program
- Satellite imagery purchased about once every two weeks

As discussed above, WWD serves as the groundwater management authority for the subbasin, pursuant to the Sustainable Groundwater Management Act.

Kings County

2035 Kings County General Plan

The 2035 Kings County General Plan contains the following policies related to hydrology and water quality that are relevant to the Cherry Solar Project:

Resource Conservation Element

A. Water Resources

RC Policy A1.4.1: Evaluate proposed land uses and development projects for their potential to create surface and groundwater contamination from point and non-point sources. Confer with other appropriate agencies, as necessary, to assure adequate water quality review to prevent soil erosion; direct discharge of potentially harmful substances; ground leaching from storage of raw materials, petroleum products or waste; floating debris; and runoff from the site.

RC Policy A1.4.2: Monitor and enforce provisions to control water pollution contained in the U.S. EPA National Pollutant Discharge Elimination System (NPDES) program as implemented by the California Water Quality Control Board, Central Valley Region.

RC Policy A1.4.3: Require the use of feasible and cost-effective BMPs and other measures designed to protect surface water and groundwater from the adverse effects of construction activities and urban and agricultural runoff in coordination with the California Water Quality Control Board, Central Valley Region.

RC Policy A1.4.4: Encourage and support the identification of degraded surface water and groundwater resources and promote restoration where appropriate.

Health and Safety Element

A. Natural Hazards

HS Policy A4.1.1: Review new development proposals against current Federal Emergency Management Agency (FEMA) digital flood insurance rate maps and California Department of Water Resource special flood hazard maps to determine project site susceptibility to flood hazard.

HS Policy A4.1.2: Reserve FEMA designated flood hazard areas for agricultural and natural resource conservation uses along the floodway channels and Tulare Lake Basin.

HS Policy A4.1.3: Determine base flood elevations for new development proposals within or adjacent to 100 year flood zone areas as identified in latest FEMA Digital Flood Insurance Rate Map, to definitively assess the extent of property potentially subject to onsite flood hazards and risks.

HS Policy A4.1.5: Regulate development, water diversion, vegetation removal, and grading to minimize any increase in flood damage to people and property.

HS Policy A4.1.6: New development shall provide onsite drainage or contribute towards their fair share cost of off-site drainage facilities to handle surface runoff.

HS Policy A4.1.7: Consider and identify all areas subject to flooding in the review of all land divisions and development projects.

HS Policy A4.1.8: Enforce the "Kings County Flood Damage Prevention Ordinance," Chapter 5A of the Kings County Code of Ordinances.

Kings County Code of Ordinances

Kings County Flood Damage Prevention Ordinance

Kings County maintains a floodplain management program which is implemented through the County's *Flood Damage Prevention Ordinance* (Chapter 5A of the Kings County Code of Ordinances). The purpose of this ordinance is to ensure that proposed development is constructed to prevent flood damage, and to ensure that development in those areas can avoid or withstand flooding without increasing flood risk elsewhere. Flood prevention and control in community districts and urban fringe areas are most effectively deterred by structural means such as curbs, gutters and storm drainage systems. In more rural and less developed Agriculture and Open Space areas, more passive measures are relied upon such as high crowns on roadway pavement to divert floodwaters onto adjacent properties that are more suited to accommodate the diverted drainage.

Kings County Improvement Standards

The Kings County Improvements Standards serves as an engineering reference for Kings County staff and private parties in the design and construction of improvements for public works projects and private development improvements. The standards include engineering design specifications for the construction of streets, water supply systems, storm drainage, and sewage disposal.

Environmental Evaluation

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Water Quality Standards and Waste Discharge Requirements

Less-than-Significant Impact. Water quality standards can refer to drinking water standards or surface water standards. Further, there are separate surface water standards for discharges from wastewater treatment plants and for discharges of stormwater. These are discussed in turn below.

Drinking Water Standards - No Impact: Drinking water standards are implemented by the State Water Resources Control Board, and are applicable to local water distribution systems for domestic water supply. There are no plans to install a domestic water distribution as part of the Cherry Solar Project. Since drinking water for construction and operational staff would be provided by bottled water delivered by truck, the drinking water standards would be applicable at the water bottling plant. (See Section *4.19. Utilities and Service Systems* for a detailed discussion of water supply.)

Wastewater Treatment Standards – Less-than-Significant Impact: Waste Discharge Requirements generally refers to standards applied to local wastewater treatment facilities by the Regional Water Quality Control Board for quantities and quality of wastewater discharge. Individual septic systems are regulated under the Kings County Plumbing Code, which sets forth design criteria and standards for their installation. The general requirements for septic leachfield design are indicated on County's "Septic Tank Absorption Map," which classifies the County soils into four broad categories and indicates general specifications for the number of square feet of leaching area required for each 100 gallons of septic tank capacity for each soil category. The entire Cherry Solar Project site is mapped as Soil Type "B" which requires 60 square feet of leaching area for each 100 gallons of septic tank capacity (Kings County 2001). The Cherry Solar Project will utilize an on-site septic tank and leachfield system for disposal of wastewater associated with the O&M building, which is planned to be located adjacent to the east site boundary, approximately one mile north Nevada Avenue. This location is well within the Soil Type "B" area and at least one mile west of the area where the County would require an engineered septic system. As such, soils in the planned leachfield area would be capable of adequately supporting the use of a septic tank for the project.

As noted previously, the daily staffing needs during project operations would vary considerably depending maintenance and repair activities required on any given day. However, it is expected that the average staff level would be up to 10 workers per day. Based on a peak wastewater generation rate of 50 gallons per day (gpd) per person, the average peak daily volume of wastewater generated would be approximately 500 gallons. This is well below the 2,500 gpd threshold where Waste Discharge Requirements (WDRs) would be required for a small community system from the Regional Water Quality Control Board. The septic and leachfield system at the Cherry Solar Project will be designed in accordance with the Kings County Plumbing Code and the Local Area Management Program (LAMP) as approved by the State Water Resources Control Board (SWRCB), and would subject to the approval of the Kings County

Community Development Agency and Environmental Health Services Division, which would ensure compliance with all applicable standards in order to avoid impacts to groundwater quality (Kings County 2016). During construction of the Cherry Solar Project, sanitary needs will be provided by portable chemical toilets which will be serviced by an outside contractor as needed. Therefore, the Cherry Solar Project will meet waste discharge requirements and the impact would be *less than significant*.

Stormwater Standards – No Impact: The Central Valley Regional Water Quality Control Board has not established numeric standards for surface water runoff quality; therefore, no surface water quality standards apply to the Cherry Solar Project. (See following paragraphs for detailed discussions of surface water quality.)

Substantially Degrade Surface or Ground Water Quality?

Less-than-Significant Impact with Mitigation Incorporated. During the construction and decommissioning phases, there is a potential for discharges of hazardous materials that could adversely affect the quality of surface water or groundwater. Spills or leaks from heavy equipment and machinery can result in oil and grease contamination of stormwater. Staging areas and building sites can be the source of pollution due to paints, solvents, cleaning agents, and metals contained in the surface of equipment and materials. Gross pollutants such as trash, debris, and organic matter are additional potential pollutants associated with the construction and decommissioning phases of the project. The potential for discharges of hazardous materials to degrade water quality during the construction and decommissioning phases of the project represents a potentially significant impact.

The potential water quality impacts resulting from discharges of hazardous materials during construction and decommissioning would be reduced to less-than-significant levels through implementation of Mitigation Measure HYD-1: Stormwater Quality Protection, as set forth under item 'c)' below.

***Mitigation Measure*: Implement MM HYD-1: Stormwater Quality Protection.**

Under Mitigation Measure HYD-1, the measures to prevent hazardous contamination during the construction and decommissioning phases will be specified in the Storm Water Pollution Prevention Plans (SWPPPs) required to be implemented under the mitigation measure. (The project is anticipated to require two SWPPPs, one to be implemented during construction and one to be implemented during decommissioning.) The project SWPPPs will include construction and decommissioning phase housekeeping measures for control of contaminants such as petroleum products, paints and solvents, detergents, fertilizers, and pesticides, as well as vehicle and equipment fueling and maintenance practices, and waste management and disposal control practices, among other things. The first SWPPP would also include housekeeping measures to be followed during project operations. In addition, the solar facility would be required to implement a Hazardous Materials Business Plan (HMBP) as specified in Mitigation Measure HAZ-1, which would ensure the proper handling and storage of hazardous materials during project operation. Additionally, the use, storage, transport, and disposal of hazardous materials and waste would be required to conform to existing laws and regulations (see Section *4.9. Hazards and Hazardous Materials* for detailed discussion.)

With the implementation of Mitigation Measure HYD-1, particularly the hazardous materials provisions of the required SWPPPs, the potential for impacts to surface and groundwater quality from hazardous materials releases during project construction, operation, and decommissioning of the Cherry Solar Project would be *less than significant*.

b) Would the project decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impact sustainable groundwater management of the basin?

Less-than-Significant Impact. The Cherry Solar Project would require water supplies during construction, operation, and decommissioning, as discussed in turn below.

Project Construction

During the grading and construction phases, water would be regularly applied to exposed soils and internal access driveways for dust suppression. During earthwork, water would also be required in soil conditioning for optimum moisture content. As discussed in the Section *2.2. Project Description*, it is estimated that the 250 MW Cherry Solar Project will require a total of 312 acre-feet of water during its 12-month construction period. It is anticipated that water for construction will be obtained from the existing on-site agricultural well or another well in the vicinity.

Current groundwater pumping in the area varies substantially from year to year depending on availability of surface water deliveries of Central Valley Project (CVP) water delivered through the Westlands Water District (WWD). During years when WWD receives most of its CVP water allocation, groundwater provides a minor portion of irrigation requirements. During years of severe drought, like 2013 through 2016, groundwater pumping increases substantially to make up for shortfalls of surface water deliveries.

In 2014, the California Legislature passed the Sustainable Groundwater Management Act (SGMA) which requires that all medium to critically overdrafted subbasins identified by the California Department of Water Resources (DWR) be managed by a groundwater sustainability agency (GSA). The Cherry Solar Project is located in the Westside Subbasin. As the primary water purveyor and local agency within the Westside Subbasin, Westlands Water District is the designated GSA for the Subbasin. DWR designated the Westside Subbasin as a critically overdrafted basin which required WWD to prepare a Groundwater Sustainability Plan by January 31, 2020. On January 8, 2020, the WWD Board of Directors adopted the Groundwater Sustainability Plan (GSP) for the 622,215-acre Westside Subbasin (which includes WWD's entire 614,700-acre service area). The GSP determined that the long-term sustainable yield for the Subbasin is 305,000 acre-feet per year prior to management actions being implemented (WWD 2022). To manage groundwater during the initial years of GSP implementation, the GSA has established an interim allocation of groundwater extraction. The groundwater allocation framework is intended to manage demand by equally distributing the total annual pumping from the Subbasin on the basis of land acreage overlying the Subbasin. The groundwater allocation program includes a "transition period" from 2022 to 2030, in which a uniform annual allocation is initially established at 1.3 acre-feet per acre, which is to be subsequently reduced each year by 0.1 AF per acre until 2030 when the allocation would reach the long-term allocation of 0.6 AF per acre per year (WWD 2022). For purposes of this analysis, the

groundwater supply available to the Cherry Solar Project is conservatively assumed to be the long-term allocation of 0.6 AF per acre per year.

The Cherry Solar Project will be constructed over 12-month period, resulting in water demand of 312 acre-feet per year (afy), or 0.15 af/acre. This volume of groundwater pumping is well below the GSA's long-term groundwater extraction allocation of 0.6 AF per acre per year. Therefore, the groundwater pumped during project construction would not decrease groundwater supplies or contribute to the lowering of the local groundwater table level.

Project Operation

During project operation, non-potable water will be required for activities such as panel cleaning, washing and rinsing equipment, and other operational uses. As described in Section *2.2. Project Description*, the combined water usage from all operational activities is estimated to total 27.8 acre-feet annually over the 2,079-acre project site.

Operational water supplies will be provided by Westlands Water District (WWD) through its existing system of lateral pipelines for conveyance of imported surface water. Under the WWD's Municipal and Industrial (M&I) Regulations, an applicant may apply for and receive up to 5 acre-feet for water for M&I use. The District has estimated that solar development requires 3 to 5 acre-feet per year per 160 acres. In order to provide for sufficient water supply for solar projects greater than 160-acres in size, the WWD has established an exception to the M&I limit whereby solar facilities would be eligible to receive up to 5 acre-feet per year for each 160 acres developed. The estimated 27.8 acre-feet per year (afy) of operational water consumption for the project is equivalent to 0.0134 afy per acre or 2.14 afy per quarter section (160 acres). Since this is well within the 5.0 afy per acre of imported surface water per quarter section that the project would be eligible to receive under WWD's M&I rules, there will be no need to augment surface water supplies with groundwater for project operations.

Temporary periodic curtailment of surface water supplies to meet the project's operational demands is not currently foreseen. Even during extreme drought years when imported water may not be available from the Central Valley Project, the WWD will typically purchase surface water on the open market in order to provide uninterrupted supply for its M&I customers. Alternatively, the relatively small volumes of untreated water that would be required for project operations could be obtained from an existing agricultural well on the site or in the vicinity. The 27.8 afy of operational water demand would be equivalent to 0.0134 afy/acre, or 2.2 percent of the GSA's long-term groundwater extraction allocation of 0.6 afy per acre. This very low level of temporary demand for groundwater would not decrease groundwater supplies or contribute to the lowering of the local groundwater table level. In the unlikely event that no groundwater sources are available, the relatively small volumes of untreated water required could be purchased from an alternative source, such as the City of Lemoore, and trucked to the site.

The Cherry Solar Project would result in less than one percent increase in impervious surface coverage of the project site with surfaces created at the O&M facility, substation, and battery storage facility, and at the equipment pads which would be widely dispersed throughout the project site. The solar panels themselves would be elevated above ground level with permeable soils and vegetation beneath. Thus the solar arrays would not displace runoff, and rainwater falling from edges of the panels would spread to vegetated areas beneath the arrays and percolate into the

ground. The minimal addition of impervious surfaces would not prevent rainfall from percolating into the underlying soils. The runoff from these surfaces would be displaced to immediately adjacent vegetated areas and would be readily absorbed into the ground. Therefore, project operation would not interfere with groundwater recharge at the project site.

Project Decommissioning

Untreated water would be required during decommissioning, although the volume of water required is expected to be less than required during the construction phase. Since vegetative cover would be maintained on the site during deconstruction, there would be relatively little exposed soil that would require watering for dust suppression. Similarly, water would not be required for soil conditioning during grading. The source of water during decommissioning is expected to be from an existing agricultural well located on the project site or nearby. The total groundwater pumped during decommissioning is expected to be substantially less than the estimated 312 acre-feet required during project construction. Under a conservative assumption that water demand during decommissioning would be same as during construction, and that decommissioning would be completed in one year or less, this would represent a water demand of about 0.15 AF per acre over the 2,079-acre project site (or 0.15 AF per acre per year). This would be far less than the GSA's long-term extraction limit of 0.6 AF per acre per year; therefore, the project water demands during decommissioning would not result in overpumping or exceedance of the long-term sustainable yield of the groundwater basin. In summary, the groundwater pumped during decommissioning would not decrease groundwater supplies or contribute to the lowering of the local groundwater table level.

In summary, the Cherry Solar Project would not decrease groundwater supplies or interfere substantially with groundwater recharge, and thus the impact of the Cherry Solar Project on the sustainable groundwater management of the basin would be *less than significant*.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would?

i. Result in substantial erosion or siltation on- or off-site?

Less-than-Significant Impact with Mitigation Incorporated. There are no natural drainage courses on the Cherry Solar Project site or in the vicinity, with the nearest natural water body being the Kings River located approximately 4.7 miles east. Several irrigation canals and ditches pass through and alongside the project site, and a tailwater reservoir is located adjacent to the eastern site boundary. As noted, these canals, ditches and reservoir are no longer utilized to convey and store irrigation water and return flows at the site. However, these features may serve to incidentally capture and hold rainwater during the wet season. The project includes no proposal to alter the existing canal channels, ditches, or dry tailwater basin on the site, or to substantially modify the ground contours or surface drainage patterns on the site.

The installation of the project solar facilities would involve site clearing, rough grading, soil compaction, establishment of temporary construction staging areas, construction of internal access driveways, and trenching for buried electrical conduits. Since the existing site topography is virtually

level, only minor grading would be required for the project. Ground preparation would include tilling and grading to smooth out existing agricultural furrows, followed by compaction with rollers. Finished grades would be designed to provide for positive site drainage. As discussed in the Section *2.2. Project Description*, site clearing and soil preparation would occur incrementally and would commence in a given area only when it is needed for the next construction phase. Vegetative cover would be retained as long as possible to minimize exposed soils and reduce potential for erosion and wind-blown dust. Once vegetation is removed, the exposed and disturbed soil would be susceptible to erosion from wind and rain. During the decommissioning phase, the soil on the project site would again be subject to exposure and disturbance resulting in potential erosion by water and wind, although existing vegetation would not be removed. Unless mitigated, the potential for erosion and siltation impacts would be potentially significant.

In order to mitigate the potential erosion and sedimentation impacts associated with project construction and decommissioning to less-than-significant levels, the following mitigation measure shall be implemented in conjunction with the Cherry Solar Project:

> ***Mitigation Measure HYD-1: Stormwater Quality Protection.*** *Prior to construction grading and prior to the decommissioning, the applicant shall be required to file a "Notice of Intent" (NOI) with the SWRCB to comply with the General Construction Permit and prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP for each project phase shall be prepared by a licensed engineer and shall detail the treatment measures and best management practices (BMPs) to control pollutants that shall be implemented and complied with during the construction and post-construction phases of solar development. The SWPPP(s) required for decommissioning shall specify BMPs to be implemented during that final project phase. The construction contracts for each project phase, and for the decommissioning phase, shall include the requirement to implement the BMPs in accordance with the SWPPPs. The SWPPPs will specify such practices as: designation of restricted-entry zones, sediment tracking control measures (e.g., crushed stone and/or riffle metal plate at construction entrance), truck washdown areas, diversion of runoff away from disturbed areas, protective measures for sensitive areas, outlet protection, application of mulch for soil stabilization during construction, and provision for revegetation upon completion of construction within a given area. The SWPPPs will also prescribe treatment measures to trap sediment once it has been mobilized, such as straw bale barriers, straw mulching, fiber rolls and wattles, silt fencing, and siltation or sediment ponds. Upon completion of each project phase, the finished grades beneath and around the finished rows of solar panels will be revegetated with a seed mix which has been approved by the Kings County Community Development Agency. The reestablished vegetated cover would stabilize the soils and minimize the potential for post-construction erosion. The construction contracts for each project phase, and for the decommissioning phase, will include the requirement to implement the BMPs in accordance with the SWPPPs, and proper implementation of the specified BMPs is subject to inspection by the Regional Board staff.*

In summary, the implementation of Mitigation Measure HYD-1 in conjunction with the Cherry Solar Project would reduce the potential erosion and siltation impacts resulting from the project to *less-than-significant* levels.

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less-than-Significant Impact. The Cherry Solar Project would result in less than one percent increase in impervious surface coverage of the site, which in turn would result in a negligible increase in localized runoff. The impervious surfaces created by the project would include the concrete pads for inverters and transformers, and the footings and pads for the on-site O&M building, substation, battery storage facility, and the small paved parking area in the operations yard. The maintenance driveways of the project would be surfaced with permeable gravel to allow continued percolation of rainfall into the underlying soil. As shown in Table PD-1 in Section *2.2. Project Description*, the project would cover 0.13 percent of the site with impervious surfaces, leaving 99.87 percent of the site permeable for percolation of runoff, including 92.35 percent in vegetative cover and 7.52 percent in permeable gravel driveways.

Since the impervious surfaces of the dispersed equipment pads and small parking area would prevent percolation into previously permeable underlying soils, the slight volume of runoff from these facilities would be displaced to immediately adjacent vegetated areas where this very small amount of runoff would be readily absorbed into the ground. The solar panels themselves would be elevated above ground level with permeable vegetation covered soils beneath. Thus the solar arrays would not displace runoff, and rainwater falling from edges of the panels would spread to vegetated areas beneath the arrays and percolate into the ground.

The terrain of the project site is virtually flat, with a maximum gradient of 0.2 percent across the site. Under current conditions, rainfall percolates into the soil with little or no runoff leaving the site. The Cherry Solar Project would result in no substantial modification of existing site grades. During normal rain events, runoff from impervious surfaces would be absorbed by the adjacent vegetated ground and percolate into the soil. During more intense or prolonged storm events, the ground would become saturated and relatively minor volumes of stormwater may temporarily pond on the surface and gradually percolate into the ground, as occurs under existing conditions. Due to the virtually level ground conditions, and the complete coverage of the site with pervious soils to absorb rainwater, the conditions that would allow for stormwater to be mobilized and concentrated in sustained runoff flows do not exist on the site under pre-project conditions. The very minor introduction of small areas of impervious surfaces distributed throughout the site would not have a discernable effect on drainage runoff patterns on the site, and would not result in flooding on or off the site.

In summary, the project's minimal alteration of the virtually level site terrain, and the very minor project coverage of the site with impervious surfaces, would have a negligible effect on runoff patterns on the site. Therefore, drainage and flooding impacts associated with the Cherry Solar Project would be *less than significant*.

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less-than-Significant Impact. As discussed in item 'c.ii' above, the addition of 0.13 percent impervious coverage at the Cherry Solar Project site would have a negligible effect on runoff patterns at the site, and is unlikely to generate runoff flows that would leave the site. The irrigation canals that run through and adjacent to the site were designed and constructed to convey irrigation water throughout the site. Under existing conditions, these canals and ditches capture rainwater that incidentally enters these features from the adjacent fields. There is no existing system drainage collection system that conveys water from agricultural fields to these canals and ditches. The Cherry Solar Project does not require an internal stormwater drainage system since rainfall would percolate directly into the ground at the site. Given that the impervious surfaces introduced by the project would be located in the site interior, away from the adjacent irrigation canals and ditches, there will be little if any additional runoff generated by the project at would incidentally enter these canals. Therefore, these canals would continue to have sufficient capacity to accept the minor flows that might leave the project site during a major storm event.

Regarding the issue of polluted runoff, the project would not introduce substantial sources of stormwater pollutants, such as oil, grease, metals, and debris typically associated with stormwater pollution generated on urban streets and parking lots. The very minor leaks of oil or lubricants from maintenance vehicles and equipment used at the project would not be substantially different in nature or quantity from those expected from farm machinery used at the site under pre-project conditions. Therefore, the impacts associated with the potential for additional sources of polluted runoff to be generated by the project would be less than significant.

In summary, the impact associated with the potential for the Cherry Solar Project to create or contribute runoff water which would exceed the capacity of stormwater drainage systems or result in substantial additional sources of polluted runoff would be *less than significant*.

iv. Impede or redirect flood flows?

No Impact. The Cherry Solar Project is not located within the flood zones for the 100-year or 500-year events, as mapped by the Federal Emergency Management Agency (FEMA). FEMA's Flood Insurance Rate Map (FIRM) covering the project site indicates that the project site is entirely located within Zone X, which applies to areas "[d]etermined to be outside the 0.2% annual chance (500-year) floodplain" (FEMA 2009a). There is a very large area of mapped floodplain associated with the Tulare Dry Lake to the southeast of the project site. The nearest edge of Tulare Lake's 100-year floodplain generally follows the alignment of SR-41 and is approximately 1.8 miles southeast of the project site at its nearest point (FEMA 2009b).

The California Department of Water Resources (DWR) administers the Awareness Floodplain Mapping Program, the purpose of which is to identify flood hazard areas for areas that are not mapped under FEMA's National Flood Insurance Program (NFIP), and to provide the community and residents an additional tool in understanding potential flood hazards currently not mapped as a regulated floodplain. In DWR's mapping, floodplains are shown simply as flood prone areas without specific depths and other flood hazard data. The nearest DWR flood zone is mapped as a long strip

of land running parallel to and west of the California Aqueduct, and is located approximately 5.0 miles west of the project site at its nearest point (DWR 2020b).

In summary, no portion of the project site is subject to flooding during the 100-year or 500-year events. Since the Cherry Solar Project is not subject to potential flooding hazard, the project would have *no impact* with respect to impeding or redirecting flood flows.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact. Within the San Joaquin Valley, there are large areas of land that are subject to inundation flooding in the event of a dam failure at a large reservoir in the region. Portions of Kings County located to the east and northeast of the Cherry Solar Project site are subject to potential inundation in the event of the failure of dams located in the Sierra Nevada. The Pine Flat Dam, located upstream on the Kings River, and the Terminus Dam on the Kaweah River, are the only dams in the region which, if breached, might cause flooding of significance within Kings County. The mapped inundation areas are shown on Figure HS-7 in the Health and Safety Element of the 2035 Kings County General Plan, and are described below.

The failure of the Pine Flat Dam would result in a potential inundation area that could extend as far west as the intersection of SR-41 and Nevada Avenue, approximately 2.5 miles east of the project site. A failure of the Terminus Dam on the Kaweah River could inundate an area extending as far southwest as the intersection of Kansas and 10th Avenues located south of the City of Hanford, approximately 18 miles east of the project site (Kings County 2010e). In summary, the Cherry Solar Project site is not located within the mapped inundation areas for any of the reservoirs in the region, and therefore would not be subject to risk of flooding in the unlikely event of dam failure. There are no other impoundments or diked areas nearby, and therefore the project site would not be subject to risk of flooding due to levee failure.

With respect to tsunamis, the Cherry Solar Project site would not be subject to inundation from potential tsunamis generated in the Pacific Ocean due to its inland location more than 70 miles from the coast, and given its elevation at over 200 feet above sea mean level.

Seiches are seismically-induced waves in an enclosed body of water such as a lake or reservoir. Severe seismic shaking can cause impounded water to spill beyond the banks and inundate surrounding lands. There are no open bodies of water in the project vicinity with the exception of the wastewater settling ponds for NAS Lemoore, which are located 4.7 miles north of the Cherry Solar Project site. These ponds are relatively shallow, and in the unlikely event of seismic shaking severe enough to result in overspill, the spilled water would tend to flow down-gradient toward the Kings River to the east. The Cherry Solar Project site is located up-gradient or cross-gradient relative to the settling ponds, and given the distance to the ponds, there is little or no potential that spilled water from the ponds would reach the project site.

In summary, the Cherry Solar Project would not be subject to flooding due to dam failure, tsunami, or seiche, and thus would not be at risk of release of pollutants from such potential inundation. Thus there would be *no impact* in terms of hazards associated with such events.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact. The Cherry Solar Project site is located within the Tulare Lake Hydrologic Basin Planning Area, for which the Basin Plan was revised most recently in July 2016. The Basin Plan provides for the protection of beneficial uses of surface waters including agricultural, industrial, recreational, biological, and groundwater recharge uses. The project site does not contain any natural hydrologic features and is not hydrologically connected to a natural water feature. The project would not affect the existing surface water features (such as canals), and groundwater recharge would not be affected due to the very small amount of impervious surfaces created by the project. As noted above, the project would be required to adhere to NPDES storm water runoff control requirements during construction and operation. This includes preparation and implementation of SWPPPs in order to control stormwater runoff and minimize erosion, siltation, and contamination by hazardous materials during construction, operation, and decommissioning, as required in Mitigation Measure HYD-1. The project septic system would be designed, constructed and operated in compliance with the Local Agency Onsite Wastewater Treatment System ("OWTS") Management Program ("LAMP") and the Kings County septic design standards, which would prevent groundwater impacts from wastewater disposal. The Cherry Solar Project would not include any other waste discharges that could conflict with the Basin Plan.

The Sustainable Groundwater Management Act (SGMA), passed in 2014, requires that all medium to critically overdrafted subbasins identified by the California Department of Water Resources (DWR) be managed by a groundwater sustainability agency (GSA). The GSA is responsible for locally managing the groundwater subbasin through the development and implementation a Groundwater Sustainability Plan (GSP). Medium and high priority groundwater subbasins are required to submit their GSP by 2022 and critically overdrafted subbasin are required to submit their GSP by 2020. As the primary water purveyor and local agency overlying the Westside Subbasin, Westlands Water District is the designated GSA for the subbasin. DWR designated the Westside Subbasin as a critically overdrafted basin which required WWD to prepare a Groundwater Sustainability Plan by January 31, 2020. Preparation of the GSA for Westside Subbasin commenced in 2016, and the final GSP was adopted by the WWD Board of Directors on January 8, 2020 (DWR 2020). The GSP determined that the long-term sustainable yield for the subbasin is 305,000 acre-feet per year across the 622,215-acre subbasin area (which includes WWD's entire 614,700-acre service area). The GSA has prepared a groundwater allocation framework to manage demand by equally distributing the total annual pumping from the Subbasin on the basis of land acreage overlying the Subbasin. The groundwater allocation program includes a "transition period" from 2022 to 2030, in which a uniform annual allocation is initially established at 1.3 acre-feet per acre, which is to be subsequently reduced each year by 0.1 AF per acre until 2030 when the allocation would reach the long-term limit of 0.6 AF per acre per year. The groundwater will be distributed based on per-acre land ownership for all qualifying lands. For purposes of this analysis, the groundwater supply available to the Cherry Solar Project is conservatively assumed to be the long-term allocation of 0.6 AF per acre per year.

As discussed above, the Cherry Solar Project would require 0.15 AF per acre per year during project construction, and 0.0134 AF per acre per year during project operation, each of which is well below the GSA's long-term groundwater extraction limit of 0.6 AF per acre per year. Thus the Cherry Solar Project would not conflict with this groundwater management plan.

In summary, the Cherry Solar Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan and thus would have *no impact* in this regard.

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4.11. LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant	No Impact
a) Physically divide an established community?	☐	☐	☐	■
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	■

Setting

Existing Land Use

The Cherry Solar Project site consists of agricultural fields with related features such as irrigation canals, ditches, tailwater reservoir, water pipelines, standpipes, tanks, pump stations, filter systems, power lines, and unimproved agricultural roads. On the eastern site boundary there is an approximately 20-acre area occupied by a former tailwater pond which historically received irrigation return flows but has been dry for the past several years with the advent of drip irrigation which illuminated such return flows. Several former agricultural irrigation canals and ditches run alongside and within the project site, but these are no longer used and are also dry. Scattered trees and shrubs are present around the edge of the former tailwater basin and along the eastern site boundary from the pond area to Nevada Avenue. In recent years, the site has typically been cultivated for cotton, tomatoes, and wheat, with some fields left fallow.

The lands surrounding the Cherry Solar Project site consist mainly of agricultural lands along with dispersed ranch complexes and agricultural residences. These include: 1) The Shannon Ranch complex (including 20 dwellings) located on Avenal Cutoff Road 1.0 mile northwest; 2) The Stone Land Company Ranch located 1.5 miles west on Nevada Avenue; 3) Three ranch complexes (with a total of 8 dwellings) along the east side of SR-41, located 2.0 to 4.0 miles east of the project site; and 4) Five dispersed agricultural residences located 4.0 to 4.5 miles northeast of the project site along 22nd Avenue.

The nearest population centers include the community of Stratford located 5.5 miles northeast, the City of Huron located 8.0 miles northwest, the community of Kettleman City located 9.0 miles south, the City of Lemoore located 10.0 miles northeast, and the Santa Rosa Rancheria located 10.0 miles east.

There are several completed solar generating facilities in the project vicinity, including: the Aquamarine Solar Facility (1.0 mile northeast); Mustang 2 (2.0 miles northeast); Slate Solar (3.0 miles northeast); the Kent South, Orion, Mustang and Westside Solar (3.0 to 6.0 miles north); and Kettleman Solar (5.0 miles south). In addition, there are two approved solar projects adjacent to the east boundary of the Cherry Solar Project site, including the Solar Blue and Chestnut Solar projects, which are both anticipated to be completed by the time the Cherry Solar Project begins construction. The 230-kV Nevada-Jayne Gen-Tie Line, completed in late 2021, runs along the south side of Nevada Avenue, opposite the project site.

Regulatory Context

2035 Kings County General Plan

The "Land Use Map" of the *2035 Kings County General Plan Land Use Element* shows the land use designation covering most of the site (1,919 acres) as "General Agriculture – 40 acre," and the remaining 160 acres at the western end of the site as "Exclusive Agriculture – 40 acre." The Exclusive Agriculture designation applies to areas within the flight paths of the Naval Air Station Lemoore and the General Agriculture designation generally applies to all other agricultural lands in the County located south of Kansas Avenue. Both of these land use designations fall under the broader General Plan category of Agricultural Open Space. In addition to a range of agricultural uses and ancillary activities, the General Plan allows solar voltaic generating facilities within the Agricultural Open Space areas of the County, as set forth in LU Policy B7.1.3. Energy producing facilities are allowed in the Exclusive Agriculture zone where such facilities would not create a hazard for aircraft, as set forth in RC Policy A1.2.4.

Kings County Development Code

As designated in the Kings County Zoning Plan, the entire Cherry Solar site is zoned "AG-40 General Agricultural-40" (Kings County 1964). As provided in Article 4 of the Kings County Development Code, commercial solar photovoltaic electrical generating facilities are permitted in this zoning district subject to a granting of a Conditional Use Permit by the Kings County Planning Commission (Kings County 2020).

Article 11, Section 1112(B)(2) of the Kings County Development Code requires that commercial-scale solar photovoltaic electrical facilities conform with specified standards. Most of these standards relate to agricultural land. The required standards, and the project's conformity with the standards, are addressed in detail in Section *4.2. Agriculture and Forestry Resources*.

NAS Lemoore Joint Land Use Study

The NAS Lemoore Joint Land Use Study (JLUS) involved a multi-agency effort managed by the Department of Defense (DOD) for cooperative land use planning between NAS Lemoore and adjacent communities to provide for compatibility between future community growth and the training and operational missions of the military installation. Since DOD has no regulatory authority for local land use outside the boundaries of the naval air station, the JLUS also includes planning recommendations for consideration by local jurisdictions (JLUSPC 2011).

The noise contour mapping prepared for the JLUS shows bands of noise contours exceeding 60 dB CNEL which correspond closely to the flight corridors surrounding the airfield (JLUSPC 2011). The aircraft noise corridor is reflected in the *2035 Kings County General Plan* "Land Use Map," which designates lands within a 3-mile buffer zone from the installation, plus the noise-impacted areas (exceeding 70 dB CNEL) south of the buffer zone, as "Exclusive Agriculture – 40-acre minimum (AX)." The intent of this land use designation is to provide a safety buffer zone around the base by limiting and discouraging intensive agricultural and structure-based land uses that may pose increased risks to inhabitants and base operations (Kings County 2010a). The JLUS also identifies height obstruction limits near NAS Lemoore, with the limits in a given area depending on its location relative to landing approach zones. The entire Cherry Solar Project site is mapped as lying approximately 4.2 miles south of the southern limits of Height Restriction Zone "D" which specifies height limits for ground structures of 500 feet above the ground surface (JLUSPC 2011).

Solar generating facilities are specifically addressed in JLUS Recommendation 17, which states: "Establish Minimum Technical Standards for Renewable Energy Facilities Located within NASL Overlay Zones I, II, and III (JLUSPC 2011, p. 2-51). The concern is with "solar farms creating excessive glare from the reflection of the sun" (JLUSPC 2011, p. 2-9). The main concern is with concentrating solar thermal technologies such as lenses or mirrors on a large scale with their reflective characteristics and tall tower collectors. However, "if there is no central collection tower, the new solar panels can be made non-reflective and arrays could be installed to not cause any height or reflective issues" (JLUSPC 2011, p. 2-12).

Environmental Evaluation

a) Would the project physically divide an established community?

No Impact. The Cherry Solar Project site is not located within or near an established community, so the proposed solar facilities would not physically divide any such community. As such, there is *no impact* in this regard

b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The potential for the Cherry Solar Project to conflict with the Kings County 2035 General Plan and Kings County Development Code, as well as the applicable land use recommendations of the NAS Lemoore Joint Land Use Study (JLUS), is discussed below.

Kings County

General Plan

The 2035 Kings County General Plan designates most of the Cherry Solar site (1,919 acres) as "Exclusive Agriculture – 40 acre," and the remaining 160 acres of the site as "General Agriculture – 40 acre." These land use designations fall under the broader General Plan category of Agricultural Open Space which permits a range of agricultural uses and ancillary activities, as well as solar voltaic generating facilities. Therefore, the planned installation of solar PV generating facilities within the project site would be consistent with the General Plan Land Use Map.

Zoning

As designated in the Kings County Zoning Plan, the entire Cherry Solar Project site is currently zoned "AG-40 General Agricultural-40." As provided in Article 4 of the Kings County Development Code, utility-scale photovoltaic electricity generation is a conditionally permitted use in this agricultural zoning district. Therefore, the Cherry Solar Project would be consistent with the development code upon the granting of the subject Conditional Use Permit for the project.

Section 1112.B.2 of the Kings County Development Code establishes specific requirements that must be satisfied for the granting of a Conditional Use Permit for a solar generating facility. Since most of the requirements pertain to agriculture, the project's ability to meet each of the requirements is

addressed in Section *4.2. Agriculture and Forestry Resources*. In summary, all of the applicable requirements in Section 1112.B.2 would be satisfied by the Cherry Solar Project.

NAS Lemoore

Safety and Noise

The mapping prepared for the JLUS shows that the project site lies within the military aircraft flight path and that approximately 85 percent of the site is subject to noise levels lower than 60 dBA and approximately 15 percent of the site is subject to aircraft noise levels between 60 and just over 65 dBA CNEL. As discussed above, the County General Plan 'AX – Exclusive Agriculture' designation was specifically created to reflect the NAS Lemoore landing approach flight patterns and the corresponding high noise conditions on those lands. While the intent of the AX land use designation is to limit intensive land uses that may pose increased risks to inhabitants and base operations, low intensity solar PV generating facilities are not noise sensitive land uses and thus would not be incompatible with relatively higher risks and noise levels from overhead flight operations. The noise from military aircraft overflights is addressed in detail in Section *4.13. Noise*.

Height Obstruction Limits

The JLUS also identifies height obstruction limits near NAS Lemoore, with the limits in a given area depending on its location relative to landing approach zones. The entire Cherry Solar Project site is mapped as lying approximately 4.2 miles south of Height Restriction Zone "D" which has a height limit for ground structures of 500 feet above the ground surface (JLUSPC 2011). The tallest structures within the project would consist of structural elements associated with the on-site substation which would be as high as 75 feet, and the on-site communications tower which could be up to 100 feet tall. Most project structures would consist of solar arrays and inverter pads which would be up to 8 feet tall, as would the battery energy storage units, and the meteorological stations would be approximately 11 feet high. The monopoles for the gen-tie line extending 1.1 mile east from the site would be 100 feet tall. Thus, even if the Cherry Solar Project site was located within a Height Restriction Zone, the tallest structural features would be well within the 500-foot height limit and would not create operational obstructions.

Reflected Glare

The JLUS addresses concerns with aviation hazards from reflection and glare. Solar facilities are mentioned specifically for their potential to produce reflective surfaces, but the JLUS acknowledges that the main concern is with highly reflective mirrors used in concentrating solar thermal facilities. The JLUS concludes that "if there is no central collection tower, the new solar panels can be made non-reflective and arrays could be installed to not cause any height or reflective issues" (JLUSPC 2011, p. 2-12). Indeed, solar PV facilities employ glass panels that are designed to maximize absorption and minimize reflection to increase electricity production efficiency. To limit reflection, solar PV panels are constructed of dark, light-absorbing materials, and are given an anti-reflective coating or textured surface. With the addition of the anti-reflective coating or treatment, the reflectivity can be reduced to less than 4 percent of incoming sunlight. Since the solar panels would have low reflective intensity and would be covered with anti-reflective coating, any resulting glare effects would not be so bright as to disrupt aircraft operations in the area.

In this context, It is noted that a glint and glare study using the Sandia Laboratory's Solar Glare Analysis Tool (SGHAT) was prepared for the nearby Mustang Two Solar Project MND in August 2016. (The Mustang Two project is located two miles south of NAS Lemoore and is situated directly beneath the final approach corridor for incoming military aircraft.) In the analysis, impacts from solar glare were given three ranks, as follows: 1) potential for permanent eye damage; 2) potential for temporary after-image (a lingering image of the glare in the field of view); and 3) low potential for temporary after-image. Results from the analysis indicated that pilots flying over and near the Mustang Two solar facility would experience a low potential for a temporary after-image, and the potential would be limited to early morning from approximately April through September. The low potential for temporary after-image level is generally considered to be safe for pilots (Kings County 2017). The results of this glint and glare analysis are considered to be applicable to the Cherry Solar Project, which is 6 miles south NAS Lemoore, and only the extreme southwest corner of the Cherry Solar site is within the flight approach/departure path. Therefore, it is concluded that the PV solar panels installed at the Cherry Solar Project site would not produce light or glare that would pose a hazard to flight operations at NAS Lemoore (see Section *4.9. Hazards and Hazardous Materials* for further discussion of reflected glare).

In summary, the Cherry Solar Project would be consistent with the applicable provisions of the Kings County 2035 General Plan and the County Development Code, and would also be consistent with the local recommendations of the NAS Lemoore Joint Land Use Study. Therefore, the Cherry Solar Project would result in *no impact* with respect to potential conflict with any land use plan, policy, or regulation of an agency adopted for the purpose of avoiding or mitigating an environmental effect.

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4.12. MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	☐	☐	☐	■
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	■

Environmental Setting

Southern Kings County and western Fresno County include several oil and natural gas fields. The nearest oil field is the abandoned Westhaven oil field located approximately 2.5 miles northwest of the project site in Fresno County. There are three inactive oil/gas wells on the Cherry Solar Project site, two of which are formerly productive (now idle) oil wells, and one is a plugged well. Another plugged oil/gas well is located just south of Nevada Avenue opposite the site. The only other wells within a one mile radius of the project site are two plugged dry holes located near the southeast corner of Avenal Cutoff Road and the 28th Avenue alignment. The nearest active oil fields include the Kettleman North Dome oil field, located 9 miles southwest, and the Coalinga oil fields located 16 miles west of the project site. The nearest gas field is the abandoned Dudley Ridge gas field located 13 miles south of the project site (CalGEM 2022). (See Section 4.9. Hazards and Hazardous Materials for a detailed discussion of the on-site oil/gas wells.)

Kings County includes 11 former mineral extraction sites as mapped by the California Division of Mine Reclamation, consisting mainly of former sand and gravel quarries, and also including one former gypsum mine. All of these surface mining operations have been reclaimed (CGS 2022). The General Plan Resource Conservation Element notes that a small mercury mine once operated in southwestern Kings County near Parkfield but is now closed (Kings County 2010b). The nearest active surface mining sites are in western Fresno County and consist of two large sand and gravel operations near Coalinga, located approximately 16 miles southwest and 22 miles west of the project site (DMR 2022). There are no sand and gravel deposits in the project vicinity, in either Kings or Fresno counties.

Regulatory Context

State of California

California Geologic Energy Management Division

The California Geologic Energy Management Division (CalGEM) of the Department of Conservation is responsible for supervising the drilling, operation, maintenance, plugging, and abandonment of oil, gas, and geothermal wells. CalGEM's regulatory program promotes responsible development of oil, natural gas, and geothermal resources in California through sound engineering practices, prevention of

pollution, and implementation of public safety programs. CalGEM requires that land developments avoid building over or near plugged or abandoned oil and gas wells, or requires the remediation of wells to current CalGEM standards.

Kings County

Kings County General Plan

The 2035 Kings County General Plan includes the following goals, objectives and policies related to mineral resources that are relevant to the Cherry Solar Project:

Resource Conservation Element

G. Energy Resources

RC GOAL G1 Encourage the development of oil and gas energy sources provided that they do not degrade environmental quality.

RC OBJECTIVE G1.1 Ensure the restoration of oil and gas well sites to a pre-drilling condition after the completed use of a site.

RC Policy G1.1.1: Require the timely reclamation of oil and gas development sites upon termination of such activities to facilitate the conversion of the land to its primary land use as designated by the General Plan. Reclamation costs shall be borne by the well operator.

RC Policy G1.1.2: Additional restrictions in the General Agricultural areas of the County will not be imposed on oil and gas exploration as long as the oil companies involved continue to restore sites to their original condition after use.

Environmental Evaluation

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

No Impact. As discussed under 'Environmental Setting' above, there are three inactive oil/gas wells on the Cherry Solar Project site, two of which are idle and one has been plugged. These wells are located in the south-central area of the project site. The site plan for the Cherry Solar Project includes clear areas of at least one-acre around all three well sites, and provides direct access from Nevada Avenue to each well site to allow for equipment access and maneuvering in the event the wells are reactivated in the future or physically plugged and abandoned by the owner/operators. The well sites and access roads are fenced to provide secure physical separation from the Cherry Solar Facility and unimpeded access to Nevada Avenue. In addition, the project site plan includes several other clear areas throughout the site and outside the perimeter fencing for the solar facility which can be readily accessed to provide for potential future drill islands for mineral rights holders (see Figure PD-3a). Therefore, the Cherry Solar Project would provide full access to known and potential mineral resource sites within the project limits. As such, the Cherry Solar Project would

have *no impact* upon availability of known mineral resources that would be of value to the region and the residents of the State.

In summary, the Cherry Solar Project would have *no impact* upon availability of known mineral resources.

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. Mineral resources are addressed in the Resource Conservation Element of the 2035 Kings County General Plan. The General Plan recognizes that oil and natural gas production in the County has diminished and does not designate any areas of the County for oil and gas recovery. Similarly, the General Plan notes the low potential for surface mining in the County and does not designate any areas of the County as important aggregate or other mineral recovery sites (Kings County 2010b). The California Geologic Service (CGS) produces Mineral Land Classification (MLC) studies that identify areas of the State with potentially important mineral resources. MLC studies have not identified potentially important mineral resource areas that extend west of Hanford in Kings County (CGS 2022). Likewise the CGS has not classified any lands in Kings County as Mineral Resource Zones (MRZs) under the Surface Mining and Reclamation Act (SMARA). Therefore, the Cherry Solar Project would have *no impact* with respect to loss of availability of important mineral recovery sites designated on any land use plans.

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4.13. NOISE

Would the project result in:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	■	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	■	☐

The discussion of potential noise and vibration impacts in this section was prepared with technical assistance from Illingworth & Rodkin, Acoustics and Air Quality Consultants, in June 2022.

Introduction

Background Information on Acoustics and Noise Measurement

Noise may be defined as unwanted sound. Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. The objectionable effects of noise can be attributed to either pitch or loudness. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

Sound levels are usually measured and expressed in decibels (dB), a unit of measurement that indicates the relative amplitude of sound pressure. Zero on the decibel scale is based on the lowest sound level that a healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while an increase of 20 decibels results from 100 times the energy, and a 30 decibel increase results from an energy increase of 1,000 times. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10-decibel increase in sound level is perceived as approximately a doubling of loudness. Thus noise at zero decibels is barely audible, while noise at 120 to 140 decibels is painful and may cause hearing damage.

There are several methods of characterizing sound. The most common in California is the *A-weighted sound level or dBA.* This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive.

Representative outdoor and indoor noise levels in units of dBA are shown in Table NOI-1. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called L_{eq}. The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration. Similarly, noise levels exceeded during 10 percent of the time are expressed as L_{10}, with noise levels exceeded 50 percent of the time expressed as L_{50}. Maximum noise levels during a given measurement period are expressed as L_{max}, while minimum noise levels are expressed as L_{min}. Additional metrics are described in Table NOI-2.

Noise measurement equipment includes an electrical filter to reflect the fact that human hearing is less sensitive to low and very high frequencies than sound frequencies in the mid-range. The sound levels measured in this manner produce the A-weighted sound levels that are typically expressed as dBA. Unless otherwise noted, all noise levels indicated in this section are A-weighted, although the metric may be abbreviated to dB for simplicity.)

Since the sensitivity to noise increases during the evening and at night (because excessive noise interferes with the ability to sleep), 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level (CNEL)* is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 PM to 10:00 PM) noise levels and a 10 dB penalty added to nighttime (10:00 PM to 7:00 AM) noise levels. The *Day/Night Average Sound Level (L_{dn})* is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

Vibration

Vibration is an oscillatory motion through a solid medium, in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (Vdb) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration. Typically, groundborne vibration generated by heavy equipment or traffic on rough roads attenuates rapidly with distance from the source of the vibration so that potential impact areas are usually confined within short distances (e.g., 200 feet or less) from the source (USDOT 2018).

TABLE NOI-1
TYPICAL NOISE LEVELS IN THE ENVIRONMENT

Common Outdoor Noise Source	Noise Level (dBA)	Common Indoor Noise Source
	120 dBA	
Jet fly-over at 300 meters		Rock concert
	110 dBA	
Impact Pile driver at 20 meters	100 dBA	
		Night club with live music
	90 dBA	
Large truck pass by at 15 meters		
	80 dBA	Noisy restaurant
		Garbage disposal at 1 meter
Gas lawn mower at 30 meters	70 dBA	Vacuum cleaner at 3 meters
Commercial/Urban area daytime		Normal speech at 1 meter
Suburban expressway at 90 meters	60 dBA	
Suburban daytime		Active office environment
	50 dBA	
Urban area nighttime		Quiet office environment
	40 dBA	
Suburban nighttime		
Quiet rural areas	30 dBA	Library
		Quiet bedroom at night
Wilderness area	20 dBA	
	10 dBA	
	0 dBA	Threshold of human hearing

Source: Illingworth & Rodkin

TABLE NOI-2
DEFINITIONS OF ACOUSTICAL TERMS

Term	Definitions
Decibel, dB	A unit describing, the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micro Pascals.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, L_{dn}	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 pm and 7:00 am.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Illingworth & Rodkin

Regulatory Setting

Kings County

2035 Kings County General Plan

The 2035 Kings County General Plan contains the following goals, objectives and policies related to noise that are relevant to the Cherry Solar Project:

Noise Element

B. Non-Transportation Noise Protection

N GOAL B1 Protect the economic base of Kings County by preventing the encroachment of noise-sensitive land uses into areas affected by existing noise-producing uses. More specifically, to recognize that noise is an inherent byproduct of many land uses, including agriculture, and to prevent new noise-sensitive land uses from being developed in areas affected by existing noise-producing uses.

N OBJECTIVE B1.1 Reduce the potential for exposure of County residents and noise-sensitive land uses to excessive noise generated from Non-Transportation Noise Sources.

N Policy B1.1.1: Appropriate noise mitigation measures shall be included in a proposed project design when the proposed new use(s) will be affected by or include non-transportation noise sources and exceed the County's "Non-Transportation Noise Standards" (Table N-8)(next page). Mitigation measures shall reduce projected noise levels to a state of compliance with this standard within sensitive areas. These standards are applied at the sensitive areas of the receiving use.

N Policy B1.1.3: Noise associated with construction activities shall be considered temporary, but will still be required to adhere to applicable County *Noise Element* standards.

C. Excessive Noise Prevention

N GOAL C1 Provide sufficient noise exposure information so that existing and potential noise impacts may be effectively addressed in the land use planning and project review processes, and allow flexibility in the development of infill properties which may be located in elevated noise environments.

N OBJECTIVE C1.1 Ensure the sufficient provision of project and site noise information is available along with alternative mitigation approaches to better inform County staff and land use decision makers.

Table N-8 Non-Transportation Noise Standards
Average (Leq) / Maximum (Lmax)[1]

Receiving Land Use	Outdoor Area[2] Daytime	Outdoor Area[2] Nighttime	Interior[3] Day & Night	Notes
All Residential	55 / 75	50 / 70	35 / 55	
Transient Lodging	55 / 75	---	35 / 55	4
Hospitals & Nursing Homes	55 / 75	---	35 / 55	5, 6
Theaters & Auditoriums	---	---	30 / 50	6
Churches, Meeting Halls, Schools, Libraries, etc.	55 / 75	---	35 / 60	6
Office Buildings	60 / 75	---	45 / 65	6
Commercial Buildings	55 / 75	---	45 / 65	6
Playgrounds, Parks, etc.	65 / 75	---	---	6
Industry	60 / 80	---	50 / 70	6

Notes:
1. The Table N-8 standards shall be reduced by 5 dB for sounds consisting primarily of speech or music, and for recurring impulsive sounds. If the existing ambient noise level exceeds the standards of Table N-8, then the noise level standards shall be increased at 5 dB increments to encompass the ambient.
2. Sensitive areas are defined acoustic terminology section.
3. Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions.
4. Outdoor activity areas of transient lodging facilities are not commonly used during nighttime hours.
5. Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.
6. The outdoor activity areas of these uses (if any), are not typically utilized during nighttime hours.

N Policy C1.1.1: All noise analyses prepared to determine compliance with the noise level standards contained within this *Noise Element* shall be prepared in accordance with the County's "Requirements for Acoustical Analyses Prepared in Kings County" (Table N-9).

N Policy C1.1.2: Where noise mitigation measures are required to satisfy the noise level standards of this *Noise Element*, emphasis shall be placed on the use of setbacks and site design, prior to consideration of the use of noise barriers.

Kings County Code of Ordinances

Article 10 of the Code of Ordinances sets forth requirements and procedures for noise abatement in the County. Section 15-211 (Certain Noise Prohibited) provides as follows:

> "No person shall make, suffer, or permit upon any premises owned, occupied or controlled by such person any noises or sounds which are physically annoying to the senses of persons of

> ordinary sensitivity, or which are so harsh or so prolonged or unnatural or unusual in their use, time or place, as to cause physical discomfort to neighbors or to interfere with the comfortable use and enjoyment of life or property, or which constitutes a public or private nuisance, within any unincorporated territory of the County of Kings.

The Code of Ordinances provides no further detail on acceptable noise levels or limits on hours for operational or construction noise sources. As such, the General Plan Noise Element requirements and standards (reproduced above) are controlling with respect to quantitative noise thresholds.

Existing Noise Environment

The existing noise environment in the project area is typical of rural agricultural environments. The primary noise sources in the project vicinity include: 1) traffic on Nevada Avenue and State Route 41 (SR-41); 2) agricultural equipment and crop dusters; and 3) occasional overflights by military aircraft from Naval Air Station Lemoore (NASL).

The Cherry Solar Project site is located approximately 8.0 miles south of the airfield at NASL, and is included in the study area for the NAS Lemoore Joint Land Use Study. The project site is partially located within the NASL flight pattern for military aircraft. According to the noise contour mapping contained in the NAS Lemoore Joint Land Use Study, the southwesterly 290 acres of the project site are subject to aircraft noise levels ranging from less than 60 dBA to just over 65 dBA CNEL. The remaining 1,789 acres in the central, northern and eastern portions of the project site are subject to noise levels of less than 60 dBA CNEL due to overflights of military aircraft (JLUSPC 2011, p. 2-11).

There are no noise-sensitive residential receivers within 1.0 mile of the project site. The nearest residences to the project site include the following: 1) The Shannon Ranch complex (including 20 dwellings) located on the west side of Avenal Cutoff Road 1.0 miles northwest; 2) The Stone Land Company Ranch located 1.5 miles east of the nearest site boundary on the south side of Nevada Avenue; 3) Three ranch complexes (with a total of eight dwellings) located 2.2 miles southeast, 2.6 miles east, and 4.0 miles east of the site along the east side of SR-41; and 4) Five dispersed agricultural residences located 4.0 to 4.5 miles east and northeast of the project site along 22nd Avenue.

Project construction traffic will travel to the project site from the east and west via Nevada Avenue. Since existing traffic volumes on Nevada Avenue are low, this roadway will be subject to the greatest relative increase in traffic noise during construction. The two dwellings at the Stone Land Company Ranch, located along the Nevada Avenue travel route, would be subject to the greatest relative increase in construction traffic noise, compared to other residential receivers in the area. In order to document conditions at the receptors in the Stone Land Company Ranch complex, a long-term noise measurement was conducted alongside Nevada Avenue at the ranch between Thursday June 2, 2022 and Tuesday, June 7, 2022. The sound level meter was placed approximately 80 feet from the center of Nevada Avenue to represent the noise exposure at residences in the immediate vicinity of the roadway. The noise measurements documented the existing daily trend in noise levels due to traffic. The day-night average noise level at this site ranged from 62 dBA Ldn to 68 dBA Ldn. Typical daytime hourly average noise levels were approximately 50 to 66 dBA Leq.

Noise measurements were also taken during the same period at several of the other receptor locations identified above. These included: locations along Lincoln/Gale Avenue, Avenal Cutoff Road, and SR-41.

In order to document conditions at the receptors along Avenal Cutoff Road, a long-term noise measurement was conducted approximately 110 feet from the center of Avenal Cutoff Road between Thursday, June 2, 2022 and Tuesday, June 7, 2022. The noise measurements documented the existing daily trend in noise levels due to traffic. The day-night average noise level at this site ranged from 70 dBA Ldn to 77 dBA Ldn. Typical daytime hourly average noise levels were approximately 63 to 75 dBA Leq. In order to document conditions at the receptors along Lincoln/Gale Avenue, a long-term noise measurement was conducted approximately 65 feet from the center of Lincoln/Gale Avenue between Thursday, June 2, 2022 and Tuesday, June 7, 2022. The noise measurements documented the existing daily trend in noise levels due to traffic. The day-night average noise level at this site ranged from 62 dBA Ldn to 71 dBA Ldn. Typical daytime hourly average noise levels were approximately 55 to 74 dBA Leq. In order to document conditions at the receptors along SR-41, a long-term noise measurement was conducted approximately 260 feet from the center of SR-41 between Thursday, June 2, 2022 and Tuesday, June 7, 2022. The noise measurements documented the existing daily trend in noise levels due to traffic. The day-night average noise level at this site ranged from 67 dBA Ldn to 74 dBA Ldn. Typical daytime hourly average noise levels were approximately 59 to 73 dBA Leq.

Environmental Evaluation

a) Would the project result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less-than-Significant Impact. Noise would be generated during the construction, operations, and decommissioning phases of the Cherry Solar Project. The potential for temporary and permanent noise sources from the project to exceed applicable noise standards is discussed below for each phase of the project.

Construction Phase

During the construction phase, the two main sources of noise would be from on-site grading and construction, and from off-site traffic generation, each of which is discussed in turn below.

On-Site Construction Noise

The construction noise levels would depend on the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise sensitive receptors. In accordance with the 2035 Kings County General Plan Noise Element policies, a significant noise impact would occur if construction noise levels exceed 55 dBA L_{eq}, and if they exceed the ambient noise environment by 5 dBA L_{eq} or more.

Construction noise levels would be highest during site grading, excavation, and installation of solar equipment. Hourly average noise levels generated by construction equipment associated with the project are calculated to range from 85 dBA L_{eq} to 87 dBA L_{eq} measured at a distance of 50 feet, assuming that all equipment is operating simultaneously. Construction-generated noise levels drop off at a rate of about 6 dBA per doubling of distance between the source and receptor. The nearest

noise-sensitive residential land uses are at the Shannon Ranch located approximately 1.0 mile to the northwest. At this distance, the maximum construction noise levels reaching the nearest residences would range from 47 dBA L_{eq} to 49 dBA L_{eq}, taking into consideration the attenuation of sound with distance from the noise source. These construction-related noise levels would be below the applicable County noise standards and would be lower than ambient daytime noise levels at the nearest receptors. Therefore, project construction activities would not exceed applicable County noise standards and the impact would be *less than significant*.

Construction Traffic

The analysis of construction traffic noise used a baseline of existing Average Daily Traffic (ADT) volumes on the affected roadway segments, and added worker and truck volumes generated during project construction. It was calculated that the highest noise level increase on the affected roadways due to project construction traffic would be less than 5 dBA L_{dn}/CNEL above existing traffic noise conditions without the project at the most affected roadway – Nevada Avenue.

Under 2035 Kings County General Plan Noise Policy B1.2.1, the project would result in a significant noise impact if: a) the noise level increase is 5 dBA L_{dn}/CNEL or greater, where the pre-project noise level is less than 60 dBA L_{dn}/CNEL; or b) the noise level increase is 3 dBA L_{dn}/CNEL or greater, where the pre-project noise level between 60 and 65 dBA L_{dn}/CNEL; or c) the noise level increase is 1.5 dBA L_{dn}/CNEL or greater, where the pre-project noise level is 65 dBA L_{dn}/CNEL or greater (Kings County 2010f).

The receptors that would be most affected by project construction traffic would be the two dwellings at the Stone Land Company Ranch located 1.5 miles west of the project site along the segment of Nevada Avenue between the project entrance and Avenal Cutoff Road. Project construction traffic would result in a 31.8 percent increase in traffic volumes above existing conditions (2022) and a 31.5 percent increase in traffic volumes above baseline conditions (2024) along this segment of Nevada Avenue during the peak construction period. This would result in a 1 dBA L_{dn} increase in noise levels along this roadway segment. The two residences at the Stone Land Company Ranch are located 150 feet from the centerline on Nevada Avenue. The ambient noise level at the building facades is estimated to be 59 to 65 dBA L_{dn} under existing conditions and would remain at those levels under baseline conditions. During peak construction, traffic noise levels at the two residences would increase to between 60 and 66 dBA L_{dn}. The 1 dBA L_{dn} increase in noise levels along this roadway segment would not exceed the 3 dBA L_{dn} noise level threshold used to assess the significance of noise impacts where pre-project noise levels are between 60 and 65 dBA L_{dn}, resulting in a less than significant impact under the County's standards.

Under current conditions, the receptors that are subject to the highest ambient noise levels are the existing dwellings at the three ranch complexes to the east, southeast, and northeast of the project site along the east side of SR-41. At the nearest ranch complex, located 2.2 miles southeast of the Cherry Solar Project site, the nearest dwelling is 610 feet from the center of the highway. At the second ranch complex, located 2.6 miles east of the project site, the nearest dwelling is 340 feet from the center of the highway. At the third ranch complex, located 4.0 miles east of the project site, the nearest dwelling is 680 feet from the center of the highway. Based on existing traffic volumes on SR-41, the existing noise levels at the nearest sensitive receptors were calculated by Illingworth & Rodkin. Ambient traffic noise levels are estimated to be between 63 and 70 dBA L_{dn} at the first and third ranch complexes, and between 66 and 73 dBA L_{dn} at the second ranch complex.

The southerly two ranch complexes are on the segment of SR-41 located south of Nevada Avenue, and this segment would undergo a temporary increase in daily traffic volumes of 0.13 percent due to project construction traffic. The third ranch complex, located on the segment of SR-41 located north of Nevada Avenue, would experience a temporary increase in traffic volumes of 10.9 percent due to project construction traffic. At the two southern ranch complexes, the nearest dwellings would be subject to a negligible increase (less than 0.3 dBA L_{dn}) in noise levels, which would be well below the 5 dBA L_{dn} increase that would indicate a significant impact where pre-project levels are 60 dBA L_{dn}/CNEL or lower, per the County's noise standards. The nearest dwelling in the northern-most ranch complex would experience a small increase (0.5 dBA L_{dn}) due to project construction traffic, which would be well below the 1.5 dBA L_{dn} increase that would indicate a significant impact where ambient levels are 65 dBA L_{dn}/CNEL or greater, per the County's noise standards.

At the Shannon Ranch complex, located 1.0 mile northwest of the project site, the segment of Avenal Cutoff Road that passes adjacent to the ranch complex would carry little or no construction-related traffic since there are far more direct routes to the project site from any point of trip origination for workers or delivery trucks. As such, the dwellings at the Shannon Ranch complex would be subject to no noise impacts due to project construction traffic.

Along 22nd Avenue, the five agricultural dwellings dispersed along this roadway are located 4.0 to 4.5 miles east and northeast of the project site. The most southerly of these dwellings is located 0.38 miles northwest of the nearest travel lane on SR-41. Of the five dwellings on this road, this residence would be subject to the greatest potential noise increase due to project construction traffic. It was calculated by Illingworth & Rodkin that the existing noise level at this dwelling is between 53 and 54 dBA L_{dn}. The increase in traffic noise along the nearest segment of SR-41 due to project construction traffic would be less than 0.3 dBA L_{dn} at this most affected residence on 22nd Avenue. This would be well below the 5 dBA L_{dn} increase that would indicate a significant impact where ambient levels are 60 dBA L_{dn}/CNEL or lower, per the County's noise standards. The noise increases at the other dwellings along 22nd Avenue would be lower, and also would not exceed the County's noise standards.

In summary, the construction traffic generated by the Cherry Solar Project would not exceed the County's applicable noise standards at the most affected sensitive receptors. Therefore, the impact would be *less than significant*.

Construction of Gen-Tie Line

The associated gen-tie line project is planned to be constructed over a 20-day period, with helicopters operating on up to 16 of those days for 4 hours per day. The general sequence of activities for construction of the gen-tie project would involve the following steps: clearing of right-of-way and staging areas; construction of access roads; installation of tower footings and structures; and conductor stringing. These construction activities would proceed in step-wise fashion from one end of the gen-tie corridor to the other, and as such the duration of construction at any given location would be relatively brief.

The noisiest construction activity would occur during site preparation of tower sites and staging areas, when most construction equipment would be used. This equipment typically includes dozers, graders, compactors, auger drill rigs, and trucks, which produce maximum noise levels ranging from 80 to 85 dBA at 50 feet. The maximum noise level generated by several pieces of equipment operating

continuously at a distance of 50 feet would be about 90 dBA. Throughout the gen-tie route, all residential receptors would be located at least 1.8 miles from construction activity. At this distance, the maximum noise level at the nearest residence would be 44 dBA, given that maximum noise levels would decrease at the rate of 6 dBA per doubling of distance from a point source. The maximum noise levels that would occur at the nearest residential facade from operation of conventional construction equipment would not exceed the applicable Kings County noise standard.

Helicopter construction would be used for stringing pilot wires for conductors. The operation of a helicopter for construction would generate maximum noise levels of approximately 80 dBA at 200 feet (USBLM 2013, p. 3.23-11). The stringing of conductor pilot wires by a helicopter would occur along the pole line and would occur at least 1.8 miles from the nearest residence. At this distance, the maximum noise level at the nearest residence would be 46 dBA. The maximum noise levels that would occur at the nearest residential facade from helicopter construction would not exceed the applicable Kings County noise standard.

In summary, the maximum noise levels of 46 dBA that would occur at the nearest residential facade during construction would not exceed the applicable Kings County noise standard, and the noise impact from gen-tie line construction would be *less-than-significant.*

Operational Phase

During the operational phase of the Cherry Solar Project, the two main sources of noise would be from on-site operational activities and from off-site traffic generation by operations staff, each of which is discussed in turn below.

<u>On-Site Noise Sources</u>

Noise sources at the project site would include inverters and transformers necessary to convert the generated power to collection voltage. The 250 MW Cherry Solar Project would include a total of 77 inverter/transformer pads (i.e., 1 per 3.25 MW of output). The predicted noise level attributable to one inverter/transformer is 52 dBA L_{max}/L_{eq} measured at a distance of 50 feet from the equipment. The operation of the 77 inverters/transformers at the project would result in an estimated worst-case noise level of 71 dBA L_{max}/L_{eq}, measured at a distance of 50 feet.

The project would include one substation, located adjacent to the eastern site boundary approximately 1.0 mile north of Nevada Avenue, for the purpose of stepping up voltage levels to 230-kV for transmission on the short gen-tie line to be extended 1.1 miles east to the central substation. (The gen-tie line would traverse the site of the Grape Solar Project which was covered in the MND for the Grape Solar CUP approved by the Kings County Planning Commission on October 7, 2019.) Sources of audible noise within a substation include equipment such as transformers, reactors, voltage regulators, circuit breakers and other intermittent noise generators. Among these sources, transformers, reactors, and circuit breakers have the greatest potential for producing noise. The broadband sound from fans, pumps and coolers has the same character as ambient sound and tends to blend with the ambient noise. Reactors are similar to transformers in terms of audible noise and would generate noise levels of about 40 dBA L_{eq} at 200 feet. The highest noise levels would be produced by circuit breakers, which would occur infrequently when breakers are thrown to protect the system during an electrical fault due to line overloads. The resultant noise would be impulsive in character, being loud and short in duration. The maximum impulse noise level from the breakers would be approximately 105 dBA L_{max} at 50 feet.

The project would also include a battery storage facility located just north of the on-site substation. Based on preliminary plans, the facility would include approximately 250 storage battery units, each enclosed within 40-foot long cargo containers. Each battery storage unit would be self-contained and would include racks, switchboards, and integrated HVAC units. The battery units would be served by inverters, and transformers located on separate pads outside the containers, with each inverter/transformer set serving two battery containers. Thus the battery storage system would consist of 250 battery containers and 125 inverter/transformer sets. The primary noise source would be the HVAC units on each container, which would typically produce noise levels of 68 dBA at a distance of 50 feet during full operation. A typical step transformer has a sound rating of 60 dBA at 5 feet, and a typical power inverter has a noise rating of 77 dBA at 6 feet. Illingworth & Rodkin calculated that the combined noise level from full operation of all of the planned energy storage elements under the worst-case alternative configuration would be 92 dBA L_{max}/L_{eq} at 50 feet. The nearest residential receptors to the battery storage facility would be located approximately 2.5 miles northwest (Shannon Ranch) and 2.8 miles southeast (ranch at southeast corner of SR-41 and Nevada Avenue) of the facility and would both be exposed to noise levels of 44 dBA L_{max}/L_{eq} or less.

2035 Kings County General Plan, Noise Policy B1.1.1 requires that appropriate noise mitigation measures be included in a proposed project design when the proposed new use will include non-transportation noise sources that would exceed the County's "Non-Transportation Noise Standards" (Noise Element Table N-8). The daytime noise limits enforced at residential properties are 75 dBA L_{max} and 55 dBA L_{eq} (Kings County 2010f). The inverters/transformers at the project would operate only during daytime hours when the solar facility is generating power. There would be no noise generated by the project at night, when County noise limits are 5 dBA more restrictive than the daytime limit (i.e., 70 dBA L_{max} and 50 dBA L_{eq}).

Noise from "point" sources decreases at a rate of 6 dBA with each doubling of the distance between the noise source and receptor. Based on the worst-case noise level estimate of 72 dBA L_{max}/L_{eq} at a distance of 50 feet from the project solar fields (i.e., inverters/transformers), predicted noise levels at the nearest residential land uses located 1.0 mile from the project site (Shannon Ranch) are calculated to be 32 dBA L_{max}/L_{eq}. These noise levels would be inaudible above ambient noise levels. Battery storage facility noise levels would be less than 44 dBA L_{max}/L_{eq} at the nearest receptor approximately 2.5 miles to the northwest of the battery facility (Shannon Ranch). The infrequent occurrence of impulsive noise from circuit breakers at the on-site substation would decrease to 56 dBA L_{max} at the nearest residences located at least 2.6 miles from the substation. In summary, the estimated noise levels from project operations would be below the County's 75 dBA L_{max} and 55 dBA L_{eq} noise limits for residential uses. Therefore, the operational noise from the Cherry Solar Project would not exceed applicable noise standards at the nearest sensitive receptors, and the impact would be *less than significant*.

Operational Traffic Noise

Traffic generated during project operations would be very light, given the small number of workers who would travel to the site. It was calculated that the highest traffic noise increase attributable to project operational traffic on the affected roadways would be less than 0.1 dBA L_{dn}/CNEL above existing traffic noise conditions without the project at the most affected roadway – Nevada Avenue. The noise levels would be well below the applicable impact thresholds, discussed above, and would not be noticeable to the potentially affected sensitive receptors. Therefore, the operational traffic

generated by the Cherry Solar Project would not result in a substantial permanent increase in ambient noise levels in the project vicinity, and the impact would be *less than significant*.

Decommissioning Phase

Noise levels generated during deconstruction activities would be similar to those generated during construction except that some of the noisiest construction equipment, such as pile drivers and vibratory rollers, would not be used during decommissioning. As is the case with construction noise, the on-site noise generated during decommissioning would be well below County noise standards at the nearest sensitive receptors. Traffic volumes generated during decommissioning would be similar to those associated with construction, and the resulting noise levels would also be well below applicable County standards. Therefore, the decommissioning activity and traffic associated with the project would not result in a substantial temporary increase in ambient noise levels in the project vicinity, and the impact would be *less than significant*.

In summary, the noise generated during the construction, operations, and decommissioning phases of the Cherry Solar Project would not exceed applicable noise standards, and the impact would be *less than significant*.

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Less-than-Significant Impact. The construction of the Cherry Solar Project may generate perceptible vibration in the immediate vicinity of the project site when heavy equipment or impact tools are used. Groundborne vibration levels would be highest during site preparation activities and when the solar arrays are installed, given that the cylindrical steel posts (or H-beams) will be driven into the ground using truck-mounted vibratory drivers.

Vibration is measured as peak particle velocity (PPV) in inches per second. The equipment to be used at the project site that would result in the greatest vibration includes sonic pile drivers, vibratory rollers, and bulldozers. The vibration levels typically produced by a sonic pile driver can reach 0.170 in/sec PPV at a distance of 25 feet. Vibratory rollers and large bulldozers typically generate vibration levels ranging from of 0.089 to 0.210 in/sec PPV at a distance of 25 feet. Vibration levels would vary depending on soil conditions, construction methods, and equipment used.

The California Department of Transportation recommends a vibration limit of 0.5 in/sec PPV for buildings that are structurally sound and designed to modern engineering standards, 0.3 in/sec PPV for buildings that are found to be structurally sound but where structural damage is a major concern, and a conservative limit of 0.08 in/sec PPV for ancient buildings or buildings that are documented to be structurally weakened. No ancient buildings or buildings that are documented to be structurally weakened are present near the project site. Therefore, the applicable impact threshold for groundborne vibration would be levels exceeding 0.3 in/sec PPV at the nearest receptors.

Within the project vicinity, the nearest structures to the construction activity would be: 1) The Shannon Ranch complex (including 20 dwellings) located on the west side of Avenal Cutoff Road 1.0 miles northwest; 2) The Stone Land Company Ranch located 1.5 miles east of the nearest site

boundary on the south side of Nevada Avenue; 3) Three ranch complexes (with a total of eight dwellings) located 2.2 miles southeast, 2.6 miles east, and 4.0 miles east of the site along the east side of SR-41; and 4) Five dispersed agricultural residences located 4.0 to 4.5 miles east and northeast of the project site along 22nd Avenue. The potential for greatest vibration would be during heavy equipment movement and vibratory pile driving of the support posts for the solar arrays, which would generate vibration levels of 0.210 and 0.170 in/sec PPV, respectively, at 25 feet from the source. At the locations of the nearest receptors, 1.0 mile northwest, these vibration levels would not be measurable or detectable. These vibration levels would be well below the 0.3 in/sec PPV impact threshold for sound structures, and would also be well below the 0.08 in/sec PPV limit applicable to structurally weakened structures. The majority of construction activity at the project site would occur well beyond these distances from the nearest structures. Therefore, groundborne vibration from project construction would have *no impact* on existing structures in the project vicinity.

People can also be adversely affected by excessive vibration levels. The level at which humans begin to perceive vibration is 0.015 inches per second. Vibrations at 0.2 inches per second are considered bothersome to most people, while continuous exposure to long-term PPV is considered unacceptable at 0.12 inches per second. As noted above, the nearest residential receptors are 1.0 mile northwest of the project site. At these distances, the greatest vibration from the nearest project construction activity would not be perceptible to the nearest residents in the project vicinity. Therefore, project construction activities would not generate excessive vibration levels.

In summary, the heaviest construction equipment that would be used for construction of the Cherry Solar Project would produce vibration levels that would be far below the vibration levels necessary to cause damage to the nearest off-site buildings, or to be perceptible to the nearest off-site residential receivers. Therefore, the project would not generate excessive groundborne vibration levels. As such, the potential groundborne vibration and noise impacts due to construction activities associated with the Cherry Solar Project would be *less than significant*.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Less-than-Significant Impact. The Cherry Solar Project is not located near a public airport or public use airport, and is not located within an airport land use plan area. The nearest public or public use airports include the Hanford and Coalinga municipal airports, and the Harris Ranch airfield, all of which are located between 16 and 19 miles from the project site.

The project site is located 8.0 miles south of the airfield at Naval Air Station Lemoore (NASL), and is included in the study area for the NAS Lemoore Joint Land Use Study (JLUS). The project site is located within the NASL flight pattern and is mapped as land subject to noise levels ranging from under 60 dBA CNEL to just over 65 dBA CNEL, as mapped in the NAS Lemoore Joint Land Use Study. The westernmost portion of the project site (comprising less than 3% of the site area) is exposed to noise levels of over 65 dBA CNEL, while the southwest corner (~12% of the project site) is exposed to noise levels between 60 and 65 dBA CNEL, and the remaining 85 percent of the site area is exposed to noise levels of less than 60 dBA CNEL (JLUSPC 2011, p. 2-11). The Kings County General Plan noise standard for the noise-sensitive outdoor areas of commercial or industrial developments

is 65 dBA CNEL if the noise is from transportation sources such as aircraft overflights (Kings County General Plan Noise Element Table N-7). A very small portion of the site (<3 percent) is exposed to aircraft noise levels of 65 dBA CNEL or higher. In addition, the proposed solar facilities are not considered noise-sensitive land uses and the permanent operational employees would be stationed at the O&M building which would be subject to aircraft noise levels of less than 60 dBA CNEL. Employees would occasionally visit the extreme western portion of the project for maintenance and inspection purposes, but the amount of time spent in this area would be very small. Although Kings County has not established a noise limit for outdoor use areas that are not noise sensitive, noise levels exceeding 76 dBA CNEL are considered hazardous to health as determined by the US Environmental Protection Agency (US EPA 1974). Aircraft overflights would temporarily expose construction workers and operational workers in a very small portion of the site to worst-case noise levels of just over 65 dBA CNEL, which is well below the 76 dBA CNEL threshold. Therefore, the project would not expose workers on the project site to excessive noise levels from flight operations as NAS Lemoore. As such, the impact of the Cherry Solar Project's exposure to noise from airport operations would be *less than significant*.

The Cherry Solar Project site is not located within the immediate vicinity of a private airstrip. There are five airstrips within a 5-mile radius of the site, the nearest of which are located 1.1 miles to the northwest at the Shannon Ranch, and the 2.0 miles southeast at the Stone Land Company Ranch. The remaining three airstrips are located from 2.1 miles southeast to 5.0 miles northeast of the project site. Aircraft overflights associated with private airstrips are infrequent in nature, and as such, the project would not expose people working at the project site to excessive noise levels associated with the operation of a private airstrip. Therefore, the Cherry Solar Project would be associated with *no impact* due to noise generated by private airstrips in the vicinity.

In summary, the impact resulting from the Cherry Solar Project's exposure to noise from airport operations associated with a private airstrip or public airport or public use airport or would be *less than significant*.

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4.14. POPULATION and HOUSING

Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	■
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■

Environmental Evaluation

a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The Cherry Solar Project would not include a residential component so it would not directly induce population growth in the area. The project would involve a maximum construction workforce of about 570 workers during the peak period of construction. These construction workers are expected to be drawn from the existing labor pool in the region. For construction management staff and specialized workers who may reside outside the area, there is an ample supply of temporary lodging in the nearby communities of Lemoore and Hanford. Thus project construction would not directly result in population growth in the area.

Upon completion, four operational staff would be stationed at the solar facility, and up to 20 additional workers would visit the site on any given day to perform inspection, maintenance, repair, and panel cleaning duties. In the event that facility staff would originate from outside the area, there is a sufficient supply of permanent housing available in the region to serve this need. According to the most recent census estimates (2019), there are approximately 30,192 vacant housing units within a 50-mile radius of the project site in Kings, Fresno, and Tulare Counties, representing an overall vacancy rate of 5.6 percent (U.S. Census 2019; note - housing vacancy data from the 2020 census was not yet available in July 2022). Thus it is anticipated that any operational staff seeking to relocate to the area would find ample housing choice from the existing inventory of homes in the region, and no new housing would be required. Therefore, the Cherry Solar Project would result in *no impact* with regard to potential inducement of substantial unplanned population growth in the area.

The project would not result in the extension or roads or urban utilities (e.g., water and sewer) to lands not currently served by urban infrastructure, and thus would not induce unplanned urban development into the rural area of the County. Therefore, the project would not induce indirect growth through extension of urban infrastructure.

In summary, the Cherry Solar Project would result in *no impact* with respect to growth inducement, either by way of population growth or by extension of urban infrastructure.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. There are no residential buildings on the Cherry Solar Project site or within a 1.0-mile radius of the site. The nearest residences to the project site include the following: 1) The Shannon Ranch complex (including 20 dwellings) located on Avenal Cutoff Road 1.0 mile northwest; 2) The Stone Land Company Ranch (with 2 dwellings) located 1.5 miles west on Nevada Avenue; 3) Three ranch complexes (with a total of 8 dwellings) along the east side of SR-41, located 2.0 to 4.0 miles east of the project site; and 4) Five dispersed agricultural residences located 4.0 to 4.5 miles northeast of the project site along 22nd Avenue. None of these residential properties would be removed or encroached upon as a result of the project. Therefore, the Cherry Solar Project would result in *no impact* with regard to displacement of existing people or housing.

REFERENCES – POPULATION AND HOUSING

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4.15. PUBLIC SERVICES

Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☐	■
ii) Police protection?	☐	☐	☐	■
iii) Schools?	☐	☐	☐	■
iv) Parks?	☐	☐	☐	■
v) Other public facilities?	☐	☐	☐	■

Setting

Fire Protection Services

Fire protection for the project area is provided by the Kings County Fire Department (KCFD), which operates 10 fire stations and one headquarters office in Hanford with 88 full-time employees. The Fire Department responds to over 5,100 calls annually, averaging 14 calls daily (KCFD 2022).

The nearest KCFD fire stations to the project site are KCFD Station #10, located in Stratford approximately 7 miles northeast of the Cherry Solar Project site, and Station #9, located in Kettleman City approximately 9 miles south of the site. Response times from the two nearest stations would range from 4 minutes to 15 minutes depending on the location of the call within the project site. Backup response would be provided by Station #7 (south Lemoore) and Station #5 (Armona), which would respond to a call from the site within the KCFD's 20-minute rural response time goal. The KCFD maintains mutual aid agreements with the fire departments of Lemoore and Hanford, and also with the NAS Lemoore Fire Department and Santa Rosa Rancheria Fire (Kings County 2010e).

The KCFD's other responsibilities include: review of building plans for compliance with fire safety requirements; emergency medical response; and implementation of the County's emergency management plan. Each station conducts assessments of proposed industrial and business facilities to assure compliance with safety and design capacity requirements. Fire stations also handle weed abatement on a complaint basis (KCFD 2022).

The KCFD provides first responder emergency medical service to all County residents. This service does not include advanced life support (paramedic) or emergency transport, which is provided by an exclusive private contractor (currently American Ambulance). Kings County contracts directly with the ambulance company, while the Central California Emergency Medical Services Agency (CCEMSA) is responsible for ensuring adequate levels and quality of ambulance service the region. The ambulance services nearest to the project site are located in Lemoore and Hanford.

The Potential Fire Hazards map of the Kings County General Plan Health and Safety Element (General Plan Figure HS-9) shows most of the project site as being "Within 2400 meters of a Moderate Threat." The nearest areas mapped as being "Within 2400 meters of a High Threat" are around the Shannon Ranch (1.0 mile northwest) and near the intersection Nevada Avenue and Avenal Cutoff Road (3 miles west)(Kings County 2010e). The Cherry Solar Project site is not included in a Fire Hazard Severity Zone (FHSZ) as mapped by the California Department of Forestry and Fire Protection (CAL FIRE 2020).

Law Enforcement Services

Law enforcement services in the project area are provided by the Kings County Sheriff's Office (KCSO) from its headquarters at 1444 West Lacey Boulevard approximately 18 miles northeast of the project site. The Department currently has 148 sworn officers and 101 non-sworn personnel. The County is divided into six beat districts with five Sheriff's substations located throughout Kings County. The nearest Sheriff's substation to the project site is located in Stratford. Each beat district has at least one deputy sheriff on duty at all times to serve the unincorporated communities and surrounding County areas. The KCSO has mutual-aid agreements statewide. The Department's response time goal for priority emergency calls is 20 minutes (Kings County 2010e). The response time to the project site would be a maximum of 15 to 20 minutes, and would be quicker when the area deputy is on patrol nearby. The principal crimes committed in Kings County in 2020 were larceny, aggravated assault, motor vehicle theft, and burglary (CDOJ 2022).

The California Highway Patrol (CHP) provides traffic enforcement along State highways and County roadways within Kings County. The nearest CHP area offices are located in Hanford and Coalinga.

Other Public Services and Facilities

Other public services provided in the project area include schools, parks and recreation, libraries, and social services, among other things. The Cherry Solar Project would generate little or no demand for these public services and their related facilities.

Environmental Evaluation

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i) Fire protection?

No Impact. Construction and operation of the Cherry Solar Project is not expected to result in an increase in demand of fire protection services leading to the construction of new or physically altered facilities.

Fire Hazards During Construction

During construction, there is a small risk of construction equipment and materials posing potential fire hazards. Construction of the solar facilities, substations, and power collection lines would involve the use of heavy construction equipment, vehicles, generators, and hazardous materials (e.g., fuels, lubricating oils, and welding materials), which pose potential fire hazards. The risk of fire would be primarily related to refueling and operating vehicles and equipment off internal driveways where dry vegetation could be ignited. Welding activities also have the potential to result in the combustion of vegetation, as would smoking by construction workers.

As discussed in Section *2.2. Project Description*, construction workers would receive training in fire safety and suppression in order to prevent fire and respond effectively if fire does break out. During solar facility construction, water trucks used for dust suppression would be available for suppression of small fires.

Fire Hazards During Solar Facility Operation

During solar facility operation, equipment such as transformers, inverters, and substation equipment would involve the use of oils (e.g., dialectic or mineral oils and lubricants) and fuels, which would pose potential fire hazards. The battery storage facilities would also pose a potential fire hazard. Maintenance vehicles and panel washing trucks would travel among the solar arrays where low vegetation would be dry in summer and potentially combustible. Overhead power collection lines would pose a fire hazard in the event a conducting object comes in proximity to a line or in the unlikely event that a live-phase conductor (electrical wire) falls to the ground. Smoking by operational personnel would also pose a fire hazard.

The project would include a number of design and operational measures for fire prevention and suppression. The project would be constructed in accordance with the California Fire Code. Electrical equipment such as transformers and inverters would be placed on concrete foundation pads and housed in steel and concrete equipment enclosures, minimizing the risk of electrical sparks that could ignite vegetation in the event of equipment failure. All electrical equipment (including inverters) not located within a larger structure would be designed specifically for outdoor installation, and all electrical equipment would be subject to product safety standards. Portable carbon dioxide (CO_2) fire extinguishers would be mounted at the inverter/transformer pads throughout the project. Maintenance crews would regularly inspect facilities for reliability and safety.

The project would also include energy storage facilities consisting of a number of prefabricated electrical enclosures containing battery banks and associated switchboards, inverters and transformers. All battery containers would be installed on concrete foundations designed to provide secondary containment. The enclosures would have appropriate fire suppression systems built to code. Each energy storage unit used on site would be designed in compliance with Section 608 of the International Fire Code, which has been adopted by the State of California to minimize risk of fire from stationary storage battery systems and contain fire in the event of such an incident. Under California law, the battery enclosures also must comply with Article 480 of the Electrical Code, which presents requirements for stationary storage batteries. Article 480 provides the appropriate insulation and venting requirements for these types of systems, further preventing associated risk of fire from the battery enclosures on the project site. Depending on the technology

and design of the battery units, the Kings County Fire Department may require purchase of specialized hazmat vehicles and equipment along with mandated training for Fire Department personnel.

The Cherry Solar Project would be required to comply with fire safety standards under Section 10-7 of the Kings County Code, under which the regulations of the National Fire Protection Association and the American Insurance Association are applied. The Fire Marshal and Public Works Department would review the project plans to ensure compliance with all code requirements and standards. The Building Division of the Kings County Community Development Agency would ensure Fire Code requirements are met through the plan check process, building permit issuance, construction inspection, and issuance of certificate of occupancy once all of the work has been completed and the final inspection has been approved.

The approval of the project would be subject to conditions including compliance with the provisions of the Kings County Improvement Standards with respect to emergency vehicle access. As required by the Fire Department, all structures (including solar arrays) must be accessible by fire-fighting equipment and personnel via internal fire access driveways. These internal gravel driveways would consist of a durable dust-free (oiled) surface, in accordance with the Kings County Improvement Standards, which would inhibit the growth of vegetation. The Fire Department also requires minimum of 4 feet of separation between rows of solar modules to allow access by fire suppression personnel. The construction of the 20-foot-wide driveway following the perimeter of the site would act as a fire break between the site and off-site areas, thereby limiting the potential for a fire at the site to spread off-site. The project proponent would also provide funds toward the purchase of an all-terrain firefighting vehicle capable of accessing the interior portions of the solar facility. (For further detail on fire protection features proposed for the project, see Section *2.2. Project Description*.)

The project approval would also include a condition that all detailed project plans are subject to review and approval by the County Fire Marshal to ensure that potential fire hazards are adequately addressed. This includes a requirement that the applicant shall provide training to fire personnel to enable them to interrupt electrical supply safely during emergency incidents requiring fire suppression or rescue activities. The Fire Department may also require a supply of firefighting water available in storage tank(s) on the project site. The need for such storage tank(s) would be determined by the Fire Department during plan check at the building permit stage.

As required in Mitigation Measures AG-1: Agricultural Management Plan, AG-2: Soil Reclamation Plan, and HYD-1: Stormwater Quality Protection, the remaining exposed soils on the project site after construction would be revegetated with an approved seed mix to prevent erosion and dust generation, and to sustain continued agricultural production on the site through sheep grazing, and also to protect on-site soils for future reclamation upon decommissioning. The vegetative cover would be kept low through sheep grazing activity and mechanical means which would reduce fuel load buildup and reduce the potential hazard from grass fires. As is the case with all mitigation measures identified in this document, Mitigation Measures AG-1, AG-2, and HYD-1 would be imposed as conditions of project approval.

In summary, although the project would result in an incremental increase in demand for Fire Department services, this increase is expected to be minor and thus would not result in degradation of service levels or in the need for new or expanded facilities. Therefore, the Cherry Solar Project

would result in *no impact* related to an increase in fire protection services that would necessitate the alteration or construction of fire stations or other infrastructure to combat fire.

ii) Police Protection?

No Impact. Construction and operation of the Cherry Solar Project is not expected to result in increased in demand of police protection services leading to the construction of new or physically altered facilities.

Law enforcement services to the Cherry Solar facility would be provided by the Kings County Sheriff's Office. During construction of the solar facility, slow moving trucks could result in temporary congestion on public roadways near the project entrances, and could pose a safety hazard due to abrupt changes in the speed of traffic flow, or due to slow turning movements across on-coming lanes of traffic. Any temporary traffic disruptions would involve coordination with the Sheriff's Office. The temporary traffic hazards associated with construction of the project are discussed in Section *4.17. Transportation*. Any potential traffic hazard impacts would be minimized through implementation of traffic control measures specified in Mitigation Measure TR-1. The traffic control measures required during construction may result in a minor temporary use of the Kings County Sheriff's Office's resources, but would have *no impact* in terms of necessitating new or expanded Sheriff's Office facilities to maintain adequate service levels.

Once the project is completed and operational, calls for service from the solar facility are expected to be infrequent, primarily due to the comprehensive security measures included in the design and operation of the solar project. The design features for project security are described as follows. The perimeter of each project phase will be securely fenced and gated to prevent unauthorized access. Electronic surveillance equipment such as infrared security cameras and motion detectors would be installed around the solar facility. These security features are intended to act as a deterrent to crimes such as theft and vandalism, and would be operationally integrated with the services of a private security company. The video feeds from the installed surveillance equipment would be transmitted in real time to the off-site security contractor for monitoring. In the event that the surveillance system detects a breach, a security representative would be dispatched to the site, as needed, and the County Sheriff's Office would be notified as appropriate.

In summary, it is expected that project operations would result in minimal demand on Sheriff's Office's operations and would not degrade service levels or result in the need for new or altered Sheriff's Office facilities. Therefore, the Cherry Solar Project would result in a minor increase in demand for law enforcement services, but would have *no impact* in terms of necessitating new or expanded Sheriff's Office facilities to maintain adequate service levels.

iii) Schools?

No Impact. The Cherry Solar Project will not include a residential component and thus would not generate school-aged children that could result in the need for new or expanded school facilities. Therefore, the project would have *no impact* on schools. However, the Cherry Solar Project will pay a school mitigation fee, as mandated by State law for all commercial development.

iv) Parks?

No Impact. Demand for parks and recreation is mainly generated by residential development. The few staff who are stationed at the facility or who would visit the facility as needed to perform maintenance, repairs, and panel cleaning would be unlikely to seek out recreational activities while in the project area. As such, the Cherry Solar Project would not increase demand for parks and recreational facilities, and would have *no impact* in terms of necessitating new or expanded parks or recreation facilities to maintain adequate service levels.

v) Other Public facilities?

No Impact. **T**he Cherry Solar Project would not generate demand for social services, courts, libraries, or other public services. As such, the Cherry Solar Project would have *no impact* in terms of necessitating new or expanded facilities to maintain adequate service levels for other public services.

REFERENCES – PUBLIC SERVICES

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4.16. RECREATION

Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	■
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	■

Environmental Evaluation

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. The Cherry Solar Project would not include a residential component and thus would not result in an increase in local population which might in turn result in a substantially increased use of or demand for neighborhood or regional parks, or other recreational facilities. Construction workers commuting to the project would comprise existing residents from surrounding communities who would utilize recreational facilities in their home communities. The solar facility operation would involve a small number of personnel who would be stationed at the facility and additional staff who would visit the facility as needed to perform maintenance, repairs, and panel cleaning. Neither the project construction workers nor operations personnel would be likely to seek out recreational activities while working in the project area. Therefore, the Cherry Solar Project would have *no impact* in terms of causing or accelerating physical deterioration of recreational facilities.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

No Impact. The Cherry Solar Project would not include recreational facilities, and thus would not result in impacts associated with such facilities. The project would not include a residential component, and would involve a small number of operational workers, and thus would not result in increased demand for recreational facilities. As such, the Cherry Solar Project would have *no impact* related to construction or expansion of recreational facilities.

4.17. TRANSPORTATION

Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	■	☐
b) Conflict with or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	☐	☐	■	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	■	☐	☐
d) Result in inadequate emergency access?	☐	■	☐	☐

Transportation Setting

State highways in the vicinity that serve the project area include State Route 198 (SR-198) located to the north, SR-41 located to the east, SR-269 located to the west, and Interstate 5 located to the southwest. The Kings County roads serving the project area include: Nevada Avenue, which runs along the southern site boundary from east to west, and Avenal Cutoff Road, which passes to the west of the project site in a southwest-northeast direction.

The nearest public use airports in the project area include those at Hanford, Coalinga, and Harris Ranch, which are located between 18 and 22 miles from the project. The airfield at Naval Air Station Lemoore (NASL) is located 8 miles north of the Cherry Solar Project site. There are five private airstrips within a 5-mile radius of the site, the nearest of which are located 1.1 miles to the northwest at the Shannon Ranch, and the 2.0 miles southeast at the Stone Land Company Ranch. The remaining three airstrips are located from 2.1 miles southeast to 5.0 miles northeast from the project site.

The nearest public transit routes of the Kings Area Rural Transit (KART) are along SR-198 to the north and SR-41 to the east. The nearest existing bikeway runs along the Avenal Cutoff Road to the northwest of the Cherry Solar Project site, extending south from SR-198 to the Fresno County line (Kings County 2010d).

Regulatory Setting

State of California

California Vehicle Code

Various sections of the California Vehicle Code (CVC) apply to the Cherry Solar Project. CVC Section 35550 imposes weight guidelines and restrictions upon vehicles traveling on State freeways and highways, and requires heavy haulers to obtain permits from Caltrans prior to delivery of any heavy haul load. CVC Section 35780 requires that haulers of oversized or excessive loads over State highways obtain a "Single-Trip Transportation Permit" from Caltrans prior to delivery of any oversized load.

Oversize/overweight permits are considered on a case-by-case basis but may include requirements such as California Highway Patrol escort, special speed limits, and other restrictions. The CVC also contains various regulations governing the transportation of hazardous materials on State highways.

California Streets and Highways Code

Section 117 of the California Streets and Highways Code requires that permits be obtained from Caltrans for placement within the State right-of-way of any structures or fixtures such as utility poles, pipes, ditches, drains, sewers, or other above-ground or underground structures. Other sections of the Streets and Highways Code require the issuance of encroachment permits for work within the rights-of-way of State or county roadways.

Senate Bill 743

California Senate Bill 743 (SB 743), which went into effect in January 2014, states that "[n]ew methodologies under the California Environmental Quality Act are needed for evaluating transportation impacts that are better able to promote the state's goals of reducing greenhouse gas emissions and traffic-related air pollution, promoting the development of a multimodal transportation system, and providing clean, efficient access to destinations." Under SB 743, the focus of transportation analysis shifts from driver delay, which is typically measured by traffic level of service (LOS), to a new measurement, vehicle miles traveled (VMT). This change in metrics is intended to further the State's long-term greenhouse gas reduction goals by reducing fuel consumption in the transportation sector, specifically through reductions in per capita VMT associated with new land use projects, and thereby promoting compact, mixed-use development patterns.

In order to implement SB 743, the Natural Resources Agency adopted revisions to the CEQA Guidelines which became effective on December 28, 2018. The revised CEQA Guidelines eliminate the application of LOS-related metrics for determining the significance of transportation impacts associated with development projects, land use plans, and transportation infrastructure projects. Under the new guidelines, VMT-related metric(s) are required to evaluate the significance of transportation-related impacts under CEQA. (The specific requirements of the Guidelines revisions under SB 743 are discussed in item 'b)' below.) SB 743 does not preclude the use of LOS-related metrics in local general plan policies, zoning codes, conditions of approval, or any other planning requirements that require evaluation of LOS, but these metrics may no longer constitute the basis for determining the significance of transportation impacts under CEQA.

Under SB 743, local land use agencies were required to establish VMT significance thresholds to be applied in CEQA analyses of proposed land use projects by July 1, 2020. However, on June 9, 2020 the Kings County Board of Supervisors adopted Resolution No. 20-041 delaying the implementation of Vehicle Miles Traveled requirements in Kings County for at least 2 years. Accordingly, the following environmental evaluation includes transportation impact analyses based on both the LOS metric (addressed in item 'a)' below) and the VMT metric (addressed in item 'b)' below).

Kings County

Kings County Regional Transportation Plan

The 2014 Kings County Regional Transportation Plan (RTP), prepared by the Kings County Association of Governments (KCAG), contains goals and objectives for State highways, major local routes of significance, alternative transportation modes, and strategies for transportation and demand management (KCAG 2018a). Since KCAG is a metropolitan planning organization, and not a Transportation Management Agency (TMA), it is not required to adopt Transportation Systems Management (TSM) measures or a Congestion Management Plan (CMP) as is required for larger urbanized areas.

2035 Kings County General Plan

The 2035 Kings County General Plan contains the following goals, objectives and policies related to transportation facilities which are relevant to the Cherry Solar Project:

Circulation Element

A. Countywide Circulation

C GOAL C1 Provide a coordinated countywide circulation system with a variety of safe and efficient transportation alternatives and modes that interconnect cities, community districts, adult education facilities, and adjoining cities in neighboring counties, and meets the growing needs of residents, visitors and businesses.

C OBJECTIVE C1.3 Maintain an adequate Level of Service operation for County roadways and ensure proper maintenance occurs along critical routes for emergency response vehicles.

C Policy C1.3.1: Maintain and manage County roadway systems to maintain a minimum Level of Service Standard "D" or better on all major roadways and arterial intersections.

C Policy C1.3.2: Require proposed developments that have the potential to generate 100 peak hour trips or more to conduct a traffic impact study that follows the most recent methodology outlined in Caltrans Guide to the Preparation of Traffic Impact Studies.

C Policy C1.3.5: Require new development to pay its fair share of costs for street and traffic improvements based on traffic generated and its impact to traffic levels of service.

C Policy C1.3.6: Require dedication of right of way to county standards for all new development projects.

C Policy C1.3.7: Require new development to respect existing precise plan lines or ultimate right of way lines dedication of right of way as a condition of development approval.

C OBJECTIVE C1.3 Promote Public Transit and vanpooling within the County urbanized areas to increase ridership and decrease traffic demand on County roadways.

C Policy C1.3.3: Encourage and support the enhancement and marketing of transit and vanpool services as a viable transportation alternative and transportation control measure to improve air quality.

Kings County Improvement Standards

The Kings County Improvement Standards serves as an engineering reference for Kings County staff and private parties in the design and construction of improvements for public works projects and private development improvements. The standards include engineering design specifications for the construction of streets, water supply systems, storm drainage, and sewage disposal.

Environmental Evaluation

a) Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Roadway Facilities

Transportation policies and programs in Kings County are set forth in the Kings County *2035 General Plan Circulation Element* which establishes Level of Service D as the minimum service level to be maintained on County streets and roadways (Kings County 2010d).

Since the Cherry Solar Project will also generate traffic on Fresno County roadways as well as State highways, the LOS policies of Fresno County and the California Department of Transportation (Caltrans) are also considered in this analysis. Fresno County has policies which establish Level of Service (LOS) D as the minimum acceptable level of service on urban roads, and LOS C on rural roads (Fresno COG 2014). For all State highways within Kings County, Caltrans applies the service standard of LOS D for Regionally Significant Routes pursuant to the Kings County Regional Transportation Plan (Caltrans 2013a). Therefore, the traffic generated by the project would conflict with the applicable LOS policies if it results in a degradation of Level of Service to lower than LOS D on a Kings County road or State highway, or LOS C on a rural County Road in Fresno County.

Less-than-Significant Impact. As is typical of all PV solar projects, the Cherry Solar Project would generate the greatest volume of traffic during the construction phases when substantial numbers of workers would be onsite during site preparation, grading, panel installation, and electrical equipment installation for the project. The construction period is also when the greatest number of

truck deliveries are made, including deliveries of grading and construction equipment, solar panels, racking systems, electrical equipment, gravel, asphalt, and concrete, among other materials.

Construction Traffic

Since the project would generate the highest traffic volumes during the construction phases, a screening level of analysis was conducted to determine if adverse impacts to roadway system performance would occur, even under temporary conditions during project construction. In order to evaluate worst-case conditions, the traffic generated during the peak construction period was evaluated to represent project conditions. During this peak period, there would 570 workers commuting to the project site daily, resulting in a total of 1140 daily trips (see Table 2 in Section *2.2. Project Description* for a summary of construction vehicle usage by construction phase). For purposes of analysis, it was assumed that no workers would carpool or use transit or shuttle buses.

Construction workers would arrive at the site between 5 to 7 AM, with the majority of the workers departing the site prior to 4 PM. As such, few if any workers are expected to be on the roadway network between the peak commute periods of 7 to 9 AM or 4 to 6 PM. (Note: Mitigation TR-1 requires that the generation of construction-related traffic be minimized during these peak commute periods.) Since project traffic generation during the AM and PM peak periods is therefore expected to be negligible, and since all County roads and State highways in the vicinity operate at Level of Service B or C and thus have ample surplus capacity, no evaluation of peak hour traffic impacts was warranted.

Project worker commute traffic was distributed to the roadway system in accordance with a gravity model that considered time and distance factors relative to regional population centers to determine directional trip assignments. The average daily truck traffic that was estimated for the peak construction period was similarly distributed according to place of origination for each type of delivery. In order to reflect the effect of larger trucks on highway capacity, all truck trips were multiplied by 2.0 to derive Passenger Car Equivalent (PCE) trips generated by trucks. Deliveries were also multiplied by two to reflect inbound and outbound trips. Table TR-1, on the next page, shows the effect of project construction traffic on the surrounding roadway network. In order to establish Baseline traffic conditions on the study roadways for 2024, the existing count data for each roadway segment was increased by 1 percent per year from its latest count date. This growth rate is somewhat higher than the statewide increase in traffic volumes on State highways over the 10 year period from 2006 and 2016 (the latest period for which statewide data is available).

In general, the project-generated traffic would be low relative to existing daily traffic volumes on the affected roadways. Table TR-1 includes only those roadway segments that would be subject to 40 daily project-generated trips (or 20 round trips per day). All other roadway segments would have fewer than 40 daily trips added due to project construction traffic.

As shown in Table TR-1, none of the affected roadway segments would be subject to a change in Level of Service due to project-generated construction traffic. During the period of peak project construction activity, the most heavily affected roadway segment – Nevada Avenue near the project entrance – would be subject to an almost 1.7-fold increase in daily traffic east of the project entrance, and a 31 percent increase in daily traffic volumes west of the project entrance. However, due to the very low existing traffic volumes on Nevada Avenue, the service level would remain at acceptable LOS B on this roadway during the peak construction period.

TABLE TR-1
CHERRY SOLAR PROJECT – CONSTRUCTION TRAFFIC
(BASED ON PEAK CONSTRUCTION PERIOD WHEN CONSTRUCTION PHASES OVERLAP)

Roadway Segment	Baseline Traffic Conditions				Level of Service (LOS)		Project Traffic Conditions[1] (During Peak Construction Period)				
	AADT[2]		Roadway Lanes (Agency)[5]	Base-line LOS[6]	Applicable Minimum LOS Standard[7]	Maximum AADT at Min. LOS Standard[8]	Avg. Daily Project Trips[9]	Roadway AADT with Project	Project % Increase over Baseline	LOS with Project	Exceeds Applicable Min. LOS Standard?
	Existing[3]	Baseline[4] 2024									
SR-198 - b/n SR-41 & 19th Ave.	22,400[10]	23,310	4 (fwy)(CT)	B	D	67,100	501	23,811	2.1%	B	No
SR-41 - b/n SR-198 & Bush St.	17,500[10]	18,211	4 (fwy)(CT)	B	D	67,100	362	18,573	2.0	B	No
- b/n SR-198 & Jackson Ave.	10,800[10]	11,239	2 (CT)	D	D	16,400	827	12,066	7.4	D	No
- b/n Jackson & Nevada Aves.	8,700[10]	9,053	2 (CT)	C	D	16,400	984	10,037	10.9	C	No
- b/n Nevada & Quail Aves.	8,400[10]	8,741	2 (CT)	C	D	16,400	11	8,752	0.13	C	No
SR-269 - b/n SR-198 & Jayne Ave.	4,500[10]	4,683	2 (CT)	C	D	16,400	90	4,773	1.9	C	No
Avenal Cutoff Road - b/n I-5 and Nevada Ave.	3,842[11]	3,919	2 (KC)	C	D	16,400	67	3,986	1.7	C	No
Nevada Avenue - b/n SR-41 & Project Entrance	602[11]	614	2 (KC)	B	D	16,400	995	1,609	162.1	B	No
- b/n Project Entrance & Avenal Cutoff Rd.	839[11]	856	2 (KC)	B	D	16,400	267	1,123	31.2	B	No
Jane Avenue - b/n Avenal Cutoff & SR-269	3,915[11]	3,994	2 (FC)	B	C	13,800	186	4,180	4.7	C	No
- b/n SR-269 & I-5	4,786[11]	4,882	2 (FC	B	C	13,800	132	5,014	2.7	C	No
- b/n I-5 & SR-33	6,546[11]	6,677	2 (FC)	C	C	13,800	104	6,782	1.6	C	No

[1] Table includes only roadway segments subject to 40 or more daily trips during the peak construction period.
[2] AADT = Annual Average Daily Trips
[3] "Existing" = traffic volumes on roadways and highways at time of the most recent counts.
[4] Existing AADT was increased by 1% per year from count year to Baseline Year (2024).
[5] Agency abbreviations: KC = Kings County; CT = Caltrans; FC = Fresno County.
[6] Source: Kings County 2010d, p. C-14 (LOS thresholds based on Highway Capacity Manual).
[7] Minimum LOS Standards by Agency: Kings County = LOS D; Caltrans = For State highways through Kings County, Caltrans applies KCAG standard of LOS D for RTP Regionally Significant System; Fresno County = LOS D (urban), LOS C (rural).
[8] Source: Kings County 2010d.
[9] Project Daily Trips: Average Day = Average daily trips generated during the peak construction period.
[10] Source: Caltrans 2022 (reflects 2020 volumes).
[11] Source: National Data & Surveying Services (NDSS) 2022 (machine counts taken in May 2022).

Other roadways in the vicinity would be subject to temporary increases of 0.13 to 11 percent in overall traffic volumes. The project-generated traffic volumes would be lower during non-peak periods of construction on all affected roadways.

In summary, project construction traffic would not result in a reduction of service levels on any of the affected roadways, which would remain at LOS B or LOS C on all affected roadway segments. Thus all roadways affected by project construction traffic would continue to operate at LOS C or better, thus maintaining the County's LOS standard of D as established in the *General Plan Circulation Element,* and also maintaining the LOS D standard applicable on State highways in Kings County, and the LOC C standard on Fresno County's rural roads. Thus, the increment of traffic volume generated by the Cherry Solar Project during construction would represent a *less-than-significant* impact in terms of conflicts with Level of Service policies applicable to the affected roadways.

Operational Traffic

Once the Cherry Solar facility is operational, the project-generated traffic would become very light. A very small permanent staff would be stationed at the solar facility to perform inspections, maintenance and repairs, and contractors would visit the project on a regular basis. These include panel washing crews who would work on the site up to two times per year for several weeks at a time, and sheep contractors would be present on the site during the early months of each year. There would also be occasional truck deliveries for replacement parts and other materials. On average, it is estimated that a total of 10 daily round trips would be generated by the operational workers on any given day. Truck deliveries would be expected to occur intermittently during the year. The very low volume of worker and delivery truck traffic generated during project operations would have a negligible effect on the performance of the roadway system serving the project, and the impact of operational traffic from the Cherry Solar Project would be *less than significant* in terms of conflicts with Level of Service policies applicable to the affected roadways.

Decommissioning Traffic

As discussed in Section *2.2. Project Description*, the level of activity during decommissioning (or deconstruction) of the Cherry Solar Project is expected to be similar to the activity level during project construction. Thus the number transport vehicle trips required for off-haul of decommissioned materials is expected to be similar to the number of trips required to haul the materials to the site during construction. The number of workers required on-site is also expected to be about the same, while the use of construction equipment would be similar or a little less. For purposes of analysis, it is assumed that traffic generated during decommissioning would be the same as the traffic generated during construction, as shown in Table TR-1 above. As shown in the table, project-generated traffic volumes would generally be very low relative to current traffic volumes on the affected roadways, and levels of performance would not be adversely affected by the project decommissioning traffic. At the time of project decommissioning in about 35 years, the long-term traffic forecasts for the affected roadways indicates that all roadways will be operating at acceptable service levels at that time (KCAG 2018, Fresno COG 2013). The temporary addition of relatively small volumes of traffic from project decommissioning would have a *less than significant* impact in terms of conflicts with Level of Service policies applicable to the affected roadways at the time of decommissioning.

In summary, the Cherry Solar Project would not conflict with any Level of Service policies established by any transportation agency with jurisdiction over roadways affected by project-generated traffic. Therefore, the Cherry Solar Project would have a *less-than-significant impact* in this regard.

Transit, Roadway, Bicycle and Pedestrian Facilities

Less-than-Significant Impact. The Regional Bike Routes plan in the *2035 Kings County General Plan Circulation Element* shows an existing bikeway on Avenal Cutoff Road that passes to the northwest of the Cherry Solar Project site, and also a planned bikeway along Nevada Avenue between Avenal Cutoff Road and SR-41. The project would introduce additional traffic which would increase potential interaction between bicyclists on the roadway and vehicles making turning movements from Nevada Avenue to access the project site. However, project egress would be controlled by stop signs, and sight-lines in all directions would be very good given the flat terrain and lack of visual obstructions. During project construction, the small increases in traffic congestion and hazard introduced by slow moving vehicles would be addressed through implementation of the traffic safety measures identified in Mitigation Measure TR-1, which would also be expected to reduce potential traffic hazards to bicyclists. As such, the project would not pose a safety hazard to bicyclists or otherwise decrease the performance of the existing or planned bikeways in the project vicinity.

The nearest other planned bikeway in the project area is along Jackson Avenue between Avenal Cutoff Road and 18th Avenue. This planned bikeway segment is several miles from the project site and would not be directly affected by the project, and also would not be indirectly affected since little if any project-generated traffic would use that roadway segment. The project would not conflict with any adopted policies, plans, or programs regarding bicycle facilities, or otherwise decrease the performance or safety of bicycle facilities (Kings County 2010d).

There are no existing or planned public transit routes or pedestrian facilities in the project vicinity, so the project would not decrease the performance or safety of such facilities. The project would not conflict with any adopted policies, plans, or programs regarding transit or pedestrian facilities, or otherwise decrease the performance or safety of transit or pedestrian facilities (Kings County 2010d).

In summary, the Cherry Solar Project would result in no potential conflicts with transit, bicycle, or pedestrian plans, policies, or programs, or otherwise decrease the performance or safety of such facilities. Therefore, the Cherry Solar Project would have a *less-than-significant impact* in this regard.

b) Would the project conflict with or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?

As discussed under Regulatory Setting above, this section of the CEQA Guidelines was included in the comprehensive amendments to the State CEQA Guidelines which took effect on December 28, 2018. The referenced Guidelines Section 15064.3(b) sets forth revised criteria for analyzing transportation impacts of proposed projects, as required under SB 734. For land use projects, this section states that "vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact." The purpose in applying vehicle miles traveled (VMT) as the analytical

metric is to further the State's long-term greenhouse gas reduction goals by reducing fuel consumption in the transportation sector, specifically through reductions in per capita VMT associated with new land use projects. The establishment of specific significance thresholds is left up to each lead agency to develop in the course of implementing corresponding amendments to its local CEQA guidelines. As noted, on June 9, 2020 the Kings County Board of Supervisors adopted Resolution No. 20-041 delaying the implementation of Vehicle Miles Traveled requirements as authorized in Senate Bill 743 for at least 2 years. Nevertheless, the following analysis is provided for to show compliance of the project with SB 743.

In the Technical Advisory issued by the Governor's Office of Planning and Research (OPR) for guidance in implementing SB 734, the recommended significance threshold for residential projects is defined as VMT exceeding a level of 15 percent below regional VMT per capita, and for office and retail projects a significant transportation impact would occur if project-generated VMT exceeds a level of 15 percent below regional VMT per employee (OPR 2018, pp. 15-16). OPR's Technical Advisory does not address other land uses, and suggests that thresholds for other land uses be developed at the local level.

To address transportation impacts from small projects, the OPR Technical Advisory recommends the application of "screening thresholds" to identify when a project would be expected result in a less-than-significant transportation impact without conducting a detailed study. The Technical Advisory states that, in general, projects that generate fewer than 110 trips per day may be assumed to cause a less-than-significant transportation impact (OPR 2018, p.12).

The OPR Technical Advisory does not address the establishment of significance thresholds for construction VMT. However, Guidelines Section 15064.3(b)(3) states: "[f]or many projects, a qualitative analysis of construction traffic may be appropriate."

Although Kings County has not yet established VMT significance thresholds for land use projects, the OPR Technical Advisory provides sufficient guidance to undertake an informational impact analysis under SB 734. Based on the requirements of CEQA Guidelines Section 15064.3(b), as elaborated upon by OPR in the corresponding Technical Advisory, the following significance thresholds for VMT are applicable for purposes of this analysis:

> *Construction VMT* – Significance is to be determined through a qualitative analysis that considers estimated construction VMT as compared with Countywide VMT, and also considers pre-project traffic conditions on the roadways that would be most affected by construction traffic.
>
> *Operational VMT* – Any project that generates operational traffic volumes of less than the screening threshold of 110 trips per day is presumed to have a less-than-significant transportation impact. Any project that generates 110 daily trips or more shall be quantitatively evaluated for VMT impacts.

Less-than-Significant Impact. The potential VMT impacts associated with construction and operation of the Cherry Solar Project are discussed in turn below.

Construction

The Cherry Solar Project would be constructed over a period of one year during which time construction traffic volumes would fluctuate depending on the construction phase. It is estimated that the average daily VMT generated by all worker trips and truck deliveries during project construction would be approximately 33,980 miles per day (i.e., 6,116,478 vehicle miles / 180 construction days). In comparison, the average VMT for Kings County in 2015 (the most recent year for which VMT data is available) was 3,992,787 miles per day (KCAG 2018b, p. 4.12-6). Thus, the daily VMT generated during construction of the Cherry Solar Project would be equivalent to 0.85 percent of average daily VMT in Kings County. (The actual project-related VMT occurring in Kings County would be substantially less considering that much of the project VMT would occur outside Kings County.) This very small increment in VMT would occur only during the one year construction period. As discussed under item 'a)' above, the roadways that would be most affected by project construction traffic (i.e., roadways subject to 40 daily construction trips or more) would all continue to operate well within their design capacities (as indicated by the applicable LOS standards) with the addition of project construction traffic, even during the period of peak construction activity.

In summary, the above qualitative analysis shows that the VMT generated by project construction would be very low compared to overall Countywide VMT, and would only occur temporarily during project construction. The project construction traffic would have a minor short-term effect on local roadways, which would all have substantial remaining traffic carrying capacity during the one year project construction period. The greenhouse gas emissions from project construction would be relatively small, and the Cherry Solar Project would result in a substantial net benefit in terms of greenhouse gas emissions since it would offset emissions from a fossil-fueled generating plant of equivalent capacity (see Section *4.8. Greenhouse Gas Emissions*). Given the relatively low VMT generated during project construction, and considering that the Cherry Solar Project would help the State achieve its greenhouse gas reduction goals, and would thus advance the specific purpose of AB 734, the project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). Therefore, the project construction traffic impact under this significance criterion would be *less than significant*.

Operations

As discussed under item 'a)' above, traffic generated during project operations would be very light. A small number of permanent staff would be stationed at the solar facility, and contractors would occasionally visit the project to perform maintenance activities such as panel washing. On average, it is estimated that about 10 daily round trips (i.e., 20 trip ends or trips) would be generated by the workers on any given day. This is substantially below the screening threshold of 110 trips per day or less recommended by OPR's Technical Advisory as the volume of daily trips that may be assumed to have a less-than-significant transportation impact. Therefore, the operation of the Cherry Solar Project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and the impact under this significance criterion would be *less than significant*.

c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less-than-Significant Impact with Mitigation Incorporated. The Cherry Solar Project would have two driveway entrances on Nevada Avenue, with the main entrance located at the southeast corner of the project site. The new entrances would result in turning movements in and out of the project site which would increase the potential for interaction with traffic along this County road. However, the project entrances would be designed in accordance with the *Kings County Improvement Standards,* and would be subject to prior design review and approval by the Kings County Public Works Department. Project egress would be controlled by stop signs, and sight-lines would be very good in all directions given the flat terrain, absence of visual obstructions, and linear alignment of Nevada Avenue. Thus the potential traffic hazard resulting from the project would generally be small, particularly during project operations when the solar facility would generate very little traffic on this very lightly traveled County road.

As discussed above, the volume of traffic generated by the project would be greatest during the construction and decommissioning phases. This would include regular deliveries of materials and equipment by large trucks. Slow moving trucks could result in temporary congestion near the project entrance, and could pose a safety concern due to abrupt changes in the speed of traffic flow, or due to slow turning movements across on-coming lanes of traffic. Delivery truck traffic could also interact with the slow moving farm equipment and vehicles utilizing the roadway. The implementation of the Mitigation Measure TR-1 below would reduce the potential impact from safety hazards due to construction and decommissioning traffic to a *less-than-significant* level.

Mitigation Measure TR-1: Traffic Safety Measures for Solar Project Construction. *As a condition of project approval, and prior to the issuance of encroachment permits, the applicant shall consult with the Kings County Public Works Department regarding construction activities that may affect area traffic (such as equipment and supply delivery necessitating lane closures, trenching, etc.). Additionally, the project plans will be reviewed by the appropriate County departments for conformance with all applicable fire safety code and ordinance requirements for emergency access. The contractor shall implement appropriate traffic controls in accordance with the California Vehicle Code and other state and local requirements to avoid or minimize impacts on traffic. Traffic measures that shall be implemented during construction and decommissioning activities include the following:*

a. Construction traffic shall not block emergency equipment routes.

b. Construction activities shall be designed to minimize work in public rights-of-way and use of local streets. As examples, this might include the following:

i. Identify designated off-street parking areas for construction-related vehicles throughout the construction and decommissioning periods.

ii. Identify approved truck routes for the transport of all construction- and decommissioning-related equipment and materials.

iii. *Limit the employee arrivals and departures, and the delivery of equipment and materials, to non-peak traffic periods (e.g., avoid unnecessary travel from 7 to 9 AM and 4 to 6 PM).*

iv. *Provide for farm worker vehicle access and safe pedestrian and vehicle access.*

v. *Provide advance warning and appropriate signage whenever road closures or detours are necessary.*

c. *Construction shall comply with San Joaquin Valley Air Pollution Control District standards for unpaved roads, which include a requirement to keep vehicle speeds below 15 miles per hour.*

Since the precise nature and timing of construction and decommissioning activities requiring the traffic safety measures set forth in Mitigation Measure TR-1 cannot be predicted as of this writing, the details of the traffic safety mitigations will be determined by the County Public Works Department at the such time as the activities for which they are required are scheduled and the applicant's construction contractor requests consultation regarding such activities.

d) Would the project result in inadequate emergency access?

The Health and Safety Element of the 2035 Kings County General Plan designates evacuation routes to be relied upon for emergency or disaster responses. Within the project area, the primary evacuation routes include SR-41 and SR-198, and the secondary evacuation routes include Avenal Cutoff Road, Laurel Avenue and Kansas Avenue (Kings County 2010e).

Less-than-Significant Impact with Mitigation Incorporated. The Cherry Solar Project will have its main project entrances on Nevada Avenue, which is not a County-designated emergency evacuation route but will nevertheless serve as a critical evacuation route for the Cherry Solar Project itself. This route would remain open throughout construction, and emergency access would not be limited by construction activities at the project site. As required under Mitigation Measure TR-1, the applicant would be required to coordinate with the County Public Works Department regarding construction-related activities that may affect traffic on these roadways, and specifically to prevent blockage of emergency equipment routes.

The project will include an internal system of driveways and aisleways to provide adequate emergency access throughout the project. The project plans will be reviewed by the appropriate County departments for conformance with all applicable fire-safety code and ordinance requirements for emergency access. Therefore, with the implementation of Mitigation Measure TR-1, the Cherry Solar Project would result in *a less-than-significant impact* with respect to adequacy of emergency access.

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4.18. TRIBAL CULTURAL RESOURCES

Would the project:	**Potentially Significant Impact**	**Potentially Significant Unless Mitigation Incorporated**	**Less Than Significant**	**No Impact**
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code § 5020.1(k), or	☐	■	☐	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native Tribe.	☐	■	☐	☐

Regulatory Context

Assembly Bill 52 (AB 52) provides protections for tribal cultural resources. As of July 1, 2015, all lead agencies approving projects under CEQA are required, if formally requested by a culturally affiliated California Native American Tribe, to consult with such tribe regarding the impacts of a project on tribal cultural resources prior to the release of any negative declaration, mitigated negative declaration (MND) or a notice of preparation (NOP) for an environmental impact report (EIR). Under Public Resources Code (PRC) Section 21074, tribal cultural resources include site features, places, cultural landscapes, sacred places or objects that are of cultural value to a tribe that are eligible or listed on the California Register of Historical Resources (CRHR) or a local historic register or that the lead agency has determined to be a significant tribal cultural resource.

Tribal consultation is to continue until mitigation measures are agreed to, unless the tribe or the lead agency concludes in good faith that an agreement cannot be reached. In the case of agreement, the lead agency is required to include the mitigation measures in the environmental document along with the related Mitigation Monitoring and Reporting Program (MMRP)(see PRC Section 21084.3). If no agreement is reached, the lead agency must still impose all feasible measures necessary for a project to avoid or minimize significant adverse impacts on tribal cultural resources (PRC Section 21084.3).

Setting

*A*s discussed in Section 4.5. *Cultural Resources*, archival research and reconnaissance of the Cherry Solar Project by Basin Research Associates indicated that no significant archaeological resources are present within the project site or immediately surrounding areas. (See Section *4.5. for a* complete discussion of the cultural resources setting.)

The Native American Heritage Commission (NAHC) was contacted concerning resources listed on the *Sacred Lands Inventory*. The results of the NAHC record search were negative, indicating no record for the presence of Native American Sacred Lands in the immediate project area.

The majority of the lands in the study area have been disturbed by agricultural activities, which may have disturbed or destroyed archaeological resources at or near the ground surface. However, it is possible that intact archaeological resources may be buried below the disturbed upper layer of soil. If so, the excavations associated with Cherry Solar Project could expose as-yet undetected resources. It is also possible that human remains could be encountered as human remains have been associated with several of the prehistoric archaeological resources along the former Tulare Lake shoreline located to the southeast of the project site.

Environmental Evaluation

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:

i) Listed or eligible for listing in the California Register of Historical Resources, or I a local register of historical resources as defined in Public Resources Code § 5020.1(k), or

Less-than-Significant Impact with Mitigation Incorporated. To date, no National Register of Historic Places or California Register of Historical Resources eligible or listed historic properties/cultural resources, and no known ethnographic, traditional or contemporary Native American use areas and/or other features of cultural significance have been identified in or adjacent to the Cherry Solar Project site.

Since the adoption of AB 52 in 2015, no California Native American Tribes have requested in writing to be listed on Kings County's AB 52 project notification list. Therefore, no tribes were consulted pursuant to AB 52, and the AB 52 consultation process with respect to the Cherry Solar Project is deemed complete.

However, the County regularly coordinates with the Santa Rosa Rancheria Tachi Yokut Tribe which is the tribe which is traditionally and culturally affiliated with the project area. The tribal representatives who were contacted regarding the Cherry Solar Project indicated that there are no known tribal cultural resources within the project site, although there is a potential for discovery of previously unknown tribal cultural resources during site disturbance and construction of Cherry

Solar Project. The tribal representatives provided the County staff with recommended mitigation measures for protection of tribal cultural resources, which have been incorporated in full in Mitigation Measures CUL-1 and CUL-2 in Section *4.5. Cultural Resources*. With the implementation of Mitigation Measures CUL-1 and CUL-2, the impact to tribal cultural resources would be reduced to *less than significant.*

Mitigation Measure: Implement MM CUL-1 and CUL-2.

ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native Tribe.

Less-than-Significant Impact with Mitigation Incorporated. In the event that tribal cultural resources are discovered during project site disturbance which have not previously been evaluated for significance, the Kings County Community Development Agency will evaluate the significance of the resource in cooperation with the Santa Rosa Rancheria Cultural and Historical Preservation Department, through application of the criteria for eligibility for listing on the California Register of Historical Resources. With implementation of Mitigation Measures CUL-1 and CUL-2, impacts to such potential tribal cultural resources would be reduced to *less than significant.*

Mitigation Measure: Implement MM CUL-1 and CUL-2.

REFERENCES – TRIBAL CULTURAL RESOURCES

Basin 2022 — Basin Research Associates. 2022. *Cultural Resources Review Report – Cherry Solar Project, Kings County, California*. June.
[Cultural Resources report is kept administratively confidential by Kings County Community Development Agency per Government Code Section 6254, subdivision (r) and Section 6452.10.]

4.19. UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment facilities or stormwater drainage, electric power, natural gas, or telecommunications, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	■
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	■	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	■
d) Generate solid waste in excess of state or local standards, in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste goals?	☐	☐	■	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	■

Setting

Water Supply

Agricultural water supply for crop irrigation on the project site is provided from imported surface water deliveries provided by the Westlands Water District (WWD), and augmented by groundwater pumping from agricultural wells. There is one operational agricultural well located adjacent to the western site boundary at the southwest corner of the Manteca Avenue and 28th Avenue alignments. There are no sources of potable domestic water at the project site.

Wastewater Collection and Treatment

The project site is not within or near an area served by a community wastewater collection and treatment system. For projects in rural areas of Kings County that include permanent on-site employees, the wastewater disposal needs are typically met by individual septic tank and leachfield systems which are designed, constructed, and operated in accordance with the requirements and standards of Kings County and the Regional Water Quality Control Board.

Storm Water Drainage

There are no storm drainage facilities in the project area. The existing network of irrigation canals and ditches in the project area receive some stormwater runoff from adjacent lands during intense or prolonged storm events. Under current conditions, rainfall at the Cherry Solar Project site percolates into the soil with little or no runoff leaving the site. The terrain of the project site is virtually flat, with a maximum gradient of 0.2 percent. During normal rain events, runoff from impervious surfaces would be absorbed by the soil and percolate into the groundwater basin. During more intense or prolonged storm events, the ground becomes saturated and relatively small volumes of stormwater temporarily pond on the surface and gradually percolate into the ground, and some areas drain to adjacent canals and drainage ditches.

Electric Power

Pacific Gas and Electric Company (PG&E) is an investor-owned utility company that provides electrical service to the project site and most of Kings County, with the exception of a small area in the northeast corner of the County which is served by Southern California Edison (SCE). A 12-kV distribution line runs along the southern site boundary on Nevada Avenue, and a service line runs north from Nevada Avenue along the eastern site boundary to a former pump station on the south side of the dry tailwater reservoir.

Natural Gas

The project site is within the service area of Southern California Gas Company (SoCalGas), although there are no natural gas distribution lines in the immediate project vicinity. The nearest gas line is a high pressure natural gas transmission line that runs parallel to and south of Avenal Cutoff Road, and passes near the project site at a distance of 0.25 miles from the northwest corner of the site.

Telecommunications

The project area is located within AT&T's service territory for land based telephone service, and also includes internet and TV connections. Comcast Xfinity provides cable, internet and phone service in the urbanized areas of Kings County. Wireless internet is available to the project area from Unwired Broadband.

Solid Waste

Solid waste collection and disposal service in Kings County is provided by the Kings Waste and Recycling Authority (KWRA). The KWRA was formed in 1998 by agreement between Kings County and the cities of Lemoore, Hanford, and Corcoran. Solid waste from the member jurisdictions is transported to the KWRA Materials Recovery Facility in Hanford where wastes are separated for recycling, composting, or landfill disposal. Commercial solid waste is collected by private contract with licensed haulers (Kings County 2010a). Used construction and demolition material is accepted at several approved facilities in the region.

In Kings County, non-recyclable materials are disposed of at the B-17 Landfill Unit of the Chemical Waste Management, Inc., Landfill, located in the Kettleman Hills south of Kettleman City on SR-41, and the Avenal Regional Landfill, located just north of urbanized area of the City of Avenal on Skyline Boulevard. The Chemical Waste Management B-17 Landfill Unit has a maximum permitted disposal rate of 2,000

tons per day, and in 2019 accepted a total of 183,998 tons, or an average of 613 tons per day (assumes landfill is open 300 days per year)(CalRecycle 2022e). The total permitted capacity of B-17 Landfill Unit is 18.4 million cubic yards, with a remaining capacity of approximately 17.5 million cubic yards, as of November 2010. (Based on annual volume of disposal since 2010 [approx. 250,000 cubic yards per year], it is roughly estimated that the B-17 Landfill Unit had a remaining capacity of approximately 14.8 million cubic yards at the end of 2021.) The facility's estimated closure year is 2030, with the actual closure date depending on the rate of fill (CalRecycle 2022f).

The Avenal Regional Landfill has a maximum permitted disposal rate of 6,000 tons per day, and in 2019 accepted a total of 146,001 tons, or an average of 487 tons per day (CalRecycle 2020e). The total permitted capacity of the Avenal Landfill is 36.3 million cubic yards, with a remaining capacity of approximately 30.3 million cubic yards, as of September 2014. (Based on annual volume of disposal since 2014 [approx. 200,000 cubic yards per year], it is roughly estimated that Avenal Landfill had a remaining capacity of approximately 28.9 million cubic yards at the end of 2021.) The facility's estimated closure year is 2042, with the actual closure date depending on the rate of fill (CalRecycle 2020f). Based on the above, it is roughly estimated that the combined remaining capacity for the Chemical Waste Management Landfill and the Avenal Regional Landfill was approximately 43.7 million cubic yards at the end of 2021.

Greenwaste is disposed at the Kochergen Farms Composting Facility, located near the intersection of Avenal Cutoff Road and 34th Avenue.

Regulatory Context

State of California

Sustainable Groundwater Management Act

In September 2014, Governor Brown signed the Sustainable Groundwater Management Act (SGMA). The goal of the legislation is to sustainability manage California's groundwater basins identified as medium to critically overdrafted subbasins. SGMA required that all medium to critically over drafted subbasins identified by DWR be managed by a groundwater sustainability agency (GSA). The GSA is responsible for locally managing the groundwater subbasin through the development and implementation a Groundwater Sustainability Plan (GSP). For medium and high priority groundwater basins and subbasins, the preparation of the GSPs is mandatory, with adoption deadlines of 2020 or 2022 depending on the basin's priority. As the primary water purveyor in the Westside Subbasin, the Westlands Water District is the designated Groundwater Management Agency for the subbasin. DWR has designated the Westside Subbasin as a critically overdrafted basin for which a draft GSP was adopted by WWD on January 7, 2020. The purpose of the GSP is to characterize groundwater conditions in the Westside Subbasin, evaluate and report on conditions of overdraft, establish sustainability goals and sustainability management criteria, and describe projects and management actions the GSA intends to implement to achieve sustainability by 2040.

Westlands Water District

The Westlands Water District provides agricultural irrigation water to growers and municipal and industrial users from surface water deliveries provided by the U.S. Bureau of Reclamation from the Central Valley Project (CVP) facilities that convey captured Sierra snowmelt to the west side of the San

Joaquin Valley. In an ongoing effort to adapt to surface supply shortages, and to reduce groundwater overpumping, the District provides funding for education and technology, enabling growers to effectively utilize surface water allotments through efficiencies and conservation. The District also monitors the water quality and quantity of pumped groundwater as part of its Water Management Plan (WWD 2013).

A key component of the District's Water Management Plan is water conservation. This program consists of the following elements.

- Irrigation Guide for water requirements per crop
- Water Conservation and Management Handbook
- Workshops and meeting on water management information
- Technical assistance and conservation computer programs
- Meter repair and update program
- Groundwater monitoring
- Pump efficiency tests
- Conjunctive use of supplies
- Irrigation System Improvement Program
- Satellite imagery purchased about once every two weeks

As discussed above, WWD serves as the groundwater management authority for the subbasin, pursuant to the Sustainable Groundwater Management Act.

California Integrated Waste Management Act

In 1989, the legislature enacted the Integrated Waste Management Act (AB 939), which required all California cities and counties to divert 50 percent of its solid waste from being disposed in landfills. In 2008, the legislature enacted SB 1016, which did not change the required 50 percent diversion rate, but altered the method of measuring compliance by implementing a simplified measure of local jurisdictions' performance.

Kings County

2035 Kings County General Plan

The 2035 Kings County General Plan contains the following goals, objectives, and policies related to water supply and wastewater collection and treatment that are relevant to the Cherry Solar Project:

Resource Conservation Element

A. Water Resources

RC GOAL A1 Beneficially use, efficiently manage, and protect water resources while developing strategies to capture additional water sources that may become available to ensure long-term sustainable water supplies for the region.

RC OBJECTIVE A1.1 Maintain and Protect Existing Water Supplies.

RC Policy A1.1.2: Review new discretionary development proposals, including new or expanded uses within agricultural zone districts, to ensure that there are adequate water supplies to accommodate such uses. Projects should provide evidence of adequate and sustainable water availability prior to approval of a tentative map or other land use approval.

RC OBJECTIVE A1.2 Conserve and reuse water to provide for the efficient use of water resources.

RC Policy A1.2.2: Require the use of low water consuming, drought-tolerant and native landscaping and other water conserving techniques, such as mulching, drip irrigation and moisture sensors, for new development.

RC OBJECTIVE A1.3 Secure additional water supply sources to meet current and future water demand.

RC Policy A1.3.2: Evaluate new urban development for compliance to SB610 and SB221 to ensure that adequate water supply sources and facilities are available to accommodate the new demand that would be created by such development.

RC OBJECTIVE A1.4 Protect the quality of surface water and groundwater resources in accordance with applicable federal, state and regional requirements and regulations.

RC Policy A1.4.4: Encourage and support the identification of degraded surface water and groundwater resources and promote restoration where appropriate.

RC OBJECTIVE A1.6 Protect groundwater quality by applying development standards which seek to prevent pollution of surface or groundwater and net loss of natural water features.

RC Policy A1.6.2: Support measures to ensure that water users do not unreasonably use groundwater resources.

Kings County Integrated Waste Management Plan

Adopted in 1995, the Kings County Integrated Waste Management Plan (CIWMP) was prepared in order to demonstrate how the County's solid waste would be reduced by 25 percent by 1995 and 50 percent by 2000, as required under AB 939. The CIMWMP addresses the long-term ability to ensure the implementation of countywide diversion programs and provision of adequate disposal capacity through siting of disposal and transformation facilities. The Kings County CIWMP incorporates the Source Reduction and Recycling Element (CIWMP) and Household Hazardous Waste Element (HHWE)(Kings County 1995).

Kings County Code of Ordinances

Solid Waste Separation

Section 13-11 of the Code of Ordinances requires that recyclables be separated from solid waste at the premises where the solid waste is generated, and that recyclables be placed into different containers for collection (Kings County 2016b).

Kings County Improvement Standards

The Kings County Improvements Standards serves as an engineering reference for Kings County staff and private parties in the design and construction of improvements for public works projects and private development improvements. The standards include engineering design specifications for the construction of streets, water supply systems, storm drainage, and sewage disposal (Kings County 2003).

Environmental Evaluation

a) Require or result in the relocation or construction of new or expanded water, wastewater treatment facilities or stormwater drainage, electric power, natural gas, or telecommunications, the construction or relocation of which could cause significant environmental effects?

Water Treatment

During the construction and decommissioning phases, the Cherry Solar Project would use untreated groundwater obtained from the existing on-site agricultural well or another well in the vicinity. During project operations, imported (untreated) surface water would be obtained from the Westlands Water District for maintenance activities and panel cleaning. During construction, project operations, and decommissioning, drinking water would be provided by bottled water delivered by truck. Shortages of untreated well water or surface water supplies to meet project demands during construction, operations, or decommissioning are not currently foreseen. However, in the unlikely event that such unforeseen shortages may occur in the future, possibly in the event of a prolonged severe drought, the relatively small volumes of untreated water that would be temporarily required during the construction, operations, and decommissioning phases would be purchased from alternative sources and trucked to the site. Therefore, no new or expanded water treatment facilities are planned or required for the project which could cause significant environmental effects. (See item 'b' below for a detailed discussion of water supply.)

Wastewater Treatment

The Cherry Solar Project will include an O&M building with sanitary facilities for workers who will be stationed at the facility or who will regularly visit the site perform inspection, maintenance, and repair tasks, and panel washing. These sanitary facilities will be connected to an adjacent septic tank and leachfield system. Septic systems are regulated under the Kings County Plumbing Code, which sets forth design criteria and standards for their installation. The general requirements for septic leachfield design are provided on County's "Septic Tank Absorption Map," which classifies the County soils into four broad categories and indicates general specifications for the number of square

feet of leaching area required for each 100 gallons of septic tank capacity for each soil category. The entire project site is mapped as Soil Type "B" which requires 60 square feet of leaching area for each 100 gallons of septic tank capacity (Kings County 2001). The O&M building and associated septic tank and leachfield for the Cherry Solar Project are planned to be located adjacent to the east site boundary, which is at least one mile from the area where the County would require an engineered septic system. As such, soils in the planned leachfield area would be capable of adequately supporting the use of a septic tank for the project.

As noted previously, the daily staffing needs during project operations would vary considerably depending maintenance and repair activities required on any given day. However, it is expected that the average staff level would be approximately 10 workers per day. Based on a peak wastewater generation rate of 50 gallons per day (gpd) per person, the average peak daily volume of wastewater generated would be approximately 500 gallons. This is well below the 2,500 gpd threshold where Waste Discharge Requirement (WDRs) would be required for a small community system from the Regional Water Quality Control Board. The septic and leachfield system at the Cherry Solar Project will be designed in accordance with the Kings County Plumbing Code and the Local Area Management Program (LAMP) as approved by the State Water Resources Control Board (SWRCB), and would be subject to the approval of the Kings County Community Development Agency and Environmental Health Services Division, which would ensure compliance with all applicable standards in order to avoid impacts to groundwater quality (Kings County 2016). During construction of the Cherry Solar Project, sanitary needs will be provided by portable chemical toilets which will be serviced by an outside contractor as needed. Therefore, the potential wastewater treatment impacts associated with Cherry Solar Project would be *less than significant*.

Stormwater Drainage

No new stormwater drainage facilities are planned to be constructed for the Cherry Solar Project. Under current conditions, rainfall percolates into the soil with little or no runoff leaving the site. The terrain of the project site is virtually flat, with a maximum gradient of 0.2 percent, and the project will result in no substantial modification of existing site grades. The project will introduce very few structural elements with impervious surfaces that would impede direct percolation of rainwater into the soil. The equipment pads and small parking area would result in less than 1 percent impervious surface coverage of the site, with over 92 percent of the site retained in vegetated cover and 7 percent devoted to permeable gravel driveways. During normal rain events, runoff from impervious surfaces would be absorbed by the adjacent vegetated ground and percolate into the soil. During more intense or prolonged storm events, the ground would become saturated and relatively minor volumes of stormwater may temporarily pond on the surface and gradually percolate into the soil, as occurs under existing conditions. Due to the virtually level ground conditions, and the very minor introduction of impervious surfaces to the site by the project, the potential for stormwater to be mobilized and concentrated in sustained runoff flows is unlikely to occur. Therefore, the Cherry Solar Project would not require the construction of new stormwater drainage facilities, and there would be no impact in this regard.

Electric Power

The Cherry Solar Project is itself a power generating facility; however, electric service from the existing PG&E system would be required for certain project phases. During construction, the project would receive service power from the existing electrical distribution lines that run along the southern site boundary on Nevada Avenue, and would also have backup generators available on

site. During project operations, the solar facility would have service power available from PG&E when the project is not powered by on-site generation. During decommissioning, the service connections to PG&E's system would remain in place until they are no longer needed. The impacts resulting from installation and removal of electrical service connections to the project site would be *less than significant*.

Natural Gas

The Cherry Solar Project would not require the installation of natural gas service lines for power generation or other purposes, and there would be no impact in this regard.

Telecommunications

Telecommunications to the Cherry Solar facility would likely be provided via fiber-optic cable. Alternatively, telecommunications may be conducted wirelessly, in which case a telecommunications tower up to 100 feet tall would be included at the O&M facility. As discussed in Section *4.11. Land Use and Planning*, the tower would be located outside the 500-foot height limit zone for NAS Lemoore; but even if it was within the height restriction zone, it would still be well below the applicable 500-foot height limit. The installation of telecommunications facilities at the project site would not result in a *less than significant* impact.

Conclusion

Less-than-Significant Impact. The Cherry Solar Project would not require or result in the relocation or construction of new or expanded facilities for water supply, stormwater drainage, electric power, natural gas facilities, the construction or relocation of which could cause significant environmental effects. As such, there would be no impact with regard to such facilities. The project would involve the installation of minor facilities for wastewater treatment, electrical service, and telecommunications, the installation of which would result in *less-than-significant* impacts.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less-than-Significant Impact. The following evaluation of water supply for the Cherry Solar Project is based on the Water Supply Assessment (WSA) contained in Appendix C of this document.

Project Construction

As discussed in the Section *2.2. Project Description*, it is estimated that construction of the Cherry Solar Project will require a total of 312 acre-feet of water, mainly for dust suppression and soil conditioning during the 12-month construction period. Since the project is planned to be entirely constructed within the 2024 calendar year, the average annual water demand for project construction would be 312 acre-feet per year (afy). It is anticipated that water for construction will be obtained from the existing on-site agricultural well or another well in the vicinity.

Current groundwater pumping in the area varies substantially from year to year depending on availability of surface water deliveries of Central Valley Project (CVP) water delivered by the Westlands Water District (WWD). During years when WWD receives most of its CVP water allocation, groundwater provides a minor portion of irrigation requirements. During periods of

severe drought, as occurred from 2013 through 2016, groundwater pumping increases substantially to make up for shortfalls of surface water deliveries (WWD 2020).

In 2014, the California Legislature passed the Sustainable Groundwater Management Act (SGMA) which requires that all medium to critically overdrafted subbasins identified by the California Department of Water Resources (DWR) be managed by a groundwater sustainability agency (GSA). As the primary water purveyor and local agency within the Westside Subbasin, the Westlands Water District is the designated GSA for the subbasin. DWR designated the Westside Subbasin as a critically overdrafted basin which requires WWD to prepare a Groundwater Sustainability Plan (GSP) by January 31, 2020. On January 8, 2020, the WWD Board of Directors adopted the GSP for the 622,215-acre Westside Subbasin (which includes WWD's entire 614,700-acre service area). The GSP determined that the long-term sustainable yield for the subbasin is 305,000 acre-feet per year prior to management actions being implemented (WWD 2022). To manage groundwater during the initial years of GSP implementation, the GSA has established an interim allocation of groundwater extraction. The groundwater allocation framework is intended to manage demand by equally distributing the total annual pumping from the Subbasin on the basis of land acreage overlying the Subbasin. The groundwater allocation program includes a "transition period" from 2022 to 2030, in which a uniform annual allocation is initially established at 1.3 acre-feet per acre and then subsequently reduced each year by 0.1 AF per acre until 2030 when the allocation would reach the long-term limit 0.6 AF per acre per year (WWD 2022). For purposes of this analysis, the groundwater supply available to the project is defined as the long-term allocation limit of 0.6 AF per acre per year. (See Section *4.10. Hydrology and Water Quality*, item 'e', for a full discussion of WWD's Groundwater Sustainability Plan.)

The Cherry Solar Project will be constructed over 12-month period, resulting in a water demand of 312 afy, or 0.15 afy per acre. This volume of groundwater pumping is well below the GSA's 0.6 afy long-term groundwater extraction limit. The Water Supply Assessment (WSA) prepared for the Cherry Solar Project determined that groundwater supplies available at the site would be sufficient to meet the needs of project construction during normal, dry, and multiple dry years without adversely affecting the sustainability of the groundwater basin (WRP 2022). As such, the impact of project construction upon available water supplies would be *less than significant*.

As noted in Section *2.2. Project Description*, curtailment of groundwater pumping to meet the project demand for construction water is not currently foreseen. However, in the unlikely event that such unforeseen curtailment occurs, the relatively small volumes of untreated water that would be temporarily required during construction would be purchased from alternative sources and piped or trucked to the site.

Project Operation

During project operation, non-potable water will be required for activities such as panel cleaning, washing and rinsing equipment, and other operational uses. As described in Section *2.2. Project Description*, the combined water requirement for all operational activities is estimated to total 27.8 acre-feet annually over the 2,079-acre project site.

Operational supplies will not be obtained from groundwater wells but will be provided by Westlands Water District (WWD) through its existing system of lateral pipelines for conveyance of imported surface water from the California Aqueduct. Three of these existing WWD water distribution

pipelines pass through the project site: one which follows Nevada Avenue adjacent to the project site; a second which follows the Manteca Avenue alignment through the center of the site; and a third which follows the Madison Avenue alignment in the northern portion of the site. Under the WWD's Municipal and Industrial (M&I) Regulations, an applicant may apply for and receive up to 5 acre-feet of water for M&I use. The District has estimated that solar development requires 3 to 5 acre-feet per year per 160 acres. In order to provide adequate operational supplies for solar projects which are greater than 160-acres in size, the WWD has established an exception to the M&I limit whereby solar development would be eligible to receive up to 5 afy for each 160 acres developed. Thus the Cherry Solar Project would be eligible to receive up to 65 afy during project operation. This would be more than sufficient to meet the estimated 27.8 afy of operational water demand for the project. Project water demand would be equivalent to 2.14 afy per quarter section (160 acres), which is well within the 5.0 afy of imported surface water per quarter section that the Cherry Solar Project is eligible to receive through WWD. Therefore, surface water entitlements will be sufficient to meet the project's operational needs. As such, the impact of project operations upon available water supplies would be *less than significant*.

In the event that the project is periodically unable to obtain all or a portion of its required surface water supplies, such as during a severe prolonged drought, the project would be expected to obtain operational water from groundwater sources. The 27.8 afy of operational water demand would be equivalent to 0.0134 afy per acre, which is far less the GSA's long-term groundwater extraction limit of 0.6 afy per acre. Therefore, the groundwater available to temporarily augment surface water supplies would be sufficient to meet the operational needs of the project. In the unlikely event that such backup groundwater supplies to the project were also curtailed, the relatively small volumes of untreated water required for project operations would be purchased from alternative sources and piped or trucked to the site. As such, the impact of project operations upon groundwater resources would be *less than significant.*

Project Decommissioning

Untreated water would be required during decommissioning, although the volume of water required is expected to be less than required during the construction phase. Since vegetative cover would be maintained on the site during deconstruction, there would be relatively little exposed soil that would require watering for dust suppression. Similarly, water would not be required for soil conditioning it is during initial site grading. The source of water during decommissioning is expected to be from the existing on-site agricultural well or another well in the vicinity. The total groundwater pumped during decommissioning is expected to be substantially less than the estimated 312 acre-feet required during project construction. Even assuming that water demand during decommissioning would be same as during construction, this would represent an average volume of about 0.15 af per acre over the 2,079-acre project site. Assuming decommissioning would require one year or less to complete, this would result in a water consumption rate of 0.15 afy per acre. Since this would be substantially less than the GSA's long-term groundwater extraction limit of 0.6 afy per acre, the project water demands during decommissioning would not result in overpumping or exceedance of the sustainable yield of the groundwater basin.

As discussed for project construction above, curtailment of groundwater pumping to meet the project demand for water during the decommissioning phase is not currently foreseen. However, in the unlikely event that such unforeseen curtailment occurs, the relatively small volumes of untreated

water that would be temporarily required during the decommissioning phase would be purchased from alternative sources and piped or trucked to the site.

In summary, the groundwater and surface water supplies available for project construction, operation, and decommissioning are sufficient to meet the needs of the project without new or expanded entitlements to water. Therefore, the impact of the Cherry Solar Project upon available water supplies would be *less than significant*.

Reasonably Foreseeable Future Development

The water supply impacts associated with reasonably foreseeable development are addressed in Section *4.21. Mandatory Findings of Significance*, item 'b' (cumulative impacts). As discussed, there are a number of reasonably foreseeable cumulative solar projects in Kings County. With respect to water supply, each cumulative solar project would require water during construction and operation. The demand for water at each site would be highest during construction for purposes of dust control and soil conditioning. For most cumulative projects, construction water would be supplied by existing agricultural wells in the area. It is estimated that construction water demand for each project would be less than 0.2 afy per acre, similar to that for the Cherry Solar Project. As mentioned, the GSA's long-term groundwater extraction limit is 0.6 afy per acre. Therefore, even if the other cumulative projects in the vicinity were constructed concurrently with the Cherry Solar Project, the groundwater pumping rate would be below the GSA's long-term extraction limit of 0.6 afy per acre in each case, such that the cumulative impact of groundwater pumping during construction would be also less than significant.

The operational water supplies for each project would be mainly used for panel washing. As discussed in in Section *4.10. Hydrology and Water Quality*, operational water demands for the proposed project are estimated to be approximately 0.0134 afy per acre, or about 9 percent of annual construction water demands. As discussed above, the Cherry Solar Project's operational demands would be met from imported surface water delivered through Westlands Water District, although there is a possibility that well water may be utilized as backup supply during times of drought when there may be shortages of imported water. Assuming that the cumulative projects in the project's groundwater basin, including the Cherry Solar Project, all rely solely on well water for operational needs, the cumulative operational water demands of about 0.014 afy per acre would be substantially below the GSA's long-term groundwater extraction limit of 0.6 afy per acre. Thus, groundwater supplies would be available to serve reasonably foreseeable future development during normal, dry, and multiple dry years, without adversely affecting the sustainability of the groundwater basin. Therefore, the impact to water supplies from the operation of the Cherry Solar Project and other reasonably foreseeable future development would be *less than significant*.

c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. As discussed above, the wastewater from the Cherry Solar Project would be conveyed to an on-site septic tank and leachfield system for on-site treatment and disposal. The project septic system would be designed in accordance with the absorptive capacity of the underlying soil, in accordance with Kings County standards, and subject to approval of the Kings County Community

Development Agency and Environmental Health Services Division, which would ensure effective functioning of the septic and leachfield system and avoid impacts to groundwater quality (see item 'a' above for detailed discussion). Since the wastewater disposal requirements of the Cherry Solar Project would be adequately served by a dedicated on-site septic system, it would not be served by community wastewater treatment provider. Therefore, the Cherry Solar Project would have *no impact* on the treatment capacity of a wastewater treatment provider.

d) Would the project generate solid waste in excess of state or local standards, in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste goals?

Less-than-Significant Impact. The development of Cherry Solar Project would temporarily generate construction waste during the development phase, and would generate solid waste during operation of the solar facility, and also during the decommissioning phase. The solid waste impacts during the construction, operational, and decommissioning phases of the project are discussed in turn below. [Note: The following discussion is focused on non-hazardous waste only. Hazardous waste disposal is addressed in Section *4.9. Hazards and Hazardous Materials*.]

Construction Phase

During construction of the solar facility, the waste generated would primarily consist of non-hazardous waste materials such as packing containers and materials, waste lumber, wood pallets, scrap metal, glass and paper. (Since site clearing would involve mulching or plowing under of crop remnants, it is anticipated that minimal greenwaste would be generated.) Based on construction waste generation rates at a similar solar PV project in northern Los Angeles County, the construction of the Cherry Solar Project is estimated to generate approximately 26.5 cubic yards (cy) of construction waste per MW of installed generating capacity (LA County 2010, p. 4-51). [1 cubic yard (cy) of construction waste is equivalent to approximately 1 ton of construction waste (CalRecycle 2020a).] Thus construction of the 250 MW solar facility would generate approximately 6,625 tons (or cy), or 36.8 tons per workday on average (over the 12-month construction period [180 work days]). Much of the construction waste materials would be reusable (e.g., wood pallets and packing crates), or recyclable (e.g., scrap metal, paper, glass), and doing so has been shown to be cost effective (CalRecycle 2020b). It is assumed that 65 percent of the construction waste would be recycled as required under the CALGreen Code (CBSC 2019). Thus approximately 2,319 tons (12.9 tons per day) of construction waste from the project would be disposed of at a Class III landfill. The 12.9 tons of daily construction waste generated by the project would represent about 1.17 percent of the current the combined daily average solid waste disposal (approx. 1,100 tons per day) at the two area landfills. If all of project construction waste was disposed at Chemical Waste Management Landfill, the solid waste accepted at the landfill would remain well below its 2,000 ton per day permitted limit. Similarly, if all of project construction waste was disposed at Avenal Regional Landfill, the solid waste accepted at the landfill would remain well below its 6,000 ton per day permitted limit. Additionally, the total 2,319 tons (or 2,319 cy) of non-recycled construction waste generated during the construction period would represent 0.016 percent of the approximately 14.8 million cy of remaining capacity of the Chemical Waste Management Landfill, or 0.008 percent of the approximately 28.9 million cy of remaining capacity of the Avenal Regional Landfill, or approximately 0.005 percent of the combined remaining capacity at both landfills. Both the daily

disposal rate and the total construction waste generated by the project would represent small increases in solid waste accepted at these Kings County landfills.

Operational Phase

During operation of the Cherry Solar Project, the non-hazardous waste generated would include typical refuse generated by workers such as scrap metal and machine parts, broken or defective electrical components, oily rags, packing material from deliveries, paper, cardboard, plastic, empty containers, and miscellaneous solid waste. The solar facility operator would contract with a commercial waste collection service which would haul the waste to the Kings Waste and Recycling Authority Material Recovery Facility in Hanford for sorting and recycling and/or transport of the non-recyclable waste to a local landfill site.

Based on operational solid waste generation rates at a similar solar PV project in northern Los Angeles County, the Cherry Solar Project is estimated to generate approximately 0.9 cubic yards (cy) of solid waste per year per MW of installed generating capacity (LA County 2010, p. 4-53). [Approximately 4 cubic yards (cy) of uncompacted solid waste from commercial/industrial sources is equivalent to approximately 1 ton of municipal solid waste (USEPA 1997).] Upon full operation, the project would generate a total of approximately 225 cubic yards, or approximately 56.25 tons of non-hazardous solid waste per year. Assuming that at least 50 percent of the solid waste would diverted through recycling, the remaining 28.13 tons (112.5 cy) of uncompacted solid waste from the project would be disposed of at a Class III landfill per year. At the landfill, in-place compaction would reduce the volume by 66 percent, resulting in 38.25 cy per year of utilized landfill capacity (CalRecycle 2014). The 28.13 tons of solid waste landfilled by the project annually (0.156 tons per workday) would represent a small fraction of the solid waste disposed at the Chemical Waste Management and Avenal Landfills, which currently receive a combined average of about 1,100 tons (or 1,463 cy) per day, and which would remain well below the combined 8,000 ton per day permitted limit for both landfills. Both the daily disposal rate and the total non-hazardous solid waste generated by the operation of the Cherry Solar Project would represent small increases in solid waste accepted at the Chemical Waste Management Landfill and the Avenal Regional Landfill.

The total solid waste generated by operation of project over its 35-year life that would be landfilled would be approximately 1,339 cy (assuming compaction and 50 percent diversion), or 985 tons. When combined with the 2,319 cy (or 2,319 tons) of construction waste generated during that period (assuming 65 percent diversion), the total landfilled solid waste from construction and operation of Cherry Solar Project would be about 3,658 cy (compacted), or 3,304 tons. As discussed under 'Setting,' the combined capacity remaining at the Chemical Waste Management and Avenal Landfills is approximately 43.7 million tons. The total amount of solid waste disposed by the Cherry Solar Project would represent 0.008 percent of the remaining disposal capacity, or the equivalent of about 3.0 days of the volume of solid waste currently accepted at the two landfills. Thus, the solid waste generated by the Cherry Solar Project would not appreciably shorten the operating life of the Kings County landfills.

Decommissioning Phase

At the end of its useful life, the Cherry Solar Facility would be deconstructed in accordance with its approved Decommissioning and Soil Reclamation Plan (DSRP). As required under the DSRP, the equipment and fixtures, such as solar modules and racking, would be recycled and reused to the extent practicable. Some materials may be returned to the manufacturer for reuse or otherwise reused on the secondary market. Waste materials that are not salvaged for reuse would be shipped to the Kings Waste and Recycling Authority's Materials Recovery Facility in Hanford, where recyclable materials would be removed. All remaining waste would then go to Chemical Waste Management Landfill or the Avenal Landfill. Assuming that the volume of landfilled solid waste from decommissioning would be similar to the solid waste generated during construction, the approximately 2,319 cy (or 2,319 tons) to be disposed would represent about 2.1 days of disposal at the two landfills at current disposal rates. It is expected that sufficient landfill capacity will be available in 35 years to accommodate this solid waste when the Cherry Solar Facility is decommissioned. In the unlikely event that the Chemical Waste Management and Avenal Landfills are closed prior to the time of project decommissioning, it is anticipated that the County will have demonstrated that it has at least 15 years of remaining landfill capacity in the County, as required by the California Integrated Waste Management Act (CalRecyle 2022c). All waste associated with decommissioning will be disposed of or recycled in accordance with applicable laws.

In summary, the Cherry Solar Project would not result in exceedance of the local landfills' permitted daily disposal limits, and the facilities have sufficient capacity to accept solid waste generated during all phases of the project. As discussed under item 'e)' below, the project would comply with all solid waste reduction requirements and would not impair their attainment. Therefore, the Cherry Solar Project's impact in terms of solid waste would be *less than significant*.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact. The California Integrated Waste Management Act of 1989 (AB 939) requires each city and county in California to prepare, adopt, and implement a Source Reduction and Recycling Element. Policies pertaining to solid waste, source reduction, and recycling are identified in the Kings County Integrated Waste Management Plan (Kings County 1995). A Solid Waste Management Plan (SWMP) for the Cherry Solar Project will be prepared in compliance with Section 1112.B.2 of the Kings County Development Code which requires the preparation and implementation of solid waste management plans for solar voltaic electrical facilities in Agricultural Zoning Districts. The SWMP will set forth detailed guidance for the handling, storage, and disposal of solid waste generated during the construction and operational phases of the Cherry Solar Project. In particular, the SWMP will provide for implementation of the State's Mandatory Commercial Recycling Statute which requires businesses that generate 4 cubic yards or more of commercial solid waste per week to arrange for recycling services. The SWMP would not address solid waste generated during project decommissioning, which will be addressed in a separate Decommissioning and Soil Reclamation Plan (DSRP) as required in Mitigation Measure AG-2, which will be carried forward as a condition of approval for the project's Conditional Use Permit.

The Cherry Solar Project would generate an estimated total of 12,250 cy of solid waste during construction and operation over the 35-year life of the project. This total volume of solid waste would be reduced to 3,658 cy after recycling, reuse, and compaction in place at the Chemical Waste Management Landfill and/or the Avenal Regional Landfill. These landfill facilities are permitted by the County and inspected monthly by the Kings County Health Department, Environmental Health Services Division. Some construction waste would be recycled rather than being disposed of at the landfills. As discussed above, the local landfills have sufficient capacity to accept all anticipated generated during the life of the project. The project operator would contract with a franchised waste hauler who would follow the disposal and diversion requirements of the Kings County Integrated Waste Management Plan. Project waste would be disposed of consistent with applicable federal, state, and local recycling, reduction, and waste requirements and policies. Any hazardous materials and wastes would be recycled, treated, and disposed of in accordance with the Solid Waste Management Plan to be prepared for the project, and in compliance with federal, State, and local laws. Therefore, the Cherry Solar Project would have *no impact* in terms of compliance with applicable laws and regulations related to solid waste.

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4.20. WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	■
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	■
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	■

Environmental Evaluation

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones would the project:

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less-than-Significant Impact. The Cherry Solar Project site is not located in or near a state responsibility area or on or near lands classified as Very High Fire Hazard Severity Zone. The map of Fire Hazard Severity Zones (FHSZ) in the State Responsibility Area (SRA) for Kings County prepared by the California Department of Forestry and Fire Protection (CAL FIRE) shows the project area as being within a Local Responsibility Area (LRA)(CAL FIRE 2020). The nearest areas mapped as being within the SRA are located southwest of State Route 33, approximately 14 miles southwest of the Cherry Solar Project site. The nearest area within the SRA that is zoned as Very High Severity on the FHSZ map is located in the Diablo Range at the western edge of Kings County, at least 20 miles from the Cherry Solar Project site.

CAL FIRE's map of Fire Hazard Severity Zones in Local Responsibility Area (LRA) for Kings County shows the project area as being "unzoned" for fire hazard. The nearest areas within the Kings County LRA that are zoned as High Severity are located in the Kettleman Hills at least 9 miles southwest of the project site, and there are no areas in the Kings County LRA that are zoned Very High Severity (CAL FIRE 2020). The Health and Safety Element of the Kings County General Plan includes a map of Potential Fire Hazards (Figure HS–9) which shows the major portion of the project site as being "Within

2400 meters (1.5 miles) of a Moderate Threat" for potential fire, and shows minor portions of the site as being subject to "Little or No Threat" for potential fire (Kings County 2010e).

The Health and Safety Element of the 2035 Kings County General Plan designates evacuation routes to be relied upon for emergency or disaster responses. Within the project area, the primary evacuation routes include SR-41 and SR-198, and the secondary evacuation routes include Avenal Cutoff Road, Laurel Avenue and Kansas Avenue (Kings County 2010e). The primary access to the project site would be Nevada Avenue, which is not a County-designated evacuation route or emergency access route.

In summary, the Cherry Solar Project is not located in or near a State Responsibility Area or in or near lands classified as Very High Severity Fire Hazard Zone, or a high fire hazard zone designated by Kings County, and is not on an evacuation route as designated by the County. Therefore, the Cherry Solar Project would not impair an adopted emergency response plan or emergency evacuation plan, and the impact would be *less than significant.*

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact. Since the Cherry Solar Project is not in or near a State Responsibility Area or on or near lands classified as Very High Fire Hazard Severity Zone, this significance criterion does not apply and there would be *no impact*.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact. Since the Cherry Solar Project is not in or near a State Responsibility Area or on or near lands classified as Very High Fire Hazard Severity Zone, this significance criterion does not apply and there would be *no impact*.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. Since the Cherry Solar Project is not in or near a State Responsibility Area or on or near lands classified as Very High Fire Hazard Severity Zone, this significance criterion does not apply and there would be *no impact*.

REFERENCES – WILDFIRE

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4.21. MANDATORY FINDINGS OF SIGNIFICANCE

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant	No Impact
a)	***Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?***	☐	■	☐	☐
b)	***Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)***	☐	■	☐	☐
c)	***Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?***	☐	■	☐	☐

Environmental Evaluation

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less-than-Significant Impact with Mitigation Incorporated. As discussed in Section *4.4. Biological Resources*, the Cherry Solar Project could result in potentially significant effects to several species including San Joaquin kit fox, burrowing owl, Swainson's hawk, migratory birds, and American badger. However, with the implementation of Mitigation Measures BIO-1 through BIO-5, these potential impacts would be reduced to *less-than-significant* levels. The Cherry Solar Project would have no impact or a less-than-significant impact on all other species and biological communities.

As discussed in Section *4.5. Cultural Resources*, the Cherry Solar Project could result in potentially significant effects to historic and prehistoric archaeological resources, including human burials. However, with the implementation of Mitigation Measures CR-1 and CR-2, these potential impacts would be reduced to *less-than-significant* levels.

In summary, with the implementation of mitigation measures to be incorporated into the Cherry Solar Project, it is expected that the project would not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or pre-history.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Less-than-Significant Impact with Mitigation Incorporated. This discussion considers the potential impacts of the Cherry Solar Project combined with the incremental effects of other past, present, and probable future projects in the vicinity. These cumulative projects comprise those included on Kings County's July 2022 list of pending and approved solar projects. These cumulative projects are listed in Table MSF-1, on the next page, and shown in Figure MSF-1. It is noted that all of the projects on listed in Table MSF-1 comprise solar PV generating facilities. Most other projects that have been proposed and approved in Kings County over the past several years have consisted of minor projects such as cell towers, or projects with temporary or infrequent operation (e.g., Kelly Slater's Surf Ranch), or projects that are too far from the project area to contribute to any cumulatively significant effect (e.g., relocation of Baker Commodities facility east of Hanford; biogas pipeline projects and Pittman poultry farm projects in eastern Kings County, and Jackson Ranch Specific Plan in southern Kings County), or projects for which development applications have been formally withdrawn or closed due to inactivity (e.g., Quay Valley new community project). As such, these projects were not included on the list in Table MSF-1 since there is no potential that they would contribute to a cumulatively significant impact associated with the Cherry Solar Project.

The approach to assessing the significance of a cumulative project impact is based on the provision of Section 15065 of the CEQA Guidelines which states that the effects of a project must be "cumulatively considerable" to be considered significant. CEQA requires a two-step analysis for cumulative impacts, with the first step resulting in a determination of the significance of a cumulative impact for each environmental topic, and the second step resulting in a determination of whether the project contribution is cumulatively considerable. An affirmative finding is required for both steps in order to conclude that a project impact is cumulatively significant.

The following is an evaluation of cumulative impacts by environmental topic area. As shown in Table MFS-1, most of the cumulative projects have been approved and constructed. However, in order to capture the cumulative effects of past, current, and future projects, as required under CEQA, the following discussion includes evaluation of these "past" projects even though they are not separately addressed in the past tense.

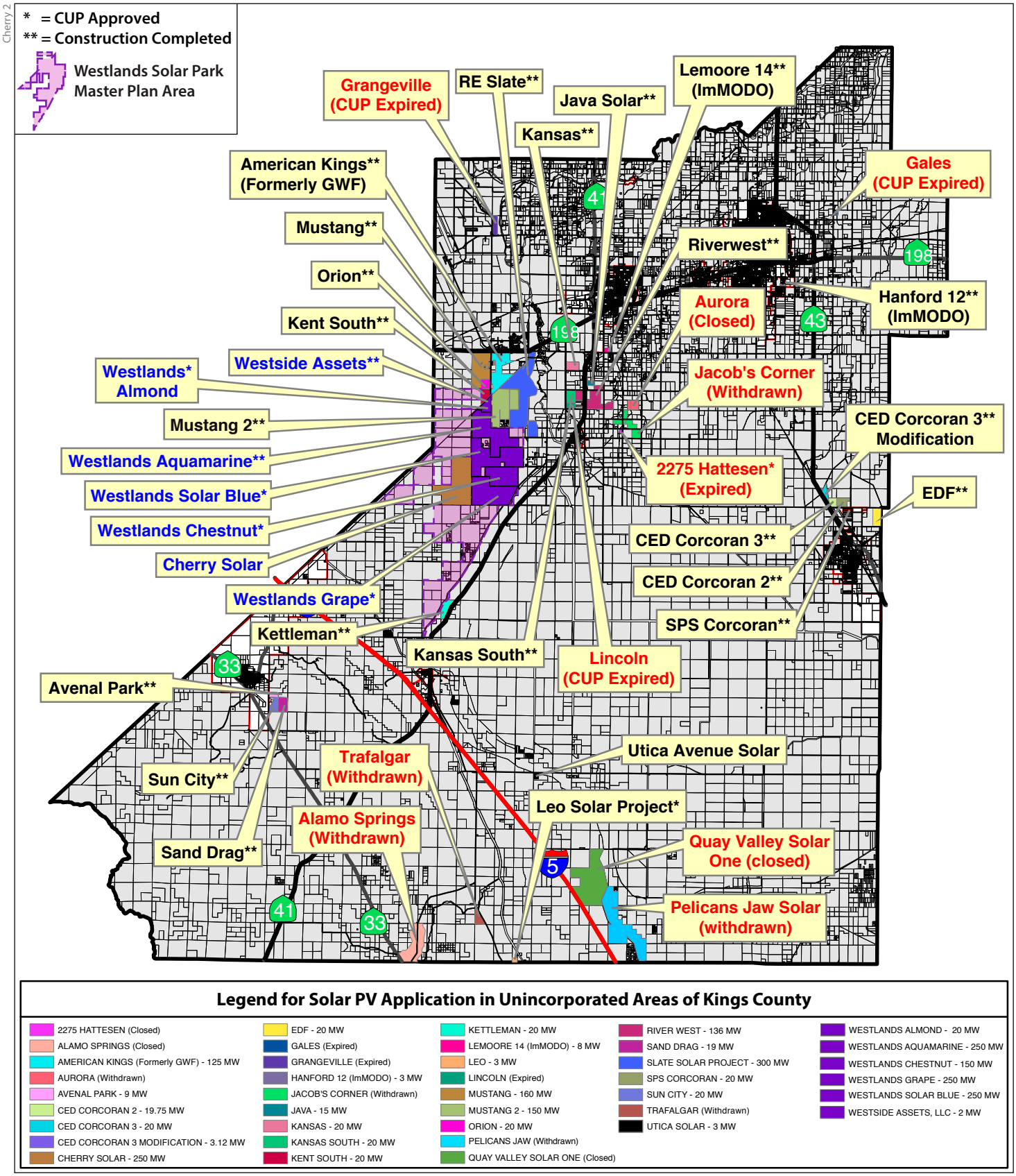
TABLE MFS-1

PENDING, APPROVED, AND COMPLETED SOLAR PV PROJECTS

Project	Acreage	Generating Capacity (MW)	Status (As of 4/8/22)
Sun City	180	20	Constructed
Sand Drag	240	19	Constructed
Avenal Park	86	9	Constructed
CED Corcoran Solar 2	124	20	Constructed
SPS Corcoran	228	20	Constructed
American Kings (former GWF)	978	125	Constructed
Sunpower Henrietta (Riverwest)	836	136	Constructed
Kansas South	230	20	Constructed
Kansas	200	20	Constructed
Mustang	1,422	160	Constructed
Corcoran ID (EDF)	200	20	Constructed
Orion	200	20	Constructed
Kent South	200	20	Constructed
Kettleman	220	20	Constructed
Freshwater (PG&E)	160	20	Constructed
CED Corcoran Solar 3	138	20	Constructed
Hanford 12 (ImMODO)	19	3	Constructed
2275 Hattesen	16	2	CUP Approved
Westside Solar Project*	40	2	Constructed
Lemoore 14 (ImMODO)	60	8	Constructed
Java Solar	96	15	Constructed
Mustang 2	1,450	150	Constructed
Leo Solar	20	5	CUP Approved
Westlands Aquamarine*	1,825	250	Constructed
CED Corcoran Solar 3 (Modification)	17	3	Constructed
Slate	2,490	300	Constructed
Westlands Solar Blue*	1,895	250	CUP Approved
Westlands Chestnut*	1,080	150	CUP Approved
Westlands Grape*	1,759	250	CUP Approved
Westlands Almond*	168	20	CUP Approved
Cherry Solar	2,079	250	Pending
Utica Avenue Solar	30	3	Pending
Totals	**18,686**	**2,180**	

* Projects located within Westlands Solar Park.

Source: Kings County CDA, July 2022.



Source: Kings County Community Development Agency

Pending, Approved, and Completed Solar Projects

Figure MFS-1

Aesthetics

The Cherry Solar Project and the other cumulative solar projects are generally located in areas with relatively low visual quality and without significant scenic resources in their vicinities. While the solar generating facilities would represent a visual change to the predominantly agricultural character of their settings, the low profile of the solar facilities would not be out of scale with their rural surroundings. Given also the very low number of visual receivers in the vicinities of the cumulative projects, the visual impacts resulting from each individual solar project would be less than significant.

Most of the cumulative projects are dispersed and not visible from common viewpoints. In the vicinity of the Cherry Solar Project site, there are 11 other solar projects generally clustered along the 25th Avenue alignment. Of these, eight projects have been constructed or partially constructed, including the Kent South, Orion, Mustang, Westside (Phase 1), American Kings, Mustang Two, Slate, and Aquamarine solar projects. Three of the remaining solar projects – Chestnut, Solar Blue, and Grape – have been approved but not yet constructed. Upon full completion, all of these 11 projects and the proposed Cherry Solar Project will occupy a combined area of about 13,154 acres. Overall, the low profile of the solar arrays would not be out of place in the rural setting. These projects would not be visible from any agricultural residences, the nearest of which are located over 0.25 miles east, 2.0 miles northeast, 1.5 miles west, and 1.0 mile northwest of the combined project areas. (The nearest residence, located 0.25 miles east of the Slate Solar Project on the north side of Laurel Avenue, is surrounded by pistachio orchards which would block views of this and any other solar projects in the vicinity.) The American Kings and Mustang solar projects are located 300 feet south of the nearest base housing at NAS Lemoore across SR-198. This residential community is essentially urban in character and is bordered by the busy SR-198 freeway corridor on the south. The introduction of the solar arrays to the visual setting, across the freeway corridor, would represent a visual change to the southern tier of homes at the base. However, given the low profile of the solar facilities and the existing urbanized character of the NAS Lemoore residential community, and the intervening freeway corridor, this visual change would not represent a significant aesthetic impact associated with the American Kings or Mustang solar projects. None of the other cumulative solar projects in the vicinity, including the Cherry Solar Project, would be visible from the NAS Lemoore base housing. As such, there would not be a cumulatively significant aesthetic impact upon the base housing from the cumulative solar projects. In summary, the incremental aesthetic effects of the cumulative projects would not combine to produce a cumulatively significant impact, and the project *contribution would not be considerable*.

All of the cumulative projects would incorporate minimum and non-intrusive lighting for security, and the solar modules at all of the cumulative projects would be non-reflective and non-glare producing. While several cumulative projects would be in proximity to each other, such as those referenced above, the combined lighting and glare from these projects would not be substantial. Therefore, the incremental lighting from the cumulative projects would not combine to result in a cumulatively significant impact, and the project *contribution would not be considerable*.

Agriculture and Forestry Resources

Most of the cumulative projects would occupy agricultural lands that are either cultivated for row crops or used for grazing. Some of the cumulative sites, such as the Cherry Solar Project site, are mapped as Farmland of Statewide Importance under the California Department of Conservation's Farmland Mapping and Monitoring Program. Most of the cumulative projects, including the Cherry Solar Project, would incorporate dry-land farming with sheep grazing as part of their operations, while one project would incorporate crop production on a portion of its site. At the end of their productive lives, all of the cumulative solar projects, including the Cherry Solar Project, would be decommissioned. All project operators would implement soil reclamation plans with financial assurances to return the sites to their pre-project conditions in accordance with mitigation measures similar to MM AG-2 and MM AG-3, as set forth for this project in Section *4.2. Agriculture and Forestry Resources*. As such, none of the cumulative projects would result in the permanent conversion of Farmland to non-agricultural uses. Likewise, none of the cumulative projects would otherwise result in the conversion of Farmland to non-agricultural use. The incremental effects from the collective operations of the solar projects upon agricultural resources would not be cumulatively significant, and the project *contribution would not be considerable*.

Most of the cumulative projects, including the proposed project, are located in agricultural zoning districts that permit solar generating facilities as a conditionally permitted use. All of the cumulative projects meet the required County Development Code requirements for conditional use permits, and also the requirements for solar facilities in agricultural zones. Therefore, none of the cumulative projects would conflict with applicable agricultural zoning. As such, there would be no cumulative impact in terms of land use plans, policies, and regulations pertaining to agriculture, and the project would make *no contribution* to such a cumulative impact.

Most of the cumulative projects, including the Cherry Solar Project, are subject to Land Conservation contracts or Farmland Security Zone contracts under the Williamson Act. All of these projects would either initiate contract cancellation proceedings or would meet State and County principles of compatibility to enable solar generating facilities to occupy the contracted lands. All of the cumulative projects that elect to pursue the compatibility options, including the Cherry Solar Project, would maintain sufficient on-site agricultural productivity to meet the State and County principles of compatibility under the Williamson Act, similar to that provided in MM AG-1. As such, these projects are expected to maintain active Land Conservation or Farmland Security Zone contracts for the life of the solar projects without conflicting with the Williamson Act. Thus none of the cumulative projects would individually result in significant impacts in terms of conflicting with the Williamson Act. Therefore, the cumulative impact in terms of conflicts with the Williamson Act would be less than significant, and project *contribution would not be considerable*.

In summary, the incremental impact of residual effects from the collective operations of the cumulative solar projects upon agricultural resources would not be cumulatively significant, and the project *contribution would not be considerable*.

With respect to forestry resources, there are no forest lands or lands zoned for forest land or timberland at or near any of the cumulative project sites, including the Cherry Solar Project site. As such, the individual projects would have no impact on forest land. Therefore, there would be no

cumulative impact on forest land and the project would *make no contribution* to such a cumulative impact.

Air Quality

With respect to regional air quality, the Air District guidance states that any project that would individually have a significant impact on regional air quality (i.e., exceed significance thresholds for ROG or NO_x) would also be considered to have a significant cumulative air quality impact. Project-specific emissions of ozone precursor pollutants (ROG and NO_x) and PM_{10} were found to be less-than-significant for the proposed project with mitigation, as discussed in Section *4.3. Air Quality*. The Air District guidance also states: "[a] Lead Agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program, including, but not limited to an air quality attainment or maintenance plan that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located" (SJVAPCD 2015, p. 66). As discussed in Section *4.3. Air Quality*, under item 'a', the project would fulfill its share of achieving the Air District's emission reduction commitments in the PM_{10} and Ozone attainment plans through its obligation to implement emission reduction measures under the Air District's Indirect Source Rule (ISR)(Rule 9510). Therefore, the project would fully comply with the applicable air quality plans and would not conflict with or obstruct their implementation. Therefore, the project contribution to cumulative regional air quality impacts *would not be considerable*.

Local air pollutants which are relevant include PM_{10} emissions and toxic air contaminants (TACs) from construction activity. Construction period PM_{10} emissions would be localized. As shown in Table AQ-2, the combined construction exhaust and dust emissions from the Cherry Solar Project would be less than the PM_{10} significance threshold of 15 tons with mitigation (i.e., dust controls). Since the total PM_{10} emissions would be below the total PM_{10} significance threshold, construction period total PM_{10} emissions impacts would be less than significant for the Cherry Solar Project.

In evaluating cumulative PM_{10} emissions, only those projects in the immediate project vicinity are considered because PM_{10} concentrations disperse rapidly from the source. In the project vicinity, there are three other solar projects that have been approved or are pending approval but have not yet been constructed. These include the Westlands Almond Solar Project located 2.5 miles to the north, and the Solar Blue, Chestnut, and Grape Solar projects directly to the east and northeast. It is unlikely that the construction of the Cherry Solar Project would overlap with the construction of one of these nearby solar projects. These projects would be constructed consecutively, so their construction schedules would not overlap. It is not expected that any other solar projects in the vicinity would be under construction at the same time as the Cherry Solar Project. Even if the construction of another solar project in the vicinity were to overlap with project construction, the combined PM_{10} concentrations at the nearest common receptors, at least one mile away, would be negligible. This is because PM_{10} concentrations disperse rapidly from the source, such that PM_{10} concentrations from a nearby project would be greatly diminished by the time they combined with PM_{10} emissions from the Cherry Solar Project at a common off-site receptor. Therefore, the cumulative PM_{10} impact associated with the project would *less-than-significant*, and the project's contribution to cumulative PM_{10} emissions *would not be considerable*.

With respect to cumulative emissions of Toxic Air Contaminants (TACs), it is important to note that Diesel Particulate Matter (DPM) concentrations diminish rapidly from the source. Pollutant dispersion studies by the California Air Resources Board (CARB) have shown that there is about an 80 percent drop-off in DPM concentrations at approximately 1,000 feet from the source (CARB 2005, p. 14). Thus multiple sources of DPM emissions must all be proximate to a receptor to have a significant additive effect to DPM concentrations at the receptor site. Since the nearest sensitive receptors to the Cherry Solar Project are approximately 1.0 mile (5,200 feet) from the nearest site boundary, most DPM emissions from the project would disperse into the atmosphere before reaching the nearest sensitive receptor locations.

The SJVAPCD's TAC significance criterion for an individual project is an increase in cancer risk of more than 20 in a million persons as measured over a 70-year lifetime for the maximally exposed individual (SJVAPCD 2015b). For context, it is noted that the lifetime cancer risk from all sources is approximately 250,000 cases per million (or 1 case per 4 individuals)(SJVAPCD 2015c, p. 100). The 20 per one million significance criterion is applied to individual projects where there is a potential for a significant health impact to nearby sensitive receptors. This same significance threshold is applied by SJVACPD for cumulative TAC impacts, although the Air District considers it to be stringent (SJVAPCD 2015c, p. 110).

The nearest residential receptors to the Cherry Solar Project site comprise the 20 dwellings at the Shannon Ranch complex, the nearest of which is located approximately 5,200 feet northwest of the project site. Based on TAC analyses performed on another large solar project in the vicinity (i.e., American Kings), it is estimated that 0.9 new cancer case per million would result from project TAC emissions at a receptor located 4,700 feet away, and that cancer risk at receptors would be lower than 0.9 per million at distances beyond 4,700 feet, with the risk decreasing with distance from the source (Kings County 2018, p. 3-66, p. 3-94). This is well below the significance threshold of 20 cases per million. The nearest approved and pending solar projects which could potentially contribute TAC emissions at this receptor location are the Solar Blue Project located 1.8 miles east, Grape Solar Project located 2.4 miles southeast, the Chestnut Solar Project located 2.8 miles southeast of the nearest Shannon Ranch dwellings. (Although the Grape, Chestnut, and Solar Blue projects would not be constructed concurrently with each other or the Cherry Solar Project, they are included in this analysis since TAC analyses consider the lifetime exposure of the receptors without regard to construction schedule.) At these distances, the increased cancer risk from each of these three projects would be far less than 1.0 cancer case per million, under the reasonable assumption that meteorological conditions would be very similar to those at the reference project (American Kings) located several miles to the north. Assuming for the sake of simplicity that that cancer risks associated with individual projects can be aggregated in absolute terms, the combined lifetime exposure from TAC emissions at the Shannon Ranch dwellings from all four projects (including Cherry Solar) would be less than 4.0 cancer cases per million, which is far less than the significance threshold of 20 cases per million. (Even if the TAC emissions from recently completed solar projects in the vicinity such as Aquamarine, Mustang 2, Slate, and American Kings, located from 2 to 5 miles northeast of the Shannon Ranch, were each assumed to result in increased cancer cases of 1.0 per 20 million, this would increase the cumulative effect to 8.0 increased cancer cases at most, and likely substantially fewer.) Thus it is not expected that the cumulative effects would result in a significant increase in cancer risk at the nearest sensitive receptor subject to diesel emissions from other solar projects in the vicinity of the Cherry Solar Project. Therefore, the cumulative health risk impact associated with the Cherry Solar Project would be *less than significant*, and the project contribution to the cumulative health risk impact would *not be considerable*.

Biological Resources

The analysis in Section *4.4. Biological Resources* identified potential project-specific impacts to San Joaquin kit fox, burrowing owls, Swainson's hawks, migratory birds, and American badger. Mitigation measures MM BIO-1 through MM BIO-5 are specified in the event potential impacts to these species are identified at the Cherry Solar Project site during project construction. The project area is not uniquely suitable for these species, and abundant habitat for these species is present on agricultural lands throughout the region. In addition, all of the other cumulative projects would be subject to similar mitigation measures in the event these species appear on any of those sites prior to construction. Thus impacts to these species would be reduced to less-than-significant levels at each cumulative project site. The combined incremental less-than-significant effects from these projects would not result in a cumulatively significant impact to these species. Therefore, the cumulative impacts to these species would not be significant, and the project *contribution would not be considerable*.

As discussed in Section 4.4, there is a potential cumulative impact to foraging habitat for Swainson's hawk. As part of its biological assessment for the Program EIR on the Westlands Solar Park Master Plan and Gen-Tie Corridors Plan, conducted in 2017, LOA completed a comprehensive analysis of potential impacts to Swainson's hawk foraging habitat associated with development of the WSP Master Plan area and all other approved, pending, and completed projects within a 10-mile radius of the WSP plan area (WWD 2017). The analysis identified all known Swainson's hawk nests that were previously observed during surveys by LOA or others. In 2018 and 2019, LOA biologists conducted follow-up surveys to identify currently active nests. It was concluded that there are currently 37 nesting pairs of Swainson's hawks within the 10-mile radius study area. In 2022, LOA biologists also reviewed and updated their detailed 2017 analysis of foraging habitat within a 10-mile radius of the WSP plan area and concluded that abundant habitat that would remain after full development of the WSP plan area, and all other cumulative projects (including projects proposed since 2017) within this 10-mile radius, would be more than sufficient to support all of the 37 known Swainson's hawk nests within this radius, with surplus capacity to support additional nesting pairs. The full analysis is contained in Appendix A of LOA's biological report, which is contained in Appendix B of this document, and is summarized below.

LOA's analysis of potential cumulative impacts to Swainson's hawk foraging habitat employed a study methodology established by Estep Environmental Consulting (Estep), and which has been applied in similar studies on other solar projects in Kings County. The first step in this analysis was to make a determination as to the amount of surplus foraging habitat available that is not considered to be required by existing Swainson's hawks that are currently nesting in the area. Based on LOA's 2022 application of Estep's methodology, it was calculated that there is currently a surplus of 133,311 acres of suitable foraging habitat within the study area. (See LOA's Biological Assessment in Appendix B of this document for a full description of the habitat calculations.)
to 98,436 acres (i.e., 133,311-acre pre-project surplus minus 34,875 acres cumulative loss).
In order to determine the potential cumulative impacts to foraging habitat, all of the pending, approved, and completed solar projects within the study area were identified and mapped. It was determined that the 24 cumulative projects (including the Cherry Solar project) occupy a total of 34,875 acres within the study area (this includes the entire WSP plan area of 20,938 acres). For purposes of analysis, this entire acreage was conservatively assumed to comprise suitable foraging

habitat, whereas the actual total would be less after subtracting acreage in tree crops and vineyards which provide little or no foraging value for Swainson's hawks.

In order to determine if this cumulative loss of foraging habitat represented a significant cumulative impact, Estep established that a reduction of surplus habitat to less than 70 percent relative to pre-project conditions would represent a cumulatively significant impact (Estep 2012). As presented in LOA's Biological Assessment (see Appendix B of this document), it was calculated that the cumulative projects would reduce the total surplus foraging habitat in the study area to 98,436 acres (i.e., 133,311-acre pre-project surplus minus 34,875 acres cumulative loss). This remaining acreage of surplus foraging area represents 73.8 percent of the pre-project total. Since the remaining surplus foraging acreage is greater than 70 percent of the pre-project surplus foraging acreage in the study area, the cumulative impact to the Swainson's hawk foraging acreage in the study area was determined to be *less than significant*. Therefore, the cumulative impact on Swainson's hawk foraging habitat would be less than significant, and the project *contribution would not be considerable*.

The Cherry Solar Project site includes no wetlands, jurisdictional waters, streams or riparian areas, and therefore the project would have no impact upon such features and would make *no contribution* to a cumulatively significant impact to such features.

None of the cumulative projects would conflict with an applicable habitat conservation plan or a natural community conservation plan. As such, there would be no cumulative impact in this regard, and the project would make *no contribution* to such a cumulative impact.

In summary, the cumulative impact to biological resources would be less than significant, and the project *contribution would not be considerable*.

Cultural Resources

The probability that any previously undiscovered cultural resources are present at any of the cumulative project sites is low. However, in the event that buried cultural materials are encountered during grading or excavation, all of the cumulative projects would be subject to mitigation measures similar to those identified for the Cherry Solar Project in MM CR-1 and MM CR-2 in Section *4.5. Cultural Resources*. The implementation of these measures at each cumulative site would ensure that site-specific impacts to cultural resources would be reduced to less-than-significant levels at each cumulative site. The collective incremental effects after mitigation would result in a *less-than-significant cumulative impact* to cultural resources, and the project *contribution would not be considerable*.

Energy

As discussed in Section *4.6. Energy*, the construction of the Cherry Solar Project would be subject to an array of regulatory requirements related to the efficient use of fuel, use of renewable energy sources, solid waste reduction and diversion, and energy efficient building standards, among other requirements. These requirements would ensure that the Cherry Solar Project and the other approved and pending projects would not result in the wasteful, inefficient, or unnecessary use of energy. Therefore, the *cumulative energy impact would be less than significant*, and the project impact would *not be cumulatively considerable*.

As is the case with the Cherry Solar Project, the objective of the other cumulative solar projects is to generate renewable solar energy in order to help reduce statewide reliance on non-renewable fossil-fueled generation. The operation of the solar facilities would allow for the decommissioning of equivalent generation from natural gas fired power plants. The cumulative projects would consume a relatively small amount of electricity to operate lights and equipment, and this energy consumption would be negligible compared to the clean energy produced by the solar projects.

Geology and Soils

Potential impacts due to geologic and soils conditions tend to be highly localized and generally do not extend beyond the boundaries of a project, except for geologic effects that are regional in nature such as earthquake risk. The cumulative projects would be subject to similar geologic and soils conditions and hazards as discussed for the Cherry Solar Project in Section *4.7. Geology and Soils*. While not all hazards would be present at all sites, or to the same degree, the potential hazards include seismic shaking, liquefaction, seismic settlement, and soil expansion, among other things. The vulnerability of each cumulative project to seismic and soil hazards would be subject to confirmation and detailed characterization through the completion of geotechnical investigations required prior to the development of each site. As is the case with the Cherry Solar Project, it is expected that the potential seismic and geologic hazards and any adverse soil conditions at the cumulative project sites would be mitigated through building code requirements and design recommendations of geotechnical engineers for each project. The specified soil engineering measures would be expected to mitigate or avoid all potentially hazardous geologic and soils conditions to less-than-significant levels at each site. While constructing the facilities to meet the seismic design criteria of the California Building Code would not completely eliminate the potential for damage during a major earthquake, it would reduce the potential impacts to public safety and property to less-than-significant levels at the cumulative projects. Given also the unlikelihood of soils hazards extending beyond the boundaries of individual project sites, the cumulative geologic and soils impacts would be less than significant. Therefore, any incremental hazards remaining at each cumulative site after mitigation *would not result in a cumulatively significant impact*, and the *project contribution would not be considerable*.

With respect to paleontological resources, there is a low probability that any previously undiscovered paleontological resources are present at any of the cumulative project sites. This is because the surface Holocene material that covers all the cumulative sites is too recent to contain fossils, although fossils may be present at depth within the older Quaternary material. In the event that buried paleontological resources are encountered during grading or excavation, all of the cumulative projects would be subject to mitigation measures similar to those identified for the Cherry Solar Project in MM GEO-1 in Section *4.7. Geology and Soils*. The implementation of these measures at each cumulative site would ensure that site-specific impacts to paleontological resources would be reduced to less-than-significant levels at each cumulative site. The collective incremental effects after mitigation would result in a *less-than-significant cumulative impact* to paleontological resources, and the project *contribution would not be considerable*.

Greenhouse Gas Emissions

As discussed in Section *4.8. Greenhouse Gas Emissions*, the project's solar generating facilities would comprise a renewable source of energy which will help displace an equivalent amount of existing

fossil-based generation. The construction and operation of the Cherry Solar Project would generate some greenhouse gas emissions from fossil-fueled vehicles and equipment; however, these emissions would not exceed any screening thresholds for significance and therefore would not be significant at the project-specific level. Since most of the other cumulative projects would be approximately the same size as the Cherry Solar Project or smaller, the GHG emissions impacts from the individual cumulative projects would likewise not exceed screening thresholds of significance. Cumulatively, the GHG emissions from the approved and pending solar projects would be more than offset by the avoided greenhouse gas emissions resulting from the renewable electricity they would generate. Since the cumulative projects would facilitate the avoidance of substantial existing fossil-fueled power generation, they would individually and collectively result in a substantial net reduction in overall GHG emissions. Therefore, the *cumulative impact would not be adverse*, and the project would make *no contribution* to an adverse cumulative effect.

Hazards and Hazardous Materials

Each of the cumulative sites, including the Cherry Solar Project site, would be subject to similar hazards, including potential discharges of hazardous materials during project construction and operation, and potential hazards from existing environmental conditions that may be present from past activities at the sites. In general, most potential hazards would be highly localized and not likely to extend beyond individual project sites. Each cumulative project would be required to implement an approved Hazardous Materials Business Plan (HMBP) to address potential hazardous events at the project, and also would be required to comply with all federal, state, and local laws and regulations regarding transport, handling, storage, and use of hazardous materials. Each cumulative project would also be required to identify potentially hazardous environmental conditions associated with historical uses of their respective sites through the preparation of Environmental Site Assessments, and each project proponent would be required by law to remediate or remove any identified contaminant sources from the site. The implementation of required plans and protocols relative to potential hazards and hazardous materials would reduce the associated impacts to less than significant levels at each project site. As discussed above, the impacts from hazards and hazardous materials would generally be confined to each project site and would not be given to accumulation with similar effects from other projects in the vicinity. Therefore, any incremental effects related to hazards and hazardous materials *would not result in a cumulatively significant impact*, and the *project contribution would not be considerable*.

Hydrology and Water Quality

This discussion covers potential cumulative drainage and flooding impacts, water quality impacts, and groundwater supplies.

With respect to stormwater drainage, the Cherry Solar Project and the other cumulative projects have similar natural conditions like relatively flat topography, semi-arid climate, and lack of natural drainage courses nearby. In addition, the cumulative solar projects would all maintain over 90 percent of their sites in permeable soil with vegetated cover. Thus the relatively small amount rainfall received at each site would tend to percolate into the ground, and would not tend to leave the site or result in off-site drainage impacts. Even under major storm conditions, any off-site runoff would likely be captured by one of the many irrigation canals or agricultural drainage ditches in the area. Thus even where cumulative projects are located in proximity to each other, there is virtually no potential for runoff from several sites to combine to result in downstream drainage impacts.

Therefore, the potential *cumulative stormwater drainage impacts would be less than significant*, and the project *contribution would not be considerable*.

With respect to water quality, during the construction of each cumulative project, including the Cherry Solar Project, there is a potential for erosion of exposed soils and spills of hazardous materials that could have an adverse impact on surface water quality. However, each cumulative project would be required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) which would specify measures to prevent and control erosion and discharges of hazardous materials. These control measures would reduce the potential water quality impacts at each cumulative site to less-than-significant levels. As discussed above, the natural and built conditions at each project site would virtually eliminate the potential for stormwater runoff to leave the site. Therefore, the potential for polluted surface water to be mobilized and leave each site is also small, and the potential for polluted surface water from several sites to result in a collective water quality impact to downstream water bodies is negligible. Therefore, the *cumulative impacts to water quality would be less than significant*, and the project *contribution would not be considerable*.

With respect to flooding and inundation, neither the Cherry Solar Project site nor the other cumulative project sites in the vicinity of the project site are subject to flooding during a 100-year storm event, or to inundation in the event of upstream dam failure. While some cumulative projects located near the Kings River and east of the river may be subject to flooding and inundation, these projects would be required by the County to incorporate drainage control and flood protection measures to mitigate any potential impacts within the project sites and adjacent properties. As such, any cumulative flooding impacts would be reduced to less-than-significant levels with drainage and flood mitigations incorporated into the design and construction of the affected projects. Since the Cherry Solar Project site is not subject to flooding or inundation, the project would *make no contribution* to any cumulative flooding impact.

With respect to groundwater supplies, each cumulative project, including the Cherry Solar Project, would require water during construction and operation. The demand for water at each site would be highest during construction for purposes of dust control and soil conditioning. For most cumulative projects, construction water would be supplied by existing agricultural wells or new wells. It is estimated that construction water demand for each project would be about 0.2 acre-feet per acre. (Thus, for a project with a one-year construction schedule, water demand would equal 0.2 afy per acre; a project with a two-year construction schedule would have an average water demand of 0.1 afy per acre.) In the groundwater basin beneath the project area, the Groundwater Sustainability Agency (GSA) has established a long-term groundwater extraction limit of 0.6 afy per acre. Therefore, even if the other cumulative projects in the vicinity were constructed concurrently with the Cherry Solar Project, the collective groundwater pumping rate would not exceed the GSA's goal for groundwater pumping. The operational water supplies for each solar project would mainly be used for panel washing. As discussed in in Section *4.10. Hydrology and Water Quality*, operational water demands for the Cherry Solar Project are estimated to be approximately 0.0134 afy per acre. Even if it is assumed that the cumulative projects in the project's groundwater basin, including the Cherry Solar Project, would rely solely on groundwater for operational needs, the collective water demands would be substantially below the GSA's long-term groundwater extraction limit of 0.6 afy per acre. Therefore, the cumulative projects would not deplete groundwater supplies. In addition, since all of the cumulative projects would retain 90 percent or more of their site areas in permeable vegetated cover, the projects would not interfere with groundwater

recharge, individually or collectively. Therefore, the *cumulative impact to groundwater supplies would be less than significant*, and the project *contribution would not be considerable*.

Land Use and Planning

As discussed in Section *4.11. Land Use and Planning*, the Cherry Solar Project would not physically divide an established community, and would not result in significant land use impacts to surrounding properties. Similarly, none of the cumulative projects would divide existing communities, and all of the cumulative projects would result in less-than-significant land use impacts upon surrounding properties. The cumulative incremental land use impacts resulting from the collective construction and operation of the *cumulative projects would be less than significant*, and the project *contribution would not be considerable*.

The General Plan land use designations applicable to all of the cumulative projects include solar generating facilities as allowed uses. All of the cumulative projects, including the Cherry Solar Project, are located either in agricultural zoning districts that permit solar generating facilities, or in commercial zoning districts that permit solar projects. All of the cumulative solar projects meet the required County Development Code requirements for conditional use permits for solar facilities. Therefore, none of the cumulative projects would conflict with applicable land use plans, policies, and regulations. As such, there would be *no cumulative impact in terms of land use plans, policies, and regulations*, and the project would make *no contribution* to such a cumulative impact.

Mineral Resources

The Cherry Solar Project site includes three inactive oil/gas wells within the project site. The project site plan provides for ample fenced clear areas around each well, in addition to direct exclusive physical access to Nevada Avenue for bringing equipment to and from the well sites. The site plan also includes other clear areas which are available to mineral rights holders for resource extraction. Therefore, the Cherry Solar Project would not result in the loss of availability of oil and gas resources which may be present beneath the site. None of the other cumulative projects have known oil or gas wells on their sites, or are within or near active oil and gas fields. Therefore, the cumulative projects would not result in the loss of availability of oil and gas resources which may be present beneath the cumulative sites.

None of the cumulative projects, including the Cherry Solar Project, would result in the loss of availability of other known mineral resources, such as aggregate deposits, since none exist in this part of Kings County. Additionally, the cumulative projects would not result in the loss of availability of a locally important mineral resource delineated on a local land use plan.

In summary, there would be *no cumulative impact to mineral resources*, and the project would make *no contribution* to such a cumulative impact.

Noise

As discussed in Section *4.13. Noise*, the nearest sensitive noise receptors to the Cherry Solar Project site include the 20 dwellings at the Shannon Ranch complex located 1.0 mile northwest of the project site, and the 2 dwellings at the Stone Land Company Ranch located 1.5 miles west of the project site. At these distances, the maximum construction noise generated at the project site

would be below the applicable County noise standards at all of these receptor locations. Traffic generated during project construction would result in slight increase in ambient noise levels along the affected roadways, but the increased noise levels would not exceed the County's applicable noise standards at the locations of any sensitive receptors. Noise levels generated by operational traffic would be lower.

During construction, noise generated at the Cherry Solar Project site could combine with noise generated by other projects in the immediate vicinity and result in cumulatively higher noise levels. As mentioned, other solar projects in the vicinity (e.g., Solar Blue and Chestnut Solar) would be completed and operational prior to the construction of the Cherry Solar Project. Even if one or more of the nearby projects were constructed concurrently with the Cherry Solar Project, the maximum cumulative noise level increase at the nearest receptor locations would be less than 1 dBA, at a combined noise level of approximately 45 dBA, which is well below the County's applicable noise thresholds. Other sensitive receptors in the vicinity that would be located at greater distances from any combined noise sources and would likewise not be subject to cumulatively significant noise increases. Therefore, the incremental noise impacts from the combined construction of the Cherry Solar Project and other projects would be *less than cumulatively significant*, and the project *contribution would not be considerable*.

Regarding noise from construction traffic, the most affected receptors would be the two dwellings at the Stone Land Company Ranch located 1.5 miles west of the project site on Nevada Avenue. Construction traffic from the Cherry Solar Project would not result in a significant increase in noise levels at this receptor location. The only other projects that could contribute construction traffic to Nevada Avenue are the Solar Blue and Chestnut Solar projects; however, those solar projects would be completed prior to the construction of the Cherry Solar Project and thus would not generate traffic at the same time as the Cherry Solar Project. Thus the cumulative noise impact due to traffic noise would be less than significant. Therefore, the incremental traffic noise impacts from the combined construction the Cherry Solar Project and other *cumulative projects would be less than significant*, and the project *contribution would not be considerable*.

During project operations, both on-site activity and related traffic would be very light and would not generate noise levels that would be audible at any receptor locations. Therefore, the incremental noise impacts from the combined operation of the Cherry Solar Project and other *cumulative projects would be less than significant*, and the project *contribution would not be considerable*.

Construction activities at the cumulative projects would result in ground vibration, although such vibration would not be detectable beyond the project boundaries of each project site. Therefore, the cumulative projects would result in *no cumulative vibration impacts*, and the Cherry Solar Project would make *no contribution* to such a cumulative effect.

Population and Housing

None of the cumulative projects, including the Cherry Solar Project, would include a residential component so they would not directly induce population growth in the area. The construction and operational workers for the cumulative projects are expected to be drawn from the existing labor pool in the region, and thus the cumulative projects would not indirectly result in population growth. Additionally, none of the cumulative projects would result in the extension of roads or utilities to lands not currently served by urban infrastructure, and thus would not induce unplanned

urban development into the rural areas of the County. Therefore, the cumulative projects would result in *no cumulative inducement of population growth* in the area, and the project would make *no contribution* to such a cumulative effect.

None of the cumulative projects currently include housing on their sites. Therefore, the cumulative projects would result in *no cumulative impacts* with respect to displacement of housing or population, and the project would make *no contribution* to such a cumulative effect.

Public Services

Fire protection services for all cumulative projects, including the Cherry Solar Project, would be provided by the Kings County Fire Department. The potential demand for Fire Department services is expected to be very low at each cumulative project site. Thus the collective demand for Fire Department services is also expected to be low, and would not cumulatively result in the need for new or expanded facilities. Therefore, the *cumulative impact to fire services would be less than significant*, and the project *contribution would not be considerable*.

Police projection services for all cumulative projects, including the Cherry Solar Project, would be provided by the Kings County Sheriff's Office. The potential demand for Sheriff's Office services is expected to be very low at each cumulative project site. Thus the collective demand for Sheriff's Office services is also expected to be low, and would not cumulatively result in the need for new or expanded facilities. Therefore, the *cumulative impact to Sheriff's services would be less than significant*, and the *project contribution would not be considerable*.

There would be little or no demand for other County services from the project, or from any of the other cumulative projects, and would not cumulatively result in the need for new or expanded facilities. Therefore, the *cumulative impact to other County services would be less than significant*, and the project *contribution would not be considerable*.

Recreation

Since neither the Cherry Solar Project nor any of the other cumulative projects would include housing at their sites, they would not result in increased use of existing recreational facilities. Neither the project nor any of the other cumulative projects would include recreational facilities in their projects, so there would be no adverse physical effects resulting from such facilities. As such, there would be *no cumulative impact associated with recreational facilities*, and the project would make *no contribution* to such an impact.

Transportation

As discussed in Section *4.17. Transportation*, the highest rate of traffic generation from the Cherry Solar Project would occur during the peak period of construction activity. As discussed, the traffic volumes generated during the peak construction period for the project would have a less-than-significant impact on the performance of affected roadways. All of the affected roadway segments have substantial unutilized traffic capacity, and operate well within acceptable service levels. During the peak construction period, the roadway segment that would be most affected by cumulative traffic (i.e., Nevada Avenue near the project entrance) would be subject to an almost 1.7-fold increase in daily traffic east of the project entrance, and a 31 percent increase in daily traffic

volumes west of the project entrance, due to project construction traffic. However, due to the very low existing traffic volumes on Nevada Avenue, the service level would remain at acceptable LOS B on this roadway during the peak construction period. Other roadways in the vicinity would be subject to temporary increases of 0.13 to 11 percent in overall traffic volumes. These increases in traffic volume would only occur during the period of peak construction for the Cherry Solar Project. The project traffic contributions would be lower during the non-peak periods of construction on all affected roadways. The project construction traffic would not result in a temporary change in Level of Service or a degradation of LOS to unacceptable levels on any affected roadway segment. Therefore, the project would not conflict with a program, plan, ordinance or policy addressing the circulation system, and the impact would be less than significant.

There are four other approved projects (and no other pending projects) in the immediate project vicinity that have not yet been constructed, and which would potentially utilize the same roadway network as the Cherry Solar Project. (These projects include Westlands Almond, Solar Blue, Chestnut, and Grape Solar). It is expected that all of these projects will be completed prior to construction of the Cherry Solar Project. Since there would be no contribution of cumulative traffic from other projects, the *cumulative impact to roadway performance would be less than significant*, and the project *contribution would not be considerable*.

With regard to Vehicle Miles Traveled, the average daily VMT generated by the Cherry Solar Project during the 12-month construction period would be equivalent to approximately 0.85 percent of the average daily VMT in Kings County. (However, it is noted that much of project VMT would occur outside of Kings County.) This small and temporary increase in Countywide VMT would not represent a significant impact. Other cumulative solar projects would contribute similarly small increases in average daily VMT in Kings County. The construction schedules of the cumulative projects are not expected to overlap; however, if two large solar projects were constructed concurrently, the maximum increase in cumulative VMT may temporarily reach the equivalent of 1.7 percent of the daily average Countywide VMT. Even under these conditions, the small and temporary increase in Countywide VMT would not represent a cumulatively significant impact. During the operational phases of the cumulative solar projects, each project would generate an average of up to 20 trips per day, which is far less than 110 daily trip screening threshold recommended by the Office of Planning and Research (OPR) for determining the significance of a VMT impact. Therefore, the cumulative VMT impact would be *less than significant and the project contribution of would not be considerable*.

With respect to traffic safety hazards, there is a potential for creation of hazardous driving conditions during the construction periods for the cumulative projects, including the Cherry Solar Project. Large slow moving trucks could result in temporary congestion near the project entrances, and could pose a safety concern due to abrupt changes in the speed of traffic flow, or due to slow turning movements across on-coming lanes of traffic. To minimize potential traffic safety hazards, all of the cumulative projects, including the Cherry Solar Project, would implement traffic control measures similar to those identified in MM TR-1 in Section 4.17 of this IS/MND for the Cherry Solar Project. These measures would reduce the potential traffic safety impacts at each cumulative project site to less-than-significant levels. The remaining incremental traffic safety effects resulting from collective truck traffic at the cumulative projects would be *less than significant cumulatively*, and the project *contribution would not be considerable*.

Tribal Cultural Resources

The probability that any previously undiscovered tribal cultural resources are present at any of the cumulative project sites is low. However, in the event that buried tribal cultural resources are encountered during grading or excavation, each of the cumulative projects would be subject to mitigation measures similar to those identified for the Cherry Solar Project in MM CR-1 and MM CR-2 in Section *4.5. Cultural Resources*. The implementation of these measures at each cumulative site would ensure that site-specific impacts to tribal cultural resources would be reduced to less-than-significant levels at each cumulative site. The collective incremental effects after mitigation would result in a *less-than-significant cumulative impact to tribal cultural resources*, and the project *contribution would not be considerable*.

Utilities and Service Systems

With respect to water supply, each cumulative solar project would require water during construction and operation. The demand for water at each site would be highest during construction for purposes of dust control and soil conditioning. For most cumulative projects, construction water would be supplied by existing agricultural wells. It is estimated that construction water demand for each project would be about 0.2 acre-feet per acre. (Thus, for a project with a one-year construction schedule, water demand would equal 0.2 afy per acre; a project with a two-year construction schedule would have an average water demand of 0.1 afy per acre.) In the groundwater basin beneath the project site, WWD's long-term groundwater extraction limit has been set at 0.6 afy per year in order to maintain sustainable yields. Therefore, even if the other cumulative projects in the vicinity were constructed concurrently with the Cherry Solar Project, the groundwater pumping rate would not exceed the groundwater extraction limit at each project site, such that the *cumulative impact of groundwater pumping would be less than significant*, and the contribution from the Cherry Solar Project would be *not cumulatively considerable*.

The operational water supplies for each project would be mainly used for panel washing. As discussed in in Section *4.10. Hydrology and Water Quality*, operational water demands for the proposed project are estimated to be approximately 0.0134 afy per acre. It is expected that the Cherry Solar Project's operational demands would be met from imported surface water delivered through Westlands Water District's water distribution system, although there is a possibility that well water may be utilized as backup supply during times of drought when there may be shortages of imported surface water. Even if it is assumed that the cumulative projects located within the same groundwater basin as the Cherry Solar Project would all rely solely on well water for operational needs, the cumulative operational water demands of about 0.0134 afy per acre would be substantially below the long-term groundwater extraction limit of 0.6 afy per acre. Therefore, the *cumulative impact to water supplies would be less than significant*, and the project *contribution would not be considerable*.

With respect to wastewater treatment, the Cherry Solar Project and other large-sized cumulative projects would include O&M facilities with septic and leachfield systems for on-site disposal and treatment of domestic wastewater. These wastewater facilities would be subject to Kings County's design and engineering requirements for septic systems, which would be tailored to each project's soil and groundwater conditions. This would ensure that wastewater generated at the cumulative project sites would not result in water quality impacts. Therefore, the *cumulative impacts with*

respect to wastewater treatment would be less than significant, and the project *contribution would not be considerable*.

With respect to stormwater drainage, neither the Cherry Solar Project nor any of the cumulative projects would include the construction or expansion of stormwater drainage facilities. Since over 90 percent of each project site would be retained in pervious vegetative cover, the ability of each site to absorb and percolate rainwater through the surface soil would not be substantially altered with the addition of the solar facilities. Given also the flat topography and semi-arid conditions at the cumulative sites, the increase in the volume and velocity of stormwater runoff due to the projects would be negligible, so there would be no need to construct storm drainage systems for the projects. Therefore, *no cumulative impacts would result from the construction or expansion of storm drainage systems*, and the project would make *no contribution* to such impacts.

The total solid waste that would be generated and landfilled by the Cherry Solar Project during construction and the operational life of the project would be approximately 3,658 cubic yards (compacted) or 3,304 tons. Since the Cherry Solar Project represents 11.5 percent of the total power generation capacity of all of the cumulative projects listed in Table MFS-1, the total cumulative solid waste generation by the cumulative projects would be roughly 8.7 times the project rate, for a cumulative total of 31,825 cy, or 28,745 tons. This would represent about 0.07 percent of the total combined remaining landfill capacity of approximately 43.7 million cy at the Chemical Waste Management Landfill and Avenal Regional Landfill, or the equivalent of 26 days of solid waste disposal at the current combined daily disposal rate of 1,100 tons at the two landfills. Thus the total landfilled solid waste generated by the cumulative projects over their lifetimes would shorten the combined remaining life of the landfills by about 26 days. During project construction when solid waste generation would be greatest, the Cherry Solar Project would generate 36.8 tons of solid waste per workday. Assuming that all of the approved (but not constructed) and pending cumulative projects (1,230 MW) were constructed at the same time, the combined volume of solid waste disposed at the landfills would be about 181 tons per day. Thus, even under this very conservative scenario, the cumulative daily solid waste generation would remain well below the combined 8,000 ton per day permitted disposal limit at the two landfills. Thus the cumulative impact on solid waste disposal and landfill capacity would be *less than significant*, and the project *contribution would not be considerable*.

Wildfire

With respect to wildfire, neither the Cherry Solar Project site, nor any of the cumulative project sites is located in or near State responsibility areas or on or near lands classified as Very High Fire Hazard Severity Zone. As such, the Cherry Solar Project and other approved and pending projects *would have no cumulative impact under this criterion*, and the contribution of the Cherry Solar Project would *not be cumulatively considerable*.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less-than-Significant Impact with Mitigation Incorporated. The ways in which people can be subject to substantial adverse effects from projects include: potential exposure to significant levels of local air pollutants; potential exposure to seismic and flooding hazards; potential exposure to

contamination from hazardous materials; potential exposure to traffic hazards, potential exposure to excessive noise levels; and potential exposure to wildfire. The risks from most of these potential hazards would be avoided or reduced to less-than-significant levels through compliance with existing laws, regulations, or requirements that are intended to protect human health and safety. In other instances, the potential project impacts to humans would not occur (e.g., wildfire), or would be avoided or reduced to less-than-significant levels through mitigation measures identified in this document. With the implementation of these measures to address potential impacts, it is expected that the Cherry Solar Project would not have the potential to result in significant effects which would cause substantial adverse effects on human beings, either directly or indirectly.

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APPENDIX A

Air Quality Report

Prepared by

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June 2022

CHERRY SOLAR PROJECT AIR QUALITY ASSESSMENT

Kings County, California

June 21, 2022

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INTRODUCTION

This report assesses the air quality impacts associated with the Cherry Solar Project proposed in Kings County, California. The Project will occupy an approximately 2,079-acre site generally located on the north side of Nevada Avenue, approximately 2.5 miles west of State Route 41 (SR-41) in central Kings County, as shown in Figure 1. The project's potential impacts on air quality during construction and operation are assessed in this report. Development projects of this type in the San Joaquin Valley are most likely to cause air quality impacts from emissions generated during construction. There are on-going operational emissions produced from the few workers that visit the site intermittently for maintenance. The San Joaquin Valley Air Pollution Control District (SJVAPCD) has published the Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI) that was used to conduct this air quality analysis.[1] This report describes existing air quality conditions, construction period air quality impacts, operational air quality impacts (at both a local and regional scale), and identifies mitigation measures necessary to reduce or eliminate air quality impacts identified as significant.

PROJECT DESCRIPTION

The Cherry Solar Project is a planned 250-megawatt (MW) solar photovoltaic (PV) generating facility on 2,079 acres located on the north side of Nevada Avenue, generally centered between 28th Avenue and Enterprise Avenue or about 2.5 miles west of SR-41 in central Kings County. The project is planned to include solar arrays, substation, operations and maintenance facility, energy storage facilities, and a 1.1-mile long gen-tie line extending east from the project substation to the existing central switchyard on the east side of 25th Avenue.

Project Construciton

The Cherry Solar Facility is planned to be constructed over a one-year period in 2024. Priamry construciton emissions would be associated with off-road construction equipment use at the site, worker and truck travel to and from the site, some fugitive dust from travel on site, and some emissions from helicopter use. The most travel would be from workers traveling on average about 46.5 miles each way to the site. Truck travel to the Port of Oakland would include about 138 miles per trip within the Air Basin. Truck travel to Fresno was estimated at 45 miles. Construction emissions were modeled using the equipment usage and travel assumptions that are included in Attachment 1. Construction of the project includes the following phases:

- **Site Preperation**, where access roads/driveways are constructed using imported gravel, along with some grading and installation of fencing. Most delivery truck trips are assumed to be to and from Fresno, while gravel truck deliveries would originate from the Coalinga area. Water trucks would travel to the site and then use water sourced at the site. There would be worker travel from surrounding communities. This phase is estimated to require 90 workdays.

[1] SJVAPCD. 2015. Guide for Assessing and Mitigating Air Quality Impacts. March.

- **Installation of Solar Arrays**, where bulk of solar array equipment is imported to the site and solar arrays are installed using small pile drivers. Truck traffic includes delivery of solar equipment (modules, racking, torque tubes, support posts, and wiring harnesses/combiners). Most truck trips are assumed to be to and from Port of Oakland and Fresno. Water trucks using water sourced at the site would be utilized. This phase is estimated to require 180 workdays.

- **Installation of Inverters, Transformers, Substation and Interconnections**, where equipment pad construction, placement of equipment, and trenching occur. Truck traffic includes delivery of equipment (transformers, skids, poles, etc.), fencing, gravel, and concrete. Most truck trips are assumed to be to and from Port of Oakland and Fresno. Water trucks using water sourced at the site would be utilized. This phase is estimated to require 180 workdays.

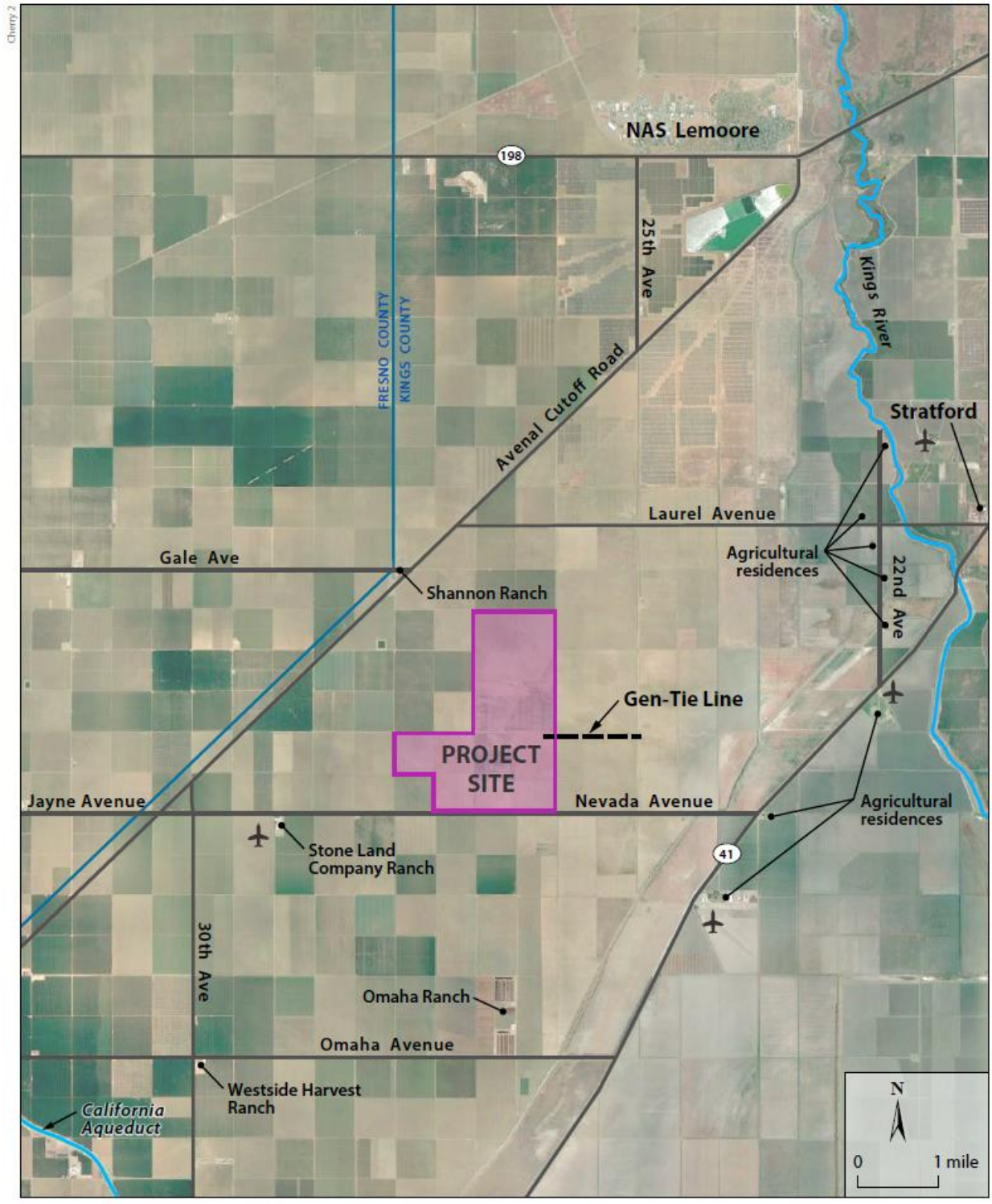
- **Installation of Battery Energy Storage Systems (BESS)**, where concrete pads are constructed for battery containers, equipment placemnt, some trenching, and additional fence construciton. Most truck trips delivering these components are assumed to be to and from Port of Oakland, while gravel, concrete, and some equipment would be from Hanford, Coalinga, and Fresno. Water trucks using water sourced at the site would be utilized. This phase is estimated to require 180 workdays.

- **Gen-Tie Line**, where the approxiamtely 1.1-mile gen-tie line is placed by installing mono power poles and stringing power lines using a ligh helicopter, pullers, and tensioners. Truck traffic includes delivery of monopoles, equipment, and components. Most truck delivery trips are assumed to be to and from Fresno. Water trucks using water sourced at the site would be utilized. This phase is estimated to require 20 workdays, including up to 16 days of helicopter use.

Project Operation

Long-term operation of the Project would not include any stationary combustion equipment. On-going operational emissions would be produced from the few workers that visit the site intermittently for maintenance. This would include operation of light-duty equipment on site as well as traffic emissions from worker and maintenance vehicles. Operational equipment and travel assumptions are also included in Attachment 1.

Figure 1. Cherry Solar Project Location



Source: Google Earth, 2021

SETTING

TOPOGRAPHIC CONSIDERATIONS

The project site is located in Kings and Fresno Counties in the south-western portion of the San Joaquin Valley Air Basin. The California Air Resources Board (CARB) defines the boundaries of the basin by the San Joaquin Valley within the Sierra Nevada Mountains to the east, the Coast Ranges in the west, and the Tehachapi mountains in the south. The valley is basically flat with a slight downward gradient to the northwest. The valley opens to the ocean at the Carquinez Strait where the San Joaquin-Sacramento Delta empties into San Francisco Bay. The San Joaquin Valley, thus, could be considered a "bowl" with the primary opening to the north. The surrounding topographic features restrict air movement through and out of the basin and, as a result, impede the dispersion of air pollutants from the basin. Wind flow is usually down the valley from the north, but the Tehachapi Mountains block or restrict the southward progression of airflow. The Sierra Nevada is a substantial barrier from the usual winds that have a general westerly flow. The topographical features result in weak airflow. The flow is further restricted vertically by inversion layers that are common in the San Joaquin Valley air basin throughout the year. An inversion layer is created when a mass of warm dry air sits over cooler air near the ground, preventing vertical dispersion of pollutants from the air mass below. During the summer, the San Joaquin Valley experiences daytime temperature inversions at elevations from 1,500 to 3,000 feet above the valley floor. Airflow is considerably restricted since mountain ranges surrounding the valley are generally above the inversion. These inversions lead to a buildup of ozone and ozone precursor pollutants. During the fall and winter months, strong surface-based inversions occur from 500 to 1,000 feet above the valley floor (SJVAPCD 1998). Wintertime inversions trap very stable air near the surface and lead primarily to a buildup of particulate matter air pollutants. Very light winds are also characteristic with these wintertime surface-based inversions.

AIR BASIN CHARACTERISTICS

The climate of the project area is characterized by hot dry summers and cool, mild winters. Clear days are common from spring through fall. Daytime temperatures in the summer often approach or exceed 100 degrees, with lows in the 60s. In the winter, daytime temperatures are usually in the 50s, with lows around 35 degrees. Radiation fog is common in the winter and may persist for days. Partly to mostly cloudy days are common in winter, as most precipitation received in the Valley falls from November through April.

Winds are predominantly up-valley (flowing from the north) in all seasons, but more so in the summer and spring months (CARB 1984). In this flow, winds are usually from the north end of the Valley and flow in a south-southeasterly direction, through Tehachapi Pass, into the Southeast Desert Air Basin. Annually, up-valley wind flow (i.e., northwest flow with marine air) is most common, occurring about 40 percent of the time. This type of flow is usually trapped below marine and subsidence inversions, restricting outflow through the Sierra Nevada and Tehachapi Mountains. The occurrence of this wind flow is almost 70 percent of the time in summer, but less than 20 percent of the time in winter. Winter and fall are characterized by mostly light and variable wind flow. Pacific storm systems do bring southerly flows to the valley during late fall and winter. Light and variable winds, less than 10 miles per hour (mph), are common in the colder months.

Superimposed on this seasonal regime is the diurnal wind cycle. In the Valley, this cycle takes the form of a combination of a modified sea breeze-land breeze and mountain-valley regimes. The sea breeze-land breeze regime typically has a modified sea breeze flowing into the Valley from the north during the late day and evening and then a land breeze flowing out of the Valley late at night and early in the morning. The mountain-valley regime has an upslope (mountain) flow during the day and a down slope (valley) flow at night. These effects create a complexity of regional wind flow and pollutant transport within the Valley.

The pollution potential of the San Joaquin Valley is very high. The San Joaquin Valley has one of the most severe air pollution problems in the State and the Country. Surrounding elevated terrain in conjunction with temperature inversions frequently restrict lateral and vertical dilution of pollutants. Abundant sunshine and warm temperatures in late spring, summer, and early fall are ideal conditions for the formation of ozone, where the Valley frequently experiences unhealthy air pollution days. Low wind speeds, combined with low inversion layers in the winter, create a climate conducive to high respirable particulate matter (PM_{10}) concentrations and elevated carbon monoxide (CO) levels.

REGULATORY SETTING

The Federal and California Clean Air Acts have established ambient air quality standards for different pollutants. National ambient air quality standards (NAAQS) were established by the Federal Clean Air Act of 1970 (amended in 1977 and 1990) for six "criteria" pollutants. These criteria pollutants now include carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), respirable particulate matter with a diameter less than 10 microns (PM_{10}), sulfur dioxide ($S0_2$), and lead (Pb). In 1997, The Environmental Protection Agency (EPA) added fine particulate matter ($PM_{2.5}$) as a criteria pollutant. The air pollutants for which standards have been established are considered the most prevalent air pollutants that are known to be hazardous to human health. California ambient air quality standards (CAAQS) include the NAAQS pollutants and also hydrogen sulfide, sulfates, vinyl chloride, and visibility reducing particles. These additional CAAQS pollutants tend to have unique sources and are not typically examined in environmental air quality assessments. In addition, lead concentrations have decreased dramatically since it was removed from motor vehicle fuels.

Federal Regulations

At the federal level, the United States Environmental Protection Agency (US EPA) administers and enforces air quality regulations. Federal air quality regulations were developed primarily from implementation of the Federal Clean Air Act. If an area does not meet NAAQS over a set period (three years), EPA designates it as a "nonattainment" area for that particular pollutant. EPA requires states that have areas that do not comply with the national standards to prepare and submit air quality plans showing how the standards would be met. If the states cannot show how the standards would be met, then they must show progress toward meeting the standards. These plans are referred to as the State Implementation Plan (SIP). Under severe cases, EPA may impose a federal plan to make progress in meeting the federal standards.
EPA also has programs for identifying and regulating hazardous air pollutants. The Clean Air Act requires EPA to set standards for these pollutants and sharply reduce emissions of controlled

chemicals. Industries were classified as major sources if they emitted certain amounts of hazardous air pollutants. The US EPA also sets standards to control emissions of hazardous air pollutants through mobile source control programs. These include programs that reformulated gasoline, national low emissions vehicle standards, Tier 2 motor vehicle emission standards, gasoline sulfur control requirements, and heavy-duty engine standards.

The San Joaquin Valley Air Basin is subject to major air quality planning programs required by the federal Clean Air Act (CAA) (1977, last amended in 1990, 42 United States Code [USC] 7401 *et seq.*) to address ozone, particulate matter air pollution, and carbon monoxide. The CAA requires that regional planning and air pollution control agencies prepare a regional Air Quality Plan to outline the measures by which both stationary and mobile sources of pollutants can be controlled in order to achieve all standards within the deadlines specified in the Clean Air Act. These plans are submitted to the State, which after approval, submits them to US EPA as the SIP.

State Regulations

The California Clean Air Act of 1988, amended in 1992, outlines a program for areas in the State to attain the CAAQS by the earliest practical date. CARB is the state air pollution control agency and is a part of the California EPA. The California Clean Air Act sets more stringent air quality standards for all of the pollutants covered under national standards, and additionally regulates levels of vinyl chloride, hydrogen sulfide, sulfates, and visibility-reducing particulates. If an area does not meet CAAQS, CARB designates the area as a nonattainment area. The San Joaquin Valley Air Basin does not meet the CAAQS for ozone, PM_{10}, and $PM_{2.5}$. CARB requires regions that do not meet CAAQS for ozone to submit clean air plans that describe plans to attain the standard or show progress toward attainment.

In addition to the US EPA, CARB further regulates the amount of air pollutants that can be emitted by new motor vehicles sold in California. Motor vehicle emissions standards have always been more stringent than federal standards since they were first imposed in 1961. CARB has also developed Inspection and Maintenance (I/M) and "Smog Check" programs with the California Bureau of Automotive Repair. Inspection programs for trucks and buses have also been implemented. CARB also sets standards for motor vehicle fuels sold in California.

San Joaquin Valley

The San Joaquin Valley Air Pollution Control District (SJVAPCD) is made up of eight counties in California's Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings Tulare and the San Joaquin Valley portion of Kern. The primary role of the SJVAPCD is to develop plans and implement control measures in the San Joaquin Valley to control air pollution. These controls primarily affect stationary sources such as industry and power plants. Rules and regulations have been developed by SJVAPCD to control air pollution from a wide range of air pollution sources. In March 2007, an Indirect Source Review (ISR) rule was adopted that controls air pollution from new land developments. SJVAPCD also conducts public education and outreach efforts such as the Spare the Air, Wood Burning, and Smoking Vehicle voluntary programs.

Kings County 2035 General Plan.

The Air Quality Element establishes goals, objectives, and policies to guide planning decisions and provides the platform for local action in addressing air quality and climate change issues.

Applicable goals, objectives, and policies presented in the General Plan are as follows:

C. Air Quality Management

AQ GOAL C1 Use Air Quality Assessment and Mitigation programs and resources of the SJVAPCD and other agencies to minimize air pollution, related public health effects, and potential climate change impacts within the County.

AQ OBJECTIVE C1.1 Accurately assess and mitigate potentially significant local and regional air quality and climate change impacts from proposed projects within the County.

The environmental assessment process required under the California Environmental Quality Act (CEQA) is by far the most important tool for local government to communicate with other agencies and the public on the air quality impacts of new development within a community. Strong and consistent application of CEQA requirements can make a significant difference in preventing or minimizing project level air quality impacts. In addition, the County can also offer its assistance to existing land uses to reduce their air pollution and greenhouse gas emissions.

AQ Policy C1.1.1: Assess and mitigate project air quality impacts using analysis methods and significance thresholds recommended by the SJVAPCD.

AQ Policy C1.1.2: Assess and mitigate project greenhouse gas/climate change impacts using analysis methods and significance thresholds as defined or recommended by the SJVAPCD, KCAG or California Air Resources Board (ARB) depending on the type of project involved.

AQ Policy C1.1.3: Ensure that air quality and climate change impacts identified during CEQA review are minimized and consistently and fairly mitigated at a minimum, to levels as required by CEQA.

AQ Policy C1.1.4 Identify and maintain an on-going inventory of the cumulative transportation, air quality, and climate change impacts of all general plan amendments approved during each year.

AQ Policy C1.1.5 Assess and reduce the air quality and potential climate change impacts of new development projects that may be insignificant by themselves but, taken together, may be cumulatively significant for the County as a whole.

AQ Policy C1.1.6 Encourage and support the development of innovative and effective mitigation measures and programs to reduce air quality and climate change

impacts through proactive coordination with the SJVAPCD, project applicants, and other knowledgeable and interested parties.

AQ Policy C1.1.7 Initiate through the Community Development Agency discussions with the SJVAPCD to develop a program and identify mitigation projects that would permit the expenditure of SJVAPCD Rule 9510 – Indirect Source Review air quality mitigation fees generated in Kings County on air quality projects in Kings County to maximize local benefits to air quality and the economy.

AQ Policy C1.1.8 Actively work with project sponsors to maximize their participation in Voluntary Emission Reduction Agreements (VERA) with the SJVAPCD that fulfill the requirements of CEQA and Rule 9510 and provide emission reductions at least as large as those required by Rule 9510. The VERA process provides an opportunity for the County to identify local air emission reduction projects and expand the County's active participation in the project selection process.

E. Energy Efficiency and Conservation

AQ GOAL E1 Minimize air emissions and potential climate change impacts related to energy consumption in the County.

AQ OBJECTIVE E1.1 Increase the use of energy conservation features, renewable sources of energy and low-emission equipment in new and existing development projects within the County.

Natural gas burning appliances used for space heating, water heating, and cooking are a sizable source of NO_x and CO_2 emissions. Consumption of electricity also causes pollutant emissions from the operation of power plants fueled by fossil fuels. Reduction in local energy demand will also reduce overall energy demand, which decreases the expediency for new energy production plant construction. Local efforts to reduce energy consumption can save consumers money and improve air quality. Simple and cost-effective designs, technologies, and methods are available to achieve energy savings and reduce air pollutant emissions.

AQ Policy E1.1.1 Initiate and sustain ongoing efforts with local water and energy utilities and developers to establish and implement voluntary incentive based programs to encourage the use of energy efficient designs and equipment in new and existing development projects within the County.

AQ Policy E1.1.2 Initiate and sustain ongoing efforts with agriculture, the building industry, water and energy utilities and the SJVAPCD to promote enhanced energy conservation and sustainable building standards for new construction.

AQ Policy E1.1.3 Work with local water and energy utilities and the building industry to develop or revise County design standards relating to solar orientation of

building occupancies, water use, landscaping, reduction in impervious surfaces, parking lot shading and such other measures oriented towards reducing energy demand.

AQ Policy E1.1.4 Actively promote the more efficient location of industries within the County which are labor intensive, utilize cogeneration or renewable sources of energy, support and enhance agricultural activities, and are consistent with other policies of the General Plan.

AQ Policy E1.1.5 County staff will proactively work with the Cooperative Agricultural Extension office, California Energy Commission, local water and energy utilities, the agricultural industry, and other potential partners to seek funding sources and implement programs which reduce water and energy use, reduce air emissions and reduce the creation of greenhouse gases.

F. Hazardous Emissions and Public Health

AQ GOAL F1 Minimize exposure of the public to hazardous air pollutant emissions, particulates and noxious odors from freeways, major arterial roadways, industrial, manufacturing, and processing facilities.

AQ OBJECTIVE F1.1 Locate adequate sites for industrial development and roadway projects away from existing and planned sensitive land uses which minimize or avoid potential health risks to people that might result from hazardous air pollutant emissions.

Decisions for locating industrial and residential development has the potential to create land use conflicts due to exposure to hazardous emissions. In addition, planning sensitive land uses in proximity to major transportation routes and facilities can also result in public health concerns. Providing appropriate locations and separation for incompatible land uses for all types of development can minimize conflicts and promote economic growth.

AQ Policy F1.1.1 Locate residential development projects and projects categorized as sensitive receptors an adequate distance from existing and potential sources of hazardous emissions such as major transportation corridors, industrial sites, and hazardous material locations in accordance with the provisions of ARB's Air Quality and Land Use Handbook.

AQ Policy F1.1.2 Locate new air pollution point sources such as, but not limited to industrial, manufacturing, and processing facilities an adequate distance from residential areas and other sensitive receptors in accordance with the provisions of ARB's Air Quality Land Use Handbook.

AQ OBJECTIVE F2.1 Reduce emissions of PM_{10}, $PM_{2.5}$ and other particulates from sources with local control potential or under the jurisdiction of the County.

Levels of PM_{10} (particulate matter less than 10 microns in diameter) no longer exceed federal health based standards. However, maintenance of the federal standard and achieving the state standard while accommodating growth will require continued effort. The San Joaquin Valley was recently reclassified as a maintenance area for PM_{10} under the federal criteria. Because of this classification, the SJVAPCD is required to take actions to ensure continued maintenance of the standard in the future. This is accomplished by the continued implementation of Best Available Control Measures (BACM) on all significant sources of emissions. Control efforts for sources under the jurisdiction of the County can significantly reduce these emissions. The SJVAB also exceeds the annual $PM_{2.5}$ (particulate matter less than 2.5 microns in diameter) standards. Some actions to reduce PM_{10} and ozone precursors will also reduce $PM_{2.5}$.

AQ Policy F2.1.1 Coordinate with the SJVAPCD to ensure that construction, grading, excavation and demolition activities within County's jurisdiction are regulated and controlled to reduce particulate emissions to the maximum extent feasible.

AQ Policy F2.1.2 Require all access roads, driveways, and parking areas serving new commercial and industrial development are constructed with materials that minimize particulate emissions and are appropriate to the scale and intensity of use.

AQ Policy F2.1.3 Develop a program to reduce PM_{10} emissions from County maintained roads to the maximum extent feasible.

G. Climate Change

AQ GOAL G1 Reduce Kings County's proportionate contribution of greenhouse gas emissions and the potential impact that may result on climate change from internal governmental operations and land use activities within its authority.

AQ OBJECTIVE G1.1 Identify and achieve greenhouse gas emission reduction targets consistent with the County's proportionate fair share as may be allocated by ARB and KCAG.

Global climate change is an emerging issue that requires all levels of government to take action to reduce emissions under their jurisdiction and influence.

AQ Policy G1.1.1 As recommended in ARB's Climate Change Adopted Scoping Plan (December 2008), the County establishes an initial goal of reducing greenhouse gas emissions from its internal governmental operations and land use activities within its authority to be consistent with ARB's adopted reduction targets for the year 2020. The County will also work with KCAG

to ensure that it achieves its proportionate fair share reduction in greenhouse gas emissions as may be identified under the provisions of SB 375 (2008 Chapter 728) for any projects or activities requiring approval from KCAG.

AQ Policy G1.1.2 Progress in meeting the goals specified in AQ Policy G1.1.1 will be monitored and reported to the Board of Supervisors in the Annual Progress Report required by Government Code Section 65400(a)(2). Should the Board determine that sufficient progress is not being made to achieve the identified goals, or that proposed measures are ineffective or insufficient in meeting the goals, additional measures will be adopted as necessary.

AQ Policy G1.1.3 County staff should explore opportunities to utilize the net emission reductions identified through the confined animal feeding operation approval process to offset greenhouse gas emissions on a regional basis.

NATIONAL AND STATE AMBIENT AIR QUALITY STANDARDS

The CAA and CCAA promulgate, respectively, national and State ambient air quality standards. Air quality standards have been established by US EPA (i.e., NAAQS) and California (i.e., CAAQS) for specific air pollutants most pervasive in urban environments. The NAAQS and CAAQS are shown in Table 1. Ambient standards specify the concentration of pollutants to which the public may be exposed without adverse health effects. Individuals vary in their sensitivity to air pollutants, and standards are set to protect more pollution-sensitive populations (e.g., children and the elderly). National and State standards are reviewed and updated periodically based on new health studies. California ambient standards tend to be at least as protective as national ambient standards and are often more stringent. For planning purposes, regions like the San Joaquin Valley Air Basin are given an air quality status designation by the federal and State regulatory agencies. Areas with monitored pollutant concentrations that are lower than ambient air quality standards are designated “attainment” on a pollutant-by-pollutant basis. When monitored concentrations exceed ambient standards within an air basin, it is designated “nonattainment” for that pollutant. US EPA designates areas as “unclassified” when insufficient data are available to determine the attainment status. These areas are typically considered to be in attainment of the standard.

TABLE 1. Ambient Air Quality Standards[2]

Pollutant	Averaging Time	California Standards Concentration	National Standards Concentration
Ozone	1-hour	0.09 ppm (180 µg/m^3)	—
	8-hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3) (3-year average of annual 4th highest daily maxima)
Carbon Monoxide	8-hour	9.0 ppm (10,000 µg/m^3)	9 ppm (10,000 µg/m^3)
	1-hour	20 ppm (23,000 µg/m^3)	35 ppm (40,000 µg/m^3)
Nitrogen dioxide	Annual Average	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)
	1-hour	0.18 ppm (339 µg/m^3)	0.100 ppm (188 µg/m^3) (3-year average of annual 98th percentile daily maxima)
Sulfur dioxide			
	24-hour	0.04 ppm (105 µg/m^3)	—
	3-hour	—	0.5 ppm (1,300 µg/m^3)
	1-hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3) (3-year average of annual 99th percentile daily maxima)
Respirable particulate matter (10 micron)	24-hour	50 µg/m^3	150 µg/m^3
	Annual Arithmetic Mean	20 µg/m^3	—
Fine particulate matter (2.5 micron)	Annual Arithmetic Mean	12 µg/m^3	12.0 µg/m^3 (3-year average)
	24-hour	—	35 µg/m^3 (3-year average of annual 98th percentile daily concentrations)
Sulfates	24-hour	25 µg/m^3	—
Lead	30-day	1.5 µg/m^3	—
	3 Month Rolling Average	—	0.15 µg/m^3

Source: CARB website, 12/1/16.
SO_2 Federal 24 hour and annual standards are not applicable in the SJVAPCD.
µg/m^3 = micrograms per cubic meter
ppm = parts per million

[2] Source: California Air Resources Board (http://www.arb.ca.gov)

CRITERIA AIR POLLUTANTS AND THEIR HEALTH EFFECTS

The primary criteria air pollutants that would be emitted by the project include ozone (O_3) precursors (NO_x and ROG), carbon monoxide (CO), and suspended particulate matter (PM_{10} and $PM_{2.5}$). Other criteria pollutants, such as lead (Pb) and sulfur dioxide (SO_2), would not be substantially emitted by the Cherry Solar project or traffic, and air quality standards for them are being met throughout the San Joaquin Valley Air Basin. A description of each pollutant is provided below, as described by SJVAPCD (2015) and the Bay Area Air Quality Management District.[3]

Ozone (O_3)

CARB describes the ozone and health impacts (CARB 2016a). While O_3 serves a beneficial purpose in the upper atmosphere (stratosphere) by reducing ultraviolet radiation potentially harmful to humans, when it reaches elevated concentrations in the lower atmosphere (troposphere) it can be harmful to the human respiratory system and to sensitive species of plants. Ozone concentrations build to peak levels during periods of light winds, bright sunshine, and high temperatures. Short-term O_3 exposure can reduce lung function in children, make persons susceptible to respiratory infection, and produce symptoms that cause people to seek medical treatment for respiratory distress. Long-term exposure can impair lung defense mechanisms and lead to emphysema and chronic bronchitis. A healthy person exposed to high concentrations may become nauseated or dizzy, may develop headache or cough, or may experience a burning sensation in the chest.

Ozone is formed in the atmosphere by a complex series of photochemical reactions that involve "ozone precursors" that consist of two families of pollutants: oxides of nitrogen (NO_x) and reactive organic gases (ROG). NO_x and ROG are emitted from a variety of stationary and mobile sources. While NO_2, an oxide of nitrogen, is another criteria pollutant itself, ROGs are not in that category, but are included in this discussion as O_3 precursors. In 2007, CARB adopted an 8-hour health-based standard for O_3 of 0.070 parts per million (ppm). The US EPA revised the 8-hour NAAQS for O_3 from 0.080 ppm in 2008 and reduced it again in 2015 to 0.070 ppm[4] (CARB 2005, 2012, US EPA 2018).

Carbon Monoxide (CO)

CARB describes carbon monoxide and the health effects (CARB 2016b). Carbon monoxide or CO is a colorless, odorless, poisonous gas. Carbon monoxide's health effects are related to its affinity for hemoglobin in the blood. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause dizziness and fatigue, and causes reduced lung capacity, impaired mental abilities and central nervous system function, and induces angina in persons with serious heart disease. Primary sources of CO in ambient air are exhaust emissions from on-road vehicles, such as passenger cars and light-duty trucks, and residential wood burning. The monitored CO levels in the Valley during the last 10 years have been well below ambient air quality standards.

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[3] Bay Area Air Quality Management District (BAAQMD). 2011. *BAAQMD CEQA Air Quality Guidelines*. May (updated May 2017). http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

[4] US EPA. 2017. *2008 National Ambient Air Quality Standards (NAAQS) for Ozone*. See https://www.epa.gov/ozone-pollution/2008-national-ambient-air-quality-standards-naaqs-ozone. Accessed 06/19/18.

Nitrogen Dioxide (NO_2)

As described by CARB (2016c), the major health effect from exposure to high levels of NO_2 is the risk of acute and chronic respiratory disease. Nitrogen dioxide is a combustion by-product, but it can also form in the atmosphere by chemical reaction. Nitrogen dioxide is a reddish-brown colored gas often observed during the same conditions that produce high levels of O_3 and can affect regional visibility. Nitrogen dioxide is one compound in a group of compounds consisting of oxides of nitrogen (NO_x). As described above, NO_x is an O_3 precursor compound. Monitored levels of NO_2 in the Valley are below ambient air quality standards.

Particulate Matter (PM)

CARB describes unhealthy particulate matter and the health effects (CARB 2016d). Respirable particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$) consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. PM_{10} and $PM_{2.5}$ represent fractions of particulate matter that can be inhaled and cause adverse health effects. PM_{10} and $PM_{2.5}$ are a health concern, particularly at levels above the Federal and State ambient air quality standards. $PM_{2.5}$ (including diesel exhaust particles) is thought to have greater effects on health because minute particles are able to penetrate to the deepest parts of the lungs. Scientific studies have suggested links between fine particulate matter and numerous health problems including asthma, bronchitis, acute and chronic respiratory symptoms such as shortness of breath and painful breathing. Children are more susceptible to the health risks of $PM_{2.5}$ because their immune and respiratory systems are still developing. These fine particulates have been demonstrated to decrease lung function in children. Certain components of PM are linked to higher rates of lung cancer. Very small particles of certain substances (e.g., sulfates and nitrates) can also directly cause lung damage or can contain absorbed gases (e.g., chlorides or ammonium) that may be injurious to health.

Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. Some sources of particulate matter, such as mining and demolition and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. In addition to health effects, particulates also can damage materials and reduce visibility. Dust comprised of large particles (diameter greater than 10 microns) settles out rapidly and is more easily filtered by human breathing passages. This type of dust is considered more of a soiling nuisance rather than a health hazard.

The current State PM_{10} standard, approved in 2002, is 20 micrograms per cubic meter ($\mu g/m^3$) for an annual average. The 24-hour average standard is 50 $\mu g/m^3$. $PM_{2.5}$ standards were first promulgated by the US EPA in 1997 and were revised in 2006 to lower the 24-hour $PM_{2.5}$ standard to 35 $\mu g/m^3$ for 24-hour exposures (Federal Register, Vol. 71, No. 10, January 17, 2006). That same action by US EPA also revoked the annual PM_{10} standard due to lack of scientific evidence correlating long-term exposures of ambient PM_{10} with health effects. CARB has only adopted an annual average $PM_{2.5}$ standard, which is set at 12 $\mu g/m^3$. This is equal to the NAAQS of 12 $\mu g/m^3$ (CARB 2016f).

TOXIC AIR CONTAMINANTS

Besides the "criteria" air pollutants, there is another group of substances found in ambient air referred to as Hazardous Air Pollutants (HAPs) under the CAA and Toxic Air Contaminants (TACs) under the CCAA. These contaminants tend to be localized and are found in relatively low concentrations in ambient air. However, they can result in adverse chronic health effects if exposure to low concentrations occurs for long periods. They are regulated at the local, state, and federal level.

HAPs are the air contaminants identified by US EPA as known or suspected to cause cancer, serious illness, birth defects, or death. Many of these contaminants originate from human activities, such as fuel combustion and solvent use. Mobile source air toxics (MSATs) are a subset of the 188 HAPS. Of the 21 HAPs identified by US EPA as MSATs, a priority list of six priority HAPs were identified that include: diesel exhaust, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene. The Federal Highway Administration (FHWA 2012) reports that while vehicle miles traveled (VMT) in the United States is expected to increase by 64 percent over the period 2000 to 2020, emissions of MSATs are anticipated to decrease substantially as a result of efforts to control mobile source emissions (by 57 percent to 67 percent depending on the contaminant).

California developed a program under the Toxic Air Contaminant Identification and Control Act (Assembly Bill [AB] 1807, Tanner 1983), also known as the Tanner Toxics Act, to identify, characterize and control TACs. Subsequently, AB 2728 (Tanner, 1992) incorporated all 188 HAPs into the AB 1807 process. TACs include all HAPs plus other containments identified by CARB. These are a broad class of compounds known to cause morbidity or mortality (cancer risk). TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter (DPM) near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and federal level.

The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly), described by CARB (2016e), was enacted in 1987, and requires stationary sources to report the types and quantities of certain substances routinely released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels.

Particulate matter from diesel exhaust is the predominant TAC in urban air and is estimated to represent about 70 percent of the cancer risk from TACs, based on the statewide average reported by CARB (2012). According to CARB, diesel exhaust is a complex mixture of gases, vapors and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by CARB, and are listed as carcinogens either under State Proposition 65 or under the Federal Hazardous Air Pollutants programs.

CARB (2012) reports that recent air pollution studies have shown an association that diesel exhaust and other cancer-causing TACs emitted from vehicles are responsible for much of the overall

cancer risk from TACs in California. Particulate matter emitted from diesel-fueled engines (DPM) was found to comprise much of that risk. In 1998, CARB formally identified DPM as a TAC (CARB 2012). DPM is of particular concern since it can be distributed over large regions, thus leading to widespread public exposure. The particles emitted by diesel engines are coated with chemicals, many of which have been identified by US EPA as HAPs, and by CARB as TACs. The vast majority of diesel exhaust particles (over 90 percent) consist of $PM_{2.5}$, which are the particles that can be inhaled deep into the lung (CARB 2012). Like other particles of this size, a portion will eventually become trapped within the lung possibly leading to adverse health effects. While the gaseous portion of diesel exhaust also contains TACs, CARB's 1998 action was specific to DPM, which accounts for much of the cancer-causing potential from diesel exhaust. California has adopted a comprehensive diesel risk reduction program to reduce DPM emissions 85 percent by 2020 (CARB 2000). The EPA and CARB adopted low sulfur diesel fuel standards in 2006 that reduce DPM substantially.

Smoke from residential wood combustion can be a source of TACs. Wood smoke is typically emitted during winter when dispersion conditions are poor. Localized high TAC concentrations can result when cold stagnant air traps smoke near the ground and, with no wind the pollution can persist for many hours, especially in sheltered valleys during winter. Wood smoke also contains a significant amount of PM_{10} and $PM_{2.5}$. Wood smoke is an irritant and is implicated in worsening asthma and other chronic lung problems.

EXISTING AIR QUALITY

As previously discussed, the San Joaquin Valley experiences poor air quality conditions, due primarily to elevated levels of ozone and particulate matter (SJVAPCD 2015a). CARB, in cooperation with SJVAPCD, monitors air quality throughout the San Joaquin Valley Air Basin. The latest available air pollutant monitoring data made available by CARB is presented in Table 2 was derived for each pollutant based upon the closest monitoring station to the project site.

Ozone

In California, ozone concentrations are generally lower near the coast regions than inland regions. The inland regions, such as the San Joaquin Valley, typically experience some of the higher ozone concentrations. This is because of the greater frequency of hot days (that is, higher temperatures) and stagnant air conditions (that is, very calm atmospheric conditions with very gentle winds) that are conducive to ozone formation. Many areas of the Valley lie downwind of urban areas that are sources of ozone precursor pollutants. While Kings County is fairly rural, exceedances of the ozone standard occurred on 13 to 29 days per year, based on the last 3 years of available monitoring data.

Carbon Monoxide

State and federal standards for carbon monoxide are met throughout California as a result of cleaner vehicles and fuels that were reformulated in the 1990s. For CO, the 2012 monitored value

of 2.2 ppm for an 8-hour average was used as the air basin maximum level (CARB 2016f). Because CO levels are so low in the air basin, monitoring was discontinued after 2012.

Particulate Matter ($PM_{2.5}$ and PM_{10})

Most areas of California have either 24-hour or annual PM_{10} concentrations that exceed the State standards. Most urban areas exceed the State annual standard and the 2006 24-hour federal standard. In the San Joaquin Valley (S.J. Valley or Valley), there is a strong seasonal variation in PM, with higher PM_{10} and $PM_{2.5}$ concentrations occurring in the fall and winter months. These higher concentrations are caused by increased activity for some emission sources and meteorological conditions that are conducive to the build-up of particulate matter. Industry and motor vehicles consistently emit particulate matter. Seasonal sources of particulate matter in San Joaquin Valley include wildfires, agricultural activities, windblown dust, and residential wood burning. In California, area sources, which primarily consist of fugitive dust, account for the majority of directly emitted particulate matter. This includes dust from paved and unpaved roads. The ARB estimates that 85 percent of directly emitted PM_{10} (and 66 percent of directly emitted $PM_{2.5}$) is from area sources (SJVAPCD 2016). During the winter, the $PM_{2.5}$ size fraction makes up much of the total particulate matter concentrations. The major contributor to high levels of ambient $PM_{2.5}$ is the secondary formation of particulate matter caused by the reaction of NO_x and ammonium to form ammonium nitrate. ARB estimates that the secondary portion of $PM_{2.5}$ makes up about 50 percent of the annual concentrations in the Valley (SJVAPCD 2016). The S.J. Valley also records high PM_{10} and $PM_{2.5}$ levels during the fall. During this season, both the coarse fraction (from dust) and the $PM_{2.5}$ fraction result in elevated $PM_{2.5}$ and PM_{10} concentrations. Measured $PM_{2.5}$ levels exceeded federal standards on an estimated 17 to 52 days per year. Measured PM_{10} levels exceeded State standards on 19 to 20 days. Sampling occurs every sixth day so CARB estimated there were 104 to 132 days per year that PM_{10} levels exceeded the standard). Note wildfire smoke contributed to the highest measured levels and frequency that standards were exceeded.

Other Pollutants

Current and past air monitoring data indicate that the San Joaquin Valley meets ambient air quality standards for NO_2, SO_2, and lead. Monitoring of lead, sulphates, hydrogen sulfide and vinyl chloride is not routinely conducted by CARB in the air basin (CARB 2018).

TABLE 2. Summary of Criteria Air Pollution Monitoring Data for Kings County

Pollutant	Standard	Monitored Values[1] and Exceedance Days		
		2018	2019	2020
Ozone (ppm)	State 1-Hour	**0.108 / 1**	0.093 / 0	**0.103 / 6**
Ozone (ppm)	State 8-Hour	**0.082 / 29**	**0.076 / 13**	**0.088 / 26**
Ozone (ppm)	Federal 8-Hour	**0.082 /29**	**0.076 /13**	**0.076 /13**
PM_{10} (ug/m^3)	State 24-Hour	181/ 114	221/ 104	181/ 132
PM_{10} (ug/m^3)	Federal 24-Hour	**174/ 6[2]**	**212/ 7[2]**	**180/ 7[2]**
PM_{10} (ug/m^3)	State Annual	**47.9**	**45.2**	**NR**
$PM_{2.5}$ (ug/m^3)	Federal 24-Hour	**107.8 / 17[2]**	**48.2 / 21[2]**	**147.0 / 52[2]**
$PM_{2.5}$ (ug/m^3)	State Annual	12.3	12.1	**19.8**
$PM_{2.5}$ (ug/m^3)	Federal Annual	12.2	12.1	**19.8**
Carbon Monoxide (ppm)	State/Fed.8-Hour	NR / --[3]	NR / --[3]	NR / --[3]
Nitrogen Dioxide (ppm)	State 1-Hour	0.056 / 0	0.062 / 0	0.051 / 0
Nitrogen Dioxide (ppm)	Federal 1-Hour	0.056 / 0	0.063 / 0	0.052 / 0
Nitrogen Dioxide (ppm)	State Annual	0.008	0.008	0.008

Note: (1) Monitored values are the high values considering the form of the applicable standard,
(2) affected by wildfire smoke, and
(3) NR = not reported in summaries, but last measured levels in 2012 were 2 ppm.
Source: CARB ADAM Data at http://www.arb.ca.gov/adam/index.html, Accessed 06/17/2022

Air Quality Trends

Air quality in the Valley has improved significantly despite a natural low capacity for pollution, created by unique geography, topography, and meteorology. Emissions have been reduced at a rate similar or better than other areas in California. Since 1990, emissions of ozone precursors (i.e., NO_x and ROG) reduced by 80 percent (CARB 2016g), resulting in much fewer days where ozone standards have been exceeded. Direct emissions of PM_{10} and $PM_{2.5}$ have been reduced by 10 to 13 percent (CARB 2013). As a result, the San Joaquin Valley is the first air basin that was previously classified as "serious nonattainment" under the NAAQS to come into attainment of the PM_{10} standards.

ATTAINMENT STATUS

Areas that do not violate ambient air quality standards are considered to have attained the standard. Violations of ambient air quality standards are based on air pollutant monitoring data and are judged for each air pollutant. The San Joaquin Valley as a whole does not meet State or federal ambient air quality standards for ground level O_3 and State standards for PM_{10} and $PM_{2.5}$. The attainment status for the Valley with respect to various pollutants of concern is described in Table 3.

Under the CAA, the US EPA has classified the Air Basin as *extreme nonattainment* for the 8-hour O_3 standard. As mentioned earlier, the Air Basin has attained the NAAQS for PM_{10}. The Air Basin is designated *nonattainment* for the older 1997 $PM_{2.5}$ NAAQS. US EPA recently designated the Air Basin as nonattainment for the newer 2006 24-hour $PM_{2.5}$ standard. The US EPA classifies the Air Basin as *attainment* or *unclassified* for all other air pollutants, which include CO and NO_2.

At the state level, the Air Basin is considered *severe nonattainment* for ground level O_3 and *nonattainment* for PM_{10} and $PM_{2.5}$. In general, California ambient air quality standards are more stringent than the national ambient air quality standards. The Air Basin is required to adopt plans on a triennial basis that show progress towards meeting the State O_3 standard. The Air Basin is considered *attainment* or *unclassified* for all other pollutants.

TABLE 3. Project Area Attainment Status

Pollutant	Federal Status	State Status
Ozone (O_3) – 1-Hour Standard	No Designation	Severe Nonattainment
Ozone (O_3) – 8-Hour Standard	Extreme Nonattainment	Nonattainment
Respirable Particulate Matter (PM_{10})	Attainment-Maintenance	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO_2)	Attainment	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Sulfates and Lead	No Designation	Attainment
Hydrogen Sulfide	No Designation	Unclassified
Visibility Reducing Particles	No Designation	Unclassified
Vinyl Chloride	No Designation	Attainment

REGIONAL AIR QUALITY PLANS

In response to not meeting the NAAQS, the region is required to submit attainment plans to US EPA through the State, which are referred to as the SIP. These plans are provided on SJVAPCD's website at http://valleyair.org/Air_Quality_Plans/PM_Plans.htm. The District has adopted several air quality attainment plans over the years that identify measures needed in the Valley to attain the increasingly stringent NAAQS. Implementing these plans has resulted in nearly 650 rules to reduce air pollutant or pollutant precursor emissions.

CARB submitted the 2004 Extreme Ozone Attainment Demonstration Plan to EPA in 2004, which addressed the old 1-hour NAAQS. The region's 2007 Ozone Plan, addressing the 8-hour ozone NAAQS, was submitted to US EPA and approved in March 2012. That plan predicts attainment of the standard throughout 90 percent of the district by 2020 and the entire district by 2024. To

accomplish these goals, that plan would reduce NO_x emissions further by 75 percent and ROG emissions by 25 percent. A wide variety of control measures are included in these plans, such as reducing or offsetting emissions from construction and traffic associated with land use developments. The air basin was since designated as an extreme ozone nonattainment area for the more stringent 2008 8-hour ozone NAAQS. The 2016 Plan for the 2008 8-Hour Ozone Standard was adopted by SJVAPCD on June 16, 2016. Addressing the 2008 8-hour ozone standard will pose a tremendous challenge for the Valley, as NOx emissions will be reduced by 60 percent. will bring the San Joaquin Valley into attainment of EPA's 2008 8-hour ozone standard as expeditiously as practicable, no later than December 31, 2031. SJVAPCD's 2016 Ozone Plan received EPA's final approval or conditional approval of all portions of the plan in 2019. EPA found that sufficient quantified emissions reductions are identified in the plan without including unquantified emissions reductions such as those related to the "further study" of Rule 4694 that controls emissions from winery activities (fermentation and storage of wines). The District adopted the 2020 Reasonably Available Control Technology (RACT) Demonstration for the 2015 8-Hour Ozone Standard on June 18, 2020, as required to the federal Clean Air Act. RACT requirements apply to sources that are subject to US EPA Control Techniques Guidelines (CTGs) and for "major sources" of VOCs and NOx (i.e., ozone precursors). These RACT requirements ensure that significant sources of these emissions are controlled to a "reasonable" extent. The District is currently developing the *2022 Plan for the 2015 8-Hour Ozone Standard*.

On April 25, 2008, US EPA proposed to approve the *2007 PM_{10} Maintenance Plan and Request for Re-designation*. The region now meets the NAAQS for PM_{10}. The SJVAPCD adopted the 2008 $PM_{2.5}$ Plan on April 30, 2008. US EPA has designated the basin as Attainment.

The SJVAPCD adopted the *2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards* on November 15, 2018. This plan was approved by CARB on January 24, 2019. This plan demonstrates attainment of the federal $PM_{2.5}$ standards as expeditiously as practicable. The plan uses control measures to reduce NO_x, which also leads to fine particulate formation in the atmosphere. The plan incorporates measures to reduce direct emissions of $PM_{2.5}$, including a strengthening of regulations for various SJVAB industries and the general public through new rules and amendments. The plan increases controls on residential wood-burning activities.

Both the ozone and $PM_{2.5}$ plans include all measures (i.e., federal, State, and local) that would be implemented through rule making or program funding to reduce air pollutant emissions. Transportation Control Measures (TCMs) are part of these plans. The plans described above addressing ozone also meet the state planning requirements.

SJVAPCD RULES AND REGULATIONS

The SJVAPCD has adopted rules and regulations that apply to land use projects, such as the proposed project. These are described below.

SJVAPCD Indirect Source Review Rule

In 2005, the SJVAPCD adopted Rule 9510 Indirect Source Review (ISR or Rule 9510) to reduce NO_x and PM_{10} emissions from new land use development projects. The rule, which became effective March 1, 2006, is the result of state requirements outlined in the region's portion of the

State Implementation Plan (SIP). Rule 9510 was amended in December 2017 (and became effective March 21, 2018) to ensure that all large development projects are subject to the rule (SJVAPCD 2017). The SJVAPCD's SIP commitments are contained in the 2004 Extreme Ozone Attainment Demonstration Plan and the 2003 PM_{10} Plan. These plans identified the need to reduce PM_{10} and NO_x substantially in order to attain and maintain the ambient air-pollution standards on schedule.

New projects that would generate substantial air pollutant emissions are subject to this rule. The rule requires projects to mitigate both construction and operational period emissions by applying the SJVAPCD-approved mitigation measures and paying fees to support programs that reduce emissions. The rule requires mitigated exhaust emissions during construction based on the following levels:

- 20 percent reduction from unmitigated baseline in total NO_x exhaust emissions
- 45 percent reduction from unmitigated baseline in total PM_{10} exhaust emissions

For operational emissions, Rule 9510 requires the following reductions:

- 33.3 percent of the total operational NO_x emissions from unmitigated baseline
- 50 percent of the total operational PM_{10} exhaust emissions from unmitigated baseline

Fees apply to the unmitigated portion of the emissions and are based on estimated costs to reduce the emissions from other sources plus estimated costs to cover administration of the program. In accordance with ISR, the project applicant will submit an application for approval of an Air Impact Assessment (AIA) to the SJVAPCD.

Regulation VIII – Fugitive PM_{10}

SJVAPCD controls fugitive PM_{10} through Regulation VIII (Fugitive PM_{10} Prohibitions). The purpose of this regulation is to reduce ambient concentrations of PM_{10} by requiring actions to prevent, reduce or mitigate anthropogenic (human caused) fugitive dust emissions. This applies to activities such as construction, bulk materials, open areas, paved and unpaved roads, material transport, and agricultural areas. Sources regulated are required to provide dust control plans that meet the regulation requirements. Fees are collected by SJVAPCD to cover costs for reviewing plans and conducting field inspections.

Other SJVAPCD Rules

Other SJVAPCD Rules and Regulations that may be applicable to the project include, but are not limited to:

- Rule 4101 (Visible Emissions): The purpose of this rule is to prohibit the emissions of visible air contaminants to the atmosphere. The provisions of this rule apply to any source operation which emits or may emit air contaminants.
- Rule 4102 (Nuisance): The purpose of this rule is to protect the health and safety of the public, and applies to any source operation that emits or may emit air contaminants or other materials.

- Rule 4601 (Architectural Coatings): The purpose of this rule is to limit Volatile Organic Compounds (VOC) emissions from architectural coatings. Emissions are reduced by limits on VOC content and providing requirements on coatings storage, cleanup, and labeling.
- Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations): The purpose of this rule is to limit VOC emissions from asphalt paving and maintenance operations. Paving operations will be subject to Rule 4641.

The Air District is anticipated to provide a determination of applicable rules/regulations to the project when specific building, grading, etc. plans are provided to the Air District prior to initiation of construction- and operation-related activities that fall within the purview of the Air District's regulatory authority.

SENSITIVE RECEPTORS

"Sensitive receptors" are defined as facilities where sensitive population groups, such as children, the elderly, the acutely ill, and the chronically ill, are likely to be located. Land uses that include sensitive receptors are residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals, and medical clinics. The nearest sensitive receptors are rural farms located about 1 mile northwest (Shannon Ranch), 1.5 miles southwest (Stone Land Company Ranch), about 2.2 miles east (Westlake Farms), and various rural residences 4 miles or further to the east and north of the Project site.

IMPACT ANALYSIS

STANDARDS OF SIGNIFICANCE

Appendix G, of the California Environmental Quality Act (CEQA) Guidelines (Environmental Checklist) contains a list of project effects that may be considered significant. The project would result in a significant impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations;
- Result in other emissions (such as those leading to odors) affecting a substantial number of people;
- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment; or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The SJVAPCD has developed the Guide for Assessing and Mitigating Air Quality Impacts (SJVAPCD 2015), also known as the GAMAQI. The following thresholds of significance,

obtained from the SJVAPCD's GAMAQI, are used to determine whether a proposed project would result in a significant air quality impact:

1) Construction Emissions of PM. Construction projects are required to comply with Regulation VIII as listed in the SJVAPCD; however, the size of the project and the proximity to sensitive receptors may warrant additional measures.

2) Criteria Air Pollutant Emissions. SJVAPCD current adopted thresholds of significance for criteria pollutant emissions and their application is presented in Table 4. These thresholds address both construction and operational emissions. Note that the District treats permitted equipment and activities separately. The project is not considered a source of SOx emissions and would have relatively low CO emissions.

3) Ambient Air Quality. Emissions that are predicted to cause or contribute to a violation of an ambient air quality would be considered a significant impact. SJVAPCD recommends that dispersion modeling be conducted for construction or operation when on-site emissions exceed 100 pounds per day after implementation of all mitigation measures.

4) Local CO Concentrations. Traffic emissions associated with the proposed project would be considered significant if the project contributes to CO concentrations at receptor locations in excess of the ambient air quality standards.

5) Toxic Air Contaminants or Hazardous Air Pollutants. Exposure to HAPs or TACs would be considered significant if the probability of contracting cancer for the Maximally Exposed Individual would exceed 20 in 1 million or would result in a Hazard Index greater than 1 for non-cancer health effects.

6) Odors. Odor impacts associated with the proposed project would be considered significant if the project has the potential to frequently expose members of the public to objectionable odors through development of a new odor source or placement of receptors near an existing odor source.

7) Greenhouse Gases (GHGs). In SJVAPCD's *Guidance for Valley Land-Use Agencies in Addressing GHG Emissions Impacts for New Projects Under CEQA*, the District establishes a requirement that land use development projects demonstrate a 29 percent reduction in GHG emissions from Business-As-Usual (BAU).

8) With respect to cumulative air quality impacts, the GAMAQI provides that any proposed project that would individually have a significant air quality impact (i.e., exceed significance thresholds for criteria pollutants ROG, NOx, or PM_{10}) would also be considered to have a significant cumulative impact. In cases where project emissions are all below the applicable significance thresholds, a project may still contribute to a significant cumulative impact if there are other projects nearby whose emissions would combine with project emissions to result in an exceedance of one or more significance thresholds for criteria pollutants.

TABLE 4. SJVAPCD Air Quality Thresholds of Significance – Criteria Pollutant Emission Levels in Tons Per Year

Pollutant/Precursor	Construction Emissions	Operational Emissions	
		Permitted Equipment and Activities	Non-Permitted Equipment and Activities
Carbon Monoxide (CO)	100	100	100
Nitrogen Oxides (NOx)	10	10	10
Reactive Organic Gases	10	10	10
Sulfur Dioxide (SOx)	27	27	27
Particulate Matter – PM_{10}	15	15	15
Particulate Matter – $PM_{2.5}$	15	15	15
Source: San Joaquin Valley Air Pollution Control District, GAMAQI, Page 80, Table 2 or website at http://www.valleyair.org/transportation/0714-GAMAQI-Criteria-Pollutant-Thresholds-of-Significance.pdf.			

AIR QUALITY IMPACTS

Project-related air quality impacts fall into two categories: short-term impacts due to construction, and long-term impacts due to the proposed project operation. During construction, the proposed project would affect local particulate concentrations primarily due to fugitive dust sources and contribute to ozone and $PM_{10}/PM_{2.5}$ levels due to exhaust emissions. Over the long-term, the proposed project would result in an increase in emissions of ozone precursors such as ROG and NO_x, primarily due to increased motor vehicle trips (employee trips, site deliveries, and onsite maintenance activities).

Impact 1: Construction Dust. Construction activity involves a high potential for the emission of fugitive particulate matter emissions that would affect local air quality. This would be *less-than-significant* with implementation of Regulation VIII.

Construction activities would temporarily affect local air quality, causing a temporary increase in particulate dust and other pollutants. Dust emission during periods of construction would increase particulate concentrations at neighboring properties. This impact is potentially significant, but normally it can be mitigated.

The Project construction activities are anticipated to take place over an approximate one-year period in 2024. Site preparation and disturbance (e.g., vehicle travel on exposed areas) would likely result in the greatest emissions of dust and $PM_{10}/PM_{2.5}$. Windy conditions during construction could cause substantial emissions of $PM_{10}/PM_{2.5}$.

There are no sensitive receptors near the site, as the closest residence is about one mile away. The SJVAPCD's GAMAQI, emphasizes implementation of effective and comprehensive control measures. SJVAPCD adopted a set of PM_{10} fugitive dust rules collectively called Regulation VIII. This regulation essentially prohibits the emissions of visible dust (limited to 20-percent opacity) and requires that disturbed areas or soils be stabilized. Compliance with Regulation VIII during the construction phase of the proposed project would be required. Prior to construction, the applicant would be required to submit a dust control plan that meets the regulation requirements. This plan will be reviewed by SJVAPCD and construction cannot begin until District approval is

obtained. The provisions of Regulation VIII and its constituent rules pertaining to construction activities generally require:

- Effective dust suppression (e.g., watering) for land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill and demolition activities.
- Effective stabilization of all disturbed areas of a construction site, including storage piles, not used for seven or more days.
- Control of fugitive dust from on-site unpaved roads and off-site unpaved access roads.
- Removal of accumulations of mud or dirt at the end of the workday or once every 24 hours from public paved roads, shoulders and access ways adjacent to the site.
- Cease outdoor construction activities that disturb soils during periods with high winds.
- Record keeping for each day dust control measures are implemented.
- Limit traffic speeds on unpaved roads to 15 mph.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Landscape or replant vegetation in disturbed areas as quickly as possible.
- Prevent the tracking of dirt on public roadways. Limit access to the construction sites, so tracking of mud or dirt on to public roadways can be prevented. If necessary, use wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.
- Suspend grading activity when winds (instantaneous gusts) exceed 25 mph or dust clouds cannot be prevented from extending beyond the site.

Anyone who prepares or implements a Dust Control Plan must attend a training course conducted by the District. Construction sites are subject to SJVAPCD inspections under this regulation. Compliance with Regulation VIII, including the effective implementation of a Dust Control Plan that has been reviewed and approved by the SJVAPCD, would reduce dust and PM_{10} emissions to a *less-than-significant* level.

Impact 2: Construction Exhaust Emissions. Equipment and vehicle trips associated with construction would emit ozone precursor and particulate matter air pollutants on a temporary basis. Construction emissions would be below the GAMAQI significance threshold. This would be a *less-than-significant* impact.

Construction equipment exhaust affects air quality both locally and regionally. Emissions of DPM, a TAC, can affect local air quality. This impact is discussed under *Impact 5*. Emissions of air pollutants that could affect regional air quality were addressed by modeling emissions and comparing them to the SJVAPCD significance thresholds. Construction period air pollutant emissions occurring within the air basin were modeled using the California Emissions Estimator Model, CalEEMod 2020.4.0 model, with project construction information. This model was developed by the South Coast AQMD and other California Air Districts. SJVAPCD recommends the use of this model for construction and operational analysis of land use development projects. The model predicts emissions of ozone precursor pollutants (i.e., ROG and NO_x) and particulate matter (i.e., PM_{10} and $PM_{2.5}$).

Emissions were predicted for the construction of the Cherry Solar Generating Facility. The emissions were computed using CalEEMod for this assessment address use of construction equipment, worker vehicle travel, on-site vehicle and truck use, and off-site truck travel by vendors

or equipment/material deliveries. Constructing this solar project is unique, where there are no established land use inputs contained in CalEEMod for developing a set of default construction emissions. Therefore, detailed construction build-out scenarios were developed based on the construction schedules, construction vehicle trips, and equipment proposed for use in the project description. These assumptions are contained in *Attachment 1*

Construction was modeled for 4 different phases as follows:

- Phase 1 – Site preparation that would begin in January 2024 and last 90 workdays.
- Phase 2 – Installation of solar arrays that would begin after January 2024 and last about 180 days.
- Phase 3 – Installation of inverters, transformers, switchgear, batteries, and interconnections that would begin after January 2024 and last about 180 days.
- Phase 4 – Construction of the Gen Tie line that would begin in Spring 2024 and last about 20 days.

The construction schedule is based on the earliest date that construction is likely to occur. All construction activity was assumed to occur within the 2024 calendar year. The types, quantity, and duration of construction equipment anticipated for construction were provided. The total hours each piece of equipment would operate was divided by the number of workdays in the phase to compute the hours per day that were entered into CalEEMod along with the quantity of equipment. Default horsepower and load factors assigned by CalEEMod were assumed.

For construction vehicle trips, the number of trips and average trip distance were provided for the various types of trips: workers, freight, gravel import, concrete, and water trucks. Some of the freight trips would originate outside of the air basin and only the portion of the trip within the air basin was modeled. A small fraction of the trip travel distance would occur on site where roads are not paved. This was assumed to average one-tenth of a mile for workers and one-quarter of a mile for deliveries. On-site travel would occur on site access roads that are graveled and aggressively watered. The Project site would be subject to County and SJVAPCD conditions and regulations to control dust, including the development of a SJVAPCD-required dust control plan. Water trucks were assumed to travel mostly on-site (i.e., 90 percent of the travel length). When not traveling on site, trips were assumed to be made mostly on highways and freeways that have much lower silt loading than unpaved or rural roadways.

Both criteria air pollutant exhaust and fugitive dust (i.e., PM_{10} and $PM_{2.5}$) were computed by CalEEMod. Note that the unmitigated CalEEMod modeling does not include the effects of SJVAPCD Regulation VIII that would substantially reduce fugitive PM_{10} and $PM_{2.5}$ emissions. *Attachment 1* includes the construction assumptions that were used to model emissions. *Attachment 2* includes the CalEEMod modeling outputs for construction and operational emissions.

Helicopter emissions were computed separately from CalEEMod. Emissions are based on published emission factors for various helicopter models (Swiss Federation 2015). The emissions account for five landing take-off (LTO) cycles per day in addition to hourly emissions. This project is likely to require a light helicopter to lift line leads over monopoles. For this project, a single

engine Hughes MD500E was assumed. The lines will be installed using pullers and tensioners that are included as construction equipment in the CalEEMod modeling. Helicopter usage was assumed to occur 4 hours per day for 16 days.

Unmitigated and uncontrolled emissions from all phases of construction are reported in Table 5. As shown, unmitigated construction emissions would not exceed the applicable SJVAPCD thresholds, for NOx and PM_{10} (exhaust plus fugitive). However, these emissions are subject to SJVAPCD rules and regulations that would result in controlled emissions from this activity that would be lower than reported in Table 5.

The SJVAPCD Indirect Source Review Rule (Rule 9510) applies to construction of the projects with mitigated emissions above 2.0 tons per year (tpy) of NO_x or 2.0 tpy of PM_{10}. Regardless of whether a project's construction emissions of regional pollutants would exceed the Air District's significance thresholds for each pollutant, the project is still required to comply with Rule 9510 to ensure that the project contributes its fair share of emissions reductions in order to achieve the basin-wide reduction targets established in the Air District's Ozone and PM attainment plans. Rule 9510 requires that the project reduce uncontrolled construction exhaust emissions by 20 percent for NO_x and 45 percent for PM_{10} from calculated unmitigated levels. The basis for the reductions is use of the CalEEMod emissions for statewide construction fleets. Use of newer equipment would result in substantially lower emissions. SJVAPCD encourages reductions through on-site mitigation measures. (Note: The use of the term "mitigation" under Rule 9510 does not refer to mitigation of impacts under CEQA; i.e., the ISR emission reduction percentages are required without regard to whether the CEQA emissions thresholds are exceeded or not.) Fees to purchase or sponsor off-site reductions through SJVAPCD apply when on-site mitigation measures do not achieve the required percentage of emissions reduction. Using less-polluting construction equipment, such as newer equipment or retrofitting older equipment reduces construction emissions on-site. A combination of on-site and off-site measures can be implemented to meet the overall emission reduction requirements. The uncontrolled emissions reported in Table 5 do not include the reductions required by Rule 9510 (i.e., ISR). The application of ISR would achieve a 20-percent reduction in NOx emissions and 45 percent reduction in PM_{10}. County and SJVAPCD requirements (i.e., Regulation VIII) would reduce PM_{10} emissions substantially such that when controlled they would be below the significance threshold. NO_x emissions reduced through application of ISR would reduce emissions by 20 percent or 2.5 tons per year, such that controlled emissions would be just below the threshold. To meet the ISR requirements and ensure NO_x emissions are reduced below thresholds, *Mitigation Measure AQ-1* is recommended. This measure would require that all mobile construction equipment meet US EPA Tier 4 standards.

The Cherry Solar facility would be decommissioned at the end of its productive life, after 25 to 30 years of operation. The activities associated with deconstruction would be comparable to construction, but emissions are expected to be substantially lower given anticipated reductions in vehicle and equipment emissions to be phased-in over time per State and federal regulations, and also because of the generally lower intensity of equipment use associated with decommissioning. With the application of Regulation VIII dust control requirements, fugitive PM_{10} emissions are likewise expected to be below the applicable significance thresholds, as they are for construction. Therefore, the emissions associated with project decommissioning would be *less-than-significant*.

Construction period uncontrolled emissions of ROG, CO, and $PM_{2.5}$ would be below the thresholds used by SJVAPCD to judge the significance of construction air quality impacts under CEQA. NO_x and PM_{10} emissions would be reduced to below the SJVAPCD thresholds with implementation of ISR, SJVAPCD Regulation VIII, and *Mitigation Measure AQ-1*,. Thus, while the residual construction-related emissions of ozone precursors and particulates (i.e., emissions below the CEQA thresholds) may result in a small decrease in overall air quality, and may therefore have a small adverse health affect (as described earlier in this section under "Criteria Air Pollutants and Their Health Effects"), the overall health impact would not be significant.

TABLE 5. Annual Construction Emissions in Tons per Year

Construction Year	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$
2024 Uncontrolled*	1.20	**12.50**	11.04	**80.71**	8.58
2024 Controlled through ISR and Reg VIII and Mitigation Measure AQ-1	N/A	9.78	N/A	6.66	3.27
Significance thresholds	***10***	***10***	***100***	***15***	***15***
Exceed Threshold					
Uncontrolled	No	**Yes**	No	**Yes**	No
Controlled and Mitigated	--	No	--	No	No

* Values reported for "Controlled" PM_{10} and $PM_{2.5}$ include fugitive dust control in the form of roadway treatments, site watering and on-site vehicle speed limits. Fugitive dust emissions do not include the effect of measures implemented under Regulation VIII or required by Kings County.

Mitigation Measure AQ-1: Utilize mobile off-road diesel construction equipment that meets US EPA Tier 4 interim or Tier 4 final engine standards for emissions of NOx to the extent feasible.

Effectiveness of Mitigation

Table 5 reports annual construction period emissions utilizing fugitive dust control measures (e.g., Regulation VIII) and implementation of *Mitigation Measure AQ-1*. These control measures required by SJVAPCD were selected as mitigation measures in the CalEEMod model. The effectiveness of *Mitigation Measure AQ-1* was modeled using CalEEMod as Tier 4 interim engines for mobile off-road construction equipment. SJVAPCD regulations that would apply to construction activities include Regulation VIII, regarding dust control, Rule 4102, regarding creation of a nuisance, Rule 4601 which limits volatile organic compound emissions from architectural coatings, storage and cleanup, and Rule 4641 which limits emissions form asphalt paving materials. Based on CalEEMod modeling, implementation of *Mitigation Measure AQ-1* could reduce NO_x emissions by over 22 percent. Note that a substantial portion of the controlled NO_x emissions associated with construction would be emitted by haul trucks or vendors that travel both near and away from the project sites. These emissions would be unaffected by the application of *Mitigation Measures AQ-1*. PM_{10} and NO_x emissions would be below SJVAPCE thresholds with application of County and SJVAPCD requirements as well as Mitigation Measure AQ-1.

Impact 3: Operational Emissions. Proposed Project operational emissions, generated primarily by traffic and maintenance equipment, would increase emissions of *ozone precursors and particulate matter*, but they would be below GAMAQI significance thresholds. These increases would be *less-than-significant*.

The CalEEMod model was also used to estimate annual emissions from operation of the Cherry Solar Project. The first full year that the project could be operational is 2025 and was used as the analysis year. Maintenance vehicle and some off-road equipment usage would occur on-site as well as worker and maintenance vehicles traveling to and from the site on an intermittent basis.

Emissions were computed using the CalEEMod model. Activity input to the model included the on-site travel activity, travel conditions (paved or unpaved), on-site equipment usage, and off-site vehicle travel. Note that on-site travel and activity were assumed to occur on unpaved roadways. The project would have internal gravel roadways that must be treated with dust palliatives to minimize dust generation, which was included in the modeling as controlled conditions. Project operation would include use of some portable equipment such as trailer-mounted generators. Emissions from these are include in the CalEEMod modeling.

The effect of the proposed project on regional air quality was evaluated by estimating emissions for the full project operating in 2025. The annual emissions associated with the proposed project are shown in Table 6. Output from CalEEMod is contained in *Attachment 2*.

TABLE 6. Annual Project Operational Emissions in Tons Per Year

Project	ROG	NO_x	CO	PM_{10}[1]	$PM_{2.5}$[1]
Uncontrolled Operations	0.08	0.62	1.02	3.94	0.42
Significance Thresholds	***10***	***10***	***100***[2]	***15***	***15***
Exceed Thresholds?	No	No	No	No	No

[1]Includes both exhaust and fugitive dust emissions but not effects of dust control plans required by SJVAPCD.
[2]Significant if emissions exceed 100 tons per year and then contribute to violation of the NAAQS/CAAQS

Stationary combustion equipment that could emit air pollution during facility operation is not proposed for the project. Photovoltaic energy projects, such as this one, do not usually include these sources. If stationary sources are included in the project at a later date, they may require permits from SJVAPCD. Such sources could include combustion emissions from standby emergency generators (rated 50 horsepower or greater). These sources would normally result in minor emissions, compared to those from traffic generation and off-road maintenance equipment reported above. Sources of stationary air pollutant emissions complying with all applicable SJVAPCD regulations generally will not be considered to have a significant air quality impact. Stationary sources that are exempt from SJVAPCD permit requirements due to low emission rates would not be considered to have a significant air quality impact.

As previously mentioned, the project is subject to SJVAPCD's ISR Rule 9510 to reduce NO_x and PM_{10} emissions. The emissions in Table 6 do not reflect full reductions that may be required under SJCVAPCD Rule VIII and ISR.

Mitigation Measure for Impact 3: None Required.

Impact 4: Carbon monoxide concentrations from operational traffic. Mobile emissions generated by project traffic would increase carbon monoxide concentrations at intersections in the project vicinity. However, resulting concentrations would

be below ambient air quality standards, and therefore, considered a *less-than-significant* impact.

Project traffic would have a negligible effect on concentrations of CO along roadways providing access to the project. Carbon monoxide is a localized air pollutant, where highest concentrations are found very near sources. The major source of CO is automobile traffic. Elevated concentrations, therefore, are usually only found near areas of high traffic volume and congestion.

Emissions and ambient concentrations of CO have decreased greatly in recent years. These improvements are due largely to the introduction of cleaner burning motor vehicles and reformulated motor vehicle fuels. No exceedances of the State or federal CO standards have been recorded at any of San Joaquin Valley's monitoring stations in the past 15 years. The San Joaquin Valley Air Basin has attained the State and National CO standards.

However, despite this progress, localized CO concentrations are still a concern in the San Joaquin Valley and are addressed through the SJVAPCD screening method that can be used to determine with fair certainty that the effect a project has on any given intersection would not cause a potential CO hotspot. A project can be said to have no potential to create a CO violation or create a localized hotspot if either of the following conditions are not met: level of service (LOS) on one or more streets or intersections would be reduced to LOS E or F; or the project would substantially worsen an already LOS F street or intersection within the project vicinity. As the proposed project will not do either of these, the potential impact on CO would be considered *less-than-significant*.

Mitigation Measure for Impact 4: None Required.

Impact 5: Exposure of Sensitive Receptors to Toxic Air Contaminants. Construction activity, delivery trucks, employee traffic, and emissions from onsite vehicles used in maintenance activities would expose nearby receptors to toxic air contaminants. Based on the temporary nature of these emissions and relatively larges distance to the nearest sensitive receptor, a screening health risk assessment to assess the potential cancer risk would not be required and the emissions impacts would be *less-than-significant*.

The TAC of concern is DPM emitted from diesel-fueled vehicles and equipment during construction of the project. For the Cherry Solar Project, the highest daily levels of DPM would be emitted during construction activities from use of heavy-duty diesel equipment such as bulldozers, excavators, loaders, graders, and diesel-fueled haul trucks. However, these emissions would be intermittent, vary throughout the project site area, and be of a temporary duration (approximately 12 months of total construction activity). During project operations, minor DPM emissions would result from maintenance activities and maintenance traffic, but they would be constant over the lifetime of the project. Operational DPM emissions would mainly result from the use of pickup trucks with a portable water trailer (and pump) used for panel cleaning.

Levels of DPM emissions can be generally inferred from PM_{10} exhaust emissions, of which diesel exhaust constitutes a substantial component. The CalEEMod modeling in *Attachment 2* shows that

exhaust PM_{10} emissions from solar project construction and operation would be well below the applicable significance threshold.

Because of the relatively small levels of DPM emissions during project construction and operation, and due to the substantial distances to the nearest sensitive receptors (e.g., the nearest residence is about 1 mile from the nearest project boundary), DPM emissions from project construction would disperse to negligible levels, and thus the health impacts associated with exposure to DPM from project construction and operation are not anticipated to be significant. Therefore, the Cherry Solar Project would result in a *less-than-significant impact* in terms of exposing sensitive receptors to substantial concentrations of TACs.

Mitigation Measure for Impact 5: None required.

Impact 6: Odors. The project would result in temporary odors during construction. This impact would be *less-than-significant*.

During construction, the various diesel-powered vehicles and equipment in use on-site would create localized odors. These odors would be temporary and not likely to be noticeable for extended periods of time much beyond the project's site boundaries. The potential for diesel odor impacts is, therefore, *less-than-significant*.

During project operations, the project is not expected to generate any objectionable odors. Therefore, the odor impacts associated with operations would be *less-than-significant*.

Mitigation Measure for Impact 6: None proposed.

Impact 7: Consistency with Clean Air Planning Efforts. The project would not conflict with the current clean air plan or obstruct its implementation. This would be a *less-than-significant impact*.

The GAMAQI does not include methodologies for assessing the effect of a project on consistency with clean air plans developed by the SJVAPCD. Regional clean air plans developed by SJVAPCD rely on local land use designations to develop population and travel projections that are the basis of future emissions inventories. Air pollution control plans are aimed at reducing these projected future emissions. The project land uses would not alter population and vehicle related emissions projections contained in regional clean air planning efforts in any measurable way, and would not conflict with achievement of the control plans aimed at reducing these projected emissions. Therefore, the project would not conflict with or obstruct implementation of efforts outlined in the region's air pollution control plans to attain or maintain ambient air quality standards. This would be a *less-than-significant* impact.

Also, as discussed above, in 2005 the SJVAPCD adopted the ISR Rule in order to fulfill the District's emission reduction commitments in its PM_{10} and Ozone attainment plans. The District has determined that implementation and compliance with the ISR would reduce the cumulative PM_{10} and NO_X impacts of growth anticipated in the air quality plans to a less-than-significant level. Since the project would be required to implement the emissions reductions under ISR, it would

fulfill its share of achieving the District's emission reduction commitments in the PM_{10} and Ozone attainment plans. Therefore, the project would result in a *less-than-significant impact* since it would not conflict with or obstruct implementation of the applicable air quality plans.

Mitigation Measure for Impact 7: None required.

CUMULATIVE AIR QUALITY IMPACTS

Methodology

The SJVAPCD has developed criteria to determine if a development Project could result in potentially significant regional emissions. According to the GAMAQI, any proposed project that would individually have a significant air quality impact (i.e., exceed significance thresholds for ROG or NO_x) would also be considered to have a significant cumulative air quality impact. Impacts of local pollutants (CO and TACs) are cumulatively significant when modeling shows that the combined emissions from the project and other existing and planned projects will exceed air quality standards. The GAMAQI further states that "a Lead Agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program, including, but not limited to an air quality attainment or maintenance plan that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located" (SJVAPCD 2015, p. 66). For local impacts of PM_{10} from unrelated construction projects, the GAMAQI recommends a qualitative approach where construction activities from unrelated projects in the area should be examined to determine if enhanced dust suppression measures are necessary.

Regional Air Pollutants

As discussed under 'Significance Criteria" above, cumulative ozone impacts would be considered significant - if the project-specific emissions exceed the SJVAPCD significance thresholds for ozone precursors ROG or NO_x, or the project is not consistent with the regional clean air plan. As discussed in Impact 2 (and shown in Table 5) above, project-specific construction emissions of ozone precursor pollutants (ROG and NO_x) and PM were found to be less-than-significant after mitigation. As discussed in Impact 3 (and shown in Table 6) above, project-specific operational emissions of ozone precursor pollutants (ROG and NO_x) and PM were found to be less-than-significant without mitigation. As discussed under Impact 7 above, the project would be consistent with clean air planning efforts and would not conflict with or obstruct their implementation. Therefore, the project contribution to cumulative regional air quality impacts would be *less-than-significant with Mitigation Measure AQ-1*.

Local Air Pollutant Emissions

Construction period PM_{10} emissions would be localized. With implementation of SJVAPCD Regulation VIII, dust control requirements imposed by the county and *Mitigation Measure AQ-1*, construction period impacts would be *less-than-significant*. Additional construction that may occur in the area concurrently with the project would be subject to SJVAPCD Regulation VIII, as well as the District's ISR Rule 9510, which would reduce cumulative construction emissions to

less-than-significant levels. Operational emissions would also be *less-than-significant* with County-imposed measures to control fugitive dust emissions.

In summary, the cumulative project impacts to localized air quality impacts would be *less-than-significant with Mitigation Measure AQ-1.*

Cumulative Toxic Air Pollutant Impacts

As discussed above, the project would not have a significant impact related to community health risk from project construction or operation and, therefore, would also not contribute to a cumulatively considerable community risk impact in the project vicinity.

Summary of Cumulative Contribution to Air Quality Impacts

The project would not contribute to local cumulative air quality impacts with respect to any standard or significance criteria. In addition, the project's contribution to cumulative regional air quality impacts would be less than considerable. In conclusion, the project would not have a cumulatively significant impact on air quality.

Greenhouse Gas Emissions

GHG emissions in terms of CO_2e are low for both the construction and operational phases of the proposed project. A photovoltaic power production facility inherently represents "best performance standards" as compared to other typical forms of electrical power production (i.e., such as fossil-fueled power plants). The operation of the project would provide electric power with negligible GHG emissions over the life of the project compared with traditional fossil-fueled power plants. Therefore, the project is consistent with State GHG policy to encourage solar power development as a means to reduce fossil fuels and GHG emissions and improve air quality. GHG Emissions are reported in Table 7 for both construction and operation of the project.

TABLE 7. Annual Project GHG Emissions in Metric Tons Per Year

Phase	GHG Emissions
2024 Construction Activity	3,544
2025 Operation	172

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Attachment 1: Activity Assumptions used for CalEEMod Modeling

Cherry SOLAR PROJECT - Construction Equipment and Vehicle Use - Sheet 1 of 3

Cherry Solar Project (250 MW) - Construction - Off-Site Vehicle Usage

Vehicles			Estimated Usage			Total Round Trips	VMT						Notes	Construction Schedule	Basis of Estimates
	Axles		Units	Miles/Round Trip	Round Trips per Unit					Trips/day	Trip Length		Trip origin		Aquamarine = 250 MW; 1,825 acres; 934,332 modules (345 W- per CUP site plan)
Phase 1 – Site Preparation														**Phase 1**	Cherry = 250 MW; 2,079 acres; 707,000 modules (540 W)
Water Trucks (travel to & from site only)	3	MHDT	10	90	1	10	900	Vendor	Worker	220.00	46.50	0.2%	To/From Fresno	90 working days	Aquamarine actual - 10
Water Trucks (on-site travel only)		MHDT	10	6	450	4,500	27,000	Vendor	Vendor	101.22	3.32	84%	Water source is on-site. Data is for AQ study only.	(4 days/week)	Aquamarine actual - 10
Flat Bed Trucks (Equipment Transport)	5	HHDT	10	90	7	70	6,300	Haul	Haul	116.44	25.46		Fresno		Aquamarine actual total for solar project = 150 - here spread over several phases
Freight Trucks (Delivery - Fence Posts)	5	HHDT	10	90	3	30	2,700	Haul	Total Haul	10,480	25.46	1.0%	Fresno		Cherry estimate @1 post per 10 ft: 9,100 posts / 300 posts per container = 30 containers. Matches Aquamarine.
Freight Trucks (Delivery - Fence Mesh + Barbed wire)	5	HHDT	10	90	2	20	1,800	Haul					Fresno		Per Aquamarine: Equivalent mesh to posts = 0.66 X posts = 20 containers
Gravel Trucks (20 CY)	5	HHDT	20	50	256	5,120	256,000	Haul					Sierra Pacific Materials, Coalinga	Begin ~ July 1, 2023	Internal driveways - per Aquamarine (x 1.14 size diff for Cherry). Was 10 units X 63 round trips. Revised per EPC's estimates for Solar Blue, pro-rated for acreage.
Concrete Trucks (10 CY) Fence Footings	4	MHDT	5	52	9	45	2,340	Vendor					Viking Readymix Hanford	End ~ Dec 31, 2023	Fence post foundations - 91,000 ft fencing / 10 per post = 9,100 posts x 0.5 cy per post (per Aqua) x 9,100 = 4,550 cy/10 = 45 trucks (Aqua was 42 trucks, but project was smaller)
Workers (average daily)(does not count 25% carpooling)		LDA/LDT	110	93	90	9,900	920,700	worker					Commute distance is weighted average of surrounding cities by population		Per Aquamarine Actual: Total Solar Project: 350 avg; Here spread over phasese
Workers (peak daily - during period when all phases overlap)			125										Data is for Traffic study only.	Work day is 10 hours beginning at 6:30 AM for majority of workers.	Per Aquamarine Actual: Total Solar Project: 500 peak - Here spread over phases
Phase 2 – Installation of Solar Arrays														**Phase 2**	
Water Trucks (travel to & from site only)	3	MHDT	10	0	0	-	-		Worker	330.00	46.50	0.2%	Delivered in Phase 1	180 working days	Per Aquamarine actual - 10
Water Trucks (on-site travel only)		MHDT	10	6	900	9,000	54,000		Vendor	100.00	3.00	93.3%	Water source is on-site. Data is for AQ study only.	(4 days/week)	Per Aquamarine actual - 10
Flat Bed Trucks (Equipment Transport)	5	HHDT	10	90	7	70	6,300		Haul	31.56	103.94		Fresno		Per Aquamarine actual - Total Solar Project: 150 - Here spread over phases
Freight Trucks (Delivery - Solar Modules)	5	HHDT	10	276	123	1,230	339,480		Total Haul	5,680	103.94	0.2%	Port of Oakland	Begin ~ July 1, 2023	Per 707,000 modules per Cherry site plan; /550 modules per container = 1,286 containers: =
Freight Trucks (Delivery - Racking/TorqueTubes)	5	HHDT	10	276	57	570	157,320						Port of Oakland	End ~ June 30, 2024	Per Aquamarine container ratio vs modules = 0.44 X 1,286 = 566 containers
Freight Trucks (Delivery - Solar Array Support Posts)	5	HHDT	10	90	84	840	75,600						Fresno	(overlap w/ Ph 1 = 90 working days	Per Aquamarine ratio vs modules = 0.65 X 1,286 = 836 containers
Freight Trucks (Delivery - Wiring/Harnesses/Combiners)	5	HHDT	10	90	13	130	11,700						Fresno		Per Aquamarine ratio vs modules = 0.10 X 1,286 = 129 containers
Workers (average daily)(does not count 25% carpooling)		LDA/LDT	165	93	180	29,700	2,762,100						Commute distance is weighted average of surrounding cities by population		Per Aquamarine Actual: Total Solar Project: 350 avg; Here spread over phasese
Workers (peak daily - during period when all phases overlap)			295										Data is for Traffic study only.	Work day is 10 hours beginning at 6:30 AM for majority of workers.	Per Aquamarine Actual: Total Solar Project: 500 peak - Here spread over phasese
Phase 3 – Installation of Inverters, Transformers, Substation, Interconnection														**Phase 3**	
Water Trucks (travel to & from site only)	3	MHDT	10	0	0	-	-		Worker	110.00	46.50	0.2%	Delivered in Phase 1	180 working days	Per Aquamarine actual - 10
Water Trucks (on-site travel only)		MHDT	10	6	900	9,000	54,000		Vendor	103.22	3.72	75.3%	Water source is on-site. Data is for AQ study only.	(4 days/week)	Per Aquamarine actual - 10
Flat Bed Trucks (Equipment Transport)	5	HHDT	5	90	2	10	2,760		Haul	2.42	93.12		Fresno		Per Aquamarine actual - Total Solar Project: 150 - Here spread over phases
Flat Bed Trucks (Delivery - PCS skids)	5	HHDT	10	276	8	80	22,080		Total Haul	436	93.12	0.3%	Port of Oakland		Per 77 PCSs per Cherry site plan; one skid per flatbed = 77 flatbeds

GSSN SOLAR PROJECT - Operational Equipment and Vehicle Use - Sheet 2 of 3

Operations - On-Site Vehicle and Equipment Usage

	Estimated Usage (Annual)				
Equipment	**Units**	**Hours/Day/Unit**	**Total Days/Unit/Year**	**hours/day**	
All-Terrain Vehicle (ATV)	2	4	100	1.1	
Tractor	2	8	100	2.2	
Portable Generator	2	8	60	1.3	
Portable Water Trailer w/Pump	5	8	80	1.8	
Vehicles	**Units**	**Daily Miles/ Unit**	**Total Days/ Unit/Year**		
Pickup Truck (Routine O&M)	4	30	130	1040	15600
Pickup Truck (Panel Washing)	5	40	80	800	16000
				1840	31600
				5.04	17.2
				trip/day	mi/trip
				99% on unpaved	
	Combined		Total trips &VMT/yr	3840	124600
			mi unpaved		32214
			Rate &VMT/trip	10.52	32.45

Operations - Off-Site Vehicle Usage

	Estimated Annual			Miles/Round Trip		
Personnel	**Workers**	**Days**	**Round Trips**			
Permanent	2	252	504	93	1,008	46,872
Repair Crew	20	25	500	93	1,000	46,500
					0	-
Panel Washing Crew	25	40	1,000	93	2,000	93,000
Total Annual Round Trips			**2,004**		2000	93000
					5.48	46.5
					trip/day	mi/trip
					99% on paved	

26%

The Cherry Solar Project is a planned 250-MW solar PV generating facility on 2,079 acres located on the north side of Nevada Avenue, approximately 2.5 miles west of SR-41 in central Kings County. The project is planned to include solar arrays, substation, operations and maintenance facility, energy storage facilities, and a 1.14-mile long gen-tie line extending east from the project substation to the existing central switchyard on the east side of 25th Avenue.

GEN-TIE CONSTRUCTION INPUTS - SHEET 3 of 3

Gen-Tie Line - Construction - Off-Site Vehicle Usage

Vehicles	Estimated Usage				VMT					Notes	Construction Schedule
	Units	Miles/Round Trip	Round Trips per Unit	Total Round Trips					%unpaved	Trip origin	Phase 1
Water Trucks (travel to & from site only)	2			-	-	Worker	160.00	46.50	0.22%	Accounted for in project numbers - same water trucks	20 working days
Water Trucks (on-site travel only)	2	2	6	12	24	Vendor	2.20	7.25	38.62%	Water source is on GSSN site. Data for AQ study only.	
Flat Bed Trucks (Monopole Delivery)	3	90	4	12	1,080	Haul	4.20	43.57		Fresno	
Flat Bed Trucks (Equipment and ComponentDelivery)	3	90	9	27	2,430	Total Haul	84	43.57	0.57%	Fresno	Overlaps with all phases of
Gravel Trucks	3	50	1	3	150						
Concrete Trucks (10 CY)	2	52	2	4	208					Viking Concrete, Hanford	Begin ~ Sept 1, 2023
Workers (average daily)(does not count 25% carpooling)	20	93	80	1,600	148,800					Commute distance is weighted average of surrounding cities by population	End ~ Sept 30, 2023 Work day is 10 hours beginning
Workers (peak daily - during period when all phases overlap)	30									Data is for Traffic study only.	at 6:30 AM for majority of workers.
Totals				**1,646** Trips	**152,668** VMT						

GEN-TIE LAND DISTURBANCE

Temporary land disturbance	10.0 acres	Data for AQ study
Permanent land disturbance	1.0 acres	

Helicopter Emissions

Helicopter type: **Hughes MD500E**

Emissions Source: **Guidance on the Determination of Helicopter Emissions**
Swiss Federation, Volume 2, December 2015

	Quantity	Units	Fuel (kg)	NOx (g)	HC (g)	CO (g)	PM (g)	CO2
LTO Emissions	5	LTO per day	16.40	59.50	438.20	571.20	2.30	
Hourly	4	hrs/day	98.80	480.00	960.00	1200.00	16.00	
	Daily	kg or g/day	477.20	2217.50	6031.00	7656.00	75.50	
			Daily Emissions					
		gallons or lbs/day	149.50	4.88	13.28	16.86	0.17	3154
Aviation Fuel:	6.8	lbs/gallon						
	0.0038	m**3/gallon						
	840	kg/m**3						
	21.1	lbsCO2/gallon		lbs. per period				
	16	days		78.15	212.55	269.81	2.66	50471
				NOx	**HC**	**CO**	**PM**	**CO2**
		Total		**tons and metric tons CO2**				
				0.04	**0.11**	**0.13**	**0.00**	**22.90**

https://www.eia.gov/environment/emissions/co2_vol_mass.php

						LTO Emissions						One hour emissions					
Code	Aircraft_ICAO	Aircraft_Name	Engine_Name	Max SHP per engine	Number_of_Engines	LTO fuel (kg)	LTO NOx (g)	LTO HC (g)	LTO CO (g)	LTO PM non volatile (g)	LTO PM number	One hour fuel (kg)	One hour NOx (kg)	One hour HC (kg)	One hour CO (kg)	One hour PM non vol. (g)	One hour PM number
H124	A109	AGUSTA A109 Power	ARRIUS 2K	670	2	42.4	220.7	741.8	961.1	7.3	3.1181E+16	240.7	1.61	1.3	1.61	48	1.58E+18
H131	ALO2	ALOUETTE II	ARTOUSTE IIC5	402	1	18.1	75.4	378	489.2	2.7	2.718E+16	109.7	0.61	0.82	1.02	19.4	6.39E+17
H131	ALO2	ALOUETTE II	ARTOUSTE IIC6	402	1	18.1	75.4	378	489.2	2.7	2.718E+16	109.7	0.61	0.82	1.02	19.4	6.39E+17
H132	EC20	EC-120 COLIBRI	ARTOUSTE III B	563	1	21.4	108.9	308.9	395.9	3.6	2.9258E+16	134.9	0.92	0.7	0.86	27	8.04E+17
H132	LAMA	SA315B LAMA	ARTOUSTE IIIB	563	1	21.4	108.9	308.9	395.9	3.6	2.9258E+16	159.2	1.08	0.83	1.02	32.2	5.89E+17
H132	ALO3	SA316B ALOUETTE III	ARTOUSTE IIIB	563	1	21.4	108.9	308.9	395.9	3.6	2.9258E+16	134.9	0.92	0.7	0.86	27.2	8.96E+17
H133	AS55	AS 355 ECUREUIL 21	ARTOUSTE III B	563	2	37.6	175.8	802.1	1046.7	6.1	2.9876E+16	235.7	1.41	1.53	1.91	44	1.29E+18
H141	GAZL	SA341 GAZELLE	ASTAZOU IIIA	644	1	23.5	128.9	288.6	367.6	4.2	3.0155E+16	148.5	1.08	0.67	0.82	32	5.83E+17
H141	GAZL	SA341 GAZELLE	ASTAZOU IIIN2	644	1	23.5	128.9	288.6	367.6	4.2	3.0155E+16	148.5	1.08	0.67	0.82	32	5.83E+17
H142	ALO3	SA316B ALOUETTE III	ASTAZOU XIVB	590	1	21.9	114.5	299.8	384.7	3.8	2.9446E+16	139.4	0.98	0.69	0.85	29	9.52E+17
H142	GAZL	SA342 GAZELLE	ASTAZOU XIVG	590	1	21.9	114.5	299.8	384.7	3.8	2.9446E+16	139.4	0.98	0.69	0.85	28.9	5.28E+17
H142	GAZL	SA342 GAZELLE	ASTAZOU XIVH	590	1	21.9	114.5	299.8	384.7	3.8	2.9446E+16	139.4	0.98	0.69	0.85	28.9	5.28E+17
H151	TIGR	EUROCOPTER 665 TIGER	MTR 390	1450	2	69	507.6	613.6	781	15.2	4.3258E+16	476	4.76	1.17	1.43	133	1.95E+18
H161	2HAC	HAL DHRUV MK II	TM333-2B2	1219	2	63.4	421.3	688.7	881.4	12.9	4.0814E+16	434.1	3.95	1.29	1.56	112	3.68E+18
H201	H500	HUGHES 500	DDA250-C18	317	1	16.4	59.5	438.2	571.2	2.3	2.5099E+16	98.8	0.48	0.96	1.2	16	2.94E+17
			AGUSTA														

Cherry Solar Project (250 MW) - Construction - On-Site Equipment Usage

Equipment	Estimated Usage			
Phase 1 – Site Preparation	**Units**	**Hours/Day (4 days/wk)**	**Days per Unit**	hrs/day
Water Trucks (5,000 gal)	4	5	90	
Graders	2	9	90	9.00
Skid Loaders	2	9	90	9.00
Roller/Compactors	9	9	60	6.00
ATVs	5	9	90	9.00
Fork Lifts	4	9	80	8.00
Pickup Trucks	6	5	90	
Phase 2 – Installation of Solar Arrays				
Water Trucks (5,000 gal)	3	5	180	
Skid Loaders	6	9	100	5.00
Pile Drivers	6	9	100	5.00
Forklifts	16	5	120	3.33
Welders	20	5	150	4.17
Trenchers	6	5	100	2.78
ATVs	30	9	180	9.00
Phase 3 – Installation of Inverters, Transformers, Substation, Interconnection				
Water Trucks (5,000 gal)	2	5	180	
Skid Loaders	2	9	60	3.00
Pile Drivers	2	9	90	4.50
Trenchers	4	9	120	6.00
Cranes	2	5	120	3.33
Forklifts	3	9	60	3.00
ATVs	10	9	180	9.00
Aerial Lifts	2	5	60	1.67
Roller Compactors	1	9	30	1.50
Phase 4 – Installation of Dattery Energy Storage Systems (BESS)				
Water Trucks (5,000 gal)	1	5	180	
Skid Loaders	2	9	60	3.00
Pile Drivers	2	5	30	0.83
Front-End Loaders	2	5	90	2.50
Roller/Compactors	1	5	30	0.83
Trenchers	4	5	90	2.50
Backhoes	2	5	90	2.50
Cranes	1	5	120	3.33
Pickup Trucks	2	5	180	5.00

Attachment 2: CalEEMod Output

Cherry Solar+Gen Tie - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Cherry Solar+Gen Tie

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	2,079.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Used user defined for solar park

Construction Phase - Using unique construction schedule

Off-road Equipment - per list. Tensioners and Pullers = generators

Off-road Equipment - per list plus ATV 25hpTractor) and pile driver (crane)

Off-road Equipment - per list. ATV = Off road tractor @25hp. Pile driver = crane

Off-road Equipment - per list. ATV = 25hp. Pile Driver = crane

Off-road Equipment - per list. water and pickup trucks not included

Trips and VMT - per list. Vendor trips include water truck (MHDT)

On-road Fugitive Dust - Off road travel at site but highway travel other roads with site watering. Gravel placed on access roads. Site prep in winter

Grading - 10% of area. Gravel import but included in equipment and vehicle activity

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Vehicle Trips - Based on on-site and off-site travel

Road Dust - Highway travel. Roads maintained with dust suppresents, gravel and moisture

Construction Off-road Equipment Mitigation - BMPs required by County and Reg VIII. Tier 4i for mobile off road

Operational Off-Road Equipment - Operational equipment

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	1	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	15.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	23.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	48.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	13.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	15.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	14.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	6,000.00	90.00
tblConstructionPhase	NumDays	15,500.00	180.00

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tblConstructionPhase	NumDays	155,000.00	180.00
tblConstructionPhase	NumDays	155,000.00	180.00
tblConstructionPhase	NumDays	155,000.00	90.00
tblConstructionPhase	PhaseEndDate	12/28/2046	5/3/2024
tblConstructionPhase	PhaseEndDate	5/28/2106	9/6/2024
tblConstructionPhase	PhaseEndDate	7/13/2700	9/6/2024
tblConstructionPhase	PhaseEndDate	8/27/3294	9/6/2024
tblConstructionPhase	PhaseEndDate	10/12/3888	7/4/2024
tblConstructionPhase	PhaseStartDate	12/29/2046	1/1/2024
tblConstructionPhase	PhaseStartDate	5/29/2106	1/1/2024
tblConstructionPhase	PhaseStartDate	7/14/2700	1/1/2024
tblConstructionPhase	PhaseStartDate	8/28/3294	3/1/2024
tblGrading	AcresOfGrading	101.25	208.00
tblLandUse	LotAcreage	0.00	2,079.00
tblOffRoadEquipment	HorsePower	124.00	25.00
tblOffRoadEquipment	HorsePower	124.00	25.00
tblOffRoadEquipment	HorsePower	124.00	25.00
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	LoadFactor	0.44	0.44
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts

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tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Tractors
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	3.00
tblOffRoadEquipment	UsageHours	7.00	4.50
tblOffRoadEquipment	UsageHours	7.00	5.00
tblOffRoadEquipment	UsageHours	7.00	1.00

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tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	3.00
tblOffRoadEquipment	UsageHours	7.00	2.50
tblOffRoadEquipment	UsageHours	7.00	2.50
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOnRoadDust	HaulingPercentPave	100.00	99.00
tblOnRoadDust	HaulingPercentPave	100.00	99.80
tblOnRoadDust	HaulingPercentPave	100.00	99.70
tblOnRoadDust	HaulingPercentPave	100.00	99.80
tblOnRoadDust	HaulingPercentPave	100.00	99.40
tblOnRoadDust	MaterialMoistureContent	0.50	1.00
tblOnRoadDust	MaterialMoistureContent	0.50	1.00
tblOnRoadDust	MaterialMoistureContent	0.50	1.00
tblOnRoadDust	MaterialMoistureContent	0.50	1.00
tblOnRoadDust	MaterialMoistureContent	0.50	1.00
tblOnRoadDust	RoadSiltLoading	0.10	0.03
tblOnRoadDust	RoadSiltLoading	0.10	0.03
tblOnRoadDust	RoadSiltLoading	0.10	0.03
tblOnRoadDust	RoadSiltLoading	0.10	0.03
tblOnRoadDust	RoadSiltLoading	0.10	0.03
tblOnRoadDust	VendorPercentPave	100.00	15.00
tblOnRoadDust	VendorPercentPave	100.00	7.00
tblOnRoadDust	VendorPercentPave	100.00	25.00
tblOnRoadDust	VendorPercentPave	100.00	65.00
tblOnRoadDust	VendorPercentPave	100.00	61.00
tblOnRoadDust	WorkerPercentPave	100.00	99.80
tblOnRoadDust	WorkerPercentPave	100.00	99.80
tblOnRoadDust	WorkerPercentPave	100.00	99.80

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tblOnRoadDust	WorkerPercentPave	100.00	99.80
tblOnRoadDust	WorkerPercentPave	100.00	99.80
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	124.00	25.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	1.10
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	2.20
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	1.30
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	1.80
tblOperationalOffRoadEquipment	OperLoadFactor	0.44	0.44
tblOperationalOffRoadEquipment	OperLoadFactor	0.37	0.37
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	5.00
tblRoadDust	MaterialMoistureContent	0.5	12
tblRoadDust	MeanVehicleSpeed	40	15
tblRoadDust	RoadPercentPave	100	74
tblRoadDust	RoadSiltLoading	0.1	0.03
tblTripsAndVMT	HaulingTripLength	20.00	25.46
tblTripsAndVMT	HaulingTripLength	20.00	103.94
tblTripsAndVMT	HaulingTripLength	20.00	93.12
tblTripsAndVMT	HaulingTripLength	20.00	103.54
tblTripsAndVMT	HaulingTripLength	20.00	43.57
tblTripsAndVMT	HaulingTripNumber	0.00	10,480.00
tblTripsAndVMT	HaulingTripNumber	0.00	5,680.00
tblTripsAndVMT	HaulingTripNumber	0.00	436.00
tblTripsAndVMT	HaulingTripNumber	0.00	912.00
tblTripsAndVMT	HaulingTripNumber	0.00	84.00

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tblTripsAndVMT	VendorTripLength	7.30	3.32
tblTripsAndVMT	VendorTripLength	7.30	3.00
tblTripsAndVMT	VendorTripLength	7.30	3.72
tblTripsAndVMT	VendorTripLength	7.30	8.00
tblTripsAndVMT	VendorTripLength	7.30	7.25
tblTripsAndVMT	VendorTripNumber	0.00	101.00
tblTripsAndVMT	VendorTripNumber	0.00	100.00
tblTripsAndVMT	VendorTripNumber	0.00	103.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	2.20
tblTripsAndVMT	WorkerTripLength	10.80	46.50
tblTripsAndVMT	WorkerTripLength	10.80	46.50
tblTripsAndVMT	WorkerTripLength	10.80	46.50
tblTripsAndVMT	WorkerTripLength	10.80	46.50
tblTripsAndVMT	WorkerTripLength	10.80	46.50
tblVehicleTrips	CC_TL	7.30	32.45
tblVehicleTrips	CC_TTP	0.00	100.00
tblVehicleTrips	CNW_TL	7.30	32.45
tblVehicleTrips	CW_TL	9.50	32.45
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	10.52
tblVehicleTrips	SU_TR	0.00	10.52
tblVehicleTrips	WD_TR	0.00	10.52

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	1.2040	12.4966	11.0365	0.0380	80.2547	0.4574	80.7121	8.1501	0.4272	8.5773	0.0000	3,458.5546	3,458.5546	0.3805	0.2542	3,543.8093
Maximum	**1.2040**	**12.4966**	**11.0365**	**0.0380**	**80.2547**	**0.4574**	**80.7121**	**8.1501**	**0.4272**	**8.5773**	**0.0000**	**3,458.5546**	**3,458.5546**	**0.3805**	**0.2542**	**3,543.8093**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.7421	9.7754	12.4610	0.0380	6.5065	0.1529	6.6594	3.1224	0.1508	3.2732	0.0000	3,458.5530	3,458.5530	0.3805	0.2542	3,543.8077
Maximum	**0.7421**	**9.7754**	**12.4610**	**0.0380**	**6.5065**	**0.1529**	**6.6594**	**3.1224**	**0.1508**	**3.2732**	**0.0000**	**3,458.5530**	**3,458.5530**	**0.3805**	**0.2542**	**3,543.8077**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**38.37**	**21.78**	**-12.91**	**0.00**	**91.89**	**66.57**	**91.75**	**61.69**	**64.69**	**61.84**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2024**	**3-31-2024**	5.6210	4.3443
2	**4-1-2024**	**6-30-2024**	5.2039	4.0131

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3	**7-1-2024**	**9-30-2024**	2.7274	2.0385
		Highest	5.6210	4.3443

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0124	0.0346	0.1656	4.8000e-004	3.9108	4.4000e-004	3.9112	0.3895	4.1000e-004	0.3899	0.0000	44.4590	44.4590	1.6200e-003	2.3300e-003	45.1945
Offroad	0.0670	0.5878	0.8580	1.4600e-003		0.0266	0.0266		0.0262	0.0262	0.0000	126.0358	126.0358	0.0109	0.0000	126.3085
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0794**	**0.6223**	**1.0237**	**1.9400e-003**	**3.9108**	**0.0270**	**3.9378**	**0.3895**	**0.0266**	**0.4161**	**0.0000**	**170.4948**	**170.4948**	**0.0125**	**2.3300e-003**	**171.5030**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

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Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0124	0.0346	0.1656	4.8000e-004	3.9108	4.4000e-004	3.9112	0.3895	4.1000e-004	0.3899	0.0000	44.4590	44.4590	1.6200e-003	2.3300e-003	45.1945
Offroad	0.0670	0.5878	0.8580	1.4600e-003		0.0266	0.0266		0.0262	0.0262	0.0000	126.0358	126.0358	0.0109	0.0000	126.3085
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0794**	**0.6223**	**1.0237**	**1.9400e-003**	**3.9108**	**0.0270**	**3.9378**	**0.3895**	**0.0266**	**0.4161**	**0.0000**	**170.4948**	**170.4948**	**0.0125**	**2.3300e-003**	**171.5030**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2024	5/3/2024	5	90	actually 4day/wk
2	Installation of Solar Arrays	Grading	1/1/2024	9/6/2024	5	180	
3	Installation of Inverters, Transformers, etc.	Building Construction	1/1/2024	9/6/2024	5	180	
4	Installation of Dattery Energy Storage Systems	Building Construction	1/1/2024	9/6/2024	5	180	
5	Gen-Tie Installation	Building Construction	3/1/2024	7/4/2024	5	90	

Acres of Grading (Site Preparation Phase): 208

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Forklifts	4	8.00	89	0.20
Site Preparation	Graders	2	9.00	187	0.41
Site Preparation	Off-Highway Tractors	5	9.00	25	0.44
Site Preparation	Rollers	9	6.00	80	0.38
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Skid Steer Loaders	2	9.00	65	0.37
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Installation of Solar Arrays	Cranes	6	5.00	231	0.29
Installation of Solar Arrays	Excavators	0	8.00	158	0.38
Installation of Solar Arrays	Forklifts	16	3.30	89	0.20
Installation of Solar Arrays	Graders	0	8.00	187	0.41
Installation of Solar Arrays	Off-Highway Tractors	30	9.00	25	0.44
Installation of Solar Arrays	Rubber Tired Dozers	0	8.00	247	0.40
Installation of Solar Arrays	Scrapers	0	8.00	367	0.48
Installation of Solar Arrays	Skid Steer Loaders	6	5.00	65	0.37
Installation of Solar Arrays	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Installation of Solar Arrays	Trenchers	6	2.80	78	0.50
Installation of Solar Arrays	Welders	20	4.20	46	0.45
Installation of Inverters, Transformers, etc	Aerial Lifts	2	1.70	63	0.31
Installation of Inverters, Transformers, etc	Cranes	2	3.00	231	0.29
Installation of Inverters, Transformers, etc	Cranes	2	4.50	231	0.29
Installation of Inverters, Transformers, etc	Forklifts	3	3.00	89	0.20
Installation of Inverters, Transformers, etc	Generator Sets	0	8.00	84	0.74
Installation of Inverters, Transformers, etc	Off-Highway Tractors	10	9.00	25	0.44

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Installation of Inverters, Transformers, etc	Rollers	1	1.50	80	0.38
Installation of Inverters, Transformers, etc	Skid Steer Loaders	2	3.00	65	0.37
Installation of Inverters, Transformers, etc	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Installation of Inverters, Transformers, etc	Trenchers	4	6.00	78	0.50
Installation of Inverters, Transformers, etc	Welders	0	8.00	46	0.45
Installation of Dattery Energy Storage Systems	Cranes	1	5.00	231	0.29
Installation of Dattery Energy Storage Systems	Cranes	2	1.00	231	0.29
Installation of Dattery Energy Storage Systems	Forklifts	0	8.00	89	0.20
Installation of Dattery Energy Storage Systems	Generator Sets	0	8.00	84	0.74
Installation of Dattery Energy Storage Systems	Pavers	0		130	0.42
Installation of Dattery Energy Storage Systems	Paving Equipment	0		132	0.36
Installation of Dattery Energy Storage Systems	Rollers	0		80	0.38
Installation of Dattery Energy Storage Systems	Rollers	1	1.00	80	0.38
Installation of Dattery Energy Storage Systems	Rubber Tired Loaders	2	2.50	203	0.36
Installation of Dattery Energy Storage Systems	Skid Steer Loaders	2	3.00	65	0.37
Installation of Dattery Energy Storage Systems	Tractors/Loaders/Backhoes	2	2.50	97	0.37
Installation of Dattery Energy Storage Systems	Tractors/Loaders/Backhoes	2	2.50	97	0.37
Installation of Dattery Energy Storage Systems	Trenchers	4	2.50	78	0.50
Installation of Dattery Energy Storage Systems	Welders	0	8.00	46	0.45
Gen-Tie Installation	Air Compressors	0		78	0.48
Gen-Tie Installation	Cranes	2	8.00	231	0.29
Gen-Tie Installation	Forklifts	0	8.00	89	0.20
Gen-Tie Installation	Generator Sets	4	8.00	84	0.74
Gen-Tie Installation	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Gen-Tie Installation	Welders	0	8.00	46	0.45
Gen-Tie Installation	Graders	1	4.00	187	0.41
Gen-Tie Installation	Skid Steer Loaders	3	4.00	65	0.37
Gen-Tie Installation	Rollers	2	4.00	80	0.38

Cherry Solar+Gen Tie - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Gen-Tie Installation	Bore/Drill Rigs	1	8.00	221	0.50
Gen-Tie Installation	Aerial Lifts	3	8.00	63	0.31
Gen-Tie Installation	Off-Highway Tractors	3	4.00	124	0.44

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	22	55.00	101.00	10,480.00	46.50	3.32	25.46	LD_Mix	HDT_Mix	HHDT
Installation of Solar Arrays	84	210.00	100.00	5,680.00	46.50	3.00	103.94	LD_Mix	HDT_Mix	HHDT
Installation of Inverters, Transformers, etc.	26	0.00	103.00	436.00	46.50	3.72	93.12	LD_Mix	HDT_Mix	HHDT
Installation of Dattery Energy Storage	16	0.00	5.00	912.00	46.50	8.00	103.54	LD_Mix	HDT_Mix	HHDT
Gen-Tie Installation	21	0.00	2.20	84.00	46.50	7.25	43.57	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1103	0.0000	0.1103	0.0119	0.0000	0.0119	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Cherry Solar+Gen Tie - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-Road	0.1034	1.1265	1.0749	1.9500e-003		0.0500	0.0500		0.0460	0.0460	0.0000	171.4589	171.4589	0.0555	0.0000	172.8453
Total	**0.1034**	**1.1265**	**1.0749**	**1.9500e-003**	**0.1103**	**0.0500**	**0.1603**	**0.0119**	**0.0460**	**0.0579**	**0.0000**	**171.4589**	**171.4589**	**0.0555**	**0.0000**	**172.8453**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0125	0.7946	0.1545	3.7700e-003	1.5647	8.0800e-003	1.5728	0.1706	7.7300e-003	0.1784	0.0000	362.2897	362.2897	8.9000e-004	0.0569	379.2815
Vendor	4.1700e-003	0.1227	0.0553	4.6000e-004	14.7700	6.3000e-004	14.7706	1.4747	6.0000e-004	1.4753	0.0000	44.2638	44.2638	2.5000e-004	6.4400e-003	46.1899
Worker	0.0197	0.0156	0.2017	7.0000e-004	0.2764	3.8000e-004	0.2767	0.0370	3.5000e-004	0.0374	0.0000	63.8203	63.8203	9.7000e-004	1.3900e-003	64.2573
Total	**0.0364**	**0.9329**	**0.4114**	**4.9300e-003**	**16.6110**	**9.0900e-003**	**16.6201**	**1.6824**	**8.6800e-003**	**1.6911**	**0.0000**	**470.3738**	**470.3738**	**2.1100e-003**	**0.0648**	**489.7287**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.3000e-003	0.0000	4.3000e-003	4.6000e-004	0.0000	4.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Cherry Solar+Gen Tie - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-Road	0.0402	0.7637	1.3265	1.9500e-003		7.6600e-003	7.6600e-003		7.6600e-003	7.6600e-003	0.0000	171.4587	171.4587	0.0555	0.0000	172.8451
Total	**0.0402**	**0.7637**	**1.3265**	**1.9500e-003**	**4.3000e-003**	**7.6600e-003**	**0.0120**	**4.6000e-004**	**7.6600e-003**	**8.1200e-003**	**0.0000**	**171.4587**	**171.4587**	**0.0555**	**0.0000**	**172.8451**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0125	0.7946	0.1545	3.7700e-003	0.1716	8.0800e-003	0.1797	0.0742	7.7300e-003	0.0820	0.0000	362.2897	362.2897	8.9000e-004	0.0569	379.2815
Vendor	4.1700e-003	0.1227	0.0553	4.6000e-004	1.1041	6.3000e-004	1.1047	0.5479	6.0000e-004	0.5485	0.0000	44.2638	44.2638	2.5000e-004	6.4400e-003	46.1899
Worker	0.0197	0.0156	0.2017	7.0000e-004	0.0559	3.8000e-004	0.0562	0.0204	3.5000e-004	0.0207	0.0000	63.8203	63.8203	9.7000e-004	1.3900e-003	64.2573
Total	**0.0364**	**0.9329**	**0.4114**	**4.9300e-003**	**1.3316**	**9.0900e-003**	**1.3407**	**0.6425**	**8.6800e-003**	**0.6512**	**0.0000**	**470.3738**	**470.3738**	**2.1100e-003**	**0.0648**	**489.7287**

3.3 Installation of Solar Arrays - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Cherry Solar+Gen Tie - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-Road	0.4761	3.8884	3.8051	6.6100e-003		0.1747	0.1747		0.1643	0.1643	0.0000	546.2331	546.2331	0.1373	0.0000	549.6654
Total	**0.4761**	**3.8884**	**3.8051**	**6.6100e-003**	**0.0000**	**0.1747**	**0.1747**	**0.0000**	**0.1643**	**0.1643**	**0.0000**	**546.2331**	**546.2331**	**0.1373**	**0.0000**	**549.6654**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0177	1.5906	0.1931	8.0900e-003	0.7432	0.0178	0.7610	0.1064	0.0170	0.1234	0.0000	777.6685	777.6685	1.5400e-003	0.1222	814.1327
Vendor	8.0700e-003	0.2300	0.1079	8.4000e-004	28.9151	1.1400e-003	28.9162	2.8867	1.0900e-003	2.8878	0.0000	80.5684	80.5684	4.8000e-004	0.0117	84.0803
Worker	0.1505	0.1194	1.5399	5.3200e-003	2.1104	2.8800e-003	2.1133	0.2827	2.6500e-003	0.2854	0.0000	487.3551	487.3551	7.3800e-003	0.0106	490.6920
Total	**0.1763**	**1.9400**	**1.8409**	**0.0143**	**31.7688**	**0.0218**	**31.7905**	**3.2758**	**0.0208**	**3.2966**	**0.0000**	**1,345.5920**	**1,345.5920**	**9.4000e-003**	**0.1446**	**1,388.9050**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Cherry Solar+Gen Tie - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-Road	0.3068	2.8887	4.3096	6.6100e-003		0.0666	0.0666		0.0666	0.0666	0.0000	546.2325	546.2325	0.1373	0.0000	549.6647
Total	**0.3068**	**2.8887**	**4.3096**	**6.6100e-003**	**0.0000**	**0.0666**	**0.0666**	**0.0000**	**0.0666**	**0.0666**	**0.0000**	**546.2325**	**546.2325**	**0.1373**	**0.0000**	**549.6647**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0177	1.5906	0.1931	8.0900e-003	0.1776	0.0178	0.1954	0.0638	0.0170	0.0808	0.0000	777.6685	777.6685	1.5400e-003	0.1222	814.1327
Vendor	8.0700e-003	0.2300	0.1079	8.4000e-004	2.1603	1.1400e-003	2.1615	1.0722	1.0900e-003	1.0733	0.0000	80.5684	80.5684	4.8000e-004	0.0117	84.0803
Worker	0.1505	0.1194	1.5399	5.3200e-003	0.4265	2.8800e-003	0.4294	0.1557	2.6500e-003	0.1583	0.0000	487.3551	487.3551	7.3800e-003	0.0106	490.6920
Total	**0.1763**	**1.9400**	**1.8409**	**0.0143**	**2.7645**	**0.0218**	**2.7863**	**1.2917**	**0.0208**	**1.3124**	**0.0000**	**1,345.5920**	**1,345.5920**	**9.4000e-003**	**0.1446**	**1,388.9050**

3.4 Installation of Inverters, Transformers, etc - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1653	1.6355	1.2812	2.2900e-003		0.0923	0.0923		0.0849	0.0849	0.0000	201.0932	201.0932	0.0650	0.0000	202.7191

Cherry Solar+Gen Tie - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Total	**0.1653**	**1.6355**	**1.2812**	**2.2900e-003**		**0.0923**	**0.0923**		**0.0849**	**0.0849**	**0.0000**	**201.0932**	**201.0932**	**0.0650**	**0.0000**	**202.7191**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2400e-003	0.1098	0.0137	5.6000e-004	0.0745	1.2200e-003	0.0757	9.6500e-003	1.1700e-003	0.0108	0.0000	53.5423	53.5423	1.1000e-004	8.4200e-003	56.0529
Vendor	8.7700e-003	0.2668	0.1148	1.0400e-003	29.7843	1.4400e-003	29.7858	2.9744	1.3700e-003	2.9757	0.0000	99.3994	99.3994	5.2000e-004	0.0145	103.7170
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0100**	**0.3766**	**0.1285**	**1.6000e-003**	**29.8588**	**2.6600e-003**	**29.8615**	**2.9840**	**2.5400e-003**	**2.9866**	**0.0000**	**152.9416**	**152.9416**	**6.3000e-004**	**0.0229**	**159.7698**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0456	0.8406	1.5044	2.2900e-003		6.9600e-003	6.9600e-003		6.9400e-003	6.9400e-003	0.0000	201.0929	201.0929	0.0650	0.0000	202.7189
Total	**0.0456**	**0.8406**	**1.5044**	**2.2900e-003**		**6.9600e-003**	**6.9600e-003**		**6.9400e-003**	**6.9400e-003**	**0.0000**	**201.0929**	**201.0929**	**0.0650**	**0.0000**	**202.7189**

Cherry Solar+Gen Tie - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2400e-003	0.1098	0.0137	5.6000e-004	0.0140	1.2200e-003	0.0152	5.2500e-003	1.1700e-003	6.4200e-003	0.0000	53.5423	53.5423	1.1000e-004	8.4200e-003	56.0529
Vendor	8.7700e-003	0.2668	0.1148	1.0400e-003	2.2284	1.4400e-003	2.2298	1.1054	1.3700e-003	1.1068	0.0000	99.3994	99.3994	5.2000e-004	0.0145	103.7170
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0100**	**0.3766**	**0.1285**	**1.6000e-003**	**2.2423**	**2.6600e-003**	**2.2450**	**1.1107**	**2.5400e-003**	**1.1132**	**0.0000**	**152.9416**	**152.9416**	**6.3000e-004**	**0.0229**	**159.7698**

3.5 Installation of Dattery Energy Storage Systems - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1007	0.9982	0.8813	1.7100e-003		0.0506	0.0506		0.0466	0.0466	0.0000	149.8832	149.8832	0.0485	0.0000	151.0951
Total	**0.1007**	**0.9982**	**0.8813**	**1.7100e-003**		**0.0506**	**0.0506**		**0.0466**	**0.0466**	**0.0000**	**149.8832**	**149.8832**	**0.0485**	**0.0000**	**151.0951**

Cherry Solar+Gen Tie - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.8300e-003	0.2545	0.0309	1.2900e-003	0.1189	2.8400e-003	0.1217	0.0170	2.7200e-003	0.0197	0.0000	124.3894	124.3894	2.5000e-004	0.0196	130.2219
Vendor	5.6000e-004	0.0216	6.6400e-003	1.0000e-004	1.4515	1.5000e-004	1.4517	0.1452	1.4000e-004	0.1453	0.0000	9.5617	9.5617	3.0000e-005	1.3800e-003	9.9734
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.3900e-003**	**0.2760**	**0.0376**	**1.3900e-003**	**1.5704**	**2.9900e-003**	**1.5734**	**0.1622**	**2.8600e-003**	**0.1651**	**0.0000**	**133.9511**	**133.9511**	**2.8000e-004**	**0.0209**	**140.1953**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0337	0.6229	1.1085	1.7100e-003		5.7700e-003	5.7700e-003		5.7700e-003	5.7700e-003	0.0000	149.8830	149.8830	0.0485	0.0000	151.0949
Total	**0.0337**	**0.6229**	**1.1085**	**1.7100e-003**		**5.7700e-003**	**5.7700e-003**		**5.7700e-003**	**5.7700e-003**	**0.0000**	**149.8830**	**149.8830**	**0.0485**	**0.0000**	**151.0949**

Mitigated Construction Off-Site

Cherry Solar+Gen Tie - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.8300e-003	0.2545	0.0309	1.2900e-003	0.0284	2.8400e-003	0.0313	0.0102	2.7200e-003	0.0129	0.0000	124.3894	124.3894	2.5000e-004	0.0196	130.2219
Vendor	5.6000e-004	0.0216	6.6400e-003	1.0000e-004	0.1095	1.5000e-004	0.1096	0.0542	1.4000e-004	0.0543	0.0000	9.5617	9.5617	3.0000e-005	1.3800e-003	9.9734
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.3900e-003**	**0.2760**	**0.0376**	**1.3900e-003**	**0.1379**	**2.9900e-003**	**0.1409**	**0.0644**	**2.8600e-003**	**0.0672**	**0.0000**	**133.9511**	**133.9511**	**2.8000e-004**	**0.0209**	**140.1953**

3.6 Gen-Tie Installation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1322	1.3078	1.5725	3.2200e-003		0.0531	0.0531		0.0504	0.0504	0.0000	280.2190	280.2190	0.0618	0.0000	281.7651
Total	**0.1322**	**1.3078**	**1.5725**	**3.2200e-003**		**0.0531**	**0.0531**		**0.0504**	**0.0504**	**0.0000**	**280.2190**	**280.2190**	**0.0618**	**0.0000**	**281.7651**

Unmitigated Construction Off-Site

Cherry Solar+Gen Tie - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.4000e-004	0.0103	1.6100e-003	5.0000e-005	0.0130	1.1000e-004	0.0132	1.5000e-003	1.1000e-004	1.6100e-003	0.0000	4.8877	4.8877	1.0000e-005	7.7000e-004	5.1169
Vendor	1.2000e-004	4.4100e-003	1.4200e-003	2.0000e-005	0.3225	3.0000e-005	0.3225	0.0323	3.0000e-005	0.0323	0.0000	1.9210	1.9210	1.0000e-005	2.8000e-004	2.0038
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.6000e-004**	**0.0147**	**3.0300e-003**	**7.0000e-005**	**0.3355**	**1.4000e-004**	**0.3356**	**0.0338**	**1.4000e-004**	**0.0339**	**0.0000**	**6.8086**	**6.8086**	**2.0000e-005**	**1.0500e-003**	**7.1206**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0894	1.1192	1.7906	3.2200e-003		0.0292	0.0292		0.0289	0.0289	0.0000	280.2187	280.2187	0.0618	0.0000	281.7647
Total	**0.0894**	**1.1192**	**1.7906**	**3.2200e-003**		**0.0292**	**0.0292**		**0.0289**	**0.0289**	**0.0000**	**280.2187**	**280.2187**	**0.0618**	**0.0000**	**281.7647**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Cherry Solar+Gen Tie - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category	tons/yr										MT/yr					
Hauling	1.4000e-004	0.0103	1.6100e-003	5.0000e-005	1.7300e-003	1.1000e-004	1.8400e-003	7.1000e-004	1.1000e-004	8.1000e-004	0.0000	4.8877	4.8877	1.0000e-005	7.7000e-004	5.1169
Vendor	1.2000e-004	4.4100e-003	1.4200e-003	2.0000e-005	0.0243	3.0000e-005	0.0243	0.0120	3.0000e-005	0.0121	0.0000	1.9210	1.9210	1.0000e-005	2.8000e-004	2.0038
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.6000e-004**	**0.0147**	**3.0300e-003**	**7.0000e-005**	**0.0260**	**1.4000e-004**	**0.0262**	**0.0127**	**1.4000e-004**	**0.0129**	**0.0000**	**6.8086**	**6.8086**	**2.0000e-005**	**1.0500e-003**	**7.1206**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0124	0.0346	0.1656	4.8000e-004	3.9108	4.4000e-004	3.9112	0.3895	4.1000e-004	0.3899	0.0000	44.4590	44.4590	1.6200e-003	2.3300e-003	45.1945
Unmitigated	0.0124	0.0346	0.1656	4.8000e-004	3.9108	4.4000e-004	3.9112	0.3895	4.1000e-004	0.3899	0.0000	44.4590	44.4590	1.6200e-003	2.3300e-003	45.1945

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

User Defined Industrial	10.52	10.52	10.52	124,260	124,260
Total	10.52	10.52	10.52	124,260	124,260

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	32.45	32.45	32.45	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.504365	0.051424	0.168544	0.163993	0.029850	0.006745	0.008269	0.036653	0.000620	0.000189	0.024675	0.001152	0.003

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Cherry Solar+Gen Tie - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

Cherry Solar+Gen Tie - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Cherry Solar+Gen Tie - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Mitigated

Cherry Solar+Gen Tie - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Cherry Solar+Gen Tie - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

Cherry Solar+Gen Tie - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e

Cherry Solar+Gen Tie - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Off-Highway Tractors	2	1.10	365	25	0.44	Diesel
Tractors/Loaders/Backhoes	2	2.20	260	97	0.37	Diesel
Generator Sets	2	1.30	260	84	0.74	Diesel
Pumps	5	1.80	260	84	0.74	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Generator Sets	0.0120	0.1075	0.1548	2.8000e-004		4.6800e-003	4.6800e-003		4.6800e-003	4.6800e-003	0.0000	23.8800	23.8800	9.7000e-004	0.0000	23.9042
Pumps	0.0447	0.3771	0.5440	9.6000e-004		0.0172	0.0172		0.0172	0.0172	0.0000	82.6615	82.6615	3.6400e-003	0.0000	82.7524
Tractors/Loaders/Backhoes	0.0103	0.1031	0.1592	2.2000e-004		4.7300e-003	4.7300e-003		4.3500e-003	4.3500e-003	0.0000	19.4943	19.4943	6.3000e-003	0.0000	19.6520
Total	**0.0670**	**0.5878**	**0.8580**	**1.4600e-003**		**0.0266**	**0.0266**		**0.0262**	**0.0262**	**0.0000**	**126.0358**	**126.0358**	**0.0109**	**0.0000**	**126.3085**

Cherry Solar+Gen Tie - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B

Biological Resources Report

Prepared by

Live Oak Associates

July 2022

LIVE OAK
ASSOCIATES, INC.

CHERRY SOLAR PROJECT
BIOLOGICAL ASSESSMENT
KINGS COUNTY, CALIFORNIA

Prepared by

LIVE OAK ASSOCIATES, INC.

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July 18, 2022

PN 2437-03

EXECUTIVE SUMMARY

Live Oak Associates, Inc., (LOA) has conducted an investigation of the biological resources of the Cherry Solar project site ("Project Site", "Site") in Kings County, California.

LOA evaluated likely impacts to biological resources resulting from development of an approximately 2,079-acre photo-voltaic solar energy project on the Cherry Solar site. The Cherry Solar project site is in west-central Kings County southeast of Avenal Cutoff Road, west of 25th Ave./Enterprise Avenue and north of Nevada Avenue. On November 17, 2021, LOA conducted site visits to assess for biotic habitats, the plants and animals occurring in those habitats, and significant habitat values that may be protected by state and federal law.

The approximately 2,079-acre Project Site consists of agricultural lands within a region dominated by similar agricultural lands. Several agricultural canals and irrigation ditches run through and along the site. There is also a tailwater basin along the central eastern side of the project site. The canal, ditch, and basin features have not been used to convey or store water for several years and are now dry and somewhat overgrown. There are no buildings, sheds, or other structures on the Cherry Solar project site. The Project Site does not provide highly suitable habitat for locally occurring special-status plant or animal species except for burrowing owls and foraging habitat for Swainson's hawks. However, potentially suitable habitat was found for fourteen special status animal species that are known to occur (or have reasonable potential to occur) as regular foragers or residents of the Project Site. These include the western snowy plover, mountain plover, white-faced ibis, Swainson's hawk, northern harrier, white-tailed kite, yellow-headed blackbird, western burrowing owl, long-eared owl, loggerhead shrike, tricolored blackbird, Townsend's big-eared bat, pallid bat, and California mastiff bat. Additional impacts to Swainson's hawks will be mitigated through avoidance of active nests found during required preconstruction surveys; and if active nests are found onsite or on adjacent lands, additional mitigation for loss of habitat may be required. Similar avoidance and preconstruction surveys will reduce impacts to burrowing owls, raptors, loggerhead shrike, tricolored blackbird and other nesting birds protected by the federal Migratory Bird Treaty Act. There are no reported sightings of San Joaquin kit fox or American badgers within or near the Project Site, and no evidence of kit fox or badger was found during LOA's field surveys. However, if these species were to occur onsite, then impacts to kit fox and badger are potentially significant. Prior to the construction of the solar development, preconstruction surveys will be conducted. Preconstruction surveys and avoidance measures will reduce impacts to kit fox and badgers from direct construction-related mortality to a less-than-significant level. Impacts to wildlife movements and movement corridors will be minimized through the planned retention of canals as well as the construction of wildlife-friendly fencing.

Jurisdictional waters are presumed to be absent from the Project Site

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1 INTRODUCTION

Live Oak Associates, Inc. (LOA) has prepared the following report. This report describes the biotic resources of the proposed approximately 2,079-acre Cherry Solar project site ("Project Site, site"), and evaluates likely impacts to biological resources resulting from the construction of these projects.

The Cherry Solar Project Site is in west-central Kings County southeast of Avenal Cutoff Road, west of 25th Ave./Enterprise Avenue and north of Nevada Avenue (Figure 1). The Project Site is located within the Westhaven U.S. Geological Survey (USGS) 7.5-minute quadrangle.

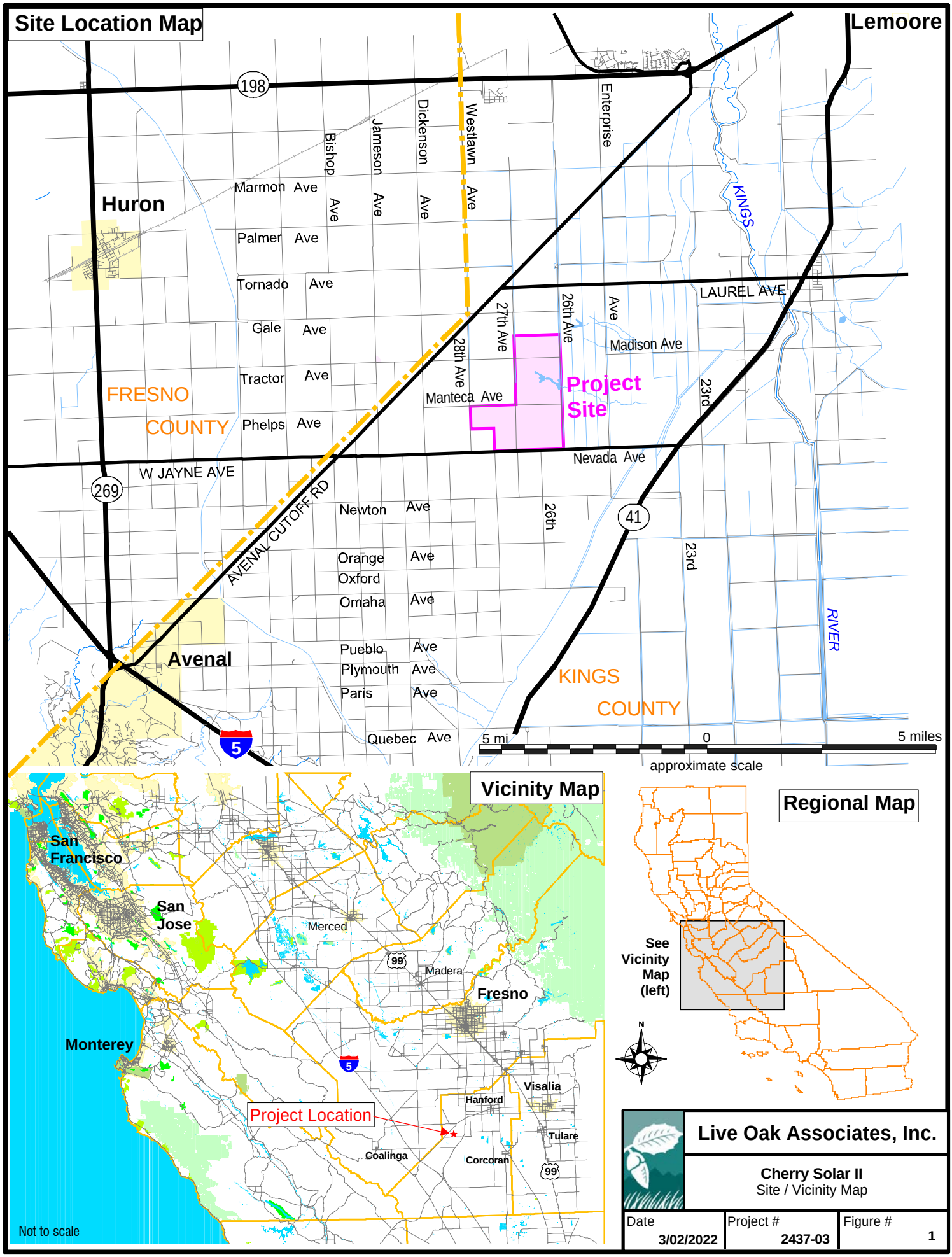
The Cherry Solar project site is virtually level with elevations ranging from 230 feet above mean sea level (amsl) to 245 feet amsl. The only improved county road providing access to the site is Nevada Avenue which runs along the southern border of the site. In addition to a tailwater basin, several agricultural canals and irrigation ditches run through and along the site. There are no buildings, sheds or other structures on the Cherry Solar project site.

1.1 PROJECT DESCRIPTION

Cherry Solar Project

The approximately 2,079-acre Project Site is located southeast of Avenal Cutoff Road and west of SR-41 in west-central Kings County. It is bordered by 26th Ave. on the eastern side and Nevada Avenue to the South. The Cherry Solar project site is virtually level with elevations ranging from 230 feet above mean sea level (amsl) to 245 feet amsl. The project site is found in the "Westhaven" U.S. Geological Survey (USGS) quadrangle. The Cherry Solar Project is planned as a 250-MWac solar PV generating facility. The project is planned to include solar arrays, an operations and maintenance facility, substation/switchyard, and battery energy storage facilities.

The solar photovoltaic (PV) modules will be mounted on a series of horizontal single-axis trackers which will be oriented north-south and will rotate the solar arrays in an east-west direction. The solar modules produce direct current (DC) power and the electricity travels to power conversion stations (PCS) via underground cables to be converted to alternating current (AC) power.



Live Oak Associates, Inc.		
Cherry Solar II Site / Vicinity Map		
Date 3/02/2022	Project # 2437-03	Figure # 1

Primary vehicular access to the project will be provided from Nevada Avenue which runs along the project's southern border; the canals, ditches and tailwater basin are planned to be avoided. Construction is anticipated to begin in 2024.

1.2 REPORT OBJECTIVES

The development of land can damage or modify biotic habitats used by sensitive plant and wildlife species. In such cases, site development may be regulated by state or federal agencies, subject to provisions of the California Environmental Quality Act (CEQA), and/or covered by policies and ordinances of Kings County. This report addresses issues related to: 1) sensitive biotic resources occurring within the Cherry Solar Project Site 2) the federal, state, and local laws regulating such resources, and 3) mitigation measures which may be required to reduce the magnitude of anticipated impacts and/or comply with permit requirements of state and federal resource agencies, and the requirements of the California Environmental Quality Act (CEQA). As such, the objectives of this report are to:

- Summarize all site-specific information related to existing biological resources, based on a review of the literature, a search of species databases, and field surveys conducted by LOA over the entire Project Site;
- In addition to species observed to be present within the Project Site, make reasonable inferences about the other biological resources that could occur onsite based on habitat suitability and the proximity of the Project Site to a species' known range;
- Summarize all state and federal natural resource protection laws that may be relevant to development of Solar project within the Project Site;
- Identify and discuss project impacts to biological resources likely to occur within the Project Site within the context of CEQA or any state or federal laws; and
- Identify avoidance and mitigation measures that would reduce impacts to a less-than-significant impact (as identified by CEQA) and are generally consistent with recommendations of the resource agencies for affected biological resources.

1.3 STUDY METHODOLOGY

The analysis of impacts, as discussed in Section 3.0 of this report, is based on the known and potential biotic resources of the Project Site discussed in Section 2.0. Sources of information used in the preparation of this analysis included: (1) the *California Natural Diversity Data Base* (CDFW 2022), (2) the *Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2022), and (3) manuals, reports, and references related to plants and animals of the San Joaquin Valley region. Field survey of the Project Site was conducted on November 17, 2021 by LOA ecologists Katrina Krakow and Davinna Ohlson. During this site visit, the principal land uses of the site were identified, and the constituent plants and animals were noted. Follow-up surveys were conducted by Ms. Krakow and LOA ecologist Cristal Romero to further assess the use of the site by breeding burrowing owls; site visits for this purpose occurred on April 26, May 25, June 1, and June 30, 2022.

Detailed surveys for sensitive biological resources were not conducted during the site visit, however a Swainson's hawk nest survey was conducted for the larger Westlands Solar Park study area on April 27 and May 3 and 4, 2012 which included the Project Site within the larger Wetlands Solar Park study area, and a 10-mile buffer of the Westlands Solar Park study area, with nest sites being revisited in 2017, 2018, and 2019 (Appendix A). The site was also visited by LOA ecologists, particularly the tailwater basin, throughout several years of study for the adjacent Westside Solar Park Master Plan site.

It is noted that this biological evaluation was prepared for the Cherry Solar project. The potential biological impacts associated with this solar development construction are consistent with the adjacent Westlands Solar Park Master Plan and Gen-Tie Corridors Program EIR, which was certified by the Westlands Water District (WWD) Board of Directors on January 16, 2018. The Program EIR (PEIR) provides plan-level environmental review for the lands adjacent to the Cherry Solar project. As such, this PEIR provided background information for the evaluation for the Cherry Solar project.

2 EXISTING CONDITIONS

2.1 REGIONAL SETTING

Like most of California, the Central San Joaquin Valley (and the Project Site) experiences a Mediterranean climate. Warm dry summers are followed by cool moist winters. Summer temperatures commonly exceed 90 degrees Fahrenheit, and the relative humidity is generally very low. Winter temperatures rarely rise much above 70 degrees Fahrenheit, with daytime highs often below 60 degrees Fahrenheit. Annual precipitation within the Project Site is about 10 inches, almost 85% of which falls between the months of October and March. Nearly all precipitation falls in the form of rain.

The Kings County area of the Central San Joaquin Valley receives water from the Kings River, which is located nearly 5 miles east of the Project Site. The Kings River historically drained into the Tulare Lake Basin which contained the vast Tulare Lake, which encompassed a large area of Kings County and at times extended to the eastern edge of the adjacent WSP Master Plan area. The Kings River and Tulare Lake contained large areas of riparian, wetland, and aquatic ecosystems that supported large populations of diverse native plants and animals. Under present conditions, the Kings River supports only a fraction of the riparian habitat it once supported, and the aquatic habitat has been greatly degraded from agricultural runoff and irregular flows. In essence, the river currently provides water to a series of distributary channels supplying water to farmland in the region. Tulare Lake has long been drained and converted to farmland and urban uses.

Native upland biotic habitats of the Central San Joaquin Valley once consisted of grassland and shrubland, nearly all of which have been converted to farmland or urban use within the last 50 years or more. Native plant and animal species once abundant in the valley have become locally extirpated or have experienced large reductions in their populations. The native habitat that remains in the region is particularly valuable to native wildlife species including special status species that still persist in the region.

The lands surrounding the Project Site consist of agricultural land. The nearest natural habitats to the Project Site are the Kettleman Hills approximately 10 miles to the southwest and the Kings River drainage nearly 5 miles to the east of the Project Site.

2.2 PROJECT SITE

Cherry Solar Project

The approximately 2,079-acre Cherry Solar Project site located southeast of Avenal Cutoff Road in west-central Kings County, and west of 25th Ave./Enterprise Avenue and north of Nevada Avenue. The Cherry Solar project site is virtually level with elevations ranging from 230 feet above mean sea level (amsl) to a high of 245 feet amsl. The project site is in the Westhaven U.S. Geological Survey (USGS) quadrangle. There are also several hydrologic features in the form of canals, agricultural ditches, and a man-made tailwater basin.

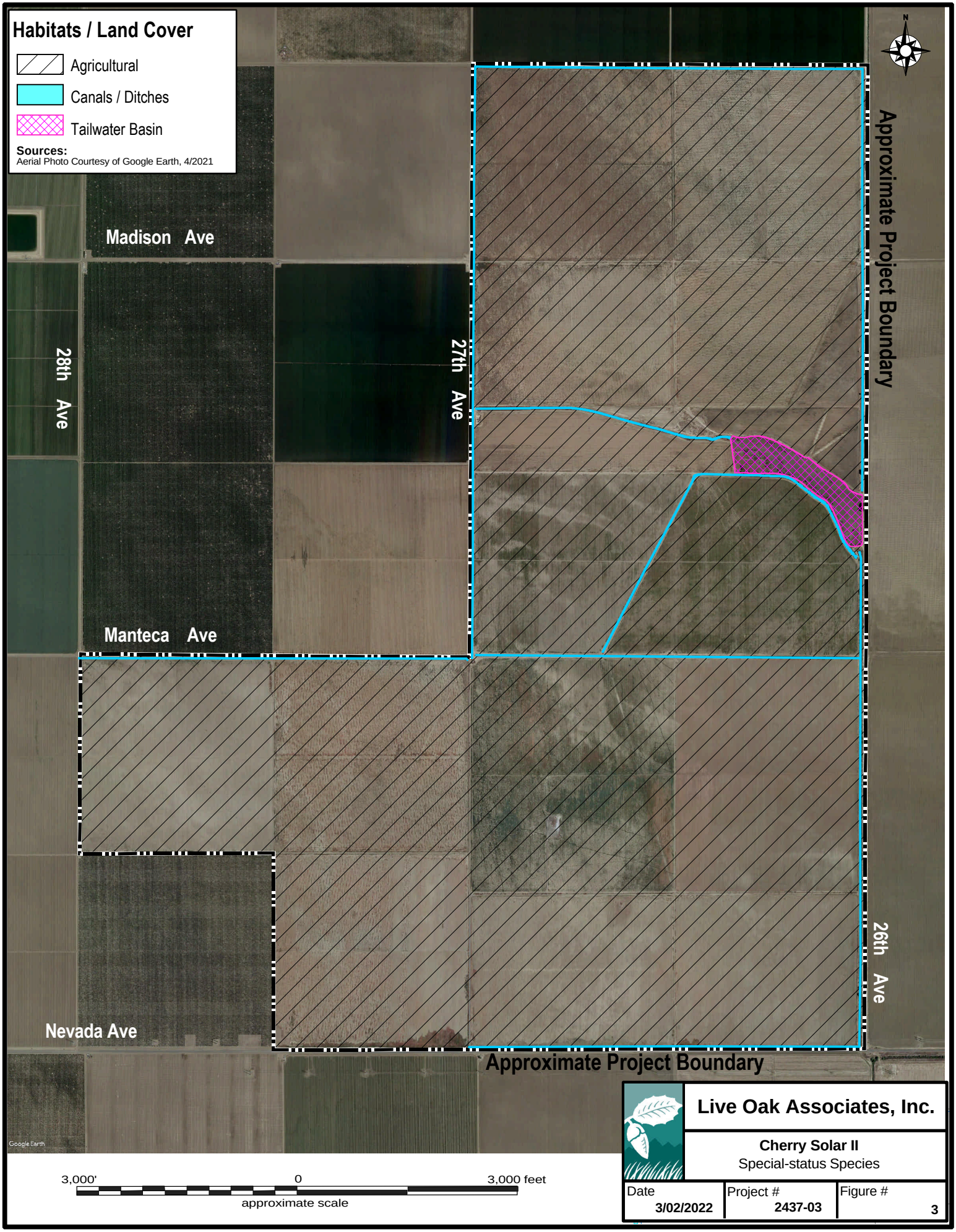
Three soil types occur onsite: 1) Lethent clay loam, 2) Calflax clay loam, saline-sodic, 0-2% slopes, MLRA (Major Land Resource Area) 17, and 3) Twisselman silty clay, saline-alkali were identified on the Cherry Solar site (NRCS Web Soil Survey 2022). All soil types are considered hydric. Hydric soils are defined as saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions such that under sufficiently wet conditions they support hydrophytic vegetation. Due to ongoing agricultural disturbance; however, no hydric vegetation was observed on the site except for within canals, which the project will avoid.

2.3 BIOTIC HABITATS/LAND USES

The entire Cherry Solar Project Site consists of agricultural lands with canals/ditches running through them as well as a tailwater basin on the eastern side of the site. (Figure 2).

2.3.1 Agricultural Fields

The majority of the site consists of disked fields which are planted in row crop when not disked. Non-agricultural vegetation in the agricultural fields is sparse and dominated by weedy non-native species.


Habitats / Land Cover
Agricultural
Canals / Ditches
Tailwater Basin
Sources:
Aerial Photo Courtesy of Google Earth, 4/2021
N
Madison Ave
28th Ave
27th Ave
Approximate Project Boundary
Manteca Ave
Nevada Ave
26th Ave
Approximate Project Boundary
Google Earth
3,000'
0
3,000 feet
approximate scale
Live Oak Associates, Inc.
Cherry Solar II
Special-status Species
Date
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Regular agricultural activities on the site create moderately suitable habitat for most animal species. Nonetheless, several animal species are expected to use the agricultural field, including coyotes (*Canis latrans*).

2.3.2 Agricultural Canals and Ditches

Agricultural canals occur along the eastern and northern boundaries. Ditches and canals that are hydrologically connected to the tailwater pond also extend east-west across the site. Agricultural ditches, which are narrower and shallower than the canals but are still prominent on the landscape and have clearly defined channels, occur along the western and southern boundaries.

2.3.3 Tailwater Basin

A tailwater basin occupies approximately 19 acres in the eastern part of the site. Historically, the tailwater basin encompassed approximately 64 acres, but the construction of berms and levees has reduced the tailwater basin to its current size. The tailwater basin was not wet at the time of the November 17, 2021, site visit. The rest of the area has not functioned as a hydrologic feature in at least 10 years of surveying and has never been observed as holding water. [As reported by the landowner, over the past 15 years the agricultural fields on the project site and surrounding lands have been installed with drip irrigation systems to conserve water. As such, crop irrigation no longer generates "irrigation return flows" as historically occurred when the lands were under furrow irrigation where excess irrigation drain water was conveyed by ditches to the on-site tailwater basin. Thus, the canal channels ceased to convey irrigation water to the fields and the ditches ceased to collect and direct drain water to the tailwater basin. In the absence of incoming drain water, the tailwater basin gradually dried up over the years. In summary, the canals, ditches and tailwater basin have not held or conveyed water for several years and now appear dry and somewhat overgrown with ruderal species.]

The canals and levees of the tailwater basin would likely provide suitable habitat for burrowing owls (*Athene cunicularia)* in the local vicinity. Pacific chorus frogs (*Pseudacris regilla*) and western toads (*Bufo boreas*) may use the irrigation canals for breeding and may also disperse through the adjacent fields during the winter and spring or when the fields are not regularly disked. Reptile

species that may forage in this habitat include lizards such as the side-blotched lizard (*Uta stansburiana*) and western whiptail (*Cnemidophorus tigris*), and snakes such as the gopher snake (*Pituophis melanoleucus*), and common kingsnake (*Lampropeltis getulus*).

Resident bird species expected to use this habitat would include Brewer's blackbirds (*Euphagus cyanocephalus*), brown-headed cowbirds (*Molothrus ater*), and European starlings (*Sturnus vulgaris*), among others. Wintering birds that may utilize the disked fallow field would be the savannah sparrow (*Passerella sandwichensis*), American pipit (*Anthus rubescens*), and Say's phoebe (*Sayornis saya*), among others. Summer migrants such as the barn swallow (*Hirundo rustica*) may forage on the site.

Burrowing rodent activity in the fields is expected to be minimal due to the ground disturbance regime. Botta's pocket gopher (*Thomomys bottae*) burrows may occur within the site, and California ground squirrel (*Otospermophilus beecheyi*) burrows may occur along the agricultural field perimeters.

The site offers limited foraging opportunities for mammalian and avian predators. Raptors such as red-tailed hawks (*Buteo jamaicensis*), Swainson's hawks (*Buteo swainsoni*), great horned owls (*Bubo virginianus*), burrowing owls, and barn owls (*Tyto alba*) may occasionally forage on the site, and burrowing owls are known to breed in the larger managed canals in the surrounding local vicinity. Disturbance-tolerant mammalian predators such as raccoons (*Procyon lotor*), striped skunks (*Mephitis mephitis*), coyotes (*Canis latrans*), and red foxes (*Vulpes vulpes*) may occasionally forage on or pass through the site.

2.4 WILDLIFE MOVEMENT CORRIDORS

Wildlife movement corridors are areas where regional wildlife populations regularly and predictably move during dispersal or migration. Movement corridors in California are typically h valleys, rivers and creeks supporting riparian vegetation, and ridgelines. In the San Joaquin Valley, which lacks many of the more pronounced topographic features found in the surrounding foothills, wildlife will often move across ill-defined undeveloped habitat patches. Regional movement is also

facilitated along existing linear features such as ditches, canals, farm roads, and creeks. In areas of intense farming, these existing linear features tend to be used disproportionately more for movement when compared to the adjacent, intensely farmed lands. While these actively farmed fields are not barriers in themselves, they are used less often than the linear features that cut through them.

The intense farming throughout the San Joaquin Valley over the last century has long altered the more traditional regional movement patterns of wildlife. While regionally-occurring wildlife do, in fact, move across the broad range of the Valley, they do so less effectively than they once did, relying more extensively on various linear features such as canals, ditches and creeks. Regionally, the nearest areas believed to provide for regional wildlife movement include areas in the surrounding Sierra and inner coast range foothills that have not been substantially altered.

The Project Site consists of agricultural fields adjacent to canal habitat. Canals and ditches within the Project Site can function as movement corridors for the regular home range or dispersal movements of native wildlife, including special status species. The USFWS' *Recovery Plan for Upland Species of the San Joaquin Valley* (Recovery Plan) does not show movement corridors within or near the Project Site. The Recovery Plan shows the foothills to the west as a north-south movement corridor (USFWS 1998). The nearest significant riparian corridor that likely facilitates regional movement of wildlife is the Kings River to the east of the site. This riparian area is located miles to the east of the Project Site at its nearest point.

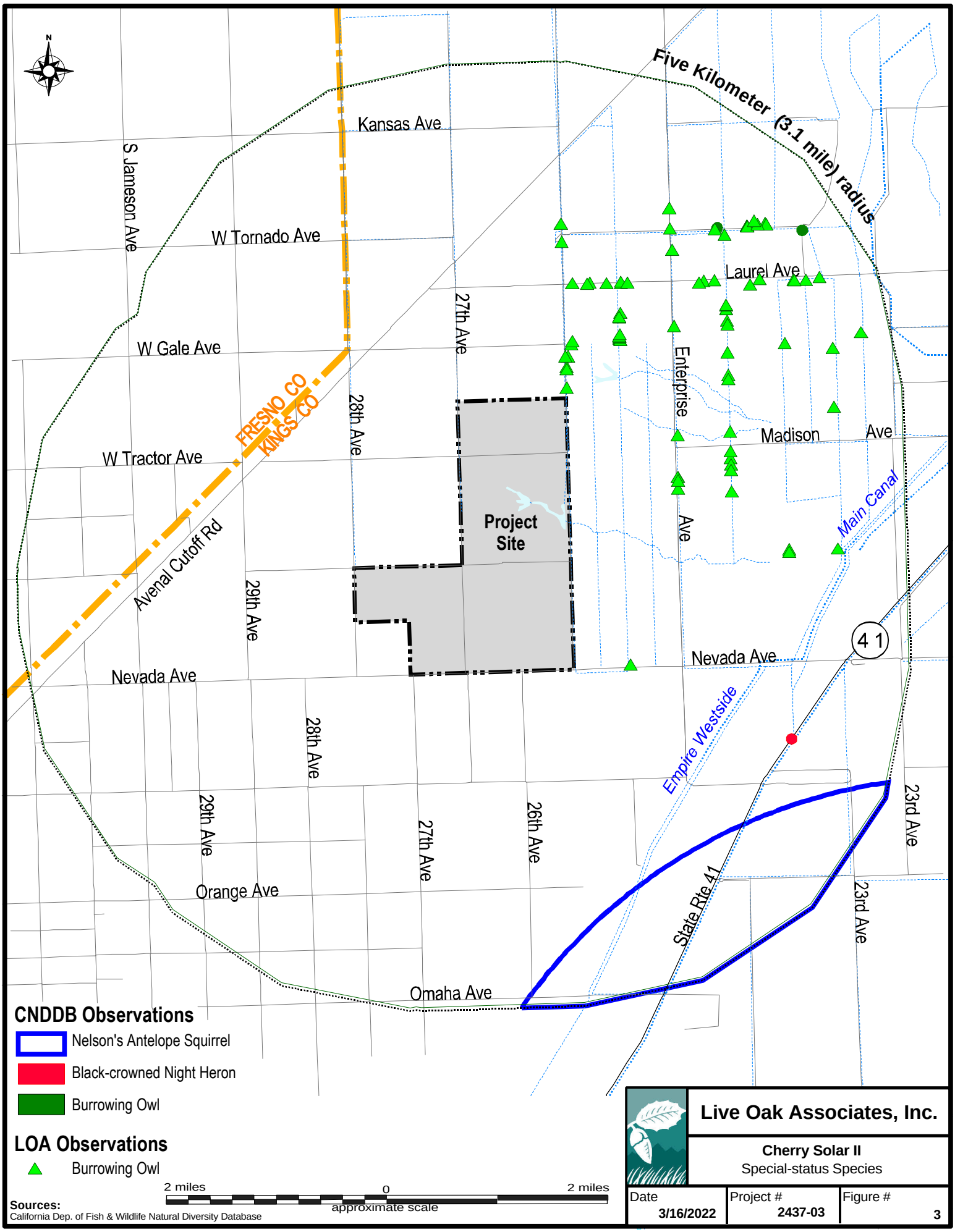
2.5 SPECIAL STATUS PLANTS AND ANIMALS

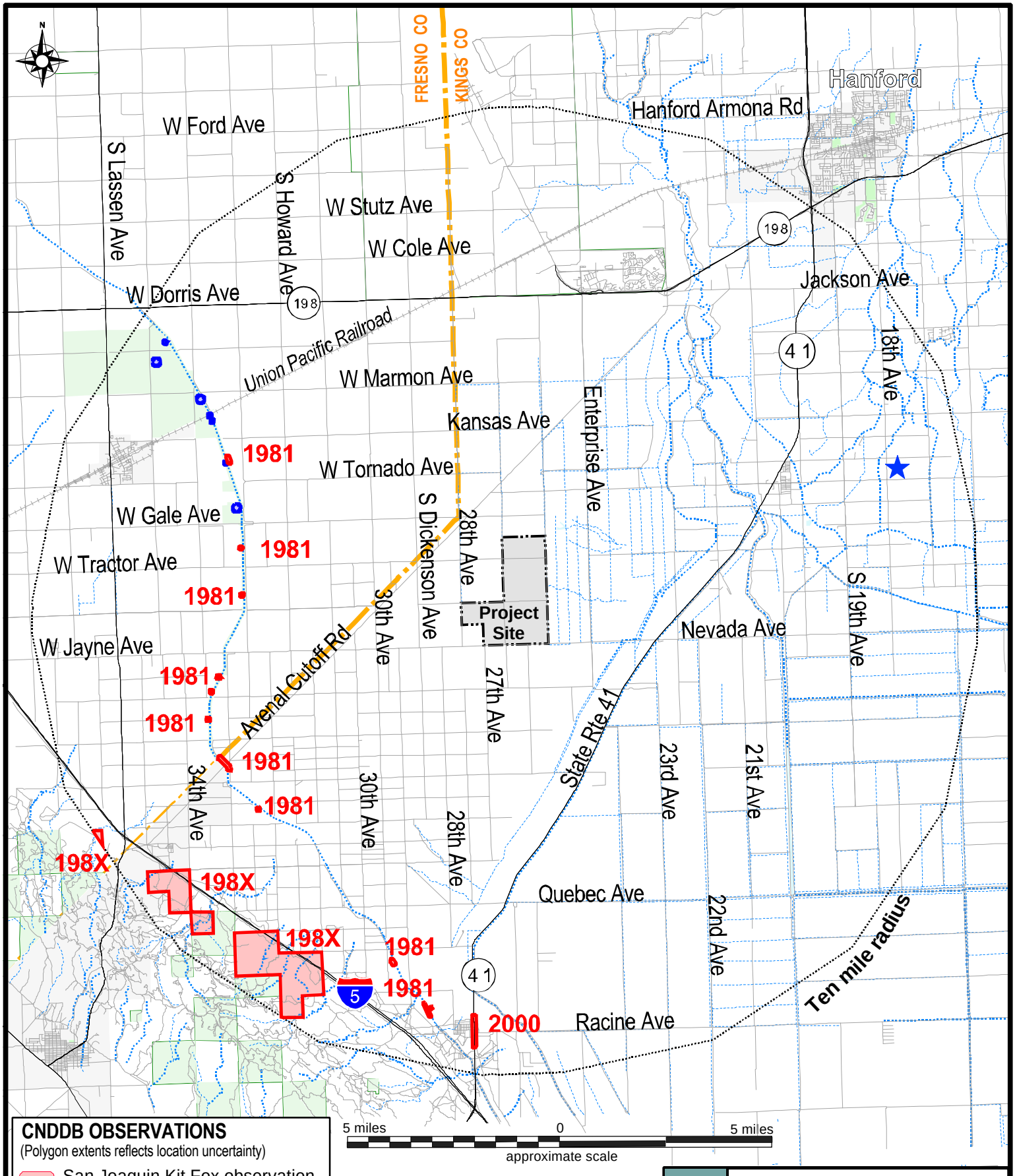
Several species of plants and animals within the state of California have low populations and/or limited distributions. Such species may be considered "rare" and are vulnerable to extirpation as the state's human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described more fully in Section 3.2, state and federal laws have provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally

designated as “threatened” or “endangered” under state and federal endangered species legislation. Others have been designated as candidates for such listing. Still others have been designated as “species of special concern” by the CDFW. The California Native Plant Society (CNPS) has developed its own set of lists of native plants considered rare, threatened, or endangered (CNPS 2022). Collectively, these plants and animals are referred to as “special status species”.

Several special status plants and animals could occur in the vicinity of the Project Site (Figures 3 and 4). These species, and their potential to occur in the Project Site, are listed in Table 1 in the following pages. Sources of information for this table includes *California Amphibian and Reptile Species of Special Concern* (Thomson et.al. 2016), *California Bird Species of Special Concern* (Shuford and Gardall 2008), *California Natural Diversity Data Base* (CDFW 2022), *Endangered and Threatened Wildlife and Plants* (USFWS 2022), *Annual Report on the Status of California State Listed Threatened and Endangered Animals and Plants* (CDFW 2022), and *The California Native Plant Society’s Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2022). This information was used to evaluate the potential for special status plant and animal species to occur within the Project Site. It is important to note that the California Natural Diversity Data Base (CNDDB) is a volunteer database.

A search of published accounts for all of the relevant special status plant and animal species was conducted for the Westhaven USGS 7.5-minute quadrangles within which the Project Site is located, and for the 8 surrounding quadrangles (Calflax, Vanguard, Lemoore, Huron, La Cima, Kettleman City, Stratford SE, Hanford) using the California Natural Diversity Data Base Rarefind 5 (2022).


Five Kilometer (3.1 mile) radius
Kansas Ave
S Jameson Ave
W Tornado Ave
W Gale Ave
W Tractor Ave
Avenal Cutoff Rd
FRESNO CO
KINGS CO
27th Ave
28th Ave
29th Ave
Enterprise
Laurel Ave
Madison Ave
Ave
Main Canal
Project Site
Nevada Ave
Empire Westside
26th Ave
23rd Ave
State Rte 41
Orange Ave
Omaha Ave
CNDDB Observations
Nelson's Antelope Squirrel
Black-crowned Night Heron
Burrowing Owl
LOA Observations
Burrowing Owl
2 miles
0
2 miles
approximate scale
Sources:
California Dep. of Fish & Wildlife Natural Diversity Database
Live Oak Associates, Inc.
Cherry Solar II
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CNDDB OBSERVATIONS
(Polygon extents reflects location uncertainty)

- San Joaquin Kit Fox observation
- Swainson's Hawk observation

R. HANSEN OBSERVATIONS

- Swainson's Hawk observation

Sources:
California Dep. of Fish & Wildlife Natural Diversity Database
Robert Hansen observations shown as blue stars

Live Oak Associates, Inc.

Cherry Solar II
San Joaquin Kit Fox & Swainson's Hawk

Date	Project #	Figure #
3/02/2022	2437-03	4

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE VICINITY OF THE CHERRY SOLAR PROJECT SITE

PLANTS (adapted from CDFW 2022 and CNPS 2022)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	*Occurrence in the Project Site
California jewelflower *Caulanthus californicus*	FE, CE, CRPR 1B.1	Habitat Chenopod scrub, valley and foothill grassland, pinyon-juniper woodland. Elevation: 61-1000 meters. Blooms: February–May.	**Absent.** Suitable habitat for this species is absent from the Project Site. Any suitable habitat that may have once been present has been highly modified for human use.
Kern mallow *Eremalche parry ssp.kernensis*	FE, CRPR 1B.2	Habitat On dry, open sandy to clay soils; often at edge of balds in Chenopod scrub, Pinyon and juniper woodland, Valley and foothill grassland. Elevation: 70 – 1290 meters. Blooms: January - May.	**Absent.** Suitable habitat for this species is absent from the Project Site. Any suitable habitat that may have once been present has been highly modified for human use.
San Joaquin woolythreads *Monolopia congdonii*	FE, CRPR 1B.2	Habitat: Chenopod scrub, valley and foothill grassland. Elevation: 60-800 meters. Blooms: February-May.	**Absent.** Suitable habitat for this species is absent from the Project Site. Any suitable habitat that may have once been present has been highly modified for human use.

ANIMALS (adapted from CDFW 2019 and USFWS 2019)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	*Occurrence in the Project Site
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	Occurs in vernal pools of California.	**Absent.** Suitable habitat in the form of vernal pools is absent from the Project Site.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT	Lives in mature elderberry shrubs of California's Central Valley and Sierra Foothills.	**Absent.** Suitable habitat in the form of elderberry shrubs is absent from the Project Site.
Delta smel *Hypomesus transpacificus*	FT, CT	Euryhaline species found in open waters of bays, tidal rivers, channels, and sloughs occurring in waters with salinity generally less than 10 ppt, and more usually around 2 ppt. Spawning occurs in freshwater further upstream. The majority occurs in Sacramento and Solano Counties in California; however, USFWS also indicates occurrences in other counties as well.	**Absent.** This fish species occurs only in the waters of the San Francisco Bay-Delta Estuary with the USFWS 2004 5-Year Review identifying Mossdale, California as the furthest upstream (southwards) historical limit of their range within the San Joaquin River watershed. Since the project site is located 140 miles south of the Delta and more than 130 miles from Mossdale, this species will not occur on the project site or vicinity. Additionally, the project would not impact any waterways.
California tiger salamander *Ambystoma californiense*	FT, CT	Breeds in vernal pools and stock ponds of central California; adults aestivate in grassland habitats adjacent to the breeding sites.	**Absent.** No historic or current records of this species are known within the region. Intensively cultivated lands provide unsuitable habitat for this species.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE VICINITY OF THE CHERRY SOLAR PROJECT SITE

ANIMALS – cont'd.

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	*Occurrence in the Project Site
California red-legged frog *Rana draytonii*	FT, CSC	Dense, shrubby riparian vegetation such as arroyo willow, cattails, and bulrushes with still or slow-moving water. Perennial streams or ponds are preferred, and a salinity of no more than 4.5‰.	**Absent.** In the San Joaquin Valley, suitable habitat for this species occurs along the east side of the valley as far south as Fresno County, and the Recovery Plan does not include the area of the site within Kings County as being within this species' current range (post 1985). Therefore, this species will not occur on the project site or vicinity.
Giant garter snake *Thamnophis gigas*	FT, CT	Habitat requirements consist of (1) adequate water during the snake's active season (early-spring through mid-fall) to provide food and cover; (2) emergent, herbaceous wetland vegetation, such as cattails and bulrushes, for escape cover and foraging habitat during the active season; (3) grassy banks and openings in waterside vegetation for basking; and (4) higher elevation uplands for cover and refuge from flood waters during the snake's dormant season in the winter.	**Absent.** Although the project site lies within the historic range of the giant garter snake, this species is no longer known to occur south of the San Joaquin River in Fresno County, approximately 45 miles north of the project site. Therefore, this species will not occur on the project site or vicinity.
Blunt-nosed leopard lizard *Gambelia silus*	FE, CE, CP	Frequents grasslands, alkali meadows and chenopod scrub of the San Joaquin Valley from Merced south to Kern County.	**Absent.** Habitats required by this species are absent from the project site and vicinity and there are no reported sightings of this species within 15 miles of the project site. Therefore, this species will not occur on the site or vicinity.
Swainson's hawk *Buteo swainsoni*	CT	Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah. Requires adjacent suitable foraging areas such as grasslands or alfalfa fields supporting rodent populations.	**Present.** Foraging habitat is available throughout the project area. Potential breeding habitat is present at the tailwater basin in the eastern portion of the site. Swainson's hawks were observed flying over the site during site visits for the adjacent WSP Master Plan site during the April 10 and May 28, 2018, and April 11, 2019 site visits; they are known to occur over and adjacent to the site, per previous surveys conducted by LOA as well.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FC, CE	Breed in large blocks of riparian habitats, particularly cottonwoods and willows.	**Absent.** Dense riparian habitat required by this species is absent from the Project Site.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE VICINITY OF THE CHERRY SOLAR PROJECT SITE

ANIMALS – cont'd.

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	*Occurrence in the Project Site
Western snowy plover *Charadrius alexandrines nivosus*	FT, CSC	Uses human-made agricultural wastewater ponds and reservoir margins. Breeds on barren to sparsely vegetated ground at alkaline or saline lakes, reservoirs, ponds, and riverine sand bars.	**Possible.** Breeding and foraging habitat is available along agricultural canals within the Project Site.
Tricolored Blackbird *Agelaius tricolor*	CC, CSC	Breeds near fresh water, primarily emergent wetlands, with tall thickets. Forages in grassland and cropland habitats.	**Possible.** Foraging habitat for this species is present within the Project Site in the form of cattails in the canals of the site and within the vicinity of the site; however. presence of breeding habitat on the site itself would depend on the type of crop planted from season to season. Tricolored blackbirds are known to nest in wheat fields.
Buena Vista Lake ornate shrew *Sorex ornatus relictus*	FE	Occurs in marshes on the edges of Lake Buena Vista, Kern County, may occur, but currently presumed absent from Tulare Basin.	**Absent.** The only water near the site consists of canals and the tailwater basin which has not held water in at least 10 years. A floodplain does not exist for either of these features and suitable habitat, including riparian or wetland habitats are absent from the site except for the tailwater pond, which used to support a more robust riparian habitat, but has not supported suitable riparian habitat since the tailwater basin has not held water for more than 10 years. Soil onsite is bare and is often hardened when not wet from rain. Prey species for the BVLS are likely to be few on the site as well. Since none of the habitat elements required for the Buena Vista Lake ornate shrew are present on the site and it is not within the Kern Lake Preserve Unit, it is concluded that there is no potential for this species to occur on this site.
Nelson's antelope squirrel *Ammospermophilus nelsoni*	CT	Frequents open shrublands and annual grassland habitats.	**Absent.** Habitats required by this species are absent from the Project Site and surrounding agricultural lands due to intensive agricultural use.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE VICINITY OF THE CHERRY SOLAR PROJECT SITE

ANIMALS – *cont'd*

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	*Occurrence in the Project Site
Giant kangaroo rat *Dipodomys ingens*	FE, CE	Inhabits grasslands on gentle slopes generally less than 10°, with friable, sandy-loam soils.	**Absent**. Habitats required by this species are absent from the Project Site and surrounding agricultural lands due to intensive agricultural use. Additionally, in California this species' range is confined to the western edge of the San Joaquin Valley and the foothills along the western edge of the San Joaquin Valley. Since this species is not present in agricultural areas of the central San Joaquin Valley, which does not support suitable habitat for this species, it will not occur on the project site or vicinity.
Fresno kangaroo rat *Dipodomys nitratoides exilis*	FE, CE	Inhabits grassland on gentle slopes generally less than 10°, with friable, sandy-loam soils.	**Absent.** Habitats required by this species are absent from the Project Site and surrounding agricultural lands due to intensive agricultural use.
Tipton kangaroo rat *Dipodomys nitratoides nitratoides*	FE, CE	Inhabits arid land with grassland or salt scrub on level or near-level terrain on the San Joaquin Valley floor with alluvial fan and floodplain soils.	**Absent.** The site is within the historic distribution but the current distribution is more than 25 miles to the east of the site. The suitable alkali sink scrub habitat required for this species is not present on or near the site. This species distribution occurs mainly on the southern end of the San Joaquin Valley with the project site being at the northernmost edge of this species' range, and there are no reported sightings of this species west of the Kings River in the vicinity of the project site, which is three miles east of the project site and forms a barrier to westward movement toward the project site. Therefore, this species will not occur on the site or vicinity.
San Joaquin kit fox (Vulpes macrotis mutica)	FE, CT	Frequents desert alkali scrub and annual grasslands and may forage in adjacent agricultural habitats. Utilizes enlarged (4 to 10 inches in diameter) ground squirrel burrows as denning habitat.	**Unlikely.** Some burrows observed in the surrounding area were of suitable size for the kit fox. However, nearly all these burrows were within the vicinity of California ground squirrels or actively used by ground squirrels. The Project Site and the surrounding area have been highly modified for agricultural use and, as a result, provide only marginal foraging and breeding habitat for the kit fox. There are no documented sightings of this species on the Project Site, or in the

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE VICINITY OF THE CHERRY SOLAR PROJECT SITE

ANIMALS – cont'd.

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	*Occurrence in the Project Site
			surrounding area, but there have been numerous documented sightings within a ten-mile radius of the Project Site (see Figure 4), between 1975 and 2000 (CNDDB 2022). Therefore, kit foxes are unlikely to breed within the Project Site but may occasionally forage within the Project Site and may use the Project Site for dispersal movements.

State Species of Special Concern

Western spadefoot *Scaphiopus hammondii*	CSC	Primarily occurs in grasslands, but also occurs in valley and foothill hardwood woodlands. Requires vernal pools or other temporary wetlands for breeding.	**Absent.** Vernal pools required for breeding are absent from the Project Site. Terrestrial habitat required for estivation is absent from cultivated fields.
Western pond turtle *Actinemys marmorata*	CSC	Intermittent and permanent waterways including streams, marshes, rivers, ponds and lakes.	**Unlikely.** While marginal habitat, in the form of the canals, exists within the Project Site, the tailwater basin appears to have been dry for the last 10 years and estivation and breeding habitat is absent from the project site.
Temblor Legless Lizard *Anniella alexanderae*	CSC	The Temblor legless lizard (previously called silvery legless lizard) occurs mostly underground in warm moist areas with loose soil and substrate and is known only from two sites west of Highway 33 at the base of the Temblor Range between McKittrick and Taft in Kern County.	**Absent.** The Project Site is outside of this species' range.

TABLE 1. LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE VICINITY OF THE CHERRY SOLAR PROJECT SITE

ANIMALS – cont'd.

State Species of Special Concern or Fully Protected Species

Species	Status	Habitat	*Occurrence in the Project Site
Coast horned lizard *Phrynosoma blainvillii*	CSC	Grasslands, scrublands, oak woodlands, etc. of central California. Common in sandy washes with scattered shrubs.	**Absent.** Habitats required by this species are absent because they have been heavily modified for human use.
California glossy snake *Arizona elegans occidentallis*	CSC	Occurs in arid areas with grassland, scrub, chaparral, and rocky washes. This species is nocturnal and spends the day in burrows.	**Absent.** Habitats required by this species are absent from the Project Site and vicinity.
San Joaquin whipsnake *Masticophis flagellum ruddocki*	CSC	Open, dry habitats with little or no tree cover. Found in valley grasslands and saltbush scrub in the San Joaquin Valley.	**Absent.** Habitats required by this species are absent from the Project Site and vicinity.
American white pelican *Pelecanus erythrorhynchos*	CSC	Nests on islands in large lakes or on ephemeral islands in shallower wetlands.	**Unlikely.** Nesting habitat is absent from the Project Site. This species has observed flying in the general area in previous years; however, the species is unlikely to stop and nest within the Project Site.
White-faced ibis *Plegadis chihi*	CSC	Salt and freshwater marsh as well as grain and alfalfa fields.	**Possible.** Foraging habitat required for this species is present in the form of the agricultural fields within the Project Site. Breeding habitat is absent.
Northern harrier *Circus cyaneus*	CSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	**Possible.** Northern harriers were observed foraging over agricultural fields within the general area during previous surveys, and foraging and breeding habitat exists on the Project Site.
White-tailed kite *Elanus leucurus*	CP	Open grasslands and agricultural areas throughout central California.	**Possible.** Suitable foraging and breeding habitat occurs for this species within the Project Site.
Mountain plover *Charadrius montanus*	CSC	Forages in short grasslands and freshly plowed fields of the Central Valley.	**Possible.** The Project Site provides potential winter foraging habitat for this species; however, the species does not breed in this region.

TABLE 1: LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE VICINITY OF THE CHERRY SOLAR PROJECT SITE

ANIMALS – cont'd.

State Species of Special Concern

Species	Status	Habitat	*Occurrence in the Project Site
Burrowing owl *Athene cunicularia*	CSC	Frequents open, dry annual or perennial grasslands, deserts, and scrublands characterized by low growing vegetation. Dependent upon burrowing mammals, most notably the California ground squirrel, for nest burrows.	**Absent.** Past site visits in the local vicinity and adjacent WSP Master Plan identified breeding burrowing owls along canals and identified a large amount of overwintering burrowing owls on adjacent lands in the vicinity of the project site. Currently, suitable habitat onsite consists mainly of ground squirrel burrows along canals and the margins of agricultural fields. In 2022, LOA conducted breeding season surveys (four site visits) of the areas of the site where burrowing owls were most likely to occur in 2022 and burrowing owls were not observed on the site. Burrowing owls are absent from the site at this time, although they could move onto the site in the future.
Long-eared owl (nesting) *Asio otus*	CSC	Occur on edge habitats including in clumps of trees or edges of open forests that are adjacent to grasslands, shrublands, wetlands, marshes, and farmlands. Need stick nests built by other birds in trees.	**Possible.** Although the Project Site does not support suitable nesting habitat for this species except for utility poles (unlikey), small clumps of moderately suitable trees exist at the tailwater basin on the eastern side of the site; therefore, long-eared owls may use the Project Site for breeding or foraging.
Black swift *Cypseloides niger*	CSC	Migrants found in many habitats of state; in Sierra nests are often associated with waterfalls.	**Absent.** The Project Site does not provide suitable breeding or foraging habitat for this species.
Vaux's swift *Chaetura vauxi*	CSC	Migrants move through the foothills of the western Sierra in spring and late summer. Some individuals breed in the region.	**Absent.** The Project Site does not provide suitable breeding or foraging habitat for this species.
Loggerhead shrike *Lanius ludovicianus*	CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. Can often be found in cropland.	**Likely.** This species has been observed on adjacent lands during surveys for the WSP Master Plan. The Cherry Solar site may support marginal nesting habitat within vegetated canals and the tailwater basin.
Yellow-headed blackbird *Xanthocephalus xanthocephalus*	CSC	Occurs in freshwater marshes with cattails, tule, and bulrush during the summer and open, cultivated fields and pastures in the winter.	**Possible.** The canals and tailwater basin of the site support potential breeding and foraging habitat for this species.

TABLE 1: LIST OF SPECIAL STATUS SPECIES THAT COULD OCCUR IN THE VICINITY OF THE CHERRY SOLAR PROJECT SITE

ANIMALS – cont'd.

State Species of Special Concern

Species	Status	Habitat	*Occurrence in the Project Site
Tulare grasshopper mouse *Onychomys torridus*	CSC	Arid shrubland communities in hot, arid grassland and scrub desert associations. These include blue oak woodlands at 450 m (1476 feet); upper Sonoran subshrub scrub community; alkali sink and mesquite associations on the valley floor; and grasslands associations on the sloping margins of the San Joaquin Valley and Carrizo Plain region.	**Absent.** Suitable shrubland habitat is not present within the Project Site.
Short-nosed kangaroo rat *Dipodomys nitratoids brevinasus*	CSC	Occur in lighter, powdery soils such as the sandy bottoms and banks of arroyos and other sandy areas with slightly to highly saline soils on gently sloping and rolling low hill-tops with shrubs.	**Absent**. Habitats required by short-nosed kangaroo rats are absent from the study area and surrounding agricultural lands due to intensive agricultural use.
Townsend's Big-eared bat *Corynorhinus townsendii*	CSC	Primarily a cave-dwelling bat that may also roost in buildings. Occurs in a variety of habitats.	**Possible.** Suitable foraging habitat for this species is present within the Project Site; however, roosting habitat is absent.
Pallid bat *Antrozous pallidus*	CSC	Roosts in rocky outcrops, cliffs, and crevices with access to open habitats for foraging. May also roost in caves, mines, hollow trees and buildings.	**Possible.** Although suitable roosting habitat for the pallid bat is absent from the Project Site, the entire site supports suitable foraging habitat for this species.
California mastiff bat *Eumops perotis ssp. californicus*	CSC	Frequents open, semi-arid to arid habitats, including conifer, and deciduous woodlands, coastal scrub, grasslands, palm oasis, chaparral and urban. Roosts in cliff faces, high buildings, trees and tunnels.	**Possible.** Although suitable roosting habitat for the California mastiff bat is absent from the Project Site, the entire site supports suitable foraging habitat for this species.
American badger *Taxidea taxus*	CSC	Found in drier open stages of most shrub, forest and herbaceous habitats with friable soils.	**Unlikely.** No burrows of the size and shape suitable for this species were observed on the Project Site. It is possible this species may establish burrows within the project site; however, it is unlikely that badgers would breed onsite and within the site's vicinity.
Ringtail Bassariscus astutus	CP	Riparian and heavily wooded habitats near water.	**Absent.** Habitat for this species is absent from the Project Site.

***Explanation of Occurrence Designations and Status Codes**

Present: Species observed within the Project Site at time of field surveys or during recent past.
Likely: Species not observed within the Project Site, but it may reasonably be expected to occur there on a regular basis.
Possible: Species not observed within the Project Site, but it could occur there from time to time.
Unlikely: Species not observed within the Project Site, and would not be expected to occur there except, perhaps, as a transient.
Absent: Species not observed within the Project Site, and precluded from occurring there because habitat requirements not met.

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FPE	Federally Endangered (Proposed)	CR	California Rare
FC	Federal Candidate	CP	California Fully Protected
		CSC	California Species of Special Concern
		CC	California Candidate

CNPS	California Native Plant Society Listing		
1A	Plants Presumed Extinct in California	3	Plants about which we need more information – a review list
1B	Plants Rare, Threatened, or Endangered in California and elsewhere	4	Plants of limited distribution – a watch list
2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere		

2.6 ENDANGERED, THREATENED, OR SPECIAL STATUS ANIMAL SPECIES MERITING FURTHER DISCUSSION

2.6.1 Swainson's Hawk (Buteo swainsoni)

Federal Listing Status: None; State Listing Status: Threatened.

The Swainson's hawk is designated as a California Threatened species. The loss of agricultural lands (i.e., foraging habitat) to urban development and additional threats such as riverbank protection projects have contributed to its decline.

Life history and ecology. Swainson's hawks are large, broad-winged, broad-tailed hawks. Male and female Swainson's hawks have similar body types, with a length generally between 17 and 22 inches and a wingspan between 47 and 57 inches. They weigh up to 2.5 pounds.

Swainson's hawks have a high degree of mate and territorial fidelity. They arrive at their nesting sites in March or April, and their nests, measuring three to four feet in diameter, can take up to two weeks to complete. The nest is likely to be a stick nest constructed in a tree. In the Central Valley, Swainson's hawks typically nest in large trees in or peripherally to riparian systems adjacent to suitable foraging habitats. The female will lay and incubate two to four eggs for approximately 28 to 35 days. The male helps with incubation when the female leaves the nest to feed. The young

hatch sometime between March and July and do not leave the nest until some 4 to 6 weeks later. Other suitable nest sites include lone trees, groves of trees such as oaks, other trees in agricultural fields, and mature roadside trees. Swainson's hawks forage in large, open fields with abundant prey, including grasslands or lightly grazed pastures, alfalfa and other hay crops, and certain grain and row croplands.

Swainson's hawk survey history on the project site and the adjacent lands: On June 21, 2010 LOA biologists Jeff Gurule and Geoff Cline observed a pair of Swainson's hawks soaring above and around the tailwater basin. The two hawks vocalized an alarm call when first encountered flying low over the basin and then soared high into the air. The hawks were encountered again within 30 minutes flying low over the tailwater basin. Although approximately 30 minutes was spent in a thorough search for a nest, no Swainson's hawk nest was observed in the trees associated with the off-site tailwater basin. An active barn owl nest was found however. Although the behavior of the Swainson's hawks observed indicated the possibility that a nest may occur in the trees associated with the tailwater basin.

In 2011, surveys for Swainson's hawks were made on March 21 and April 5 by LOA ecologists Katrina Krakow and Nathan Hale, April 12 and 13 by Katrina Krakow, April 19 and 20 by Katrina Krakow and biologist Robert Shields, and May 3, and 17 by Katrina Krakow. The majority of surveys focused on the tailwater basin which has a row of riparian trees along its margins. Shorter surveys were made near the King's River along Jackson Road, northeast of the Project Site, where Swainson's hawks have been observed in previous years. A pair of Swainson's hawks were observed off of Jackson Road near the Kings River on 21 March, and 5, 12, and 13 April 2011. Only one individual was observed at a time (both individuals were observed separately) starting on April 19th, which may indicate the beginning of nesting, although no nest was located. On 3 May 2011, a Swainson's hawk was observed over the housing of the Lemoore Air Base along Highway 198, approximately 3.5 miles north of the Project Site. A pair of Swainson's hawks were observed over the tailwater basin beginning on April 19, 2011 by LOA ecologist Katrina Krakow and biologist Robert Shields, and only one individual was observed at a time (both individuals were observed

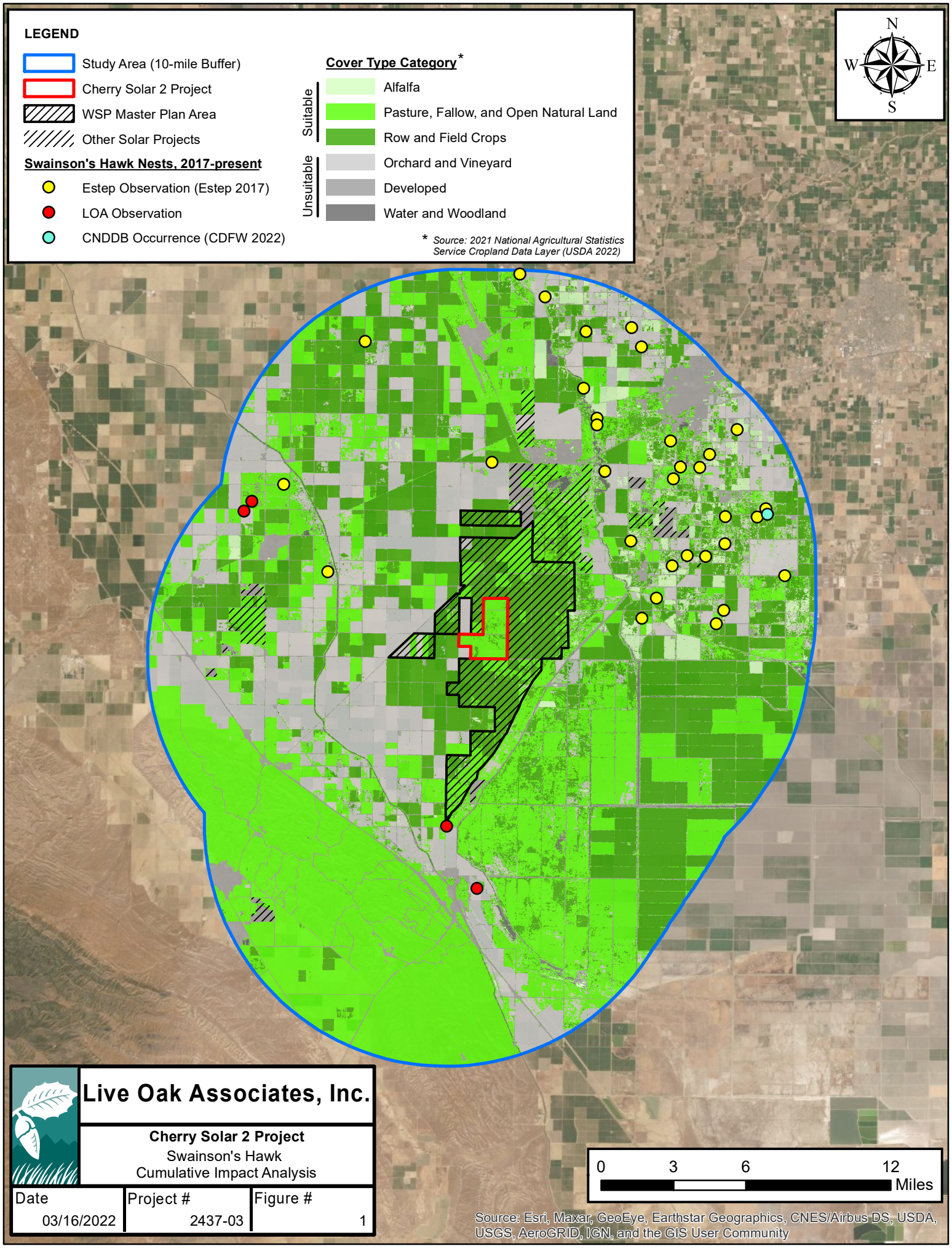
separately) starting on May 3 by LOA ecologist Katrina Krakow, which may indicate the beginning of nesting for this pair. These individuals were observed interacting with a pair of red-tailed hawks, which were also observed only singularly near the pond. Two great horned owl nests were observed in trees along the south side of the pond, on April 19, one owlet was observed in one nest and two owlets were observed in the other nest. However, as at least two pair of Swainson's hawks were observed either over or in the vicinity of the project site and adjacent WSP study area, both observed pairs of this species most likely forage onsite, although, due to lack of suitable nest trees, they are not expected to nest onsite, however, potentially suitable nesting habitat occurs at the tailwater basin on the eastern side of the Cherry Solar Project Site.

Further multi-year surveys of the tailwater basin area were conducted by LOA biologists during subsequent breeding seasons 2012-2015. Although Swainson's hawks were reliably observed flying over the tailwater basin in each of these years, these surveys likewise failed to detect the presence of a Swainson's hawk nest within the trees surrounding the tailwater basin. The April 15, 2015, survey was the only survey that LOA biologists observed Swainson's hawks land in a tree at the tailwater basin. All other observations were of Swainson's hawks flying overhead.

In the spring of 2012, LOA conducted a Swainson's hawk nest survey of the Westlands Solar Park (WSP) in conjunction with the biological report prepared for the WSP Master Plan and Gen-Tie Corridors Program EIR, which is adjacent to the project site. The study area included the Project Site as well as accessible lands within a buffer of 10 miles from the WSP Master Plan area. These surveys took place on April 27 by Ms. Krakow and Ms. Jensen; May 3 by Ms. Krakow; and May 4 by Ms. Krakow and Mr. Cline. Accessible lands within the 10-mile radius were surveyed completely except for those lands previously surveyed by ESTEP Ecological Consulting (2011 and 2012). Four active Swainson's nests were observed, all occurring off-site. Active nests were revisited on May 24 by Ms. Krakow and Mr. Cline. Two nests were located to the northwest of the site in trees bordering a drainage located northwest of the Town of Huron, one nest was located to the southeast of the site just east of Kettleman City in a stand of eucalyptus trees, and one nest was located in a cottonwood tree located south of the southern limit of the WSP Master Plan area just

outside of the WSP Master Plan area on the eastern side of the canal adjacent to the WSP Master Plan area near Quail Avenue. During the 2013-2015 spring surveys, this nest was observed to be in active use by a pair of breeding Swainson's hawks. This pair likely uses the WSP study area for foraging, and nesting on the Cherry Solar site is unlikely due to the current condition of the trees adjacent to the tailwater basin; through the past several years of drought, most of these trees have died and many have fallen.

The four nests observed by LOA in 2012 were revisited on September 25, 2017, and April 9 and 10, 2018 (including a visit to nest #11 of the Estep report from 2017 on April 9, 10, and May 28, 2018). By September of 2017, nesting activity for the 2017 nesting season could not be confirmed, however, one nest was missing and presumed inactive for 2017. The 2018 nesting season appeared to be late, with surveys in April showing adults near known nesting areas, but not yet engaging in nesting activity. Active migration was observed on April 9, 2018, when over 100 Swainson's hawks were observed just off-site south of Nevada Avenue. On May 28, 2018, when the nest locations were revisited, only one of the five nest locations (one of which was previously missing) surveyed was an active nest, near Racine Avenue. These nest locations were checked again on May 29, 2019, where two nests were determined to be active in 2019, the one near Quail Avenue and the one near Racine Avenue. The western nest tree along Los Gatos Creek near Huron did not have a nest in the tree and the western nest tree had been removed as a part of a presumed creek flood protection project. Nest #11 from Estep's survey supported nesting ravens in 2019. Figure 5 illustrates known Swainson's hawk nest locations within the project vicinity.


LEGEND
Study Area (10-mile Buffer)
Cherry Solar 2 Project
WSP Master Plan Area
Other Solar Projects
Swainson's Hawk Nests, 2017-present
Estep Observation (Estep 2017)
LOA Observation
CNDDB Occurrence (CDFW 2022)
Cover Type Category*
Suitable
Alfalfa
Pasture, Fallow, and Open Natural Land
Row and Field Crops
Unsuitable
Orchard and Vineyard
Developed
Water and Woodland
* Source: 2021 National Agricultural Statistics Service Cropland Data Layer (USDA 2022)
N
W
E
S
Live Oak Associates, Inc.
Cherry Solar 2 Project
Swainson's Hawk
Cumulative Impact Analysis
Date
03/16/2022
Project #
2437-03
Figure #
1
0
3
6
12
Miles
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Potential to occur within the Project Site. Swainson's hawks are known to forage in areas surrounding the Project Site. Groupings of trees and trees along the nearby Kings River, provide suitable nesting and perching habitat, and the fallow and agricultural lands within the Project Site provide suitable foraging habitat. Potentially suitable nesting habitat occurs at the tailwater basin in the eastern portion of the Cherry Solar Project Site, although this habitat is currently marginal due to the large number of dead trees.

Although no known historic nests are along or within a half-mile of the project site, marginally suitable nest trees do exist adjacent to the tailwater basin. Therefore, Swainson's hawks may nest in suitable trees located within 0.5 miles of the project site (the typical setback distance for active nest sites is a half-mile). Swainson's hawk nests were absent from these trees during the 2021 and 2022 site surveys.

For a detailed cumulative analysis of impacts to Swainson's hawks, see Appendix A of this report.

2.6.2 Burrowing Owl (*Athene cunicularia*).

Federal Listing Status: None; State Listing Status: Species of Special Concern.

The burrowing owl is designated as a California Species of Special Concern. This designation was based on the species' declining population within the state over the past 40 years. The population decline is mainly due to habitat destruction resulting from development and agricultural practices.

Life history and ecology. The burrowing owl is a small, long-legged bird that averages a height of 9.5 inches, has an average wingspan of 23 inches, and weighs an average of 5.25 ounces. Burrowing owls are unique in that they are the only owl that regularly lives and breeds in underground nests. In California, these birds typically occur in the Central and Imperial Valleys, primarily utilizing ground squirrel burrows (or the burrows of other animals, e.g., badgers and coyotes) found in grasslands, open shrub lands, deserts, and, to a lesser extent, grazed and agricultural lands. Burrowing owls in this region are typically found at elevations below 250 ft. and exhibit strong site fidelity. Pairs have been known to return to the same area year after year, and some pairs are known to utilize the same burrow as the previous year. Burrowing owls are colonially nesting

raptors, and colony size is indicative of habitat quality. It is not uncommon to find burrowing owls in developed and cultivated areas where California ground squirrels are active.

Burrowing owls feed on various small mammals including deer mice, voles, and rats. They also prey on various invertebrates including crickets, beetles, grasshoppers, spiders, centipedes, scorpions, and crayfish. Peak hunting periods occur around dusk and dawn.

Burrowing Owl history on the Project Site and the adjacent WSP study area: Burrowing owls were observed utilizing existing burrows and pipes along canals and on the edges of agricultural fields in the vicinity of the project site, including breeding owls along canals and a large amount of overwintering burrowing owls on adjacent lands. The Project Site provides suitable habitat for this species in the form of California ground squirrel burrows which mostly exist along canals and the margins of agricultural fields, as the majority of the fields were disked at the time of the most recent site visit on November 17, 2021. Field surveys did not consist of 100% coverage surveys and were conducted mainly as driving surveys on public roads, farm roads, and canal levees with short walking surveys when animals or plants of biological note were observed. As 100% coverage surveys were not conducted, the precise extent of burrowing owls within the Project Site and adjacent lands is unknown, however, given the apparent prevalence of burrowing owls in the adjacent WSP Master Plan area, including eight observations of owls or active burrows within ½ mile of the site (2011, 2012, 2021, and 2022), burrowing owls are likely to use the site in some form, and may be adversely affected from project-related loss of burrow and foraging habitat (see Appendix B of this report for details).

LOA ecologists Katrina Krakow and Cristal Romero conducted planning-level surveys of the Cherry project site on April 26, May 25, June 1, and June 30, 2022, specifically for the site's potential to support breeding burrowing owls. Suitable habitat was concentrated within and along canals in the northeastern portion of the site as well as in and around the canal connecting to the west of the tailwater pond. Burrowing owls were not identified during these surveys.

Potential to occur within the Project Site. While breeding and wintering burrowing owls have been detected on the nearby WSP Master Plan Area along canals and other linear features, surveys conducted along similar features during the 2022 breeding season have failed to detect owls on the Cherry Solar Project site (Figure 1 of Appendix B). Potential suitable, but unoccupied habitat onsite, consists mainly of ground squirrel burrows along canals and the margins of agricultural fields.

2.6.3 San Joaquin Kit Fox (*Vulpes macrotus mutica*).

Federal Listing Status: Endangered; State Listing Status: Threatened.

By the time the U.S. Fish and Wildlife Service listed it as an endangered species under the authority of the Federal Endangered Species Act on 11 March 1967, the San Joaquin kit fox had been extirpated from much of its historic range. In 1998, the USFWS adopted a final recovery plan for the San Joaquin kit fox. On 27 June 1971, the State of California listed the kit fox as a threatened species.

Life history and ecology. The San Joaquin kit fox, the smallest North American member of the dog family (Canidae), historically occupied the dry plains of the San Joaquin Valley, from San Joaquin County to southern Kern County (Grinnell et al. 1937). Critical habitat has yet to be established for the San Joaquin kit fox. Local surveys, research projects, and incidental sightings indicate that kit foxes currently occupy available habitat on the San Joaquin Valley floor and in the surrounding foothills.

Kit foxes prefer habitats of open or low vegetation with loose soils. In the northern portion of their range, they occupy grazed grasslands and, to a lesser extent, valley oak woodlands. In the southern and central portion of the Central Valley, kit foxes are found in valley sink scrub, valley saltbrush scrub, upper Sonoran subshrub scrub, and annual grassland (USFWS 1998). Kit foxes may also be found in grazed grasslands, urban settings, and in areas adjacent to tilled or fallow fields (USFWS 1998).

Kit fox diets vary geographically, seasonally, and annually. In the central portion of their range, which includes lands around the Project Site, known prey includes white-footed mice, insects, California ground squirrels, black-tailed hares, San Joaquin antelope squirrels, kangaroo rats, desert cottontails, and ground-nesting birds (Archon 1992; Jensen 1972).

The kit fox requires underground dens to raise pups, regulate body temperature, and avoid predators and other adverse environmental conditions (Golightly and Ohmart 1984). In the central portion of their range, they usually occupy burrows excavated by small mammals, such as ground squirrels. Denning habitat consists of ground squirrel complexes in which some burrows have been enlarged to 4 to 6 inches in diameter for the length of a human arm (approximately 2 ft.).

Potential to occur within the Project Site. Lands surrounding the Project Site consist of cultivated and fallow agricultural fields as well as undeveloped rangeland further out to the south and southwest in the Kettleman Hills. The Project Site itself has been heavily managed for agricultural uses for decades. Agricultural lands are not generally suitable for the San Joaquin kit fox.

Having been modified for agricultural use, the Project Site provides a limited prey base especially in the cultivated fields and, therefore, constitutes poor foraging habitats for kit fox. No kit fox, or their sign, was observed during any of the site visits to the Project Site or site visits related to the adjacent WSP Master Plan by LOA ecologists between 2011 and 2022.

Of primary interest for this assessment are kit fox records from the vicinity of the project site. According to the CNDDB there have been a total of 14 historical (1980s-2000) sightings within the ten miles of the site (Figure 4) (CDFW 2022). All of these sightings occur west of the site, the closest record is from 1981 and is over 5 miles to the west of the site along the California Aqueduct; the most recent observation was over 20 years ago, approximately 10 miles to the south of the site and consisted of 2 individuals found dead on the road. Based on the site's location and the distribution of kit fox occurrences in its vicinity, the site may only occasionally be used for regional movements of individual kit fox. Multiple large irrigation canals and drainage ditches run through the Project Site and vicinity which may act as movement corridors; however, should a kit fox utilize

these corridors, the fox would have to travel through miles of marginal to poor habitat before reaching the Project Site, which itself holds little habitat value.

In summary, the Project Site offers marginal habitat primarily during times when onsite fields are fallowed; the surrounding lands provide similar habitat; and 14 historical kit fox sightings occur within ten miles of the Project Site, but not within the Project Site itself. Considering the highly disturbed condition of the Project Site, its marginal to poor suitability as foraging or denning habitat, and its isolation from extant kit fox populations, it is unlikely any kit fox have taken up residence within the Project Site; although an errant individual may move through the site from time to time.

The Project Site may at most be used on rare occasions by dispersing kit foxes. The Cherry Solar facility is planned to include the installation of wildlife friendly fencing to allow kit fox to move unimpeded through the solar facility. All existing irrigation canals and drainage ditches will be avoided by the solar facilities and are planned to continue operations as they currently do. Therefore, any kit foxes would not be prevented from moving through the Project Site after completion of the solar facilities.

2.6.4 Other Migratory Birds and their Nests. Federal Listing Status: Protected; State Listing Status: Protected.

Other migratory birds include most bird species except for non-native birds including the house sparrow (*Passer domesticus*) and European starling (*Sturnus vulgaris*). Migratory birds and their nests are protected under the Federal Migratory Bird Treaty Act of 1918 and California Fish and Game Code (Sections 3503 and 3513). Between approximately February 1 and August 31, migratory birds' nest throughout California and the Central Valley on the ground and in grasses, shrubs, and trees.

Potential to occur onsite. Ground nesting birds such as burrowing owl (see Section 3.3.7) and killdeer (*Charadrius vociferous*), among other disturbance-tolerating birds, may utilize the ground and agricultural vegetation of the site for nesting. Trees in and alongside the canals and tailwater basin on the site or adjacent to the site may also be used by tree-nesting birds.

2.7 JURISDICTIONAL WATERS

Jurisdictional waters include rivers, creeks, and drainages that have a defined bed and bank and which, at the very least, carry ephemeral flows. Jurisdictional waters also include lakes, ponds, reservoirs, and wetlands. Such waters may be subject to the regulatory authority of the U.S. Army Corps of Engineers (USACE), the California Department of Fish and Wildlife (CDFW), and the California Regional Water Quality Control Board (RWQCB). See Section 3.2.4 of this report for additional discussion of these agencies' roles and responsibilities.

As of the date of this report, a formal aquatic resources delineation of the site has not been completed. However, the only hydrologic features identified on the site are agricultural canals and ditches and the tailwater basin.

Agricultural canals occur along the site's eastern and northern boundaries and are hydrologically connected to properties upstream and downstream from the site. The agricultural ditches are narrower and shallower than the canals and generally convey water within the site. These ditches occur along the western and southern boundaries and in the site's interior. The canals historically conveyed irrigation water imported via the California Aqueduct, and the ditches were constructed to drain the irrigated fields on the project site, and the tailwater basin served as a retention basin for the irrigation return flows. Based on a review of available aerial imagery, these features do not replace or relocate historical waters of the U.S., nor do they appear to convey water that would otherwise be considered waters of the U.S. Additionally, these canals do not receive water from the Kings River, which is at a lower elevation than the Cherry Solar site at its nearest extent. Therefore, onsite canals, ditches, and tailwater basin are likely not to be considered waters of the U.S., and thus are highly unlikely to fall under the jurisdiction of the USACE. However, a final determination of USACE jurisdiction can only be made by USACE. Similarly, because they are humanmade features constructed explicitly for agricultural purposes that do not replace a historical, natural watercourse, the canals and ditches are presumed not to be subject to Section 1602 of the California Fish and Game Code. However, the RWQCB would likely consider these features to be waters of the State, which encompasses any surface or groundwater within the

boundaries of the state. Therefore, to the extent that water is present in the canals, ditches, and tailwater basin on the project site, these features would be subject to the jurisdiction of the RWQCB.

No other potentially jurisdictional waters are present on the site.

3 REGULATORY FRAMEWORK

3.1 SIGNIFICANCE CRITERIA

General plans, area plans, and specific projects are subject to the provisions of the California Environmental Quality Act. The purpose of CEQA is to assess the impacts of proposed projects on the environment before they are constructed. For example, site development may require the removal of some or all of its existing vegetation. Animals associated with this vegetation could be destroyed or displaced. Animals adapted to humans, roads, buildings, pets, etc., may replace those species formerly occurring on a site. Plants and animals that are state and/or federally listed as threatened or endangered may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed. These impacts may be considered significant. According to 2021 CEQA Status and Guidelines (2021), "Significant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest. Specific project impacts to biological resources may be considered "significant" if they will:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and

Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

3.2 RELEVANT GOALS, POLICIES, AND LAWS

3.2.1 Threatened and Endangered Species

General plans, area plans, and specific projects are subject to the provisions of the California Environmental Quality Act. The purpose of CEQA is to assess the impacts of proposed projects on the environment before they are constructed. For example, site development may require the removal of some or all of its existing vegetation. Animals associated with this vegetation could be destroyed or displaced. Animals adapted to humans, roads, buildings, pets, etc., may replace those species formerly occurring on a site. Plants and animals that are state and/or federally listed as threatened or endangered may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed. These impacts may be considered significant. According to 2021 CEQA Status and Guidelines (2021), "Significant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest. Specific project impacts to biological resources may be considered "significant" if they will:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and

Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

3.2.2 Migratory Birds

State and federal laws also protect most bird species. The State of California signed Assembly Bill 454 into law in 2019, which clarifies native bird protection and increases protections where California law previously deferred to Federal law. The Federal Migratory Bird Treaty Act (FMBTA: 16 U.S.C., scc. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

3.2.3 Birds of Prey

Birds of prey are protected in California under provisions of the State Fish and Game Code, Section 3503.5, which states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile

eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFW.

Additionally, the Bald and Golden Eagle Protection Act (16 U.S.C., scc. 668-668c) prohibits anyone from taking bald or golden eagles, including their parts, nests, or eggs, unless authorized under a federal permit. The act prohibits any disturbance that directly affects an eagle or an active eagle nest as well as any disturbance caused by humans around a previously used nest site during a time when eagles are not present such that it agitates or bothers an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

3.2.4 Wetlands and Other Jurisdictional Waters

Jurisdictional waters include waters of the United States subject to the regulatory authority of the U.S. Army Corps of Engineers (USACE) and waters of the State of California subject to the regulatory authority of the California Department of Fish and Wildlife (CDFW) and the California Regional Water Quality Control Board (RWQCB).

3.2.4.1 Clean Water Act, Section 404

The USACE regulates the filling or grading of Waters of the U.S. under the authority of Section 404 of the Clean Water Act. Drainage channels and adjacent wetlands may be considered "waters of the United States" or "jurisdictional waters" subject to the jurisdiction of the USACE. The extent of jurisdiction has been defined in the Code of Federal Regulations and clarified in federal courts.

The definition of waters of the U.S. have changed several times in recent years. In January 2020, the Environmental Protection Agency (EPA) and USACE jointly issued the Navigable Waters Protection Rule. The new rule was published in the Federal Register on April 21, 2020, and took effect on June 22, 2020.

On August 30, 2021, the U.S. District Court for the District of Arizona issued an order vacating and remanding the Navigable Waters Protection Rule. In light of this order, the EPA and USACE have

halted implementation of the Navigable Waters Protection Rule and are interpreting "waters of the United States" consistent with the pre-2015 regulatory regime until further notice.

The pre-2015 regulatory regime defines waters of the U.S. as:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
    a. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
    b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    c. Which are used or could be used for industrial purposes by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States under this definition;
5. Tributaries of waters identified in paragraphs (s)(1) through (4) of this section;
6. The territorial sea;
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (s)(1) through (6) of this section; waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not waters of the United States.

All activities that involve the discharge of dredge or fill material into waters of the U.S. are subject to the permit requirements of the USACE under Section 404 of the Clean Water Act. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in



no net loss of wetland functions or values. No permit can be issued without a CWA Section 401 Water Quality Certification (or waiver of such certification) verifying that the proposed activity will meet state water quality standards (Section 3.6.2).

3.2.4.2 Porter-Cologne Water Quality Act/Clean Water Act, Section 401

There are nine Regional Water Quality Control Boards (RWQCB) statewide; collectively, they oversee regional and local water quality in California. The RWQCB administers Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act. The RWQCB for a given region regulates discharges of fill or pollutants into waters of the State through the issuance of various permits and orders.

Pursuant to Section 401 of the Clean Water Act, the RWQCB regulates waters of the State that are also waters of the U.S. Discharges into such waters require a Section 401 Water Quality Certification from the RWQCB as a condition to obtaining certain federal permits, such as a Clean Water Act Section 404 permit (Section 3.6.1). Discharges into all Waters of the State, even those that are not also Waters of the U.S., require Waste Discharge Requirements (WDRs), or a waiver of WDRs, from the RWQCB.

The Porter-Cologne Water Quality Control Act, Water Code Section 13260, requires that "any person discharging waste, or proposing to discharge waste, within any region that could affect the 'waters of the State' to file a report of discharge" with the RWQCB. Waters of the State as defined in the Porter-Cologne Act (Water Code Section 13050[e]) are "any surface water or groundwater, including saline waters, within the boundaries of the state." This gives the RWQCB authority to regulate a broader set of waters than the Clean Water Act alone; specifically, in addition to regulating waters of the U.S. through the Section 401 Water Quality Certification process, the RWQCB also claims jurisdiction and exercises discretionary authority over "isolated waters," or waters that are not themselves waters of the U.S. and are not hydrologically connected to waters of the U.S.

The RWQCB also administers the Construction Stormwater Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one or more acres of soil must obtain a Construction General Permit under the Construction Stormwater Program. A prerequisite for this permit is the development of a Stormwater Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, stormwater, or other pollutants into a Water of the U.S. may require a NPDES permit.

3.2.4.3 California Fish and Game Code, Section 1602

The CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1602 of the California Fish and Game Code. Activities that may substantially modify such waters through the diversion or obstruction of their natural flow, change or use of any material from their bed or bank, or the deposition of debris require a Notification of Lake or Streambed Alteration. If the CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.

3.2.5 Local Policies or Habitat Conservation Plans

The Resource Conservation Elements of the 2035 Kings County General Plan contains a number of goals and policies on biological resources. These County policies are outlined below.

Wetland and Riparian Areas. The County's goal is to conserve the functions and values of wetland communities and riparian areas while allowing compatible uses where appropriate.

Fish and Wildlife Habitat. The County's goal is to protect, restore, and enhance habitats in Kings County that support fish and wildlife species so that populations are maintained at viable levels.

Vegetation. The County's goal is to protect the valuable vegetation resources of each County. The Open Space and Conservation Element of the Fresno County General Plan contains a number of policies related to Natural Resources. These policies are directed specifically to the protection of special habitat areas such as wetlands and riparian areas, as well as fish and wildlife habitat.

3.3 POTENTIALLY SIGNIFICANT PROJECT IMPACTS/MITIGATION

The Cherry Solar project involves the conversion of approximately 2,084 acres of agricultural fields to solar generation facilities and the following sections we assume that the entire project site will be affected by the project except the tailwater basin and canals.

Potentially significant project impacts to biological resources and mitigations are discussed below.

3.3.1 Loss of Habitat for Special Status Plants

Potential Impacts. Three special-status vascular plant species are known to occur in the vicinity of the Project Site: California jewelflower (*Caulanthus californicus*), Kern mallow (*Eremalche parry* ssp. *kernensis*), and San Joaquin woolly threads (*Monolopia congdonii*) (see Table 1). Due to the many decades of agricultural disturbance of the Project Site, habitat for these three plant species are absent. Therefore, the planned solar project would not affect regional populations of these species and potential impacts would be less-than-significant.

Mitigation. Mitigation measures are not warranted.

3.3.2 Loss of Habitat for Special Status Animals

Potential Impacts. Of the 41 special-status animal species potentially occurring in the region, 27 species would be absent or unlikely to occur within the Project Site due to unsuitable habitat conditions. These include the vernal pool fairy shrimp, valley elderberry longhorn beetle, Delta smelt, California tiger salamander, California red-legged frog, western spadefoot, western pond turtle, Temblor legless lizard, coast horned lizard, blunt-nosed leopard lizard, giant garter snake, California glossy snake, San Joaquin whipsnake, American white pelican, black swift, Vaux's swift, western yellow-billed cuckoo, Buena Vista Lake ornate shrew, Nelson's antelope squirrel, giant kangaroo rat, Fresno kangaroo rat, Tipton kangaroo rat, short-nosed kangaroo rat, Tulare grasshopper mouse, American badger, San Joaquin kit fox, and ringtail. Construction of the Cherry Solar project would have no effect on loss of habitat for these species because there is little or no likelihood that they are present. However, there is a small potential for the project to impact

individual errant American badgers or San Joaquin kit foxes, therefore, to be prudent, measures have been included for potential impacts to individuals of these species below.

An additional 14 species may regularly or occasionally utilize the Project Site for foraging, including the western snowy plover, mountain plover, white-faced ibis, Swainson's hawk, northern harrier, white-tailed kite, burrowing owl, long-eared owl, loggerhead shrike, yellow-headed blackbird, tricolored blackbird, Townsend's big-eared bat, pallid bat, and California mastiff bat. However, the Project Site does not provide regionally important foraging habitat for these species. Migrant species such as the mountain plover pass through or over many types of habitats en route to breeding or wintering habitat. White-faced ibis may possibly forage in agricultural fields of the Project Site from time to time. Considerable habitat suitable for migratory movements and winter foraging would continue to be available for these species on other lands within the region following development. Therefore, development of the solar project would result in a less-than-significant impact on these species.

The three bat species listed above, including the Townsend's big-eared bat, pallid bat, and California mastiff bat may forage over the site, however, roosting habitat is absent from the site for these species.

Although impacts to habitat for these species are not significant, impacts to individuals of these species would be potentially significant.

Mitigation. For species that are subject to potentially significant impacts to individuals due to construction of the Cherry Solar project, mitigation measures are identified below for each as follows: raptors and migratory birds (Mitigation 3.3.3); San Joaquin kit fox (Mitigation 3.3.4); American badger (Mitigation 3.3.5); Swainson's hawk (Mitigation 3.3.6); and burrowing owl (Mitigation 3.3.7).

3.3.3 Disturbance to Active Raptor and Migratory Bird Nests

Potential Impacts. In addition to the Swainson's hawk and burrowing owl (discussed below in Sections 3.3.6, 3.3.7, and 3.3.8), several other raptor species such as the northern harrier, prairie

falcon, peregrine falcon, and red-tailed hawk are known to forage near the site. Additionally, the Project Site area could provide nesting habitat for several migratory bird species, including, but not limited to, the snowy plover, black-necked stilt, great-horned owl, common raven, loggerhead shrike, house finch, Brewer's blackbird, and tricolored blackbird. Nearly all native bird species are protected by the federal Migratory Bird Treaty Act. The canal/ditch habitat, power poles, trees adjacent to the tailwater basin (even dead trees), and barren ground on the Project Site provide potential nesting habitat for these species. If birds were to nest in these areas in the future prior to construction, project-related activities could result in the abandonment of active nests or direct mortality to these birds. Construction activities that adversely affect the nesting success of raptors or result in mortality of individual birds constitute a violation of state and federal laws (see Section 3.2.2 and 3.2.3) and would be considered a significant impact under CEQA.

Mitigation. To minimize construction disturbance to active raptor and other bird nests, the following measure(s) will be followed as informed by a 2014 early consultation letter form CDFW for the adjacent WSP Master Plan project prior to the construction of the Cherry Solar project:

***Mitigation 3.3.3a* (*Pre-construction surveys*).** If tree removal, site preparation, grading, or construction is planned to occur within the breeding period (i.e., between February 1 and August 31), a qualified biologist will conduct pre-construction surveys for active nests of migratory birds within 10 days of the onset of these activities. If construction activity is planned to commence outside the breeding period, no pre-construction surveys are required for nesting birds and raptors.

***Mitigation 3.3.3b* (*Monitoring Active Nests*).** Should any active nests be discovered in or near proposed construction zones, a qualified biologist shall continuously monitor identified nests for the first 24 hours prior to any construction related activities to establish a behavioral baseline. Once work commences, continuously monitor all nests to detect any behavioral changes as a result of the Project. If behavioral changes are observed, stop the work causing that change and consult with the California Department of Fish and Wildlife for additional avoidance and minimization measures.

***Mitigation 3.3.3c* (*Establish Buffers*).** Alternatively, should any active nests be discovered in or near proposed construction zones, the biologist will establish a 250-foot construction-free buffer around the nest for non-listed birds, 500-foot buffer for unlisted raptors, and a half-mile for listed bird species. This buffer will be identified on the ground with flagging or fencing and will be maintained until the biologist has determined that the young have fledged. Variance from these setback distances may be allowed if a qualified biologist provides compelling biological or ecological reasons to do so and if CDFW is notified in advance of implementation of a no disturbance buffer variance.

***Mitigation 3.3.3d* (*Tailgate Training*).** All construction and operations workers on the Cherry Solar Project site shall be trained by a qualified biologist. The tailgate training shall include a description of the Migratory Bird Treaty Act, instructions on what to do if an active nest is located, and the importance of capping pipes and pipe-like structures standing upright to avoid birds entering/falling into the pipes and getting stuck.

Implementation of the above measures would ensure that construction of the solar project would have no impact on nesting raptors and migratory birds and that the project would be in compliance with state and federal laws protecting nesting birds.

3.3.4 Impacts to San Joaquin Kit Fox

Potential Impacts. The entire Project Site consists of agricultural habitat. Of primary interest for this assessment are kit fox records from the vicinity of the project site. According to the CNDDB there have been a total of 14 historical (1980s-2000) sightings within the ten miles of the site (Figure 4) (CDFW 2022). All of these sightings occur more than 5 miles away. Based on the site's location and the distribution of kit fox occurrences in its vicinity, the Project Site may only rarely, if at all, be used for regional movements of individual errant kit fox. These sightings occurred to the west, southwest, and northwest of the Project Site. Irrigation canals run along the perimeter and through the Project Site which may act as movement corridors; however, should a kit fox utilize these corridors, the fox would have to travel through miles of marginal to poor habitat before reaching the Project Site, which itself holds little habitat value. As discussed in Section 2.6.3, a

majority of the Project Site provide poor habitat and agricultural fields and canals offer marginal habitat for this species. While it is unlikely kit fox have, or would, take up residence within the Project Site under current site conditions, kit foxes from populations reported from the surrounding areas may pass through and possibly forage within the Project Site from time to time during regular dispersal movements. To be prudent, the following measures shall be implemented:

Mitigation. The following measures shall be implemented in conjunction with the construction of the project site.

Mitigation Measure 3.3.4a (Pre-construction surveys). Pre-construction surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance, construction activities, and/or any project activity likely to impact the San Joaquin kit fox. These surveys shall be conducted in accordance with the USFWS Standard Recommendations. The primary objective is to identify kit fox habitat features (e.g., potential dens and refugia) on the solar project site and evaluate their use by kit foxes. If an active kit fox den is detected within or immediately adjacent to the area of work, the USFWS shall be contacted immediately to determine the best course of action.

Mitigation Measure 3.3.4b (Avoidance). Should kit fox be found to be using the Project Site during preconstruction surveys, the construction activity shall avoid the habitat occupied by kit fox and the Sacramento Field Office of the USFWS and the Fresno Field Office of CDFW shall be notified.

Mitigation Measure 3.3.4c (Tailgate Training). All workers on the Cherry Solar project shall attend a tailgate training that includes a description of the species, a summary of their biology, and minimization measures and instructions on what to do if a San Joaquin kit fox is observed on the solar project site.

Mitigation Measure 3.3.4d (Minimization of Potential Disturbance to Kit Fox). Even though kit foxes are unlikely to be present, all permanent and temporary construction activities and other types of project-related activities shall be carried out in a manner that minimizes potential disturbance to kit foxes. Minimization measures include but are not limited to restriction of

project-related vehicle traffic to established roads, construction areas, and other designated areas; inspection and covering of structures (e.g., pipes), as well as installation of escape structures, to prevent the inadvertent entrapment of kit foxes; restriction of rodenticide and herbicide use; and proper disposal of food items and trash.

Mitigation Measure 3.3.4e (Wildlife-Friendly Fencing). The perimeter fencing surrounding each phase of the Cherry Solar project shall consist of wildlife-friendly or permeable fencing that allows San Joaquin kit fox and other wildlife to move through the site unimpeded. The bottom of the perimeter fencing shall be 5 to 7 inches above the ground, as measured from the top of the ground to the lowest point of the fence. The bottom of the fence edges shall be knuckled (wrapped back to form a smooth edge) to allow wildlife to pass through safely. The fencing shall not be electrified.

Implementation of these measures would provide opportunities for regional wildlife to move across the site. This would even benefit the unlikely occurrence of a kit fox.

3.3.5 Impacts to American Badgers

Potential Impacts. Given the observations of American badgers, a California Species of Special Concern, on nearby lands with similar habitats to those of the Project Site, the potential exists that the American badger may reside within the Project Site. No badgers or badger burrows were observed in the area during any of the surveys of the Project Site in 2021 or for the WSP Plan Area conducted from 2011 through 2022. However, the surveys were conducted primarily through driving field edges with limited foot coverage of the Project Site and took place during the day when badgers are not typically active above ground. Potential badger habitat was found on the Project Site in the form of agricultural fields. While the occurrence of badgers is expected to be unlikely, it cannot be ruled out. Therefore, the project has the potential to result in a significant impact to American badgers.

Mitigations. Implementation of the following measures prior to the construction of the Cherry Solar project will reduce impacts to American badgers from direct mortality to a less-than-significant level.

Mitigation Measure 3.3.5a (Pre-construction Surveys). During the preconstruction surveys for other species, a qualified biologist shall also determine the presence or absence of badgers prior to the start of construction. If badgers are found to be absent, a report shall be written to the applicant so stating and no other mitigations for the protection of badgers shall be warranted.

Mitigation Measure 3.3.5b (Avoidance and Monitoring). If an active badger den is identified during pre-construction surveys within or immediately adjacent to an area subject to construction, a construction-free buffer of up to 300 feet shall be established around the den. Once the biologist has determined that badger has vacated the burrow, the burrow can be collapsed or excavated, and ground disturbance can proceed. Should the burrow be determined to be a natal or reproductive den, and because badgers are known to use multiple burrows in a breeding burrow complex, a biological monitor shall be present onsite during construction activities in the vicinity of the burrows to ensure the buffer is adequate to avoid direct impact to individuals or natal/reproductive den abandonment. The monitor will be required to be present until it is determined that young are of an independent age and construction activities would not harm individual badgers.

Mitigation Measure 3.3.5c (Tailgate Training). All workers on the solar project shall attend a tailgate training that includes a description of the species, a summary of its biology, and minimization measures and instructions on what to do if an American badger is observed.

Implementation of the above measures would reduce potential impacts to the American badger to a less-than-significant level.

Mitigation Measure 3.3.5d (Wildlife-Friendly Fencing). As noted above, the perimeter fencing surrounding each phase of the Cherry Solar project shall consist of wildlife-friendly or permeable fencing that allows San Joaquin kit fox and other wildlife to move through the site unimpeded. The bottom of the perimeter fencing shall be 5 to 7 inches above the ground, as measured from the top of the ground to the lowest point of the fence. The bottom of the fence edges shall be knuckled

(wrapped back to form a smooth edge) to allow wildlife to pass through safely. The fencing shall not be electrified.

Implementation of these measures would provide opportunities for regional wildlife to move across the site including badger.

3.3.6 Impacts to Nesting and Foraging Habitat for Swainson's Hawk

Potential Impacts. Swainson's hawks are known to nest in the general vicinity of the Project Site, with the nearest previously observed Swainson's hawk nests located more than five miles to the west of the Project Site along the California Aqueduct. Marginally suitable nesting trees exist within the Project Site associated with the tailwater basin on the eastern portion of the Project Site, although most of the trees in this area have died due to lack of water, some are still alive. Construction activities occurring near an active Swainson's hawk nest could adversely affect nesting success or result in mortality of individual birds, this constitutes a violation of state and federal laws (see Section 3.2.2 and 3.2.3) and would be considered a significant impact under CEQA.

Swainson's hawks are known to forage in the vicinity of the Project Site. As part of its biological assessment for the Program EIR on the adjacent Westlands Solar Park Master Plan and Gen-Tie Corridors Plan, conducted in 2017, LOA completed a comprehensive analysis of potential impacts to Swainson's hawk foraging habitat associated with development of the WSP Master Plan area and all other solar projects within a 10-mile radius of the WSP plan area. The analysis identified all known Swainson's hawk nests that were previously observed during surveys by LOA or others. In 2018 and 2019, LOA biologists conducted follow-up surveys to identify currently active nests. In 2022, LOA biologists also reviewed and updated their detailed 2017 analysis of foraging habitat within a 10-mile radius of the WSP plan area and concluded that the abundant habitat that would remain after development of the WSP, Cherry Solar, and all other cumulative projects (including projects proposed since 2017) within this 10-mile radius, would be more than sufficient to support all of the known Swainson's hawk nests within this radius, with surplus capacity to support additional nesting pairs. (The full analysis is contained in Appendix A of this report.)

Therefore, it was concluded that full buildout of the Cherry Solar site along with all other known solar developments would not significantly impact Swainson's hawk foraging habitat. The conclusions of less-than-significant impact and less-than-significant cumulative impact to Swainson's hawk foraging habitat from the WSP PEIR apply equally to this analysis. Therefore, the project-specific impacts and the cumulative impacts to Swainson's hawk foraging habitat resulting from construction of the Cherry Solar project would be less than significant.

Implementation of the following mitigation will reduce impacts to nesting Swainson's hawks to a less-than-significant level.

Mitigation. There are potential nest trees within a half-mile of the Project Site; therefore, prior to construction, the following measures shall be implemented.

Mitigation 3.3.6a (Pre-construction Surveys). During the nesting season prior to the construction on the Cherry Solar project site, preconstruction surveys shall be conducted within a half-mile of a potential nest tree located on and within a half-mile of the Project Site to identify any nesting pairs of Swainson's hawks. These surveys will conform to the guidelines of CDFW as presented in *Recommended Timing And Methodology For Swainson's Hawk Nesting Surveys In California's Central Valley,* Swainson's Hawk Technical Advisory Committee, May 31, 2000. No preconstruction surveys are required for construction activity located farther than a half-mile from a potential nest tree.

Mitigation 3.3.6b (Establish Buffers). Though unlikely, should any active nests be discovered in or near proposed construction zones, the qualified biologist shall establish a suitable construction-free buffer around the nest. This buffer shall be identified on the ground with flagging or fencing and shall be maintained until the biologist has determined that the young have fledged.

Mitigation Measure 3.3.6c (Tailgate Training). All workers on the construction of the Project Site shall attend tailgate training that includes a description of the species, a summary of its biology, and minimization measures and instructions on what to do if a Swainson's hawk is observed on or near the construction zone.

Implementation of the above measure would reduce impacts to nesting Swainson's hawks to a less-than-significant level.

3.3.7 Impacts to Burrowing Owls

Potential Impacts. The site was evaluated on November 17, 2021, for the potential for the site to support burrowing owls. Although burrowing owls were not observed during this single-day site visit, past site visits in the local vicinity and for the adjacent WSP Master Plan identified breeding burrowing owls along canals and identified a large amount of overwintering burrowing owls on adjacent lands in the vicinity of the project site. To better assess the site for breeding habitat and potential use by breeding burrowing owls, planning-level surveys for burrowing owls occurred during the 2022 breeding season (April 26, May 25, June 1, and June 30, 2022). Potentially suitable habitat was concentrated within and along canals in the northeastern portion of the site as well as in and around the canal connecting to the west of the tailwater basin. No burrowing owls nor their sign were detected during these four surveys on the Cherry Solar Project site.

Based on the current evidence that burrowing owls are absent from the site, construction of the site in the near future would result in a less than significant affect to foraging and breeding habitat for burrowing owls. The highest quality habitat for burrowing owls onsite, canals, will be avoided, as the project will not be impacting the canals, and the canals will continue to be managed as they are currently managed, which will also benefit other species using the canal system to move through the area. Adequate suitable foraging habitat will remain on the Project Site and on habitat surrounding the Project Site. As noted in Appendix B, 9,379 acres of suitable burrowing owl foraging habitat occur within 3 miles of the Project Site. After full build out of the Cherry Solar Project and all of Westland Solar, 5,248 acres of suitable foraging habitat will remain within 3 miles of the Project Site.

Should burrowing owls inhabit the site prior to ground disturbance, construction activities may result in the mortality of burrowing owls, as they are known to retreat into their burrows ahead of approaching grading activity. These small raptors are protected under the federal Migratory Bird Treaty Act and the California Fish and Game Code. Mortality of individual birds would be a violation

of state and federal law. The injury or mortality of individual burrowing owls would constitute a significant environmental impact.

Mitigation. Prior to the construction of the Project the following measures shall be implemented which will reduce impacts to the burrowing owl to a less-than-significant level:

Mitigation Measure 3.3.7a (pre-construction surveys). Pre-construction surveys shall be conducted for burrowing owls by a qualified biologist no more than 14 days in advance of the on-set of ground-disturbing activity. Preconstruction surveys shall be repeated if construction halts for more than 14 days. These surveys shall be conducted according to methods described in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) or the most recent CDFW guidelines. The surveys shall cover all areas of suitable burrowing owl habitat within the construction zones.

Mitigation Measure 3.3.7b (Avoidance of active nests during breeding season). If pre-construction surveys are undertaken during the breeding season (February through August) and active nest burrows are located within or near construction zones, a construction-free buffer of 150 to 250 feet shall be established around all active owl nests. The buffer areas shall be enclosed with temporary fencing, and construction equipment and workers shall not be allowed to enter the enclosed setback areas. Buffers shall remain in place for the duration of the breeding season. After the breeding season (i.e., once all young have left the nest), passive relocation of any remaining owls may take place, but only under the conditions described below.

Mitigation Measure 3.3.7c (Avoidance of occupied burrows during non-breeding season, and passive relocation of resident owls). During the non-breeding season (September through January), any burrows occupied by resident owls in areas planned for construction shall be protected by a construction-free buffer with a radius of 150 feet around each active burrow. Passive relocation of resident owls is not recommended by CDFW where it can be avoided. If passive relocation is not avoidable, resident owls may be passively relocated according to a relocation plan prepared by a qualified biologist.

Mitigation Measure 3.3.7d (Tailgate Training). All construction workers shall attend tailgate training that includes a description of the species, a summary of their biology, and minimization measures and instructions on what to do if a burrowing owl is observed within or near a construction zone.

Compliance with the above mitigation measures would reduce impacts to burrowing owls to a less-than-significant level.

3.3.8 Impacts to Wildlife Movement Corridors

Potential Impacts. It is likely that some species use the canal and ditches on and adjacent to the Project Site as movement corridors, including San Joaquin kit fox. The Project Site likely has some small value for the regional movements of some wildlife species, however, the canal and ditch system has greater value when placed in a regional context. Since the development of the Cherry Solar project would not affect existing canals, which would continue to be operated and managed as they are under current conditions, it is expected that wildlife that currently uses the canals for movement will continue to use the canal system to move through the site at project build-out.

To allow for ground movement of wildlife through the Project Site, all fencing enclosing the Cherry solar facility is planned to consist of "wildlife friendly" fencing with a continuous 5- to 7-inch separation from the top of the ground to the lowest point of the bottom of the fence along the entire fence. Such fencing will not be electrified.

Therefore, wildlife currently using the Project Site for movement is expected to continue to use the Project Site after buildout, as wildlife friendly fencing will be used, and the canal system will be retained within the Project Site in order to allow for wildlife movement through the Project Site.

Impacts to movement corridors for local wildlife are less-than-significant.

Mitigations. Mitigation for impacts to wildlife movements is not warranted.

3.3.9 Disturbance to Native Wildlife Nursery Sites

Potential Impacts. To the extent that the currently dry canals, ditches, and tailwater basin on the project site could contain surface water in the future, aquatic habitat associated with these features could provide nursery sites for native wildlife. Since these features would be avoided by the Cherry Solar project, the potential impacts to wildlife nursery sites would be less-than-significant.

Mitigation. No mitigation is warranted.

3.3.10 Impacts to Jurisdictional Waters and Sensitive Aquatic Habitats

Potential Impacts. Onsite waters include agricultural canals and ditches and the tailwater basin. Agricultural canals and ditches are unlikely to be claimed as waters of the U.S. but would be considered waters of the State. The tailwater basin could be both a water of the U.S. and a water of the State. The proposed project will avoid all of these features. Therefore, impacts to jurisdictional waters would be considered less than significant.

No other sensitive aquatic habitats (e.g., wetlands or riparian habitats) are present on the site.

Mitigation. Mitigation measures are not warranted.

3.3.11 Local Policies or Habitat Conservation Plans

Potential Impacts. The Cherry Solar project would be in compliance with the provisions of Kings County General Plan polices. In particular, the project's avoidance of onsite canals, ditches, and tailwater basin would assure that biological resources of concern to Kings County would be avoided and preserved.

The USFWS has adopted the *Recovery Plan for Upland Species of the San Joaquin Valley* (USFWS 1998) which covers 34 species of plants and animals that occur in the San Joaquin Valley. The majority of these species occur in arid grasslands and scrublands of the San Joaquin Valley and the adjacent foothills and valleys. The plan includes information on recovery criteria, habitat protection, umbrella and keystone species, monitoring and research programs, adaptive

management, and economic and social considerations. The only species addressed in the recovery plan that potentially occurs in the Project Site vicinity is the San Joaquin kit fox, although no sightings of this species have been recorded within the immediate vicinity of the Project Site, with the closest recorded observation being more than five miles from the Project Site and no sightings have been recorded in a ten-mile radius of the Project Site since 2000, as discussed above. The Recovery Plan does not identify the Project Site, or any other lands in the vicinity, as areas that should be protected as Specialty Reserve Areas, Wildlife-Compatible Farmland to be Maintained, or Areas Where Connectivity and Linkages Should be Promoted.

The Project Site is not covered by any existing Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP), or any other conservation plan adopted at the local, regional, state, or federal level.

Mitigation. No mitigations are warranted.

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APPENDIX A: CUMULATIVE IMPACT ANALYSIS FOR POTENTIAL IMPACTS TO SWAINSON'S HAWK FORAGING HABITAT IN THE VICINITY OF THE CHERRY SOLAR PROJECT SITE

The purpose of this analysis is to provide information to complete the Cumulative Impacts Assessment for the Cherry Solar Project in accordance with Section 15130 of the California Environmental Quality Act (CEQA) Guidelines. These guidelines require that cumulative impacts of a project are discussed when a project's incremental effects are cumulatively considerable (15065(a)(3)). A cumulative impact is an impact that is created as a result of the combination of the proposed project together with other projects causing related impacts (15355). CEQA guidelines define "cumulatively considerable" as a situation in which "the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

In accordance with the CEQA Guidelines, the following discussion of cumulative impacts reflects the standards of practicality and reasonableness, and focuses on those cumulative impacts likely to result from the proposed project in combination with other past, present, and probable future solar projects in the vicinity. A list of such projects was provided by Bert Verrips and the County of Kings in January 2020. For the purposes of this analysis, this list of projects has not changed (B. Verrips, pers. comm., March 4, 2022).

The subject of this analysis is the Swainson's hawk (SWHA) (*Buteo swainsoni*), a California threatened species that relies largely on agricultural lands to meet its foraging needs. The objectives of this analysis include using available data to:

1. Identify past, current and probable future projects for cumulative impacts assessment.
2. Determine distribution and abundance of nesting Swainson's hawks in the study area.
3. Determine Swainson's hawk foraging habitat requirements in the study area.
4. Assess the cumulative impacts of the Cherry Solar Project on the distribution and abundance of Swainson's hawk foraging habitat.

INCORPORATION BY REFERENCE OF ANALYSIS FROM WESTLANDS SOLAR PARK PROGRAM EIR

This analysis and larger biological report are intended to support the preparation of a Mitigated Negative Declaration (MND) for the Cherry Solar Project. Although the Cherry Solar Project site is not located within the Westlands Solar Park (WSP), it was originally included within the WSP planning area, and the site is almost completely surrounded by the WSP planning area. Moreover, site conditions on the Cherry Solar Project site are almost identical to site conditions on the surrounding WSP lands. As such, the analysis and conclusions of the Westlands Solar Park Program EIR with respect to the contribution of WSP implementation to cumulative loss of Swainson's hawk foraging habitat are fully applicable to the Cherry Solar Project. Therefore, this analysis builds on the foraging habitat analysis contained in the Westlands Solar Park Program EIR, which is incorporated into this document as provided by CEQA.

STUDY AREA

The study area, or geographic scope, evaluated for cumulative impacts is defined by a 10-mile radius surrounding the approved WSP planning area, the external boundary of which encompasses the Cherry Solar Project site. A 10-mile radius was selected because it approximates the upper limit of the flight distance between Swainson's hawk nesting and foraging sites, based on telemetry studies conducted by Estep (1989) and Babcock (1993). The area encompassed by the 10-mile radius is 443,207 acres (approximately 692 square miles). The WSP Master Plan and Cherry Solar Project encompass approximately 22,717 acres of the larger study area (20,638 acres for WSP and 2,079 acres for Cherry Solar).

The Cherry Solar Project site is located in the center of the study area approximately 12 miles southwest of the City of Lemoore, CA. The site conditions on the Cherry Solar Project site reflect those of the entire WSP planning area. At the time of this analysis, the Cherry Solar Project site consisted of cultivated fields planted to winter wheat, fallow fields, agricultural roads, and several hydrological features including agricultural ditches and canals and a man-made tailwater basin.

The cities of Lemoore, Huron, and Avenal, and the communities of Stratford and Kettleman City, as well as the Naval Air Station Lemoore are located entirely within the 10-mile radius study area.

Surrounding lands within the study area are similar to the Cherry Solar Project site with fallow/idle cropland, active agricultural fields, and grass/pasture dominating the landscape (USDA 2022).

A few natural features are located within the study area. Natural Resource Conservation Service Wetlands Reserve Program land is located approximately 5 miles to the northeast of the WSP Master Plan area and the Arroyo Pasajero Westside Detention Basin is located approximately 5 miles to the west of the WSP Master Plan area, which contain more natural habitats and may be subject to flooding. Bureau of Land Management Areas of Critical Environmental Concern are located approximately 4 miles west and southwest of the site. Portions of the North Fork, South Fork, and Clarke Fork of the Kings River are present within the study area; these tributaries support both riparian and riverine habitat. Irrigation canals and ditches are also located throughout the study area.

PROPOSED AND APPROVED PROJECTS WITHIN THE STUDY AREA

As of March 2022, Cherry Solar was one of 24 past, present, or probable future solar projects located within 10 miles of the WSP planning area. Acreages for these solar projects were calculated using aerial imagery and information obtained from Kings and Fresno Counties. Projects within Kings County include Westlands Solar Park (20,938); Sun City (180 acres); Sand Drag (240 acres); Avenal Park (86 acres); American Kings (978 acres); Riverwest (836 acres); Kansas South (230 acres); Kansas (200 acres); Mustang (1,422 acres); Orion (200 acres); Kent South (200 acres); Kettleman Solar (220 acres); Lemoore 14 (60 acres); 2275 Hattesen (16 acres); Java Solar (96 acres); Mustang 2 (1,450 acres); Slate (2,490 acres); Utica Avenue Solar (30 acres); Cherry Solar (2,079 acres); and NAS Lemoore Solar (930 acres). Projects within Fresno County include PG&E Huron (~240 acres); PG&E Gates (57 acres); Westlands Solar Farm (92 acres); and Fifth Standard Solar (1,605 acres). Collectively, these projects encompass 34,875 acres.

METHODS

LOA conducted a regional analysis of foraging habitat availability and Swainson's hawk abundance patterned after methodologies developed by Jim Estep (Estep 2011), a wildlife biologist who has monitored Swainson's hawk populations and conducted research on the Swainson's hawk for over

35 years. Briefly, the analysis consisted of (1) estimating the abundance of nesting Swainson's hawks in the study area, (2) estimating the amount of suitable Swainson's hawk foraging habitat in the study area, (3) estimating the amount of "surplus" foraging habitat in the study area beyond what is needed by the study area's nesting pairs, (4) assessing cumulative impacts to Swainson's hawk foraging habitat in the study area with an eye to retaining sufficient surplus acreage for population expansion.

Swainson's Hawk Abundance

To obtain a reasonable estimate of the number of nesting pairs of Swainson's hawks within the study area, LOA compiled all known nest locations documented or confirmed in 2017 or later, as reported in the CNDDB (CDFW 2022), observed by LOA, or included in the results of a large-scale study conducted by Jim Estep for the American Kings Solar Project (Estep 2017). A five-year cutoff for nest observations reflects CDFW's definition of an active Swainson's hawk nest for mitigation purposes (CDFG 1994).

Land Use Classification

To determine the amount of suitable Swainson's hawk foraging habitat in the study area, the study area's land uses were first identified and mapped using the 2021 U.S. Department of Agriculture (USDA) National Agricultural Statistics Service Cropland Data Layer (CDL) (USDA 2021; Han et al. 2012; Boryan et al. 2011). The CDL is a raster-format, georeferenced, crop-specific land cover data layer created annually for the continental United States using moderate resolution satellite imagery and extensive agricultural ground truthing (USDA 2021).

LOA classified the study area's 64 CDL-derived land uses into six cover type categories based on relative foraging suitability for Swainson's hawks. Habitat suitability was determined based on expert opinion (Estep 1989, Estep 2009, Estep 2011) and agency guidelines (CDFG 1994). The six categories are:

- Alfalfa
- Pasture, Fallow, and Open Natural Land

- Row and Field Crops
- Orchard and Vineyard
- Developed
- Water and Woodland

As will be discussed in more detail in the Results section, the first three categories above are considered suitable as Swainson's hawk foraging habitat, while the latter three categories are considered unsuitable. LOA calculated the acreage of each cover type category, both within the project site and larger 10-mile study area. The collective acreage of the three suitable categories within the study area is hereafter referred to as *available foraging habitat*.

Required and Surplus Foraging Habitat

To estimate the amount of foraging habitat needed to sustain nesting pairs of Swainson's hawks within the study area, LOA multiplied the number of known nest locations by 6,820 acres, which Estep (1989) found to be the average amount of foraging habitat utilized per pair. The resulting number was then reduced by 30 percent to account for overlap of foraging ranges of different pairs (Estep 2011). The value obtained from these steps is referred to as *required foraging habitat*.

Next, the study area's required foraging habitat acreage was subtracted from available foraging habitat acreage to yield an estimate of *surplus foraging habitat*, or foraging habitat within the study area that is in excess of what is required by the Swainson's hawk pairs nesting within. Finally, the percent loss of surplus foraging habitat that would cumulatively result from solar developments in the study area was calculated. This was accomplished by dividing the approximate acreage of these developments by surplus foraging habitat acreage, and multiplying by 100. Project-related loss of foraging habitat was considered a significant impact requiring compensatory mitigation if it exceeded a 30 percent reduction of surplus foraging habitat, consistent with the Estep (2011) methodologies.

RESULTS

Swainson's Hawk Abundance

Thirty-seven SWHA nests have been documented or confirmed within the study area since 2017 (Figure 1). This analysis assumes all 37 nests would be occupied in any given year considering the generally high degree of nest fidelity by Swainson's hawks. All nests are located between 5 and 10 miles from the Cherry Solar Project site. The three closest nests are located approximately 5.5 miles north, northeast, and east of project boundaries, and were identified by Estep (Estep 2017).

Land Use Cover Types and Foraging Suitability

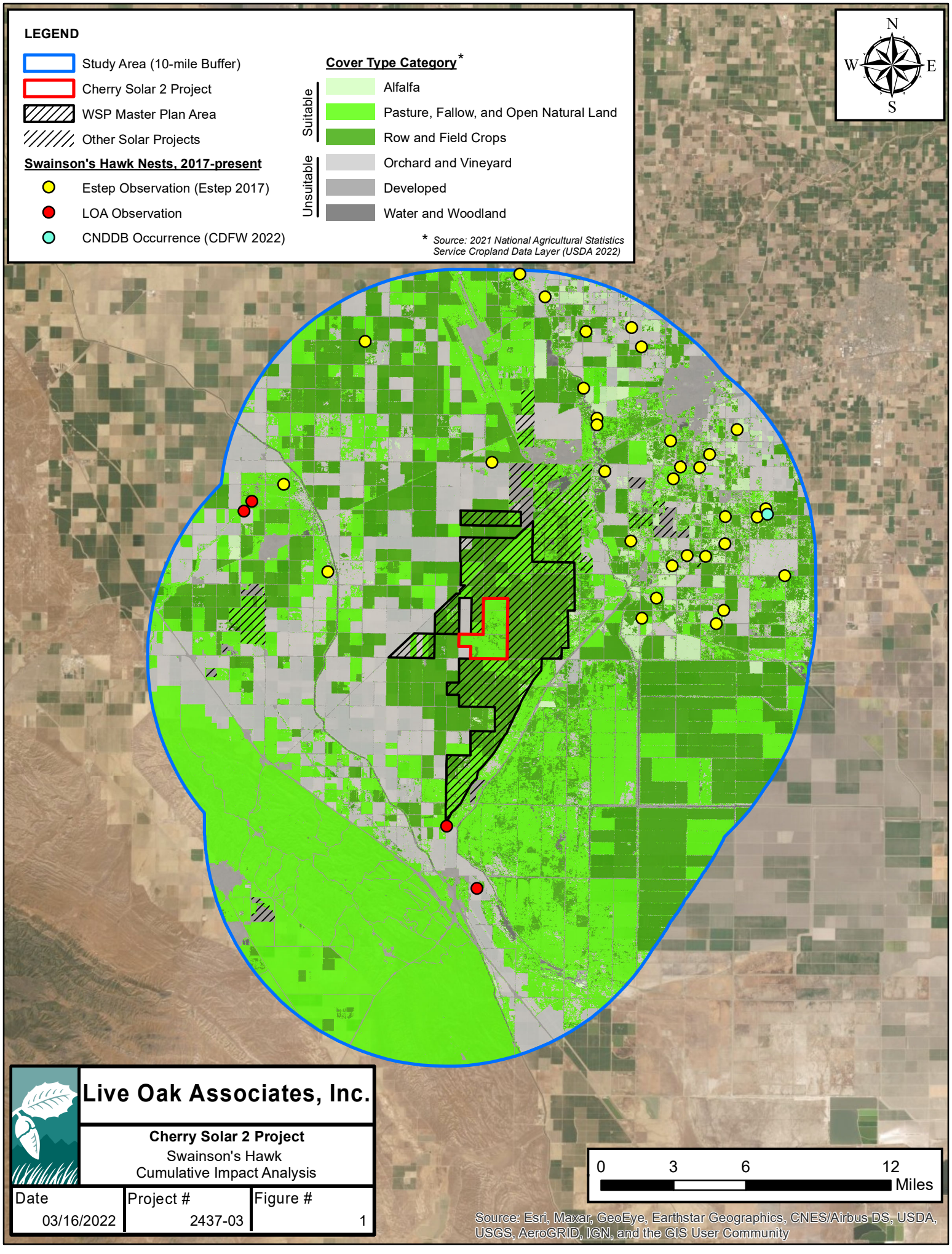
There are six cover type categories in the 443,207-acre study area and four cover type categories on the Cherry Solar Project site. The areal extent, relative abundance, and SWHA foraging value of each of the study area's cover type categories is listed in Table 1 and described below.

TABLE 1. LAND COVER AND HABITAT SUITABILITY OF STUDY AREA AND PROJECT SITE (USDA 2022).

Land Cover Type Category	SWHA Foraging Value	Study Area Acres (Percent of Total)	Project Site Acres (Percent of Total)
Alfalfa	High	10,370 (2.4%)	0 (0%)
Pasture, Fallow, and Open Natural Land	Medium-High	173,194 (39.0%)	1,784 (85.8%)
Row and Field Crops	Medium	126,385 (28.5%)	235 (11.3%)
Orchard and Vineyard	Low-None	99,735 (22.5%)	0 (0%)
Developed	None	29,623 (6.7%)	60 (2.9%)
Water and Woodland	None	3,900 (0.9%)	0 (0%)
Total		443,207 (100%)	2,079 (100%)

Alfalfa. Alfalfa is considered to have the highest foraging value for SWHA (Estep 1989, 2012). This crop remains in fields for up to five years. Alfalfa management includes mowing and irrigation, which can expose rodent prey and make prey more accessible to SWHA (Estep 2012).

Pasture, Fallow, and Open Natural Land. This cover type category includes lands classified in the CDL as fallow/idle cropland, grassland/pasture, herbaceous wetlands, and shrubland. This cover type may provide medium to high forage value to Swainson's hawks depending upon prey availability.


LEGEND
Study Area (10-mile Buffer)
Cherry Solar 2 Project
WSP Master Plan Area
Other Solar Projects
Swainson's Hawk Nests, 2017-present
Estep Observation (Estep 2017)
LOA Observation
CNDDB Occurrence (CDFW 2022)
Cover Type Category*
Suitable
Alfalfa
Pasture, Fallow, and Open Natural Land
Row and Field Crops
Unsuitable
Orchard and Vineyard
Developed
Water and Woodland
* Source: 2021 National Agricultural Statistics Service Cropland Data Layer (USDA 2022)
N
W
E
S
Live Oak Associates, Inc.
Cherry Solar 2 Project
Swainson's Hawk
Cumulative Impact Analysis
Date
03/16/2022
Project #
2437-03
Figure #
1
0
3
6
12
Miles
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Row and Field Crops. The cover type category includes all of the CDL's cultivated, non-woody crop classifications save alfalfa. In the study area, this category is dominated by tomatoes, winter wheat, and cotton. Other crops include barley, cantaloupes, carrots, corn, durum wheat, garlic, honeydew melons, lettuce, oats, onions, other hay/non-alfalfa, rice, rye, safflower, sorghum, and triticale. Row and field crops are generally of moderate foraging suitability for SWHA (Estep 1989). Foraging value may fluctuate based on timing of harvest and planting.

Orchard and Vineyard. This cover type category includes all tree and vine crops classified in the CDL. In the study area, this category is dominated by pistachios and almonds, but also includes cherries, citrus, grapes, nectarines, oranges, peaches, pecans, plums, pomegranates, and walnuts. Orchards and vineyards are of little to no foraging value to SWHA due to a lack of prey accessibility (Woodbridge 1998).

Developed. This cover type category includes lands classified in the CDL as low, medium, or high intensity development, developed open space, and barren. In the study area, it includes the towns of Avenal, Huron, Kettleman City, Lemoore, Lemoore Station, Naval Air Station Lemoore, and Stratford, and also includes roads and rural developments (e.g., cattle corrals and other infrastructure). This cover type has no appreciable value as Swainson's hawk foraging habitat; however, trees located on these lands may provide nesting habitat in some situations.

Water and Woodland. This category includes open water and all tree-dominated natural lands, which in the study area include mixed forest, evergreen forest, and woody wetlands as classified by the CDL. It is important to note that the study area's forest and woodland habitats are likely to provide nesting habitat for SWHA despite being unsuitable for foraging.

Foraging Habitat Cumulative Analysis

Table 2 below presents LOA's calculations with respect to available foraging habitat, required foraging habitat, and surplus foraging habitat for Swainson's hawks is the study area, as well as the cumulative loss of surplus foraging habitat expected to result from past, present, and probable future solar projects. For the purpose of this analysis, it is conservatively assumed that the 24 solar

project sites in the study area consist entirely of suitable Swainson's hawk habitat that will be lost to development.

Table 2. Cumulative Impact Analysis for SWHA Foraging Habitat within the Study Area

Foraging Habitat	Acres	Percent
(a) Available foraging habitat within study area	309,949	-
(b) Unadjusted foraging habitat required to support 37 SWHA pairs	252,340	-
(c) Adjusted foraging habitat required to support 37 SWHA pairs (adjusted for 30% range overlap)	176,638	-
(d) Surplus SWHA foraging habitat (a-c)	133,311	-
(e) Cumulative loss of foraging habitat from 24 past, present, and probable future solar projects in the study area*	34,875	-
(f) Remaining available foraging habitat following cumulative impacts (a-e)	275,074	88.7%
(g) Remaining available surplus SWHA foraging habitat following cumulative impacts (d-e)	98,436	73.8%

*This conservatively assumes that all of the cumulative development acreage constitutes suitable SWHA foraging habitat.

The study area contains 309,949 acres of available foraging habitat for Swainson's hawks. The required foraging habitat for 37 nesting pairs is 176,638 acres; again, this assumes 6,820 acres per pair, less 30 percent to account for foraging overlap. Hence, there are 133,311 acres of surplus foraging habitat in the study area. As discussed, the 24 solar projects in the study area have a collective footprint of 34,875 acres, much of which is (or was) suitable for Swainson's hawk foraging pre-buildout. Even if it is conservatively assumed that this cumulative acreage is entirely suitable for Swainson's hawk foraging at present and will be entirely lost to this species as a result of project implementation, 98,436 acres of surplus foraging habitat will remain available to the study area's Swainson's hawks following buildout.

Estep (2011) considered a loss of 30 percent or more of surplus foraging habitat "significant" per the provisions of CEQA because, in his opinion, this level of loss could reduce the distribution and abundance of an existing Swainson's hawk population and/or prevent that population from expanding. As one of 24 past, present, and probable future solar projects in the study area, the Cherry Solar Project will contribute to an overall 26.2 percent reduction in surplus foraging habitat for Swainson's hawks. Based on the 30 percent threshold established by Estep (2011), a recognized expert in the field, the study area's Swainson's hawk population can presumably tolerate this level

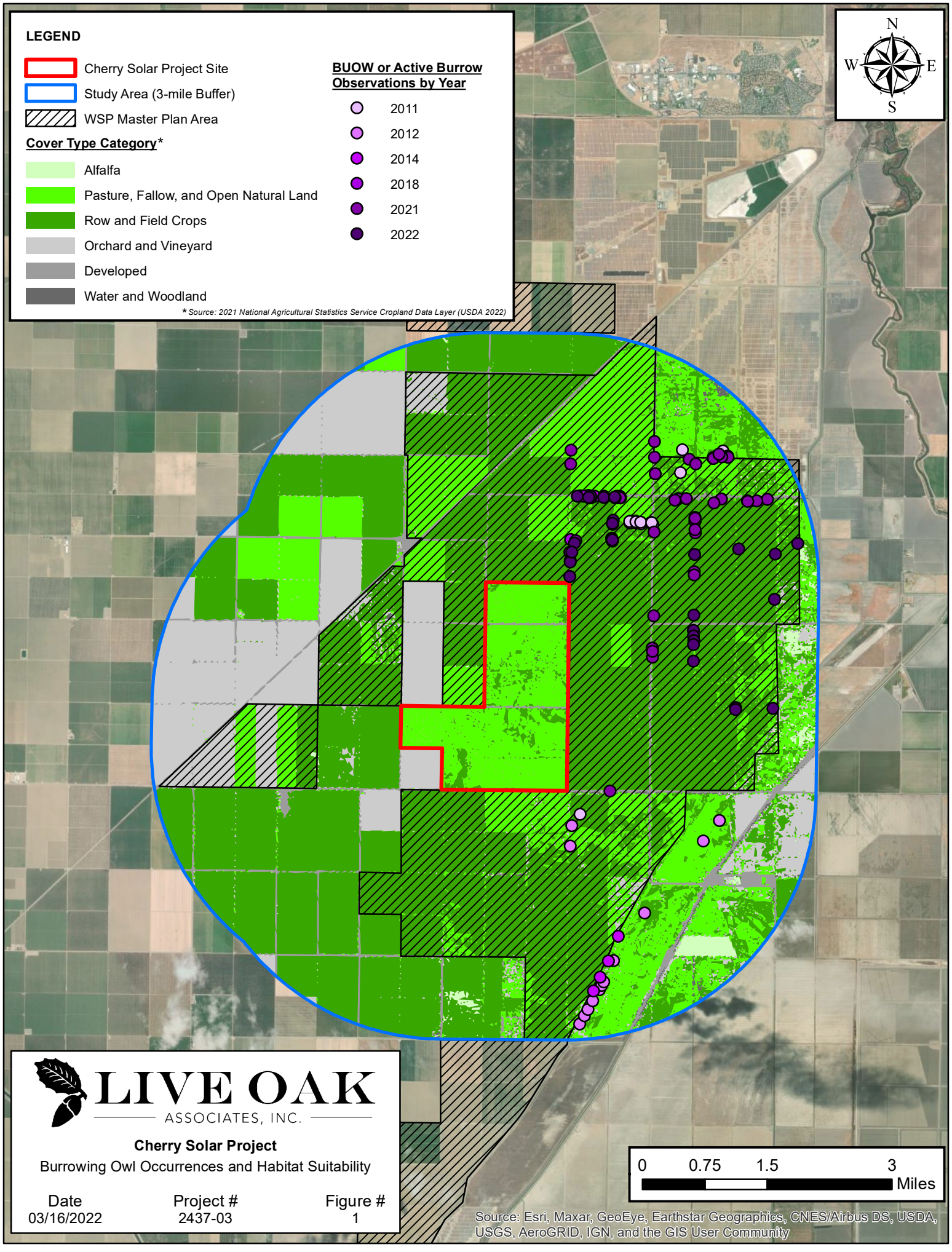
of loss. Therefore, cumulative impacts to Swainson's hawk foraging habitat associated with implementation of the Cherry Solar Project are considered less than significant under CEQA.

APPENDIX B: BURROWING OWL ANALYSIS FOR THE WSP MASTER PLAN AREA

LOA used the 2021 U.S. Department of Agriculture (USDA) National Agricultural Statistics Service Cropland Data Layer (CDL) (USDA 2021) to identify and map potentially suitable habitat for burrowing owls on within the Cherry Solar Project site and a 3-mile buffer ("study area") (Figure 1). The CDL's land cover types were reclassified into six categories, generally grouped according to their potential suitability as burrowing owl burrow and foraging habitat (Figure 1). The six categories are:

1. *Alfalfa – Year-Round Burrow and Foraging Habitat.* Alfalfa is a perennial crop that is suitable for burrowing owl foraging throughout the year, and may offer burrow habitat in its irrigation berms or around its perimeter.
2. *Pasture / Fallow / Open Natural Land - Year-Round Burrow and Foraging Habitat.* Fallow fields and other open, minimally disturbed upland habitats are often suitable as burrow and foraging habitat throughout the year. CDL cover types in this category include fallow/idle cropland, grassland/pasture, and shrubland.
3. *Row and Field Crops – Seasonal or Year-Round Foraging Habitat.* Active agricultural fields may be suitable as burrowing owl foraging habitat, with foraging value varying by crop, growth stage, and maintenance regimen. Some crops may be used year-round, while others develop vegetative characteristics unconducive to foraging by this species and are primarily used after harvest. Cover types in this category include all of the study area's cultivated, non-woody crop classifications save alfalfa; for example, cantaloupes, carrots, corn, cotton, garlic, onions, safflower, tomatoes, triticale, winter wheat, and non-alfalfa hay crops.
4. *Developed – Varied Suitability.* Cover types in this category include developed/high intensity, developed/low intensity, developed/medium intensity, developed/open space, and barren. Generally speaking, the developed/high intensity cover type within the study area encompasses paved roads and existing solar facilities, which do not represent suitable burrow or foraging habitat for burrowing owl. The study area's developed/low intensity, developed/medium intensity, developed/open space, and barren classifications generally

apply to unpaved roads and road shoulders, and may offer year-round burrow habitat for this species.



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Cherry Solar Project

Burrowing Owl Occurrences and Habitat Suitability

Date	Project #	Figure #
03/16/2022	2437-03	1

5. *Orchard / Vineyard - No Burrow or Foraging Habitat*. Orchards and vineyards do not represent burrowing owl burrow or foraging habitat. The study area's orchard and vineyard cover types include pistachios, almonds, grapes, pomegranates, and oranges, among others.
6. *Water and Woodland – No Burrow or Foraging Habitat.* This category is intended to encompass remaining unsuitable CDL cover types such as aquatic and woodland habitats. In the study area, these types were limited to open water and herbaceous wetlands.

Based on the 2021 CDL (USDA 2022) and current understanding of burrowing owl habitat needs, the project site consists entirely of habitat that is suitable for this species on at least a seasonal basis (Table 1 and Figure 1). Suitability is likely to fluctuate depending on management practices. For example, LOA's November 2021 site surveys found most of the fields freshly disked, which likely drove down the site's potential to be used or occupied by burrowing owls. The site was visited to specifically evaluate for nesting burrowing owls on April 26, May 25, June 1, and June 30, 2022 and conditions did not change from the November 2021 site visit. To date, LOA has not documented burrowing owls or active burrows within the Cherry Solar Project site itself.

Table 1. Land Cover and Habitat Suitability of Project Site and a 3-mile Study Area (USDA 2022)

Land Cover Type Category	Habitat Value for BUOW	Project Site Acres (Percent of Total)	Study Area Acres (Percent of Total)	
			2021	Future*
Alfalfa	Year-round burrow and foraging habitat	0	264 (0.7%)	249 (0.7%)
Pasture / Fallow / Open Natural Land	Year-round burrow and foraging habitat	1,783 (85.7%)	9,115 (25.3%)	4,999 (13.8%)
Row and Field Crops	Seasonal or year-round foraging habitat	236 (11.4%)	20,294 (56.2%)	8,346 (23.1%)
Orchard and Vineyard	No burrow or foraging habitat	0	5,015 (13.9%)	4,235 (11.7%)
Developed	Varied suitability	60 (2.9%)	1,283 (3.6%)	18,175 (50.4%)
Water and Woodland	No burrow or foraging habitat	0	124 (0.3%)	91 (0.3%)
Total		2,079 (100%)	36,095 (100%)	36,095 (100%)

* Future acreage values assume full conversion of WSP Master Plan area to developed uses.

The larger study area was also overwhelmingly suitable for the burrowing owl per the 2021 CDL; however, more than half (17,292 acres) of the study area is within the boundaries of the Westlands Solar Park (WSP) Master Plan, the constituent projects of which are presently under construction. Full buildout of the WSP Master Plan will shift the study area's land cover from predominantly row and field crops to predominantly developed uses (see Table 1).

Burrowing owls are well-documented in the study area. Surveys conducted by LOA for various solar projects to be constructed under the WSP Master Plan yielded numerous observations of burrowing owls and their burrows between 2011 and 2022 (see Figure 1), including both breeding (2011-2018) and overwintering (2021-2022) observations. Most of these observations were made along dirt access roads and canal banks, rather than in fields or other "interior" habitats. The observed individuals were presumably using the study area's linear features for roosting and nesting, and foraging in the adjoining fields, a typical pattern for this species in agricultural landscapes (Gervais et al. 2008). Although the study area's linear features may continue to provide burrow habitat following buildout of the WSP Master Plan, loss of foraging opportunity is expected to reduce the overall suitability of the landscape for burrowing owls and may result in burrowing owls shifting their use to other portions of the study area, or leaving the study area altogether.

Presently, 9,379 acres of suitable burrowing owl foraging habitat occur within 3 miles of the Project Site. After full build out of the Cherry Solar Project and all of Westland Solar, 5,248 acres of suitable foraging habitat will remain within 3 miles of the Project Site.

APPENDIX C

Water Supply Assessment

Prepared by

Water Resources Planning

July 2022

Water Supply Assessment

Cherry Solar Project

Kings County, California

Prepared for:

Bert Verrips, AICP, Environmental Consulting

July 2022



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CHAPTER 1 – INTRODUCTION

BACKGROUND AND PURPOSE

This Water Supply Assessment (WSA) was prepared for Bert Verrips, AICP, Environmental Consulting, the firm preparing the Initial Study/Mitigated Negative Declaration (IS/MND) for the Cherry Solar Project (project) on behalf of Kings County Community Development Agency (CDA). CDA is the lead agency conducting the environmental review of the project.

The primary purpose of the WSA is to determine if there is sufficient water supply to meet the demands of the project and future water demands under normal and dry water years over the next 20 years. The WSA will be included in the IS/MND prepared for the project pursuant to the California Environmental Quality Act (CEQA). This forms the basis for an assessment of water supply sufficiency in accordance with the requirements of California Water Code §10910, *et seq.* The WSA was prepared in conformance with the requirements of Senate Bill 610 (Chapter 643, Statutes of 2001) (referred to here as SB 610). SB 610 was adopted, along with a companion measure Senate Bill 221 effective January 1, 2002, to improve the nexus between land use planning and water supply availability. Information regarding water supply availability is to be provided to local public agency decision makers prior to approval of development projects that meet or exceed specific criteria.

- A proposed residential development of more than 500 dwelling units.
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
- A proposed hotel or motel, or both, having more than 500 rooms.
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- A mixed-use project that includes one or more of the projects defined above.
- A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project

SB 610 was not originally clear on whether renewable energy projects are subject to SB 610 and require a WSA. However, SB 267 was signed into law on October 8, 2011, amending California's Water Law to revise the definition of "project" specified in SB 610. Under SB 267, wind and photovoltaic projects which consume less than 75 acre-feet per year (afy) of water are not considered to be a "project" under SB 610 (DWR, 2003b). As discussed in Chapter 2, a water demand of 312 afy will be needed for construction over 12 months, with an ongoing annual operational demand of 28 afy after construction is completed.

There is no public potable water system available or needed to serve the project. The project site is located within the boundaries of Westlands Water District (District) which provides irrigation water to users within its jurisdiction. The District does not deliver treated water for human consumption and is not considered a public water system. Water required during construction and operation of the project does not need to be treated for human consumption and will be obtained from groundwater wells and/or from the District. There is no Urban Water Management Plan (UWMP) that accounts for the project water demands because UWMPs are prepared by urban water suppliers. The District is not considered an urban water supplier and is not required to prepare an UWMP.

DESCRIPTION OF THE PROPOSED PROJECT

Cherry Solar Project

The Cherry Solar Project is planned as a 250 MW solar generating facility on a 2,079-acre site located on the north side of Nevada Avenue, approximately 2.5 miles west of SR-41 in west-central Kings County (see Figure 1, Regional Location, and Figure 2, Project Vicinity).

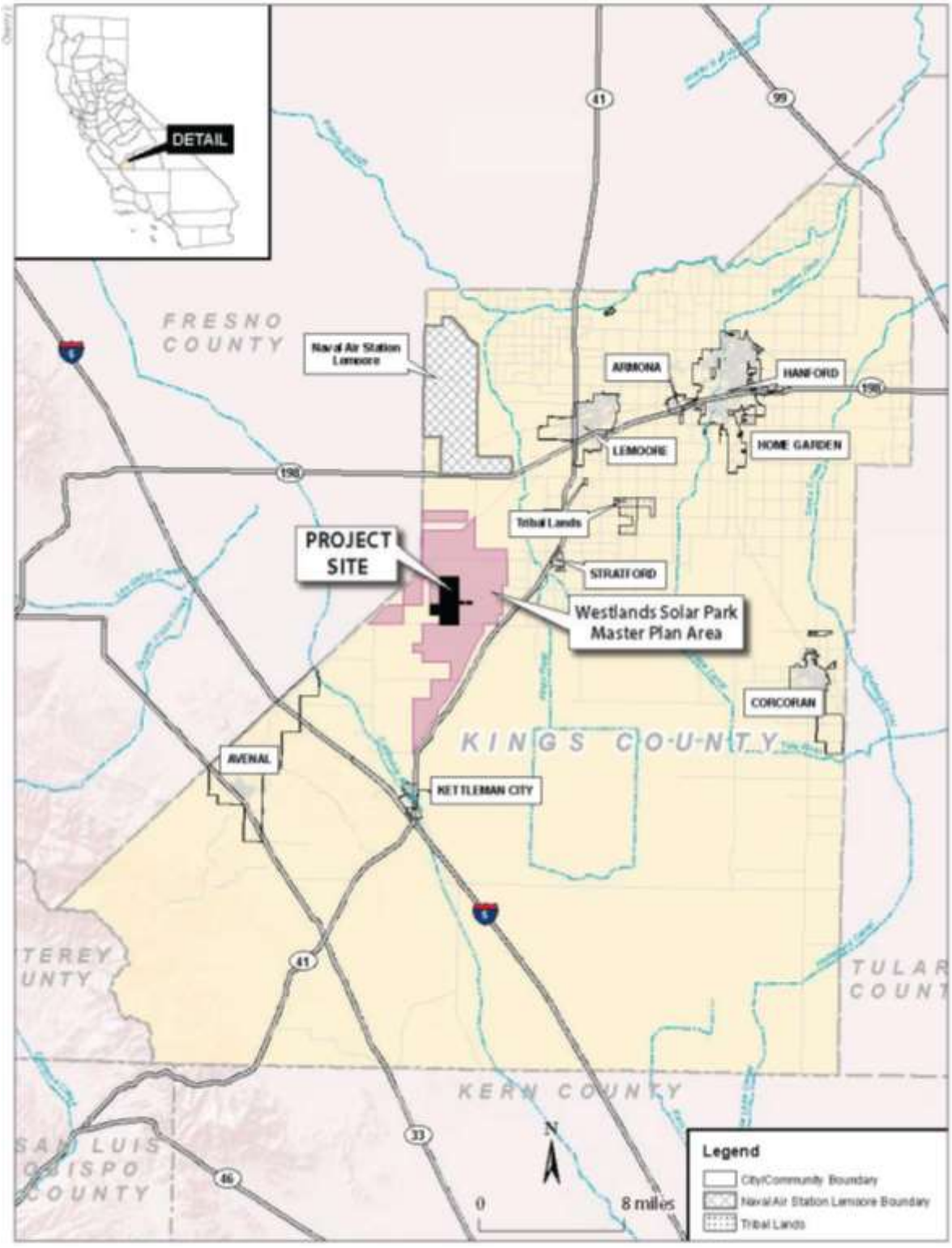

Solar panels

The Cherry Solar Project will largely consist of solar modules mounted on a series of horizontal single-axis trackers to be oriented in north-south rows which will rotate the solar arrays in an east-west direction. The solar modules generate direct current (DC) power and the electricity travels via underground cables to inverters to be converted to alternating current (AC) power. The project will include a total of 77 power conversion stations with power rating of 3.25 MW each, which will step up the generated power to a collection voltage of 34.5-kV. The project will also include a battery storage facility with a capacity of up to 1,000 MW hours.

The Cherry Solar Project will include an Operations and Maintenance (O&M) facility and substation near the eastern site boundary, approximately one mile north of Nevada Avenue. The on-site substation will step up the generated power from 34.5-kV collection voltage to 230-kV for transmission via a short new Gen-Tie Line to be constructed in conjunction with the Cherry Solar Project. The Gen-Tie Line will convey the solar power generated at the Cherry Solar facility eastward for a distance of 1.14 miles to the existing central switchyard located just east of the unimproved 25th Avenue alignment. The project site plan is presented in Figure 3.

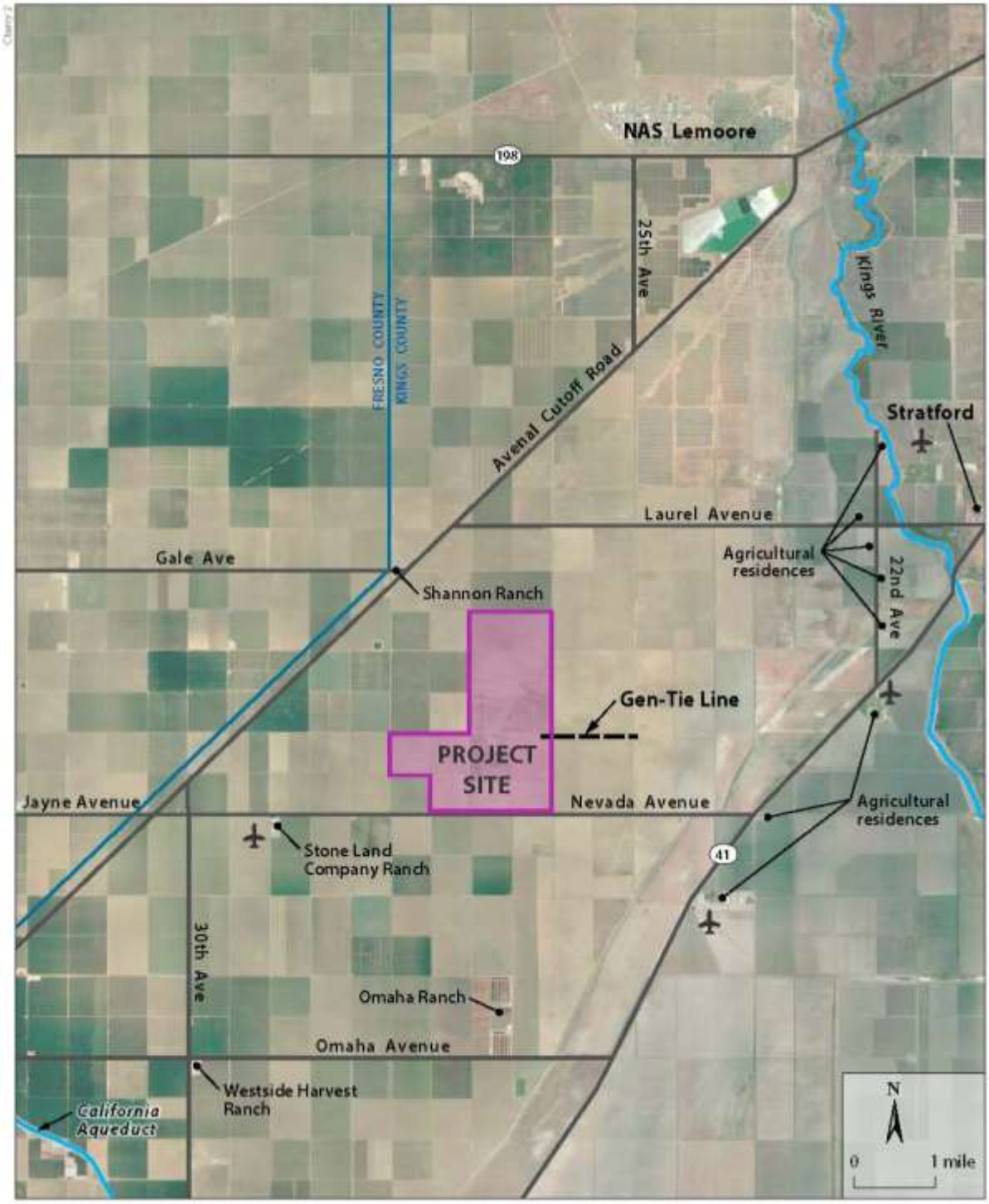
Domestic wastewater disposal would be provided by a septic tank and leachfield system located adjacent to the O&M building. During construction, wastewater needs would be provided by portable chemical toilets which will be serviced by a private contractor.

Chapter 2 of this WSA provides a discussion of future project water demands and historical site demands. Water supply information is provided in Chapter 3. The comparison of water demands with supplies and the reliability of supplies is provided in Chapter 4 followed by the sufficiency findings in Chapter 5.



Source: Kings County Community Development Agency
Map Source: Bert Verrips, AICP, Environmental Consulting, 2022

Regional Location
Figure 1



Source: Google Earth
Map Source: Bert Verrips, AICP, Environmental Consulting, 2022

Project Vicinity
Figure 2



Source: DK Engineering
Map Source: Bert Verrips, AICP, Environmental Consulting, 2022

Overall Site Plan
Figure 3

CHAPTER 2 – WATER DEMANDS

Regional climatic characteristics are summarized here. Projected project water demands and current water production requirements for the site are also presented.

CLIMATIC CONDITIONS

The project area is in the semi-arid San Joaquin Valley. Temperatures during the summer are hot, frequently exceeding 100 degrees Fahrenheit. Cool winters occasionally fall below freezing. Average maximum and minimum temperatures are presented in Table 1 for the closest station which is near Kettleman City. The growing season is long with most rainfall occurring between November and April. As presented in Table 1, the average annual precipitation is 6.6 inches. With climate change, the State Department of Water Resources (DWR) expects a reduced snowpack, spring runoff shifting to earlier in the year, more frequent and extreme dry periods, and shorter winters.

Table 1. Climate Data

Month	Average Maximum Temperature (F)	Average Minimum Temperature (F)	Average Precipitation (inches)
January	55.2	35.2	1.38
February	62.1	39.7	1.18
March	68.1	42.9	0.82
April	74.3	47.2	0.69
May	84.4	54.5	0.31
June	93.0	61.7	0.06
July	100.1	68.0	0.01
August	98.6	66.5	0.03
September	92.1	60.7	0.09
October	80.6	52.0	0.27
November	67.1	41.8	0.72
December	56.1	35.7	1.08
Annual	**77.6**	**50.5**	**6.64**

Source: Temperature and precipitation from Kettleman City, Ca #044534, Western Regional Climate Center for period of record February 1955 through June 2016. (WRCC, 2022)

PROJECT WATER DEMANDS

Water demands for the Cherry Solar project consist of temporary construction demands over a 12 month period and long term operational demands for washing the solar modules and general operations.

Construction Water Use

The highest water demands are associated with construction in preparing the site for the solar arrays and trenching for conduit. During this earthwork phase of construction, non-potable water will be used for dust control. Based on past experience with similar solar projects in the region, each acre of construction area will require 0.15 acre-feet of water during construction.

The 250-MW project will occupy a total site area of 2,079 acres resulting in a total construction water demand of 312 acre-feet, as presented in Table 2. With a 12 month construction schedule, this equates to 312 afy. Water supply for construction demands will be provided by an existing agricultural well in the project vicinity.

Table 2. Construction Water Demands

Activity	Water Use	Unit
Dust Control Demand Factor	0.15	acre-feet/acre
Total Construction Water Demands[1]	312	acre-feet
Annual Construction Demands[2]	312	AFY

[1] Based on 2,079 acre project site
[2] Based on a 12 month construction period
Source: Bert Verrips, AICP, Environmental Consulting, 2022.

Operational Water Use

Maintenance will primarily consist of washing the PV modules about two times each year to remove accumulated dust from panel surfaces to maintain efficiency. The cleaning interval is determined by the rate at which electrical output degrades between cleanings. Periodic panel washing will most likely be needed during dry summer months with increased deposition of windblown dust from nearby agricultural operations. Light duty trucks with tow-behind trailers with small water tanks will transport the water; workers spray to wet the panel surfaces then squeegee the panels dry. No chemical cleaners will be used for module washing. Water demand unit factors, based on experience with other solar projects, are presented in Table 3. The panel washing unit factor is based on a reported average water usage rate of 0.05 acre-feet per MW at operating PV solar facilities in the southwestern U.S. (UCWR 2013). Two panel cleaning cycles per year will use approximately 25 afy (8,146,275 gallons), or 32,585 gallons per MW per year (gal/MW/yr).

In addition to panel washing, sheep will be grazing the site for approximately five months during the first half of each year to keep site vegetation under control. Sheep grazing within the project area is based on 0.5 sheep per acre, on 1,880 acres to remain in vegetative cover in the solar facility, for a total of 940 sheep. Sheep grazing five months (151 days) per year, at 3 gallons per day per sheep, equals 453 gallons per sheep per year. The total water required for the 940 sheep is therefore 425,820 gallons per year or 1,703 gal/MW/yr or 1.31 afy.

An additional ongoing water demand is for general operations and maintenance (e.g., equipment washing, septic system, and other non-potable water uses). The general operations unit demand is 2,000 gal/MW/yr or 500,000 gallons per year for the 250 MW Cherry Solar project.

As presented in Table 3, with the project generating 250 MW at buildout, total operational water demands are 9.07 million gallons per year or 27.84 afy. Total operational water demands per MW are 36,288 gal/MW/yr. This is equivalent to 0.0134 acre-feet per acre per year (af/ac/yr) or 2.14 acre-feet per quarter-section (160 acres). Small quantities of potable water will be required at the solar facilities for drinking and other uses. Potable water will be delivered to each site by a water delivery service. Overall, annual water demands are not anticipated to vary based on climatic conditions.

Table 3. Operational Water Demands

Activity	Water Use	Unit
Demand Factors		
Panel Washing Demand Factor	32,585	gal/MW/yr
Sheep Watering	1,703	gal/MW/yr
General Operations Demand Factor	2,000	gal/MW/yr
Project Water Demands		
Panel Washing Demands	8,146,275	gallons per year
	25.0	afy
Sheep Watering	425,820	gallons per year
	1.11	afy
General Operations Demands	500,000	gallons per year
	1.53	afy
Total Operational Water Demands	**9,072,095**	**gallons per year**
	9.07	**million gallons/year**
	27.84	**afy**

Note: Based on 250 MW project at buildout
Source: Bert Verrips, AICP, Environmental Consulting, 2022.

HISTORICAL WATER PRODUCTION

In the recent past, the site has been used for the cultivation of cotton, tomatoes, and winter wheat, with varying portions of the site left fallow in any given year depending on availability of imported surface water supplies for irrigation. Current water use on the site is discussed in the following chapter.

CHAPTER 3 – WATER SUPPLIES

Water for project construction needs will be provided by the existing on-site agricultural well or another agricultural well in the project vicinity. Upon completion, water for ongoing operational water supplies will be obtained from the on-site agricultural well and/or provided by the District through its conveyance system from imported surface water sources. This section discusses surface water and groundwater available to the project, District supply conditions, water management activities, and reliability of project supplies.

CURRENT WATER USE

As discussed in Chapter 2, the 2,079-acre project site is currently under irrigated crop cultivation. Within the Cherry Solar Project site, agricultural water for irrigation is currently provided by the District from imported water supplies and by groundwater pumping from the on-site well. Annual consumption varies substantially depending on availability of imported surface water. The average rate of applied water can range from a high of up to approximately 2.5 afy during years of full CVP water allocation with some supplemental groundwater pumping, to low of 1.0 afy during years of zero imported water deliveries and total reliance on groundwater pumping. Based on these factors, it is estimated that annual volume of irrigation water historically applied at the project site ranged from approximately 2,000 afy to approximately 5,000 afy. The groundwater supply is non-potable water for crop irrigation; there are no sources of potable domestic water on the project site.

SURFACE WATER SUPPLIES

The Cherry Solar Project site, shown on Figure 2, lies entirely within the boundaries of the District. The WWD was formed in 1952 to serve agricultural water users on the west side of the San Joaquin Valley and has a service area of 614,700 acres, of which 46,700 acres is retired, non-irrigated farmland. The total volume of water required for the entire irrigable area of 568,000 acres within WWD is about 1.5 million acre-feet. Upon completion of the San Luis Canal by the U.S. Bureau of Reclamation (USBR) in 1968, WWD began receiving deliveries of Central Valley Project (CVP) water from the Delta. Water is delivered from the Sacramento River-San Joaquin River Delta during winter months and is stored in the San Luis Reservoir. Water is then delivered to District growers through the San Luis Canal and the Coalinga Canal. Once it leaves the federal project canals, water is delivered through approximately 1,030 miles of pipeline.

Westlands' annual water entitlement from the USBR's Central Valley Project is 1,193,000 acre-feet, or about 300,000 acre-feet less than irrigation needs of approximately 1.5 million afy. Thus, Westlands' surface water supply entitlement of CVP water is short even when 100 percent of the Contract water is available. Some of the difference is made up by well water from the lower aquifer and water transfers (the latter averaging 150,000 acre-feet per year). Under the terms of a 2015 settlement agreement between WWD and the U.S. Department of Justice, WWD's annual water deliveries are capped at

895,000 acre-feet (USBR 2015). Therefore, the annual shortfalls of water supply are approximately 500,000 acre-feet per year, assuming full delivery of surface water and annual transfers of 150,000 acre-feet per year.

The west side of the San Joaquin Valley was among the last areas in the Central Valley to receive imported water from the Delta and thus has a lower priority to receive contract water from the federal CVP. The south of Delta contractors suffer disproportionately during drought conditions when water deliveries are curtailed. For example, as presented in Table 4, during the ten year period between 2011 and 2020, WWD received its full 100 percent contract entitlement in only one year - 2017. In seven of those 10 years, WWD received water allocations that were 50 percent or less than its contract entitlement. The average annual water allocation received during that 10 year period was about 418,283 acre-feet, or 36 percent of the contract entitlement.

The District augments CVP contract water with other supplies such as flood flows from the San Joaquin and Kings rivers when available; these seasonal supplies are made available to the District as they flow into the Mendota Pool. Water transfers have become an important component in the District supply portfolio. Transfers and other purchases are included in Table 4 as Additional District Supply. Transfers from other water districts are pursued each year to supplement contract deliveries. The amount of groundwater pumped from the basin in any given year is typically inversely proportional to the availability of surface water supplies; this is evident for dry water years 2013 through 2016, and the wet water year of 2017, for example, as shown in Table 4.

In February 2020, the District signed a permanent water repayment contract with the Bureau of Reclamation which would convert its current water service contracts to permanent repayment contracts as of June 1, 2020. This provision of the Water Infrastructure Improvements for the Nation Act of 2016, which is intended to increase the reliability of water deliveries in exchange for prepayment of infrastructure, has been challenged in court. This WSA is not relying on increased reliability associated with the repayment contract.

REGIONAL GROUNDWATER SUPPLY

The District does not supply groundwater to District growers nor does it regulate the use of groundwater. Growers within the District service area augment District deliveries with pumped groundwater to meet irrigation needs. The Cherry Solar Project site is located within the Westside Subbasin (5-22.09) of the San Joaquin Valley Basin within the Tulare Lake Hydrologic Region. Although the District collects some pumping data, the lack of a complete database of extraction data and replenishment rates within the subbasin makes it difficult to estimate baseline conditions regarding water supply availability. This is a common problem in the San Joaquin Valley as the majority of water usage is associated with individual agricultural water users with a lack of consistent groundwater monitoring and reporting programs. Where data are not available to make quantitative estimates of water availability and reliability, reasonable assumptions are made here based on information and data that are available.

Table 4. Westlands Water District Water Supplies

Water Year	CVP Allocation %	Net CVP (AF)	Ground-water (AF)	Water User Acquired (AF)	Additional District Supply (AF)	Total Supply (AF)	Fallowed Acres
1988	100%	1,150,000	160,000	7,657	97,712	1,415,369	45,632
1989	100%	1,035,369	175,000	20,530	99,549	1,330,448	64,579
1990	50%	625,196	300,000	18,502	-2,223	941,475	52,544
1991	27%	229,666	600,000	22,943	77,399	930,008	125,082
1992	27%	208,668	600,000	42,623	100,861	952,152	112,718
1993	54%	682,833	225,000	152,520	82,511	1,142,864	90,413
1994	43%	458,281	325,000	56,541	108,083	947,905	75,732
1995	100%	1,021,719	150,000	57,840	121,747	1,351,306	43,528
1996	95%	994,935	50,000	92,953	172,609	1,310,497	26,754
1997	90%	968,408	30,000	94,908	261,085	1,354,401	35,554
1998	100%	945,115	15,000	54,205	162,684	1,177,004	33,481
1999	70%	806,040	60,000	178,632	111,144	1,155,816	37,206
2000	65%	695,693	225,000	198,294	133,314	1,252,301	46,748
2001	49%	611,267	215,000	75,592	135,039	1,036,898	73,802
2002	70%	776,526	205,000	106,043	64,040	1,151,609	94,557
2003	75%	863,150	160,000	107,958	32,518	1,163,626	76,654
2004	70%	800,704	210,000	96,872	44,407	1,151,983	70,367
2005	85%	996,147	75,000	20,776	98,347	1,190,270	66,804
2006	100%	1,076,461	25,000	45,936	38,079	1,185,476	54,944
2007	50%	647,864	310,000	87,554	61,466	1,106,884	96,409
2008	40%	347,222	460,000	85,421	102,862	995,505	99,663
2009	10%	202,991	480,000	68,070	70,149	821,210	156,239
2010	45%	590,059	140,000	71,296	79,242	880,597	131,339
2011	80%	876,910	45,000	60,380	191,686	1,173,976	59,514
2012	40%	405,451	355,000	111,154	123,636	995,241	112,755
2013	20%	188,448	638,000	101,413	143,962	1,071,823	131,848
2014	0%	98,573	655,000	59,714	26,382	839,669	220,053
2015	0%	82,429	660,000	51,134	34,600	828,163	218,112
2016	5%	9,204	612,000	72,154	174,374	867,732	179,784
2017	100%	911,307	54,000	-50,009	174,490	1,089,788	146,275
2018	50%	580,050	328,000	42,338	55,872	1,006,260	148,320
2019	75%	827,317	89,000	37,985	53,433	1,007,735	158,103
2020*	20%	203,138	400,000	80,000	119,000	802,138	160,000

Table 4 Definitions:

*Estimated

Water Year – March 1 to February 28 (29 Leap Year)

CVP Allocation – Final CVP water supply allocation for the year (100% = 1,150,000 AF)+(Reassignment = 45,383 AF)

Net CVP – CVP Allocation adjusted for carry over and rescheduled losses

Groundwater – Total groundwater pumped

Water User Acquired – Private landowner water transfers

Additional District Supply – Surplus water, supplemental supplies, and other adjustments.

Fallowed Acres – Agricultural land out of production

Source: WWD, July 2022

Subbasin Characteristics

The Tulare Lake Hydrologic Region covers approximately 17,000 square miles including all of Kings and Tulare counties, and most of Fresno and Kern counties. Significant geographic features include the Temblor Range to the west, the Tehachapi Mountains to the south and the southern Sierra Nevada to the east. The Kings, Kaweah, Tule, and Kern Rivers drain the southern portion of the valley internally towards the Tulare drainage basin.

The Westside Subbasin is primarily located in Fresno County, with a relatively small portion located in Kings County. The subbasin encompasses a surface area of approximately 622,215 acres (972 square miles) within the San Joaquin Valley (DWR, 2020). The Westside Subbasin is located between the Coast Range foothills on the west and the San Joaquin River drainage and Fresno Slough to the east. To the southwest is the Pleasant Valley Groundwater Subbasin, and to the west are Tertiary marine sediments of the Coast Ranges. To the north and northeast is the Delta-Mendota Groundwater Subbasin, and to the east and southeast are the Kings and Tulare Lake Groundwater subbasins, also subbasins of the San Joaquin Valley Basin.

The aquifer system comprising the Westside Subbasin consists of unconsolidated continental deposits of Tertiary and Quaternary age. These deposits form an unconfined to semi-confined upper aquifer and a confined lower aquifer. These aquifers are separated by an aquitard named the Corcoran Clay member of the Tulare Formation. The unconfined to semi-confined aquifer (upper zone) above the Corcoran Clay includes younger alluvium, older alluvium, and part of the Tulare Formation. These deposits consist of highly lenticular, poorly sorted clay, silt, and sand intercalated with occasional beds of well-sorted fine to medium grained sand. This clay layer ranges in thickness from 20 to 200 feet, underlies most of the District, and has extensive wells penetrating the clay which allows partial interaction between the zones (DWR, 2006). The depth to the top of the Corcoran Clay varies from approximately 500 feet to 850 feet (WWD, 2014). The confined aquifer (lower zone) consists of the lower part of the Tulare Formation and possibly the uppermost part of the San Joaquin Formation. This unit is composed of lenticular beds of silty clay, clay, silt, and sand interbedded with occasional strata of well-sorted sand. Brackish or saline water underlies the usable groundwater in the lower zone (DWR, 2006). Well yields are good with an average of 1,100 gallons per minute (gpm) and a maximum of 2,000 gpm (DWR, 2003a).

Flood basin deposits along the eastern portion of the subbasin have caused near surface soils to drain poorly thus restricting the downward movement of percolating water. This causes agriculturally applied water to build up as shallow water in the near surface zone. Areas prone to this buildup are often referred to as drainage problem areas (DWR, 2006).

Water quality in the lower water bearing zone varies. Typically, water quality varies with depth with poorer quality existing at the upper and lower limits of the aquifer and the optimum quality somewhere between. The upper limit of the aquifer is the base of the Corcoran Clay with the USGS identifying the lower limit as the base of the fresh groundwater. The quality of the groundwater below the base of fresh water can exceed 2,000 milligrams per liter (mg/L) total dissolved solids (TDS) which is too high for irrigating crops; the subbasin averages 520 mg/L TDS. In addition to high TDS, this subbasin can also contain selenium and boron that may affect usability as irrigation water.

Groundwater Level Trends

As shown in Table 5, lower aquifer groundwater levels were generally at their lowest levels in the late 1960's prior to the importation of surface water. The CVP began delivering surface water to the San Luis Unit in 1967-68. Water levels gradually increased to a maximum in about 1987-88, falling briefly during the 1976-77 drought and again during the 1987-92 drought.

Table 5. Groundwater Use and Elevation Change in Westlands Water District

Crop[1] Year	Pumped AF	Elevation FT	Elevation Change FT	Crop Year	Pumped AF	Elevation FT	Elevation Change FT
1956	964,000	-65	-13	1986	145,000	71	8
1957	928,000	-56	9	1987	159,000	89	18
1958	884,000	-29	27	1988	160,000	64	-25
1959	912,000	-77	-48	1989	175,000	63	-1
1960	872,000	-81	-4	1990	300,000	9	-54
1961	824,000	-96	-15	1991	600,000	-32	-41
1962	920,000			1992	600,000	-62	-30
1963	883,000			1993	225,000	1	63
1964	913,000			1994	325,000	-51	-52
1965	822,000			1995	150,000	27	78
1966	924,000	-134		1996	50,000	49	22
1967	875,000	-156	-22	1997	30,000	63	14
1968	596,000	-135	21	1998	15,000	63	0
1969	592,000	-120	15	1999	20,000	65	2
1970	460,000	-100	20	2000	225,000	43	-22
1971	377,000	-93	7	2001	215,000	25	-18
1972		-54	39	2002	205,000	22	-3
1973		-37	17	2003	160,000	30	8
1974	96,000	-22	15	2004	210,000	24	-6
1975	111,000	-11	11	2005	75,000	56	32
1976	97,000	-2	9	2006	15,000	77	21
1977	472,000	-99	-97	2007	310,000	35	-42
1978	159,000	-4	95	2008	460,000	-11	-46
1979	140,000	-13	-9	2009	480,000	-31	-20
1980	106,000	4	17	2010	140,000	9	40
1981	99,000	11	7	2011	45,000	49	40
1982	105,000	32	21	2012[2]	355,000	1	-48
1983	31,000	56	24	2013	638,000	-58	-59
1984	73,000	61	5	2014	655,000	-76	-18
1985	228,000	63	2	2015	660,000	-120	-44

Source: WWD, 2016a.

[1] Crop year is from October 1 of previous year to September 30 of current year.

[2] Starting with 2012, groundwater pumped is for Water Year (March 1 through February 28)

1998 water levels recovered nearly to the 1987-88 levels after a series of wet years. Reductions in surface water availability along with increases in groundwater pumping resulted in groundwater levels declining by as much as 200 feet in the years between 2010 and 2015. These declines, largely occurring

in the lower aquifer, resulted in increased subsidence in some areas of the subbasin, particularly along portions of the San Luis Canal (DWR, 2020).

Recharge is primarily from seepage of Coast Range streams along the west side of the subbasin (approximately 30,000 to 40,000 afy) and deep percolation of surface irrigation. Secondary recharge to the upper aquifer (approximately 20,000 to 30,000 afy) and lower aquifer (150,000 to 200,000 afy) occurred from areas to the east and northeast as subsurface flows. WWD estimated the average deep percolation between 1978 and 1996 was 244,000 afy and applied groundwater between 1978 and 1997 was 193,000 afy (DWR 2006; DWR 2020; WWD 2016a).

Overdraft and the Groundwater Sustainability Plan

Westside Subbasin is considered by DWR to be a critically overdrafted subbasin. This designation was identified as a part of the Sustainable Groundwater Management Act of 2014 (SGMA) and Groundwater Sustainability Plan (GSP) process and was based on significant, on-going, and irreversible subsidence which was about 0.4 feet per year between 2007 and 2011 (DWR, 2015). Basins in critical overdraft were required to develop a GSP by January 31, 2020. As the primary water purveyor in the Westside Subbasin, Westlands Water District is the designated Groundwater Sustainability Agency (GSA) for the subbasin and developed the GSP. The GSP for the Westside Subbasin was adopted by the WWD Board of Directors on January 8, 2020.

The purpose of the GSP is to characterize groundwater conditions in the subbasin, to evaluate and report on conditions of overdraft, to establish sustainability goals and sustainability management criteria, and to describe projects and management actions the GSA intends to implement to achieve sustainability by 2040 (DWR, 2020). The plans and progress toward meeting the sustainability goal - that the subbasin will be operated within its sustainable yield by 2040 and maintain sustainability through the entire planning and implementation horizon through 2070 - will be evaluated every five years. The resulting sustainable yield is discussed below and projects and management actions to achieve sustainability is discussed later in this chapter.

Aquifer's Ability to Recover

The reduction of CVP water and other surface supplies to the District over time has resulted in construction of many new wells by farmers to obtain water to make up for the shortfall. There were 605 wells constructed within the District between 2000 and 2015. The total number of operational wells within the District in 2014 was 792 and 124 non-operational wells. Most of the information provided here on District groundwater conditions was obtained from the District's 2015 Deep Groundwater Report (WWD, 2016a) and 2012 Water Management Plan (WWD, 2013).

As presented in Table 5, prior to the delivery of CVP water into the District, the annual groundwater pumping ranged from 822,000 to 964,000 acre-feet during the period of 1953 to 1968. The majority of this pumping was from the aquifer below the Corcoran Clay causing the sub-Corcoran piezometric groundwater surface (groundwater surface) to reach the lowest recorded average elevation of 156 feet below mean sea level in 1967. The U.S. Geological Survey concluded that extraction of large quantities

of groundwater prior to CVP deliveries resulted in compaction of water bearing sediments and caused land subsidence ranging from 1 to 24 feet between 1926 and 1972.

After CVP water deliveries began in 1968, the groundwater surface rose steadily until reaching 89 feet above mean sea level in 1987, the highest average elevation on record dating back to the early 1940's. The only exception during this period was in 1977 when a drought and drastic reduction of CVP deliveries resulted in groundwater pumping of approximately 472,000 acre-feet and an accompanying drop in the groundwater surface elevation of approximately 97 feet.

During the early 1990's, groundwater pumping increased due to reduced CVP water supplies due to drought and regulatory actions. Groundwater pumping reached an estimated 600,000 acre-feet annually during 1991 and 1992 when the District received only 25 percent of its contractual entitlement of CVP water. This increased pumping caused the groundwater surface to decline to 62 feet below mean sea level, the lowest elevation since 1977. DWR estimated the amount of subsidence since 1983 to be almost two feet in some areas of the District, with most of that subsidence occurring since 1989.

Based on data presented in Table 4 and Table 5, during 2011 to 2015, CVP allocations averaged 28 percent (320,771 acre-feet), total groundwater pumped was 2,353,000 acre-feet, and the groundwater surface elevation decreased 129 feet. The CVP allocations for 2014 and 2015 water year were 0 percent for both years and with the accompanying increase in groundwater pumped (655,000 acre-feet and 660,000 acre-feet, respectively), the groundwater surface decreased 62 feet over the two-year period to an average elevation of 120 feet below mean sea level.

In the project vicinity, the depth to the top of the Corcoran Clay in the project vicinity is approximately 650 to 700 feet. The elevation of the base of fresh groundwater is approximately -2200 feet mean sea level (WWD, 2015b).

Sustainable Yield

Sustainable yield is defined as "the maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing an undesirable result". Using 2015 as baseline conditions, sustainable yield for the 2023 to 2045 projected period was determined and ensures this is a quantity of water that can be withdrawn annually from a groundwater supply without causing an undesirable result. The average of 305,000 afy was determined to be the sustainable yield of the Westside Subbasin prior to projects and management actions being implemented. The historical groundwater budget for the 1989 through 2015 budget period was 300,000 afy (DWR, 2020; WWD 2021).

The groundwater allocation program established under the GSP includes a "transition period" from 2022 to 2030, in which a uniform annual allocation cap is initially established at 1.3 acre-feet per acre (ac-ft/ac) and then subsequently reduced each year starting in 2024 by 0.1 ac-ft/ac until 2030 when the allocation cap would reach 0.6 ac-ft/ac (i.e., 305,000 afy / ~525,000 acres eligible to receive allocation) (WWD 2021).

WESTLANDS WATER DISTRICT SOLAR PROJECT SUPPLY AVAILABILITY

The District has stated it will provide PV solar projects an operational water supply of up to 5.0 afy per quarter section (160 acres) which equals 65 afy maximum supply available for the 2,079-acre Cherry Solar site. Total operational demands of 27.84 afy (rounded to 28 afy) from Table 3 equates to 2.14 afy per ¼ section, well within WWD's maximum annual allowance of 5.0 afy/160 acres. Although the District has been able to meet its municipal and industrial untreated water demands in the past, in the event that the District cannot provide the project water supply, water can be obtained from the existing on-site agricultural well. Based on the long-term groundwater pumping limit of 0.6 afy/acre established under the GSP, the overall pumping limit at the 2,079-acre project site would be 1,275 afy, which would be more than sufficient to provide for operational water demands of 28 afy.

WATER MANAGEMENT AGENCIES AND ACTIVITIES

The majority of the Westside Subbasin is in Fresno County, extending south into Kings County. The Westside Subbasin is almost entirely within the District service area. The District's management activities and projects related to water conservation and the Groundwater Sustainability Plan activities and the Fresno Area Regional Groundwater Management Plan are summarized here.

Westlands Water District

The District funds education and technology, enabling growers to effectively utilize water allotments through efficiencies. The District surveys the static water levels in the wells and the water quality and quantity of pumped groundwater as part of its Water Management Plan. A key component of the District's Water Management Plan is water conservation. This program consists of the following elements.

- Irrigation Guide for water requirements per crop
- Water Conservation and Management Handbook
- Workshops and meeting on water management information
- Technical assistance and conservation computer programs
- Meter repair and updated program
- Groundwater monitoring
- Pump efficiency tests
- Conjunctive use of supplies
- Irrigation System Improvement Program
- Satellite imagery purchased about once every two weeks

Projects and management actions developed for the Groundwater Sustainability Plan are aimed at preventing and managing chronic lowering of groundwater levels, and significant and unreasonable reduction of groundwater storage, land subsidence, and degradation of groundwater quality. Proposed projects and management actions were grouped into the following project categories and are described below. This information was obtained from the GSP.

1. Surface water imports

2. Initial allocation of groundwater extraction
3. Aquifer storage and recovery
4. Targeted pumping reductions (to reduce pumping near Check 16, 17, and 20)
5. Percolation basins

Surface Water Imports. The primary focus of the Surface Water Imports program is to increase surface water availability and reliability and to reduce the corresponding landowner reliance on groundwater within the Subbasin by fulfilling most of the agricultural, municipal, and industrial water demands within the Subbasin. Surface water deliveries will be obtained through existing CVP contracts and through water transfer and exchange projects. Increasing the supply of surface water will allow surface water to be used in lieu of groundwater leading to increased groundwater storage and levels. The increased delivery of surface water can further conjunctive use strategies.

Initial Allocation of Groundwater Extraction. The GSA has prepared a groundwater allocation framework to manage demand by equally distributing the total annual pumping from the subbasin on the basis of land acreage overlying the subbasin. The groundwater allocation program includes a "transition period" from 2023 to 2030, in which a uniform annual allocation is initially established at 1.3 ac-ft/ac and then subsequently reduced each year by 0.1 ac-ft/ac until 2030 when the allocation would reach 0.6 ac-ft/ac. The groundwater will be distributed based on per-acre land ownership for all qualifying lands.

Every overlying landowner will have equal access to available groundwater subject to the sustainability requirements of the GSP and the avoidance of undesirable results. The distribution will ensure there are no long-term imbalances in the subbasin water budget, there is increased pumping transparency, and more flexibility to water users for resource management that provides benefits not traditionally available, e.g., banking of unused water, exchanges.

Although the project is planned to be constructed in 2023 under an allocation of 1.3 af/ac/yr, this WSA utilized the 2030 goal of 0.6 af/ac/yr as its available supply for 12 months of construction activities.

Aquifer Storage and Recovery. An aquifer storage and recovery program (ASR) involving the direct injection and subsurface storage of groundwater using agricultural wells has been proposed by the GSA to improve water supply reliability within the subbasin. Landowners will voluntarily adopt the program in order to have the recharged water contribute to the landowner's groundwater allocation.

Targeted Pumping Reductions. It is possible that the combination of other measures will not be sufficient individually or collectively to avoid significant and unreasonable land subsidence. When combined with cumulative subbasin pumping, groundwater withdrawals near Checks 16, 17, and 20 of the San Luis Canal/California Aqueduct, may require focused management efforts. Consequently, the GSP proposes to offer or, if necessary to avoid significant and unreasonable land subsidence, to require surface water substitution to reduce groundwater pumping near the canal. In exchange for the reduction in pumping, the GSA may provide incentives to landowners included in this program. Participating landowners may be required to bear material unmitigated impacts in accepting the substitute surface water.

Percolation Basins. The GSA is proposing engaging in managed aquifer recharge through percolation basins in selected areas of the subbasin to increase groundwater in storage. These basins would be constructed on GSA-owned land where the Corcoran Clay is not present. The basins would be used to store available water and recharge the upper and lower aquifer. The GSA is currently investigating the feasibility of this project at potential sites located in the subbasin (DWR, 2020).

Fresno Area Regional Groundwater Management Plan

The Fresno County Groundwater Management Plan was updated in 2006. Although the Fresno study area is primarily within the Kings Subbasin which does not extend to the Cherry Solar Project site, its activities will improve the management of the Westside Subbasin and it demonstrates active efforts towards increased supply reliability in the region. The regional groundwater management group of nine agencies and one private water company that prepared the plan is implementing activities to improve water resources management and reporting. Activities include: groundwater level monitoring, groundwater quality monitoring, land surface subsidence monitoring, and surface water monitoring on an ongoing basis. These agencies are constantly making improvements to improve groundwater recharge, increase water conservation and education savings, pursue groundwater banking, increase recycled water usage to reduce potable consumption, and other activities (Fresno 2017).

WATER SUPPLY RELIABILITY

SB 610 requires the consideration of supply availability under varying climatic conditions including normal water years and dry years. Reasonable assumptions can be made regarding availability and reliability under normal year and dry year scenarios based on available data and information for the project.

During single and multiple dry years when less CVP contract water is available, the District relies more on local groundwater resources, resulting in a temporary drawdown of the aquifer. As demonstrated, historically the basin generally recovers from these times of increased pumping when surface water availability is restored; however, there is some concern regarding subsidence reducing the overall capacity of the aquifer, particularly on the west side of the subbasin.

The GSP determined that the allocation of groundwater extraction goal of 0.6 af/ac/yr is to be gradually obtained by year 2030 (DWR, 2020). This more conservative number was used as available supply for the analysis of supplies and demands. The temporary groundwater supply required for construction of the Cherry Solar Project will be provided from the existing on-site agricultural well or another well located in the vicinity.

For construction of solar projects, groundwater in this unadjudicated basin is considered available and reliable under normal water years, a single dry water year, and multiple dry years, as shown in Table 6. Cherry Solar Project's temporary demands are 312 afy (during the 12 month construction period). Compared with the estimated 2,000 to 5,000 afy of water historically applied at the project site for agricultural irrigation, the temporary application of 312 afy for dust control during project construction would represent a far less intensive use of water supplies compared to pre-development conditions. Based on the information provided in this WSA, the annual water demand of 312 afy during construction

on 2,079 acres (or 0.15 af/ac/yr) is significantly less than the available groundwater supply of 0.6 af/ac/yr and is not expected to result in adverse water supply reliability impacts.

Table 6. Cherry Solar Project Supplies and Demands (afy)

	2023	2025	2030	2035	2040	2045
Normal Year Construction						
Groundwater Supply [1]	1,245	0	0	0	0	0
WWD Supply	0	0	0	0	0	0
Construction Demand [2]	*312*	*0*	*0*	*0*	*0*	*0*
Normal Year Operations						
Groundwater Supply	0	0	0	0	0	0
WWD Supply [3]	65	65	65	65	65	65
Operations Demand [4]	*28*	*28*	*28*	*28*	*28*	*28*
Single Dry Year Construction						
Groundwater Supply [1]	1,245	0	0	0	0	0
WWD Supply	0	0	0	0	0	0
Construction Demand [2]	*312*	*0*	*0*	*0*	*0*	*0*
Single Dry Year Operations						
Groundwater Supply	0	0	0	0	0	0
WWD Supply [3]	65	65	65	65	65	65
Operations Demand [4]	*28*	*28*	*28*	*28*	*28*	*28*
Multiple Dry Year Construction (Year 1, 2, 3)						
Groundwater Supply [1]	1,245	0	0	0	0	0
WWD Supply	0	0	0	0	0	0
Construction Demand [2]	*312*	*0*	*0*	*0*	*0*	*0*
Multiple Dry Year Operations (Year 1, 2, 3)						
Groundwater Supply	0	0	0	0	0	0
WWD Supply [3]	65	65	65	65	65	65
Operations Demand [4]	*28*	*28*	*28*	*28*	*28*	*28*

[1] The GSP sustainable yield of 0.6 af/ac/yr (on 2,079 acres = 1,245 afy) of groundwater is assumed available at the Cherry Solar Project site to meet temporary construction demands. Construction supply is available from a local agricultural well.
[2] From Table 2.
[3] WWD can provide up to 5.0 afy per 160 acres from its CVP allocation augmented with other purchases and groundwater (WWD, 2017). Total project area of 2,079 acres equals 65 afy available imported surface water supply.
[4] From Table 3.

The amount of CVP contract water received by the District during any given year varies depending on climatic and hydrologic conditions, Delta constraints, and other factors. The District augments the contract water with transfers and other purchased supplies, and growers augment surface supplies through increased groundwater pumpage. During operation of the project, the long term water demand of 28 afy for operational uses such as panel cleaning, sheep watering, and ongoing operations would be met using water provided by WWD.

The District does not have a municipal and industrial (M&I) supply contract with USBR, but it does exercise provisions in its agricultural water service contract for supplying water for incidental agricultural water. These purposes include M&I water use for industrial and commercial operations, single family dwellings, and farm housing. Thus, WWD delivers untreated water to communities of Coalinga, Huron, and other M&I users. The WWD rules and regulations recognize solar facilities as an M&I use and therefore has a higher priority for CVP allocations. During dry years for example, a higher percentage is allocated to M&I than to agricultural uses (e.g., during 2014 the CVP had a 25 percent allocation for M&I versus 0 percent for agriculture).

WWD manages its supplies for long term supply reliability. It augments CVP contract water with local and purchased surface waters, which are supplemented by groundwater pumping by growers, as presented in Table 4, and WWD encourages the fallowing of lands during shortages. If for some reason District surface water supplies are not available to meet Cherry Solar Project operational demands, groundwater would be pumped from the existing on-site agricultural well or from another agricultural well in the vicinity and trucked to the site for panel washing. Based on the information provided in this WSA, WWD water supplies (surface and or groundwater) to meet the operational demand of 28 afy and groundwater supplies to meet a temporary construction demand of 312 afy for one year of construction under normal water years, a single dry water year, and multiple dry years, are considered available and reliable, as shown in Table 6.

In summary, sufficient water supply is available to meet Cherry Solar Project construction and operational demands under normal, dry, and multiple dry year climatic conditions. As presented in this WSA, the project water demands will result in significantly less groundwater pumping of the Westside Subbasin during construction, and minimal to no groundwater pumping during solar facility operations after full buildout.

OTHER PLANNED SOLAR PROJECTS

Other planned uses in the Westside Subbasin consist almost entirely of other solar PV generation facilities in Kings and Fresno Counties. As of June 2022, a total of 13 solar projects have been completed, with another 12 solar projects approved or pending approval by the counties in the Westside Subbasin. The total land area covered by the unconstructed projects is approximately 21,131 acres, with a total generating capacity of 2,710 MW. Based on an average construction water demand rate of 0.15 acre-feet/acre, these other projects would consume a total of 3,170 acre-feet during construction.

It is assumed that all construction water would be obtained from local groundwater sources within the subbasin, and it is expected that construction of 0.15 ac-ft/ac would not exceed the groundwater basin

long-term sustainable yield of 0.6 af/ac/yr. Upon completion, operational water demands for Cherry Solar Project would be approximately 0.015 af/ac/yr. For purposes of this discussion, it is assumed that operational water for the other solar projects would be obtained from groundwater sources within the subbasin, while some projects would rely on surface water imported through WWD. These operational water demands would be well below the presumed sustainable yield for the groundwater basin.

In summary, neither the short-term construction of the other planned projects within the subbasin, nor the long-term operational water demands from each project, would be likely to exceed the long-term sustainable yield of the groundwater basin. Therefore, the construction and operational water demands for the other planned projects in the subbasin could be met from existing groundwater sources without contributing to overdraft of the subbasin.

CHAPTER 4 – CONCLUSIONS

SUFFICIENCY FINDINGS

A lack of specific data for project site groundwater usage and replenishment rates (e.g., a water budget) makes it difficult to quantify baseline conditions regarding groundwater supply availability for construction demands. However, an analysis of the ability of the groundwater basin (based on District subbasin data) to meet projected temporary construction water demands of the Cherry Solar Project was based on other factors. The primary consideration is that solar projects have rights to a reasonable use of groundwater supply from the groundwater basin they overlie and that the project construction demands of 312 AFY for one year are substantially less than the sustainable groundwater yield on a per acre basis for the District per the GSP.

The WWD CVP allocation is only about 50 percent reliable on average, but this supply is augmented with other sources, particularly during dry years. The groundwater basin available to individual landowners within WWD is in critical overdraft. However, a reduction in agricultural water demands due to completed and planned solar projects, including the Cherry Solar Project, will result in increased water supply reliability for other agricultural users within the District.

With consideration of these variables and conditions, it is concluded that groundwater supplies from the Westside Subbasin will meet construction demands for Cherry Solar Project during the 12 month construction period, in addition to the demand of existing and other planned future solar projects in the subbasin. District water supplies will meet projected operational water demands for Cherry Solar Project over a 20 year planning horizon, in addition to the demand of existing and other planned future uses. No supply deficiencies are expected in normal, dry, and multiple dry years for the proposed project. This WSA was prepared in compliance with the California Water Code, as amended by SB 610.

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APPENDIX D-1

Phase I Environmental Site Assessment

Prepared by

Moore Twining Associates

February 2022

MOORE TWINING ASSOCIATES, INC.

PHASE I ENVIRONMENTAL SITE ASSESSMENT
CHERRY 2 SOLAR PROJECT
MANTECA AVENUE AND 27TH AVENUE
UNINCORPORATED AREA OF KINGS COUNTY, CALIFORNIA

Prepared For:
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February 28, 2022

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PHASE I ENVIRONMENTAL SITE ASSESSMENT

CHERRY 2
MANTECA AVENUE AND 27TH AVENUE
UNINCORPORATED AREA OF KINGS COUNTY, CALIFORNIA

EXECUTIVE SUMMARY

Moore Twining Associates, Inc. (Moore Twining) was retained by Mr. Bert Verrips to conduct a Phase I Environmental Site Assessment (Phase I ESA) for a large, rural property located south of Manteca Avenue to Nevada Avenue from 28th Avenue to a mile west of Enterprise Avenue and north of Manteca Avenue to a half of a mile north of Madison Avenue from 27th Avenue to a mile west of Enterprise Avenue in an unincorporated area of Kings County, west of the City of Stratford, California (Site). This Phase I ESA was conducted in general conformance with the methods and procedures described in the American Society for Testing and Materials (ASTM) "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" (E1527-13), published November 2013.

This summary should be used in conjunction with the entire report. It should be recognized that details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the Site history and conditions. Please review the entire report for more information regarding Moore Twining's findings and opinions.

On-Site Summary

The Site comprises 2,109 acres of open agricultural fields. The Site is located south of Manteca Avenue to Nevada Avenue from 28th Avenue to a mile west of Enterprise Avenue and north of Manteca Avenue to a half of a mile north of Madison Avenue from 27th Avenue to a mile west of Enterprise Avenue in an unincorporated area of Kings County, west of the City of Stratford, California (Site). The Site has been assigned the following Assessor's Parcel Numbers (APNs): 026-320-017, 026-320-020, 026-320-006, and 026-300-034.

Based on Moore Twining's review of historical aerial photographs, the Site has been used for agricultural purposes since at least 1950. Three oil wells were installed on the Site at different periods of time (1953, 1986, and 2006). A manmade reservoir was constructed in the northeast portion of the Site sometime between 1960 and 1984.

At the time of the Site reconnaissance, the Site comprised 2,109 acres of agricultural fields and vacant land. Unlined agricultural canals were located along the eastern boundary of the Site as well as along 28th Avenue trending north and south. In addition, one (1) lateral unlined irrigation canal was located north of Manteca Avenue, trending east west.

The plugged oil well in the southwestern portion of the site was not observed and appears to have been fully buried, per the standard for oil well abandonments. The two "idle" wells located on the Site were observed. The northern well was located at 36.146090, -119.937665. The well was within a 200'x331'

rectangular area of aggregate, cobbles, and soil. Empty dry 55-gallon drums and fencing debris were located near the well. The southern well was located at 36.143180, -119.934511 and with an approximately 100' square area of compacted soil. No major leaks or spills were observed in either well location.

Seventeen (17) water wells were listed on the Environmental Data Resources Well Search Data Map; however, only four (4) wells were observed at the time of the Site reconnaissance. These records are discussed in Section 5.1 of this report.

One (1) irrigation well was observed near the southwest corner of the Site. The well appeared to be undergoing decommissioning.

A water filtration unit was located on the corner of 27th Avenue and Manteca Avenue. Three (3) wells were located near this unit at the edge of one of the unlined agricultural canals.

Concrete standpipes with pumps and irrigation pipes were observed throughout the Site.

One (1) pole-mounted transformer was observed on the Site along 27th Avenue. No staining or leaking was observed.

A Soil and Water Analysis Report, dated 2019, was prepared by Dudek for the Site. The report was prepared for Daylight Legacy Solar LLC. The report concluded that the property was not suitable for sustaining long-term agricultural crop production due to saline-sodic soils. Groundwater in the area was reported to indicate high levels of salinity, boron, chloride, sodium, carbonates, and bicarbonates. The report concluded that the Site was more suited for solar farming as opposed to agricultural use.

Moore Twining conducted soil sampling in February 2022 for the Site. Per the Client's request, five (5) soil borings (B1 through B5) were hand augered on February 14, 2022 for collection of shallow soil samples to characterize organochlorinated pesticides (OCPs), VOCs, and metals in soil. The soil samples were analyzed for OCPs by EPA Method 8081A, VOCs by 8260, and CAM 17 metals by EPA Method 6010B. Based on the results of the analytical testing, the soil samples did not contain concentrations of VOCs or OCPs above residential or commercial screening levels. Arsenic was reported in all of the borings ranging from 8.8 mg/kg to 12 mg/kg. These concentrations exceed the Department of Toxic Substances Control (DTSC) screening levels (0.11 mg/kg residential and 0.42 mg/kg commercial); however, the DTSC has acknowledged that background concentrations of arsenic in California soils can average 12 mg/kg in some areas. As such, the elevated concentrations on the Site would not generally require cleanup to screening levels. Chromium results exceeded nonhazardous waste classifications but did not exceed health screening levels.

In order to provide a preliminary assessment on the former Auxiliary Airfield use of Section 31 on the Site, Moore Twining conducted soil sampling in March 2022. Per the Client's request, twelve (12) soil borings

(AF1 through AF12) were hand augered on March 24, 2022 for collection of shallow soil samples to characterize petroleum hydrocarbons, VOCs, and metals in soil. The soil samples were analyzed for TPHg/d by EPA Method 8015M, VOCs by 8260, and CAM 17 metals by EPA Method 6010B. Based on the results of the analytical testing, the soil samples did not contain concentrations of hydrocarbons or VOCs above laboratory reporting levels. Arsenic was reported in all of the borings ranging from 11 mg/kg to 13 mg/kg. These concentrations exceed the Department of Toxic Substances Control (DTSC) screening levels (0.11 mg/kg residential and 0.42 mg/kg commercial); however, the DTSC has acknowledged that background concentrations of arsenic in California soils can average 12 mg/kg in some areas. As such, the elevated concentrations on the Site would not generally require cleanup to screening levels. Chromium results exceeded nonhazardous waste classifications but did not exceed health screening levels.

The southwest corner of the Site is on the Envirostor and Geotracker websites for the Lemoore Auxiliary Field A-4. The Regional Board created a case file with the following Site History: "Records indicate that the Site operated from 1942 through July 1947. The Site comprised 621.76 acres in Section 31, Township 20 South, Range 19 East, Mount Diablo Baseline and Meridian. This Site was one of seven (7) Auxiliary Airfields Associated with the former Lemoore Army Airfield - Lemoore Basic Flying School (not to be confused with the current NAS Lemoore)." A No Defense Action Indicated determination (NDAI) concluded by the US Army Corps of Engineers was agreed to by the Department of Toxic Substances Control (DTSC). The Central Valley Water Board did not issue a review of the NDAI determination but deferred to the DTSC's determination for the Site. The RWQCB case was closed as of April 11, 2011. The Envirostor listing is "Inactive" with no additional information. An online search for Airfield A-4 provided the following information: "Murray Field also called Lemoore Auxiliary Army Airfield (A-4) was located at 36°08'41"N 119°56'00"W, 6 miles southwest of Stratford, California, near the current town of Avenal, California. The 621.76 acres site was purchased in 1941. Murray Field was located 14 miles west of Lemoore Army Airfield. This was a 3,000 by 3,000-foot landing mat. After the war (World War 2), the Airfield was abandoned and returned to farmland."

Three oil wells are located on the Site. Two of them are listed as idle, the third is listed as plugged and abandoned.

Off-Site Summary

At the time of the Site Reconnaissance, the Site was bordered to the north by an un-named agricultural access road. It was bordered to the west by 27th Avenue with agricultural fields beyond. The adjoining properties in all directions were agricultural fields.

There were no regulatory listings found within the search radius.

Conclusions Summary

On behalf of Mr. Bert Verrips, Moore Twining performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM E1527-13 for a property located at Manteca Avenue

and 27th Avenue in an unincorporated area of Kings County, west of the City of Stratford, California. This assessment has revealed no evidence of CRECs, HRECs, or RECs, except for the following:

Recognized Environmental Conditions

The open Envirostor Lemoore Auxiliary case is a REC. However, soil sampling was conducted by Moore Twining for Section 31 where the airfield was reported to have been. No concentrations of petroleum hydrocarbons or VOCs were reported to exceed laboratory reporting levels. Therefore, while the open case remains a REC, the financial cleanup liability risk appears to be very low.

Additional Considerations

Chromium concentrations in soil exceed nonhazardous waste classification levels.

Recommendations

The DTSC should be notified of the planned development. If possible, the Envirostor case should be closed prior to property acquisition and/or development.

If soil in planned to be exported off of the Site to a landfill, they would need to be further analyzed for STLC concentrations of chromium. Depending on the result, the waste may be considered a non-RCRA hazardous waste and sent to a Class III landfill that accepts chromium or it may be a RCRA hazardous waste and would be required to be disposed of at a Class I landfill. In Moore Twining's experience TTLC chromium concentrations of the levels reported would fall into the non-RCRA classification. No action is required if the soils are to remain within the Cherry project site or, if the soil profile is approved by the importing party, to a location other than a landfill.

1.0 INTRODUCTION

Moore Twining Associates, Inc. (Moore Twining) was retained by Mr. Bert Verrips to conduct a Phase I Environmental Site Assessment (Phase I ESA) for a large, rural property located ay Manteca Avenue and 27th Avenue in an unincorporated area of Kings County, west of the City of Stratford, California (Site). This Phase I ESA was conducted in general conformance with the methods and procedures described in the American Society for Testing and Materials (ASTM) "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" (E1527-13), published November 2013.

1.1 Objective

The objective of this assessment was to identify Recognized Environmental Conditions (RECs) located at the Site or adjacent properties that could present material risk of harm to public health or to the environment. Recognized environmental conditions are defined in ASTM E1527-13 as the presence or likely presence of any hazardous wastes and/or substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into the ground, groundwater, or surface water of the property. It is understood that this property transaction is a lease agreement.

1.2 Scope of Services

This Phase I ESA was performed to evaluate the potential presence of environmental conditions that may have resulted from operations at the Site or at nearby properties. The assessment included a Site reconnaissance, a review of available documentation of land-use history for evidence of the use, storage and/or disposal of hazardous substances, and a review of available regulatory information. This Phase I ESA included the following tasks:

- A review of the current and past uses of the Site since 1929;
- A Site reconnaissance to assess evidence of current and/or past use or storage of toxic or hazardous material; on-Site ponds, landfills, drywells, waste streams or other disposal units; visible soil discoloration; aboveground or underground storage tanks; electrical transformers containing polychlorinated biphenyls (PCBs); and drums, barrels and other storage containers;
- Visual observation of adjacent properties in order to determine if current and/or historical operations associated with these properties may pose a threat to the subject Site;
- A review of available federal Environmental Protection Agency (EPA), state EPA and regulatory agency lists of known or potential hazardous waste sites or landfills, and sites currently under investigation for environmental violations in the Site area. Using area-profile services provided by Environmental Data Resources, Inc. (EDR), Moore Twining

cataloged properties near the Site that have been identified on regulatory agency lists. Search criteria were in conformance with ASTM E1527-13;

- Contact with relevant municipal, county and state agencies to review readily available records and permits; and

- Preparation of this report to present our methods, findings and conclusions.

The Scope of Services specifically excluded cultural, archeological, and biological assessments, as well as, sampling and analysis for the potential presence of asbestos containing building materials, lead based paint, or an assessment for radon gas. In addition, the Scope of Services did not include the collection and/or analysis of any materials including air, soil, soil-gas, or groundwater samples.

1.3 Limitations and Limited Conditions

The purpose of an environmental assessment is to reasonably assess the potential for, or actual impact of, past practices on a given site that may pose an environmental impairment to the Site. No assessment is thorough enough to identify all potential environmental impairments at a given site. If environmental impairments have not been identified during the assessment, such a finding should not, therefore, be construed as a guarantee of the absence of such conditions on the Site, but rather the result of the services performed within the scope, limitations, and cost of the work performed.

The conclusions presented in this report are solely professional opinions based on information provided regarding the Site and the findings of the reconnaissance and records search. Information obtained from the aerial photography is an interpretation of features observed in the photographs. Actual conditions at the Site may have been different from those interpreted. Conclusions presented are based on conditions as they existed at the time the work was performed. Changes in existing conditions of the Site due to time lapse, natural causes, or operations adjacent to the Site may deem conclusions presented in this Phase I ESA report invalid, unless the changes are reviewed and the conclusions reevaluated. Such conditions may require additional site reconnaissance and require field exploration and laboratory testing to assess if the conclusions are applicable considering the changed conditions.

This work was performed for the sole use of our client. Any reliance on this report by a third party is at such party's sole risk. Others who seek to rely on the findings have a duty to determine the adequacy of this report for their intended use, time, and location. Moore Twining does not warrant the accuracy of information supplied by others, nor the use of segregated portions of this report. No other warranty, either expressed or implied, is made. The standard of practice is time-dependent. Services provided were performed consistent with generally accepted professional consulting principles and practices for environmental assessors at the time this work was performed. The findings and conclusions presented in this report are solely professional opinions derived in accordance with current standards of professional practice.

2.0 SITE DESCRIPTION

Information concerning the Site was obtained from a Site reconnaissance and a review of the documents referenced in Sections 4.0 and 5.0 of this report. The Site reconnaissance was conducted on January 5, 2022 by Amanda Trice, a representative of Moore Twining.

2.1 Location and Description of Property

The Site comprises 2,109 acres of open agricultural fields. The Site is located south of Manteca Avenue to Nevada Avenue from 28th Avenue to a mile west of Enterprise Avenue and north of Manteca Avenue to a half of a mile north of Madison Avenue from 27th Avenue to a mile west of Enterprise Avenue in an unincorporated area of Kings County, west of the City of Stratford, California (Site). The Site has been assigned the following Assessor's Parcel Numbers (APNs): 026-320-017, 026-320-020, 026-320-006, and 026-300-034.

The listed owners for the Site are:
Nancy Blume and April Celeste Garcia

A Site location map is presented as Drawing 1, and a Site plan, which includes Site boundaries, is presented as Drawing 2 in Appendix A. A parcel map is included in Appendix E.

2.2 Physical and Environmental Setting of the Site

Environmental characteristics including topography, geology, soil, and hydrogeology were evaluated based on Site observations, and review of published literature and maps. The findings are summarized in the following table.

PHYSICAL SETTING INFORMATION FOR THE SUBJECT SITE AND SURROUNDING AREA		SOURCE
Location	Stratford, California	EDR Report, January 11, 2022
Site Elevation	The Site elevation is approximately 230 feet above mean sea level.	
Topographic Gradient	Minimal sloping toward the east-southeast.	
Closest Surface Water	An un-named seasonal lake is located in the northern portion of the Site.	
Flood Plains[1]	According to FEMA DFIRM Flood Data provided by EDR, the Site is not located within a 100-year or a 500-year flood zone.	FEMA DFIRM Flood Data Map 06031C0300C

[1] This is for general locational information only. The data presented should not be used for design or development purposes, as a comprehensive flood zone study has not been conducted.

PHYSICAL SETTING INFORMATION FOR THE SUBJECT SITE AND SURROUNDING AREA		SOURCE
Wetlands	According to the National Wetlands Inventory there is an approximately 70-acre lake located in the northeastern portion of the Site. This lake has a classification code of L1UPHx. This is a Lacustrine, limnetic, unconsolidated bottom, excavated lake.	National Wetlands Inventory https://www.fws.gov/wetlands/data/mapper.html
General Soil Characteristics		
Soil Type	Lethent- Clay Loam	United States Department of Agriculture, Soil Survey website; http://websoilsurvey.sc.egov.usda.gov
Description	Soils are clayey, partially hydric, moderately well drained, and have very slow infiltration rates.	
Area Specific Geology/Hydrogeology Characteristics		
Geology	The Site is located within the southern portion of the San Joaquin Valley. The San Joaquin Valley forms the southern half of the Great Valley Geomorphic Province, a topographic and structural basin bound on the east by the Sierra Nevada and to the west by the Coast Range. The Sierra Nevada, a fault block dipping gently to the southwest, is composed of igneous and metamorphic rocks of pre-Tertiary age which comprise the basement complex beneath the valley. The subsurface of the Site and surrounding vicinity is characterized by a thick sequence of unconsolidated sediments from the Pleistocene epoch. Subsurface material beneath the Site is primarily composed of alluvial fan deposits and flood plain over-bank deposits including interbedded silts, sands, clays, and gravels.	(Wagner, 2002) (California Geologic Survey, 2010)
Hydrogeology	Groundwater and hydraulic gradient data were not available for the subject Site.	EDR Physical Setting Map- 2022

PHYSICAL SETTING INFORMATION FOR THE SUBJECT SITE AND SURROUNDING AREA		SOURCE
Oil and Gas Wells:		
Current Oil and Gas Wells on Subject Site	Two (2) oil and/or gas wells were reported to be on the southern portion of the Site. Both wells are listed as "idle."	CalGem https://www.conservation.ca.gov/calgem/Pages/WellFinder.aspx
Historical Oil and Gas Wells on Subject Site	One (1) historical oil and/or gas well was reported to be located on the southern portion of the Site. This well is listed as dry.	CalGem https://www.conservation.ca.gov/calgem/Pages/WellFinder.aspx

3.0 INFORMATION FROM THE SITE RECONNAISSANCE

The objective of the Site reconnaissance was to observe the Site for specific indicators of environmental conditions. The Site reconnaissance included a systematic search by vehicle of practically accessible areas of the Site and adjacent properties. Several dirt access roads traversed the Site at various locations and were used to scan the property from a slow-moving vehicle. Areas that included structures or features of interest were searched by foot. A Site Plan depicting the Site, adjoining property use, and observed on-Site features is presented in Appendix A. Additionally, photographs were taken during the Site reconnaissance, and selected photographs of the Site are presented in Appendix B.

The Site reconnaissance was conducted on January 5, 2022 by Amanda Trice, a representative of Moore Twining. A second reconnaissance was conducted on March 24, 2022 by Thomas Harris, a representative of Moore Twining to detail the oil wells on the Site.

The findings of the Site reconnaissance are summarized in the following subsections.

3.1 Site Reconnaissance - Description of Structures, Roads, and Other Site Improvements

At the time of the Site Reconnaissance, the Site was bordered to the south by Nevada Avenue and to the west by 27th Avenue with agricultural fields beyond. The adjoining properties in all directions were agricultural fields.

The plugged oil well in the southwestern portion of the site was not observed and appears to have been fully buried, per the standard for oil well abandonments.

The two "idle" wells located on the Site were observed. The northern well was located at 36.146090, -119.937665. The well was within a 200'x331' rectangular area of aggregate, cobbles, and soil. Empty dry 55-gallon drums and fencing debris were located near the well. The southern well was located at 36.143180, -119.934511 and with an approximately 100' square area of compacted soil. No major leaks or spills were observed in either well location.

3.2 Current Uses of the Site

At the time of the Site reconnaissance, the Site comprised open agricultural land and vacant parcels.

3.3 Current Uses of the Adjoining Properties

At the time of the Site Reconnaissance, the Site was bordered to the north by an un-named agricultural access road. It was bordered to the west by 27th Avenue with agricultural fields beyond. The adjoining properties in all directions were agricultural fields.

3.4 Site Reconnaissance - Specific Indicators of Environmental Conditions

In addition to the general description of the Site, specific indicators of environmental conditions were also evaluated for the Site. Observations made during the Site reconnaissance are summarized in the following table. Affirmative responses are discussed in more detail following the table.

Category	Feature	Observed
Interior (Not Applicable)	Elevators	N/A
	Air Compressors	N/A
	Incinerators	N/A
	Waste Treatment Systems	N/A
	Presses/Stamping Equipment	N/A
	Hydraulic Lifts or Hoists	N/A
	Paint Booth	N/A
	Plating Tanks	N/A
	Lathes, Screw Machines, etc.	N/A
	Regulated Hazardous Materials Use and Storage	N/A
	Floor Drains and Similar Facilities	N/A
Aboveground Chemical or Other Waste Storage or Waste Streams	Aboveground Storage Tanks (ASTs)	**Yes**
	Drums, Barrels and/or Containers > than 5-gallons	**Yes, dry**
	Chip Hoppers	No
	Hazardous or Petroleum Waste Streams	No
Underground Chemical or Waste storage, Drainage or Collection Systems	Underground Storage Tanks (USTs)	No
	Fuel Dispensers	No
	Sumps or Cisterns	No
	Dry Wells	No
	Oil/Water Separators	No

	Flood Drains, Trench Drains, etc.	No
	Pipeline Markers	No
Exterior Observations	Stressed Vegetation	No
	Stained Soil or Pavement	No
	Pad or Pole-Mounted Transformers and/or Capacitors	**Yes**
	Soil Piles of Unknown Origin	No
	Leachate or Other Waste Seeps	No
	Trash, Debris, and/or Other Waste Materials	No
	Uncontrolled Dumping or Disposal Areas	No
	Surface Water Discoloration, Sheen or Free Product	No
	Strong, Pungent or Noxious Odors	No
	Groundwater Wells	**Yes**
	Storm Water Retention or Detention Ponds	No
	Pits, Ponds or Lagoons	**Yes**

Seventeen (17) water wells were listed on the EDR Well Search Data Map; however, only four (4) wells were observed at the time of the Site reconnaissance. These records are discussed in Section 5.1 of this report.

Concrete standpipes with pumps and irrigation pipes were observed near the southwest corner and also on the corner of 27th Avenue and Manteca Avenue.

One (1) pole-mounted transformer was observed on the Site along 27th Avenue. No staining or leaking was observed.

The former reservoir in the northeast portion of the Site was observed. No major staining was observed.

An aggregate pad was observed in the location of one of the former oil wells. Empty 55 gallon drum were located near the idle well.

Two above ground, approximately 12,000-gallon poly tanks were observed near a water well. The tanks were a part of the well sediment filtration system. No spills or leaks were observed. A water pressure tank was observed on the Site. No environmental concerns were observed.

Other Specific Indicators of Environmental Conditions

No other specific indicators were observed during the Site reconnaissance other than those noted in this report.

4.0 HISTORICAL AND CURRENT INFORMATION ON THE PROPERTY AND ADJOINING PROPERTIES

The history of land-use on and near the Site was determined from the review of historic aerial photographs, topographic maps, Sanborn maps, building permits, and historic city directories. The findings are summarized in the following subsections.

4.1 Aerial Photograph Review

Available historical aerial photographs of the Site and vicinity for the years 1937, 1940, 1950, 1960, 1976, 1984, 1994, 2005, 2009, 2012, and 2016 were reviewed for indications of past Site use and/or Site activities which may have involved the manufacture, generation, use, storage, and/or disposal of hazardous materials. The results of the aerial photograph review are summarized in the following table. Copies of the historical aerial photographs are included in Appendix D.

Year	Summary of Information
1937-1940 (EDR)	The Site and the adjoining properties in all directions appear as undeveloped land. The lake listed in the NEPA Wetlands Mapper is visible on all maps.
1950 (EDR)	The Site and adjoining properties are occupied by row crop agriculture. Nevada Avenue borders the Site to the south. Canals have been constructed alongside the Site to the east. A small structure is visible southeast of the Site.
1960 (EDR)	The natural drainage area in the northeast portion of the Site appears to have been partially developed into agricultural fields. The drainage appears to have been modified to include canals.
1984-2009 (EDR)	The manmade lake in the northeast portion of the Site has been developed. Canals have been developed in and around the Site. In the 1984 map, the pads where the oil and gas wells are located have been developed. The Site remains agricultural and fallow fields.
2012-2016 (EDR)	The reservoir area has a parking pad with approximately 10 to 20 white long rectangular shapes to the northwest of it. The shapes appeared to be cotton bales.
2021 (Google Earth)	The lake appears to be dry. The parking area near the lake is overgrown with pipe remnants and debris.

4.2 Topographic Map Review

Available topographic maps of the Site and vicinity for the years 1929, 1933, 1940, 1943, 1954, 1956, 1981, 2012, 2015, and 2018 were reviewed for indications of past Site use and/or Site activities which may

have involved the manufacture, generation, use, storage, and/or disposal of hazardous materials. Copies of the historical topographic maps are included in Appendix D.

A review of the historical topographic maps did not prompt any additional environmental concerns.

4.3 Sanborn Fire Insurance Map Review

Sanborn maps were not available for the subject Site or surrounding areas.

4.4 Historical City Directory Review

City directories can provide information concerning past and current occupancy of the Site and adjacent areas. Historical city directory information did not prompt any environmental concerns.

4.5 Building Permits

Building records can provide a history of on-Site structures, features, and development. Building permits were not available due to the rural nature of the subject Site.

4.6 User Provided Information

This section summarizes information provided by the user that assisted in the identification of potential RECs associated with the Site.

4.6.1 Environmental Questionnaire

Moore Twining submitted an Environmental Questionnaire to Mr. Bert Verrips, a representative of Environmental Consulting Services. Mr. Verrips reported that:

- Multiple oil wells may exist on the Site;
- At least one pole mounted transformer is located on the Site, specifically near the tailwater pond located in the northeast corner of the Site;
- An above ground water pressure tank is present on the Site, associated with the northwest agricultural water well;
- An agricultural water well is located in the west/northwest corner of the Site;
- A former tailwater pond is located in the east central portion of the Site;
- Soil and groundwater analysis was performed by the previous solar applicant; and
- Soil sampling was prepared for a neighboring location by Moore Twining.
- Mr. Verrips has contacted CALGEM regarding the on-Site wells.
- Mr. Verrips has contacted the DTSC regarding the open case on the Site.

Moore Twining submitted an Environmental Questionnaire to Environmental Consulting Services for distribution to the Site owner. At the time this report was issued to the client, the completed questionnaire had not been returned to Moore Twining.

A copy of the environmental questionnaire is included in Appendix E.

4.6.2 Previous Investigations

Copies of the reports of the previous investigations are presented in Appendix E.

Soil Sampling conducted by Moore Twining; report dated April 6, 2022

In order to provide a preliminary assessment on the former Auxiliary Airfield use of Section 31 on the Site, Moore Twining conducted soil sampling in March 2022. Per the Client's request, twelve (12) soil borings (AF1 through AF12) were hand augered on March 24, 2022 for collection of shallow soil samples to characterize petroleum hydrocarbons, VOCs, and metals in soil. The soil samples were analyzed for TPHg/d by EPA Method 8015M, VOCs by 8260, and CAM 17 metals by EPA Method 6010B. Based on the results of the analytical testing, the soil samples did not contain concentrations of hydrocarbons or VOCs above laboratory reporting levels. Arsenic was reported in all of the borings ranging from 11 mg/kg to 13 mg/kg. These concentrations exceed the Department of Toxic Substances Control (DTSC) screening levels (0.11 mg/kg residential and 0.42 mg/kg commercial); however, the DTSC has acknowledged that background concentrations of arsenic in California soils can average 12 mg/kg in some areas. As such, the elevated concentrations on the Site would not generally require cleanup to screening levels. Chromium results exceeded nonhazardous waste classifications but did not exceed health screening levels.

Soil Sampling conducted by Moore Twining; report dated February 28, 2022

Moore Twining conducted soil sampling in February 2022 for the Site. Per the Client's request, five (5) soil borings (B1 through B5) were hand augered on February 14, 2022 for collection of shallow soil samples to characterize organochlorinated pesticides (OCPs), VOCs, and metals in soil. The soil samples were analyzed for OCPs by EPA Method 8081A, VOCs by 8260, and CAM 17 metals by EPA Method 6010B. Based on the results of the analytical testing, the soil samples did not contain concentrations of VOCs or OCPs above residential or commercial screening levels. Arsenic was reported in all of the borings ranging from 8.8 mg/kg to 12 mg/kg. These concentrations exceed the Department of Toxic Substances Control (DTSC) screening levels (0.11 mg/kg residential and 0.42 mg/kg commercial); however, the DTSC has acknowledged that background concentrations of arsenic in California soils can average 12 mg/kg in some areas. As such, the elevated concentrations on the Site would not generally require cleanup to screening levels. Chromium results exceeded nonhazardous waste classifications but did not exceed health screening levels.

Soil & Water Analysis Report prepared by Dudek, dated May 2019

A Soil and Water Analysis Report, dated 2019, was prepared by Dudek for the Site. The report was prepared for Daylight Legacy Solar LLC. The report concluded that the property was not suitable for sustaining long-term agricultural crop production due to saline-sodic soils. Groundwater in the area was reported to have high levels of salinity, boron, chloride, sodium, carbonates, and bicarbonates. The report concluded that the Site was more suited for solar farming as opposed to agricultural use.

4.6.3 Title Documentation

Title documents, including a chain of title and/or title report, can provide the environmental professional with information regarding current and past ownership and information regarding environmental liens and/or land use and activity limitations.

No environmental liens or activity/use restrictions regarding the Site were located; however, title and/or judicial records were not provided by the client or reviewed.

4.6.4 Institutional and Engineering Controls/Land Use Limitations/Environmental Liens

Institutional and Engineering Controls can indicate the current and/or historical presence of recognized environmental conditions that required remedial activity at the Site.

No institutional and engineering controls, land use limitations or environmental liens related to remediation and/or cleanup were found as part of this assessment; however, title and/or judicial records were not provided by the client or reviewed.

4.7 Past Uses of the Property

Based on Moore Twining's review of historical aerial photographs, the Site has been used for agricultural purposes since at least 1950. Three (3) oil wells were installed on the Site at different periods of time (1953, 1986, and 2006). A manmade reservoir was constructed in the northeast portion of the Site sometime between 1960 and 1984.

4.8 Past Uses of Adjoining Property

Based on Moore Twining's review of historical aerial photographs, Nevada Avenue has bordered the Site to the south and 28th Avenue has bordered the Site to the west since at least 1929. The adjoining properties have been used for agricultural purposes since at least 1954.

5.0 REGULATORY RECORDS REVIEW

Requests to review files for the Site were submitted to the Regional Water Quality Control Board (RWQCB), the Department of Toxic Substances Control (DTSC), CALGEM, and the Kings County Department of Public Health (KCDPH).

The KCDPH did not report any files for the Site.

Printouts and information from regulatory databases and agencies are included in Appendix C.

5.1 Facilities Identified in the Regulatory Record Review

The information regarding the Site was obtained from the EDR report, the DTSC Envirostor website (http://envirostor.dtsc.ca.gov/, Envirostor), and the State Water Resource Control Board's GeoTracker website (http://geotracker.waterboards.ca.gov/, GeoTracker). At the time this report was issued to the client, the Site was on both the Envirostor and GeoTracker websites.

Lemoore Auxiliary Field

The southwest corner of the Site is on the Envirostor and Geotracker websites for the Lemoore Auxiliary Field A-4, otherwise known as Murray Field. The Regional Board created a case file with the following Site History: "records indicate that the (airfield) operated from 1942 through July 1947. The airfield occupied 621.76 acres in Section 31, Township 20 South, Range 19 East, Mount Diablo Baseline and Meridian. This airfield was one of seven (7) Auxiliary Airfields Associated with the former Lemoore Army Airfield - Lemoore Basic Flying School (not to be confused with the current NAS Lemoore)." A No Defense Action Indicated determination (NDAI) concluded by the US Army Corps of Engineers was agreed to by the Department of Toxic Substances Control (DTSC). The Central Valley Water Board did not issue a review of the NDAI determination but deferred to the DTSC's determination for the case. The RWQCB case was closed as of April 11, 2011.

The Envirostor listing is "Inactive" with no additional information.

An online search for Airfield A-4 provided the following information:

- Lemoore Auxiliary Army Airfield (A-4) is also called Murray Field and mapped as such in military topographic maps.
- The field was located at 36°08'41"N 119°56'00"W (on the Site)
- The 621.76 acres were purchased in 1941 by the military.
- The field was a 3,000 by 3,000-foot landing mat.
- After the war, the Airfield was abandoned and returned to farmland.

Oil Wells

The CALGEMS well finder was referenced to obtain more information regarding the oil wells on the Site.

- One well, designated B.L.C. 1, was constructed in 1953 for Conoco Inc. The status of the well as of 2018 is plugged and abandoned. The well is reported to be dry. No production is reported.
- One well, designated Mary Bellocchi 1, was constructed in 1985 for Victoria Petroleum USA, Inc. The status of the well as of 2018 is idle. No production is reported.
- One well, designated Eagle North 1, was constructed in 2006 for Victoria Petroleum USA, Inc. The status of the well as of 2018 is idle. No production is reported.

5.2 Facilities Identified in the EDR Report

Moore Twining contracted EDR to perform a search of available federal, state, and local database information systems for identifying known recognized environmental conditions present on the Site and nearby properties that have the potential to adversely impact the Site being assessed in this study. EDR's findings are summarized below. The complete report furnished by EDR is included in Appendix D of the report.

TABLE 1
SUMMARY OF REGULATORY LISTS SEARCHED BY EDR AND RECORDS REVIEWED*

Database	Target Site	Search Distance (Miles)	< 1/8	1/8 - ¼	1/4 - ½	½ - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
NPL LIENS		TP	NR	NR	NR	NR	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
Federal Facility		0.500	0	0	0	NR	NR	0
SEMS		0.500	0	0	0	NR	NR	0
SEMS Archive		0.500	0	0	0	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
RCRA-TSDF		0.500	0	0	0	NR	NR	0
RCRA Lg, Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRA Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRA-CESQG		0.250	0	0	NR	NR	NR	0
LUCIS		0.500	0	0	0	NR	NR	0
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROLS		0.500	0	0	0	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
STATE ASTM STANDARD								
RESPONSE		1.000	0	0	0	0	NR	0
ENVIROSTOR		1.000	0	0	0	0	NR	0
SWF/LF		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	0	NR	NR	0
INDIAN LUST		0.500	0	0	0	NR	NR	0
SLIC		0.500	0	0	0	NR	NR	0
FEMA UST		0.250	0	0	NR	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0
AST		0.250	0	0	NR	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
VCP		0.500	0	0	0	NR	NR	0

TABLE 1
SUMMARY OF REGULATORY LISTS SEARCHED BY EDR AND RECORDS REVIEWED*

Database	Target Site	Search Distance (Miles)	< 1/8	1/8 - ¼	1/4 - ½	½ - 1	> 1	Total Plotted
INDIAN VCP		0.500	0	0	0	NR	NR	0
BROWNFIELDS		0.500	0	0	0	NR	NR	0

NR = Not Requested (Beyond Search Distance)
TP = Target Property
* = Table includes only databases required for ASTM E1527-13 compliance. Other databases are included in the EDR report and discussed in the following sections as appropriate.

5.2.1 On-Site

The Site was listed in the MCS, FUDS, MINES, and CERS databases. The MCS, FUDS, and CERS listings are associated with the Envirostor case detailed in Section 5.1 of this report. No additional information was found in the database listings.

The Mines listing is for a sand and gravel pit; however, the listing is for Tulare County and the GPS coordinates in the listing are more than 2 miles from the Site. It appears that this listing is not mapped correctly in the Mines database.

Seventeen (17) agricultural water wells were listed on the EDR Well Search Data Map under State Water Databases. No environmental conditions were found in the well database.

5.2.2 Off-Site

Moore Twining's review of the referenced databases also considered the potential or likelihood of contamination from adjoining and nearby properties impacting this Site. To evaluate which of the adjoining and nearby properties identified in the regulatory database report present an environmental risk to the subject Site, Moore Twining considered the following criteria:

- The type of database on which the property is identified;
- The topographic position of the property relative to the subject Site;
- The direction and distance of the property from the subject Site;
- Local soil conditions in the area of the Site;
- The known or inferred groundwater flow direction;
- The status of the respective regulatory agency-required investigation(s) of the identified property, if any; and
- Surface and subsurface obstructions and diversions (e.g., buildings, roads, sewer systems, utility service lines, rivers, lakes and ditches) located between the property and the subject Site.

No regulatory listings were reported for the area within the stated search radius.

5.2.3 Orphan Sites

An Orphan Site is a listed property in the same zip code as the subject Site which cannot be mapped because of inadequate address information. Moore Twining reviewed twelve (12) reported Orphan Sites provided by EDR.

The twelve (12) provided Orphan Site locations were confirmed and determined to be located in positions considered to be cross gradient, downgradient, or hydrologically isolated from the Site, or were beyond the applicable ASTM search parameters. It is considered a low potential that the Orphan Sites have adversely impacted the environmental condition of the Site.

6.0 SUMMARY OF FINDINGS AND OPINIONS

The findings of the Phase I ESA are summarized in the following sections:

6.1 On-Site

The Site comprises 2,109 acres of open agricultural fields. The Site is located south of Manteca Avenue to Nevada Avenue from 28th Avenue to a mile west of Enterprise Avenue and north of Manteca Avenue to a half of a mile north of Madison Avenue from 27th Avenue to a mile west of Enterprise Avenue in an unincorporated area of Kings County, west of the City of Stratford, California (Site). The Site has been assigned the following Assessor's Parcel Numbers (APNs): 026-320-017, 026-320-020, 026-320-006, and 026-300-034.

Based on Moore Twining's review of historical aerial photographs, the Site has been used for agricultural purposes since at least 1950. Three (3) oil wells were installed on the Site at different periods of time (1953, 1986, and 2006). A manmade reservoir was constructed in the northeast portion of the Site sometime between 1960 and 1984.

At the time of the Site reconnaissance, the Site comprised 2,109 acres of agricultural fields and vacant land. Unlined agricultural canals were located along the eastern boundary of the Site as well as along 28th Avenue trending north and south. In addition, one (1) lateral unlined irrigation canal was located north of Manteca Avenue, trending east west.

The plugged oil well in the southwestern portion of the site was not observed and appears to have been fully buried, per the standard for oil well abandonments. The two "idle" wells located on the Site were observed. The northern well was located at 36.146090, -119.937665. The well was within a 200'x331' rectangular area of aggregate, cobbles, and soil. Empty dry 55-gallon drums and fencing debris were located near the well. The southern well was located at 36.143180, -119.934511 and with an approximately 100' square area of compacted soil. No major leaks or spills were observed in either well location.

Seventeen (17) water wells were listed on the EDR Well Search Data Map; however, only four (4) wells were observed at the time of the Site reconnaissance. These records are discussed in Section 5.1 of this report.

One (1) irrigation well was observed near the southwest corner of the Site. The well appeared to be undergoing decommissioning.

A water filtration unit was located on the corner of 27th Avenue and Manteca Avenue. Three (3) small wells were located near this unit at the edge of one of the unlined agricultural canals.

Concrete standpipes with pumps and irrigation pipes were observed throughout the Site.

One (1) pole-mounted transformer was observed on the Site along 27th Avenue. No staining or leaking was observed at the time of the Site reconnaissance.

A Soil and Water Analysis Report, dated 2019, was prepared by Dudek for the Site. The report was prepared for Daylight Legacy Solar LLC. The report concluded that the property was not suitable for sustaining long-term agricultural crop production due to saline-sodic soils. Groundwater in the area was reported to have high levels of salinity, boron, chloride, sodium, carbonates, and bicarbonates. The report concluded that the Site was more suited for solar farming as opposed to agricultural use.

Moore Twining conducted soil sampling in February 2022 for the Site. Per the Client's request, five (5) soil borings (B1 through B5) were hand augered on February 14, 2022 for collection of shallow soil samples to characterize organochlorinated pesticides (OCPs), VOCs, and metals in soil. The soil samples were analyzed for OCPs by EPA Method 8081A, VOCs by 8260, and CAM 17 metals by EPA Method 6010B. Based on the results of the analytical testing, the soil samples did not contain concentrations of VOCs or OCPs above residential or commercial screening levels. Arsenic was reported in all of the borings ranging from 8.8 mg/kg to 12 mg/kg. These concentrations exceed the Department of Toxic Substances Control (DTSC) screening levels (0.11 mg/kg residential and 0.42 mg/kg commercial); however, the DTSC has acknowledged that background concentrations of arsenic in California soils can average 12 mg/kg in some areas. As such, the elevated concentrations on the Site would not generally require cleanup to screening levels. Chromium results exceeded nonhazardous waste classifications but did not exceed health screening levels.

In order to provide a preliminary assessment on the former Auxiliary Airfield use of Section 31 on the Site, Moore Twining conducted soil sampling in March 2022. Per the Client's request, twelve (12) soil borings (AF1 through AF12) were hand augered on March 24, 2022 for collection of shallow soil samples to characterize petroleum hydrocarbons, VOCs, and metals in soil. The soil samples were analyzed for TPHg/d by EPA Method 8015M, VOCs by 8260, and CAM 17 metals by EPA Method 6010B. Based on the results of the analytical testing, the soil samples did not contain concentrations of hydrocarbons or VOCs above laboratory reporting levels. Arsenic was reported in all of the borings ranging from 11 mg/kg to 13

mg/kg. These concentrations exceed the Department of Toxic Substances Control (DTSC) screening levels (0.11 mg/kg residential and 0.42 mg/kg commercial); however, the DTSC has acknowledged that background concentrations of arsenic in California soils can average 12 mg/kg in some areas. As such, the elevated concentrations on the Site would not generally require cleanup to screening levels. Chromium results exceeded nonhazardous waste classifications but did not exceed health screening levels.

The southwest corner of the Site is on the Envirostor and Geotracker websites for the Lemoore Auxiliary Field A-4. The Regional Board created a case file with the following Site History: "Records indicate that the location operated from 1942 through July 1947. The location was on 621.76 acres in Section 31, Township 20 South, Range 19 East, Mount Diablo Baseline and Meridian. This location was one of seven Auxiliary Airfields Associated with the former Lemoore Army Airfield - Lemoore Basic Flying School (not to be confused with the current NAS Lemoore)." A No Defense Action Indicated determination (NDAI) concluded by the US Army Corps of Engineers was agreed to by the Department of Toxic Substances Control (DTSC). The Central Valley Water Board did not issue a review of the NDAI determination but deferred to the DTSC's determination for the location. The RWQCB case was closed as of April 11, 2011. The Envirostor listing is "Inactive" with no additional information. An online search for Airfield A-4 provided the following information: "Murray Field also called Lemoore Auxiliary Army Airfield (A-4) was located at 36°08'41"N 119°56'00"W, 6 miles southwest of Stratford, California, near the current town of Avenal, California. The 621.76-acre location was purchased in 1941. Murray Field was 14 miles west of Lemoore Army Airfield. This was a 3,000 by 3,000-foot landing mat. After the war the Airfield was abandoned and returned to farmland."

Three (3) oil wells are located on the Site. Two of the wells are listed as idle, the third well is listed as plugged and abandoned.

6.2 Off-Site

At the time of the Site Reconnaissance, the Site was bordered to the north an un-named agricultural access road. It was bordered to the west by 27th Avenue with agricultural fields beyond. The adjoining properties in all directions were agricultural fields.

There were no regulatory listings found within the search radius.

6.3 Data Gaps, Limitations, and Deviations

Data gaps are described as a lack of or inability to obtain information required by the standards and practices listed in ASTM E1527-13, despite good faith efforts by the environmental professional or prospective landowner.

Chain of title and environmental lien information was not provided by the client. This is considered a data gap.

A questionnaire was not received from the property owner. This is considered a data gap.

The material content of this report is intended to be consistent with a standard of practice as defined by ASTM E1527-13. However, the report format differs in style, arrangement, and presentation of material facts from the format described by ASTM.

7.0 CONCLUSIONS

On behalf of Mr. Bert Verrips, Moore Twining performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM E1527-13 for a property located at Manteca Avenue and 27th Avenue in an unincorporated area of Kings County, west of the City of Stratford, California. This assessment has revealed no evidence of CRECs, HRECs, or RECs, except for the following:

Recognized Environmental Conditions

The open Envirostor Lemoore Auxiliary case is a REC. However, soil sampling was conducted by Moore Twining for Section 31 where the airfield was reported to have been. No concentrations of petroleum hydrocarbons or VOCs were reported to exceed laboratory reporting levels. Therefore, while the open case remains a REC, the financial cleanup liability risk appears to be very low.

Additional Considerations

Chromium concentrations in soil exceed nonhazardous waste classification levels.

8.0 RECOMMENDATIONS

The DTSC should be notified of the planned development. If possible, the Envirostor case should be closed prior to property acquisition and/or development.

If soil in planned to be exported off of the Site to a landfill, they would need to be further analyzed for STLC concentrations of chromium. Depending on the result, the waste may be considered a non-RCRA hazardous waste and sent to a Class III landfill that accepts chromium or it may be a RCRA hazardous waste and would be required to be disposed of at a Class I landfill. In Moore Twining's experience TTLC chromium concentrations of the levels reported would fall into the non-RCRA classification. No action is required if the soils are to remain within the Cherry project site or, if the soil profile is approved by the importing party, to a location other than a landfill.

9.0 CLOSING

Moore Twining Associates, Inc. performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM E1527-13 for the subject Site. Any exceptions to, or deletions from, this practice are described Section 6.3 of this report.

We appreciate the opportunity to be of service to Mr. Bert Verrips, AICP, Environmental Consulting, on this project. Please contact our office at (800) 268-7021 if you have any questions regarding this report.

Sincerely,
MOORE TWINING ASSOCIATES, INC.
Environmental Services Division



Katie Lister PG, QSD
Environmental Division Manager

"I declare that, to the best of my knowledge and belief, I meet the definition of Environmental Professional. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312."

10.0 REFERENCES

American Society for Testing and Materials. (2013). *ASTM Standards of Environmental Site Assessments for Commercial Real Estate, E1527-13, 2nd ed.* West Conshohocken, Pennsylvania: ASTM International.

California Geologic Survey. (2010). *Geologic Map of California 1:750,000 Scale.*

Environmental Data Resources, Inc. (January 11, 2022). *VCHerry 2 Solar, E Stratford, CA 93266- Inquiry Number: 06814563.1.* Environmental Data Resources, Inc.

Kearney Foundation of Soil Science. (1996). *Background Concentrations of Trace and Major Elements in California Soils.*

Moore Twining Associates, Inc. (2019). *Shallow Soil Assessment Chestnut Solar Project.*

Dudek. (2019). *Soil and Water Analysis Report.*

Wagner, D. (2002). *Note 36: Geomorphic Map of California.* California Geologic Survey.

11.0 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

Moore Twining Associates, Inc. Phase I Environmental Site Assessment staff is composed of a group of environmental professionals that perform Environmental Site Assessments on a routine basis. The Phase I ESA staff is managed and supervised by individuals who conduct, prepare, oversee, and/or review Environmental Site Assessments on a daily basis. Qualification profiles for these individuals are provided in the following section.

Reviewed by
Katie Lister PG, QSD
Environmental Division Manager

Mrs. Lister has nineteen years of experience conducting Phase I Environmental Site Assessments, Phase II assessment work, and Phase III remediation. Mrs. Lister has conducted environmental site assessments for a number of different project types including pesticide production facilities, shopping centers, gas stations, school sites, mines, large vacant properties, and agricultural sites.

APPENDIX A

DRAWINGS

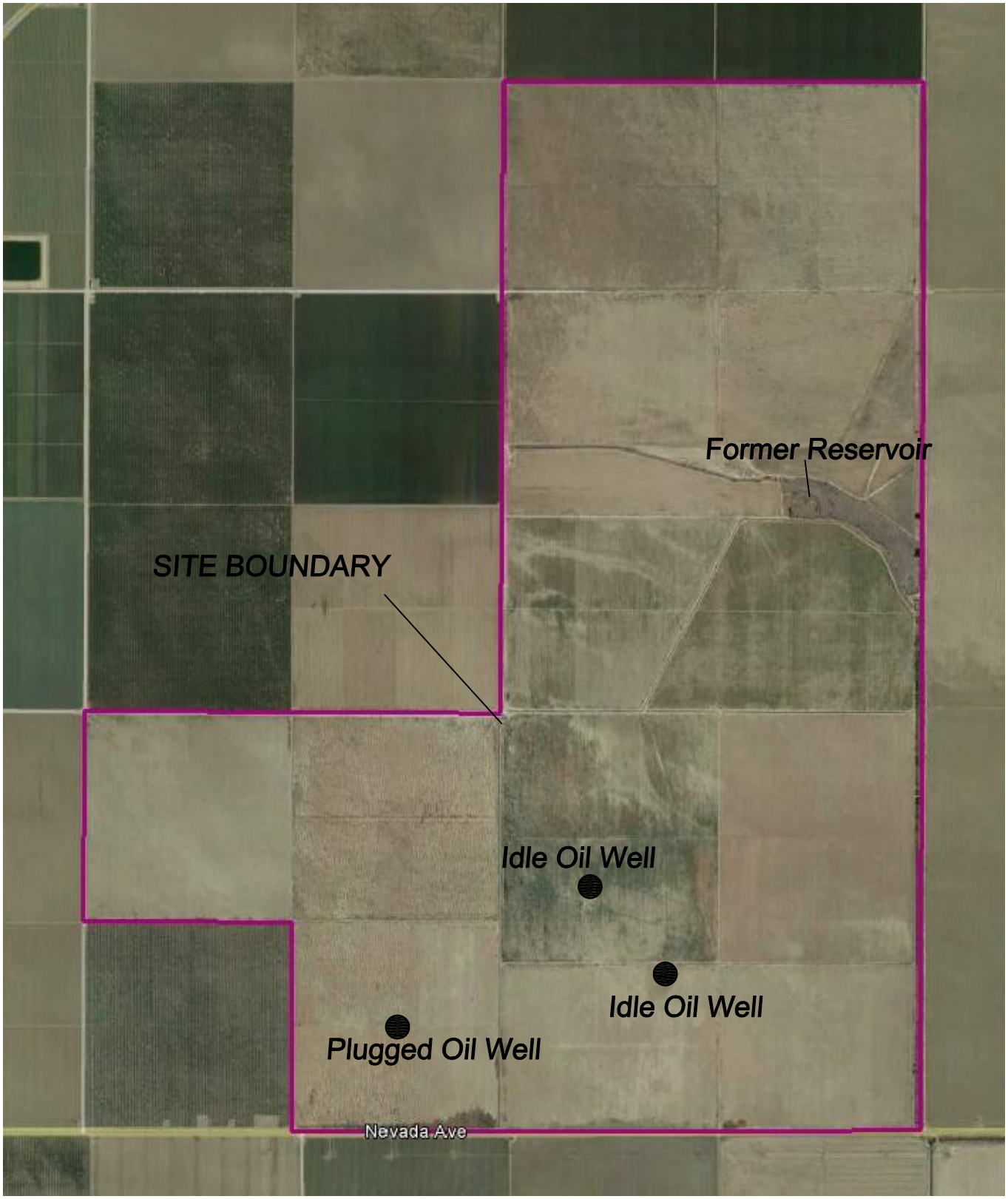


N

APPX 1:24000

SITE LOCATION MAP CHERRY 2 SOLAR PROJECT 25TH AVENUE AND NEVADA AVENUE KINGS COUNTY, CALIFORNIA	FILE NO. Site Loc Map	DATE DRAWN: 02-10-2022
	DRAWN BY: KL	APPROVED BY:
	PROJECT NO. C64409.0300	DRAWING NO. 1

MOORE TWINING ASSOCIATES, INC.



LEGEND

N

100 FEET

SITE MAP CHERRY 2 SOLAR PROJECT 25TH AVENUE AND NEVADA AVENUE KINGS COUNTY, CALIFORNIA	FILE NO. Site Map	DATE DRAWN: 02-10-2022	MOORE TWINING ASSOCIATES, INC.
	DRAWN BY: KL	APPROVED BY:	
	PROJECT NO. C64409.0300	DRAWING NO. 2	

APPENDIX B

SITE PHOTOGRAPHS

Photo Album

by Amanda Trice



SE corner of Site facing north



SE corner of Site facing east



SE corner of Site facing south



SE corner of Site facing west



Manteca Ave and 28th Ave facing north



Manteca Ave and 28th Ave facing east



Manteca Ave and 28th Ave facing south



Well piping and standpipe at Manteca Ave and 28th Ave



20220105_141611



Manteca Ave and 27th Ave facing north



Manteca Ave and 28th Ave facing east



Manteca Ave and 28th Ave facing south



Manteca Ave and 28th Ave facing west



Water filtration system at Manteca Ave and 28th Ave



20220105_143318



20220105_143332



Wells and electrical panel near water filtration system



Concrete pad 20 feet south of wells at canal



Pole mounted transformer at Madison Ave and 27th Ave



20220105_144342



20220105_144715



20220105_144721



Top of Site boundary on 27th Ave facing north



Top of Site boundary on 27th Ave facing east



Top of Site boundary on 27th Ave facing south



Top of Site boundary on 27th Ave facing west

Photo Album

by Thomas Harris



SW Corner Facing N Oil Platform 1



SW Corner Facing E Oil Platform 1



SW Corner Facing S Oil Platform 1



SW Corner Facing W Oil Platform 1



NW Corner Facing N Oil Platform 1



NW Corner Facing E Oil Platform 1



NW Corner Facing S Oil Platform 1



NW Corner Facing W Oil Platform 1



NE Corner Facing N Oil Platform 1



NE Corner Facing E Oil Platform 1



NE Corner Facing S Oil Platform 1



NE Corner Facing W Oil Platform 1



SE Corner Facing N Oil Platform 1



SE Corner Facing E Oil Platform 1



SE Corner Facing S Oil Platform 1



SE Corner Facing W Oil Platform 1



SE Corner Oil Platform 1 Ground Material



South Oil Platform 1 Facing N



West Road Oil Platform 1 Ground Material



Well Plug Oil Platform 1



Plug Oil Platform 1



West side Oil Platform 1 Ground Cobbles



Oil Platform 2



Oil Platform2

APPENDIX C

REGULATORY AGENCY DOCUMENTATION

DEPARTMENT OF TOXIC SUBSTANCES CONTROL
ENVIROSTOR

LEMOORE AUXILIARY FIELD #4 (80000577)

SIGN UP FOR EMAI

LEMOORE, CA
KINGS COUNTY
SITE TYPE: FUDS

SUPERVISOR: CHARLES RID
OFFICE: CLEANUP SACRAMENTO
CENSUS TRACT: 6031001601
CALENVIROSCREEN PERCENTILE SCORE: 86-90%

Summary | Sub-Areas | Map | Related Sites | CalEnviroScreen

Site Information

CLEANUP STATUS
INACTIVE - NEEDS EVALUATION AS OF 7/1/2005

SITE TYPE: FUDS
NATIONAL PRIORITIES LIST: NO
ACRES: NONE SPECIFIED
APN: NONE SPECIFIED
CLEANUP OVERSIGHT AGENCIES:
DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY

ENVIROSTOR ID: 80000577
SITE CODE:
SPECIAL PROGRAM:
FUNDING: DERA
ASSEMBLY DISTRICT: 32
SENATE DISTRICT: 14

Regulatory Profile

PAST USE(S) THAT CAUSED CONTAMINATION
NONE SPECIFIED

POTENTIAL CONTAMINANTS OF CONCERN
NONE SPECIFIED

POTENTIAL MEDIA AFFECTED
NONE SPECIFIED

Site History

No records available.

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2.351563 seconds

STATE WATER RESOURCES CONTROL BOARD
GEOTRACKER

LEMOORE AUXILIARY FIELD (SL0603111371) - (MAP)

SIGN UP FOR EMAI

NEVADA AVENUE
STRATFORD, CA
KINGS COUNTY
MILITARY CLEANUP SITE (INFO)
COMPLETED - CASE CLOSED AS OF 4/13/2011 - DEFINITION
ASSOCIATED ENVIROSTOR PROJECTS
PRINTABLE CASE SUMMARY / CSM REPORT

CLEANUP OVERSIGHT AGENCIES
CENTRAL VALLEY RWQCB (REGION 5F)
CASEWORKER: PAUL DOTSON
DEPARTMENT OF TOXIC SUBSTANCES
CASEWORKER: Donn Diebert

Summary | Cleanup Action Report | Regulatory Activities | Environmental Data (ESI) | Site Maps / Documents | Community Involvement | Related Cases

Regulatory Profile

PRINTABLE CASE SUMM

MILITARY BASE
LEMOORE NAS

CLEANUP STATUS - DEFINITIONS
COMPLETED - CASE CLOSED AS OF 4/13/2011 - CLEANUP STATUS HISTORY

POTENTIAL CONTAMINANTS OF CONCERN
NONE SPECIFIED

POTENTIAL MEDIA OF CONCERN
NONE SPECIFIED

FILE LOCATION

DESIGNATED GROUNDWATER BENEFICIAL USE(S) - DEFINITIONS
MUN, AGR, IND

DWR GROUNDWATER SUB-BASIN NAME
San Joaquin Valley - Westside (5-022.09)

CALWATER WATERSHED NAME
South Valley Floor - Westlands - Huron (551.11)

Site History

The case was opened based upon information that the site existed found in the DTSC Envirostor Database. No other information is available at this time. Click on the "Associated Envirostor Projects" link located in the upper left corner of this web page and you will be directed to Envirostor. The Site is also known as Lemoore Auxiliary Field No. 4 or Murray Auxil Field No. 4 and by the Formerly Used Defense Site (FUDS) ID No. J09CA0848. Records indicate that the Site operated from 1942 through July 1947. The Site was on 621.76 acres in Section 31, Township 20 South, Range 19 East, Mount Diablo Baseline and Meridian. This Site was one of seven Auxiliary Air Fields Associated with the former Lemoore Army Air Fiel Lemoore Basic Flying School (not to be confused with the current NAS Lemoore).

A no defense action indicated determination (NDAI) concluded by the US Army Corps of Engineers was agreed to by Department of Toxic Substances Contol (DTSC). The Central Vall Water Board did not issue a review of the NDAI determination but deferred to DTSC's determination for the site.

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Well Detail

Mary Bellocchi 1 - API 0403120311

Summary | Actions

API Number
0403120311

Well Designation
Mary Bellocchi 1

Well Number
1

Operator
Victoria Petroleum USA, Inc.

Well Type
Oil & Gas

Well Status
Idle

Active Permit
No

Bond Number
1003890993-000

Confidential Well
No

Confidentiality Expiration Date
N/A

Lease
Mary Bellocchi

Surface Owner
N/A

Mineral Owner
N/A

Interested Federal Agencies
N/A

Well Name
Unspecified

Well Spud Date
11/30/1985

Exploratory Well
No

Dry Hole
N/A

Status Date
04/26/2018

Initial Date of Production
6/30/1986

Directionally Drilled
No

Fields(s)
Any Field [0]

Areas(s)
Any Area [0]

Pool(s)
No Pool Breakdown [0]

Well Classifications
N/A

Surface Location

Section
32

Township
20S

Range
19E

Latitude
36.14301300

Longitude
-119.93455505

B&M
MD

County
Kings

District
Inland

Onshore/Offshore
Onshore

Datum
NAD 83

Corner Call
N/A

Location Description
Fr SW cor 1980 Nly 2050 Ely @ rt ang

Bottom Hole Location - Wellbore 0403120311-00

Section
N/A

Township
N/A

Range
N/A

Latitude
N/A

Longitude
N/A

B&M
N/A

Field
Any Field [0]

County
N/A

Corner Call
N/A

Bottom Hole Location - Wellbore 0403120311-01

Section
N/A

Township
N/A

Range
N/A

Latitude
N/A

Longitude
N/A

B&M
N/A

Field
Any Field [0]

County
N/A

Corner Call
N/A

Current Associated Projects

Wellhead Equipment

Well Activity

PRODUCTION DATA
(Jan 2021 - Present)
View All

0	0	0
OIL (Bbls)	GAS (Mcf)	WATER (Bbls)

INJECTION DATA
(Jan 2021 - Present)
View All

0	0	0
OIL (Bbls)	GAS (Mcf)	WATER (Bbls)

Zones of Significance

Wellbore 0403120311-00

Type: Oil & Gas
Status: Idle
Wellbore Spud Date: N/A
Rig Release Date: N/A
Completion Date: N/A
Depth Datum: N/A
Feet Above Ground: N/A
Elevation Above Sea Level: N/A
Wellbore Direction: N/A

Wellbore 0403120311-01

Type: Oil & Gas
Status: Idle
Wellbore Spud Date: N/A
Rig Release Date: N/A
Completion Date: N/A
Depth Datum: N/A
Feet Above Ground: N/A
Elevation Above Sea Level: N/A
Wellbore Direction: N/A

Well Detail

B.L.C. 1 - API 0403100604

Summary | Actions

API Number
0403100604

Well Designation
B.L.C. 1

Well Number
1

Operator
Conoco Inc.

Well Type
Dry Hole

Well Status
Plugged & Abandoned

Active Permit
No

Bond Number
N/A

Confidential Well
No

Confidentiality Expiration Date
N/A

Lease
B.L.C.

Surface Owner
N/A

Mineral Owner
N/A

Interested Federal Agencies
N/A

Well Name
Unspecified

Well Spud Date
12/29/1953

Exploratory Well
No

Dry Hole
Y

Status Date
04/26/2018

Initial Date of Production
N/A

Directionally Drilled
No

Fields(s)
N/A

Areas(s)
N/A

Pool(s)
N/A

Well Classifications
N/A

Surface Location

Section
31

Township
20S

Range
19E

Latitude
36.14147568

Longitude
-119.94617462

B&M
MD

County
Kings

District
Inland

Onshore/Offshore
Onshore

Datum
NAD 83

Corner Call
N/A

Location Description
Fr SE cor 1320 N 1320 W

Bottom Hole Location - Wellbore 0403100604-00

Section
N/A

Township
N/A

Range
N/A

Latitude
N/A

Longitude
N/A

B&M
N/A

Field
Any Field [0]

County
N/A

Corner Call
N/A

Current Associated Projects

Wellhead Equipment

Well Activity

PRODUCTION DATA View All
(Jan 2021 - Present)

0

OIL (Bbls)	0	0
	GAS (Mcf)	WATER (Bbls)

INJECTION DATA View All

(Jan 2021 - Present)

0	0	0
OIL (Bbls)	GAS (Mcf)	WATER (Bbls)

Zones of Significance

Wellbore 0403100604-00

Type:	Status:	Wellbore Spud Date:	Rig Release Date:	Completion Date:	Depth Datum:
Dry Hole	Plugged	N/A	N/A	N/A	N/A
			Feet Above Ground:	Elevation Above Sea Level:	Wellbore Direction:
			N/A	N/A	N/A

Well Detail

Eagle North 1 - API 0403120428

Summary | Actions

API Number
0403120428

Well Designation
Eagle North 1

Well Number
1

Operator
Victoria Petroleum USA, Inc.

Well Type
Oil & Gas

Well Status
Idle

Active Permit
No

Bond Number
1003890993-000

Confidential Well
No

Confidentiality Expiration Date
N/A

Lease
Eagle North

Surface Owner
N/A

Mineral Owner
N/A

Interested Federal Agencies
N/A

Well Name
Unspecified

Well Spud Date
01/11/2006

Exploratory Well
No

Dry Hole
N/A

Status Date
04/26/2018

Initial Date of Production
12/31/2005

Directionally Drilled
No

Fields(s)
Any Field [0]

Areas(s)
Any Area [0]

Pool(s)
No Pool Breakdown [0]

Well Classifications
N/A

Surface Location

Section
32

Township
20S

Range
19E

Latitude
36.14612198

Longitude
-119.93760681

B&M
MD

County
Kings

District
Inland

Onshore/Offshore
Onshore

Datum
NAD 83

Corner Call
N/A

Location Description
Fr SW cor 3040 N 1170 E

Bottom Hole Location - Wellbore 0403120428-00

Section
N/A

Township
N/A

Range
N/A

Latitude
N/A

Longitude
N/A

B&M
N/A

Field
Any Field [0]

County
N/A

Corner Call
N/A

Bottom Hole Location - Wellbore 0403120428-01

Section
N/A

Township
N/A

Range
N/A

Latitude
N/A

Longitude
N/A

B&M
N/A

Field
Any Field [0]

County
N/A

Corner Call
N/A

Current Associated Projects

Wellhead Equipment

Well Activity

PRODUCTION DATA
(Jan 2021 - Present)
View All

0	0	0
OIL (Bbls)	GAS (Mcf)	WATER (Bbls)

INJECTION DATA
(Jan 2021 - Present)
View All

0	0	0
OIL (Bbls)	GAS (Mcf)	WATER (Bbls)

Zones of Significance

Wellbore 0403120428-00

Type: Oil & Gas
Status: Idle
Wellbore Spud Date: N/A
Rig Release Date: N/A
Completion Date: N/A
Depth Datum: N/A
Feet Above Ground: N/A
Elevation Above Sea Level: N/A
Wellbore Direction: N/A

Wellbore 0403120428-01

Type: Oil & Gas
Status: Idle
Wellbore Spud Date: N/A
Rig Release Date: N/A
Completion Date: N/A
Depth Datum: N/A
Feet Above Ground: N/A
Elevation Above Sea Level: N/A
Wellbore Direction: N/A

APPENDIX D

EDR REPORT

Cherry 2 Solar
Manteca Avenue and 27th Avenue
Stratford, CA 93266

Inquiry Number: 06814563.10r
January 11, 2022

EDR Area / Corridor Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527-21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

SUBJECT PROPERTY INFORMATION

ADDRESS

MANTECA AVENUE AND 27TH AVENUE
STRATFORD, CA 93266

TARGET PROPERTY SEARCH RESULTS

The Target Property was identified in the following databases.

Page Numbers and Map Identifcations refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

ADDITIONAL ENVIRONMENTAL RECORDS

Records of Emergency Release Reports

MCS: Military Cleanup Sites Listing

A review of the MCS list, as provided by EDR, and dated 09/07/2021 has revealed that there is 1 MCS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
LEMOORE NAS - LEMOOR Global Id: SL0603111371 Status: Completed - Case Closed	***NEVADA AVENUE***	***2 / 5***	***25***

Other Ascertainable Records

FUDS: Formerly Used Defense Sites

A review of the FUDS list, as provided by EDR, and dated 08/10/2021 has revealed that there is 1 FUDS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
LEMOORE AUXILIARY FI		3 / 8	27

EXECUTIVE SUMMARY

MINES: Mines Site Location Listing

A review of the MINES list, as provided by EDR, and dated 09/07/2021 has revealed that there is 1 MINES site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
CEMETARY PIT		1 / 4	25

CERS: CERS

A review of the CERS list, as provided by EDR, and dated 07/15/2021 has revealed that there is 1 CERS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
LEMOORE NAS - LEMOOR	***NEVADA AVENUE***	***2 / 5***	***25***

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Page Numbers and Map Identifcations refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

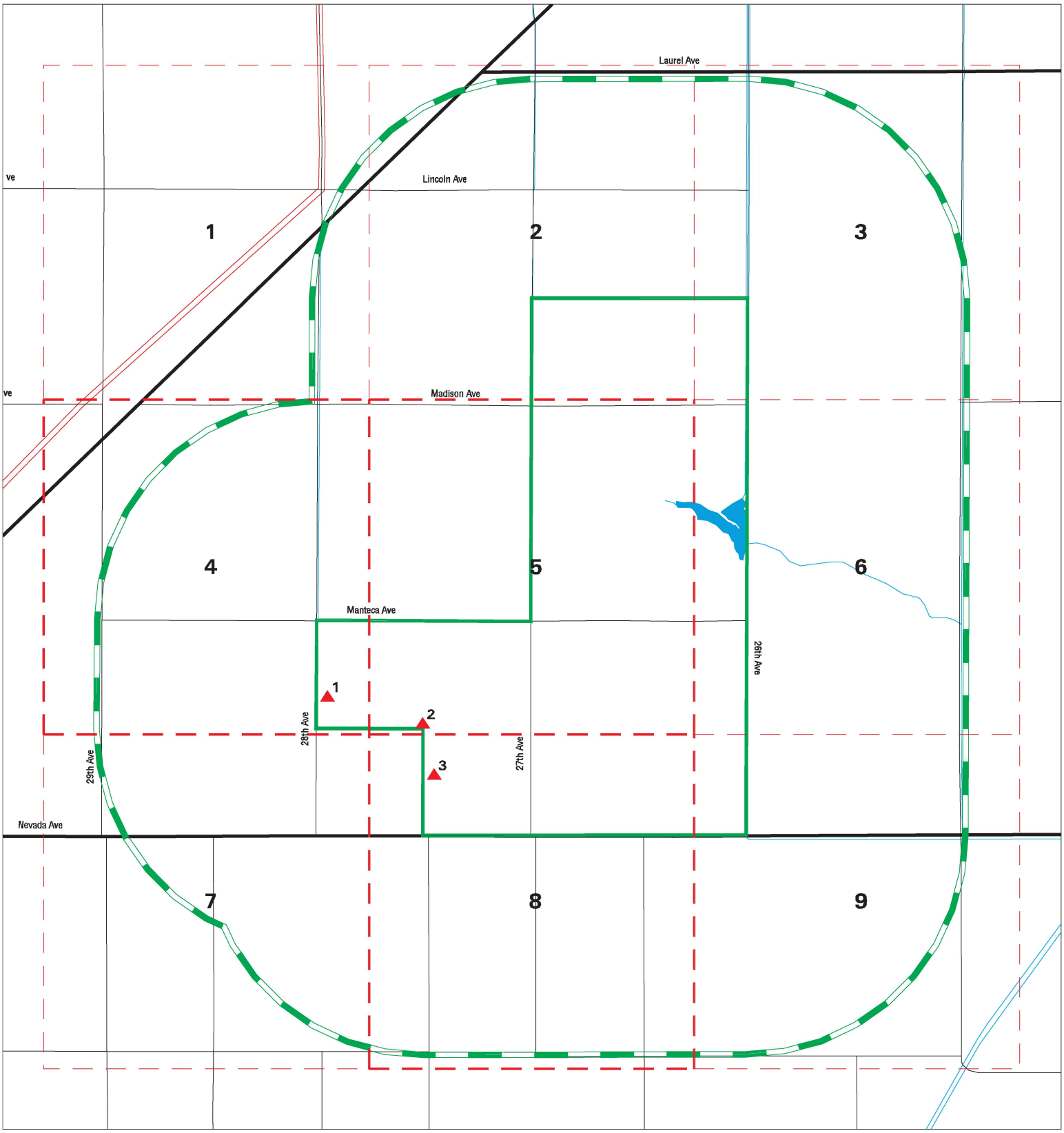
Unmappable (orphan) sites are not considered in the foregoing analysis.

MAPPED SITES SUMMARY

Target Property:
MANTECA AVENUE AND 27TH AVENUE
STRATFORD, CA 93266

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
1 / 4	CEMETARY PIT		MINES	TP
2 / 5	LEMOORE NAS - LEMOOR	NEVADA AVENUE	MCS, CERS	TP
3 / 8	LEMOORE AUXILIARY FI		FUDS	TP

Key Map - 06814563.10r



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/2 1 Miles

SITE NAME: Cherry 2 Solar	CLIENT: MooreTwining Associates, Inc.
ADDRESS: Manteca Avenue and 27th Avenue	CONTACT: Katie Lister
CITY/STATE: Stratford CA	INQUIRY #: 06814563.10r
ZIP: 93266	DATE: 01/11/22 1:04 PM

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Lists of Federal NPL (Superfund) sites								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Lists of Federal Delisted NPL sites								
Delisted NPL	1.000		0	0	0	0	NR	0
Lists of Federal sites subject to CERCLA removals and CERCLA orders								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Lists of Federal CERCLA sites with NFRAP								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000		0	0	0	0	NR	0
Lists of Federal RCRA TSD facilities								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA generators								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
Lists of state- and tribal (Superfund) equivalent sites								
RESPONSE	1.000		0	0	0	0	NR	0
Lists of state- and tribal hazardous waste facilities								
ENVIROSTOR	1.000		0	0	0	0	NR	0
Lists of state and tribal landfills and solid waste disposal facilities								
SWF/LF	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Lists of state and tribal leaking storage tanks								
LUST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
Lists of state and tribal registered storage tanks								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
Lists of state and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
Lists of state and tribal brownfield sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
AQUEOUS FOAM	TP		NR	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP	1	NR	NR	NR	NR	NR	1
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000	1	0	0	0	0	NR	1
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250	1	0	0	NR	NR	NR	1
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
WDR	TP		NR	NR	NR	NR	NR	0
CIWQS	TP		NR	NR	NR	NR	NR	0
CERS	TP	1	NR	NR	NR	NR	NR	1
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
WELL STIM PROJ	TP		NR	NR	NR	NR	NR	0
MINES MRDS	TP		NR	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		4	0	0	0	0	0	4

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

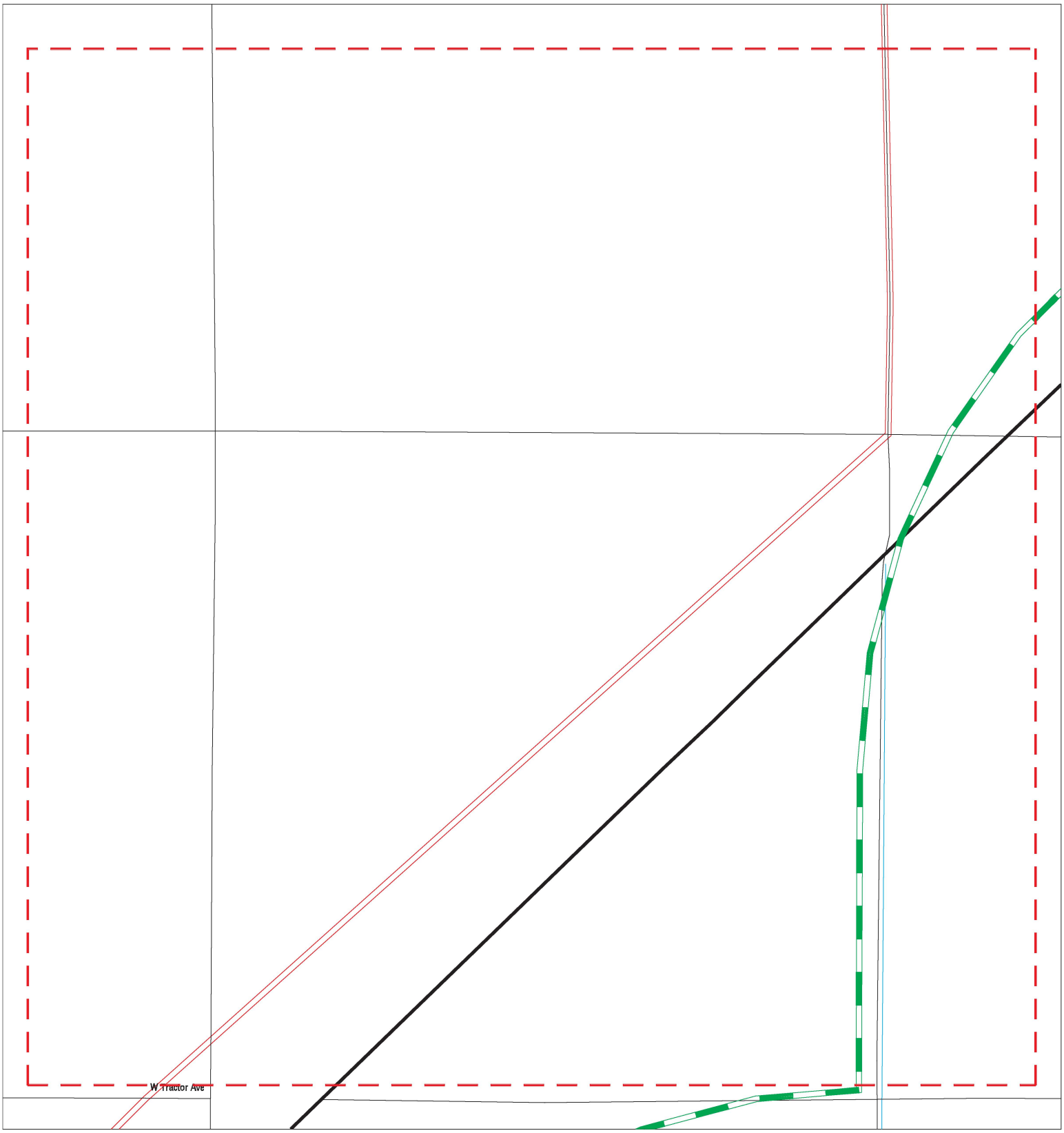
NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Focus Map - 1 - 06814563.10r



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cherry 2 Solar	CLIENT: MooreTwining Associates, Inc.
ADDRESS: Manteca Avenue and 27th Avenue	CONTACT: Katie Lister
CITY/STATE: Stratford CA	INQUIRY #: 06814563.10r
ZIP: 93266	DATE: 01/11/22

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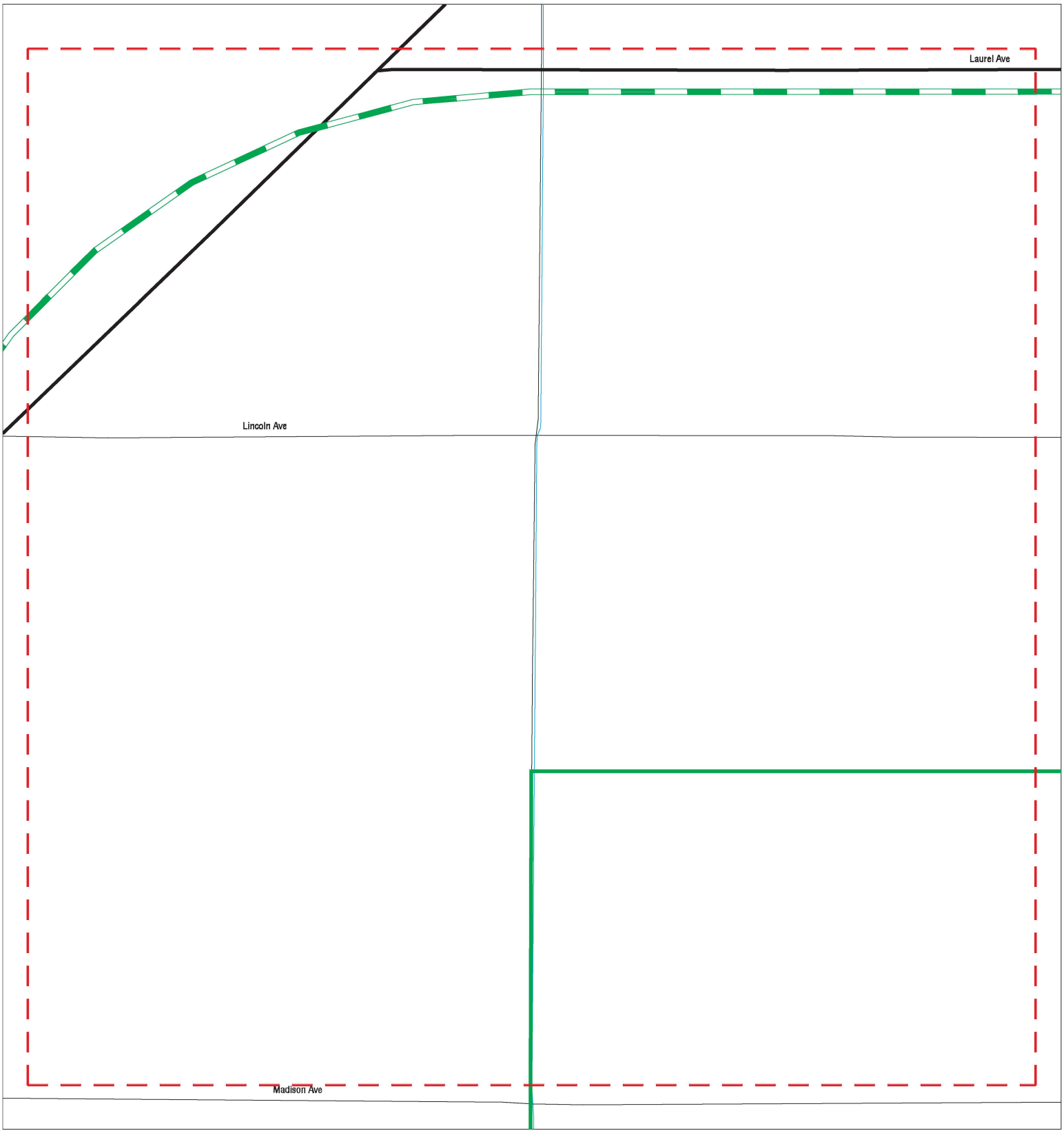
MAPPED SITES SUMMARY - FOCUS MAP 1

Target Property:
MANTECA AVENUE AND 27TH AVENUE
STRATFORD, CA 93266

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

Focus Map - 2 - 06814563.10r



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cherry 2 Solar	CLIENT: MooreTwining Associates, Inc.
ADDRESS: Manteca Avenue and 27th Avenue	CONTACT: Katie Lister
CITY/STATE: Stratford CA	INQUIRY #: 06814563.10r
ZIP: 93266	DATE: 01/11/22

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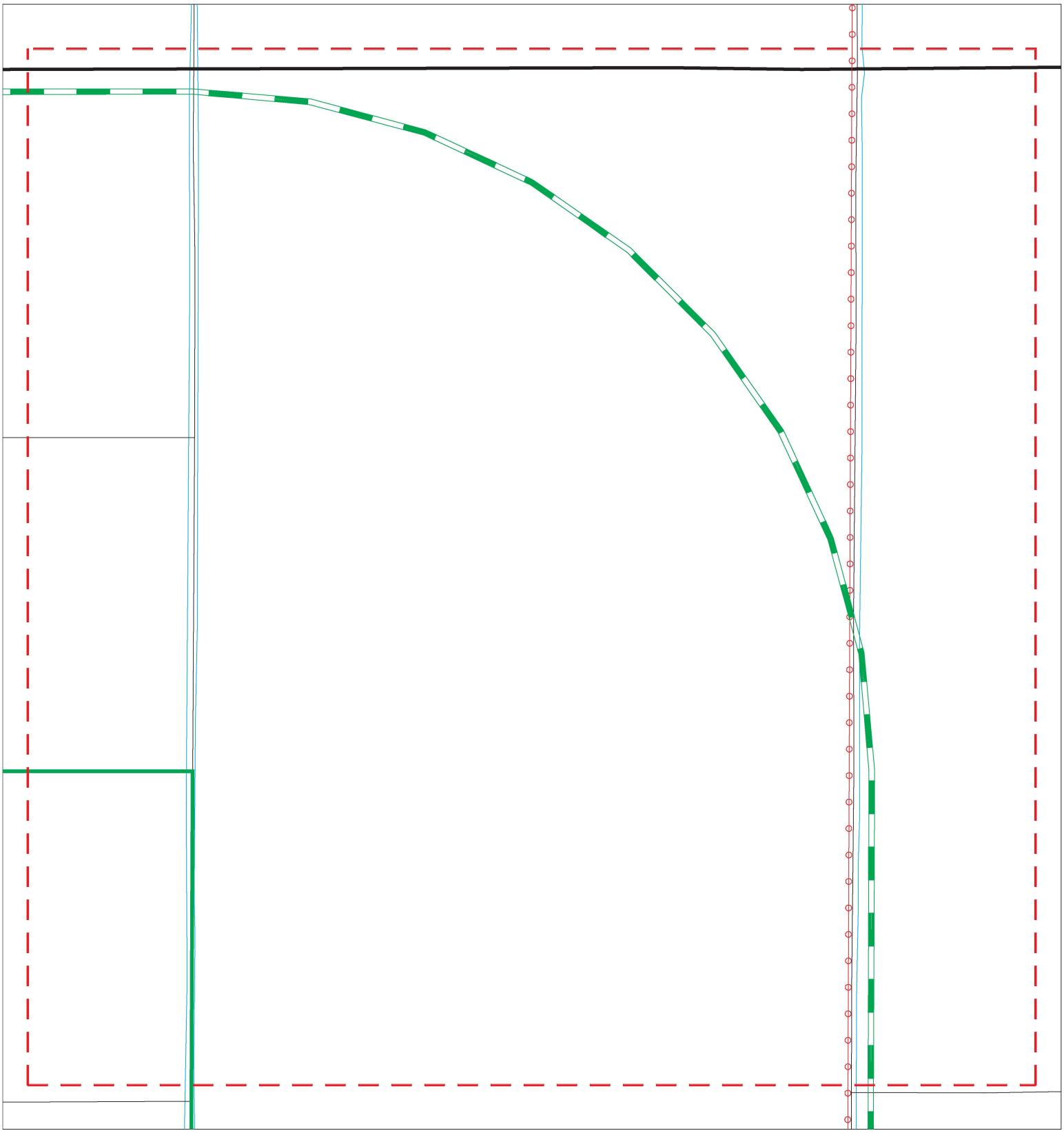
MAPPED SITES SUMMARY - FOCUS MAP 2

Target Property:
MANTECA AVENUE AND 27TH AVENUE
STRATFORD, CA 93266

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

Focus Map - 3 - 06814563.10r



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cherry 2 Solar	CLIENT: MooreTwining Associates, Inc.
ADDRESS: Manteca Avenue and 27th Avenue	CONTACT: Katie Lister
CITY/STATE: Stratford CA	INQUIRY #: 06814563.10r
ZIP: 93266	DATE: 01/11/22

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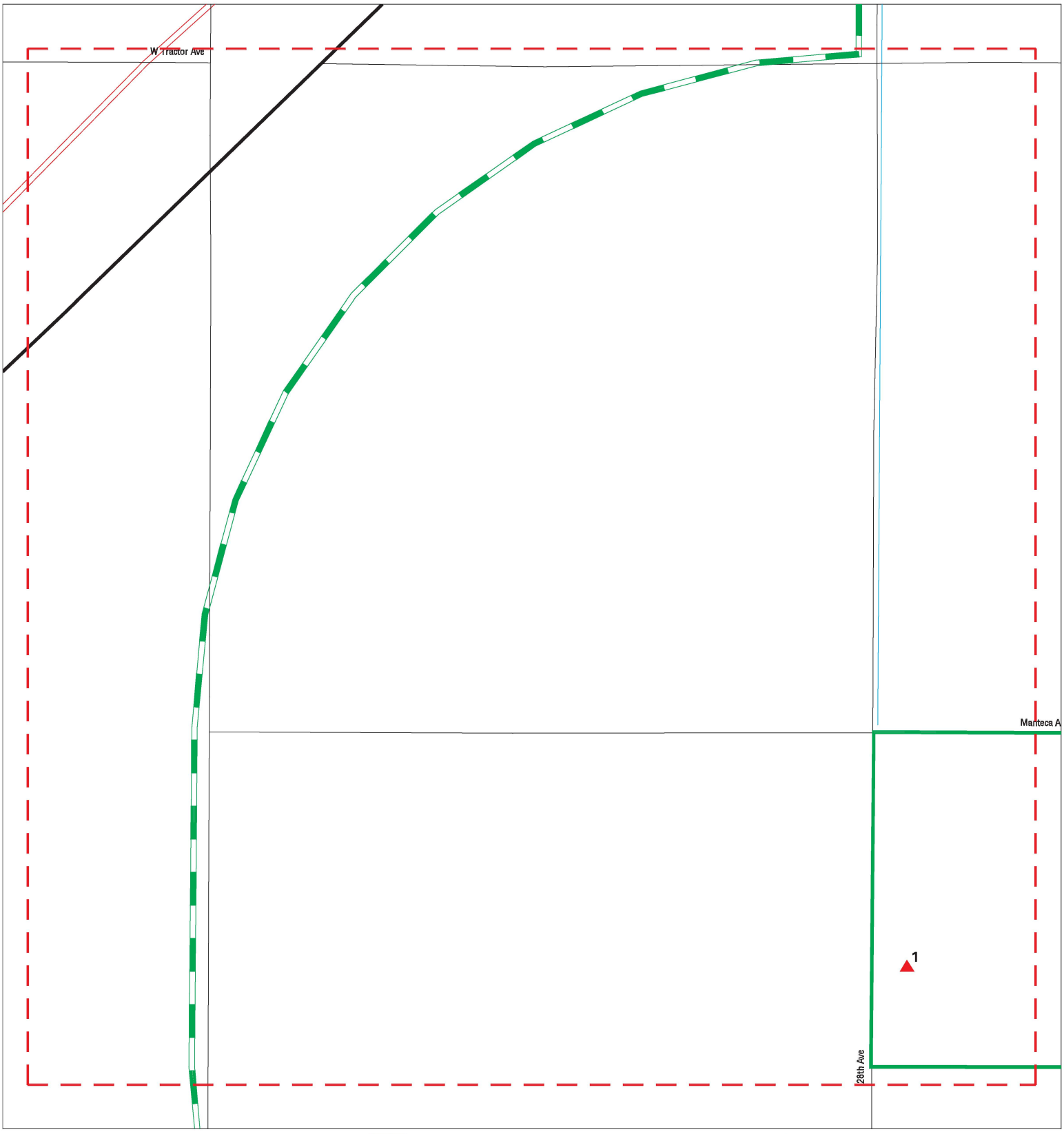
MAPPED SITES SUMMARY - FOCUS MAP 3

Target Property:
MANTECA AVENUE AND 27TH AVENUE
STRATFORD, CA 93266

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

Focus Map - 4 - 06814563.10r



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cherry 2 Solar	CLIENT: MooreTwining Associates, Inc.
ADDRESS: Manteca Avenue and 27th Avenue	CONTACT: Katie Lister
CITY/STATE: Stratford CA	INQUIRY #: 06814563.10r
ZIP: 93266	DATE: 01/11/22

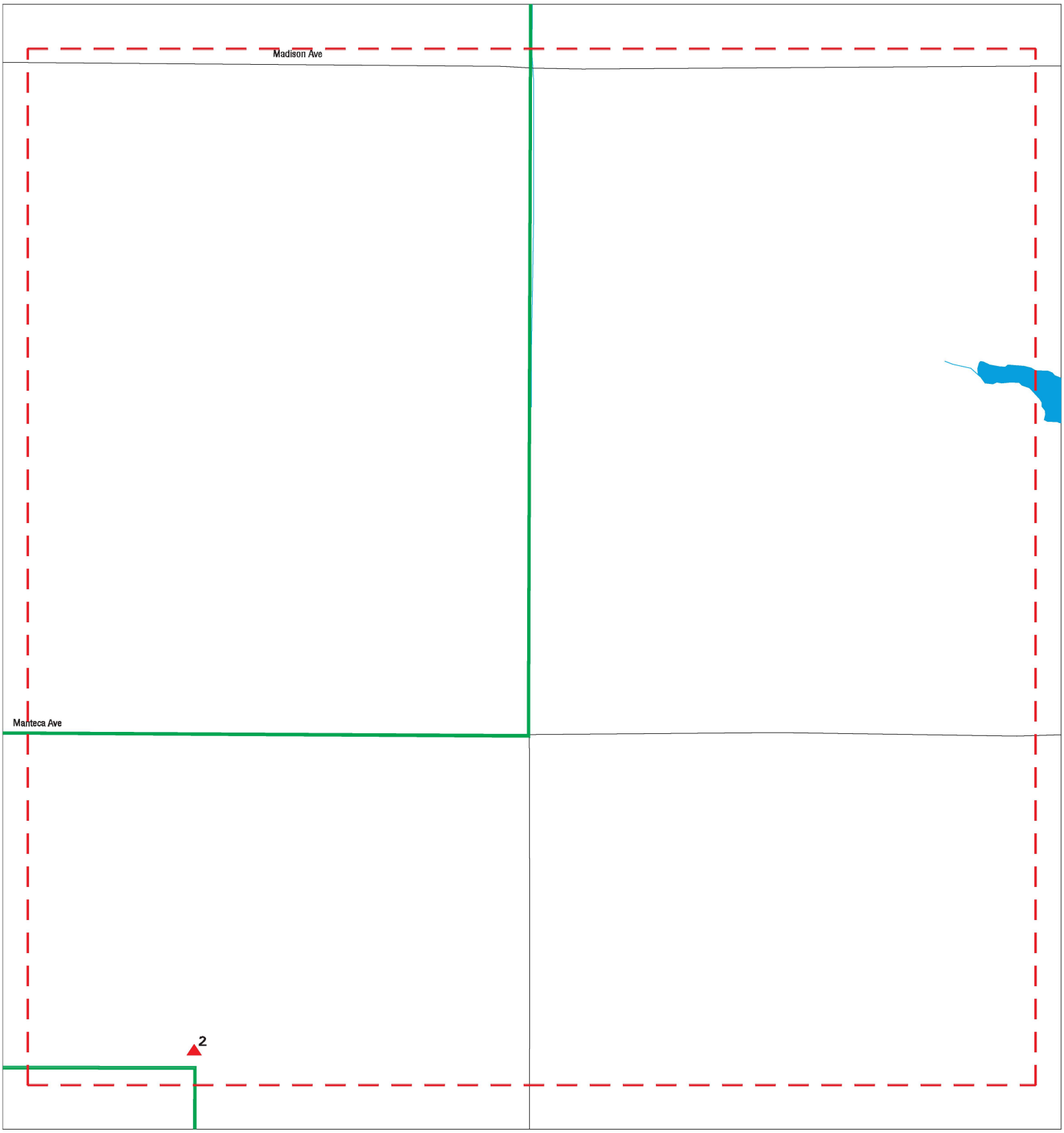
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MAPPED SITES SUMMARY - FOCUS MAP 4

Target Property:
MANTECA AVENUE AND 27TH AVENUE
STRATFORD, CA 93266

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
1 / 4	CEMETARY PIT		MINES	TP

Focus Map - 5 - 06814563.10r



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cherry 2 Solar	CLIENT: MooreTwining Associates, Inc.
ADDRESS: Manteca Avenue and 27th Avenue	CONTACT: Katie Lister
CITY/STATE: Stratford CA	INQUIRY #: 06814563.10r
ZIP: 93266	DATE: 01/11/22

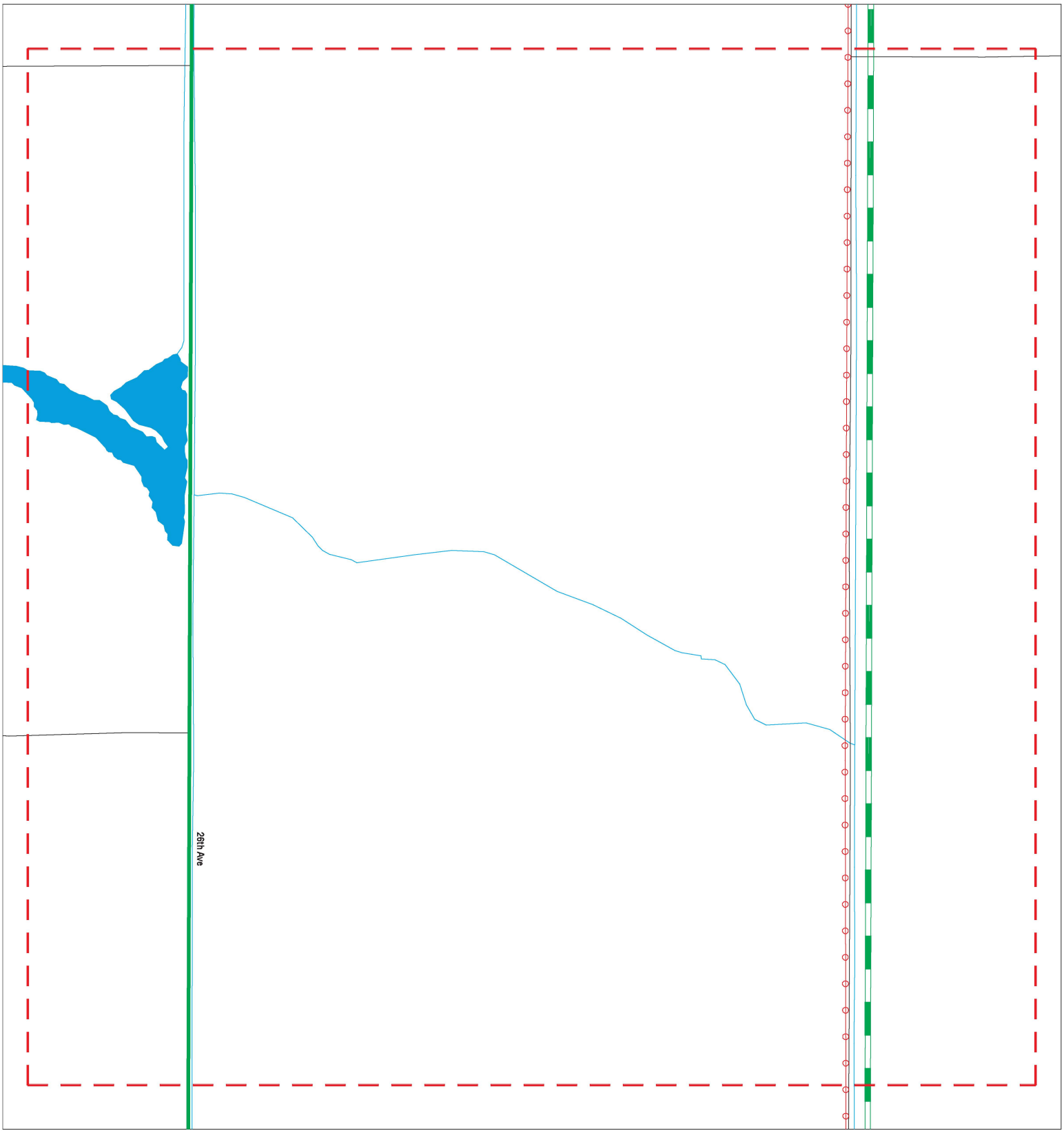
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MAPPED SITES SUMMARY - FOCUS MAP 5

Target Property:
MANTECA AVENUE AND 27TH AVENUE
STRATFORD, CA 93266

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
2 / 5	LEMOORE NAS - LEMOOR	NEVADA AVENUE	MCS, CERS	TP

Focus Map - 6 - 06814563.10r



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cherry 2 Solar	CLIENT: MooreTwining Associates, Inc.
ADDRESS: Manteca Avenue and 27th Avenue	CONTACT: Katie Lister
CITY/STATE: Stratford CA	INQUIRY #: 06814563.10r
ZIP: 93266	DATE: 01/11/22

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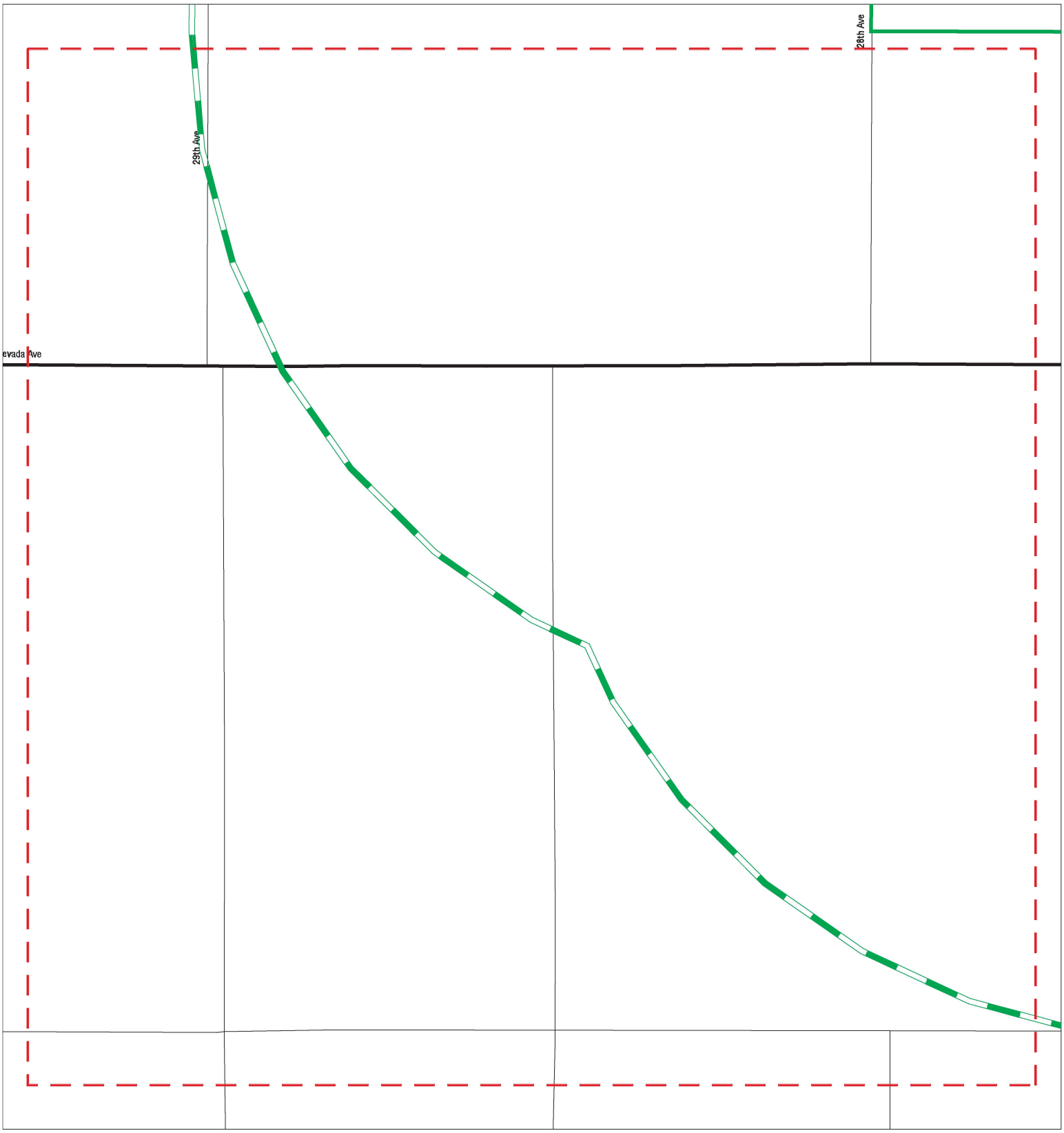
MAPPED SITES SUMMARY - FOCUS MAP 6

Target Property:
MANTECA AVENUE AND 27TH AVENUE
STRATFORD, CA 93266

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

Focus Map - 7 - 06814563.10r



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cherry 2 Solar	CLIENT: MooreTwining Associates, Inc.
ADDRESS: Manteca Avenue and 27th Avenue	CONTACT: Katie Lister
CITY/STATE: Stratford CA	INQUIRY #: 06814563.10r
ZIP: 93266	DATE: 01/11/22

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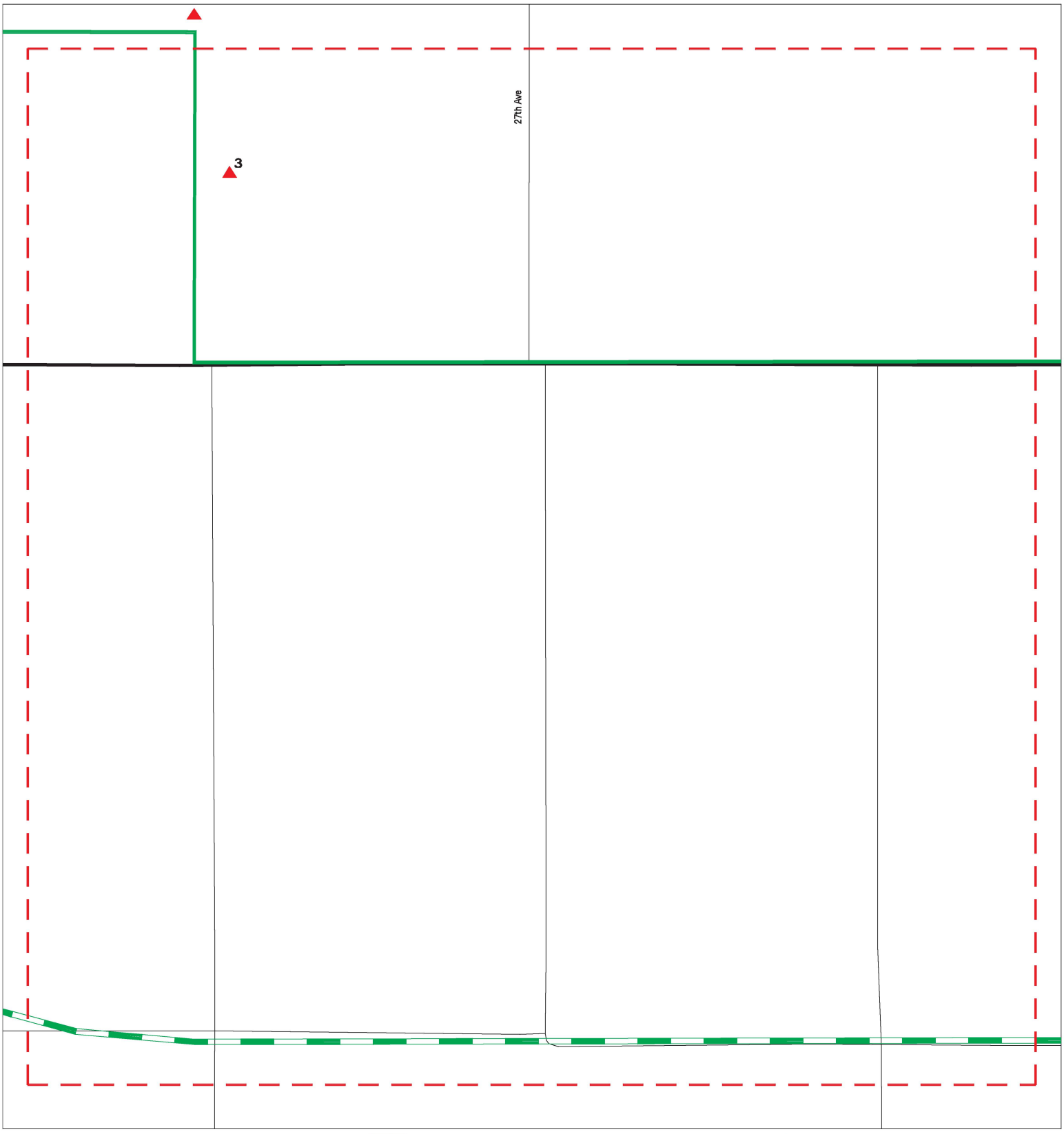
MAPPED SITES SUMMARY - FOCUS MAP 7

Target Property:
MANTECA AVENUE AND 27TH AVENUE
STRATFORD, CA 93266

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

Focus Map - 8 - 06814563.10r



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cherry 2 Solar	CLIENT: MooreTwining Associates, Inc.
ADDRESS: Manteca Avenue and 27th Avenue	CONTACT: Katie Lister
CITY/STATE: Stratford CA	INQUIRY #: 06814563.10r
ZIP: 93266	DATE: 01/11/22

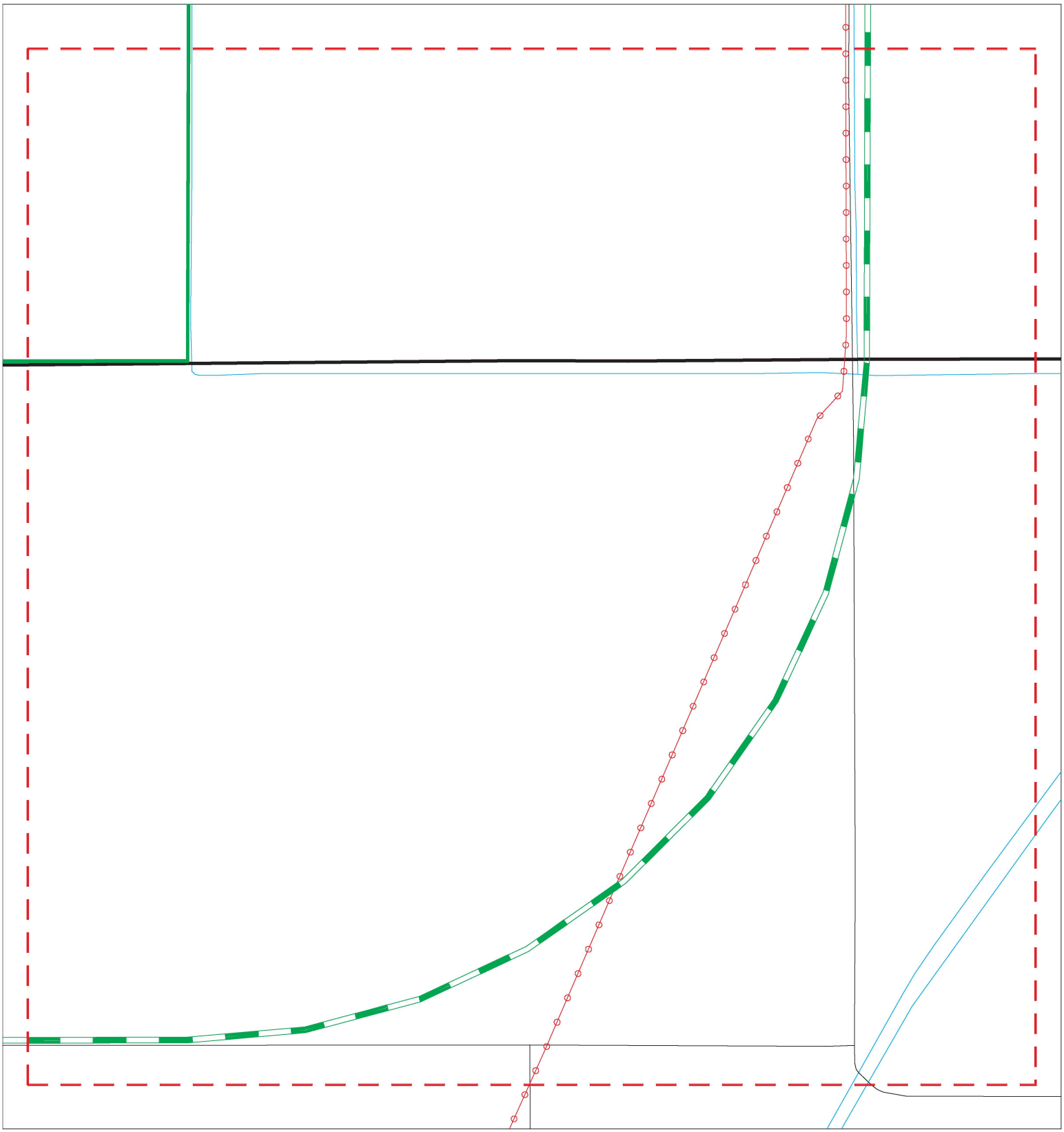
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MAPPED SITES SUMMARY - FOCUS MAP 8

Target Property:
MANTECA AVENUE AND 27TH AVENUE
STRATFORD, CA 93266

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
3 / 8	LEMOORE AUXILIARY FI		FUDS	TP

Focus Map - 9 - 06814563.10r



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
National Priority List Sites
Areas of Concern
Dept. Defense Sites
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: Cherry 2 Solar	CLIENT: MooreTwining Associates, Inc.
ADDRESS: Manteca Avenue and 27th Avenue	CONTACT: Katie Lister
CITY/STATE: Stratford CA	INQUIRY #: 06814563.10r
ZIP: 93266	DATE: 01/11/22

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MAPPED SITES SUMMARY - FOCUS MAP 9

Target Property:
MANTECA AVENUE AND 27TH AVENUE
STRATFORD, CA 93266

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

1 **CEMETARY PIT** **MINES** **S117661277**
Target Property **, CA** **N/A**

Actual: 250 ft.
Focus Map: 4

MINES:

Name:	CEMETARY PIT
Address:	Not reported
City,State,Zip:	CA
Latitude:	36.147222
Longitude:	-119.958333
Lead Agency identification code:	54
Lead Agency name:	County of Tulare
Year of the operator supplied annual report:	2002
Type of report submitted by operator:	2
Number of acres disturbed by the mine:	0
Status of mining operation:	RECLAIMED
Status of mine reclamation:	RECLAMATION CERTIFIED COMPLETE BY LEAD AGENCY
Mine operator:	GILL
Operator Address:	27600 AVENUE 196
Operator City, State, Zip:	STRATHMORE, CA 93267
Operator County:	Not reported
Mine owner:	GILL
Owner Address:	27600 AVENUE 196
Owner City, State, Zip:	STRATHMORE, CA 93267
Owner County:	Not reported
Reclamation plan identification number:	Not reported
Primary product produced by the mine:	Decomposed Granite
Other products produced by the mine:	Not reported
Conditional use permit identification number:	PMR 91-003
Number of acres permitted for mining disturbance:	19
Total amount of funds posted by the mine for reclamation:	Not reported
Financial Assurance Cost Estimate for reclamation:	Not reported
X Coordinates:	-13353700.546
Y Coordinates:	4320897.8471

---

2 **LEMOORE NAS - LEMOORE AUXILIARY FIELD** **MCS** **S109117986**
Target Property **NEVADA AVENUE** **CERS** **N/A**
STRATFORD, CA

Actual: 245 ft.
Focus Map: 5

MCS:

Name:	LEMOORE NAS - LEMOORE AUXILIARY FIELD
Address:	NEVADA AVENUE
City,State,Zip:	STRATFORD, CA
Global Id:	SL0603111371
Latitude:	36.1454
Longitude:	-119.9504
Case Type:	Military Cleanup Site
Status:	Completed - Case Closed
Status Date:	04/13/2011
Lead Agency:	CENTRAL VALLEY RWQCB (REGION 5F)
Caseworker:	PBD
Local Agency:	DEPARTMENT OF TOXIC SUBSTANCES CONTROL
RB Case Number:	Not reported
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Not reported
EDR Link ID:	SL0603111371
Potential Contaminants of Concern:	Not reported
Site History:	The case was opened based upon information that the site existed found in the DTSC Envirostor Database. No other information is

LEMOORE NAS - LEMOORE AUXILIARY FIELD (Continued) **S109117986**

available at this time. Click on the "Associated Envirostor Projects" link located in the upper left corner of this web page and you will be directed to Envirostor. The Site is also known as Lemoore Auxiliary Field No. 4 or Murray Auxiliary Field No. 4 and by the Formerly Used Defense Site (FUDS) ID No. J09CA0848. Records indicate that the Site operated from 1942 through July 1947. The Site was on 621.76 acres in Section 31, Township 20 South, Range 19 East, Mount Diablo Baseline and Meridian. This Site was one of seven Auxiliary Air Fields Associated with the former Lemoore Army Air Field - Lemoore Basic Flying School (not to be confused with the current NAS Lemoore). A no defense action indicated determination (NDAI) concluded by the US Army Corps of Engineers was agreed to by Department of Toxic Substances Contol (DTSC). The Central Valley Water Board did not issue a review of the NDAI determination but deferred to DTSC's determination for the site.

Click here to access the California GeoTracker records for this facility:

CERS:

Name:	LEMOORE NAS - LEMOORE AUXILIARY FIELD
Address:	NEVADA AVENUE
City,State,Zip:	STRATFORD, CA
Site ID:	201098
CERS ID:	SL0603111371
CERS Description:	Military Cleanup Site

Affiliation:

Affiliation Type Desc:	Local Agency Caseworker
Entity Name:	Donn Diebert - DEPARTMENT OF TOXIC SUBSTANCES CONTROL
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	SACRAMENTO
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	9162553728

Affiliation Type Desc:	Regional Board Caseworker
Entity Name:	PAUL DOTSON - CENTRAL VALLEY RWQCB (REGION 5F)
Entity Title:	Not reported
Affiliation Address:	1685 E Street
Affiliation City:	FRESNO
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	5594455525

3 **LEMOORE AUXILIARY FIELD NO. 4** **FUDS** **1024903754**
Target Property **LEMOORE, CA** **N/A**

Actual:
244 ft.

Focus Map:
8

FUDS:

EPA Region:	9
Installation ID:	CA99799F577800
Congressional District Number:	21
Name:	LEMOORE AUXILIARY FIELD NO. 4
FUDS Number:	J09CA0848
City:	LEMOORE
State:	CA
County:	KINGS
Object ID:	542
USACE Division:	SPD
USACE District:	Sacramento District (SPK)
Status:	Properties without projects
Current Owner:	Not reported
EMS Map Link:	https://fudsportal.usace.army.mil/ems/ems/inventory/map/map?id=61268
Eligibility:	Ineligible
Has Projects:	No
NPL Status:	Not on the NPL
Property History:	In 1942, the Army acquired by fee 621.76 acres of agricultural land from Charles C. Newport Et Ux and Gertrude M.
Project Required:	No
Feature Description:	In 1942, the Army acquired by fee 621.76 acres of agricultural land from Charles C. Newport Et Ux and Gertrude M.
Latitude:	36.141944440000003
Longitude:	-119.94944443999999

Count: 12 records

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
KETTLEMAN CITY	S122247804	HENRIETTA TULARE LAKE 70KV RECONDUCTOR	NEVADA AVENUE	93239	NPDES
STRATFORD	S124832711	STONE LAND CO	28521 NEVADA AVE	93266	HWTS
STRATFORD	S127124729	AK CORAL CAY TRUST DBA LAKESHORE DAIRY	15978 MANTECA AVE	93266	HWTS
STRATFORD	S124668873	LAKESHORE DAIRY LLC	15978 MANTECA AVE	93266	HWTS
STRATFORD	U001582660	SUPER KAT INC II	NEVADA AVE	93266	HIST UST
STRATFORD	S118465653		HWY 41 JUST SOUTH OF NEVADA AVE	93266	CHMIRS
STRATFORD	1024802534	STONE LAND CO	28521 NEVADA AVE	93266	RCRA NonGen / NLR
STRATFORD	1026722311	AK CORAL CAY TRUST DBA LAKESHORE DAIRY	15978 MANTECA AVE	93266	RCRA NonGen / NLR
STRATFORD	1023329966	LEMOORE NAS - LEMOORE AUXILIARY FIELD	NEVADA AVENUE	93266	FINDS
STRATFORD	1023229446	LAKESHORE DAIRY	15978 MANTECA AVE	93266	FINDS
STRATFORD	1026741524	AK CORAL CAY TRUST DBA LAKESHORE DAIRY	15978 MANTECA AVE	93266	ECHO
STRATFORD	S110761549	STONE LAND CO	28521 NEVADA	93266	CUPA Listings

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/20/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 24

Source: EPA
Telephone: N/A
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/11/2022
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 10/20/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 24

Source: EPA
Telephone: N/A
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/11/2022
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/20/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 24

Source: EPA
Telephone: N/A
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/11/2022
Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 05/25/2021
Date Data Arrived at EDR: 06/24/2021
Date Made Active in Reports: 09/20/2021
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/11/2022
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/20/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 24

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/01/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 10/20/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 24

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/01/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/17/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/17/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/17/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/17/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/17/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 07/12/2021
Date Data Arrived at EDR: 08/06/2021
Date Made Active in Reports: 10/22/2021
Number of Days to Update: 77

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 11/08/2021
Next Scheduled EDR Contact: 02/21/2022
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/23/2021
Date Data Arrived at EDR: 08/23/2021
Date Made Active in Reports: 11/12/2021
Number of Days to Update: 81

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/18/2021
Next Scheduled EDR Contact: 03/06/2022
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 08/23/2021
Date Data Arrived at EDR: 08/23/2021
Date Made Active in Reports: 11/12/2021
Number of Days to Update: 81

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/19/2021
Next Scheduled EDR Contact: 03/07/2022
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/21/2021
Date Made Active in Reports: 12/15/2021
Number of Days to Update: 85

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/16/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Quarterly

Lists of state- and tribal (Superfund) equivalent sites

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 07/22/2021
Date Data Arrived at EDR: 07/22/2021
Date Made Active in Reports: 10/08/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/26/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Quarterly

Lists of state- and tribal hazardous waste facilities

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 07/22/2021
Date Data Arrived at EDR: 07/22/2021
Date Made Active in Reports: 10/08/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/26/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Quarterly

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/09/2021
Date Data Arrived at EDR: 08/10/2021
Date Made Active in Reports: 11/05/2021
Number of Days to Update: 87

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 11/09/2021
Next Scheduled EDR Contact: 02/21/2022
Data Release Frequency: Quarterly

Lists of state and tribal leaking storage tanks

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/07/2021
Date Data Arrived at EDR: 09/07/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Quarterly

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/06/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 11/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 11/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 11/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 11/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 06/01/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 11/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/28/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/17/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 11/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 05/28/2021
Date Data Arrived at EDR: 06/22/2021
Date Made Active in Reports: 09/20/2021
Number of Days to Update: 90

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 11/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/07/2021
Date Data Arrived at EDR: 09/07/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35
Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36
Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11
Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

Lists of state and tribal registered storage tanks

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/29/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 33
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 12/18/2021
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 09/07/2021
Date Data Arrived at EDR: 09/07/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Varies

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases

UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 08/18/2021
Date Data Arrived at EDR: 09/08/2021
Date Made Active in Reports: 12/03/2021
Number of Days to Update: 86

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Varies

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 09/07/2021
Date Data Arrived at EDR: 09/07/2021
Date Made Active in Reports: 11/30/2021
Number of Days to Update: 84

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 12/08/2021
Next Scheduled EDR Contact: 03/28/2022
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 11/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 11/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 06/01/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 11/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/06/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 11/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 11/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/28/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 05/28/2021
Date Data Arrived at EDR: 06/22/2021
Date Made Active in Reports: 09/20/2021
Number of Days to Update: 90

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 11/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/17/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 11/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

Lists of state and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 07/22/2021
Date Data Arrived at EDR: 07/22/2021
Date Made Active in Reports: 10/08/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/26/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Quarterly

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/14/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Varies

Lists of state and tribal brownfield sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 09/20/2021
Date Data Arrived at EDR: 09/21/2021
Date Made Active in Reports: 12/08/2021
Number of Days to Update: 78

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 12/16/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/10/2021
Date Data Arrived at EDR: 06/10/2021
Date Made Active in Reports: 08/17/2021
Number of Days to Update: 68

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/08/2021
Next Scheduled EDR Contact: 03/28/2022
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 09/07/2021
Date Data Arrived at EDR: 09/08/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 82

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 09/14/2021
Date Data Arrived at EDR: 11/11/2021
Date Made Active in Reports: 11/23/2021
Number of Days to Update: 12

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 11/05/2021
Next Scheduled EDR Contact: 02/21/2022
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Varies

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/14/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 10/28/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 05/18/2021
Date Data Arrived at EDR: 05/18/2021
Date Made Active in Reports: 08/03/2021
Number of Days to Update: 77

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/16/2021
Next Scheduled EDR Contact: 03/07/2022
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 07/22/2021
Date Data Arrived at EDR: 07/22/2021
Date Made Active in Reports: 10/08/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/26/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/08/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 12/28/2021
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 07/15/2021
Date Data Arrived at EDR: 07/15/2021
Date Made Active in Reports: 10/06/2021
Number of Days to Update: 83

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 10/19/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/18/2021
Date Data Arrived at EDR: 05/18/2021
Date Made Active in Reports: 08/03/2021
Number of Days to Update: 77

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/16/2021
Next Scheduled EDR Contact: 03/07/2022
Data Release Frequency: Quarterly

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 09/07/2021
Date Data Arrived at EDR: 09/08/2021
Date Made Active in Reports: 12/01/2021
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Varies

AQUEOUS FOAM: Former Fire Training Facility Assessments Listing

Airports shown on this list are those believed to use Aqueous Film Forming Foam (AFFF), and certified by the Federal Aviation Administration (FAA) under Title 14, Code of Federal Regulations (CFR), Part 139 (14 CFR Part 139). This list was created by SWRCB using information available from the FAA. Location points shown are from the latitude and longitude listed on the FAA airport master record.

Date of Government Version: 12/01/2019
Date Data Arrived at EDR: 08/19/2021
Date Made Active in Reports: 10/28/2021
Number of Days to Update: 70

Source: State Water Resources Control Board
Telephone: 916-341-5455
Last EDR Contact: 12/10/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Varies

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing
Aboveground storage tank sites

Date of Government Version: 08/05/2021
Date Data Arrived at EDR: 08/05/2021
Date Made Active in Reports: 10/29/2021
Number of Days to Update: 85

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 10/31/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CERS TANKS: California Environmental Reporting System (CERS) Tanks
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 07/15/2021
Date Data Arrived at EDR: 07/15/2021
Date Made Active in Reports: 10/06/2021
Number of Days to Update: 83

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/19/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 08/25/2021
Date Data Arrived at EDR: 09/03/2021
Date Made Active in Reports: 11/22/2021
Number of Days to Update: 80

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/22/2021
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 10/20/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 24

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/11/2022
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 08/30/2021
Date Data Arrived at EDR: 08/31/2021
Date Made Active in Reports: 11/19/2021
Number of Days to Update: 80
Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 11/30/2021
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/12/2021
Date Data Arrived at EDR: 09/13/2021
Date Made Active in Reports: 09/28/2021
Number of Days to Update: 15
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 12/16/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 06/30/2021
Date Data Arrived at EDR: 07/15/2021
Date Made Active in Reports: 10/06/2021
Number of Days to Update: 83
Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/19/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/07/2021
Date Data Arrived at EDR: 09/07/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 83
Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/07/2021
Date Data Arrived at EDR: 09/07/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/17/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 08/10/2021
Date Data Arrived at EDR: 08/17/2021
Date Made Active in Reports: 10/22/2021
Number of Days to Update: 66

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 11/16/2021
Next Scheduled EDR Contact: 02/28/2022
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/15/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/07/2022
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 11/08/2021
Next Scheduled EDR Contact: 02/21/2022
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 09/28/2021
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 12/17/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 11/01/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 11/05/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/17/2020
Date Made Active in Reports: 09/10/2020
Number of Days to Update: 85

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/17/2021
Next Scheduled EDR Contact: 03/28/2022
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 08/14/2020
Date Made Active in Reports: 11/04/2020
Number of Days to Update: 82

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 11/16/2021
Next Scheduled EDR Contact: 02/28/2022
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 10/18/2021
Date Data Arrived at EDR: 10/20/2021
Date Made Active in Reports: 01/10/2022
Number of Days to Update: 82

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/20/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 10/20/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 24

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 12/01/2021
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 10/20/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 11/12/2021
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/18/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 10/20/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 12/15/2021
Number of Days to Update: 40
Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 12/01/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 11/19/2020
Date Data Arrived at EDR: 01/08/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 73
Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/07/2022
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/24/2021
Date Made Active in Reports: 11/19/2021
Number of Days to Update: 87
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 10/18/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 70
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 11/30/2021
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 12/02/2021
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 11/05/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 12/27/2021
Next Scheduled EDR Contact: 04/11/2022
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/26/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2021
Date Data Arrived at EDR: 10/13/2021
Date Made Active in Reports: 01/10/2022
Number of Days to Update: 89

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/03/2022
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 12/14/2021
Number of Days to Update: 90

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 12/17/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/04/2022
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 07/26/2021
Date Data Arrived at EDR: 07/27/2021
Date Made Active in Reports: 10/22/2021
Number of Days to Update: 87

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 11/01/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 12/09/2021
Next Scheduled EDR Contact: 02/28/2022
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 10/20/2021
Date Data Arrived at EDR: 11/05/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 24

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/11/2022
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/09/2021
Date Data Arrived at EDR: 08/24/2021
Date Made Active in Reports: 11/19/2021
Number of Days to Update: 87

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 11/22/2021
Next Scheduled EDR Contact: 03/07/2022
Data Release Frequency: Semi-Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 06/30/2021
Date Data Arrived at EDR: 07/01/2021
Date Made Active in Reports: 09/28/2021
Number of Days to Update: 89

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 12/20/2021
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: Quarterly

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/27/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 78

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/22/2021
Next Scheduled EDR Contact: 03/07/2022
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/22/2021
Next Scheduled EDR Contact: 03/07/2022
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/14/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 12/15/2021
Number of Days to Update: 91

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 12/14/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 05/05/2021
Date Data Arrived at EDR: 05/18/2021
Date Made Active in Reports: 08/17/2021
Number of Days to Update: 91

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 11/22/2021
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 07/02/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 77

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 10/07/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing
A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82
Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 11/23/2021
Next Scheduled EDR Contact: 03/07/2022
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information
ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 01/01/2022
Date Data Arrived at EDR: 01/04/2022
Date Made Active in Reports: 01/10/2022
Number of Days to Update: 6
Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 01/04/2022
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/13/2021
Date Data Arrived at EDR: 08/13/2021
Date Made Active in Reports: 10/22/2021
Number of Days to Update: 70
Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 11/15/2021
Next Scheduled EDR Contact: 02/28/2022
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6
Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 09/20/2021
Date Data Arrived at EDR: 09/21/2021
Date Made Active in Reports: 12/08/2021
Number of Days to Update: 78
Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 12/16/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing
list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 64
Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 11/19/2021
Next Scheduled EDR Contact: 02/21/2022
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 08/27/2021
Date Data Arrived at EDR: 09/01/2021
Date Made Active in Reports: 11/19/2021
Number of Days to Update: 79

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 01/07/2022
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: Annually

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 08/24/2021
Date Data Arrived at EDR: 08/25/2021
Date Made Active in Reports: 11/17/2021
Number of Days to Update: 84

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 11/23/2021
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 08/18/2021
Date Data Arrived at EDR: 08/23/2021
Date Made Active in Reports: 11/12/2021
Number of Days to Update: 81

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 11/16/2021
Next Scheduled EDR Contact: 03/07/2022
Data Release Frequency: Varies

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 06/10/2021
Date Made Active in Reports: 08/27/2021
Number of Days to Update: 78

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 12/17/2021
Next Scheduled EDR Contact: 03/28/2022
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 04/16/2021
Date Data Arrived at EDR: 04/20/2021
Date Made Active in Reports: 07/07/2021
Number of Days to Update: 78

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/04/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 10/05/2021
Date Data Arrived at EDR: 10/06/2021
Date Made Active in Reports: 12/29/2021
Number of Days to Update: 84

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 10/05/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/13/2021
Date Data Arrived at EDR: 08/13/2021
Date Made Active in Reports: 11/05/2021
Number of Days to Update: 84

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 11/16/2021
Next Scheduled EDR Contact: 02/21/2022
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 04/15/2020
Date Made Active in Reports: 07/02/2020
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 01/07/2022
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 08/13/2021
Date Data Arrived at EDR: 08/13/2021
Date Made Active in Reports: 11/08/2021
Number of Days to Update: 87

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 11/15/2021
Next Scheduled EDR Contact: 02/28/2022
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/13/2021
Date Data Arrived at EDR: 08/13/2021
Date Made Active in Reports: 11/08/2021
Number of Days to Update: 87

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/15/2021
Next Scheduled EDR Contact: 02/28/2022
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 10/04/2021
Date Data Arrived at EDR: 10/05/2021
Date Made Active in Reports: 12/22/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 01/04/2022
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 09/07/2021
Date Data Arrived at EDR: 09/07/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 83

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 08/05/2021
Date Data Arrived at EDR: 08/31/2021
Date Made Active in Reports: 11/19/2021
Number of Days to Update: 80

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 11/30/2021
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 05/10/2021
Date Data Arrived at EDR: 05/11/2021
Date Made Active in Reports: 07/27/2021
Number of Days to Update: 77

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/09/2021
Next Scheduled EDR Contact: 02/21/2022
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 08/30/2021
Date Data Arrived at EDR: 08/31/2021
Date Made Active in Reports: 11/19/2021
Number of Days to Update: 80

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 11/30/2021
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 06/04/2021
Date Data Arrived at EDR: 06/04/2021
Date Made Active in Reports: 08/27/2021
Number of Days to Update: 84

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 11/29/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 03/12/2021
Date Data Arrived at EDR: 03/16/2021
Date Made Active in Reports: 06/01/2021
Number of Days to Update: 77

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 12/08/2021
Next Scheduled EDR Contact: 03/28/2022
Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/25/2021
Number of Days to Update: 83

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 09/07/2021
Date Data Arrived at EDR: 09/07/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 83
Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 07/01/2021
Date Made Active in Reports: 09/29/2021
Number of Days to Update: 90
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 01/07/2022
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9
Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 11/15/2021
Next Scheduled EDR Contact: 02/28/2022
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 12/14/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 09/07/2021
Date Data Arrived at EDR: 09/07/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 09/07/2021
Date Data Arrived at EDR: 09/07/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 83
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing
In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 09/07/2021
Date Data Arrived at EDR: 09/08/2021
Date Made Active in Reports: 12/01/2021
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 08/30/2021
Date Data Arrived at EDR: 08/31/2021
Date Made Active in Reports: 11/19/2021
Number of Days to Update: 80

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 11/30/2021
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 07/15/2021
Date Data Arrived at EDR: 07/15/2021
Date Made Active in Reports: 10/06/2021
Number of Days to Update: 83

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/19/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 09/07/2021
Date Data Arrived at EDR: 09/07/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 09/07/2021
Date Data Arrived at EDR: 09/07/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 09/07/2021
Date Data Arrived at EDR: 09/07/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)

Sampling point - public sites

Date of Government Version: 09/07/2021
Date Data Arrived at EDR: 09/07/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)

Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 09/07/2021
Date Data Arrived at EDR: 09/07/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Varies

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Varies

HWTS: Hazardous Waste Tracking System

DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 07/13/2021
Date Data Arrived at EDR: 07/14/2021
Date Made Active in Reports: 10/06/2021
Number of Days to Update: 84

Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 01/03/2022
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Varies

PCS INACTIVE: Listing of Inactive PCS Permits

An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Semi-Annually

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Semi-Annually

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 11/23/2021
Next Scheduled EDR Contact: 03/07/2022
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 12/28/2021
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 09/30/2021
Date Data Arrived at EDR: 10/01/2021
Date Made Active in Reports: 12/15/2021
Number of Days to Update: 75

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 12/28/2021
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List

Cupa Facility List

Date of Government Version: 08/05/2021
Date Data Arrived at EDR: 08/06/2021
Date Made Active in Reports: 09/17/2021
Number of Days to Update: 42

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 12/28/2021
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 09/15/2021
Date Data Arrived at EDR: 09/16/2021
Date Made Active in Reports: 12/09/2021
Number of Days to Update: 84

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 12/28/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 78

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 07/20/2021
Date Data Arrived at EDR: 07/20/2021
Date Made Active in Reports: 10/11/2021
Number of Days to Update: 83

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 06/29/2021
Date Data Arrived at EDR: 07/23/2021
Date Made Active in Reports: 10/08/2021
Number of Days to Update: 77

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Varies

EL DORADO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/30/2021
Date Data Arrived at EDR: 08/03/2021
Date Made Active in Reports: 10/26/2021
Number of Days to Update: 84

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 11/16/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 04/09/2021
Date Data Arrived at EDR: 06/23/2021
Date Made Active in Reports: 09/17/2021
Number of Days to Update: 86

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 12/21/2021
Next Scheduled EDR Contact: 04/11/2022
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 07/13/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/12/2021
Date Data Arrived at EDR: 08/12/2021
Date Made Active in Reports: 11/08/2021
Number of Days to Update: 88

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 11/11/2021
Next Scheduled EDR Contact: 02/28/2022
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 07/13/2021
Date Data Arrived at EDR: 07/15/2021
Date Made Active in Reports: 10/06/2021
Number of Days to Update: 83

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 11/11/2021
Next Scheduled EDR Contact: 02/28/2022
Data Release Frequency: Varies

KERN COUNTY:

CUPA KERN: CUPA Facility List
A listing of sites included in the Kern County Hazardous Material Business Plan.

Date of Government Version: 07/06/2021
Date Data Arrived at EDR: 08/12/2021
Date Made Active in Reports: 10/07/2021
Number of Days to Update: 56

Source: Kern County Public Health
Telephone: 661-321-3000
Last EDR Contact: 11/11/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Varies

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 07/06/2021
Date Data Arrived at EDR: 08/12/2021
Date Made Active in Reports: 08/18/2021
Number of Days to Update: 6

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 11/11/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 12/03/2020
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/14/2021
Number of Days to Update: 78

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 12/22/2021
Next Scheduled EDR Contact: 02/28/2022
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 07/27/2021
Date Data Arrived at EDR: 07/28/2021
Date Made Active in Reports: 10/21/2021
Number of Days to Update: 85

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 01/10/2022
Next Scheduled EDR Contact: 04/25/2022
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 07/31/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 80

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 11/11/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 12/08/2021
Next Scheduled EDR Contact: 03/28/2022
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 07/08/2021
Date Data Arrived at EDR: 07/09/2021
Date Made Active in Reports: 09/29/2021
Number of Days to Update: 82

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 12/28/2021
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 10/08/2021
Date Data Arrived at EDR: 10/08/2021
Date Made Active in Reports: 12/29/2021
Number of Days to Update: 82

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/08/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2021
Date Data Arrived at EDR: 02/18/2021
Date Made Active in Reports: 05/10/2021
Number of Days to Update: 81

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 01/07/2022
Next Scheduled EDR Contact: 04/25/2022
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 12/16/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills

This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 10/12/2021
Date Data Arrived at EDR: 10/13/2021
Date Made Active in Reports: 01/04/2022
Number of Days to Update: 83

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 01/07/2022
Next Scheduled EDR Contact: 04/25/2022
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory

A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 04/19/2021
Date Data Arrived at EDR: 06/17/2021
Date Made Active in Reports: 06/28/2021
Number of Days to Update: 11

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 12/17/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory

A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 04/19/2021
Date Data Arrived at EDR: 06/17/2021
Date Made Active in Reports: 09/14/2021
Number of Days to Update: 89

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 12/17/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 05/26/2021
Date Data Arrived at EDR: 07/09/2021
Date Made Active in Reports: 09/29/2021
Number of Days to Update: 82

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/15/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 01/07/2022
Next Scheduled EDR Contact: 04/25/2022
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/14/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 02/02/2021
Date Data Arrived at EDR: 04/28/2021
Date Made Active in Reports: 07/13/2021
Number of Days to Update: 76

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 72

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 11/11/2021
Next Scheduled EDR Contact: 02/28/2022
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 12/20/2021
Next Scheduled EDR Contact: 04/11/2022
Data Release Frequency: Semi-Annually

MENDOCINO COUNTY:

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/22/2021
Date Data Arrived at EDR: 11/18/2021
Date Made Active in Reports: 11/22/2021
Number of Days to Update: 4

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 11/16/2021
Next Scheduled EDR Contact: 03/07/2022
Data Release Frequency: Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 08/11/2021
Date Data Arrived at EDR: 08/12/2021
Date Made Active in Reports: 11/08/2021
Number of Days to Update: 88

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 11/23/2021
Next Scheduled EDR Contact: 02/28/2022
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 03/02/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 78

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 12/28/2021
Next Scheduled EDR Contact: 06/06/3021
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 10/04/2021
Date Data Arrived at EDR: 10/06/2021
Date Made Active in Reports: 12/29/2021
Number of Days to Update: 84

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 01/07/2022
Next Scheduled EDR Contact: 04/11/2022
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/16/2021
Next Scheduled EDR Contact: 03/07/2022
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 11/16/2021
Next Scheduled EDR Contact: 03/07/2022
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/28/2021
Date Data Arrived at EDR: 07/28/2021
Date Made Active in Reports: 10/21/2021
Number of Days to Update: 85

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 07/09/2021
Date Data Arrived at EDR: 08/03/2021
Date Made Active in Reports: 10/26/2021
Number of Days to Update: 84

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 07/09/2021
Date Data Arrived at EDR: 08/03/2021
Date Made Active in Reports: 10/26/2021
Number of Days to Update: 84

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 07/09/2021
Date Data Arrived at EDR: 07/29/2021
Date Made Active in Reports: 10/19/2021
Number of Days to Update: 82

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 09/07/2021
Date Data Arrived at EDR: 09/09/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 81

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 11/23/2021
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 10/14/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 09/29/2021
Date Data Arrived at EDR: 09/30/2021
Date Made Active in Reports: 12/14/2021
Number of Days to Update: 75

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/08/2021
Next Scheduled EDR Contact: 03/28/2022
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 09/29/2021
Date Data Arrived at EDR: 09/30/2021
Date Made Active in Reports: 12/15/2021
Number of Days to Update: 76
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 12/08/2021
Next Scheduled EDR Contact: 03/28/2022
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 06/18/2021
Date Data Arrived at EDR: 09/28/2021
Date Made Active in Reports: 12/14/2021
Number of Days to Update: 77
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/11/2022
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 08/02/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 11/02/2021
Number of Days to Update: 90
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 12/29/2021
Next Scheduled EDR Contact: 04/11/2022
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 07/27/2021
Date Data Arrived at EDR: 07/28/2021
Date Made Active in Reports: 10/21/2021
Number of Days to Update: 85
Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 08/11/2021
Date Data Arrived at EDR: 08/12/2021
Date Made Active in Reports: 11/08/2021
Number of Days to Update: 88
Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 11/01/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 08/30/2021
Date Data Arrived at EDR: 08/31/2021
Date Made Active in Reports: 11/19/2021
Number of Days to Update: 80

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 11/30/2021
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 02/08/2021
Number of Days to Update: 77

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 12/08/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing

A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 07/14/2020
Date Data Arrived at EDR: 07/16/2020
Date Made Active in Reports: 09/29/2020
Number of Days to Update: 75

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 10/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 11/23/2021
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

CUPA SAN FRANCISCO CO: CUPA Facility Listing

Cupa facilities

Date of Government Version: 08/05/2021
Date Data Arrived at EDR: 08/05/2021
Date Made Active in Reports: 10/29/2021
Number of Days to Update: 85

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 11/11/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Varies

LUST SAN FRANCISCO: Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 11/01/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 08/05/2021
Date Data Arrived at EDR: 08/05/2021
Date Made Active in Reports: 10/29/2021
Number of Days to Update: 85

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 10/31/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 09/09/2021
Next Scheduled EDR Contact: 12/27/2021
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 08/10/2021
Date Data Arrived at EDR: 08/11/2021
Date Made Active in Reports: 11/08/2021
Number of Days to Update: 89

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 11/11/2021
Next Scheduled EDR Contact: 02/28/2022
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 02/20/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 64

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/10/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 12/02/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 11/11/2021
Next Scheduled EDR Contact: 02/28/2022
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 08/04/2021
Date Data Arrived at EDR: 08/05/2021
Date Made Active in Reports: 10/29/2021
Number of Days to Update: 85

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 11/18/2021
Next Scheduled EDR Contact: 02/27/2022
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 11/16/2021
Next Scheduled EDR Contact: 03/07/2022
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 01/26/2021
Number of Days to Update: 82

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 11/23/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 11/11/2021
Next Scheduled EDR Contact: 02/28/2022
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 11/11/2021
Next Scheduled EDR Contact: 02/28/2022
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 11/23/2021
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 09/15/2021
Date Data Arrived at EDR: 09/16/2021
Date Made Active in Reports: 12/09/2021
Number of Days to Update: 84

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 11/23/2021
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 07/02/2021
Date Data Arrived at EDR: 07/06/2021
Date Made Active in Reports: 07/14/2021
Number of Days to Update: 8

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 12/14/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 06/30/2021
Date Data Arrived at EDR: 06/30/2021
Date Made Active in Reports: 09/24/2021
Number of Days to Update: 86

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 12/14/2021
Next Scheduled EDR Contact: 04/04/2022
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 05/14/2021
Date Data Arrived at EDR: 05/17/2021
Date Made Active in Reports: 08/03/2021
Number of Days to Update: 78

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 01/10/2022
Next Scheduled EDR Contact: 04/25/2022
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 08/23/2021
Date Data Arrived at EDR: 08/25/2021
Date Made Active in Reports: 11/17/2021
Number of Days to Update: 84

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 11/23/2021
Next Scheduled EDR Contact: 03/14/2022
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 01/13/2021
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 04/06/2021
Number of Days to Update: 82

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 12/20/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 07/14/2021
Date Data Arrived at EDR: 07/15/2021
Date Made Active in Reports: 10/06/2021
Number of Days to Update: 83

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 10/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 04/26/2021
Date Data Arrived at EDR: 04/28/2021
Date Made Active in Reports: 07/13/2021
Number of Days to Update: 76

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 11/01/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/14/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 05/26/2021
Date Data Arrived at EDR: 07/19/2021
Date Made Active in Reports: 10/08/2021
Number of Days to Update: 81
Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/18/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/20/2021
Next Scheduled EDR Contact: 04/11/2022
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/05/2021
Next Scheduled EDR Contact: 02/21/2022
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 05/26/2021
Date Data Arrived at EDR: 07/19/2021
Date Made Active in Reports: 10/07/2021
Number of Days to Update: 80
Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/18/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 07/26/2021
Date Data Arrived at EDR: 09/08/2021
Date Made Active in Reports: 11/29/2021
Number of Days to Update: 82
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/07/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 09/23/2021
Date Data Arrived at EDR: 09/28/2021
Date Made Active in Reports: 12/15/2021
Number of Days to Update: 78
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 12/20/2021
Next Scheduled EDR Contact: 04/11/2022
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 07/20/2021
Date Data Arrived at EDR: 07/20/2021
Date Made Active in Reports: 10/08/2021
Number of Days to Update: 80

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/23/2021
Date Data Arrived at EDR: 08/10/2021
Date Made Active in Reports: 11/08/2021
Number of Days to Update: 90

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/12/2021
Next Scheduled EDR Contact: 02/21/2022
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 01/07/2022
Next Scheduled EDR Contact: 04/18/2022
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/29/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 72

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/10/2022
Next Scheduled EDR Contact: 04/25/2022
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 02/24/2021
Number of Days to Update: 13

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/29/2021
Next Scheduled EDR Contact: 02/28/2022
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 12/06/2021
Next Scheduled EDR Contact: 03/21/2022
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

STREET AND ADDRESS INFORMATION

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Cherry 2 Solar

Manteca Avenue and 27th Avenue

Stratford, CA 93266

Inquiry Number: 6814563.8

January 14, 2022

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

01/14/22

Site Name:

Cherry 2 Solar
Manteca Avenue and 27th Ave
Stratford, CA 93266
EDR Inquiry # 6814563.8

Client Name:

MooreTwining Associates, Inc.
2527 Fresno Street
Fresno, CA 93721
Contact: Katie Lister

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2016	1"=1000'	Flight Year: 2016	USDA/NAIP
2012	1"=1000'	Flight Year: 2012	USDA/NAIP
2009	1"=1000'	Flight Year: 2009	USDA/NAIP
2005	1"=1000'	Flight Year: 2005	USDA/NAIP
1994	1"=1000'	Acquisition Date: January 01, 1994	USGS/DOQQ
1984	1"=1000'	Flight Date: January 01, 1984	USDA
1976	1"=1000'	Flight Date: January 01, 1976	USGS
1960	1"=1000'	Flight Date: January 01, 1960	USGS
1950	1"=1000'	Flight Date: January 01, 1950	USDA
1940	1"=1000'	Flight Date: January 01, 1940	USDA
1937	1"=1000'	Flight Date: January 01, 1937	USDA

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YEAR: 2016
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EDR
Subject boundary not shown because it exceeds image extent or image is not georeferenced.


INQUIRY #: 6814563.8
YEAR: 2016
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INQUIRY #: 6814563.8

YEAR: 2016

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INQUIRY #: 6814563.8

YEAR: 2012

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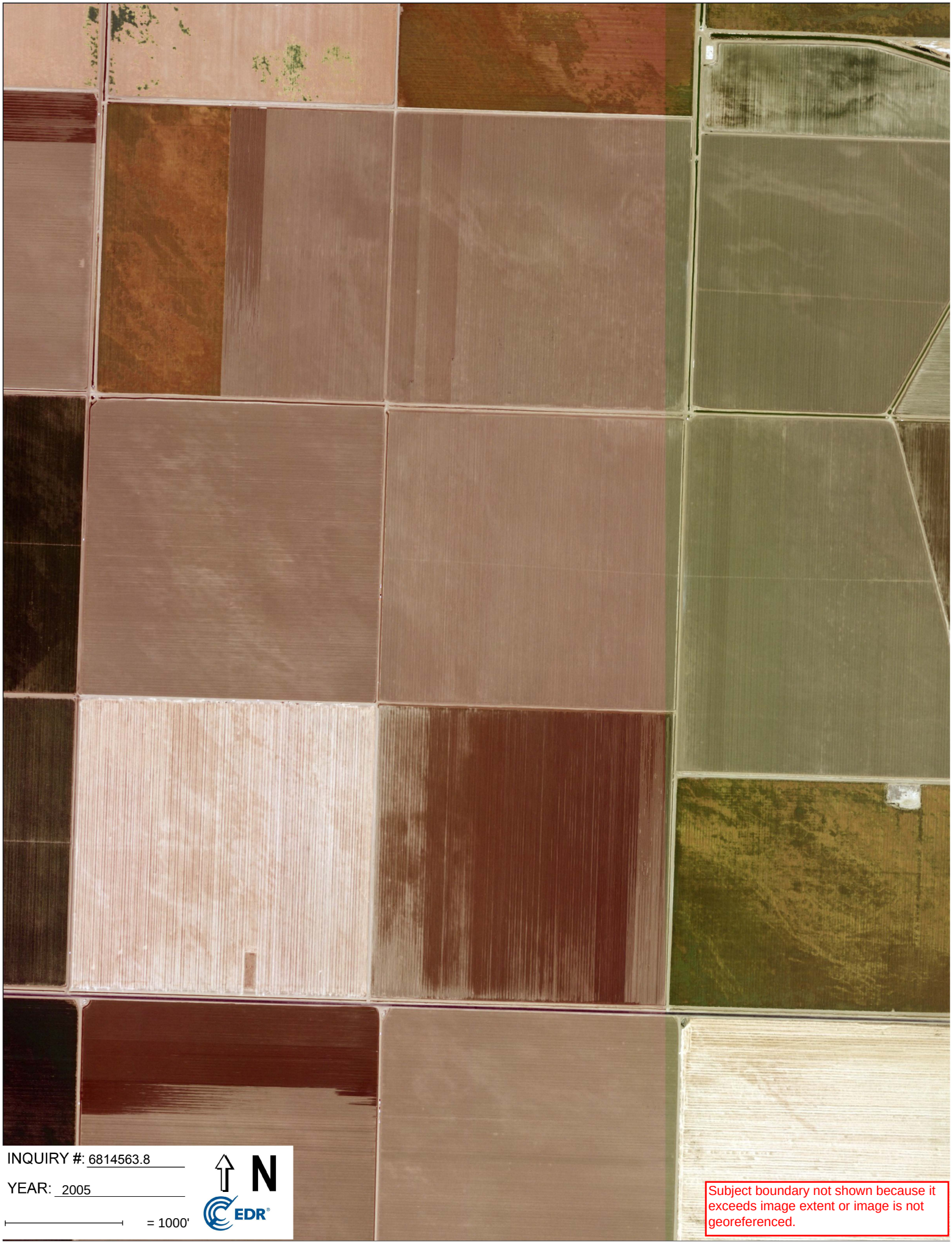
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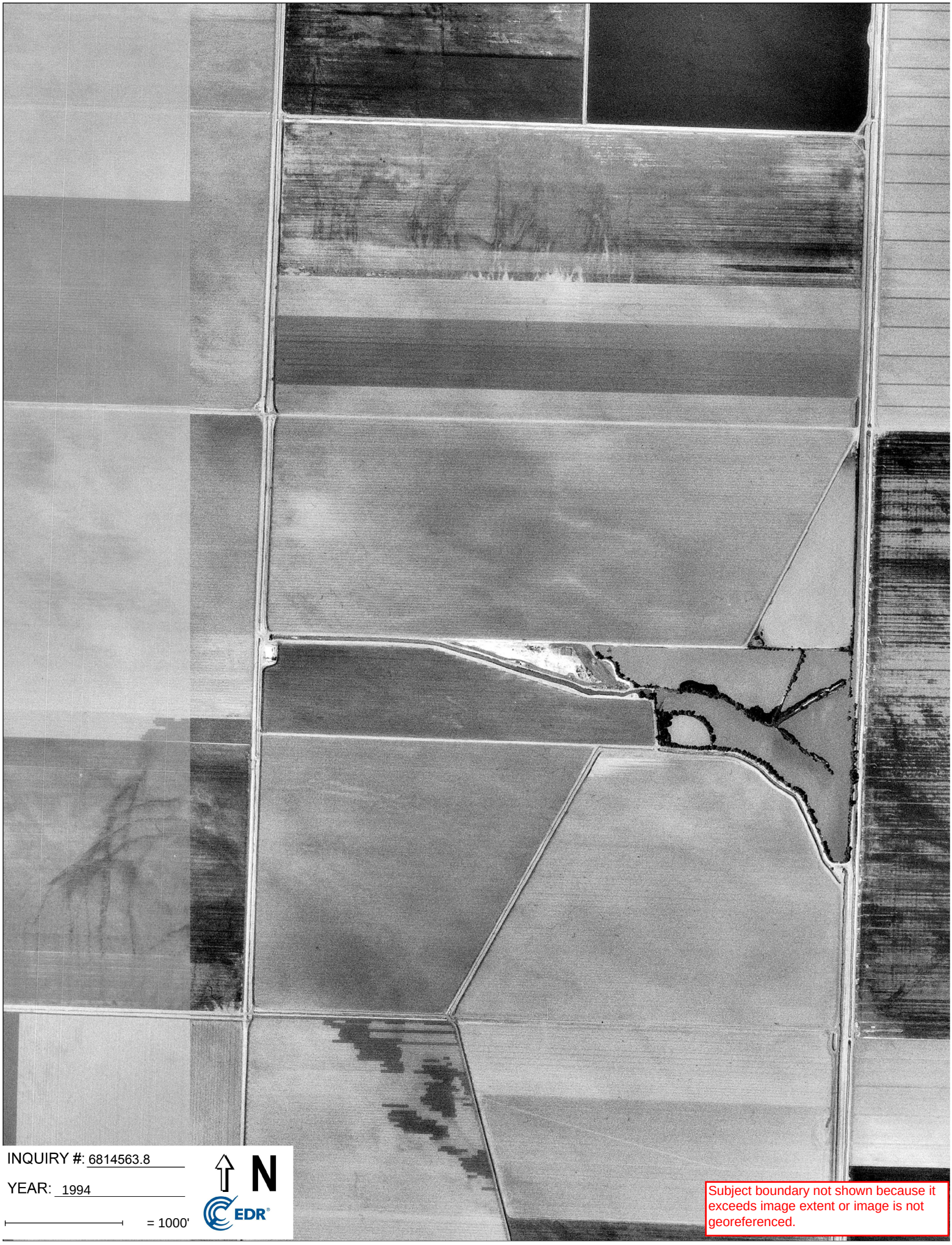
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YEAR: 1994

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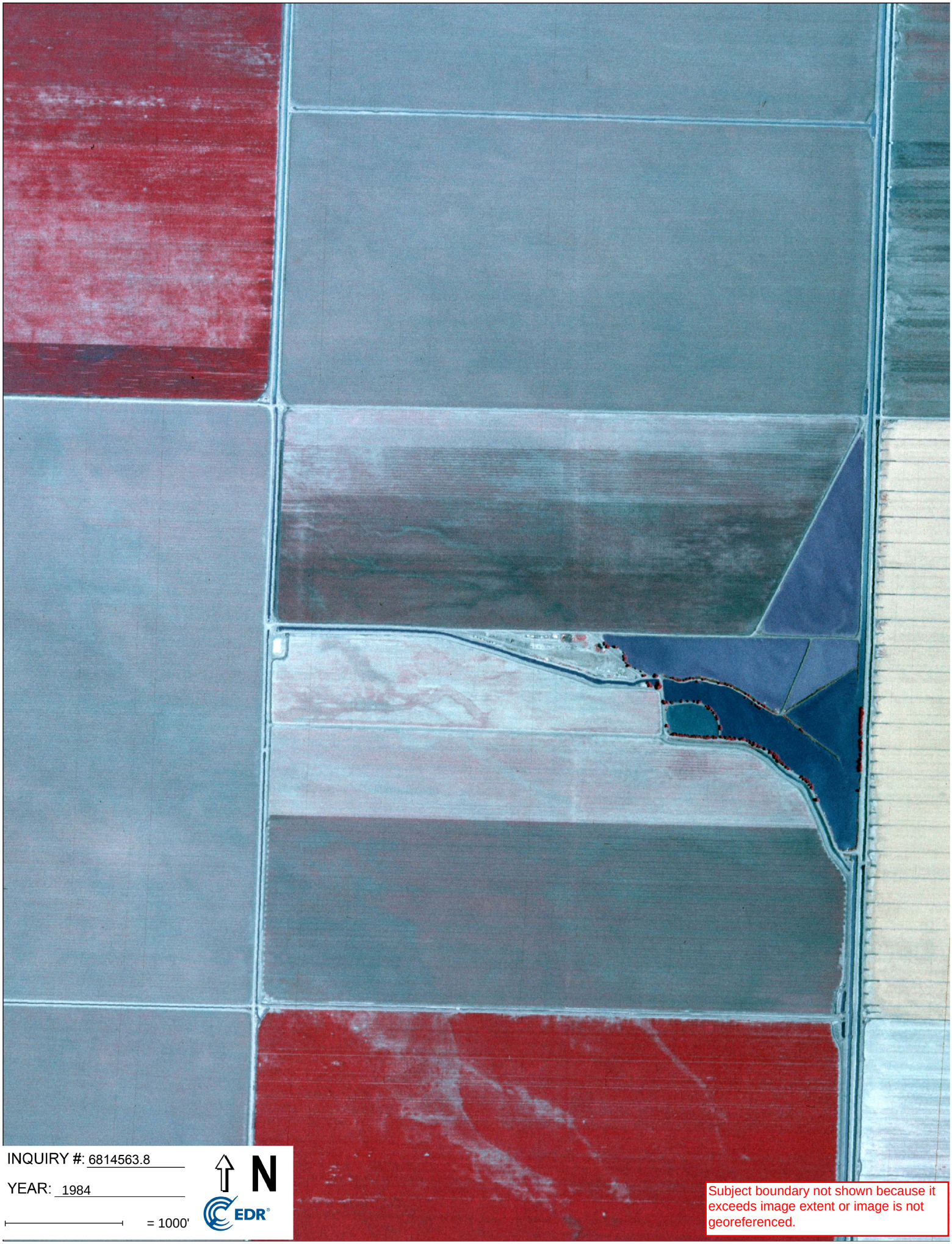
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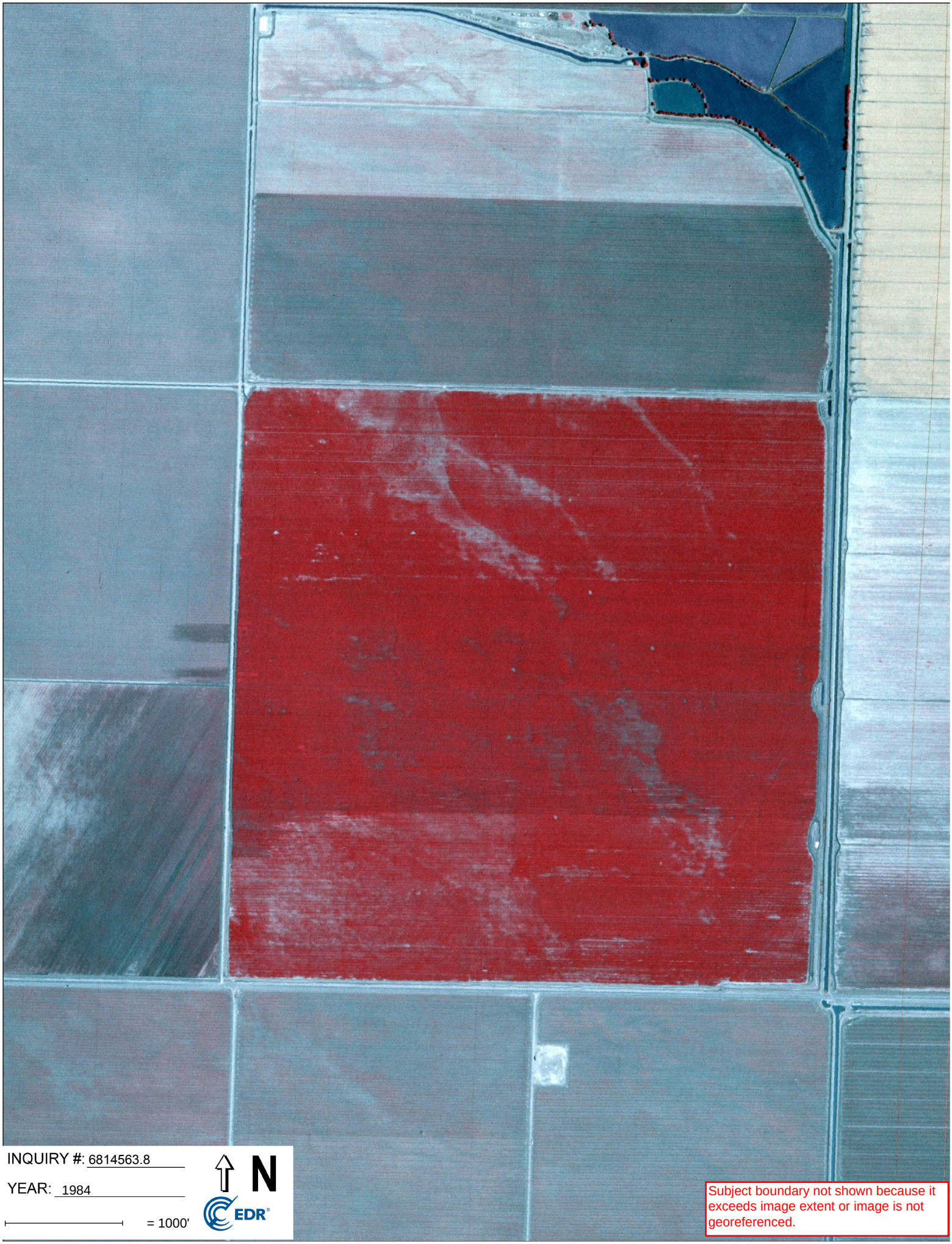
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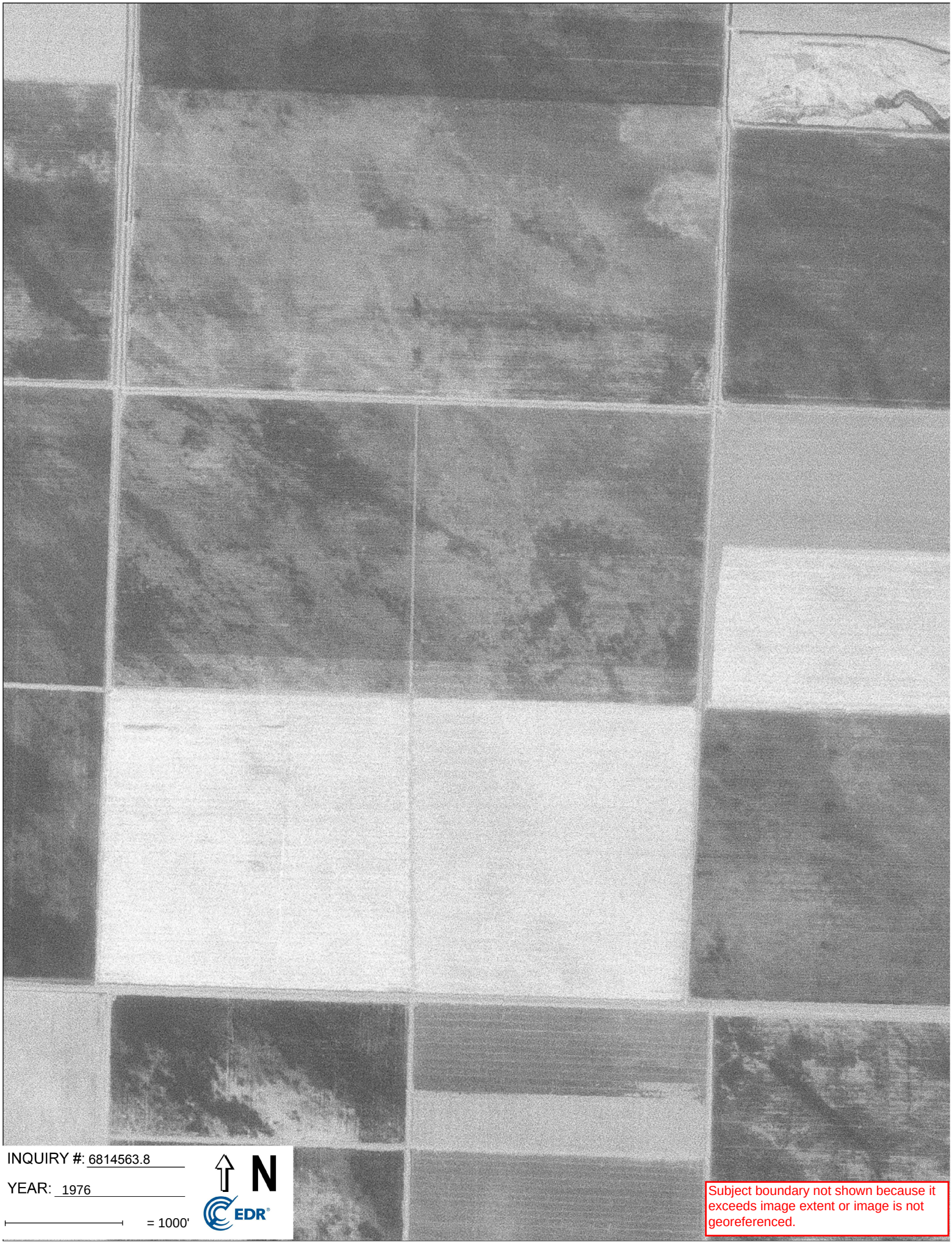
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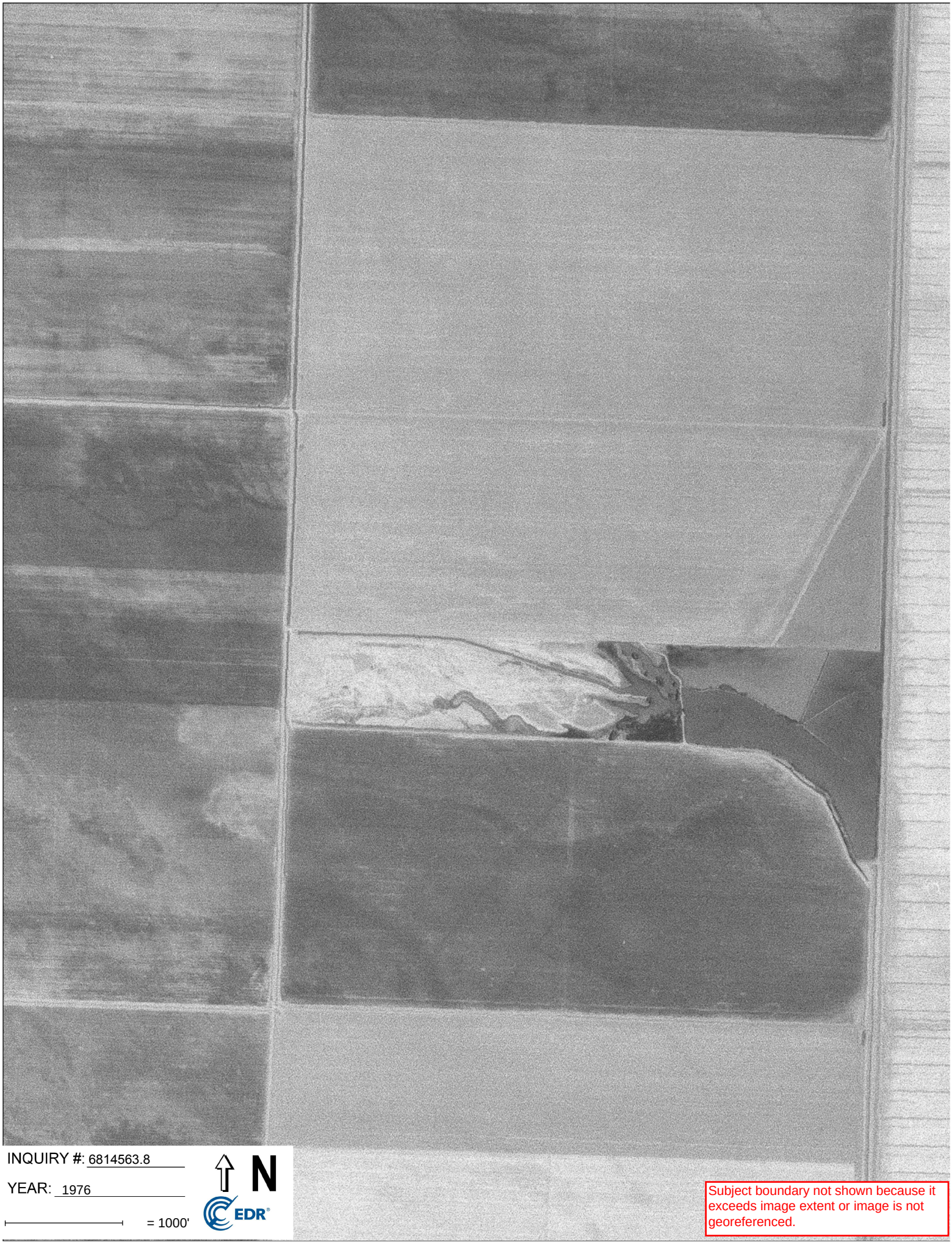
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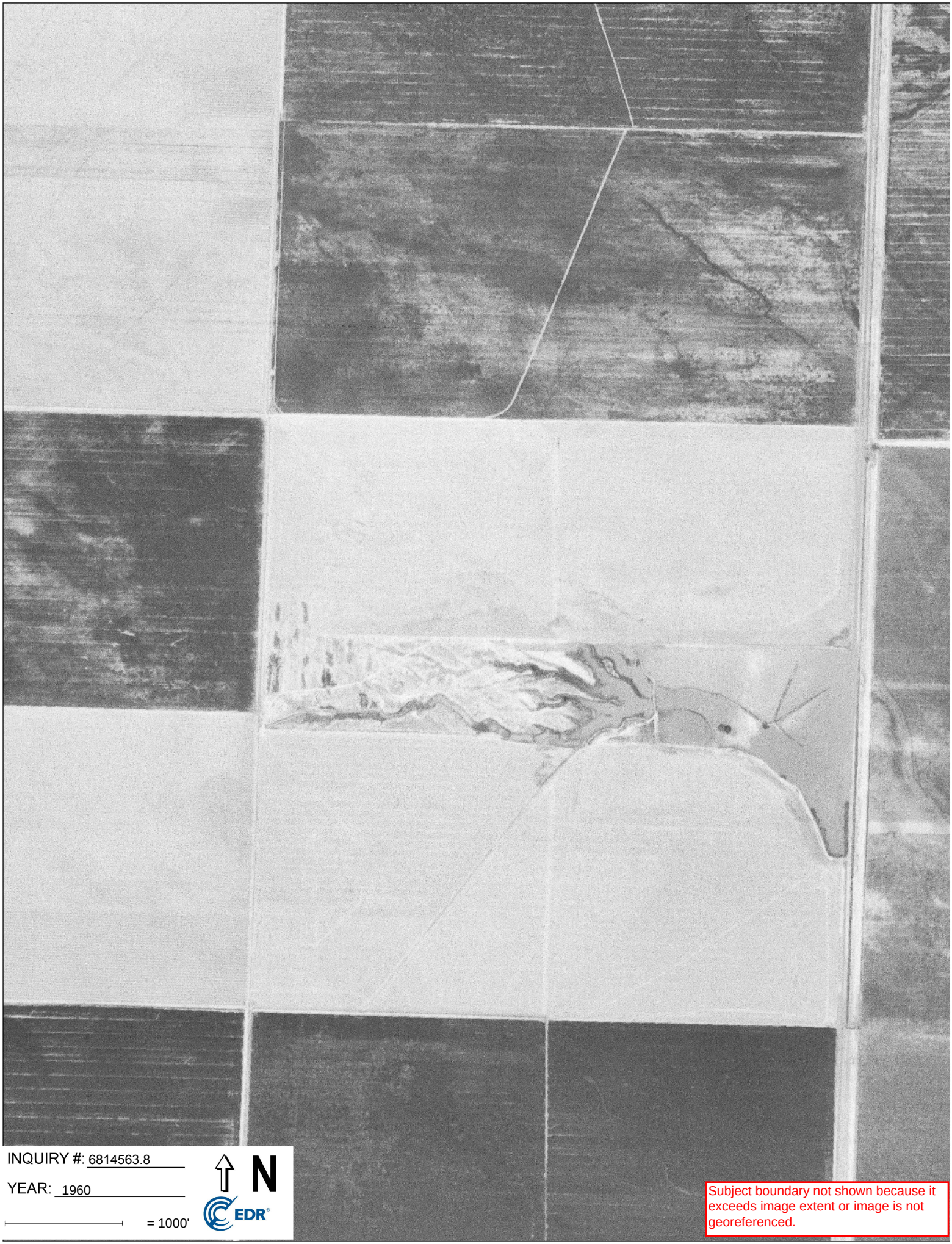
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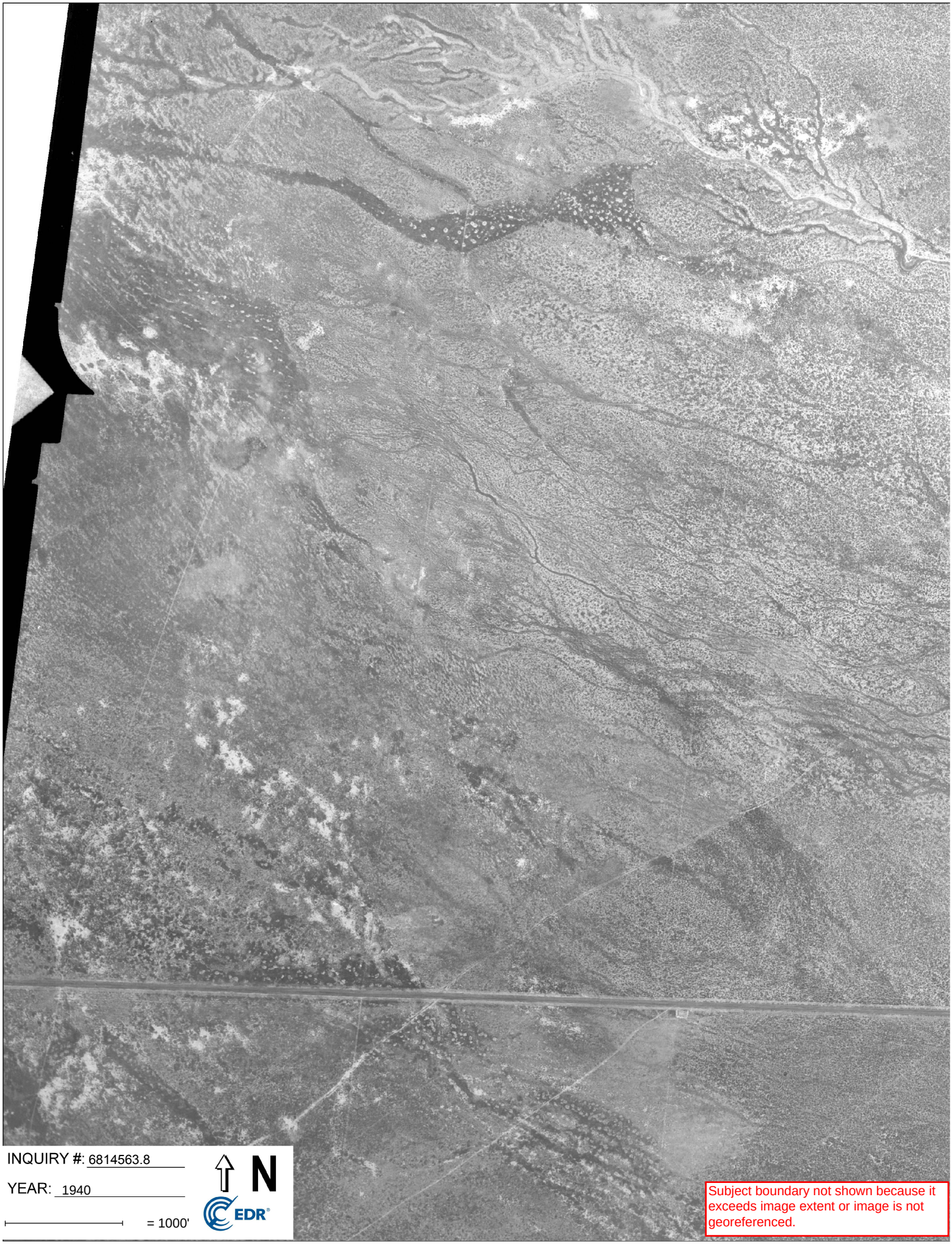
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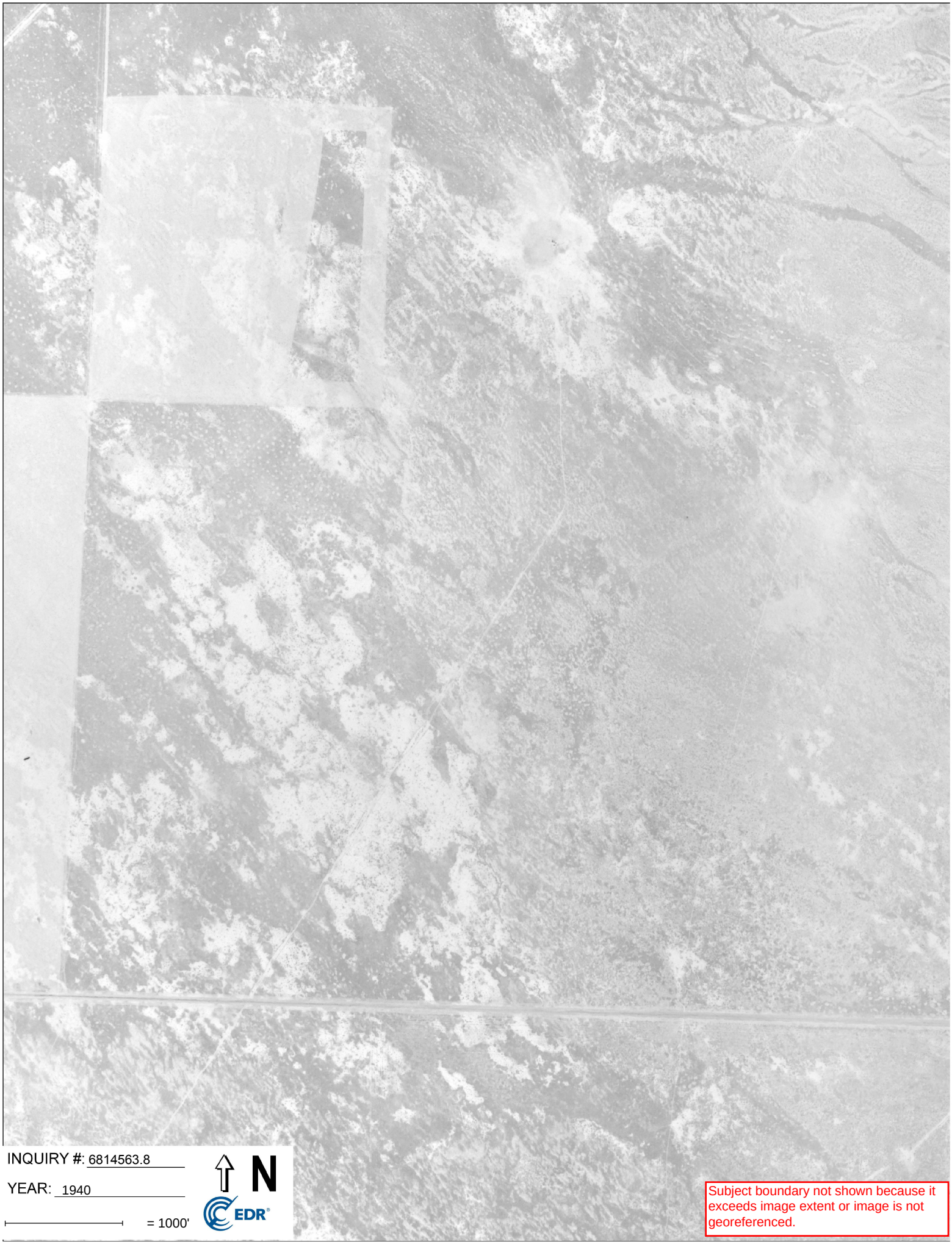
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INQUIRY #: 6814563.8

YEAR: 1937

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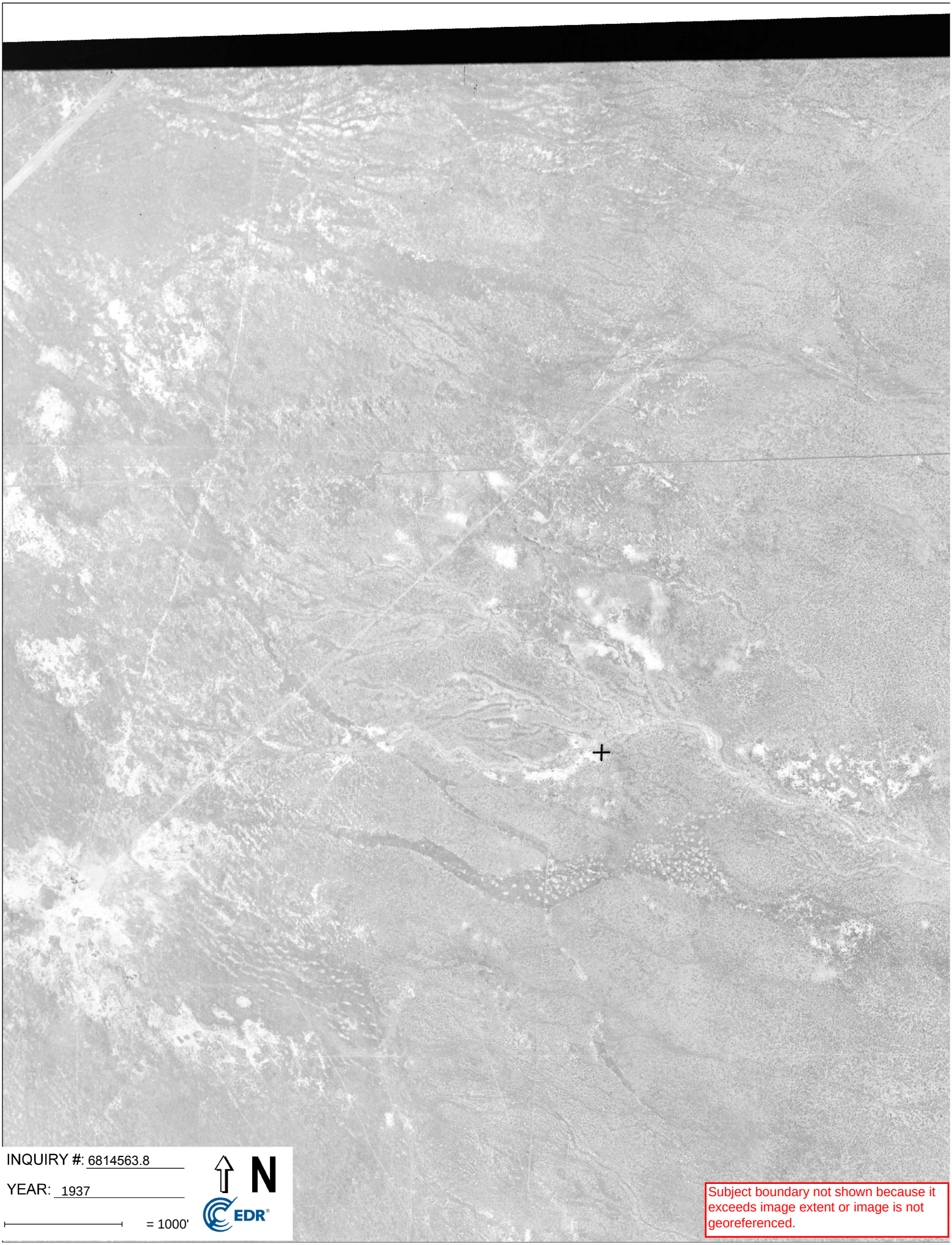
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INQUIRY #: 6814563.8

YEAR: 1937

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Subject boundary not shown because it exceeds image extent or image is not georeferenced.

Cherry 2 Solar

Manteca Avenue and 27th Avenue

Stratford, CA 93266

Inquiry Number: 6814563.5

January 11, 2022

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

01/11/22

Site Name:

Cherry 2 Solar
Manteca Avenue and 27th Ave
Stratford, CA 93266
EDR Inquiry # 6814563.5

Client Name:

MooreTwining Associates, Inc.
2527 Fresno Street
Fresno, CA 93721
Contact: Katie Lister

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by MooreTwining Associates, Inc. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# NA
Project: C64409.0200

Coordinates:

Latitude:	36.1686 36° 10' 7" North
Longitude:	-119.9269 -119° 55' 37" West
UTM Zone:	Zone 11 North
UTM X Meters:	236733.07
UTM Y Meters:	4006619.40
Elevation:	237.00' above sea level

Maps Provided:

2018	1929, 1933
2015	1929
2012	
1981	
1956	
1954, 1956	
1943	
1940	

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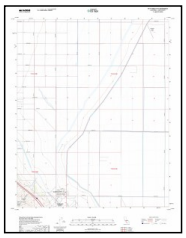
Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

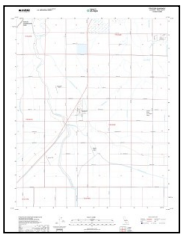
2018 Source Sheets



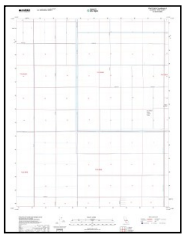
Westhaven
2018
7.5-minute, 24000



Kettleman City
2018
7.5-minute, 24000



Stratford
2018
7.5-minute, 24000



Stratford SE
2018
7.5-minute, 24000

2015 Source Sheets



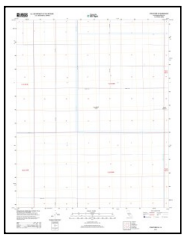
Westhaven
2015
7.5-minute, 24000



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Kettleman City
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Stratford SE
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7.5-minute, 24000

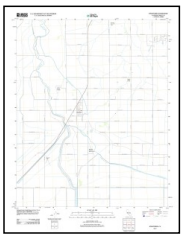
2012 Source Sheets



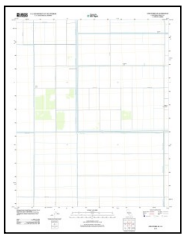
Westhaven
2012
7.5-minute, 24000



Kettleman City
2012
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Stratford
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Stratford SE
2012
7.5-minute, 24000

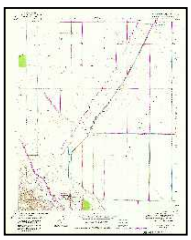
1981 Source Sheets



Westhaven
1981
7.5-minute, 24000
Aerial Photo Revised 1978



Kettleman City
1981
7.5-minute, 24000
Aerial Photo Revised 1978



KETTLEMAN CITY
1981
7.5-minute, 24000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1956 Source Sheets



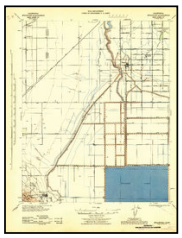
Westhaven
1956
7.5-minute, 24000
Aerial Photo Revised 1955

1954, 1956 Source Sheets



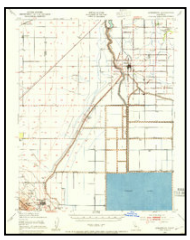
Kettleman City
1954
7.5-minute, 24000
Aerial Photo Revised 1950

1943 Source Sheets



Stratford
1943
15-minute, 62500
Aerial Photo Revised 1940

1940 Source Sheets



Stratford
1940
15-minute, 62500
Aerial Photo Revised 1940

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1929, 1933 Source Sheets



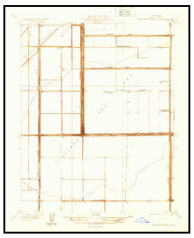
Westhaven
1929
7.5-minute, 31680



Stratford
1929
7.5-minute, 31680



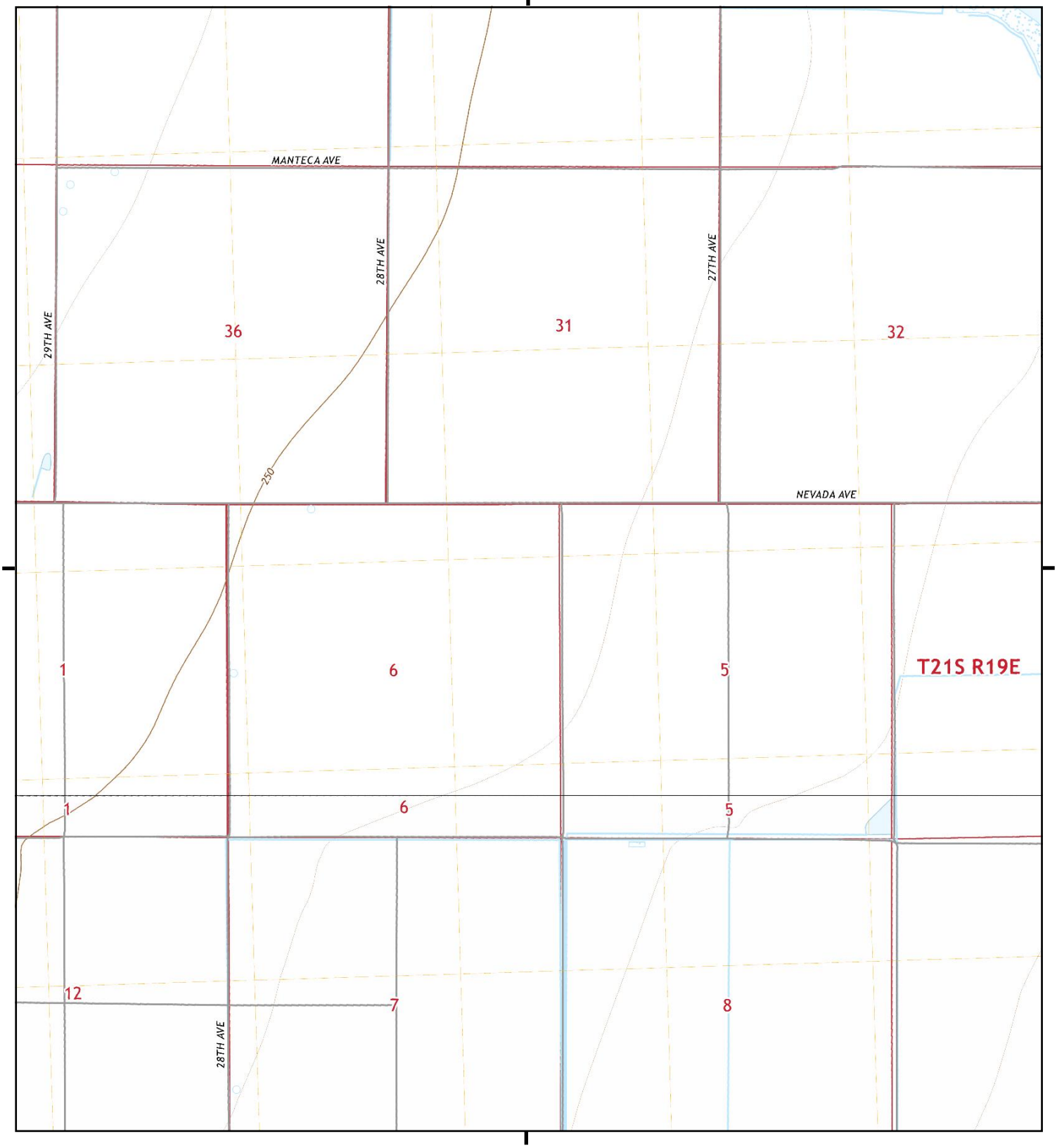
Kettleman City
1933
7.5-minute, 31680



Chatom Ranch
1933
7.5-minute, 31680

Historical Topo Map

2018



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

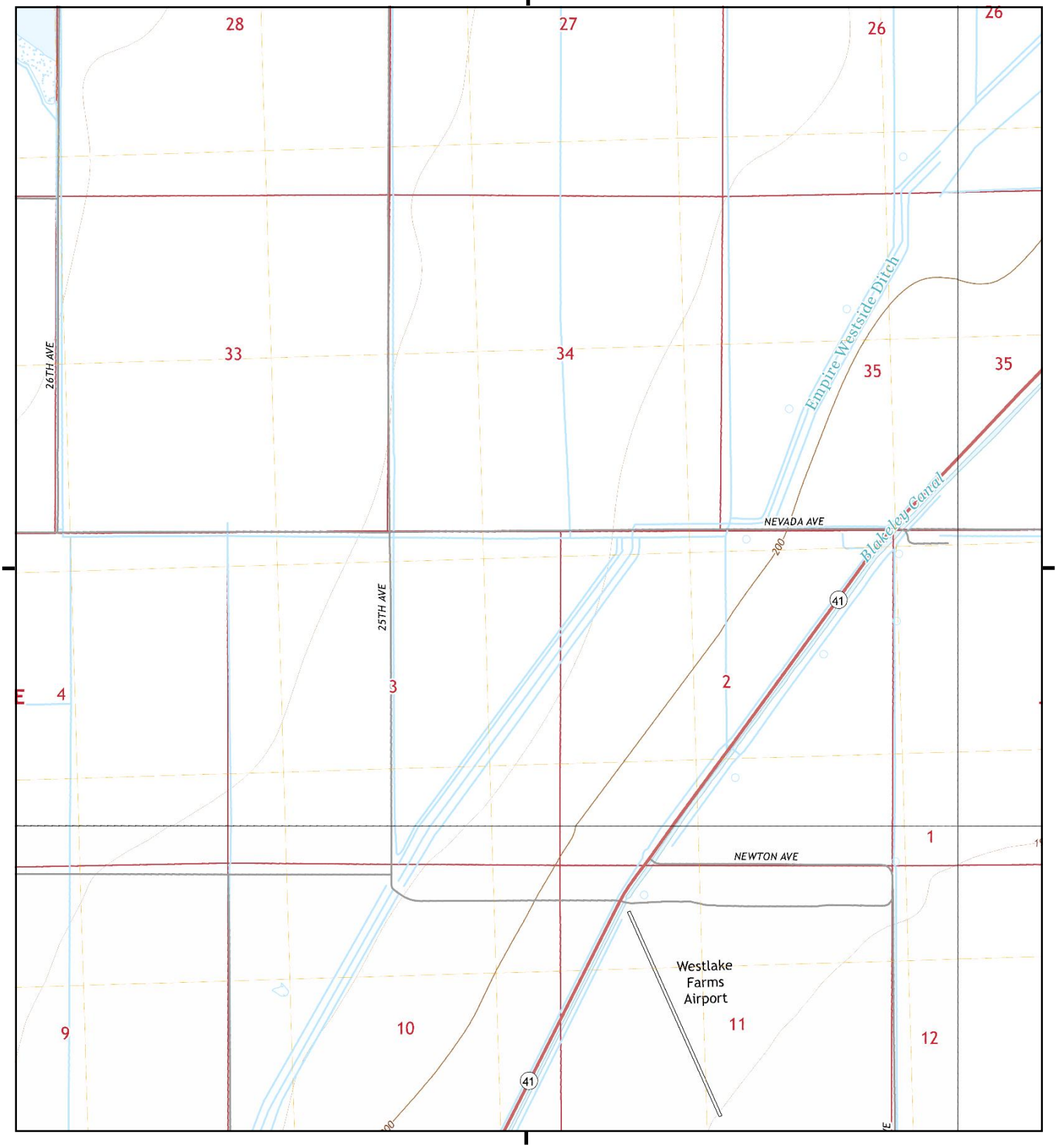
TP, Westhaven, 2018, 7.5-minute
S, Kettleman City, 2018, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

2018



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

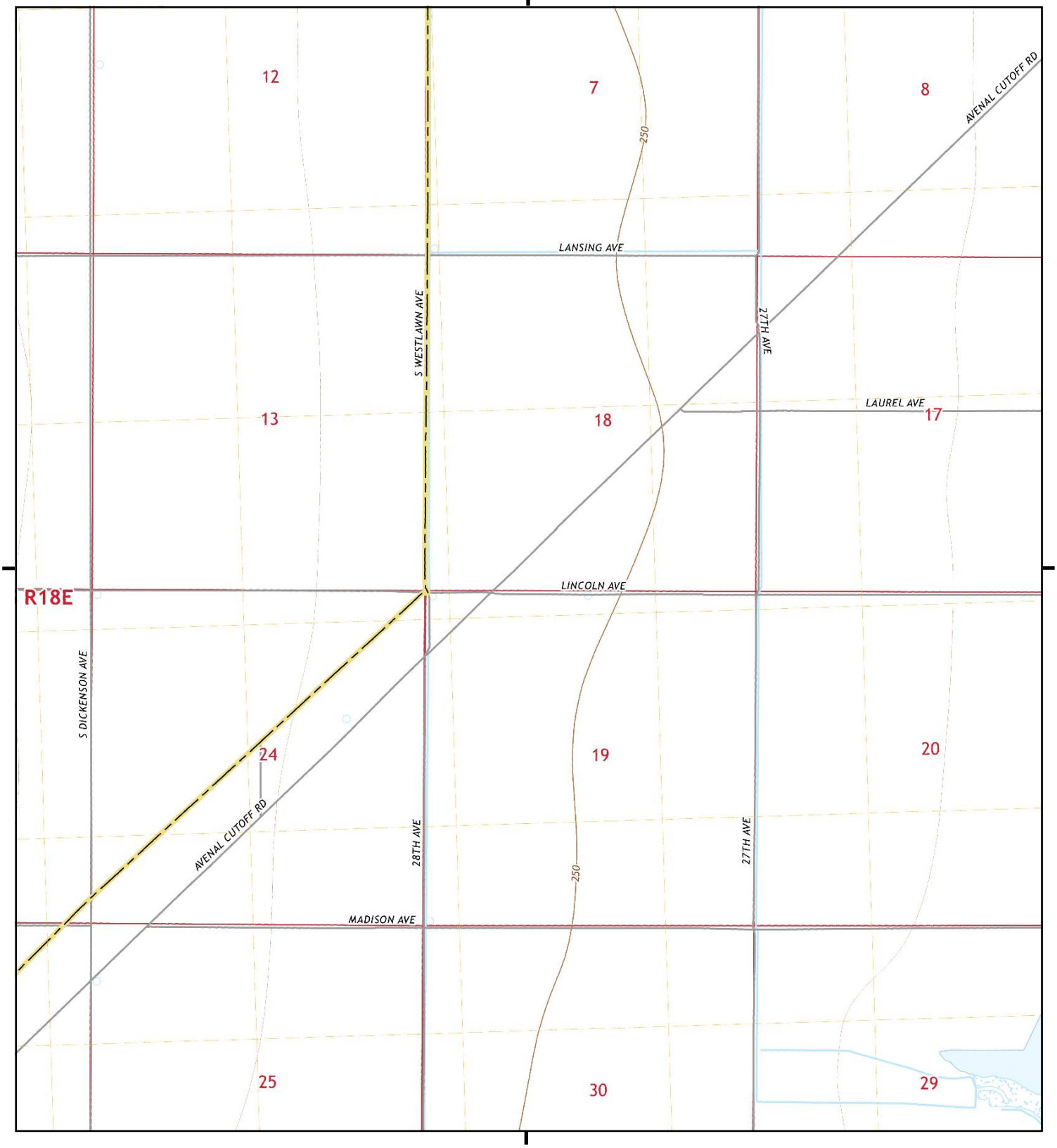
TP, Westhaven, 2018, 7.5-minute
NE, Stratford, 2018, 7.5-minute
S, Stratford SE, 2018, 7.5-minute
SW, Kettleman City, 2018, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

2018



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

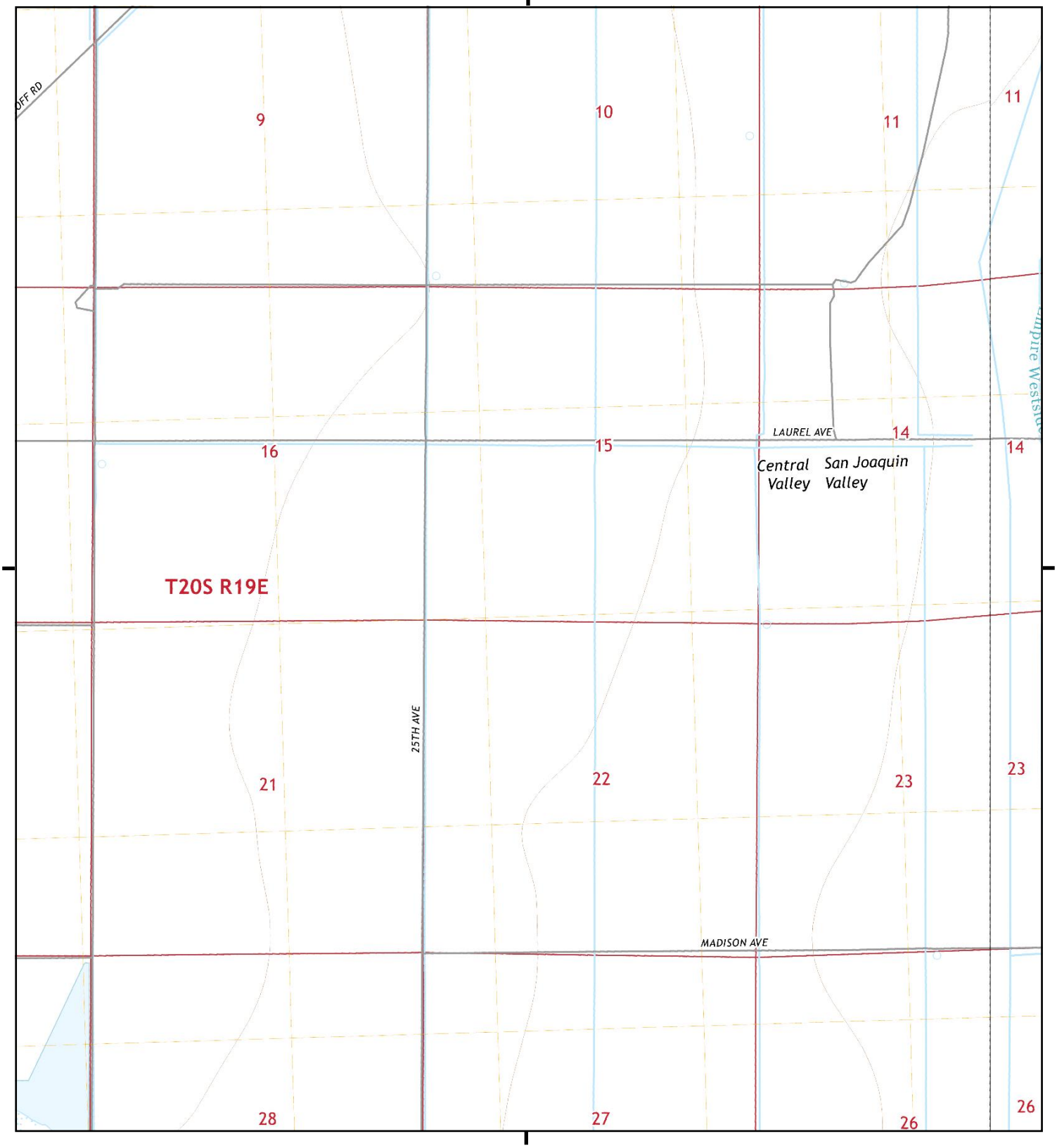
TP, Westhaven, 2018, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

2018



This report includes information from the following map sheet(s).

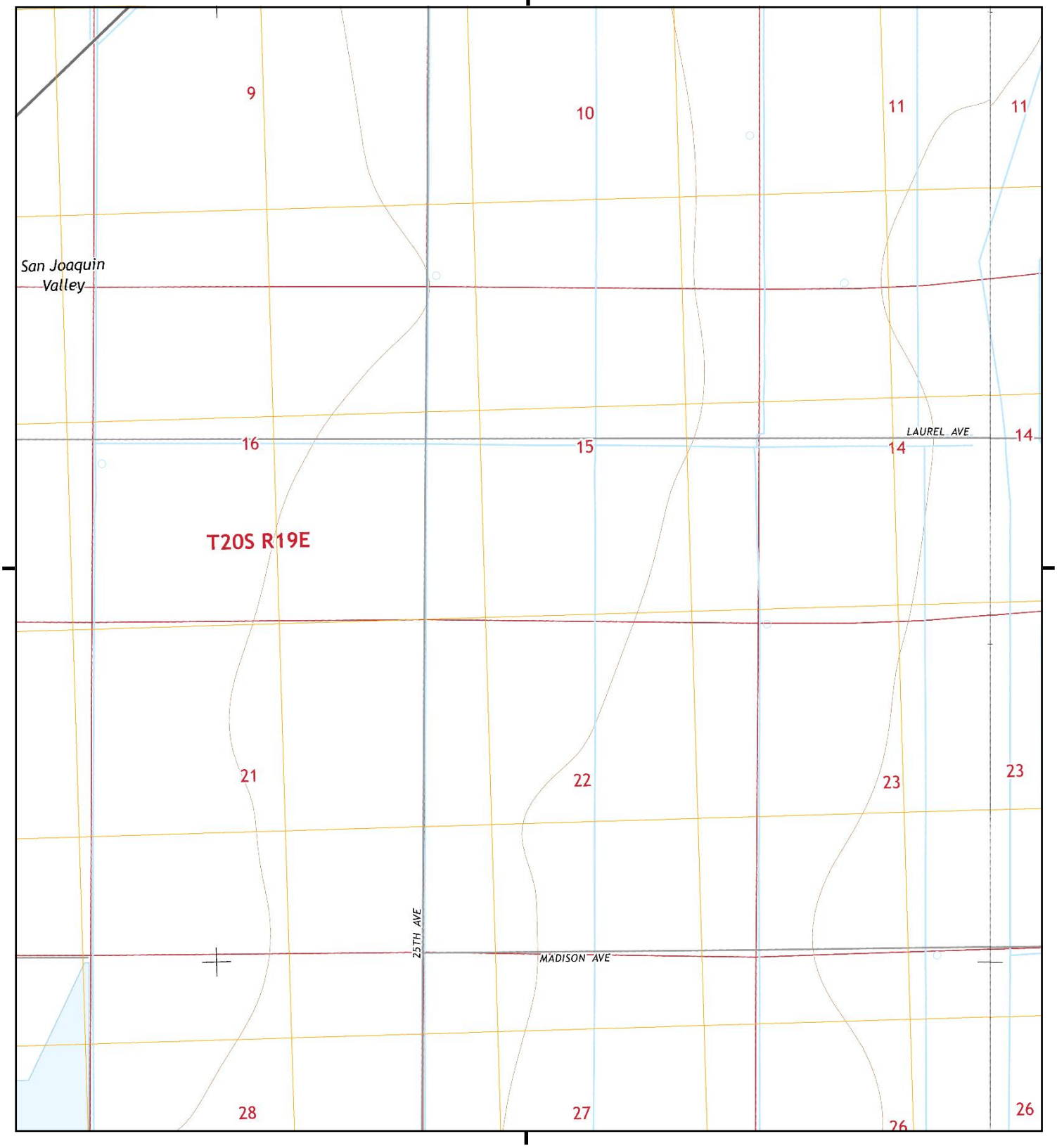
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Westhaven, 2018, 7.5-minute
E, Stratford, 2018, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

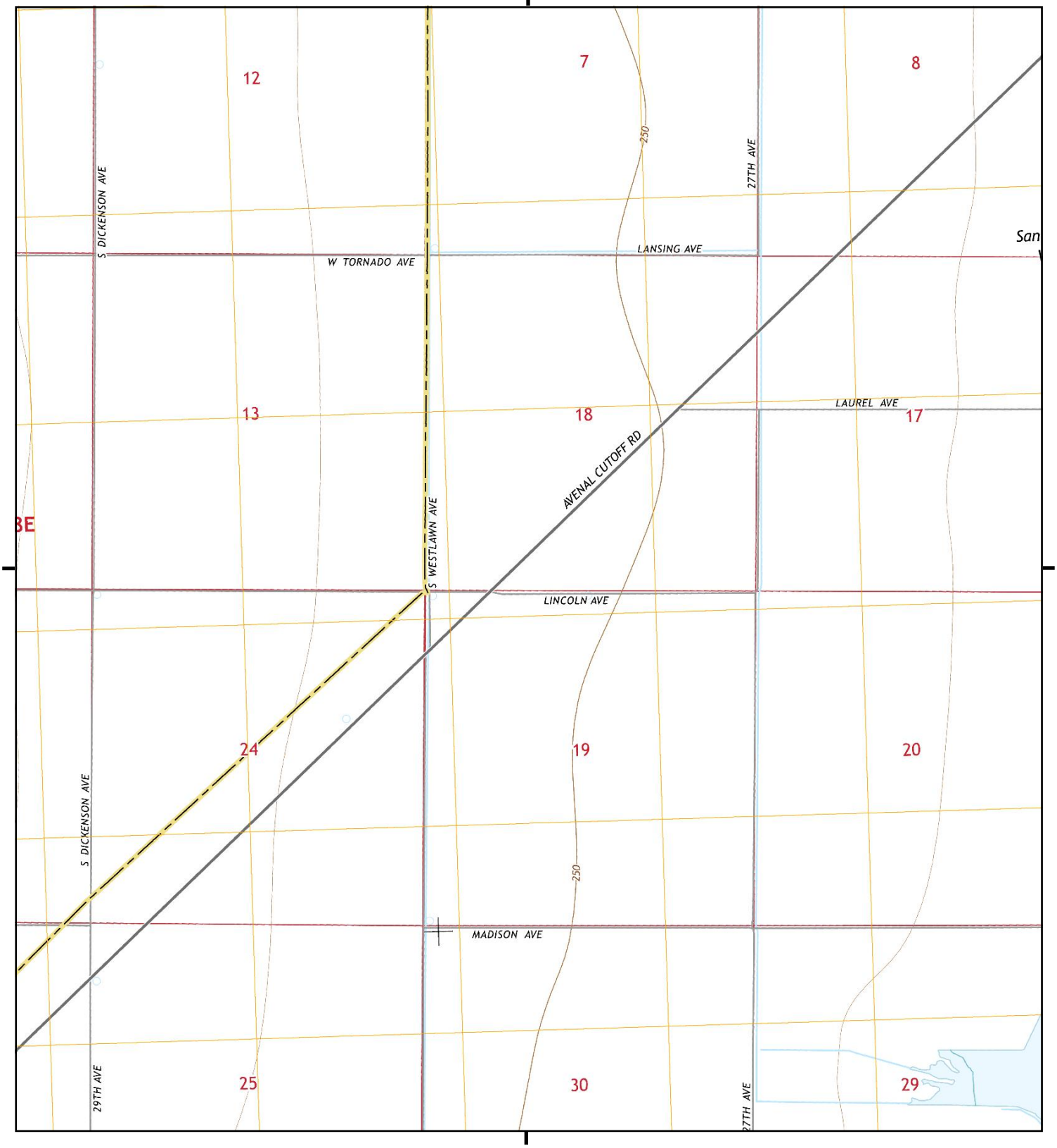
TP, Westhaven, 2015, 7.5-minute
E, Stratford, 2015, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

2015



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

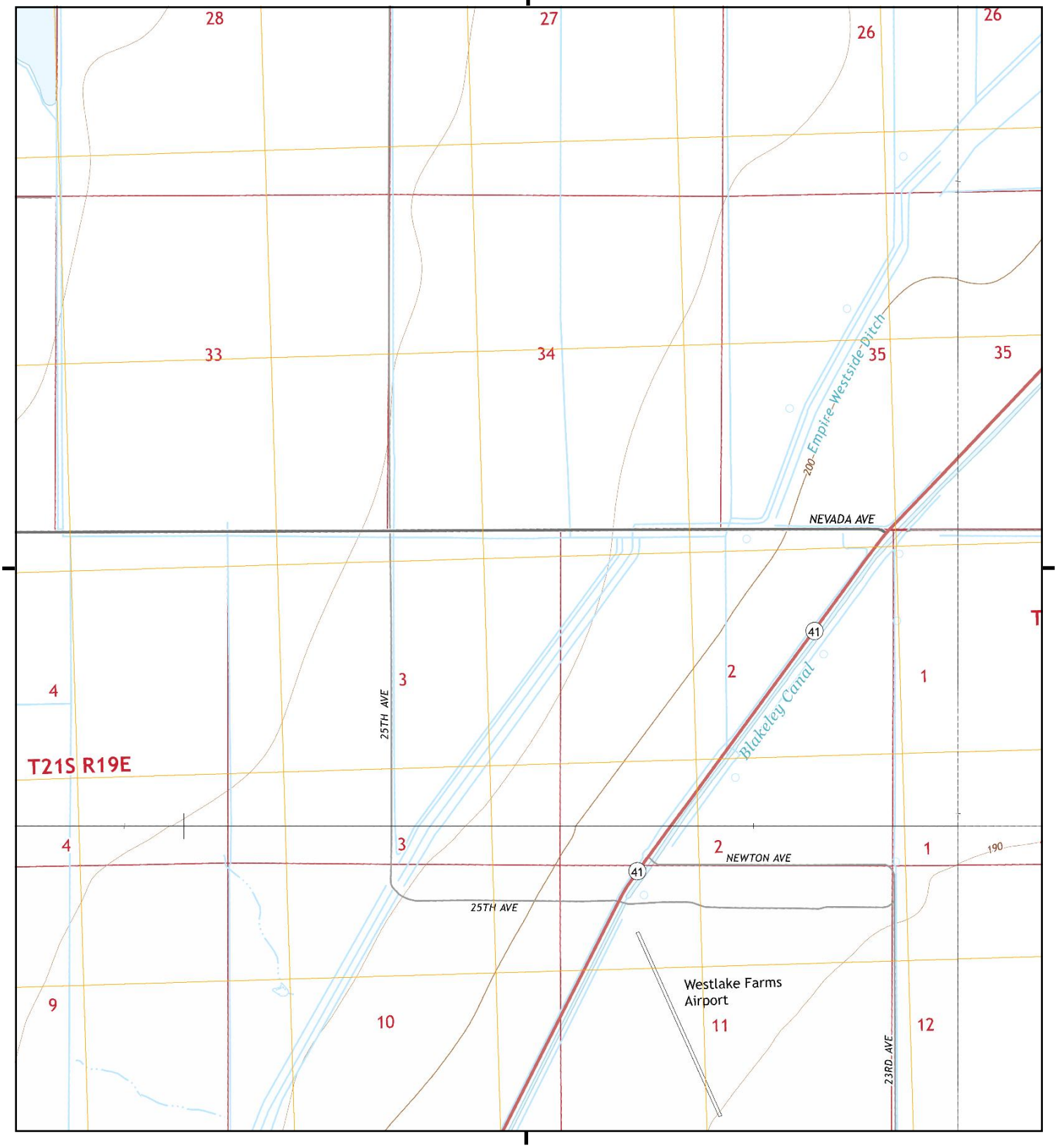
TP, Westhaven, 2015, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

2015



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

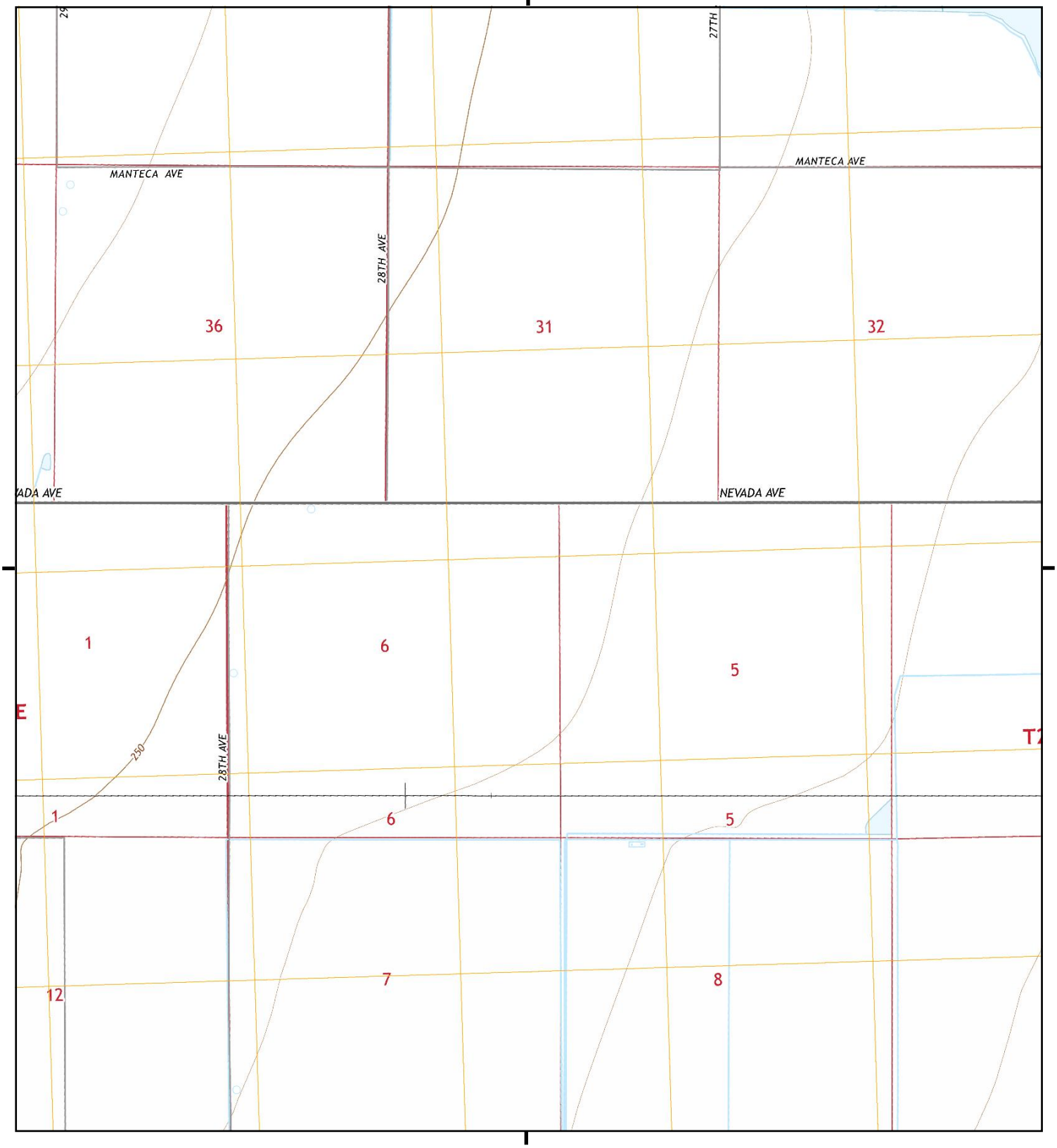
TP, Westhaven, 2015, 7.5-minute
NE, Stratford, 2015, 7.5-minute
S, Stratford SE, 2015, 7.5-minute
SW, Kettleman City, 2015, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

2015



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

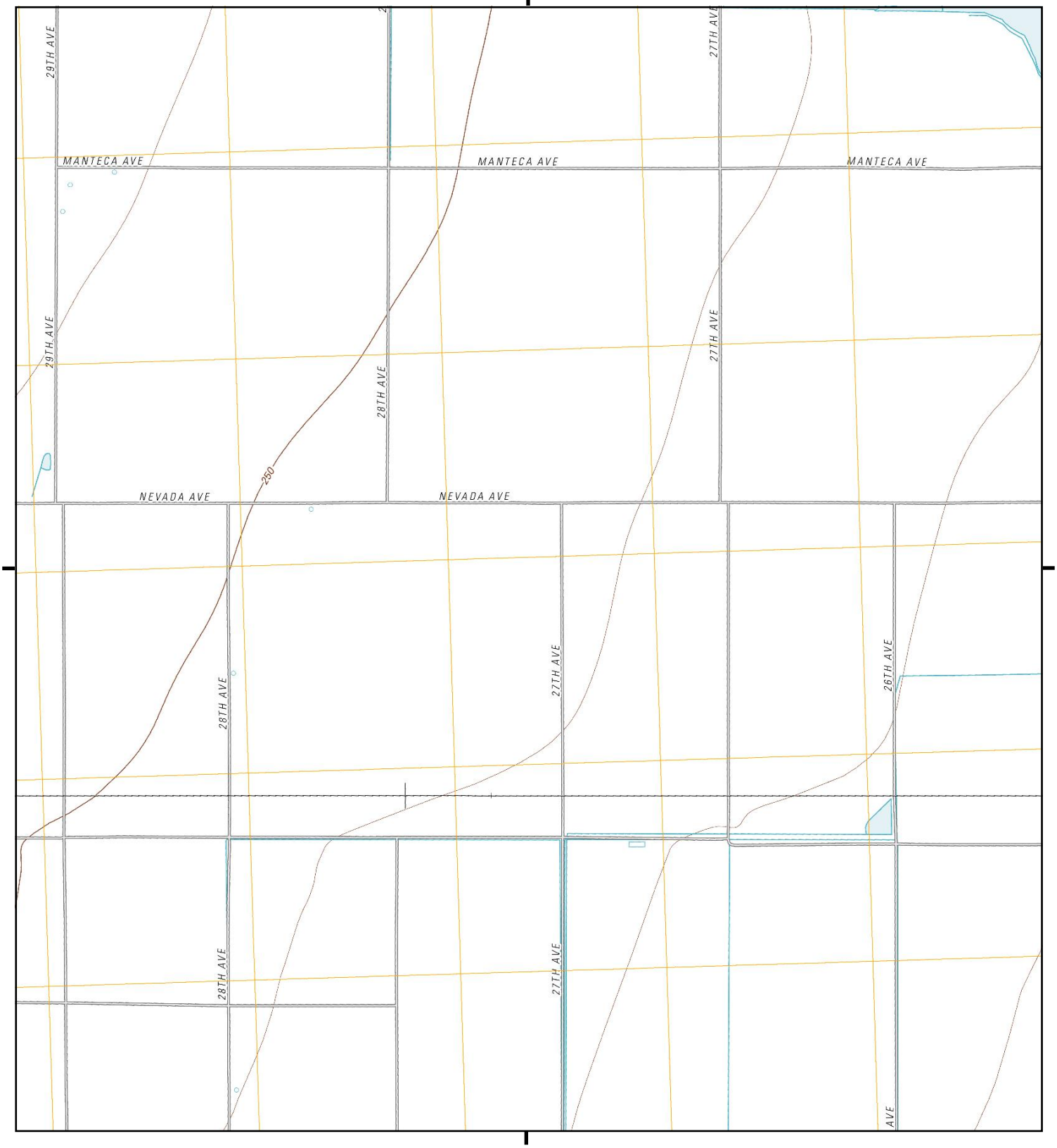
TP, Westhaven, 2015, 7.5-minute
S, Kettleman City, 2015, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

2012



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

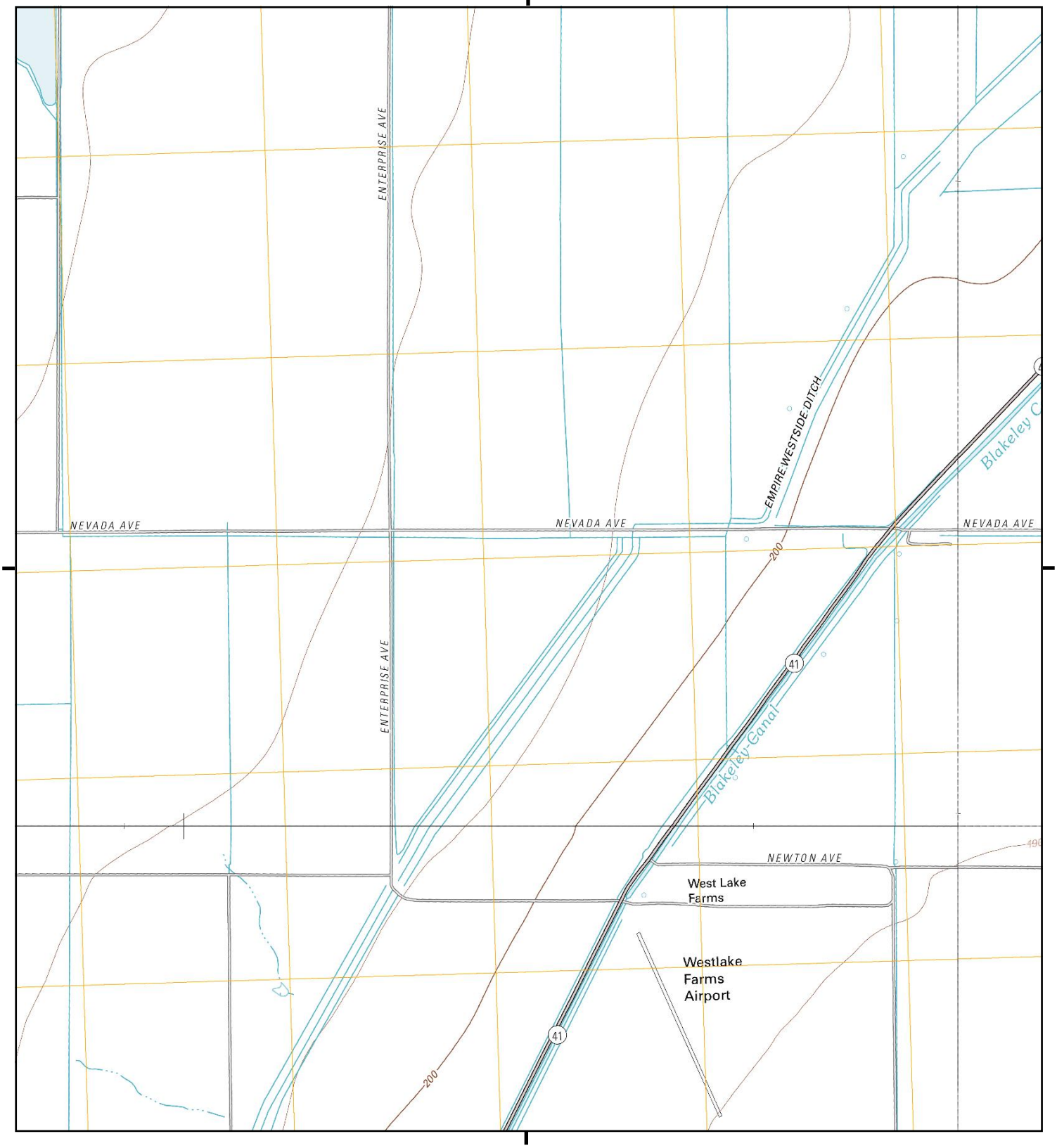
TP, Westhaven, 2012, 7.5-minute
S, Kettleman City, 2012, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

2012



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

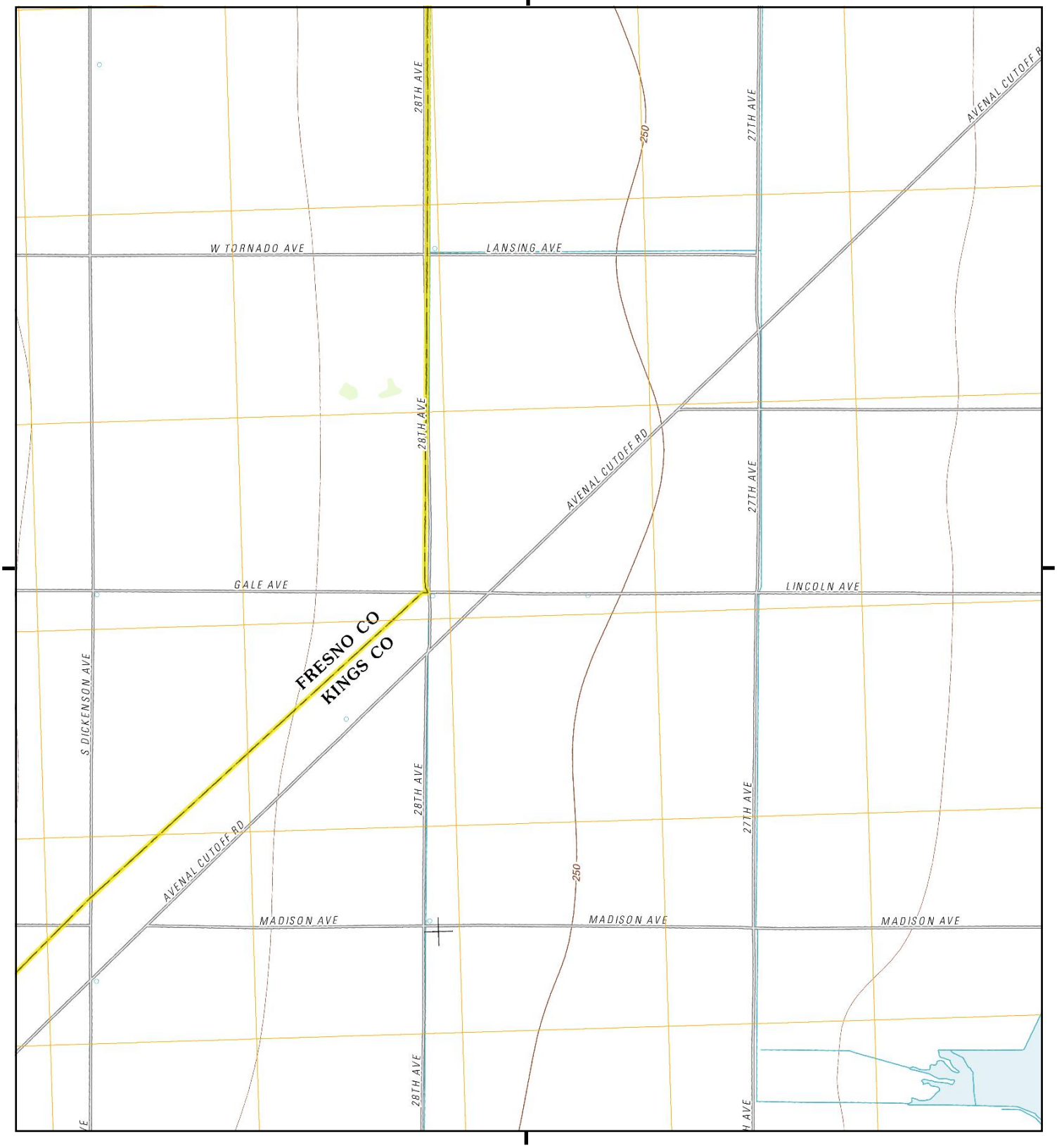
TP, Westhaven, 2012, 7.5-minute
NE, Stratford, 2012, 7.5-minute
S, Stratford SE, 2012, 7.5-minute
SW, Kettleman City, 2012, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

2012



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

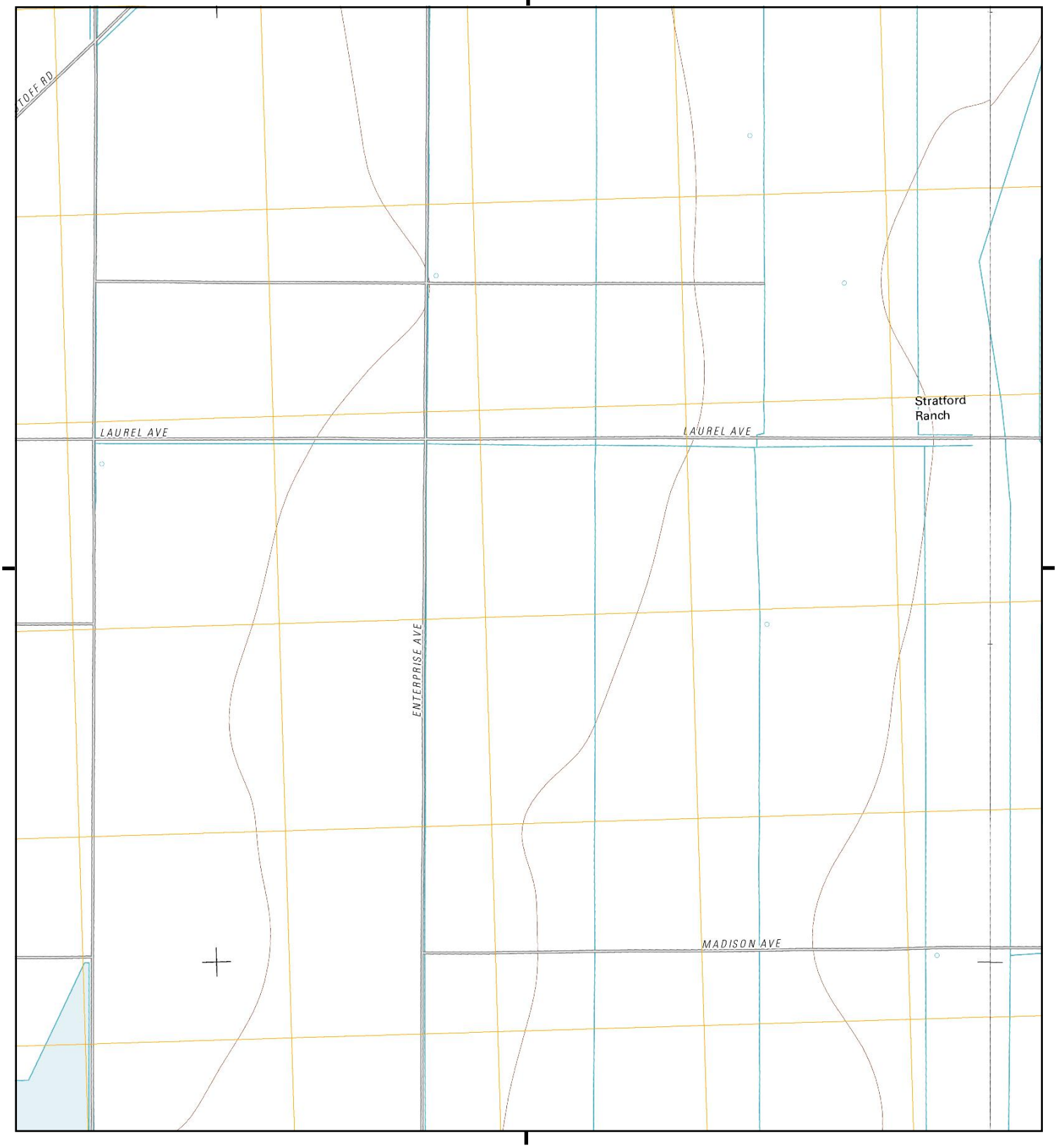
TP, Westhaven, 2012, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

2012



This report includes information from the following map sheet(s).

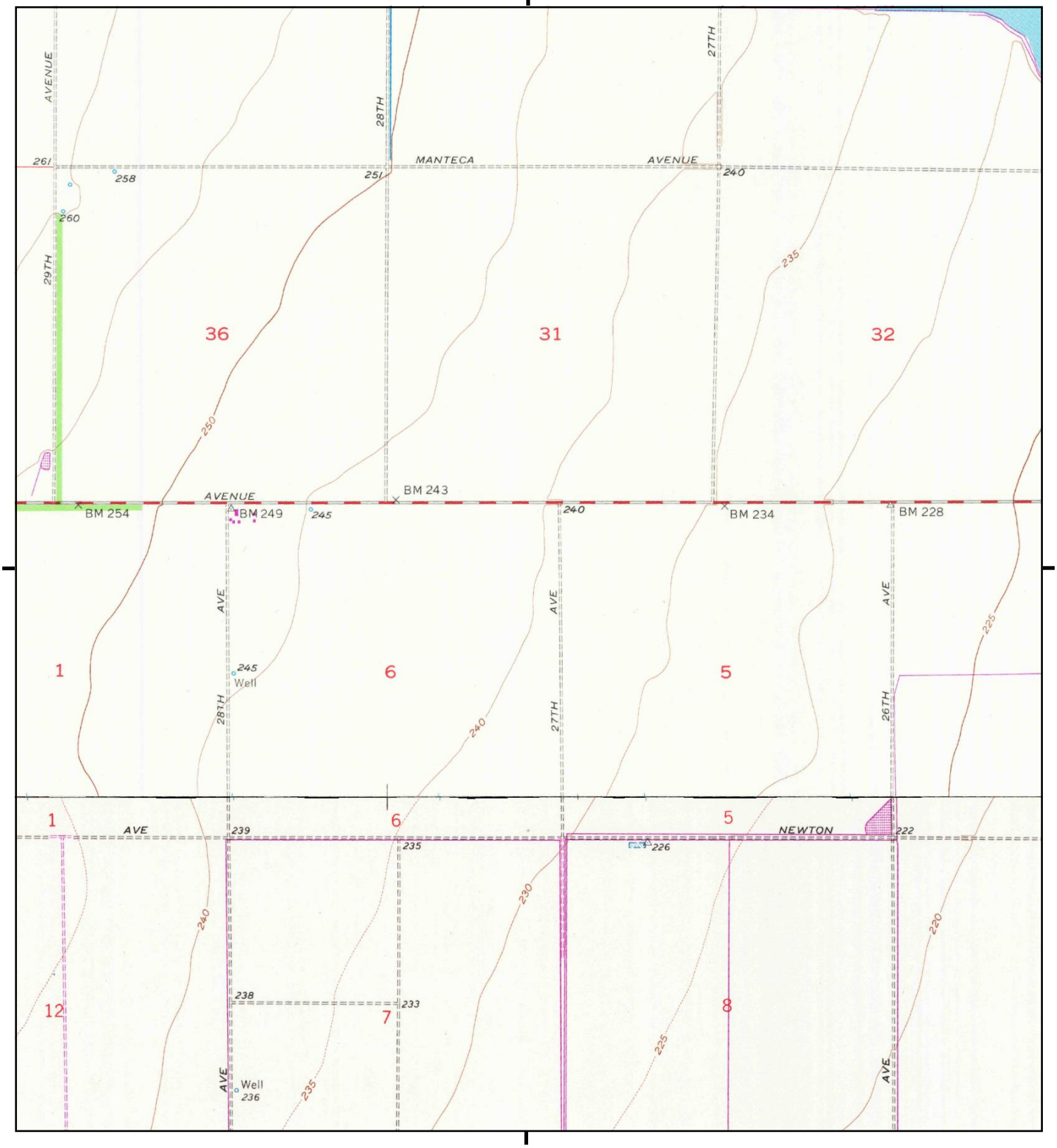
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Westhaven, 2012, 7.5-minute
E, Stratford, 2012, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N



This report includes information from the following map sheet(s).

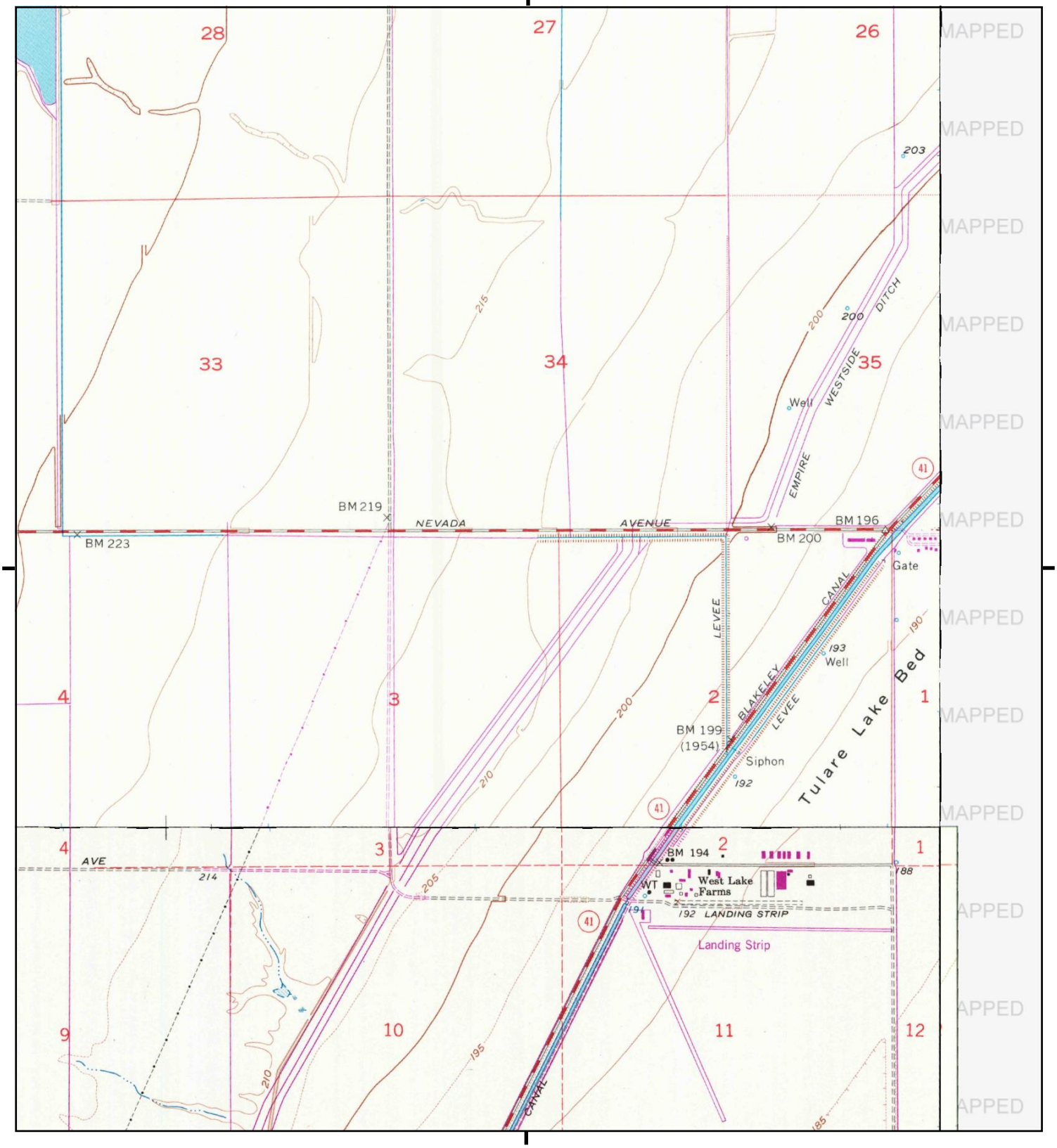
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Westhaven, 1981, 7.5-minute
S, Kettleman City, 1981, 7.5-minute
S, KETTLEMAN CITY, 1981, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N



This report includes information from the following map sheet(s).

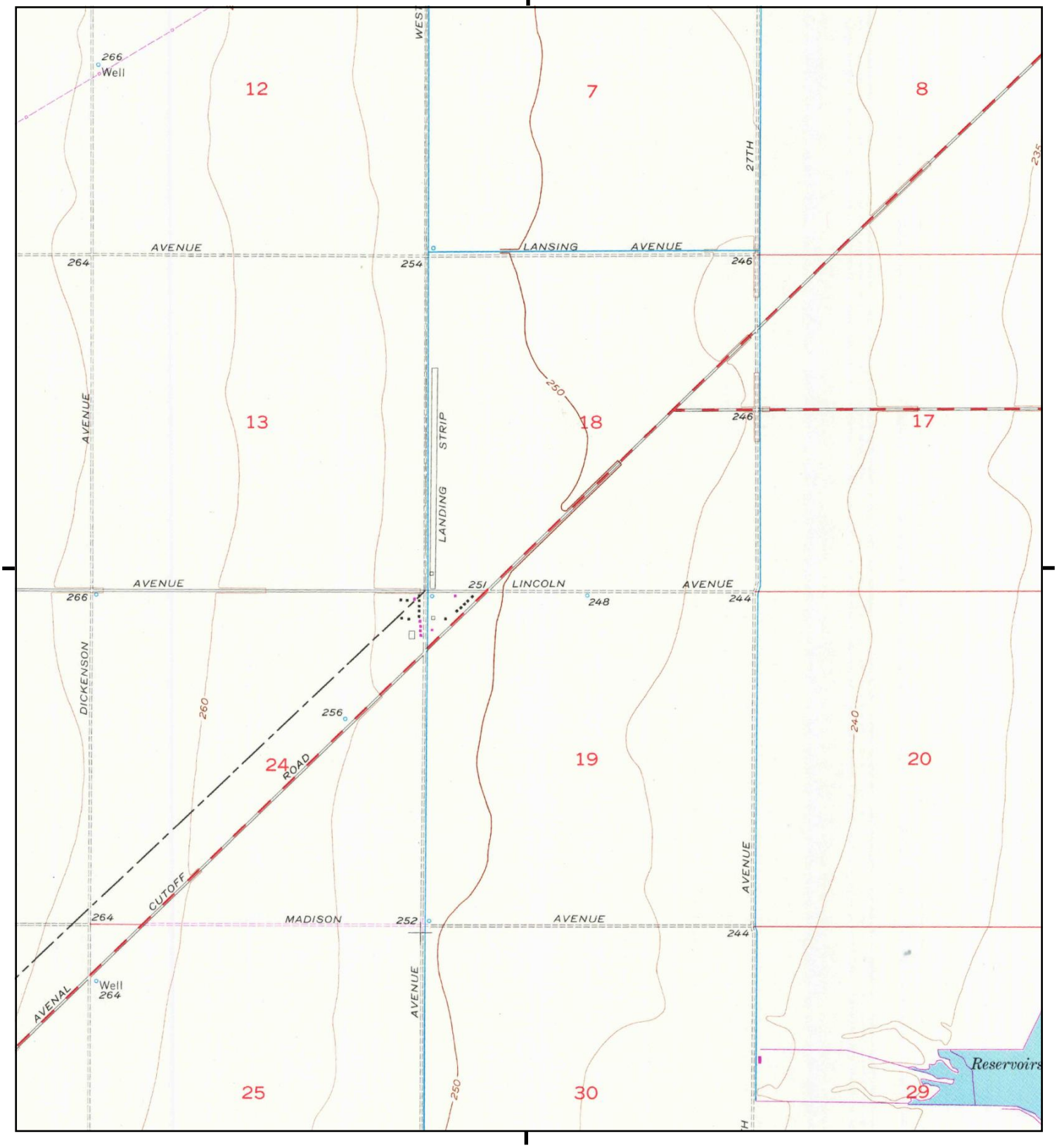
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Westhaven, 1981, 7.5-minute
SW, Kettleman City, 1981, 7.5-minute
SW, KETTLEMAN CITY, 1981, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

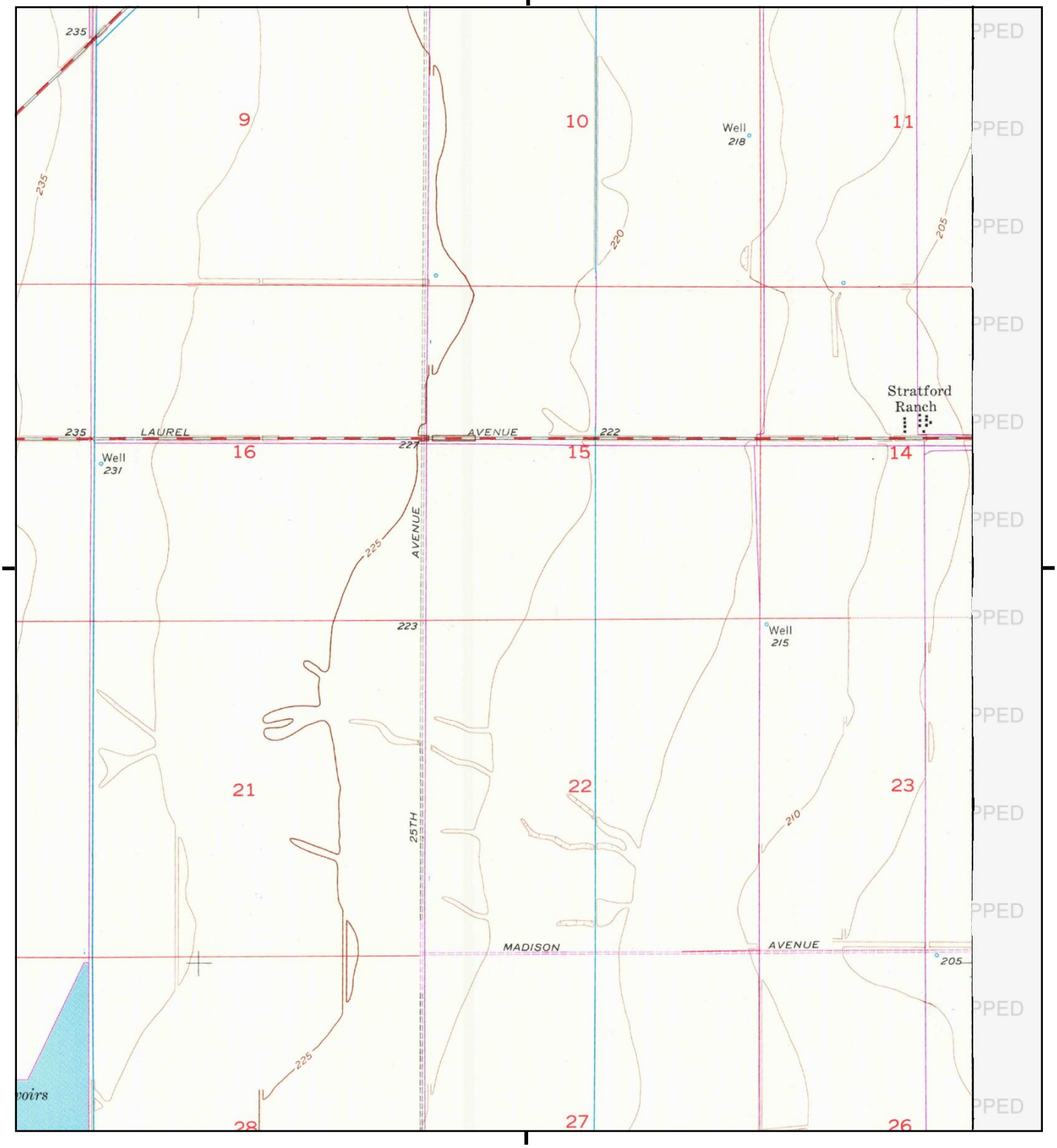
TP, Westhaven, 1981, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

1981



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

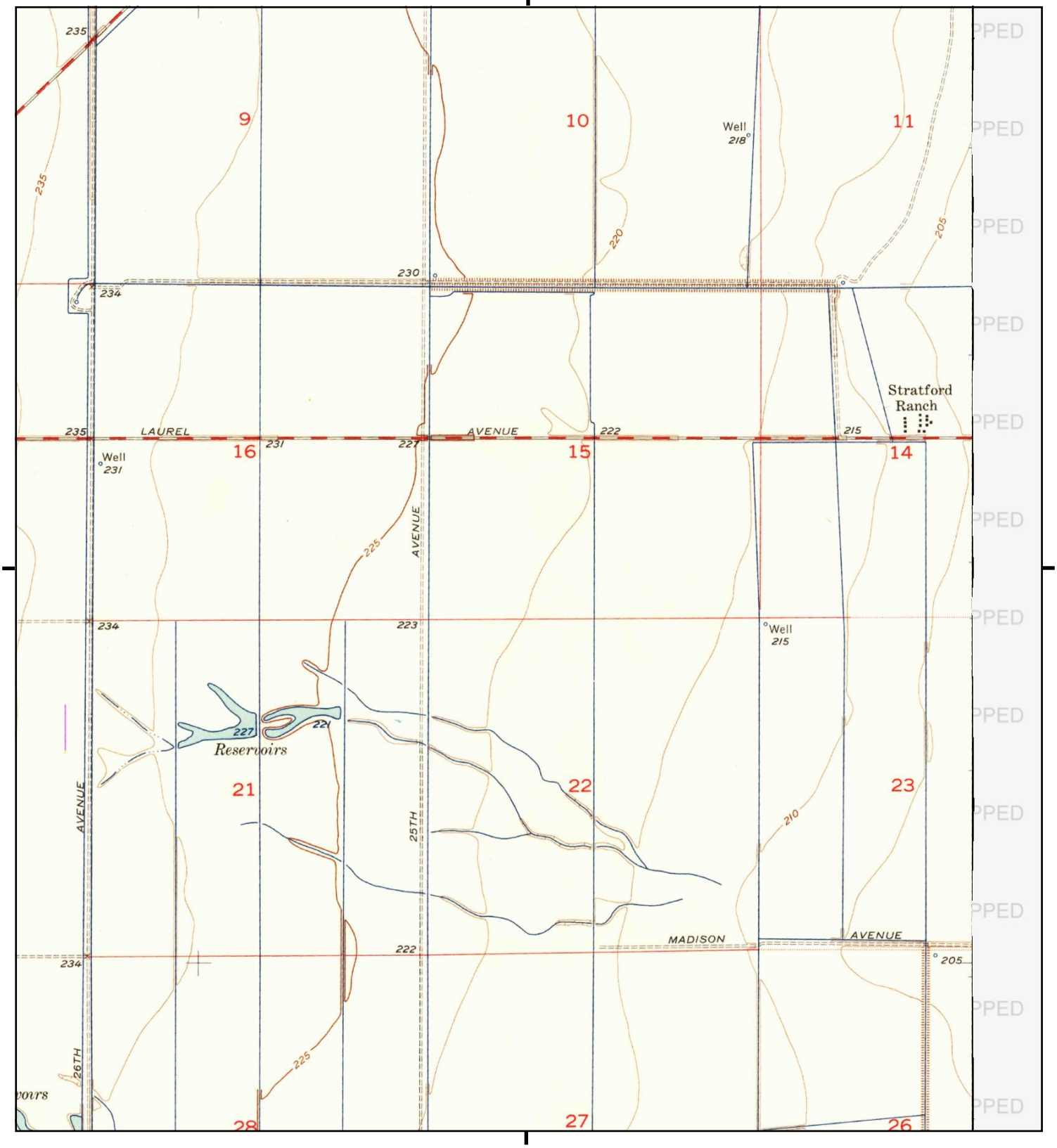
TP, Westhaven, 1981, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

1956



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

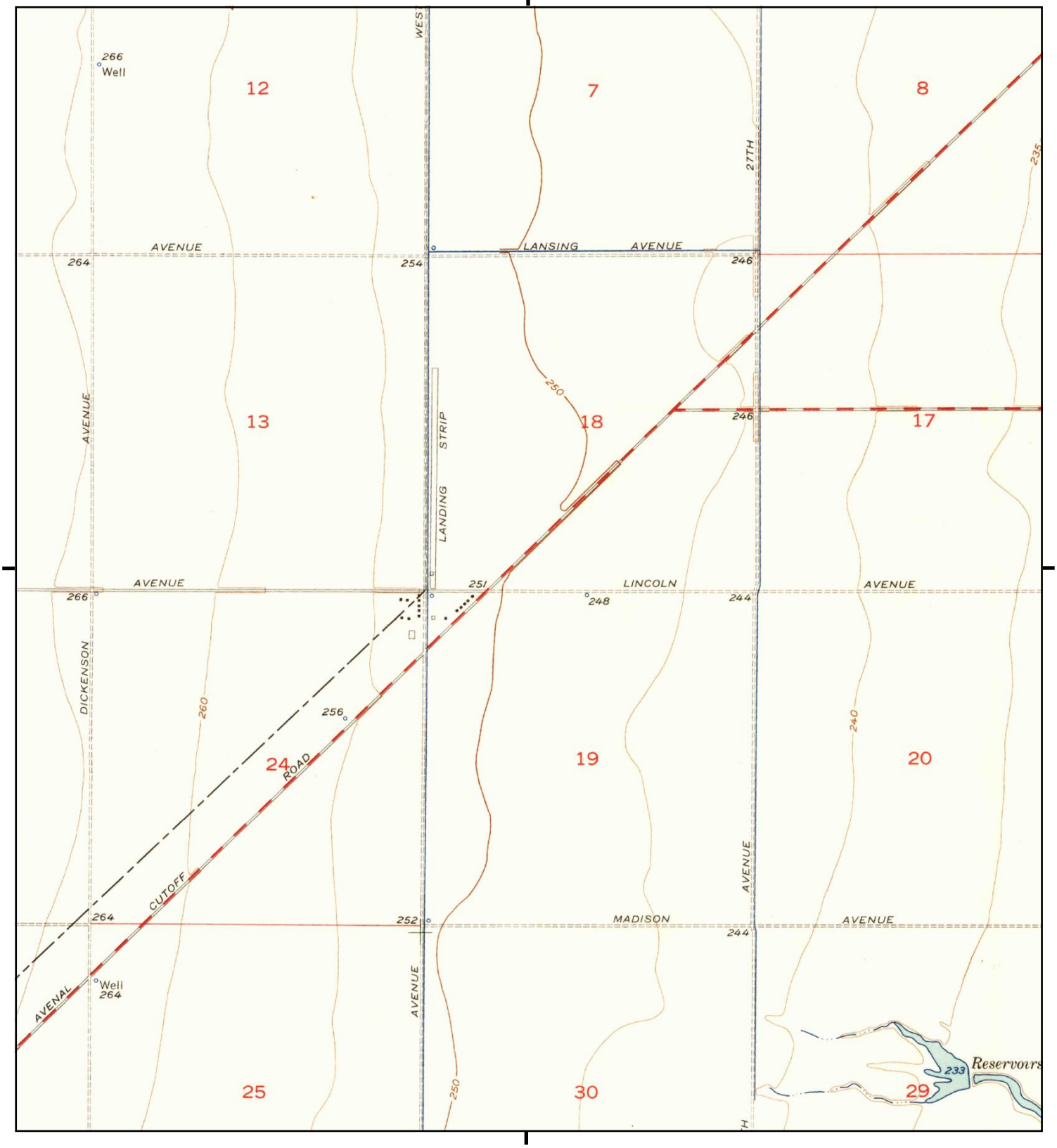
TP, Westhaven, 1956, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

1956



This report includes information from the following map sheet(s).

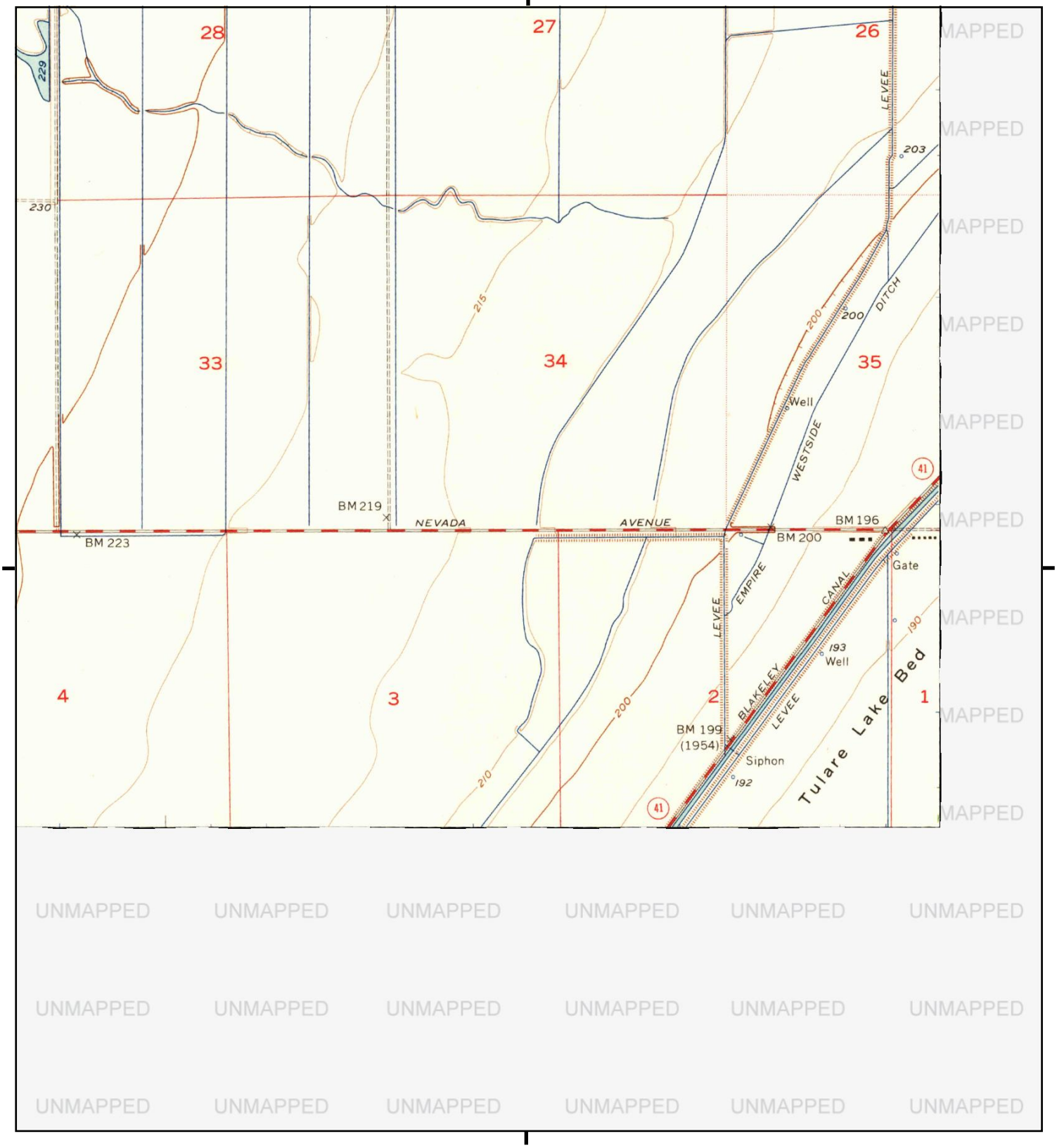
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Westhaven, 1956, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

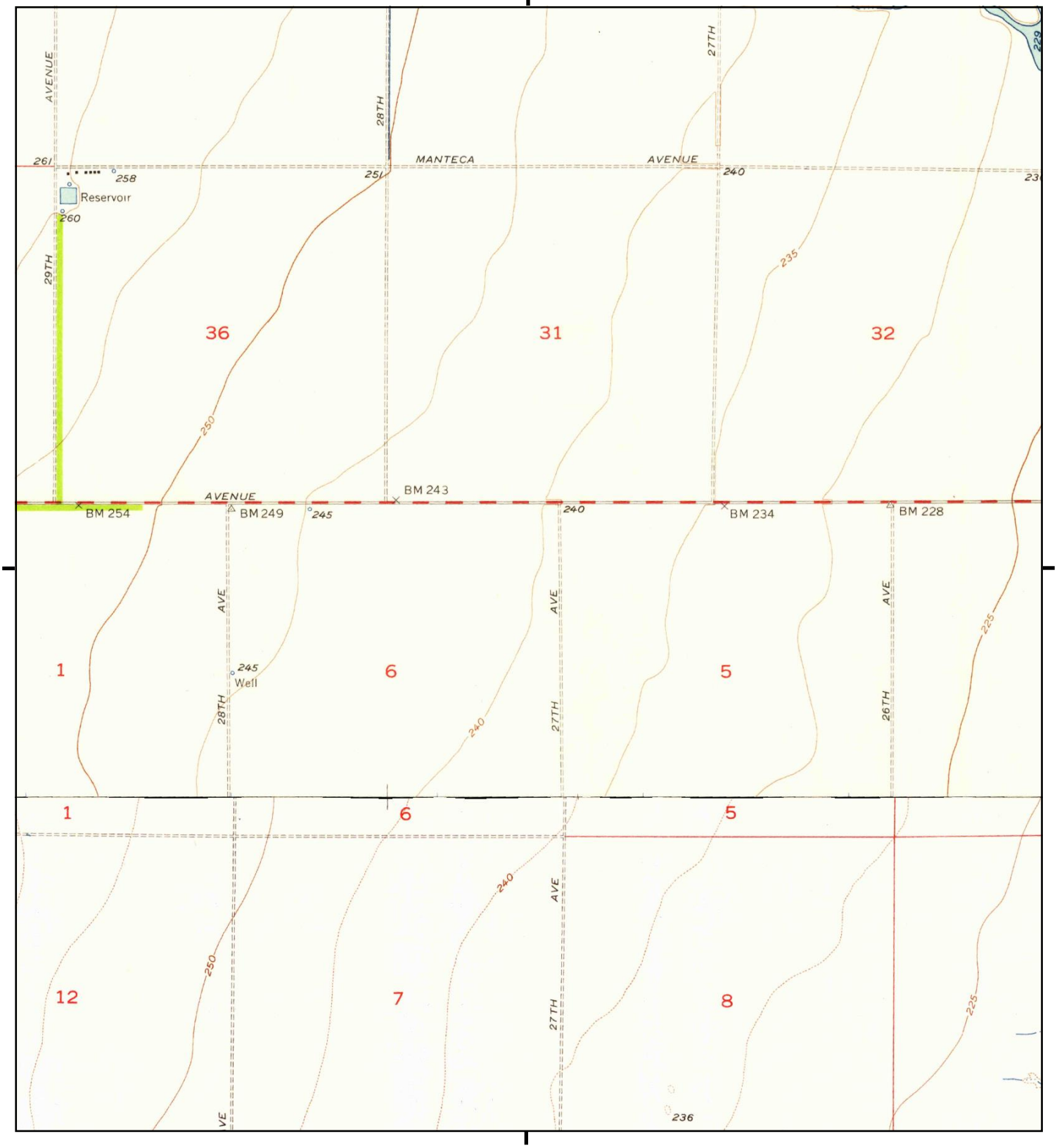
TP, Westhaven, 1956, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

1954, 1956



This report includes information from the following map sheet(s).

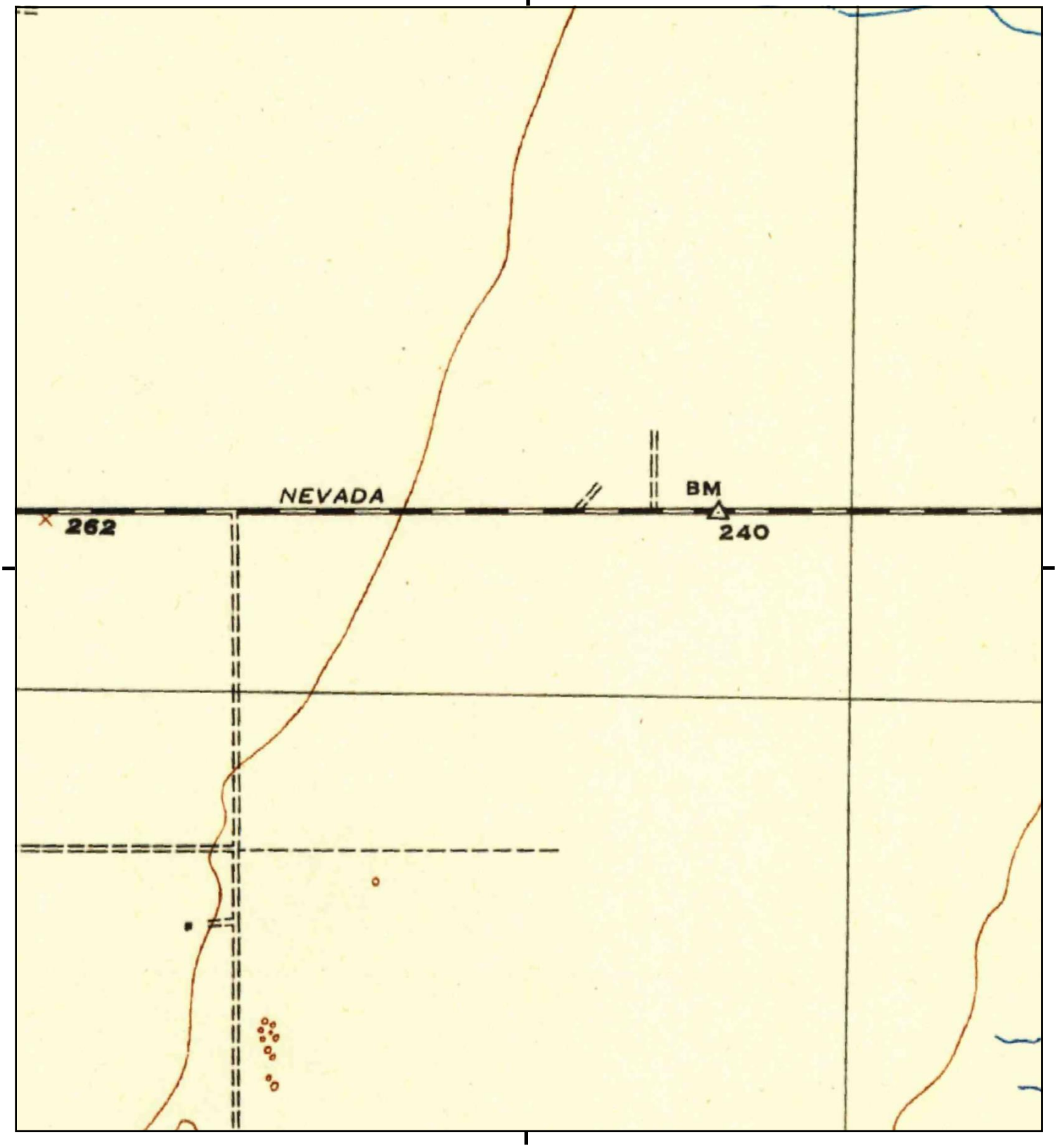
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Westhaven, 1956, 7.5-minute
S, Kettleman City, 1954, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N



This report includes information from the following map sheet(s).

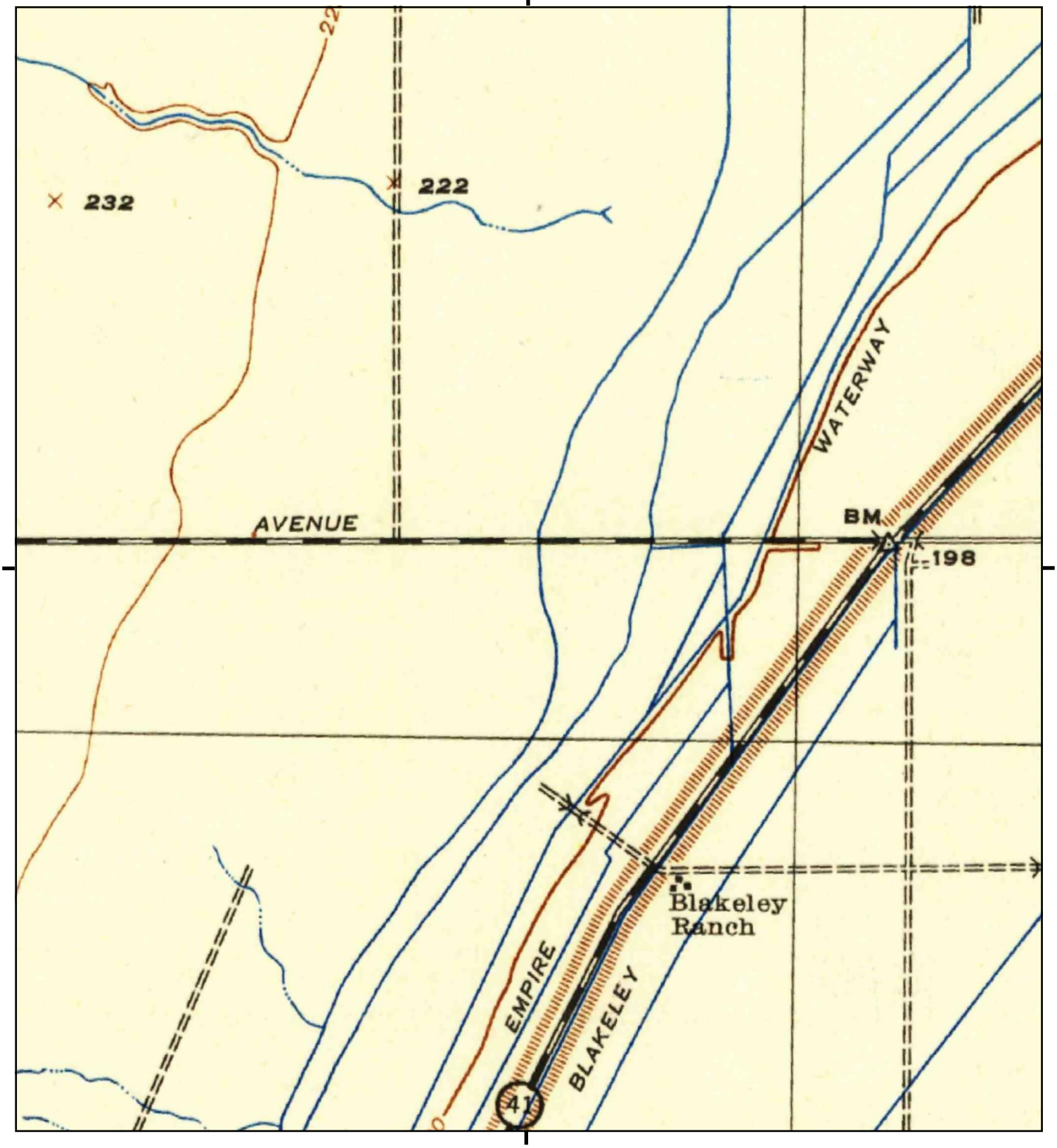
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Stratford, 1943, 15-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N



This report includes information from the following map sheet(s).

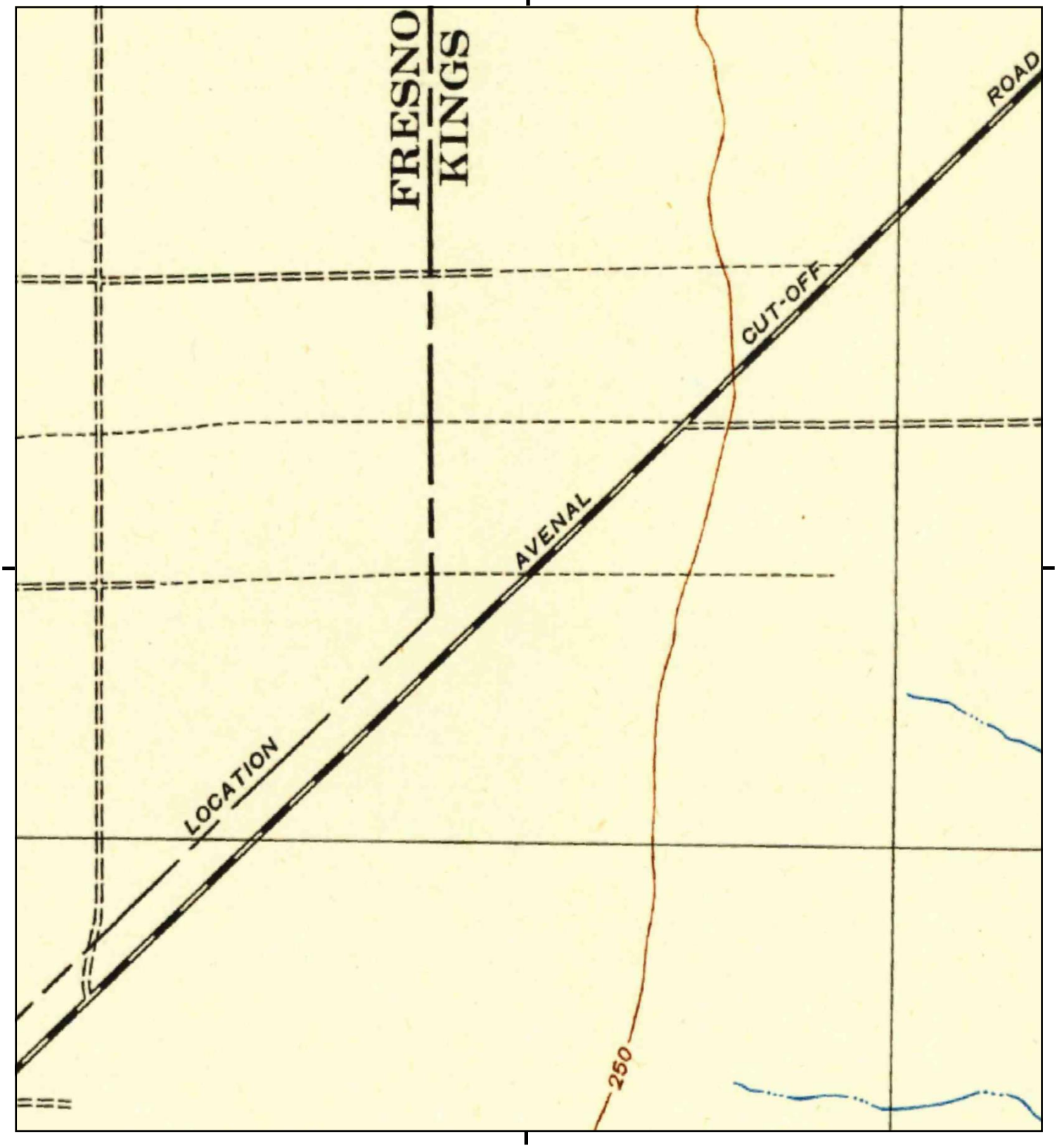
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Stratford, 1943, 15-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N



This report includes information from the following map sheet(s).

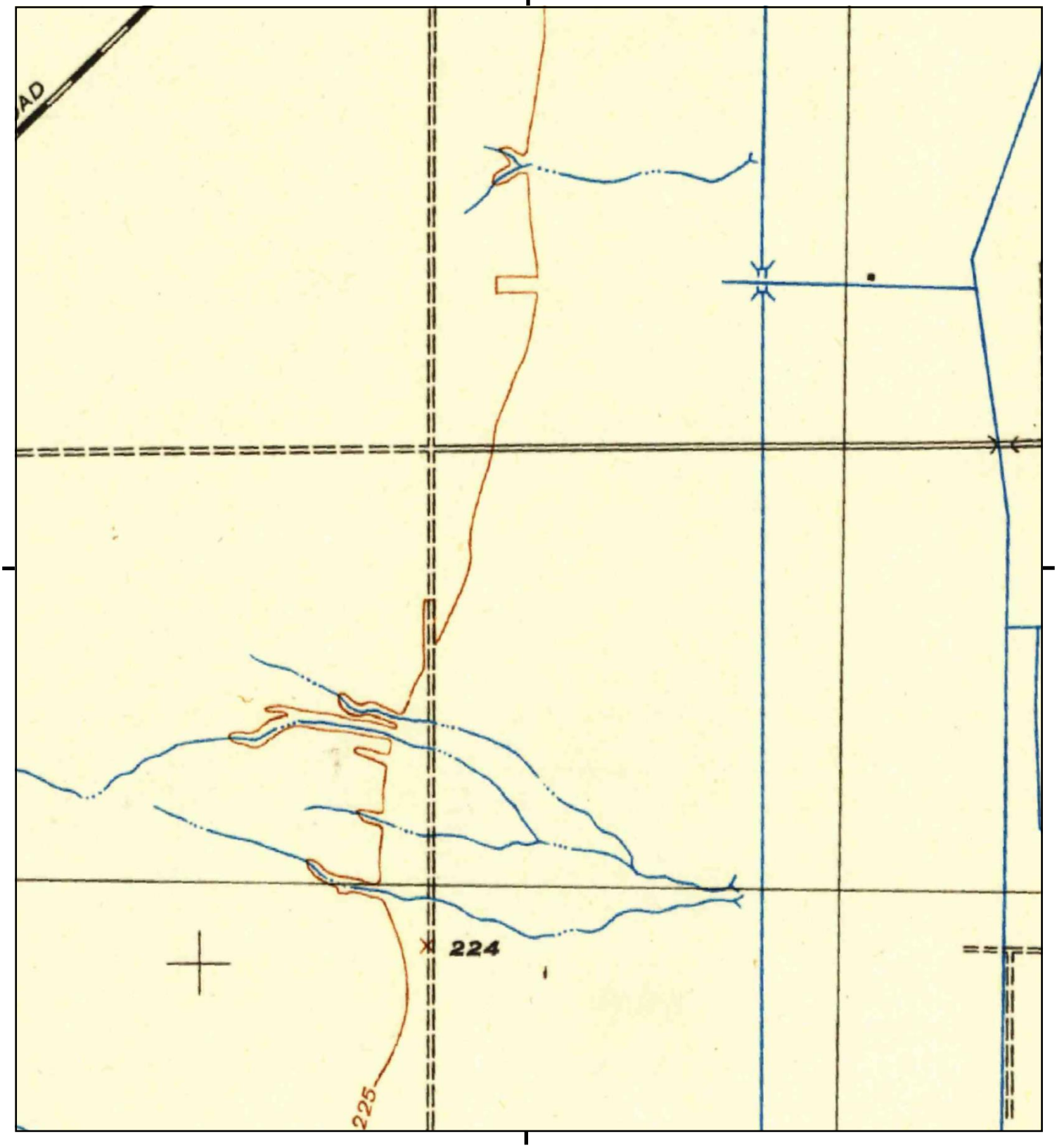
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Stratford, 1943, 15-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N



This report includes information from the following map sheet(s).

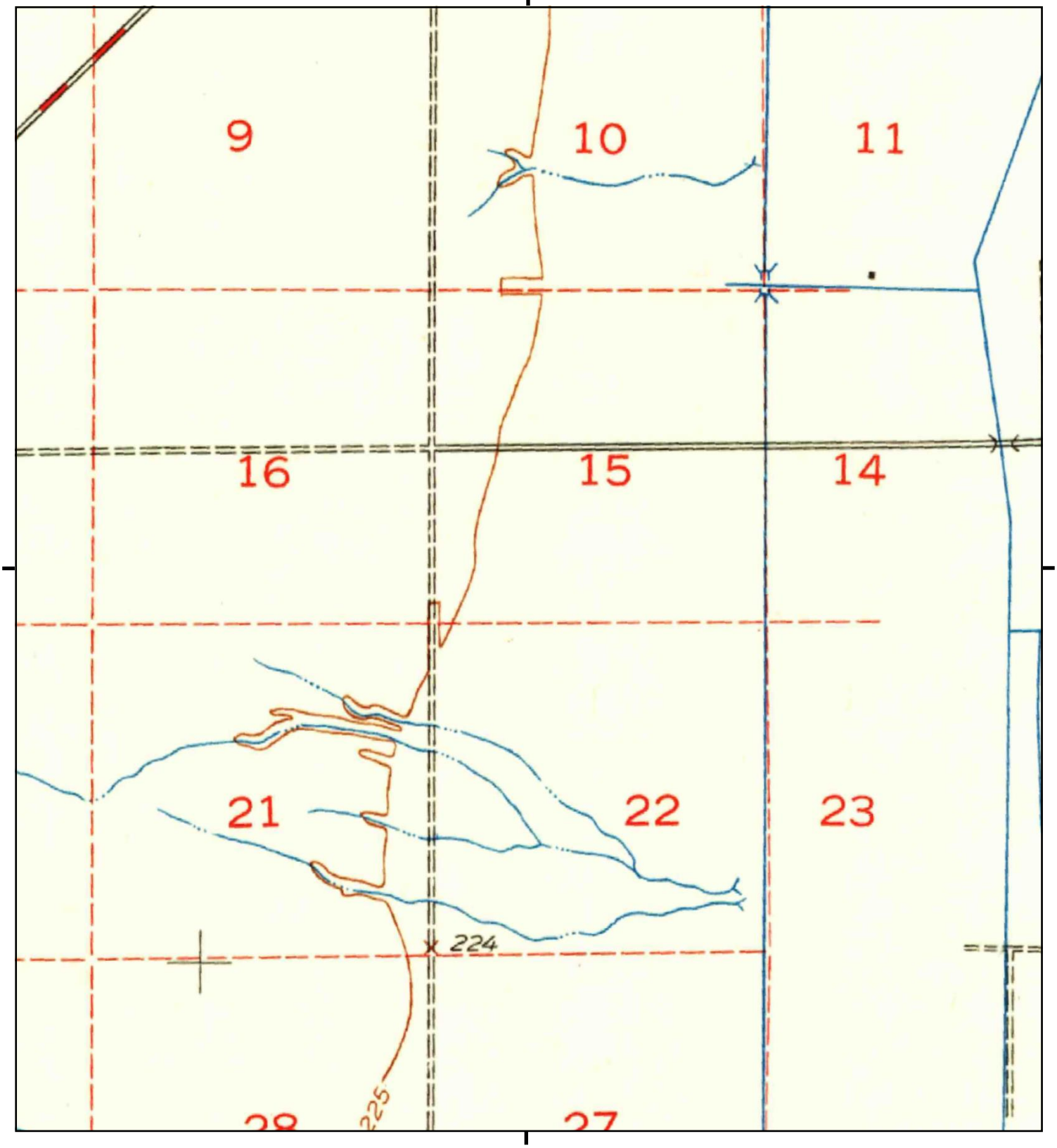
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Stratford, 1943, 15-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N



This report includes information from the following map sheet(s).

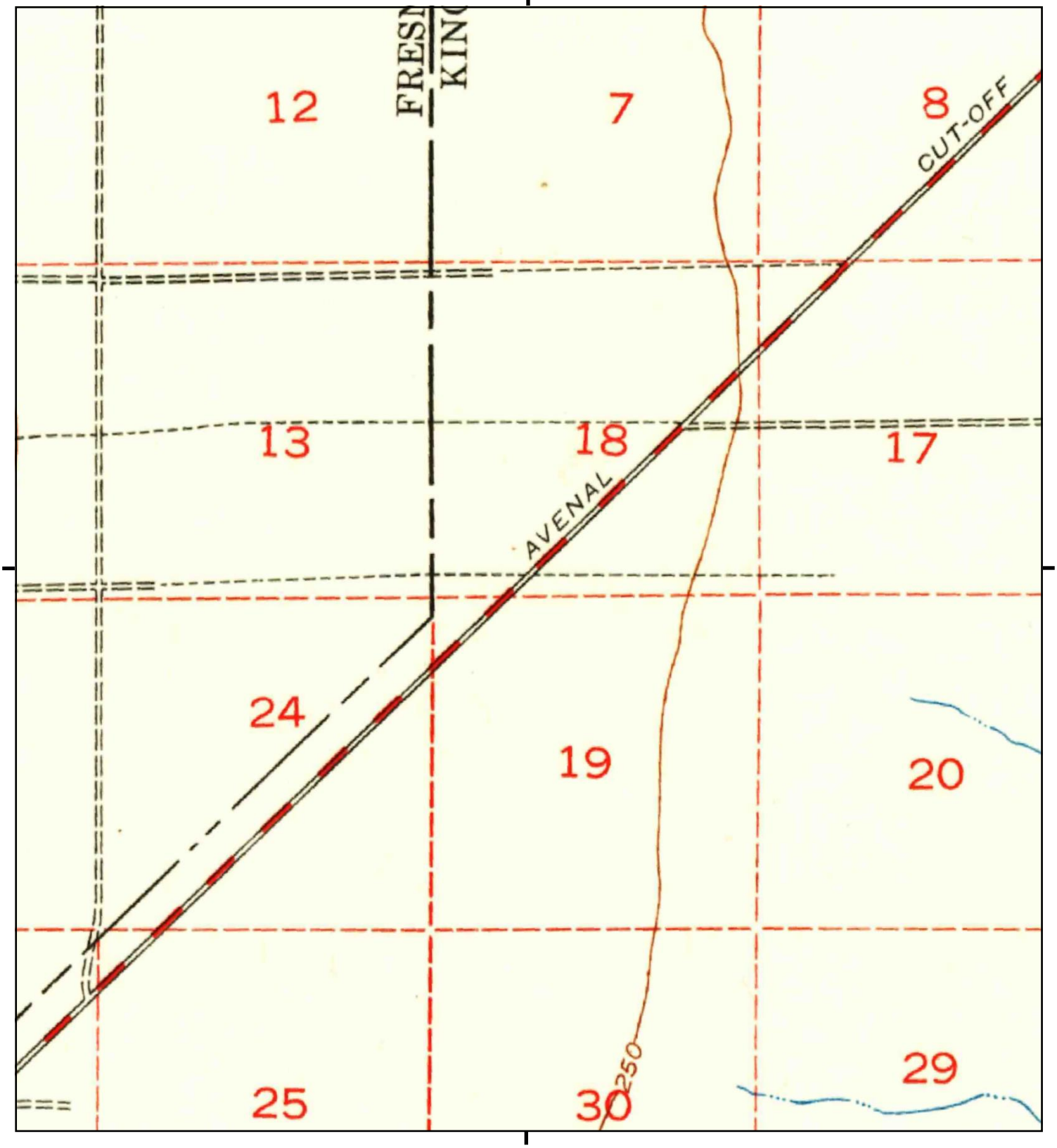
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Stratford, 1940, 15-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N



This report includes information from the following map sheet(s).

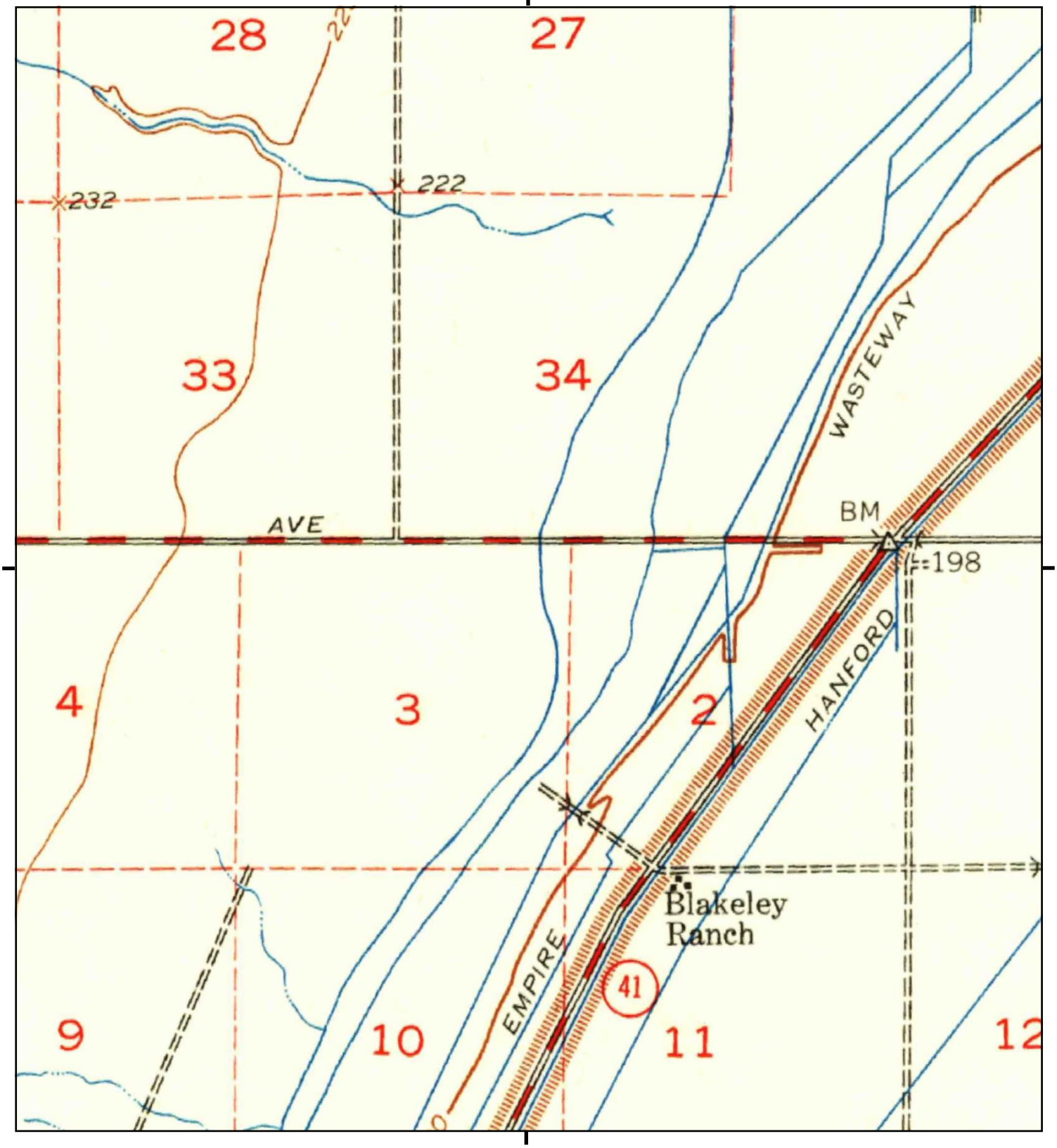
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Stratford, 1940, 15-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

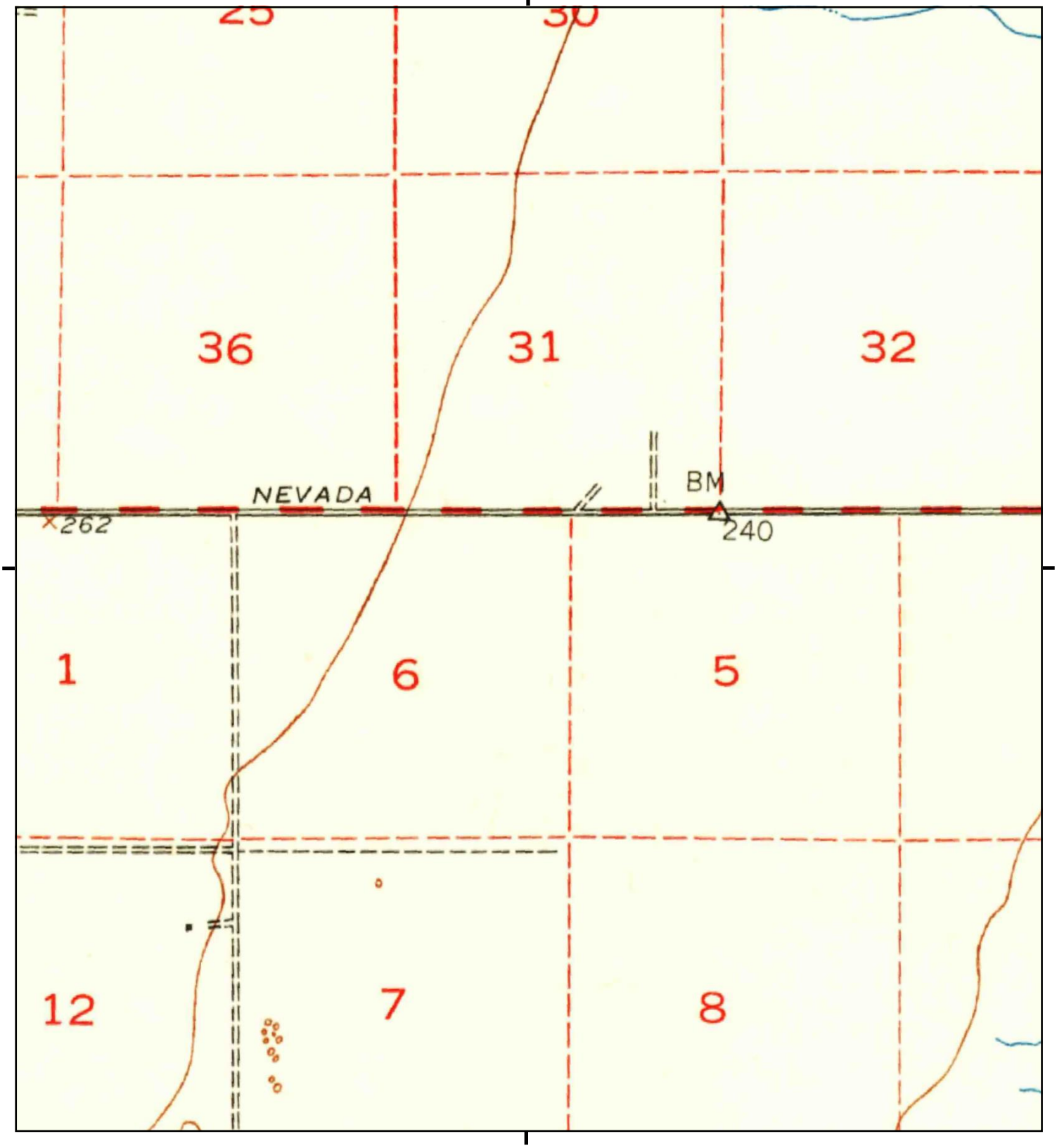
TP, Stratford, 1940, 15-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

1940



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

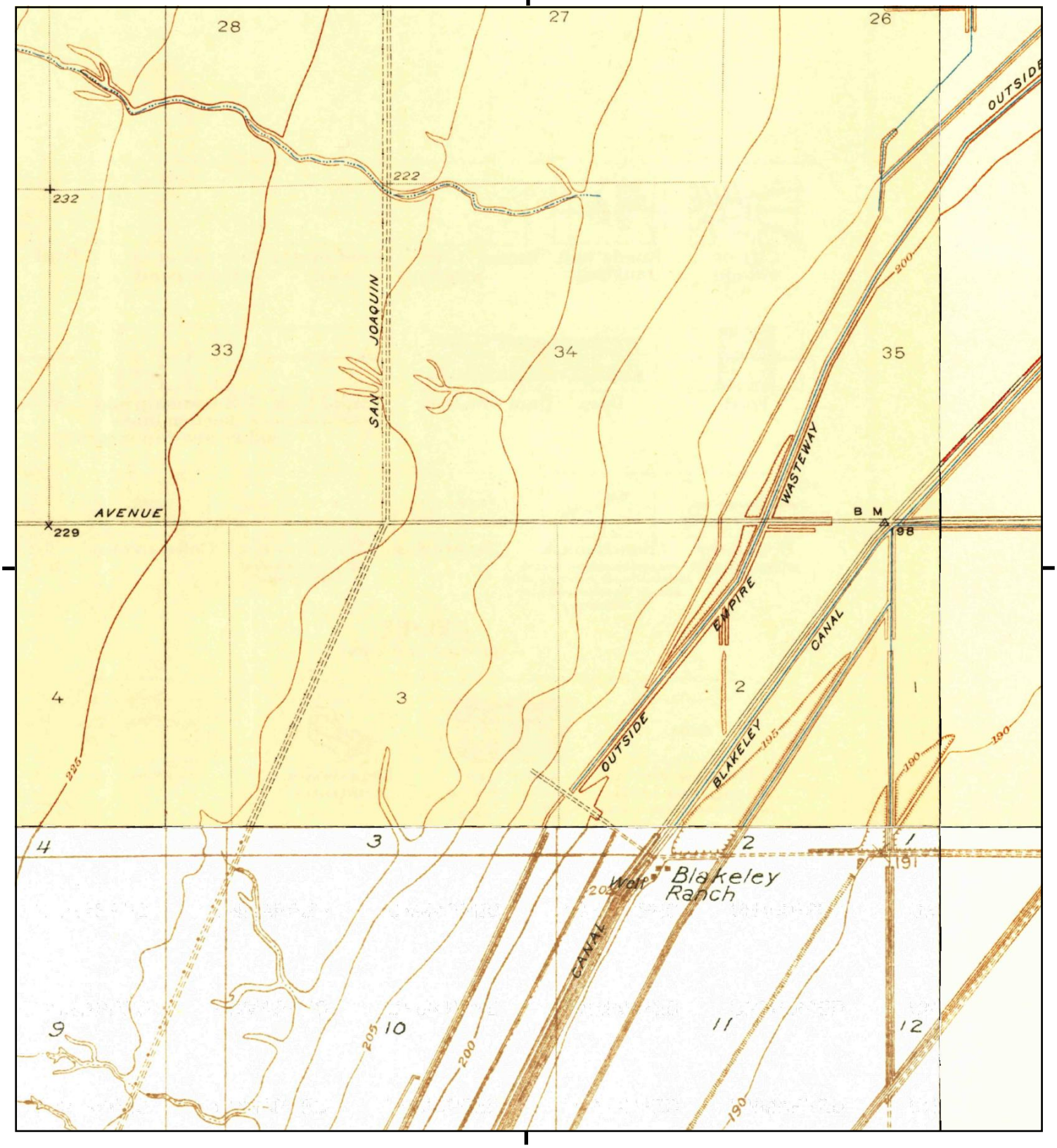
TP, Stratford, 1940, 15-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

1929, 1933



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Westhaven, 1929, 7.5-minute
NE, Stratford, 1929, 7.5-minute
S, Chatom Ranch, 1933, 7.5-minute
SW, Kettleman City, 1933, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

1929, 1933



This report includes information from the following map sheet(s).

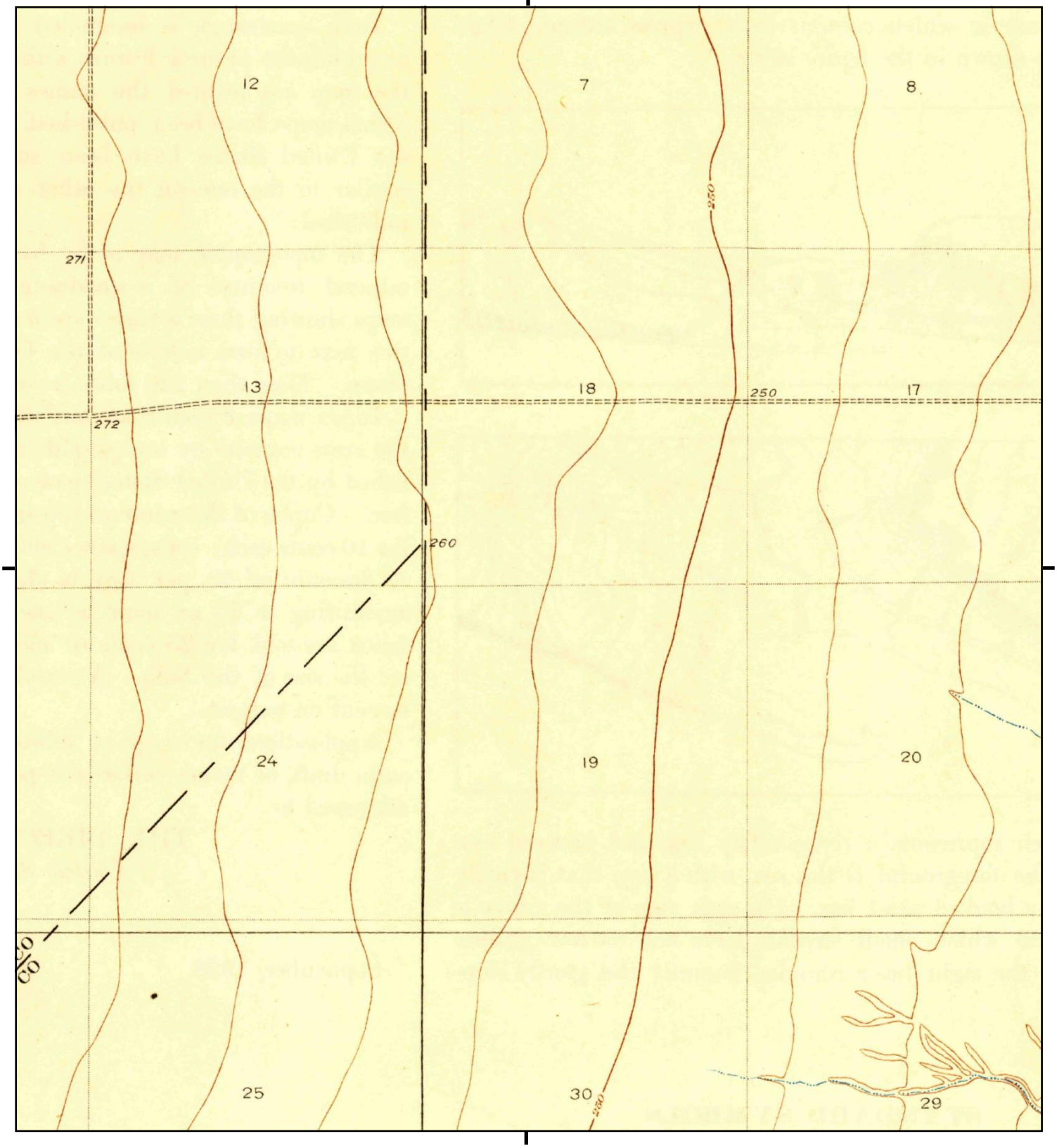
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Westhaven, 1929, 7.5-minute
S, Kettleman City, 1933, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

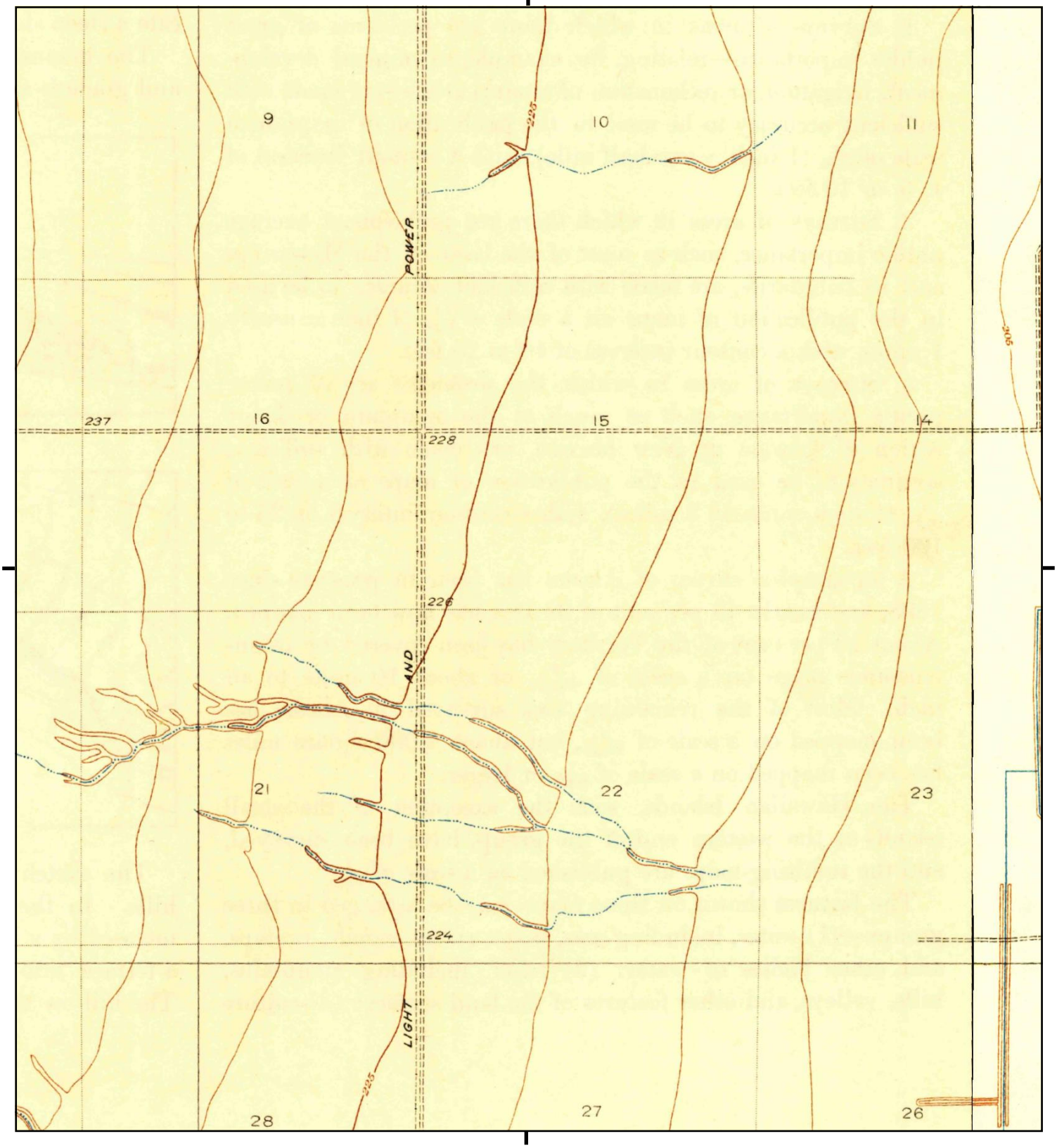
TP, Westhaven, 1929, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N

Historical Topo Map

1929



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Westhaven, 1929, 7.5-minute
E, Stratford, 1929, 7.5-minute

SITE NAME: Cherry 2 Solar
ADDRESS: Manteca Avenue and 27th Avenue
Stratford, CA 93266
CLIENT: MooreTwining Associates, Inc.

N

Cherry 2 Solar

Manteca Avenue and 27th Avenue

Stratford, CA 93266

Inquiry Number: 6814563.6

January 11, 2022

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

01/11/22

Site Name:

Cherry 2 Solar
Manteca Avenue and 27th Ave
Stratford, CA 93266
EDR Inquiry # 6814563.6

Client Name:

MooreTwining Associates, Inc.
2527 Fresno Street
Fresno, CA 93721
Contact: Katie Lister

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The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 17A6-446E-B1E7

PO # NA

Project C64409.0200

UNMAPPED PROPERTY

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Sanborn® Library search results

Certification #: 17A6-446E-B1E7

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- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Cherry 2 Solar
Manteca Avenue and 27th Avenue
Stratford, CA 93266

Inquiry Number: 6814563.9
January 12, 2022

The EDR-City Directory Image Report

EDR® Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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City Directory Images

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2017	☑	☐	EDR Digital Archive
2014	☑	☐	EDR Digital Archive
2010	☑	☐	EDR Digital Archive
2005	☑	☐	EDR Digital Archive
2000	☑	☐	EDR Digital Archive
1995	☑	☐	EDR Digital Archive
1992	☑	☐	EDR Digital Archive
1990	☑	☐	Haines Criss-Cross Directory
1985	☑	☐	Haines Criss-Cross Directory
1980	☑	☐	Haines Criss-Cross Directory
1975	☑	☐	Haines Criss-Cross Directory

FINDINGS

TARGET PROPERTY STREET

Manteca Avenue and 27th Avenue
Stratford, CA 93266

Year	*CD Image*	*Source*	
27TH AVE			
2017	-	EDR Digital Archive	Target and Adjoining not listed in Source
2014	-	EDR Digital Archive	Target and Adjoining not listed in Source
2010	-	EDR Digital Archive	Target and Adjoining not listed in Source
2005	-	EDR Digital Archive	Target and Adjoining not listed in Source
2000	-	EDR Digital Archive	Target and Adjoining not listed in Source
1995	-	EDR Digital Archive	Target and Adjoining not listed in Source
1992	-	EDR Digital Archive	Target and Adjoining not listed in Source
1990	-	Haines Criss-Cross Directory	Street not listed in Source
1985	-	Haines Criss-Cross Directory	Street not listed in Source
1980	-	Haines Criss-Cross Directory	Street not listed in Source
1975	-	Haines Criss-Cross Directory	Street not listed in Source
MANTECA AVE			
2017	pg A1	EDR Digital Archive	
2014	pg A2	EDR Digital Archive	
2010	pg A3	EDR Digital Archive	
2005	pg A4	EDR Digital Archive	
2000	pg A5	EDR Digital Archive	
1995	pg A6	EDR Digital Archive	
1992	pg A7	EDR Digital Archive	
1990	pg A8	Haines Criss-Cross Directory	
1985	pg A9	Haines Criss-Cross Directory	
1980	pg A10	Haines Criss-Cross Directory	
1975	pg A11	Haines Criss-Cross Directory	

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

MANTECA AVE 2017

19151 GONZALEZ, GUADALUPE
20144 CRAPO, DAVID T

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

MANTECA AVE 2014

19151 GONZALEZ, GUADALUPE
20134 OCCUPANT UNKNOWN,
20144 CRAPO, DAVID T

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

MANTECA AVE 2010

19151 GONZALEZ, GUADALUPE
19171 DUARTE, ANDREA
20134 OCCUPANT UNKNOWN,

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

MANTECA AVE 2005

19171 ANDREA, DUARTE
20134 OCCUPANT UNKNOWN,

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

MANTECA AVE 2000

19151 GUTIERREZ, A
19171 ACEVEDO, GUSTAVO
20144 CRAPO, TOM

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

MANTECA AVE 1995

19171	GUTIERREZ, CARLOS
19191	CIRCLE L FARMS
20134	GUTIERREZ, ALMA R
20144	CRAPO, TOM

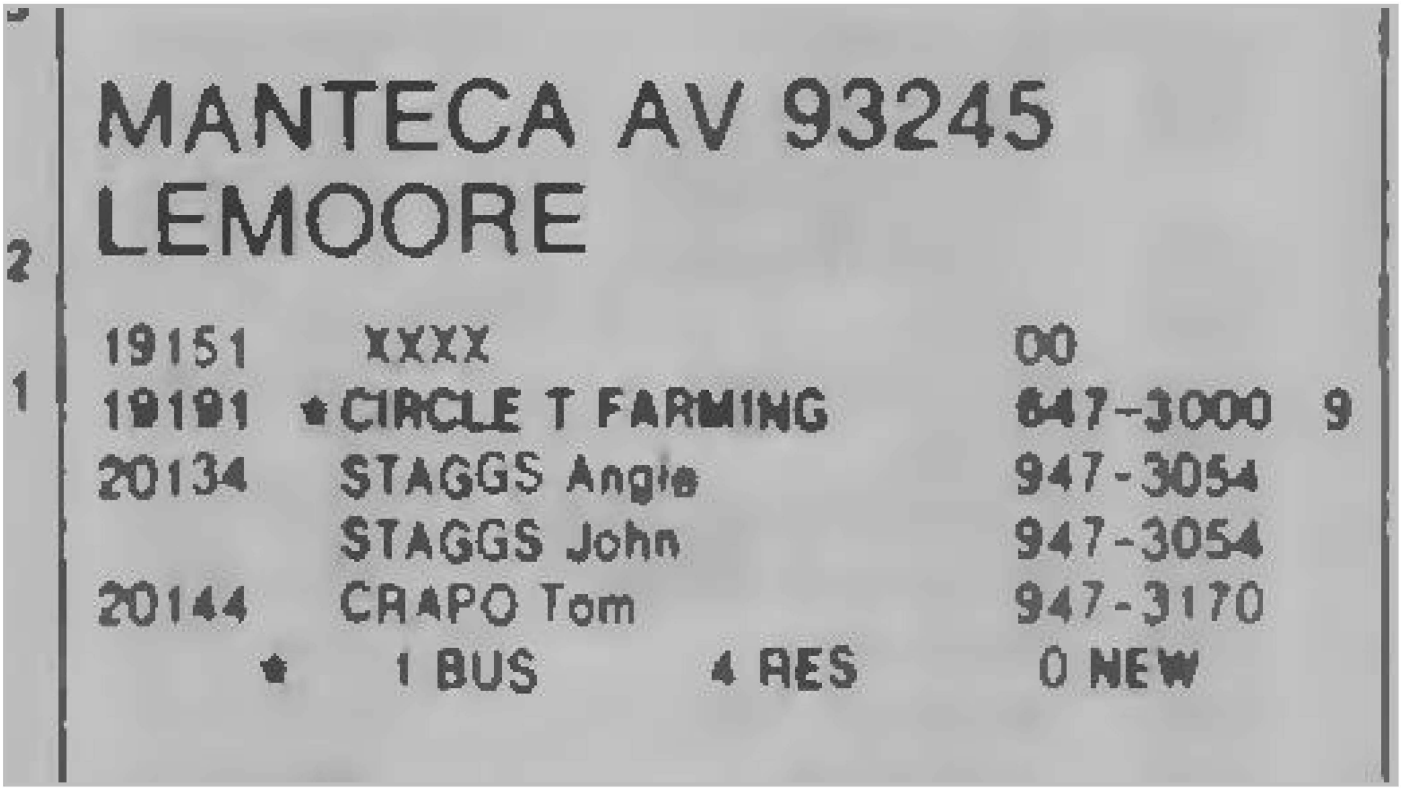
Target Street	Cross Street	Source
✓	-	EDR Digital Archive

MANTECA AVE 1992

19151 GUTIERREZ, LUIS
20134 STAGGS, JOHN

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

MANTECA AVE 1990



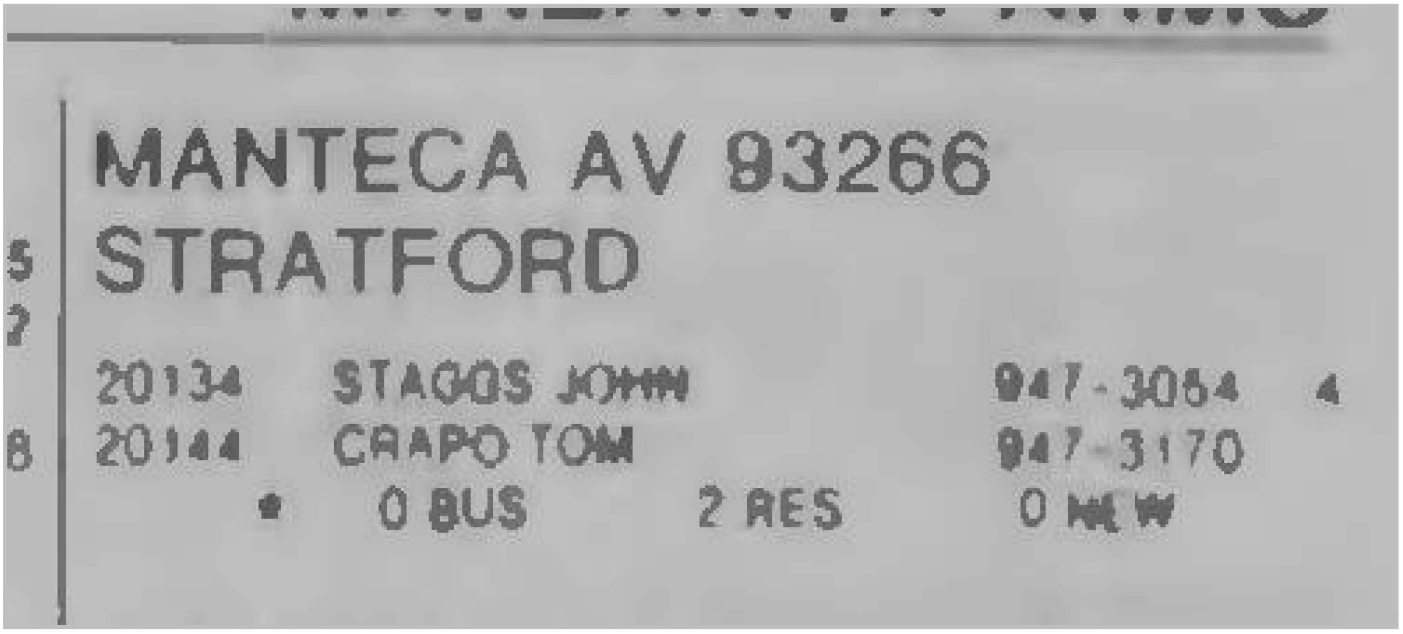
MANTECA AV 93245
LEMOORE

19151	XXXX	00	
19191	*CIRCLE T FARMING	847-3000	9
20134	STAGGS Angie	947-3054	
	STAGGS John	947-3054	
20144	CRAPO Tom	947-3170	

* 1 BUS 4 RES 0 NEW

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

MANTECA AVE 1985



Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

MANTECA AVE 1980



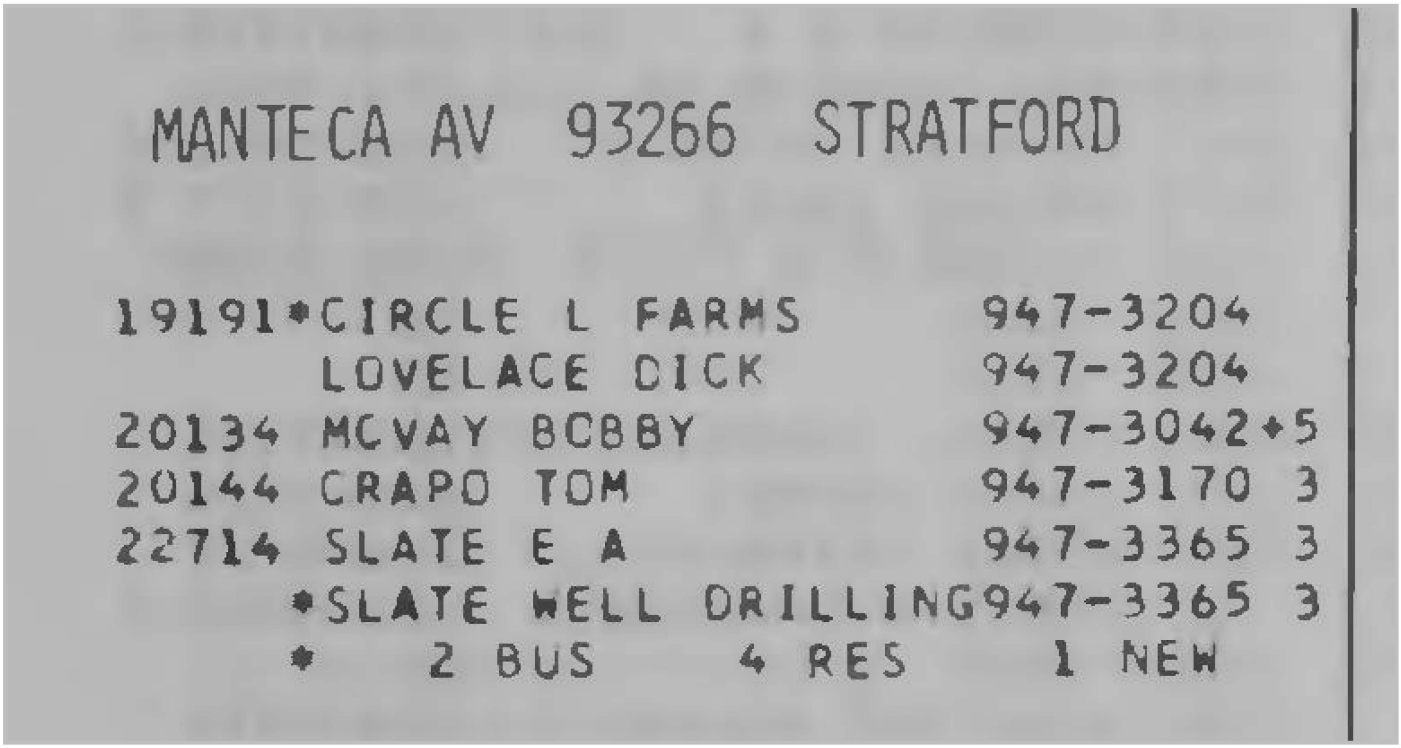
MANTECA AV 93266
STRATFORD

19191	CIRCLE L FARMS	947-3204	
	LOVELACE DICK	947-3204	
20144	CRAPO TOM	947-3170	3

* 2 BUS 1 RES 0 NEW

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

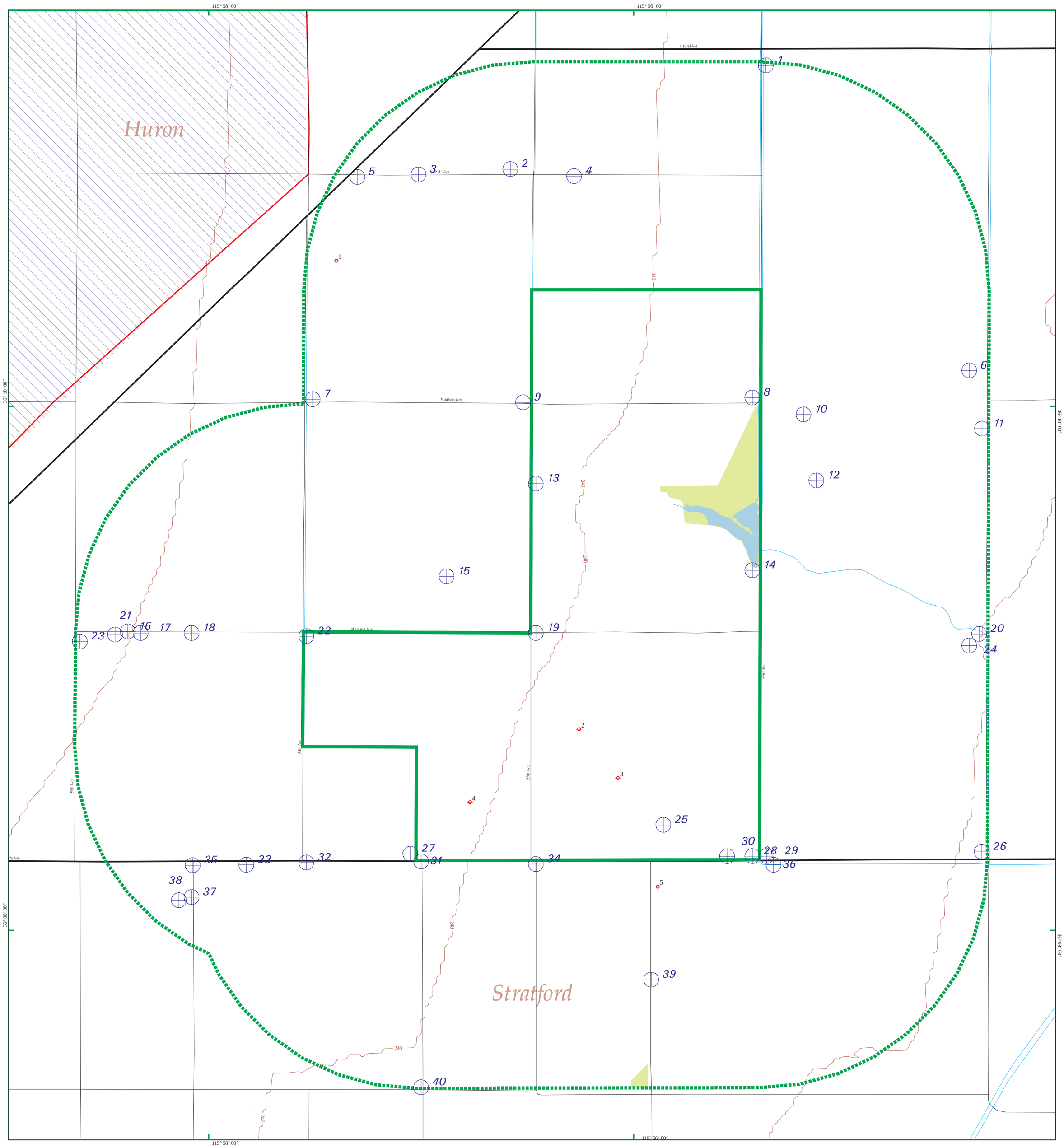
MANTECA AVE 1975



MANTECA AV 93266 STRATFORD

19191	*CIRCLE L FARMS	947-3204	
	LOVELACE DICK	947-3204	
20134	MCVAY BOBBY	947-3042	*5
20144	CRAPO TOM	947-3170	3
22714	SLATE E A	947-3365	3
	*SLATE WELL DRILLING	947-3365	3

* 2 BUS 4 RES 1 NEW



EDR DataMap® - Well Search

Cherry 2 Solar



Stratford, CA

- Listed Water Wells
- Oil & Gas Wells
- Study Boundary
- Roads
- Major Roads
- Waterways
- Railroads
- Contour Lines
- Fault Lines
- Water
- Superfund Sites
- 100-Yr Flood Zones
- Wetlands

N

0 1/4 1/2

Scale in Miles

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6814563.10w - 11 Jan 22

Cherry 2 Solar
Stratford, CA 93266

Inquiry Number: 6814563.10w
January 11, 2022

EDR DataMap™ Well Search Report

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Shelton, CT 06484
Toll Free: 800.352.0050
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GEOCHECK VERSION 2.1
SUMMARY

FEDERAL DATABASE WELL INFORMATION

MAP ID	WELL ID
1	USGS40000170622
3	USGS40000170566
7	USGS40000170452
8	USGS40000170451
14	USGS40000170361
20	USGS40000170322
23	USGS40000170319
27	USGS40000170232
27	USGS40000170231
28	USGS40000170223
29	USGS40000170222
26	USGS40000170221
35	USGS40000170204
33	USGS40000170202
33	USGS40000170203
36	USGS40000170201
39	USGS40000170160

STATE WATER WELL INFORMATION

MAP ID	WELL ID
1	CADWR9000023868
2	CADWR9000023810
3	CADWR9000023794
3	CADWR9000023793
3	CADWR9000023781
3	CADWR0000025725
4	CADWR9000023792
4	CADWR9000023785
5	CADWR9000023702
4	CADWR9000023784
6	CADWR9000023668
7	CADWR0000035774
7	CADWR9000023640
7	CADWR9000023629
9	CADWR9000023639
7	CADWR9000023627
9	CADWR9000023618
9	CADWR9000023609
10	CADWR9000023603
11	CADWR9000023586
12	CADWR9000023562
12	CADWR0000011715
13	CADWR9000023559
14	CADWR9000023491
14	CADWR0000008746
14	CADWR9000023490
15	CADWR0000034144
15	CADWR9000023485
16	CADWR9000023439
17	CADWR9000023425
18	CADWR9000023424

GEOCHECK VERSION 2.1
SUMMARY

STATE WATER WELL INFORMATION

MAP ID	WELL ID
19	CADWR9000023423
21	CADWR9000023426
20	CAUSGSN00006453
22	CADWR9000023417
22	CADWR9000023418
23	CADWR9000023407
23	CADWR0000002994
23	CAUSGSN00014560
24	CADWR9000023402
25	CADWR9000023309
26	CADWR9000023285
27	CADWR9000023262
27	CADWR0000029889
28	CAUSGSN00015146
26	CAUSGSN00017565
30	CADWR9000023255
31	CADWR9000023247
32	CADWR9000023232
33	CADWR9000023223
31	CADWR9000023222
34	CADWR9000023221
35	CAUSGSN00001224
33	CAUSGSN00018813
37	CADWR9000023194
38	CADWR0000001588
38	CADWR0000038166
39	CADWR9000023140
40	CADWR9000023068

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID
1	CAOG14000012854
2	CAOG14000014010
3	CAOG14000014011
4	CAOG14000013162
5	CAOG14000013643

PUBLIC WATER SUPPLY SYSTEM INFORMATION

NO WELLS FOUND

USGS TOPOGRAPHIC MAP(S)

36119-A8 KETTLEMAN CITY, CA
36119-B8 WESTHAVEN, CA

AREA RADON INFORMATION

Federal EPA Radon Zone for KINGS County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

GEOCHECK VERSION 2.1
SUMMARY

AREA RADON INFORMATION

Federal Area Radon Information for KINGS COUNTY, CA

Number of sites tested: 12

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.475 pCi/L	92%	8%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Water Well Information:

Map ID:	1		
Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	020S019E16M001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19510101	Well Depth:	1402
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Map ID:	3		
Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	020S019E19B001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Alluvium Below E-Clay (Miocene-Pleistocene)		
Aquifer Type:	Not Reported	Construction Date:	19550101
Well Depth:	2120	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1968-12-01
Feet below surface:	352.00	Feet to sea level:	Not Reported
Note:	Not Reported		

Map ID:	7		
Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	020S019E19N001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19490101	Well Depth:	2081
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1965-12-01

Feet below surface:	383.00	Feet to sea level:	Not Reported
Note:	Not Reported		

Map ID:	8		
Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	020S019E20R001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19660101	Well Depth:	26
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1966-06-01
Feet below surface:	22.00	Feet to sea level:	Not Reported
Note:	Not Reported		

Map ID:	14		
Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	020S019E29J001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19670101	Well Depth:	1211
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Map ID:	20		
Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	020S019E33A001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Map ID: 23
Organization ID: USGS-CA
Organization Name: USGS California Water Science Center
Monitor Location: 020S018E36D001M
Type: Well
Description: Not Reported
HUC: 18030012
Drainage Area: Not Reported
Drainage Area Units: Not Reported
Contrib Drainage Area: Not Reported
Contrib Drainage Area Unts: Not Reported
Aquifer: Central Valley aquifer system
Formation Type: Alluvium Above and Below E-Clay (Miocene-Pleistocene)
Aquifer Type: Not Reported
Construction Date: 19460101
Well Depth: 1400
Well Depth Units: ft
Well Hole Depth: Not Reported
Well Hole Depth Units: Not Reported

Ground water levels,Number of Measurements: 1
Level reading date: 1967-01-01
Feet below surface: 294.00
Feet to sea level: Not Reported
Note: Not Reported

Map ID: 27
Organization ID: USGS-CA
Organization Name: USGS California Water Science Center
Monitor Location: 020S019E31P002M
Type: Well
Description: Not Reported
HUC: 18030012
Drainage Area: Not Reported
Drainage Area Units: Not Reported
Contrib Drainage Area: Not Reported
Contrib Drainage Area Unts: Not Reported
Aquifer: Central Valley aquifer system
Formation Type: Not Reported
Aquifer Type: Not Reported
Construction Date: 19620101
Well Depth: 686
Well Depth Units: ft
Well Hole Depth: Not Reported
Well Hole Depth Units: Not Reported

Ground water levels,Number of Measurements: 1
Level reading date: 1963-07-01
Feet below surface: 320.00
Feet to sea level: Not Reported
Note: Not Reported

Map ID: 27
Organization ID: USGS-CA
Organization Name: USGS California Water Science Center
Monitor Location: 020S019E31P001M
Type: Well
Description: Not Reported
HUC: 18030012
Drainage Area: Not Reported
Drainage Area Units: Not Reported
Contrib Drainage Area: Not Reported
Contrib Drainage Area Unts: Not Reported
Aquifer: Central Valley aquifer system
Formation Type: Not Reported
Aquifer Type: Not Reported
Construction Date: 19620101
Well Depth: 43
Well Depth Units: ft
Well Hole Depth: Not Reported
Well Hole Depth Units: Not Reported

Ground water levels,Number of Measurements: 1
Level reading date: 1962-03-01
Feet below surface: 40.00
Feet to sea level: Not Reported
Note: Not Reported

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Map ID:	28		
Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	020S019E32R001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Alluvium Above E-Clay	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	17
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Map ID:	29		
Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	020S019E33N001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19660101	Well Depth:	300
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1966-06-01
Feet below surface:	23.00	Feet to sea level:	Not Reported
Note:	Not Reported		

Map ID:	26		
Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	020S019E33R001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Alluvium Above E-Clay	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	20
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Map ID: 35
Organization ID: USGS-CA
Organization Name: USGS California Water Science Center
Monitor Location: 021S019E06D001M
Type: Well
Description: Not Reported
HUC: 18030012
Drainage Area: Not Reported
Drainage Area Units: Not Reported
Contrib Drainage Area: Not Reported
Contrib Drainage Area Unts: Not Reported
Aquifer: Central Valley aquifer system
Formation Type: Alluvium Above and Below E-Clay (Miocene-Pleistocene)
Aquifer Type: Not Reported
Construction Date: 19470101
Well Depth: 1387
Well Depth Units: ft
Well Hole Depth: Not Reported
Well Hole Depth Units: Not Reported

Ground water levels,Number of Measurements: 1
Level reading date: 1950-09-01
Feet below surface: 260.00
Feet to sea level: Not Reported
Note: Not Reported

Map ID: 33
Organization ID: USGS-CA
Organization Name: USGS California Water Science Center
Monitor Location: 021S019E06D002M
Type: Well
Description: Not Reported
HUC: 18030012
Drainage Area: Not Reported
Drainage Area Units: Not Reported
Contrib Drainage Area: Not Reported
Contrib Drainage Area Unts: Not Reported
Aquifer: Central Valley aquifer system
Formation Type: Alluvium Above and Below E-Clay (Miocene-Pleistocene)
Aquifer Type: Not Reported
Construction Date: 19500101
Well Depth: 1163
Well Depth Units: ft
Well Hole Depth: Not Reported
Well Hole Depth Units: Not Reported

Ground water levels,Number of Measurements: 1
Level reading date: 1961-05-01
Feet below surface: 327.00
Feet to sea level: Not Reported
Note: Not Reported

Map ID: 33
Organization ID: USGS-CA
Organization Name: USGS California Water Science Center
Monitor Location: 021S019E06D003M
Type: Well
Description: Not Reported
HUC: 18030012
Drainage Area: Not Reported
Drainage Area Units: Not Reported
Contrib Drainage Area: Not Reported
Contrib Drainage Area Unts: Not Reported
Aquifer: Central Valley aquifer system
Formation Type: Not Reported
Aquifer Type: Not Reported
Construction Date: 19620101
Well Depth: 1130
Well Depth Units: ft
Well Hole Depth: Not Reported
Well Hole Depth Units: Not Reported

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Map ID:	36		
Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	021S019E04B001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	192
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1957-03-01
Feet below surface:	44.00	Feet to sea level:	Not Reported
Note:	Not Reported		

Map ID:	39		
Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	021S019E04M001M	Type:	Well
Description:	Not Reported	HUC:	18030012
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19560101	Well Depth:	1200
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1965-12-01
Feet below surface:	308.00	Feet to sea level:	Not Reported
Note:	Not Reported		

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

State Well Information:

Map ID:	1		
State Well #:	20S19E16M001M	Station ID:	18066
Well Name:	Not Reported	Basin Name:	Westside
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	2		
State Well #:	20S19E18R001M	Station ID:	18069
Well Name:	Not Reported	Basin Name:	Westside
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	3		
State Well #:	20S19E19B002M	Station ID:	18070
Well Name:	Not Reported	Basin Name:	Westside
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	3		
State Well #:	20S19E19B001M	Station ID:	35265
Well Name:	Not Reported	Basin Name:	Westside
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	3		
State Well #:	20S19E19C001M	Station ID:	18071
Well Name:	20S/19E-19C01	Basin Name:	Westside
Well Use:	Irrigation	Well Type:	Single Well
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	3		
Well ID:	20S19E19B001M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	20S19E19B001M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=20S19E19B001M&store_num=		
GeoTracker Data:	Not Reported		

Map ID:	4		
State Well #:	20S19E20D001M	Station ID:	18074
Well Name:	20S/19E-20D01	Basin Name:	Westside
Well Use:	Irrigation	Well Type:	Single Well

Well Depth:	925	Well Completion Rpt #:	Not Reported

Map ID:	4		
State Well #:	20S19E20D003M	Station ID:	50440
Well Name:	20S/19E-20D03	Basin Name:	Westside
Well Use:	Irrigation	Well Type:	Single Well
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	5		
State Well #:	20S19E19D003M	Station ID:	18072
Well Name:	20S/19E-19D03	Basin Name:	Westside
Well Use:	Irrigation	Well Type:	Single Well
Well Depth:	1600	Well Completion Rpt #:	275499

Map ID:	4		
State Well #:	20S19E20D002M	Station ID:	50078
Well Name:	20S/19E-20D02	Basin Name:	Westside
Well Use:	Irrigation	Well Type:	Single Well
Well Depth:	1420	Well Completion Rpt #:	E0195799

Map ID:	6		
State Well #:	26S18E16H001M	Station ID:	20835
Well Name:	Not Reported	Basin Name:	Westside
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	7		
Well ID:	20S19E19N001M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	20S19E19N001M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=20S19E19N001M&store_num=		
GeoTracker Data:	Not Reported		

Map ID:	7		
State Well #:	20S19E19N001M	Station ID:	35358
Well Name:	20S/19E-19N01	Basin Name:	Westside
Well Use:	Irrigation	Well Type:	Single Well
Well Depth:	2081	Well Completion Rpt #:	Not Reported

Map ID: 7

State Well #:	20S19E30D001M	Station ID:	24730
Well Name:	1335	Basin Name:	Westside
Well Use:	Not Reported	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	9		
State Well #:	20S19E19R001M	Station ID:	18073
Well Name:	20S/19E-19R01	Basin Name:	Westside
Well Use:	Irrigation	Well Type:	Single Well
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	7		
State Well #:	20S19E19N002M	Station ID:	49269
Well Name:	20S/19E-19N02	Basin Name:	Westside
Well Use:	Irrigation	Well Type:	Single Well
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	9		
State Well #:	20S19E29D001M	Station ID:	25552
Well Name:	Not Reported	Basin Name:	Westside
Well Use:	Not Reported	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	9		
State Well #:	20S19E30A001M	Station ID:	49472
Well Name:	20S/19E-30A01	Basin Name:	Westside
Well Use:	Irrigation	Well Type:	Single Well
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	10		
State Well #:	26S18E16E001M	Station ID:	36312
Well Name:	Not Reported	Basin Name:	Westside
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	11		
State Well #:	20S19E28A001M	Station ID:	25551
Well Name:	Not Reported	Basin Name:	Westside
Well Use:	Not Reported	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	12

State Well #:	26S18E16M001M	Station ID:	36313
Well Name:	Not Reported	Basin Name:	Westside
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	12		
Well ID:	26S18E16M001M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	26S18E16M001M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=26S18E16M001M&store_num=		
GeoTracker Data:	Not Reported		

Map ID:	13		
State Well #:	20S19E29E001M	Station ID:	50254
Well Name:	20S/19E-29E01	Basin Name:	Westside
Well Use:	Irrigation	Well Type:	Single Well
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	14		
State Well #:	20S19E29J001M	Station ID:	18081
Well Name:	Not Reported	Basin Name:	Westside
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	14		
Well ID:	20S19E29J001M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	20S19E29J001M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=20S19E29J001M&store_num=		
GeoTracker Data:	Not Reported		

Map ID:	14		
State Well #:	20S19E29J002M	Station ID:	24729
Well Name:	1334	Basin Name:	Westside
Well Use:	Not Reported	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	15		
Well ID:	26S18E19B002M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	26S18E19B002M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=26S18E19B002M&store_num=		

GeoTracker Data: Not Reported

Map ID: 15
State Well #: 26S18E19B002M
Well Name: Not Reported
Well Use: Unknown
Well Depth: 0
Station ID: 20837
Basin Name: Westside
Well Type: Unknown
Well Completion Rpt #: Not Reported

Map ID: 16
State Well #: 20S18E36D004M
Well Name: Not Reported
Well Use: Not Reported
Well Depth: 0
Station ID: 25545
Basin Name: Westside
Well Type: Unknown
Well Completion Rpt #: Not Reported

Map ID: 17
State Well #: 20S18E36C002M
Well Name: Not Reported
Well Use: Unknown
Well Depth: 0
Station ID: 20652
Basin Name: Westside
Well Type: Unknown
Well Completion Rpt #: Not Reported

Map ID: 18
State Well #: 20S18E36C003M
Well Name: 20S/18E-36C03
Well Use: Irrigation
Well Depth: 0
Station ID: 49800
Basin Name: Westside
Well Type: Single Well
Well Completion Rpt #: Not Reported

Map ID: 19
State Well #: 20S19E32D001M
Well Name: Not Reported
Well Use: Unknown
Well Depth: 0
Station ID: 35366
Basin Name: Westside
Well Type: Unknown
Well Completion Rpt #: Not Reported

Map ID: 21
State Well #: 20S18E36D005M
Well Name: 20S/18E-36D05
Well Use: Irrigation
Well Depth: 0
Station ID: 20653
Basin Name: Westside
Well Type: Single Well
Well Completion Rpt #: Not Reported

Map ID: 20
Well ID: USGS-360908119541901
Source: United States Geological Survey
Well Type: UNK

Other Name: USGS-360908119541901 GAMA PFAS Testing: Not Reported
Groundwater Quality Data: https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-360908119541901&store_num=
GeoTracker Data: Not Reported

Map ID: 22
State Well #: 20S19E31D001M Station ID: 49801
Well Name: 20S/19E-31D01 Basin Name: Westside
Well Use: Irrigation Well Type: Single Well
Well Depth: 2250 Well Completion Rpt #: E0208756

Map ID: 22
State Well #: 20S19E30N003M Station ID: 24731
Well Name: 1601 Basin Name: Westside
Well Use: Not Reported Well Type: Unknown
Well Depth: 0 Well Completion Rpt #: Not Reported

Map ID: 23
State Well #: 20S18E36D001M Station ID: 36016
Well Name: Not Reported Basin Name: Westside
Well Use: Unknown Well Type: Unknown
Well Depth: 0 Well Completion Rpt #: Not Reported

Map ID: 23
Well ID: 20S18E36D001M Well Type: UNK
Source: Department of Water Resources
Other Name: 20S18E36D001M GAMA PFAS Testing: Not Reported
Groundwater Quality Data: https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=20S18E36D001M&store_num=
GeoTracker Data: Not Reported

Map ID: 23
Well ID: USGS-360906119583201 Well Type: UNK
Source: United States Geological Survey
Other Name: USGS-360906119583201 GAMA PFAS Testing: Not Reported
Groundwater Quality Data: https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-360906119583201&store_num=
GeoTracker Data: Not Reported

Map ID: 24
State Well #: 20S19E33A001M Station ID: 18083
Well Name: Not Reported Basin Name: Westside
Well Use: Unknown Well Type: Unknown
Well Depth: 0 Well Completion Rpt #: Not Reported

Map ID: 25

State Well #: 20S19E32R001M
Well Name: 20S19E32R001M
Well Use: Unknown
Well Depth: 0
Station ID: 24771
Basin Name: Westside
Well Type: Single Well
Well Completion Rpt #: Not Reported

Map ID: 26
State Well #: 20S19E33R001M
Well Name: Not Reported
Well Use: Not Reported
Well Depth: 0
Station ID: 25554
Basin Name: Westside
Well Type: Unknown
Well Completion Rpt #: Not Reported

Map ID: 27
State Well #: 20S19E31P002M
Well Name: Not Reported
Well Use: Unknown
Well Depth: 0
Station ID: 18082
Basin Name: Westside
Well Type: Unknown
Well Completion Rpt #: Not Reported

Map ID: 27
Well ID: 20S19E31P002M
Source: Department of Water Resources
Other Name: 20S19E31P002M
Groundwater Quality Data: https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=20S19E31P002M&store_num=
GeoTracker Data: Not Reported
Well Type: UNK
GAMA PFAS Testing: Not Reported

Map ID: 28
Well ID: USGS-360817119552301
Source: United States Geological Survey
Other Name: USGS-360817119552301
Groundwater Quality Data: https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-360817119552301&store_num=
GeoTracker Data: Not Reported
Well Type: UNK
GAMA PFAS Testing: Not Reported

Map ID: 26
Well ID: USGS-360817119541901
Source: United States Geological Survey
Other Name: USGS-360817119541901
Groundwater Quality Data: https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-360817119541901&store_num=
GeoTracker Data: Not Reported
Well Type: UNK
GAMA PFAS Testing: Not Reported

Map ID: 30
State Well #: 20S19E32R002M
Well Name: 1602
Station ID: 37790
Basin Name: Westside

Well Use:	Not Reported	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	31		
State Well #:	20S19E31Q001M	Station ID:	25553
Well Name:	Not Reported	Basin Name:	Westside
Well Use:	Not Reported	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	32		
State Well #:	21S19E06B001M	Station ID:	47791
Well Name:	21S/19E-06B01	Basin Name:	Westside
Well Use:	Irrigation	Well Type:	Single Well
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	33		
State Well #:	21S19E06D003M	Station ID:	22409
Well Name:	Not Reported	Basin Name:	Westside
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	31		
State Well #:	21S19E06A001M	Station ID:	51594
Well Name:	21S/19E-06A01	Basin Name:	Westside
Well Use:	Irrigation	Well Type:	Single Well
Well Depth:	780	Well Completion Rpt #:	E0323053

Map ID:	34		
State Well #:	21S19E05B001M	Station ID:	51593
Well Name:	21S/19E-05B01	Basin Name:	Westside
Well Use:	Irrigation	Well Type:	Single Well
Well Depth:	800	Well Completion Rpt #:	E0323060

Map ID:	35		
Well ID:	USGS-360815119580101	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-360815119580101	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-360815119580101&store_num=		
GeoTracker Data:	Not Reported		

Map ID:	33

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Well ID:	USGS-360815119574501	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-360815119574501	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-360815119574501&store_num=		
GeoTracker Data:	Not Reported		

Map ID:	37		
State Well #:	21S18E01A001M	Station ID:	25555
Well Name:	Not Reported	Basin Name:	Westside
Well Use:	Not Reported	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	38		
Well ID:	21S19E06D001M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	21S19E06D001M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=21S19E06D001M&store_num=		
GeoTracker Data:	Not Reported		

Map ID:	38		
Well ID:	21S19E06D002M	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	21S19E06D002M	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=21S19E06D002M&store_num=		
GeoTracker Data:	Not Reported		

Map ID:	39		
State Well #:	21S19E04M001M	Station ID:	22408
Well Name:	Not Reported	Basin Name:	Westside
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	40		
State Well #:	21S19E06R001M	Station ID:	22410
Well Name:	Not Reported	Basin Name:	Westside
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID:	1		
API #:	0403120278	Well #:	1
Well Status:	Plugged	Well Type:	Dry Hole

Lease Name:	Westhaven	Field Name:	Any Field
Area Name:	Any Area	GIS Source:	hud
Confidential Well:	N	Directionally Drilled:	N
Spud Date:	05/23/1984		

Map ID:	2		
API #:	0403120428	Well #:	1
Well Status:	Idle	Well Type:	Oil & Gas
Lease Name:	Eagle North	Field Name:	Any Field
Area Name:	Any Area	GIS Source:	GPS
Confidential Well:	N	Directionally Drilled:	N
Spud Date:	01/11/2006		

Map ID:	3		
API #:	0403120311	Well #:	1
Well Status:	Idle	Well Type:	Oil & Gas
Lease Name:	Mary Bellocchi	Field Name:	Any Field
Area Name:	Any Area	GIS Source:	hud
Confidential Well:	N	Directionally Drilled:	N
Spud Date:	11/30/1985		

Map ID:	4		
API #:	0403100604	Well #:	1
Well Status:	Plugged	Well Type:	Dry Hole
Lease Name:	B.L.C.	Field Name:	Any Field
Area Name:	Any Area	GIS Source:	hud
Confidential Well:	N	Directionally Drilled:	N
Spud Date:	12/29/1953		

Map ID:	5		
API #:	0403120251	Well #:	1
Well Status:	Plugged	Well Type:	Oil & Gas
Lease Name:	Ladd-Nevada Ave.	Field Name:	Any Field
Area Name:	Any Area	GIS Source:	hud
Confidential Well:	N	Directionally Drilled:	N
Spud Date:	07/01/1983		

CALIFORNIA GOVERNMENT WELL RECORDS SEARCHED

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Groundwater Ambient Monitoring & Assessment Program
State Water Resources Control Board
Telephone: 916-341-5577
The GAMA Program is Californias comprehensive groundwater quality monitoring program. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. The GAMA data includes Domestic, Monitoring and Municipal well types from the following sources, Department of Water Resources, Department of Heath Services, EDF, Agricultural Lands, Lawrence Livermore National Laboratory, Department of Pesticide Regulation, United States Geological Survey, Groundwater Ambient Monitoring and Assessment Program and Local Groundwater Projects.

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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APPENDIX E

DOCUMENTS PROVIDED BY CLIENT

MOORE TWINING ASSOCIATES, INC.

February 28, 2022 C64409.03

Mr. Bert Verrips, AICP
Environmental Consulting Services
11942 Red Hill Avenue
Santa Ana, California 92705

RE: Limited Soil Sampling
Cherry 2
North of Nevada Avenue and West of 25th Avenue
Lemoore, California

Dear Mr. Verrips,

This report presents the results and findings of a Limited Phase II Environmental Site Assessment (Phase II ESA) conducted to assess shallow soil as proposed by Moore Twining at the 188 acres of land located generally southeast of the intersection of 25th Avenue and Avenal Cutoff Road in an unincorporated area of Kings County, west of the City of Stratford, California. It is Moore Twining Associates, Inc.'s (Moore Twining's) understanding that this investigation was requested by Mr. Bert Verrips, AICP as part of their due diligence for the subject property.

SITE INFORMATION AND ENVIRONMENTAL BACKGROUND

The Site comprises 2,109 acres of land located north of Nevada Avenue and West of 25th Avenue on a property south of Lemoore, California.

PURPOSE OF INVESTIGATION

The purpose of the soil sampling and analysis was to assess if persistent PCOCs were present in on-Site soil that exceed human health or waste disposal screening levels.

SCOPE OF WORK

The scope of work was in accordance with our Phase II ESA proposal executed on February 4, 2022. The scope of the Phase II ESA included the following:

- Installing five hand auger borings to a total of 2 feet;
- Collecting soil samples at 0-0.5 and 1.5 to 2 feet;
- Soil analysis; and
- This report was prepared to present our procedures, findings, conclusions, and recommendations.

PH: 559.268.7021
FX: 559.268.7126
2527 Fresno Street
Fresno, CA 93721

INVESTIGATIVE PROCEDURES

In order to evaluate the presence of persistent PCOCs at the Site, five (5) hand auger borings were advanced 2 feet below surface grade (bsg) by Moore Twining personnel. Soil samples were collected from the borings at approximate depths of the surface to 0.5 feet, 1 to 1.5 feet, and 3 to 3.5 feet. Soil samples were collected with a slide-hammer soil sampler lined with stainless steel sample sleeves. Following collection, the samples were preserved in the field by capping both ends with Teflon tape and plastic caps and placing them in a properly-chilled ice chest. Soil samples were submitted to Moore Twining's California State-certified analytical laboratory under chain-of-custody protocol for analysis. The soil samples were analyzed in the laboratory for CAM 17 Metals and organochloric pesticides.

RESULTS AND FINDINGS

Arsenic was detected at typical background levels for the area, ranging from 8.8 mg/kg to 12 mg/kg. Arsenic was detected at similar concentrations at both surface and 2-foot samples.

Chromium was detected at concentrations ranging from 78 mg/kg to 97 mg/kg. Chromium was detected at similar concentrations at both surface and 2-foot samples.

4,4 DDE was detected in samples ranging from 0.010 mg/kg and 0.070 mg/kg. These concentrations are below the Environmental Screening Level (ESL) of 0.33 mg/kg.

Toxaphene was detected in samples ranging from 0.057 mg/kg to 0.25 mg/kg. These concentrations are below the Environmental Screening Level (ESL) of 2.2 mg/kg.

A copy of the laboratory report for soil samples is included in Appendix A.

Based on the results of the limited assessment, it does not appear that the historic use of the property impacted the Site beyond screening levels.

LIMITATIONS

The scope of the investigation was intended to be an interactive process. The purpose of an environmental assessment is to reasonably characterize existing site conditions based on the available data. In performing such a study, it is understood that a balance must be struck between a reasonable inquiry into the site conditions and an exhaustive analysis of each conceivable environmental characteristic.

Conditions of interest may exist at the site that cannot be identified by visual observations and the scope of the work performed as part of this Phase II ESA. Where subsurface exploratory work was performed, our professional opinions were based in part on interpretation of data from discrete sampling locations that may not represent actual conditions or un-sampled locations. If conditions of interest were not identified during performance of the work, such a finding should not be construed as a guarantee that such conditions do not exist at the site.

This work was conducted in accordance with generally accepted engineering principles and practices in at the time the work was performed. This warranty is in lieu of all other warranties, either expressed or implied. This report was prepared for the sole use of the client and appropriate regulatory agencies. Any reliance on this report by a third party is at such party's sole risk.

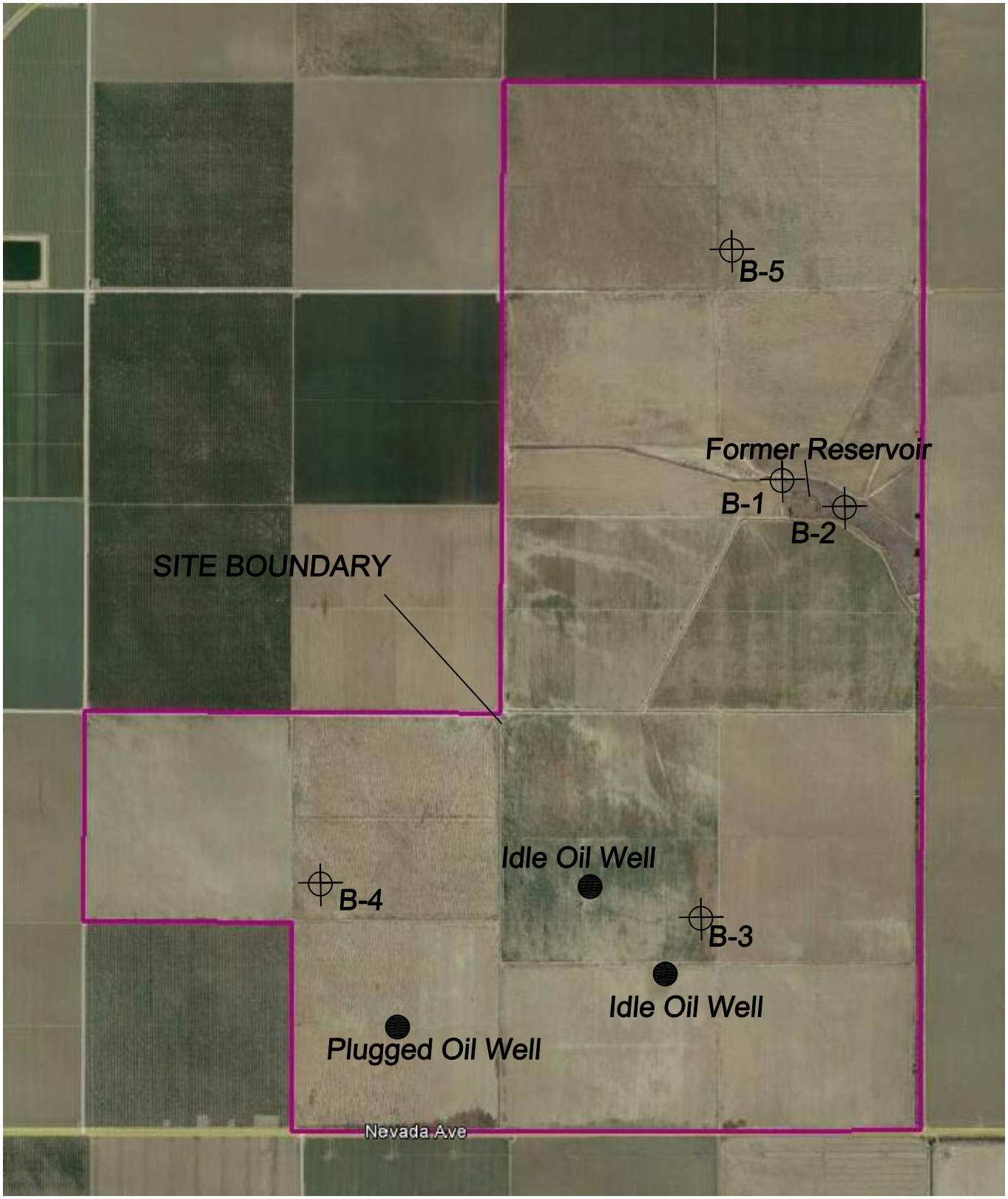
CLOSING

If you have questions, please contact our office. Our environmental services staff can answer your inquiries regarding this report at (800) 268-7021.

Sincerely,
MOORE TWINING ASSOCIATES, INC.
Environmental Services Division

Katie Lister, PG, QSD
Environmental Division Manager
Moore Twining Associates, Inc.

PROFESSIONAL GEOLOGIST
Katherine Lister
No. 8984
Exp 12/31/23
STATE OF CALIFORNIA



LEGEND

B-1 SOIL BORING LOCATION

N

100 FEET

SITE MAP CHERRY 2 SOLAR PROJECT 25TH AVENUE AND NEVADA AVENUE KINGS COUNTY, CALIFORNIA	FILE NO. Site Map	DATE DRAWN: 02-18-2022
	DRAWN BY: KL	APPROVED BY:
	PROJECT NO. C64409.0400	DRAWING NO. 1

MOORE TWINING ASSOCIATES, INC.

APPENDIX A

Laboratory Report and Chain of Custody Documentation

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

February 28, 2022

Work Order #: **IB14024**

Katie Lister
MTA Environmental Division
2527 Fresno Street
Fresno, CA 93721

RE: Cherry 2

Enclosed are the analytical results for samples received by our laboratory on **02/14/22** . For your reference, these analyses have been assigned laboratory work order number **IB14024**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

DRAFT REPORT
DATA SUBJECT TO CHANGE

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
S1- 1'		IB14024-01	Soil	02/14/22 10:05	02/14/22 12:35
S1- 2'		IB14024-02	Soil	02/14/22 10:10	02/14/22 12:35
S2- 1'		IB14024-03	Soil	02/14/22 10:16	02/14/22 12:35
S2- 2'		IB14024-04	Soil	02/14/22 10:20	02/14/22 12:35
S3- 1'		IB14024-05	Soil	02/14/22 10:31	02/14/22 12:35
S3- 2'		IB14024-06	Soil	02/14/22 10:34	02/14/22 12:35
S4- 1'		IB14024-07	Soil	02/14/22 10:39	02/14/22 12:35
S4- 2'		IB14024-08	Soil	02/14/22 10:43	02/14/22 12:35
S5- 1'		IB14024-09	Soil	02/14/22 10:48	02/14/22 12:35
S5- 2'		IB14024-10	Soil	02/14/22 10:52	02/14/22 12:35

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

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Fresno, CA 93721
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MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S1- 1'

IB14024-01 (Soil) Sampled: 02/14/22 10:05

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Arsenic		**9.4**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Barium		**190**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Beryllium		**2.1**	0.40	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Chromium		**84**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Cobalt		**16**	0.80	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Copper		**41**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Lead		**6.0**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2B1617	02/17/22	02/18/22	EPA 7471A
Molybdenum		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Vanadium		**77**	2.5	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Zinc		**77**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Semi-Volatile Organics									
8081A Twining									
4,4´-DDD		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
4,4´-DDE		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
4,4´-DDT		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Aldrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
alpha-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
alpha-Chlordane		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
beta-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Chlordane (tech)		ND	0.030	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
delta-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Dieldrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan I		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan II		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan sulfate		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin aldehyde		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin ketone		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
gamma-BHC (Lindane)		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
gamma-Chlordane		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Heptachlor		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Heptachlor epoxide		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Methoxychlor		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Toxaphene		ND	0.017	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Trifluralin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Surr: Decachlorobiphenyl (DCB)		*88.2%*	*Recovery Limits: 11.4% - 122%*			*B2B1412*	02/14/22	02/15/22	*EPA 8081A*
Surr: Tetrachloro-meta-xylene (TMX)		*70.0%*	*Recovery Limits: 8.5% - 170%*			*B2B1412*	02/14/22	02/15/22	*EPA 8081A*
Volatile Organics									

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S1- 1'

IB14024-01 (Soil) Sampled: 02/14/22 10:05

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

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MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S1- 1'

IB14024-01 (Soil) Sampled: 02/14/22 10:05

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Chloroprene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*85.4%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*
Surr: Dibromofluoromethane		*105%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*
Surr: Toluene-d8		*97.1%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S1- 2'

IB14024-02 (Soil) Sampled: 02/14/22 10:10

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Arsenic		**10**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Barium		**180**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Beryllium		**2.5**	0.40	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Chromium		**83**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Cobalt		**14**	0.80	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Copper		**37**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Lead		**5.6**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2B2314	02/24/22	02/25/22	EPA 7471A
Molybdenum		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Nickel		**96**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Thallium		**12**	5.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Vanadium		**79**	2.5	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Zinc		**78**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B

S2- 1'

IB14024-03 (Soil) Sampled: 02/14/22 10:16

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Arsenic		**12**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Barium		**190**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Beryllium		**2.1**	0.40	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Chromium		**91**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Cobalt		**17**	0.80	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Copper		**42**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Lead		**6.2**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2B1617	02/17/22	02/18/22	EPA 7471A
Molybdenum		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Nickel		**110**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Vanadium		**75**	2.5	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Zinc		**79**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Semi-Volatile Organics									
8081A Twining									
4,4´-DDD		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
4,4´-DDE		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A

DRAFT REPORT
Danielle Abrames, Director of Analytical Chemistry

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S2- 1'

IB14024-03 (Soil) Sampled: 02/14/22 10:16

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Semi-Volatile Organics									
8081A Twining									
4,4´-DDT		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Aldrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
alpha-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
alpha-Chlordane		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
beta-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Chlordane (tech)		ND	0.030	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
delta-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Dieldrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan I		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan II		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan sulfate		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin aldehyde		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin ketone		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
gamma-BHC (Lindane)		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
gamma-Chlordane		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Heptachlor		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Heptachlor epoxide		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Methoxychlor		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Toxaphene		ND	0.017	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Trifluralin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Surr: Decachlorobiphenyl (DCB)		*84.0%*	*Recovery Limits: 11.4% - 122%*			*B2B1412*	02/14/22	02/15/22	*EPA 8081A*
Surr: Tetrachloro-meta-xylene (TMX)		*68.5%*	*Recovery Limits: 8.5% - 170%*			*B2B1412*	02/14/22	02/15/22	*EPA 8081A*
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B

DRAFT REPORT
Danielle Abrames, Director of Analytical Chemistry

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S2- 1'

IB14024-03 (Soil) Sampled: 02/14/22 10:16

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B

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MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S2- 1'

IB14024-03 (Soil) Sampled: 02/14/22 10:16

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
n-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*91.0%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*
Surr: Dibromofluoromethane		*108%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*
Surr: Toluene-d8		*96.3%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*

S2- 2'

IB14024-04 (Soil) Sampled: 02/14/22 10:20

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Arsenic		**9.5**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Barium		**180**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Beryllium		**2.4**	0.40	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Chromium		**97**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Cobalt		**17**	0.80	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Copper		**40**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Lead		**6.8**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2B2314	02/24/22	02/25/22	EPA 7471A
Molybdenum		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Nickel		**120**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B

DRAFT REPORT
Danielle Abrames, Director of Analytical Chemistry

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S2- 2'

IB14024-04 (Soil) Sampled: 02/14/22 10:20

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Thallium		**12**	5.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Vanadium		**81**	2.5	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Zinc		**84**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B

S3- 1'

IB14024-05 (Soil) Sampled: 02/14/22 10:31

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Arsenic		**9.5**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Barium		**190**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Beryllium		**1.9**	0.40	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Chromium		**85**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Cobalt		**16**	0.80	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Copper		**37**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Lead		**5.9**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2B1617	02/17/22	02/18/22	EPA 7471A
Molybdenum		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Vanadium		**69**	2.5	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Zinc		**72**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Semi-Volatile Organics									
8081A Twining									
4,4´-DDD		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
4,4´-DDE		**0.070**	0.033	mg/kg	4	B2B1412	02/14/22	02/16/22	EPA 8081A
4,4´-DDT		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Aldrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
alpha-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
alpha-Chlordane		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
beta-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Chlordane (tech)		ND	0.030	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
delta-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Dieldrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan I		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan II		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan sulfate		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin aldehyde		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin ketone		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S3- 1'

IB14024-05 (Soil) Sampled: 02/14/22 10:31

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Semi-Volatile Organics									
8081A Twining									
gamma-BHC (Lindane)		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
gamma-Chlordane		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Heptachlor		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Heptachlor epoxide		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Methoxychlor		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Toxaphene		**0.25**	0.067	mg/kg	4	B2B1412	02/14/22	02/16/22	EPA 8081A
Trifluralin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Surr: Decachlorobiphenyl (DCB)		*79.2%*	*Recovery Limits: 11.4% - 122%*			*B2B1412*	02/14/22	02/15/22	*EPA 8081A*
Surr: Tetrachloro-meta-xylene (TMX)		*57.0%*	*Recovery Limits: 8.5% - 170%*			*B2B1412*	02/14/22	02/15/22	*EPA 8081A*
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S3- 1'

IB14024-05 (Soil) Sampled: 02/14/22 10:31

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Bromobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S3- 1'

IB14024-05 (Soil) Sampled: 02/14/22 10:31

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*91.0%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*
Surr: Dibromofluoromethane		*109%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*
Surr: Toluene-d8		*98.1%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*

S3- 2'

IB14024-06 (Soil) Sampled: 02/14/22 10:34

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Arsenic		**10**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Barium		**170**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Beryllium		**2.3**	0.40	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Chromium		**83**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Cobalt		**14**	0.80	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Copper		**32**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Lead		**5.3**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2B2314	02/24/22	02/25/22	EPA 7471A
Molybdenum		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Thallium		**11**	5.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Vanadium		**70**	2.5	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Zinc		**71**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B

S4- 1'

IB14024-07 (Soil) Sampled: 02/14/22 10:39

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Arsenic		**9.8**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Barium		**180**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Beryllium		**1.9**	0.40	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B

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MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S4- 1'

IB14024-07 (Soil) Sampled: 02/14/22 10:39

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Cadmium		ND	0.40	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Chromium		**83**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Cobalt		**16**	0.80	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Copper		**36**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Lead		**5.1**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2B1617	02/17/22	02/18/22	EPA 7471A
Molybdenum		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Vanadium		**71**	2.5	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Zinc		**71**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Semi-Volatile Organics									
8081A Twining									
4,4´-DDD		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
4,4´-DDE		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
4,4´-DDT		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Aldrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
alpha-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
alpha-Chlordane		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
beta-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Chlordane (tech)		ND	0.030	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
delta-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Dieldrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan I		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan II		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan sulfate		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin aldehyde		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin ketone		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
gamma-BHC (Lindane)		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
gamma-Chlordane		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Heptachlor		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Heptachlor epoxide		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Methoxychlor		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Toxaphene		**0.057**	0.017	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Trifluralin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Surr: Decachlorobiphenyl (DCB)		*89.5%*	*Recovery Limits: 11.4% - 122%*			*B2B1412*	02/14/22	02/15/22	*EPA 8081A*
Surr: Tetrachloro-meta-xylene (TMX)		*72.4%*	*Recovery Limits: 8.5% - 170%*			*B2B1412*	02/14/22	02/15/22	*EPA 8081A*
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B

DRAFT REPORT
Danielle Abrames, Director of Analytical Chemistry

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California ELAP Certificate #1371

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Fresno, CA 93721
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(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S4- 1'

IB14024-07 (Soil) Sampled: 02/14/22 10:39

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B

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MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S4- 1'

IB14024-07 (Soil) Sampled: 02/14/22 10:39

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Dibromochloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*91.3%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*
Surr: Dibromofluoromethane		*111%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*
Surr: Toluene-d8		*96.5%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S4- 2'

IB14024-08 (Soil) Sampled: 02/14/22 10:43

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Arsenic		**9.3**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Barium		**170**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Beryllium		**2.3**	0.40	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Chromium		**82**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Cobalt		**14**	0.80	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Copper		**32**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Lead		**5.3**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2B2314	02/24/22	02/25/22	EPA 7471A
Molybdenum		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Thallium		**10**	5.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Vanadium		**71**	2.5	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Zinc		**72**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B

S5- 1'

IB14024-09 (Soil) Sampled: 02/14/22 10:48

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Arsenic		**8.8**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Barium		**160**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Beryllium		**1.8**	0.40	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Chromium		**78**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Cobalt		**15**	0.80	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Copper		**34**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Lead		**5.3**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2B1617	02/17/22	02/18/22	EPA 7471A
Molybdenum		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Nickel		**96**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Vanadium		**65**	2.5	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Zinc		**71**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Semi-Volatile Organics									
8081A Twining									
4,4´-DDD		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
4,4´-DDE		**0.010**	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A

DRAFT REPORT
Danielle Abrames, Director of Analytical Chemistry

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S5- 1'

IB14024-09 (Soil) Sampled: 02/14/22 10:48

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Semi-Volatile Organics									
8081A Twining									
4,4´-DDT		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Aldrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
alpha-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
alpha-Chlordane		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
beta-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Chlordane (tech)		ND	0.030	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
delta-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Dieldrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan I		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan II		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan sulfate		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin aldehyde		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin ketone		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
gamma-BHC (Lindane)		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
gamma-Chlordane		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Heptachlor		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Heptachlor epoxide		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Methoxychlor		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Toxaphene		**0.081**	0.017	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Trifluralin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Surr: Decachlorobiphenyl (DCB)		*91.5%*	*Recovery Limits: 11.4% - 122%*			*B2B1412*	02/14/22	02/15/22	*EPA 8081A*
Surr: Tetrachloro-meta-xylene (TMX)		*73.7%*	*Recovery Limits: 8.5% - 170%*			*B2B1412*	02/14/22	02/15/22	*EPA 8081A*
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S5- 1'

IB14024-09 (Soil) Sampled: 02/14/22 10:48

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S5- 1'

IB14024-09 (Soil) Sampled: 02/14/22 10:48

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
n-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*90.3%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/16/22	02/16/22	*EPA 8260B*
Surr: Dibromofluoromethane		*107%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/16/22	02/16/22	*EPA 8260B*
Surr: Toluene-d8		*99.1%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/16/22	02/16/22	*EPA 8260B*

S5- 2'

IB14024-10 (Soil) Sampled: 02/14/22 10:52

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Arsenic		**9.7**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Barium		**170**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Beryllium		**2.1**	0.40	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Chromium		**82**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Cobalt		**14**	0.80	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Copper		**33**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Lead		**4.8**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2B2314	02/24/22	02/25/22	EPA 7471A
Molybdenum		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Nickel		**99**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B

DRAFT REPORT
Danielle Abrames, Director of Analytical Chemistry

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S5- 2'

IB14024-10 (Soil) Sampled: 02/14/22 10:52

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Thallium		**12**	5.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Vanadium		**70**	2.5	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Zinc		**74**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B

Notes and Definitions

MS2	Recovery for this analyte was biased high; associated blank spike recoveries are within range.
MS3	Recovery for this analyte was biased low; associated blank spike recoveries are within range.
µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
	Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field. If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES, INC. EST. 1898

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

CHAIN OF CUSTODY/ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

WORK ORDER #: IB14024
PAGE 1 **OF** 2

REPORT TO: ☐ INVOICE TO: ☐ REPORT COPY TO:

REPORT TO	INVOICE TO
ATTENTION: Katie Lister	ATTENTION: Katie Lister
NAME: Moore Twining Associates	NAME: Moore Twining Associates
ADDRESS: 2527 Fresno Street	ADDRESS: 2527 Fresno Street
Fresno, California 93721	Fresno, California 93721
PHONE: (559) 408-6976	PHONE: (559) 408-6976
FAX: 559-268-7126	FAX: 559-268-7126

REPORTING:
- ☐ STANDARD FORMAT
- ☐ WRITE-ON (STATE FORM)
- ☐ GEOTRACKER/COELT (LUFT)
- ☐ PDF ☐ SPREADSHEET
- ☐ County DHS :
- ☐ Environmental Health Agency :
- ☐ OTHER:

SAMPLE INFORMATION

SAMPLED BY (PRINT): Thomas Harris
SIGNATURE:

☐ PUBLIC SYSTEM ☐ ROUTINE
☐ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME: ☒ RUSH, DUE ON: ASAP
☐ STANDARD

SAMPLE TYPES:

SOLID:
BS – BIOSOLID
CR – CERAMIC
SL – SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW – WASTE WATER

PROJECT INFORMATION

CONTRACT/P.O. NO.:
PROJECT: Cherry2
PROJECT NUMBER: C64409.02
PROJECT MANAGER: Katie Lister

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☒ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION
4.0

	CLIENT SAMPLE ID	DATE	TIME	TYPE	OCPs EPA8081A	VOCs 8260	CAM 17 Metals EPA60108	
1	S1-1'	2/14/2022	1005	SL	X	X	X	
2	S1-2'	2/14/2022	1010	SL	~~X~~	~~X~~	~~X~~	HOLD
3	S2-1'	2/14/2022	1016	SL	X	X	X	
4	S2-2'	2/14/2022	1020	SL	~~X~~	~~X~~	~~X~~	HOLD
5	S3-1'	2/14/2022	1031	SL	X	X	X	
6	S3-2'	2/14/2022	1034	SL	~~X~~	~~X~~	~~X~~	HOLD
7	S4-1'	2/14/2022	1039	SL	X	X	X	
8	S4-2'	2/14/2022	1043	SL	~~X~~	~~X~~	~~X~~	HOLD
9	S5-1'	2/14/2022	1048	SL	X	X	X	
10	S5-2'	2/14/2022	1052	SL	~~X~~	~~X~~	~~X~~	HOLD

COMMENTS/ADDITIONAL INSTRUCTIONS:

Samples held at 4 degrees C in the field

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
THOMAS HARRIS	MTA	2/14/22	12:35	Kim McCullough	MTA

Moore Twining Associates

Sample Integrity — Page 2 of 2 — WO# IB14024 — MTA Bottles: (Yes) or No

COC Info

Was temperature within range? Chemistry ≤6°C Micro <10°C Temp 4.0 °C	(Yes) No N/A	Did all bottle labels agree with COC?	(Yes) No N/A	Were there bubbles in VOA vials? (**Volatiles Only**)	Yes No (N/A)
If samples were taken today, is there evidence that chilling has begun? Recvd ____ C°	(Yes) No N/A	Was a sufficient amount of sample received?	(Yes) No N/A	Was PM notified of discrepancies? PM: By/Time:	Yes No (N/A)
Did all bottles arrive unbroken and intact?	(Yes) No N/A	Were correct containers and preservatives received for the tests requested?	(Yes) No N/A		
Do samples have a hold time <72 hours?	Yes (No) N/A				

Bottles Received

			Container	Preservative	Date/Time/Initials
125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1				
Bacti $Na_2S_2O_3$					
None (P)					
None (AG)					
None (CG) 500ml					
Cr6 Buffer (P) Borate Carbonate Buffer					
Dissolved Oxygen 300ml (P)					
HNO_3 (P)					
HCl (AG)					
H_2SO_4 (P)					
H_3PO_4 (AG)					
NaOH (P)					
NaOH + ZnAc (P)					
$Na_2S_2O_3$ (AG)					
$Na_2S_2O_3$ (CG)					
$Na_2S_2O_3$ 250ml (Brown P) 549					
Thio/K Citrate					
NH_4Cl (AG) 552					
Other:					
Client Own					
Low Level Hg/Metals Double Bag					
Plastic Bag					
Glass Jar: 125 / 250 / 500					
Soil Tube: Brass / (Steel) / Plastic	1-10				
5g Encore					
1G Cubitaner					

Comments

Filter or Split

	Container	Preservative	Date/Time/Initials
S P F			
S P F			
S P F			
S P F			
S P F			

Labeled by: LM @ 12:50 — Labels checked by: MB @ 1300

FL-SC-0003-07

IB4/C24 pg 3

Greg Betts

From: Julio Morales
Sent: Monday, February 14, 2022 12:56 PM
To: George Barrett; Dara Vongkhampha; Ralph Delgado; Victoria Castanada; Humberto Melgoza
Cc: Danielle Abrames; Greg Betts
Subject: RE: Soil Samples

Correction: Per Katie Lister, she asked that we hold the 2' samples listed on the COC previously attached. Therefore there will only be 5 samples to rush ~~at~~ this time. HOLD

From: Julio Morales
Sent: Monday, February 14, 2022 12:52 PM
To: George Barrett <GeorgeB@mooretwining.com>; Dara Vongkhampha <DaraV@mooretwining.com>; Ralph Delgado <RalphD@mooretwining.com>; Victoria Castanada <VictoriaC@mooretwining.com>; Humberto Melgoza <HumbertoM@mooretwining.com>
Cc: Danielle Abrames <DanielleA@mooretwining.com>; Greg Betts <GregB@mooretwining.com>
Subject: FW: Soil Samples
Importance: High

Good Afternoon,

MTA Environmental is submitting 10 soils for 8081, 8260 and CAM17. They would like these to be rushed. Can you please let me know if how soon of a rush can be done and if a rush is not possible, can you please let me know so that we can sub them out?

Thanks!!

MOORE TWINING ASSOCIATES, INC.
Julio Morales, Analytical Chemistry Division
Client Services Supervisor
Moore Twining Associates, Inc.
2527 Fresno St.
Fresno, CA 93721
Direct: (559) 777-8961
Toll Free: (800) 268-7021
Office: (559) 268-7021
Fax: (559) 268-7126
juliom@mooretwining.com

We accept VISA and MasterCard. * Effective October 1st, 2021 there will be a 3% surcharge for all credit card transactions.

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IB14624 Pg 4

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From: Katie Lister <katiel@mooretwining.com>
Sent: Monday, February 14, 2022 12:47 PM
To: Julio Morales <juliom@mooretwining.com>
Cc: Susan Federico <SusanF@mooretwining.com>; Thomas Harris <ThomasH@mooretwining.com>
Subject: RE: Soil Samples
Importance: High

It's this one. (Can you please modify to hold all of the 2' samples?) HOLD

Metals, OCPs, VOCs

From: Julio Morales <juliom@mooretwining.com>
Sent: Monday, February 14, 2022 12:35 PM
To: Katie Lister <katiel@mooretwining.com>
Cc: Susan Federico <SusanF@mooretwining.com>; Thomas Harris <ThomasH@mooretwining.com>
Subject: RE: Soil Samples

Hi Katie,

Do you know which tests? I'd like to let the lab analysts know.

MOORE TWINING ASSOCIATES, INC.
Julio Morales, Analytical Chemistry Division
Client Services Supervisor
Moore Twining Associates, Inc.
2527 Fresno St.
Fresno, CA 93721
Direct: (559) 777-8961
Toll Free: (800) 268-7021
Office: (559) 268-7021
Fax: (559) 268-7126
juliom@mooretwining.com

We accept VISA and MasterCard. * Effective October 1st, 2021 there will be a 3% surcharge for all credit card transactions.

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From: Katie Lister <katiel@mooretwining.com>
Sent: Monday, February 14, 2022 12:20 PM
To: Julio Morales <juliom@mooretwining.com>
Cc: Susan Federico <SusanF@mooretwining.com>; Thomas Harris <ThomasH@mooretwining.com>
Subject: Soil Samples

MOORE TWINING ASSOCIATES, INC.

April 6, 2022 C64409.04

Mr. Bert Verrips, AICP
Environmental Consulting Services
11942 Red Hill Avenue
Santa Ana, California 92705

RE: Limited Soil Sampling – Cherry 2 Auxiliary Airfield 4
Section 31, NW, NE, and SE Quadrants
North of Nevada Avenue and West of 25th Avenue
Lemoore, California

Dear Mr. Verrips,

This report presents the results and findings of a Limited Phase II Environmental Site Assessment (Phase II ESA) conducted to assess shallow soil as proposed by Moore Twining at Section 31 located generally southeast of the intersection of 25th Avenue and Avenal Cutoff Road in an unincorporated area of Kings County, west of the City of Stratford, California. It is Moore Twining Associates, Inc.'s (Moore Twining's) understanding that this investigation was requested by Mr. Bert Verrips, AICP as part of their due diligence for the subject property.

PURPOSE OF INVESTIGATION

Due to the historical use of Section 31 as a military auxiliary landing field, the purpose of the soil sampling and analysis was to assess if persistent PCOCs were present in on-Site soil that exceed human health or waste disposal screening levels.

SCOPE OF WORK

The scope of work was in accordance with our Phase II ESA proposal executed on March 23, 2022. The scope of the Phase II ESA included the following:

- Installing 12 hand auger borings to a total of 2 feet;
- Collecting soil samples at 0-0.5 and 1.5 to 2 feet;
- Soil analysis; and
- This report was prepared to present our procedures, findings, conclusions, and recommendations.

INVESTIGATIVE PROCEDURES

In order to evaluate the presence of persistent PCOCs at the Site, twelve (12) hand auger borings were advanced 2 feet below surface grade (bsg) by Moore Twining personnel. Soil samples were collected from the borings at approximate depths of the surface to 0.5 feet, and 1.5 to 2 feet. Soil samples were collected with a slide-hammer soil sampler lined with stainless steel sample sleeves.

Following collection, the samples were preserved in the field by capping both ends with Teflon tape and plastic caps and placing them in a properly chilled ice chest. Soil samples were submitted to Moore Twining's California State-certified analytical laboratory under chain-of-custody protocol for analysis. The soil samples were analyzed in the laboratory for CAM 17 Metals, VOCs, TPHg, and TPHd.

RESULTS AND FINDINGS

Arsenic was detected at typical background levels for the area, ranging from 11 mg/kg to 13 mg/kg.

Chromium was detected at concentrations ranging from 72 mg/kg to 81 mg/kg. These concentrations exceed nonhazardous waste screening levels.

VOC's were not reported above laboratory screening levels.

TPHg was not reported above laboratory screening levels.

TPHd was not reported above laboratory screening levels.

A copy of the laboratory report for soil samples is included in Appendix A.

Based on the results of the limited assessment, it does not appear that the historic use of the property as an airfield impacted the Site beyond screening levels.

If soils are planned to be exported to a landfill, they would need to be further analyzed for STLC concentrations of chromium. Depending on the result, the waste may be considered a non-RCRA hazardous waste and sent to a Class III landfill that accepts chromium or it may be a RCRA hazardous waste and would be required to be disposed of at a Class I landfill. In Moore Twining's experience TTLC chromium concentrations of the levels reported would fall into the non-RCRA classification. No action is required if the soils are to remain within the Cherry project site or, if the soil profile is approved by the importing party, to a location other than a landfill.

LIMITATIONS

The scope of the investigation was intended to be an interactive process. The purpose of an environmental assessment is to reasonably characterize existing site conditions based on the available data. In performing such a study, it is understood that a balance must be struck between a reasonable inquiry into the site conditions and an exhaustive analysis of each conceivable environmental characteristic.

Conditions of interest may exist at the site that cannot be identified by visual observations and the scope of the work performed as part of this Phase II ESA. Where subsurface exploratory work was performed, our professional opinions were based in part on interpretation of data from discrete sampling locations that may not represent actual conditions or un-sampled locations. If conditions of interest were not identified during performance of the work, such a finding should not be construed as a guarantee that such conditions do not exist at the site.

This work was conducted in accordance with generally accepted engineering principles and practices in at the time the work was performed. This warranty is in lieu of all other warranties, either expressed or

implied. This report was prepared for the sole use of the client and appropriate regulatory agencies. Any reliance on this report by a third party is at such party's sole risk.

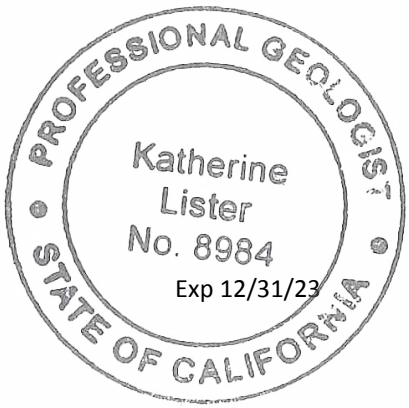
CLOSING

If you have questions, please contact our office. Our environmental services staff can answer your inquiries regarding this report at (800) 268-7021.

Sincerely,
MOORE TWINING ASSOCIATES, INC.
Environmental Services Division



Katie Lister, PG, QSD
Environmental Division Manager
Moore Twining Associates, Inc.

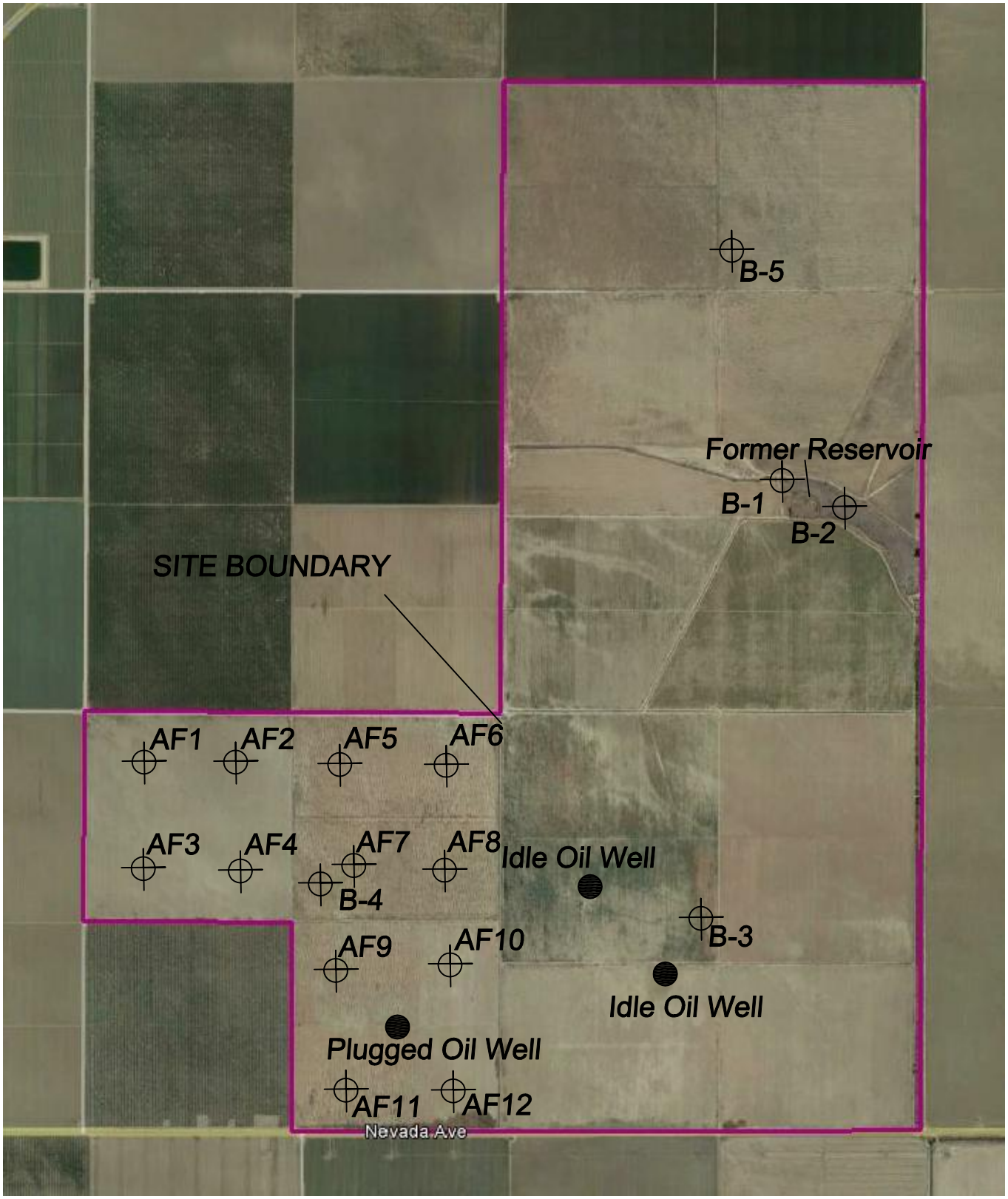




N

APPX 1:24000

SITE LOCATION MAP CHERRY 2 SOLAR PROJECT 25TH AVENUE AND NEVADA AVENUE KINGS COUNTY, CALIFORNIA	FILE NO. Site Loc Map	DATE DRAWN: 02-10-2022	MOORE TWINING ASSOCIATES, INC.
	DRAWN BY: KL	APPROVED BY:	
	PROJECT NO. C64409.0300	DRAWING NO. 1	



LEGEND

B-1 SOIL BORING LOCATION - February 2022

AF1 SOIL BORING LOCATION FOR AIRFIELD - March 2022

N

100 FEET

SITE MAP CHERRY 2 SOLAR PROJECT 25TH AVENUE AND NEVADA AVENUE KINGS COUNTY, CALIFORNIA	FILE NO. Site Map	DATE DRAWN: 03-30-2022
	DRAWN BY: KL	APPROVED BY:
	PROJECT NO. C64409.0400	DRAWING NO. 1

MOORE TWINING ASSOCIATES, INC.

APPENDIX A

Laboratory Report and Chain of Custody Documentation

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

April 05, 2022

Work Order #: **IC25007**

Katie Lister
MTA Environmental Division
2527 Fresno Street
Fresno, CA 93721

RE: Cherry 2 Soil AF

Enclosed are the analytical results for samples received by our laboratory on **03/25/22** . For your reference, these analyses have been assigned laboratory work order number **IC25007**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.



Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Af1-1 feet		IC25007-01	Soil	03/24/22 13:02	03/25/22 11:00
Af2-1 feet		IC25007-03	Soil	03/24/22 13:18	03/25/22 11:00
Af3-1 feet		IC25007-05	Soil	03/24/22 13:31	03/25/22 11:00
Af4-1 feet		IC25007-07	Soil	03/24/22 13:46	03/25/22 11:00
Af5-1 feet		IC25007-09	Soil	03/24/22 14:02	03/25/22 11:00
Af6-1 feet		IC25007-11	Soil	03/24/22 14:14	03/25/22 11:00
Af7-1 feet		IC25007-13	Soil	03/24/22 15:02	03/25/22 11:00
Af8-1 feet		IC25007-15	Soil	03/24/22 14:48	03/25/22 11:00
Af9-1 feet		IC25007-17	Soil	03/24/22 15:16	03/25/22 11:00
Af10-1 feet		IC25007-19	Soil	03/24/22 15:30	03/25/22 11:00
Af11-1 feet		IC25007-21	Soil	03/24/22 15:47	03/25/22 11:00
Af12-1 feet		IC25007-23	Soil	03/24/22 16:01	03/25/22 11:00

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af1-1 feet

IC25007-01 (Soil) Sampled: 03/24/22 13:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**11**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**180**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**1.8**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**79**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**16**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**34**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**6.5**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**5.2**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Vanadium		**71**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**73**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*76.3%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af1-1 feet

IC25007-01 (Soil) Sampled: 03/24/22 13:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

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Fresno, CA 93721
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(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af1-1 feet

IC25007-01 (Soil) Sampled: 03/24/22 13:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.7%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*98.9%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*100%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af2-1 feet

IC25007-03 (Soil) Sampled: 03/24/22 13:18

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**13**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**170**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**2.1**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**81**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**16**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**35**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**6.0**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		**0.042**	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**5.6**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B

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California ELAP Certificate #1371

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Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af2-1 feet

IC25007-03 (Soil) Sampled: 03/24/22 13:18

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Vanadium		**70**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**71**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*74.3%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af2-1 feet

IC25007-03 (Soil) Sampled: 03/24/22 13:18

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af2-1 feet

IC25007-03 (Soil) Sampled: 03/24/22 13:18

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*95.3%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*98.6%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*98.6%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af3-1 feet

IC25007-05 (Soil) Sampled: 03/24/22 13:31

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**11**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**160**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**1.6**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**75**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**15**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**33**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**6.2**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**4.6**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**98**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Vanadium		**67**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**68**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*62.8%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af3-1 feet

IC25007-05 (Soil) Sampled: 03/24/22 13:31

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af3-1 feet

IC25007-05 (Soil) Sampled: 03/24/22 13:31

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*98.6%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*98.5%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*98.8%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af4-1 feet

IC25007-07 (Soil) Sampled: 03/24/22 13:46

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									

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California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af4-1 feet

IC25007-07 (Soil) Sampled: 03/24/22 13:46

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**11**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**160**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**1.9**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**72**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**14**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**30**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**5.3**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**4.4**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**91**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Vanadium		**64**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**62**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*80.7%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af4-1 feet

IC25007-07 (Soil) Sampled: 03/24/22 13:46

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af4-1 feet

IC25007-07 (Soil) Sampled: 03/24/22 13:46

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.2%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*100%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*100%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af5-1 feet

IC25007-09 (Soil) Sampled: 03/24/22 14:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**12**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**180**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**1.8**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**77**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**16**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**32**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**6.2**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**5.3**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af5-1 feet

IC25007-09 (Soil) Sampled: 03/24/22 14:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Vanadium		**67**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**67**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*78.4%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af5-1 feet

IC25007-09 (Soil) Sampled: 03/24/22 14:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af5-1 feet

IC25007-09 (Soil) Sampled: 03/24/22 14:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*100%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*101%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*101%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af6-1 feet

IC25007-11 (Soil) Sampled: 03/24/22 14:14

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**12**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**170**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**2.1**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**77**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**15**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**31**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**6.3**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**5.0**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Vanadium		**67**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**67**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*78.2%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af6-1 feet

IC25007-11 (Soil) Sampled: 03/24/22 14:14

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af6-1 feet

IC25007-11 (Soil) Sampled: 03/24/22 14:14

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.1%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*101%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*100%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af7-1 feet

IC25007-13 (Soil) Sampled: 03/24/22 15:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af7-1 feet

IC25007-13 (Soil) Sampled: 03/24/22 15:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**12**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**180**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**2.1**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**77**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**15**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**32**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**5.9**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**5.8**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**98**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		**5.3**	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Vanadium		**71**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**68**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*82.4%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af7-1 feet

IC25007-13 (Soil) Sampled: 03/24/22 15:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af7-1 feet

IC25007-13 (Soil) Sampled: 03/24/22 15:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.6%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*97.7%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*99.6%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af8-1 feet

IC25007-15 (Soil) Sampled: 03/24/22 14:48

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**11**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**160**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**1.9**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**75**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**15**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**29**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**5.6**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**4.5**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**98**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af8-1 feet

IC25007-15 (Soil) Sampled: 03/24/22 14:48

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Vanadium		**64**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**65**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*74.8%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af8-1 feet

IC25007-15 (Soil) Sampled: 03/24/22 14:48

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af8-1 feet

IC25007-15 (Soil) Sampled: 03/24/22 14:48

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.3%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*97.8%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*101%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af9-1 feet

IC25007-17 (Soil) Sampled: 03/24/22 15:16

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**12**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**180**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**1.8**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**75**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**15**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**34**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**6.5**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**4.7**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**96**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Vanadium		**70**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**69**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*86.1%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af9-1 feet

IC25007-17 (Soil) Sampled: 03/24/22 15:16

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af9-1 feet

IC25007-17 (Soil) Sampled: 03/24/22 15:16

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.7%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*99.6%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*101%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af10-1 feet

IC25007-19 (Soil) Sampled: 03/24/22 15:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af10-1 feet

IC25007-19 (Soil) Sampled: 03/24/22 15:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**11**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**160**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**2.0**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**74**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**14**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**28**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**6.2**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**4.2**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**94**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Vanadium		**63**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**64**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*77.6%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af10-1 feet

IC25007-19 (Soil) Sampled: 03/24/22 15:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af10-1 feet

IC25007-19 (Soil) Sampled: 03/24/22 15:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.6%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*96.6%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*100%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af11-1 feet

IC25007-21 (Soil) Sampled: 03/24/22 15:47

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**11**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**180**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**1.8**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**77**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**16**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**33**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**6.0**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**4.9**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af11-1 feet

IC25007-21 (Soil) Sampled: 03/24/22 15:47

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Vanadium		**69**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**70**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*77.8%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af11-1 feet

IC25007-21 (Soil) Sampled: 03/24/22 15:47

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af11-1 feet

IC25007-21 (Soil) Sampled: 03/24/22 15:47

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.4%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*96.9%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*100%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af12-1 feet

IC25007-23 (Soil) Sampled: 03/24/22 16:01

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**11**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**180**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**2.0**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**77**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**16**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**31**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**6.4**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**4.9**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Vanadium		**67**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**68**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*78.7%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af12-1 feet

IC25007-23 (Soil) Sampled: 03/24/22 16:01

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af12-1 feet

IC25007-23 (Soil) Sampled: 03/24/22 16:01

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*97.0%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*97.1%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*100%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Quality Control Sample Results - Metals (Total)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B2C2512										
Blank (B2C2512-BLK1)		Prepared & Analyzed: 03/28/22								
EPA 7471A										
Mercury		ND	0.040	mg/kg						
LCS (B2C2512-BS1)		Prepared & Analyzed: 03/28/22								
EPA 7471A										
Mercury		0.310	0.040	mg/kg	0.333		92.9	80-120		
LCS Dup (B2C2512-BSD1)		Prepared & Analyzed: 03/28/22								
EPA 7471A										
Mercury		0.314	0.040	mg/kg	0.333		94.1	80-120	1.23	20
Matrix Spike (B2C2512-MS1)		Prepared & Analyzed: 03/28/22				**Source: IC24022-01**				
EPA 7471A										
Mercury		0.327	0.040	mg/kg	0.334	0.0116	94.3	70-130		
Matrix Spike Dup (B2C2512-MSD1)		Prepared & Analyzed: 03/28/22				**Source: IC24022-01**				
EPA 7471A										
Mercury		0.330	0.040	mg/kg	0.335	0.0116	95.2	70-130	1.05	20
Matrix Spike (B2C2512-MS2)		Prepared & Analyzed: 03/28/22				**Source: IC25007-23**				
EPA 7471A										
Mercury		0.313	0.040	mg/kg	0.331	0.0346	84.2	70-130		
Matrix Spike Dup (B2C2512-MSD2)		Prepared & Analyzed: 03/28/22				**Source: IC25007-23**				
EPA 7471A										
Mercury		0.334	0.040	mg/kg	0.334	0.0346	89.5	70-130	6.31	20
Batch - B2C2514										
Blank (B2C2514-BLK1)		Prepared & Analyzed: 03/28/22								
EPA 6010B										
Antimony		ND	2.0	mg/kg						
Arsenic		ND	2.0	mg/kg						
Barium		ND	2.0	mg/kg						
Beryllium		ND	0.40	mg/kg						
Cadmium		ND	0.40	mg/kg						
Chromium		ND	2.0	mg/kg						
Cobalt		ND	0.80	mg/kg						
Copper		ND	2.0	mg/kg						
Lead		ND	2.0	mg/kg						
Molybdenum		ND	2.0	mg/kg						
Nickel		ND	2.0	mg/kg						
Selenium		ND	5.0	mg/kg						
Silver		ND	2.0	mg/kg						
Thallium		ND	5.0	mg/kg						
Vanadium		ND	2.5	mg/kg						
Zinc		ND	2.0	mg/kg						
LCS (B2C2514-BS1)		Prepared & Analyzed: 03/28/22								

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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Quality Control Sample Results - Metals (Total)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B2C2514										
LCS (B2C2514-BS1)		Prepared & Analyzed: 03/28/22								
EPA 6010B										
Antimony		20.1	2.0	mg/kg	20.0		100	75-125		
Arsenic		38.3	2.0	mg/kg	40.0		95.8	75-125		
Barium		41.9	2.0	mg/kg	40.0		105	75-125		
Beryllium		3.89	0.40	mg/kg	4.00		97.3	75-125		
Cadmium		3.77	0.40	mg/kg	4.00		94.3	75-125		
Chromium		19.2	2.0	mg/kg	20.0		96.0	75-125		
Cobalt		8.09	0.80	mg/kg	8.00		101	75-125		
Copper		19.8	2.0	mg/kg	20.0		99.1	75-125		
Lead		19.6	2.0	mg/kg	20.0		97.8	75-125		
Molybdenum		20.1	2.0	mg/kg	20.0		100	75-125		
Nickel		22.3	2.0	mg/kg	20.0		112	75-125		
Selenium		70.6	5.0	mg/kg	80.0		88.2	75-125		
Silver		20.8	2.0	mg/kg	20.0		104	75-125		
Thallium		77.3	5.0	mg/kg	80.0		96.6	75-125		
Vanadium		39.5	2.5	mg/kg	40.0		98.7	75-125		
Zinc		17.7	2.0	mg/kg	20.0		88.6	75-125		
LCS Dup (B2C2514-BSD1)		Prepared & Analyzed: 03/28/22								
EPA 6010B										
Antimony		19.7	2.0	mg/kg	20.0		98.5	75-125	1.97	20
Arsenic		38.2	2.0	mg/kg	40.0		95.6	75-125	0.200	20
Barium		41.9	2.0	mg/kg	40.0		105	75-125	0.0635	20
Beryllium		4.08	0.40	mg/kg	4.00		102	75-125	4.60	20
Cadmium		3.74	0.40	mg/kg	4.00		93.6	75-125	0.741	20
Chromium		19.4	2.0	mg/kg	20.0		96.9	75-125	0.981	20
Cobalt		8.11	0.80	mg/kg	8.00		101	75-125	0.323	20
Copper		20.0	2.0	mg/kg	20.0		99.9	75-125	0.744	20
Lead		19.8	2.0	mg/kg	20.0		98.9	75-125	1.20	20
Molybdenum		19.7	2.0	mg/kg	20.0		98.5	75-125	1.79	20
Nickel		22.1	2.0	mg/kg	20.0		110	75-125	1.13	20
Selenium		70.9	5.0	mg/kg	80.0		88.7	75-125	0.473	20
Silver		20.7	2.0	mg/kg	20.0		104	75-125	0.142	20
Thallium		77.2	5.0	mg/kg	80.0		96.4	75-125	0.172	20
Vanadium		40.0	2.5	mg/kg	40.0		99.9	75-125	1.19	20
Zinc		17.8	2.0	mg/kg	20.0		89.0	75-125	0.448	20
Matrix Spike (B2C2514-MS1)		Prepared & Analyzed: 03/28/22				**Source: IC24022-01**				
EPA 6010B										
Antimony	MS3	4.05	2.0	mg/kg	20.1	ND	20.2	75-125		
Arsenic		64.7	2.0	mg/kg	40.2	26.0	96.4	75-125		
Barium	MS2	156	2.0	mg/kg	40.2	101	137	75-125		
Beryllium		6.31	0.40	mg/kg	4.02	2.74	88.8	75-125		

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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Quality Control Sample Results - Metals (Total)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B2C2514										
Matrix Spike (B2C2514-MS1)	Prepared & Analyzed: 03/28/22					**Source: IC24022-01**				
EPA 6010B										
Cadmium	MS3	2.52	0.40	mg/kg	4.02	ND	62.8	75-125		
Chromium		52.6	2.0	mg/kg	20.1	34.9	87.9	75-125		
Cobalt		16.9	0.80	mg/kg	8.04	8.95	98.7	75-125		
Copper		33.1	2.0	mg/kg	20.1	13.6	97.3	75-125		
Lead		22.7	2.0	mg/kg	20.1	4.25	91.8	75-125		
Molybdenum		21.1	2.0	mg/kg	20.1	2.66	91.9	75-125		
Nickel		58.4	2.0	mg/kg	20.1	39.5	94.1	75-125		
Selenium		74.5	5.0	mg/kg	80.4	2.20	90.0	75-125		
Silver		17.0	2.0	mg/kg	20.1	ND	84.7	75-125		
Thallium		78.3	5.0	mg/kg	80.4	ND	97.4	75-125		
Vanadium		95.5	2.5	mg/kg	40.2	51.6	109	75-125		
Zinc	MS2	104	2.0	mg/kg	20.1	47.7	278	75-125		
Matrix Spike Dup (B2C2514-MSD1)	Prepared & Analyzed: 03/28/22					**Source: IC24022-01**				
EPA 6010B										
Antimony	MS3	4.59	2.0	mg/kg	20.1	ND	22.8	75-125	12.5	20
Arsenic		65.2	2.0	mg/kg	40.2	26.0	97.5	75-125	0.757	20
Barium		146	2.0	mg/kg	40.2	101	112	75-125	6.41	20
Beryllium		6.24	0.40	mg/kg	4.02	2.74	86.9	75-125	1.16	20
Cadmium	MS3	2.52	0.40	mg/kg	4.02	ND	62.7	75-125	0.0465	20
Chromium		54.3	2.0	mg/kg	20.1	34.9	96.4	75-125	3.24	20
Cobalt		16.7	0.80	mg/kg	8.05	8.95	96.1	75-125	1.19	20
Copper		34.1	2.0	mg/kg	20.1	13.6	102	75-125	2.84	20
Lead		22.5	2.0	mg/kg	20.1	4.25	90.7	75-125	0.887	20
Molybdenum		21.5	2.0	mg/kg	20.1	2.66	93.7	75-125	1.77	20
Nickel		55.6	2.0	mg/kg	20.1	39.5	80.1	75-125	4.92	20
Selenium		74.8	5.0	mg/kg	80.5	2.20	90.2	75-125	0.409	20
Silver		17.5	2.0	mg/kg	20.1	ND	87.2	75-125	2.95	20
Thallium		78.3	5.0	mg/kg	80.5	ND	97.2	75-125	0.0944	20
Vanadium		95.1	2.5	mg/kg	40.2	51.6	108	75-125	0.501	20
Zinc	RPD3	66.9	2.0	mg/kg	20.1	47.7	95.2	75-125	43.1	20
Matrix Spike (B2C2514-MS2)	Prepared & Analyzed: 03/28/22					**Source: IC25007-23**				
EPA 6010B										
Antimony	MS3	4.36	2.0	mg/kg	19.9	ND	21.9	75-125		
Arsenic		53.7	2.0	mg/kg	39.8	11.1	107	75-125		
Barium		222	2.0	mg/kg	39.8	181	103	75-125		
Beryllium		6.13	0.40	mg/kg	3.98	2.01	104	75-125		
Cadmium	MS3	1.32	0.40	mg/kg	3.98	ND	33.2	75-125		
Chromium		102	2.0	mg/kg	19.9	76.8	125	75-125		
Cobalt		23.7	0.80	mg/kg	7.95	15.7	101	75-125		
Copper		51.5	2.0	mg/kg	19.9	31.3	102	75-125		

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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Quality Control Sample Results - Metals (Total)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B2C2514										
Matrix Spike (B2C2514-MS2)	Prepared & Analyzed: 03/28/22					**Source: IC25007-23**				
EPA 6010B										
Lead		24.7	2.0	mg/kg	19.9	6.35	92.5	75-125		
Molybdenum		22.6	2.0	mg/kg	19.9	4.90	89.1	75-125		
Nickel		122	2.0	mg/kg	19.9	104	86.7	75-125		
Selenium		75.9	5.0	mg/kg	79.5	3.92	90.6	75-125		
Silver		16.1	2.0	mg/kg	19.9	ND	80.8	75-125		
Thallium		80.9	5.0	mg/kg	79.5	ND	102	75-125		
Vanadium		117	2.5	mg/kg	39.8	67.4	125	75-125		
Zinc		88.7	2.0	mg/kg	19.9	67.8	105	75-125		
Matrix Spike Dup (B2C2514-MSD2)	Prepared & Analyzed: 03/28/22					**Source: IC25007-23**				
EPA 6010B										
Antimony	MS3	4.81	2.0	mg/kg	20.0	ND	24.1	75-125	9.81	20
Arsenic		51.7	2.0	mg/kg	40.0	11.1	101	75-125	3.88	20
Barium		212	2.0	mg/kg	40.0	181	76.4	75-125	4.79	20
Beryllium		6.03	0.40	mg/kg	4.00	2.01	101	75-125	1.58	20
Cadmium	MS3	1.21	0.40	mg/kg	4.00	ND	30.2	75-125	8.96	20
Chromium		101	2.0	mg/kg	20.0	76.8	119	75-125	1.10	20
Cobalt		23.3	0.80	mg/kg	7.99	15.7	95.1	75-125	1.71	20
Copper		50.9	2.0	mg/kg	20.0	31.3	97.8	75-125	1.24	20
Lead		24.4	2.0	mg/kg	20.0	6.35	90.3	75-125	1.49	20
Molybdenum		22.2	2.0	mg/kg	20.0	4.90	86.4	75-125	2.02	20
Nickel		121	2.0	mg/kg	20.0	104	82.5	75-125	0.627	20
Selenium		73.9	5.0	mg/kg	79.9	3.92	87.5	75-125	2.75	20
Silver		15.9	2.0	mg/kg	20.0	ND	79.7	75-125	0.924	20
Thallium		77.5	5.0	mg/kg	79.9	ND	97.0	75-125	4.30	20
Vanadium		116	2.5	mg/kg	40.0	67.4	121	75-125	0.937	20
Zinc		87.6	2.0	mg/kg	20.0	67.8	98.8	75-125	1.26	20

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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Quality Control Sample Results - Semi-Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B2C2917										
Blank (B2C2917-BLK1)		Prepared: 03/29/22 Analyzed: 04/04/22								
EPA 8015B										
Surr: o-Terphenyl		*1.60*		*mg/kg*	*2.00*		*80.2*	*11.8-130*		
Diesel		ND	10	mg/kg						
Blank (B2C2917-BLK2)		Prepared: 03/29/22 Analyzed: 04/04/22								
EPA 8015B										
Motor Oil		ND	10	mg/kg						
LCS (B2C2917-BS1)		Prepared: 03/29/22 Analyzed: 04/04/22								
EPA 8015B										
Surr: o-Terphenyl		*1.86*		*mg/kg*	*2.00*		*93.2*	*11.8-130*		
Diesel		21.1	10	mg/kg	25.0		84.4	48-131		
LCS (B2C2917-BS2)		Prepared: 03/29/22 Analyzed: 04/04/22								
EPA 8015B										
Motor Oil		29.1	10	mg/kg	25.0		117	62-132		
LCS Dup (B2C2917-BSD1)		Prepared: 03/29/22 Analyzed: 04/04/22								
EPA 8015B										
Surr: o-Terphenyl		*2.14*		*mg/kg*	*2.00*		*107*	*11.8-130*		
Diesel		22.0	10	mg/kg	25.0		87.9	48-131	4.07	20
LCS Dup (B2C2917-BSD2)		Prepared: 03/29/22 Analyzed: 04/04/22								
EPA 8015B										
Motor Oil		23.9	10	mg/kg	25.0		95.4	62-132	19.9	20
Matrix Spike (B2C2917-MS1)		Prepared: 03/29/22 Analyzed: 04/05/22				**Source: IC25007-23**				
EPA 8015B										
Surr: o-Terphenyl		*1.85*		*mg/kg*	*2.00*		*92.4*	*11.8-130*		
Diesel		19.9	10	mg/kg	25.0	ND	79.7	48-131		
Matrix Spike (B2C2917-MS2)		Prepared: 03/29/22 Analyzed: 04/05/22				**Source: IC25007-23**				
EPA 8015B										
Motor Oil		28.7	10	mg/kg	25.0	5.24	93.9	48-131		
Matrix Spike Dup (B2C2917-MSD1)		Prepared: 03/29/22 Analyzed: 04/05/22				**Source: IC25007-23**				
EPA 8015B										
Surr: o-Terphenyl		*1.85*		*mg/kg*	*2.00*		*92.6*	*11.8-130*		
Diesel		19.1	10	mg/kg	25.0	ND	76.5	48-131	4.16	20
Matrix Spike Dup (B2C2917-MSD2)		Prepared: 03/29/22 Analyzed: 04/05/22				**Source: IC25007-23**				
EPA 8015B										
Motor Oil		26.7	10	mg/kg	25.0	5.24	85.9	48-131	7.18	20

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2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B2C2902										
Blank (B2C2902-BLK1)	Prepared & Analyzed: 03/29/22									
EPA 8260B										
Surr: 4-Bromofluorobenzene		*0.0252*		*mg/kg*	*0.0250*		*101*	*70-130*		
Surr: Dibromofluoromethane		*0.0250*		*mg/kg*	*0.0250*		*99.9*	*70-130*		
Surr: Toluene-d8		*0.0250*		*mg/kg*	*0.0250*		*99.9*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg						
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg						
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg						
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg						
1,1,2-Trichloroethane		ND	0.0010	mg/kg						
1,1-Dichloroethane		ND	0.0010	mg/kg						
1,1-Dichloroethene		ND	0.0010	mg/kg						
1,1-Dichloropropene		ND	0.0010	mg/kg						
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg						
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg						
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg						
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg						
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg						
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg						
1,2-Dichlorobenzene		ND	0.0010	mg/kg						
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg						
1,2-Dichloropropane		ND	0.0010	mg/kg						
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg						
1,3-Dichlorobenzene		ND	0.0010	mg/kg						
1,3-Dichloropropane		ND	0.0010	mg/kg						
1,4-Dichlorobenzene		ND	0.0010	mg/kg						
2,2-Dichloropropane		ND	0.0010	mg/kg						
2-Butanone (MEK)		ND	0.0010	mg/kg						
2-Chloroethylvinyl ether		ND	0.020	mg/kg						
2-Chlorotoluene		ND	0.0010	mg/kg						
2-Hexanone		ND	0.0010	mg/kg						
4-Chlorotoluene		ND	0.0010	mg/kg						
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg						
Acetone		ND	0.020	mg/kg						
Acrolein		ND	0.050	mg/kg						
Acrylonitrile		ND	0.010	mg/kg						
Benzene		ND	0.0010	mg/kg						
Bromobenzene		ND	0.0010	mg/kg						
Bromochloromethane		ND	0.0010	mg/kg						
Bromodichloromethane		ND	0.0010	mg/kg						
Bromoform		ND	0.0010	mg/kg						
Bromomethane		ND	0.0010	mg/kg						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B2C2902										
Blank (B2C2902-BLK1)	Prepared & Analyzed: 03/29/22									
EPA 8260B										
Carbon disulfide		ND	0.0010	mg/kg						
Carbon tetrachloride		ND	0.0010	mg/kg						
Chlorobenzene		ND	0.0010	mg/kg						
Chlorodifluoromethane		ND	0.0010	mg/kg						
Chloroethane		ND	0.0010	mg/kg						
Chloroform		ND	0.0010	mg/kg						
Chloromethane		ND	0.0010	mg/kg						
Chloroprene		ND	0.0010	mg/kg						
cis-1,2-Dichloroethene		ND	0.0010	mg/kg						
cis-1,3-Dichloropropene		ND	0.0010	mg/kg						
Dibromochloromethane		ND	0.0010	mg/kg						
Dibromomethane		ND	0.0010	mg/kg						
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg						
Dichlorotetrafluoroethane (CFC-114)		ND	0.010	mg/kg						
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg						
Ethanol		ND	0.050	mg/kg						
Ethyl methacrylate		ND	0.0010	mg/kg						
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg						
Ethylbenzene		ND	0.0010	mg/kg						
Hexachlorobutadiene		ND	0.0010	mg/kg						
Iodomethane		ND	0.0010	mg/kg						
Isopropylbenzene		ND	0.0010	mg/kg						
m,p-Xylene		ND	0.0010	mg/kg						
Methyl Methacrylate		ND	0.0010	mg/kg						
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg						
Methylene chloride		ND	0.0020	mg/kg						
Naphthalene		ND	0.0010	mg/kg						
n-Butylbenzene		ND	0.0010	mg/kg						
n-Propylbenzene		ND	0.0010	mg/kg						
o-Xylene		ND	0.0010	mg/kg						
p-Isopropyltoluene		ND	0.0010	mg/kg						
sec-Butylbenzene		ND	0.0010	mg/kg						
Styrene		ND	0.0010	mg/kg						
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg						
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg						
tert-Butylbenzene		ND	0.0010	mg/kg						
Tetrachloroethene (PCE)		ND	0.0010	mg/kg						
Toluene		ND	0.0010	mg/kg						
trans-1,2-Dichloroethene		ND	0.0010	mg/kg						
trans-1,3-Dichloropropene		ND	0.0010	mg/kg						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B2C2902										
Blank (B2C2902-BLK1)	Prepared & Analyzed: 03/29/22									
EPA 8260B										
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg						
Trichloroethene (TCE)		ND	0.0010	mg/kg						
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg						
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg						
Vinyl acetate		ND	0.0010	mg/kg						
Vinyl chloride		ND	0.0010	mg/kg						
Xylenes		ND	0.0010	mg/kg						
LCS (B2C2902-BS1)	Prepared & Analyzed: 03/29/22									
EPA 8260B										
Surr: 4-Bromofluorobenzene		*0.0249*		*mg/kg*	*0.0250*		*99.7*	*70-130*		
Surr: Dibromofluoromethane		*0.0245*		*mg/kg*	*0.0250*		*97.9*	*70-130*		
Surr: Toluene-d8		*0.0248*		*mg/kg*	*0.0250*		*99.3*	*70-130*		
1,1-Dichloroethene		0.0199	0.0010	mg/kg	0.0200		99.6	70-130		
Benzene		0.0194	0.0010	mg/kg	0.0200		96.9	70-130		
Chlorobenzene		0.0206	0.0010	mg/kg	0.0200		103	70-130		
Toluene		0.0186	0.0010	mg/kg	0.0200		92.8	70-130		
Trichloroethene (TCE)		0.0198	0.0010	mg/kg	0.0200		99.2	70-130		
LCS Dup (B2C2902-BSD1)	Prepared & Analyzed: 03/29/22									
EPA 8260B										
Surr: 4-Bromofluorobenzene		*0.0252*		*mg/kg*	*0.0250*		*101*	*70-130*		
Surr: Dibromofluoromethane		*0.0246*		*mg/kg*	*0.0250*		*98.5*	*70-130*		
Surr: Toluene-d8		*0.0252*		*mg/kg*	*0.0250*		*101*	*70-130*		
1,1-Dichloroethene		0.0193	0.0010	mg/kg	0.0200		96.3	70-130	3.37	20
Benzene		0.0191	0.0010	mg/kg	0.0200		95.6	70-130	1.35	20
Chlorobenzene		0.0203	0.0010	mg/kg	0.0200		101	70-130	1.71	20
Toluene		0.0182	0.0010	mg/kg	0.0200		91.2	70-130	1.74	20
Trichloroethene (TCE)		0.0184	0.0010	mg/kg	0.0200		91.9	70-130	7.64	20
Matrix Spike (B2C2902-MS1)	Prepared & Analyzed: 03/29/22					**Source: IC25007-23**				
EPA 8260B										
Surr: 4-Bromofluorobenzene		*0.0242*		*mg/kg*	*0.0250*		*96.9*	*70-130*		
Surr: Dibromofluoromethane		*0.0235*		*mg/kg*	*0.0250*		*93.9*	*70-130*		
Surr: Toluene-d8		*0.0251*		*mg/kg*	*0.0250*		*100*	*70-130*		
1,1-Dichloroethene		0.0156	0.0010	mg/kg	0.0200	ND	78.2	70-130		
Benzene		0.0158	0.0010	mg/kg	0.0200	ND	78.9	70-130		
Chlorobenzene		0.0165	0.0010	mg/kg	0.0200	ND	82.4	70-130		
Toluene		0.0153	0.0010	mg/kg	0.0200	ND	76.4	70-130		
Trichloroethene (TCE)		0.0156	0.0010	mg/kg	0.0200	ND	77.8	70-130		
Matrix Spike Dup (B2C2902-MSD1)	Prepared & Analyzed: 03/29/22					**Source: IC25007-23**				
EPA 8260B										
Surr: 4-Bromofluorobenzene		*0.0245*		*mg/kg*	*0.0250*		*97.8*	*70-130*		

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B2C2902										
Matrix Spike Dup (B2C2902-MSD1)	Prepared & Analyzed: 03/29/22					**Source: IC25007-23**				
EPA 8260B										
Surr: Dibromofluoromethane		*0.0242*		*mg/kg*	*0.0250*		*97.0*	*70-130*		
Surr: Toluene-d8		*0.0250*		*mg/kg*	*0.0250*		*99.8*	*70-130*		
1,1-Dichloroethene		0.0148	0.0010	mg/kg	0.0200	ND	74.2	70-130	5.12	20
Benzene		0.0155	0.0010	mg/kg	0.0200	ND	77.5	70-130	1.79	20
Chlorobenzene		0.0159	0.0010	mg/kg	0.0200	ND	79.4	70-130	3.71	20
Toluene		0.0147	0.0010	mg/kg	0.0200	ND	73.6	70-130	3.87	20
Trichloroethene (TCE)		0.0150	0.0010	mg/kg	0.0200	ND	74.8	70-130	4.06	20

Notes and Definitions

MS2	Recovery for this analyte was biased high; associated blank spike recoveries are within range.
MS3	Recovery for this analyte was biased low; associated blank spike recoveries are within range.
RPD3	The RPD is out of range for this spike and its duplicate due to a low or high bias of one of the two spikes.
µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
	Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field. If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

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BSK Associates Laboratory Fresno
1414 Stanislaus St
Fresno, CA 93706
559-497-2888 (Main)

AFC2843
3/31/2022
Invoice: AF08235

Julio Morales
Moore Twining Associates
2527 Fresno Street
Fresno, CA 93721

RE: Report for AFC2843 General

Dear Julio Morales,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 3/25/2022. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2016 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

This certificate of analysis shall not be reproduced except in full, without written approval of the laboratory.

If additional clarification of any information is required, please contact your Project Manager, Heather S. White , at 559-497-2888.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Heather S. White, Project Manager

Accredited in Accordance with NELAP
ORELAP #4021

Case Narrative

Project and Report Details		Invoice Details	
Client:	Moore Twining Associates	**Invoice To:**	Moore Twining Associates
Report To:	Julio Morales	**Invoice Attn:**	Julio Morales
Project #:	IC25007	**Project PO#:**	36958
Received:	3/25/2022 - 15:50		
Report Due:	3/30/2022		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 5.7

Containers Intact
COC/Labels Agree
Received On Blue Ice
Packing Material - Foam
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

SR1.0 Surrogate recovery exceeds upper control limit. No material impact as associated analytes are Non-Detect.

Report Distribution

Recipient(s)	Report Format	CC:
Julio Morales	FINAL.RPT	
Susan Federico	FINAL.RPT	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-01
Sampled By: Client
Sample Description: Af-1-1 feet // IC25007-01

Sample Date - Time: 03/24/2022 - 13:02
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	149 %	*Acceptable range: 50-150 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-02
Sampled By: Client
Sample Description: Af-2-1 feet // IC25007-03

Sample Date - Time: 03/24/2022 - 13:18
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	145 %	*Acceptable range: 50-150 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-03
Sampled By: Client
Sample Description: Af-3-1 feet // IC25007-05

Sample Date - Time: 03/24/2022 - 13:31
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	156 %	*Acceptable range: 50-150 %*			*Qualifiers - SR1.0*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-04
Sampled By: Client
Sample Description: Af-4-1 feet // IC25007-07

Sample Date - Time: 03/24/2022 - 13:46
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	154 %	*Acceptable range: 50-150 %*			*Qualifiers - SR1.0*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-05
Sampled By: Client
Sample Description: Af-5-1 feet // IC25007-09

Sample Date - Time: 03/24/2022 - 14:02
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	150 %	*Acceptable range: 50-150 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-06
Sampled By: Client
Sample Description: Af-6-1 feet // IC25007-11

Sample Date - Time: 03/24/2022 - 14:14
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	165 %	*Acceptable range: 50-150 %*			*Qualifiers - SR1.0*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-07
Sampled By: Client
Sample Description: Af-7-1 feet // IC25007-13

Sample Date - Time: 03/24/2022 - 15:05
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	160 %	*Acceptable range: 50-150 %*			*Qualifiers - SR1.0*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-08
Sampled By: Client
Sample Description: Af-8-1 feet // IC25007-15

Sample Date - Time: 03/24/2022 - 14:48
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	150 %	*Acceptable range: 50-150 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-09
Sampled By: Client
Sample Description: Af-9-1 feet // IC25007-17

Sample Date - Time: 03/24/2022 - 15:16
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	170 %	*Acceptable range: 50-150 %*			*Qualifiers - SR1.0*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-10
Sampled By: Client
Sample Description: Af-10-1 feet // IC25007-19

Sample Date - Time: 03/24/2022 - 15:30
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	158 %	*Acceptable range: 50-150 %*			*Qualifiers - SR1.0*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-11
Sampled By: Client
Sample Description: Af-11-1 feet // IC25007-21

Sample Date - Time: 03/24/2022 - 15:47
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	170 %	*Acceptable range: 50-150 %*			*Qualifiers - SR1.0*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-12
Sampled By: Client
Sample Description: Af-12-1 feet // IC25007-23

Sample Date - Time: 03/24/2022 - 16:01
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	153 %	*Acceptable range: 50-150 %*			*Qualifiers - SR1.0*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

BSK Associates Laboratory Fresno

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
LUFT GC/MS - Quality Control											
Batch: AFC1725										Prepared: 3/28/2022	
Prep Method: no prep-volatiles										Analyst: AMN	
Blank (AFC1725-BLK1)											
Gasoline Range Organics (C6-10)	ND	1000	ug/kg							03/28/22	
Surrogate: 1,2-Dichloroethane-d4	*69*			*50*		*139*	*50-150*			03/28/22	
Blank Spike (AFC1725-BS1)											
Gasoline Range Organics (C6-10)	7500	1000	ug/kg	5000	ND	150	50-150			03/28/22	
Surrogate: 1,2-Dichloroethane-d4	*56*			*50*		*112*	*50-150*			03/28/22	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Field tests are outside the scope of laboratory accreditation and there is no certification available for field testing.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.
- (2) - Formerly known as Bis(2-Chloroisopropyl) ether.
  Unless otherwise noted, TOC results by SM 5310C method do not include purgeable organic carbon, which is removed along with the inorganic carbon interference. The POC contribution to TOC is considered to be negligible.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected below MRL/MDL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit	U:	The analyte was not detected at or above the reported sample quantitation limit.

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP program for the following parameters: **NA**

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certification.**

Fresno

State of California - ELAP	1180	State of Hawaii	4021
Los Angeles CSD	9254479	NELAP certified	4021-019
State of Nevada	CA000792022-1	State of Oregon - NELAP	4021-019
EPA UCMR5	CA00079	State of Washington	C997-22a

Sacramento

State of California - ELAP	2435

San Bernardino

State of California - ELAP	2993	Los Angeles CSD	9254478
NELAP certified	4119-006	State of Oregon - NELAP	4119-006

Vancouver

NELAP certified	WA100008-014	State of Oregon - NELAP	WA100008-014
State of Washington	C824-21		

AFC2843 Moore7021 03/25/2022

3

SUBCONTRACT ORDER

Purchase Order # 36958
MTA Project # IC25007

S. 7#65

Please reference these numbers on all reports and invoices.
We also request QC data be provided with final report.

SENDING LABORATORY:	PROJECT MANAGER / REPORT TO:	RECEIVING LABORATORY:
Moore Twining Associates, Inc 2527 Fresno Street Fresno, CA 93721 Phone: (559) 268-7021 Fax: (559) 268-0740	Julio Morales JulioM@MooreTwining.com **INVOICE TO:** Denise Willis AccountsPayable@MooreTwining.com	BSK Analytical Laboratories 1414 Stanislaus St. Fresno, CA 93706 Phone: (559) 497-2888 Fax: (559) 485-6935

SAMPLE INFORMATION 777-8961 **COMMENTS / SOURCE ID**

1 **Client Sample ID: Af1-1 feet**
MTA Sample ID: IC25007-01 **Matrix:** Soil **Sampled Date/Time:** 03/24/22 13:02
Requested Analysis: TPH-G **Holding Time Expires:** 04/07/22 13:02 3-Day RUSH
Containers Supplied:
VOA Vial Unpreserved (C)

2 **Client Sample ID: Af2-1 feet**
MTA Sample ID: IC25007-03 **Matrix:** Soil **Sampled Date/Time:** 03/24/22 13:18
Requested Analysis: TPH-G **Holding Time Expires:** 04/07/22 13:18 3-Day RUSH
Containers Supplied:
VOA Vial Unpreserved (C)

3 **Client Sample ID: Af3-1 feet**
MTA Sample ID: IC25007-05 **Matrix:** Soil **Sampled Date/Time:** 03/24/22 13:31
Requested Analysis: TPH-G **Holding Time Expires:** 04/07/22 13:31 3-Day RUSH
Containers Supplied:
VOA Vial Unpreserved (C)

4 **Client Sample ID: Af4-1 feet**
MTA Sample ID: IC25007-07 **Matrix:** Soil **Sampled Date/Time:** 03/24/22 13:46
Requested Analysis: TPH-G **Holding Time Expires:** 04/07/22 13:46 3-Day RUSH
Containers Supplied:
VOA Vial Unpreserved (C)

5 **Client Sample ID: Af5-1 feet**
MTA Sample ID: IC25007-09 **Matrix:** Soil **Sampled Date/Time:** 03/24/22 14:02
Requested Analysis: TPH-G **Holding Time Expires:** 04/07/22 14:02 3-Day RUSH
Containers Supplied:
VOA Vial Unpreserved (C)

Released By	Date / Time	Received By	Date / Time
[signature] 3-25-22		[signature] MTA	3/25/22 / 1540
[signature] MTA	3/25/22 / 1550	[signature] BSK FA	3252 / 15 5.

Please email copy of receipt with your assigned Sample ID Number to JulioM@MooreTwining.com

6, F, O

AFC2843 Moore7021 03/25/2022

MOORE TWINING ASSOCIATES, INC.

Analytical Chemistry Division
California ELAP Certification # 1371

Purchase Order # _____

MTA Project # IC25007

Please reference these numbers on all reports and invoices.

5.7 H6S

We also request QC data be provided with final report.

SAMPLE INFORMATION						COMMENTS / SOURCE ID
Client Sample ID:	**Af6-1 feet**					
MTA Sample ID:	IC25007-11	**Matrix:**	Soil	**Sampled Date/Time:**	03/24/22 14:14	
Requested Analysis:	TPH-G			**Holding Time Expires:**	04/07/22 14:14	3-Day RUSH
Containers Supplied:						
VOA Vial Unpreserved (C)						
Client Sample ID:	**Af7-1 feet**					
MTA Sample ID:	IC25007-13	**Matrix:**	Soil	**Sampled Date/Time:**	03/24/22 15:05	
Requested Analysis:	TPH-G			**Holding Time Expires:**	04/07/22 15:05	3-Day RUSH
Containers Supplied:						
VOA Vial Unpreserved (C)						
Client Sample ID:	**Af8-1 feet**					
MTA Sample ID:	IC25007-15	**Matrix:**	Soil	**Sampled Date/Time:**	03/24/22 14:48	
Requested Analysis:	TPH-G			**Holding Time Expires:**	04/07/22 14:48	3-Day RUSH
Containers Supplied:						
VOA Vial Unpreserved (C)						
Client Sample ID:	**Af9-1 feet**					
MTA Sample ID:	IC25007-17	**Matrix:**	Soil	**Sampled Date/Time:**	03/24/22 15:16	
Requested Analysis:	TPH-G			**Holding Time Expires:**	04/07/22 15:16	3-Day RUSH
Containers Supplied:						
VOA Vial Unpreserved (C)						
Client Sample ID:	**Af10-1 feet**					
MTA Sample ID:	IC25007-19	**Matrix:**	Soil	**Sampled Date/Time:**	03/24/22 15:30	
Requested Analysis:	TPH-G			**Holding Time Expires:**	04/07/22 15:30	3-Day RUSH
Containers Supplied:						
VOA Vial Unpreserved (C)						
Client Sample ID:	**Af11-1 feet**					
MTA Sample ID:	IC25007-21	**Matrix:**	Soil	**Sampled Date/Time:**	03/24/22 15:47	
Requested Analysis:	TPH-G			**Holding Time Expires:**	04/07/22 15:47	3-Day RUSH
Containers Supplied:						
VOA Vial Unpreserved (C)						

Released By	Date / Time	Received By	Date / Time
		BSUR	3/25/22 @ 1550
Released By	Date / Time	Received By	Date / Time

Please email copy of receipt with your assigned Sample ID Number to JulioM@MooreTwining.com

b, F

AFC2843 Moore7021 03/25/2022

3

MOORE TWINING ASSOCIATES, INC.

Analytical Chemistry Division
California ELAP Certification # 1371

Purchase Order # _____

MTA Project # IC25007

5.7 #65

Please reference these numbers on all reports and invoices.
We also request QC data be provided with final report.

SAMPLE INFORMATION					COMMENTS / SOURCE ID
Client Sample ID:	**Af12-1 feet**				
MTA Sample ID:	IC25007-23	**Matrix:**	Soil	**Sampled Date/Time:**	03/24/22 16:01
Requested Analysis:	TPH-G			**Holding Time Expires:**	04/07/22 16:01
Containers Supplied:					3-Day RUSH
VOA Vial Unpreserved (C)					

Released By	Date / Time	Received By	Date / Time
			3/25/22 0155 0
Released By	Date / Time	Received By	Date / Time

Please email copy of receipt with your assigned Sample ID Number to JulioM@MooreTwining.com

b, F

AFC2843 Moore7021 03/25/2022

BSK Associates SR-FL-0002-23

3

Sample Integrity

BSK Bottles: Yes (No) Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 8°C	(Yes) No NA	Were correct containers and preservatives received for the tests requested?	(Yes) No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No (NA)	Bubbles Present VOAs (524.2/TTHM/TCP)? TB Received? (Check Method Below)	Yes No (NA) Yes No (NA)
Did all bottles arrive unbroken and intact?	(Yes) No	Was a sufficient amount of sample received?	(Yes) No
Did all bottle labels agree with COC?	(Yes) No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes (NA)	Was PM notified of discrepancies? PM: Heche By/Time: 6/6	(Yes) No (NA)

Bottles Received — = means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40mlVOA(V) 125ml(D)	Checks*	Passed?					
Bacti $Na_2S_2O_3$	—	—	~~5.12~~	7.12			
None (P) White Cap	—	—					
Cr6 (P) Lt. Green Label/Blue Cap NH4OH(NH4)2SO4 **DW**	Cl, pH > 8	P F					
Cr6 (P) Pink Label/Blue Cap NH4OH(NH4)2SO4 **WW**	pH 9.3-9.7	P F					
Cr6 (P) Black Label/Blue Cap NH4OH(NH4)2SO4 **7199** ***24 HOUR HOLD TIME***	pH 9.0-9.5	P F					
HNO_3 (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—	—					
H_2SO_4 (P) or (AG) Yellow Cap/Label	pH < 2	P F					
NaOH (P) Green Cap	Cl, pH >10	P F					
NaOH + ZnAc (P)	pH > 9	P F					3.28.22
Dissolved Oxygen 300ml (g)	—	—					
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—					
HCl (AG) Lt. Blue Label O&G, Diesel, **TCP**	—	—					
Ascorbic, EDTA, KH_2Ct (AG) Pink Label 525	—	—					
Na_2SO_3 250mL (AG) Neon Green Label 515	—	—					
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—					
$Na_2S_2O_3$ (AG) Blue Label 548, THM, 524	—	—					
$Na_2S_2O_3$ (CG) Blue Label 504, 505, 547	—	—					
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH < 3	P F					
NH_4Cl (AG) Purple Label 552	—	—					
EDA (P) or (AG) Brown Label DBPs	—	—					
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—					
Buffer pH 4 (CG)	—	—					
H_3PO_4 (CG) Salmon Label	—	—					
Trizma – EPA 537.1 - **Field Blank Required**							
Other:							
Asbestos 1L (P) w/ Foil / LL Metals Bottle	—	—					3/25/22
Bottled Water	—	—					
Clear Glass	—	—	IV				
Solids: Brass / Steel / Plastic Bag	—	—					

* NO COC RECEIVED

Split

	Container	Preservative	Lot #	Initials	Date/Time
S P					
S P					

Preservation Check
pH Lot #
Cl Lot #

Comments

*Preservation check completed by lab performing analysis.

Only received Aff the COCs Em 3/25/22
PB 2&3 Rec @ 1650 g
VIA Email

✓ **Indicates Blanks Received**

504 ___ 524.2 ___ TTHM ___ 537.1 ___ TCP___

✓ **MS/MSD Received Method:** _____

Scanned: _____ Rush/Short HT Page: _____ Time: _____

MOORE TWINING

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 4 IC25007
PAGE 1 **OF** 4

REPORT TO:	☐ INVOICE TO:	☐ REPORT COPY TO:	REPORTING:
ATTENTION: Katie Lister	ATTENTION: Katie Lister		☑ STANDARD FORMAT ☐ PDF
COMPANY NAME: Moore Twining Associates	COMPANY NAME: Moore Twining Associates		☐ EDT (SWRCB) ☐ EXCEL
ADDRESS: 2527 Fresno Street	ADDRESS: 2527 Fresno Street		☐ GEOTRACKER/COELT (LUFT) GLOBAL ID:
Fresno, CA 93721	Fresno, CA 93721		☐ COUNTY ENVIRONMENTAL HEALTH:
PHONE: (559)268-7021	PHONE: (559)268-7021		☑ STATE WATER RESOURCES CONTROL BOARD:
EMAIL / FAX:	EMAIL / FAX:		☐ OTHER:

SAMPLE INFORMATION

SAMPLED BY (PRINT): Thomas Harris
SIGNATURE:

☐ PUBLIC SYSTEM ☐ ROUTINE
☐ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☐ STANDARD
☑ RUSH, DUE ON: 03-30-2022

SAMPLE TYPES

SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION

CONTRACT / P.O. NO.:
PROJECT: Cherry 2 Soil AF
PROJECT NUMBER: C64413.0100
PROJECT MANAGER: Katie Lister

ANALYSIS REQUESTED

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLES(S) DAMAGED
☒ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION
5.5

LAB USE	CLIENT SAMPLE ID	DATE	TIME	TYPE	TPH g / d / mo	VOCs 8260	CAM17	HOLD							STATION CODE
1	Af1-1'	03-24-22	1302	SL	x	x	x								
2	Af1-2'		1307	SL				x							
3	Af2-1'		1318	SL	x	x	x								
4	Af2-2'		1321	SL				x							
5	Af3-1'		1331	SL	x	x	x								
6	Af3-2'		1337	SL				x							
7	Af4-1'		1346	SL	x	x	x								
8	Af4-2'		1350	SL				x							
9	Af5-1'		1402	SL	x	x	x								
10	Af5-2'		1405	SL				x							

COMMENTS / ADDITIONAL INSTRUCTIONS:

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
		3.24.22	1600	[illegible]	MTA

Payment for services rendered as noted herein are due in full within 30 days from the date invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are either the Client or an authorized agent to the Client, that the Client agrees to be responsible for payment for the services on this Chain of Custody and agrees to MTA's terms and conditions for laboratory services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

FL-SC-0005-04 A

MOORE TWINING — CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 1C25007
PAGE 2 **OF** 4

REPORT TO:	☐ INVOICE TO:	☐ REPORT COPY TO:	REPORTING:
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COMPANY NAME: Moore Twining Associates	COMPANY NAME: Moore Twining Associates		☐ EDT (SWRCB) ☐ EXCEL
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Fresno, CA 93721	Fresno, CA 93721		☐ COUNTY ENVIRONMENTAL HEALTH:
PHONE: (559)268-7021	PHONE: (559)268-7021		☑ STATE WATER RESOURCES CONTROL BOARD:
EMAIL / FAX:	EMAIL / FAX:		☐ OTHER:

SAMPLE INFORMATION

SAMPLED BY (PRINT): Thomas Harris
SIGNATURE:

☐ PUBLIC SYSTEM ☐ ROUTINE
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☐ OTHER ☐ REPLACEMENT

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PROJECT MANAGER: Katie Lister

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LAB USE

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☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLES(S) DAMAGED
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5.5

	CLIENT SAMPLE ID	DATE	TIME	TYPE	TPH g / d / mo	VOCs 8260	CAM17	HOLD	STATION CODE
11	Af6-1'	03-24-22	1414	SL	x	x	x		
12	Af6-2'		1418	SL				x	
13	Af7-1'		1502	SL	x	x	x		
14	Af7-2'		1505	SL				x	
15	Af8-1'		1448	SL	x	x	x		
16	Af8-2'		1452	SL				x	
17	Af9-1'		1516	SL	x	x	x		
18	Af9-2'		1520	SL				x	
19	Af10-1'		1530	SL	x	x	x		
20	Af10-2'		1536	SL				x	

COMMENTS / ADDITIONAL INSTRUCTIONS:

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
		3.25.22	1100		MTA

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MOORE TWINING

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PHONE: (559)268-7021	PHONE: (559)268-7021		☑ STATE WATER RESOURCES CONTROL BOARD:
EMAIL / FAX:	EMAIL / FAX:		☐ OTHER:

SAMPLE INFORMATION

SAMPLED BY (PRINT): Thomas Harris
SIGNATURE:

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☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
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PROJECT MANAGER: Katie Lister

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☑ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION
5.5

	CLIENT SAMPLE ID	DATE	TIME	TYPE	TPH g / d / mo	VOCs 8260	CAM17	HOLD	STATION CODE
21	Af11-1'	03-24-22	1547	SL	x	x	x		
22	Af11-2'	"	1552	SL				x	
23	Af12-1'	"	1601	SL	x	x	x		
24	Af12-2'	"	1606	SL				x	

COMMENTS / ADDITIONAL INSTRUCTIONS:

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
		3-25-22	1100	[signature]	MTA

Payment for services rendered as noted herein are due in full within 30 days from the date invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are either the Client or an authorized agent to the Client, that the Client agrees to be responsible for payment for the services on this Chain of Custody and agrees to MTA's terms and conditions for laboratory services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

Sample Integrity — Page 4 of 4 — Moore Twining Associates — WO# 1C25007 — MTA Bottles: Yes or No

COC Info

Was temperature within range? Chemistry ≤6°C Micro <10°C Temp 5.5 °C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A	Were there bubbles in VOA vials? (**Volatiles Only**)	Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd 5.5 C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A	Was PM notified of discrepancies? PM: By/Time:	Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A		
Do samples have a hold time <72 hours?	Yes No N/A				

Bottles Received

| | | | | | | |

SOIL AND WATER ANALYSIS REPORT

for

Daylight Legacy Solar Project
Kings County, California

Prepared for:

Daylight Legacy Solar LLC
135 Main Street, 6th Floor
San Francisco, California 94105

Prepared by:

DUDEK
621 Chapala Street
Santa Barbara, CA 93101

Matt Naftaly
Principal Hydrologist

Jessica Kinnahan, AICP
Project Manager

MAY 2019

Printed on 30% post-consumer recycled material.

Soil and Water Analysis Report
Daylight Legacy Solar Project

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4. SOIL SAMPLING RESULTS 9

5. ON-SITE WELL AND AQUIFER INFORMATION 13

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B Soil Analysis Laboratory Results
C Well Completion Report, Well Test, Groundwater Analysis Results, and Photograph

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Soil and Water Analysis Report
Daylight Legacy Solar Project

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
AFY	acre-feet per year
APN	Assessor's Parcel Number
bgs	below ground surface
DWR	Department of Water Resources
gpm	gallons per minute
GSP	Groundwater Sustainability Plan
millimho/cm	millimho per centimeter
ppm	parts per million
Project	Daylight Legacy Solar Project
SAR	sodium adsorption ratio
SGMA	Sustainable Groundwater Management Act
TDS	total dissolved solids
WSA	Water Supply Assessment
WWD	Westlands Water District

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EXECUTIVE SUMMARY

On November 26, 2013, the Kings County Board of Supervisors adopted Resolution No. 13-058. This resolution recognized that circumstances exist on agricultural preserves south of State Route 198, west of State Route 41, and east of Interstate 5 that limit much of the land within that territory to less intensive agricultural uses, namely dry farm seasonal grazing. These circumstances include reduced surface water deliveries, poor groundwater quality and severe groundwater overdrafts, impaired soil conditions, and regulatory burdens.

This Soil and Water Analysis Report provides an analysis of soil and groundwater conditions at the Daylight Legacy Solar Project (Project) for the purposes of determining the suitability for sustaining agriculture and for documenting baseline conditions for the proposed Project. The Project site is located in the area included in Resolution 13-058. Sources of information used in preparing this report include publicly available reports and websites, the on-site groundwater well completion report, laboratory analysis of soil and groundwater samples collected from the site, and a field reconnaissance of the existing groundwater well at the site. A Water Supply Assessment (WSA) was prepared by SAGE Engineers in accordance with Senate Bill 610, the results of which are summarized in Section G of this report.

Based on soil and groundwater testing conducted at the Project site, the report indicates unfavorable conditions for most agricultural crops such that a less intensive agricultural use is foreseeable. In addition, the San Joaquin Westside Subbasin, the groundwater basin providing water to the area, has been designated a high-priority, critically overdrafted basin by the Department of Water Resources (DWR). Conversion of the Project site from irrigated agriculture to a solar power generating facility would reduce groundwater demand in the basin and have no adverse impact to agricultural productivity in the vicinity of the Project site.

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1. DAYLIGHT SOLAR PROJECT SUMMARY

The proposed Daylight Legacy Solar Project (Project) includes the construction, operation, and decommissioning of a 300-megawatt solar power generating facility located on approximately 2,103 acres of private land in western Kings County, California, Assessor's Parcel Numbers (APNs) 026-300-034, 026-320-006, 026-320-017, and 026-320-020 (Appendix A, Soil Sampling Work Plan, Figures 1 and 2). Daylight Solar Legacy LLC contracted Dudek to prepare environmental technical reports and analyses in support of the Project's California Environmental Quality Act documentation.

The Project site consists of cultivated land with a few dirt roads and drainage canals. Agricultural production has historically consisted mainly of tomatoes, cotton, and wheat, and the property has been in production since at least the mid-1950s (Historical Aerials 20192019). Review of Google aerial imagery from 2017 indicates that the site is currently fallow land. This was confirmed during Dudek's field reconnaissance of the site in December 2018.

The elevation of the site ranges from 240 feet above mean sea level in the northwestern corner to 215 feet above mean sea level in the southeastern corner (Google Earth 2018). The site is located within recent alluvial fan deposits in the Great Valley (CGS 2011). The alluvial fan deposits consist of Quaternary sediments deposited from streams surrounding the Great Valley (CGS 2011). The site is located within the Arroyo Torcido-Frontal Tulare Lake Bed watershed in the Westlands Hydrologic Area (551.10) and in the San Joaquin Valley Groundwater Basin (Department of Water Resources (DWR) 5-22) (USGS 2018). There is one existing irrigation well on site located on APN 026-320-017 at the corner of 28th Avenue and Manteca Avenue (Latitude 36°9′8″N, Longitude 119°57′33″W). The depth to water below ground surface (bgs) measured in December 2018, was 342.6 feet (DWR State Well No. 20S19E31).

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2. METHODOLOGY

The information and data used in the preparation of this report include evaluation of soil classifications from the U.S. Department of Agriculture Natural Resources Conservation Service, collection and analysis of soil samples from the proposed site, data and information collected from the existing groundwater well, and review of publicly available data and information from reports and websites. The previously listed sources were used to prepare the analyses and conclusions contained herein.

On December 20, 2018, 50 soil samples (S1–S50) were collected from the proposed Project site at 0–12 inches depth bgs and analyzed for agronomic suitability as outlined in the Soil Sampling Work Plan (Appendix A). Soil samples collected at even numbered sampling locations (S2, S4, S6, etc.) were obtained from 6 inches depth bgs; whereas, soil samples collected at odd numbered sampling locations (S1, S3, S5, etc.) were obtained from 12 inches depth bgs.

Samples were transported using standard chain of custody procedures to Wallace Laboratories in El Segundo, California, for analysis. Each of the 50 soil samples were analyzed for pH; salinity; types and concentrations of soluble salts (calcium, magnesium, chloride, sodium, sulfate, phosphate, boron, and nitrate) in saturation extract; SAR; all essential nutrients; percent moisture; half saturation; and 14 non-essential, potentially plant-toxic trace minerals (see Appendix B).

Three additional soil samples were collected for grain size and texture analyses, one sample from each of the three dominant soil types (i.e., Lethent clay loam, Calflax clay loam, and Twisselman silt clay). Soil grain size sampling locations were in the immediate vicinity of sampling locations S14 (GR1), S29 (GR2), and S48 (GR3) (Appendix A, Figure 3). No sample was collected of Westhaven clay loam soils due to their extremely limited occurrence on the Project site.

The on-site well was visited on December 20, 2018; however, active well casing repair prevented access to the well and the attendant evaluation of groundwater conditions at the Project site. A well test conducted at the time of construction in October 2013 provides sufficient data to evaluate the adequacy of the groundwater well to supply the proposed Project (Appendix C, Well Completion Report, Well Test, Groundwater Analysis Results, and Photograph). Groundwater quality analysis indicates groundwater quality that is unsuitable for most types of crops (Appendix C).

Well completion aquifer testing and groundwater quality analysis results from the time of well construction were reviewed to evaluate the suitability of the well to supply agricultural operations and the construction and operational phases of the proposed Project.

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3. NATURAL RESOURCES CONSERVATION SERVICE SOIL INFORMATION

According to the Natural Resources Conservation Service, soils at the site consist of the following types: Lethent clay loam (1,432.7 acres), Calflax clay loam (50.8 acres), Twisselman silt clay (616.3 acres), and Westhaven clay loam (0.2 acres) (Appendix A, Figure 2). The Lethent clay loam and Twisselman silt clay soil series are the two dominant soil types at the site making up 68% and 29% of the soil, respectively.

- Lethent clay loam consists of alluvium derived from sedimentary rock, is moderately well drained, and is assigned to hydrologic soil group D. Major uses include irrigated crops and home site development. The land capability class designation is 3s (irrigated) and 7s (non-irrigated). Class 3 soils have severe limitations restricting the choice of plants or that require special conservation practices, or both. Class 7 soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to grazing, woodland, or wildlife (SCS 1962). The capability subclass letter "s" indicates the soil is limited mainly because it is shallow, droughty, or stony.
- Calflax clay loam consists of alluvium derived from sedimentary rock, is moderately well drained, and is assigned to hydrologic soil group D. Major uses include irrigated crops that are tolerant of sodic conditions and home site development. The land capability class is 2s (irrigated) and 7s (non-irrigated). Class 2 soils have limitations that reduce the variety of plants or require conservation practices, but less than those for Class 3 soils. The capability subclass letter "s" indicates the soil is limited mainly because it is shallow, droughty, or stony.
- Twisselman silt clay consists of alluvium derived from sedimentary rock, is well drained, and is assigned to hydrologic group C. Major uses include irrigated crops, home site, development, and grazing. The land capability class designation is 3s (irrigated) and 7s (non-irrigated).

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4. SOIL SAMPLING RESULTS

A total of 50 soil samples were collected from the proposed Project site and analyzed for agronomic suitability. Table 1 lists results for constituents of particular importance for agricultural land use. The soil constituents listed in Table 1 include salinity in millimho per centimeter (millimho/cm), sodicity or SAR, and boron in parts per million (ppm). Additionally, three soil samples were collected for grain size and texture analyses (Table 2). Detailed soil analysis laboratory results are included in Appendix B.

Table 1
Soil Agronomic Suitability Sampling Results Summary

Sample ID	Sample Depth (inches)	Salinity (millimho/cm)	Sodicity (SAR)	Boron (ppm)	Interpretation
S1	12	1.46	4.4	0.78	Acceptable but high for sensitive crops
S2	6	0.91	3.9	0.89	Acceptable but high for sensitive crops
S3	12	1.49	**6.3**	**1.82**	**Excessive SAR and boron**
S4	6	0.80	4.0	0.56	Acceptable but high for sensitive crops
S5	12	2.01	**6.6**	0.83	**Excessive SAR**
S6	6	**4.76**	5.3	**1.43**	**Excessive salinity and boron**
S7	12	1.96	**7.3**	1.34	**Excessive SAR and boron**
S8	6	1.51	5.2	0.79	Acceptable but high for sensitive crops
S9	12	0.76	3.7	0.49	Acceptable but high for sensitive crops
S10	6	1.20	5.0	0.70	Acceptable but high for sensitive crops
S11	12	3.78	4.4	**1.67**	**Excessive boron**
S12	6	3.40	3.4	0.73	Acceptable but high for sensitive crops
S13	12	1.00	4.3	0.66	Acceptable but high for sensitive crops
S14	6	1.16	2.4	0.40	Acceptable
S15	12	0.37	3.0	0.62	Acceptable but high for sensitive crops
S16	6	1.17	3.9	**1.05**	**Excessive boron**
S17	12	1.65	5.4	**1.50**	**Excessive boron**
S18	6	0.74	4.7	**1.05**	**Excessive boron**
S19	12	0.82	3.9	0.60	Acceptable but high for sensitive crops
S20	6	3.65	4.2	**1.17**	**Excessive boron**
S21	12	2.42	2.6	0.23	Acceptable
S22	6	**4.97**	3.3	0.80	**Excessive salinity**
S23	12	0.95	4.9	**1.21**	**Excessive boron**
S24	6	1.19	3.6	0.93	Acceptable but high for sensitive crops
S25	12	3.04	4.3	**1.15**	**Excessive boron**
S26	6	2.54	**8.2**	0.91	**Excessive SAR**
S27	12	3.42	**7.5**	0.93	**Excessive SAR**
S28	6	0.96	3.0	0.70	Acceptable but high for sensitive crops

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Table 1
Soil Agronomic Suitability Sampling Results Summary

Sample ID	Sample Depth (inches)	Salinity (millimho/cm)	Sodicity (SAR)	Boron (ppm)	Interpretation
S29	12	3.47	5.4	**1.10**	**Excessive boron**
S30	6	1.52	3.1	0.85	Acceptable but high for sensitive crops
S31	12	0.75	3.6	0.75	Acceptable but high for sensitive crops
S32	6	1.35	2.5	0.72	Acceptable
S33	12	2.95	**6.8**	**1.75**	**Excessive SAR and boron**
S34	6	1.31	1.9	**1.51**	**Excessive boron**
S35	12	1.21	3.3	**1.32**	**Excessive boron**
S36	6	2.95	3.3	**1.25**	**Excessive boron**
S37	12	3.88	1.7	0.50	Acceptable but high for sensitive crops
S38	6	3.32	3.7	0.83	Acceptable but high for sensitive crops
S39	12	1.72	3.4	0.99	Acceptable but high for sensitive crops
S40	6	2.25	3.9	0.79	Acceptable but high for sensitive crops
S41	12	**6.30**	**6.2**	**1.62**	**Excessive salinity, SAR, and boron**
S42	6	1.89	3.5	0.97	Acceptable but high for sensitive crops
S43	12	1.68	**6.5**	0.53	**Excessive SAR**
S44	6	3.32	3.9	**1.04**	**Excessive boron**
S45	12	**6.01**	**6.3**	**1.71**	**Excessive salinity, SAR, and boron**
S46	6	**7.02**	4.2	**1.24**	**Excessive salinity and boron**
S47	12	**7.84**	**8.2**	**3.62**	**Excessive salinity, SAR, and boron**
S48	6	**4.36**	3.2	**1.41**	**Excessive salinity and boron**
S49	12	**4.96**	3.6	**1.12**	**Excessive salinity and boron**
S50	6	**5.01**	4.4	**1.29**	**Excessive salinity and boron**

Source: Appendix B.
Notes: millimho/cm = millimho per centimeter; ppm = parts per million; SAR = sodium adsorption ratio.
Bold and underlined values are above acceptable agricultural limitations.

Table 2
Soil Grain Size and Texture Sampling Results Summary

Sample ID	Sand (%)	Silt (%)	Clay (%)	Texture	Soil Type
GR1	33.8	30.5	35.7	Clay loam	Lethent
GR2	10.5	35.1	54.5	Clay	Calflax
GR3	3.4	41.1	55.5	Silty Clay	Twisselman

Source: Appendix B.

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Following is a summary and interpretation of the soil agronomic suitability and grain size analysis sampling results:

- **Salinity** – The salinity of the soil samples ranges from 0.37 to 7.84 millimho/cm with an average salinity of 2.58 millimho/cm. Soil is defined as being saline when the salinity is over 4 millimho/cm. A total of 9 of the 50 soil samples are considered saline, and an additional 18 of the 50 soil samples exceed the target salinity level (0.5–3 millimho/cm) for sensitive plants. Excessive salinity reduces the plant's ability to uptake water.
- **Sodicity (SAR)** – The SAR of the soil samples ranges from 1.7 to 8.2 with an average SAR of 4.4. Negative soil properties are common when the soil SAR is greater than 6. The target SAR value of a soil for sensitive plants is less than 3. High SAR values limit soil physical properties, reduce water percolation, decrease soil aggregate stability, increase clay dispersion, increase swelling of expandable clays, increase surface crusting, and reduce soil tilth (tilled soil suitability for sowing seeds) (Appendix B). Of the 50 soil samples, 10 have SAR values greater than 6, and 45 of the 50 soil samples have SAR values greater than or equal to 3.
- **Boron** – The concentration of boron in the soil samples ranges from 0.23 to 3.62 ppm with an average boron concentration of 1.06 ppm. The optimum concentration of boron for agriculture is about 0.2 to 0.3 ppm, with a target concentration of less than 0.5 ppm for sensitive plants (Appendix B). Of the 50 soil samples, 23 contain boron levels greater than 1 ppm, and 47 of the 50 soil samples exceed the target boron concentration for sensitive plants of less than 0.5 ppm. Boron is essential to the formation and health of plant cell walls. Too little boron results in poor growth and too much may become toxic to plants.
- **Other constituents –** Other constituents with average concentrations above or below optimum concentrations for sensitive plants include chloride (above), phosphorus (below), and sulfur (above) (Appendix B).
- **Grain size/texture** – The texture of the soil samples range from silty clay to clay loam. Sample GR1 has almost equal parts sand, silt, and clay; whereas, GR2 and GR3 have significantly more silt and clay than sand. Soils containing large amounts of clay have low infiltration rates resulting in surface ponding and erosion and restricted soil aeration that may inhibit plant growth and reduce nutrient availability (NRCS 2019).

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5. ON-SITE WELL AND AQUIFER INFORMATION

Groundwater in the San Joaquin Groundwater Basin, Westside Subbasin, is generally divided into two primary aquifers; one above the confining Corcoran Clay and one below it. Water quality in the aquifer below the Corcoran Clay is variable, with poorer water quality at the upper and lower parts of the aquifer. Water at the base of this aquifer exceeds 2,000 ppm total dissolved solids (TDS), a concentration too high for most crop irrigation (WWD 2016). The groundwater well that is the potential source for the proposed Project is screened at various intervals through the confined aquifer (Appendix C).

The proposed Project site has a single existing irrigation water supply well located on APN 026-320-017 at the following coordinates: latitude 36°9′8″ N, longitude 119°57′33″ W (DWR State Well No. 20S19E31). During the site visit on December 20, 2018, the irrigation well casing was being repaired, and access to the well was not permitted.

According to the well completion report, the irrigation well is 18 inches in diameter, 2,250 feet deep, and screened from 798 to 838; 854 to 1,015; 1,017 to 1,625; and 1,641 to 2,250 feet depth bgs. Following well completion, well tests were conducted by Zim Industries Inc. A 12-hour step-drawdown test was conducted October 9, 2013. Prior to the test, the static groundwater level was measured to be about 403.5 feet bgs. The well was pumped at 2,500 gallons per minute (gpm), 3,000 gpm, and 3,500 gpm for three consecutive 4-hour intervals. The test concluded at a production rate of 3,500 gpm with a water level drawdown of between 560 feet bgs and 630 feet bgs. A 10-hour constant rate pumping test, conducted October 11, 2013, confirmed a well yield of 3,500 gpm with 137 feet of water level drawdown and a starting depth to static groundwater level of 404 feet bgs (Appendix C). Although the tests performed in 2013 do not necessarily reflect the current well condition, the maximum water demand of the proposed Project is approximately 250 acre-feet per year (AFY) during the construction phase of the Project, which is equal to a continuous pumping rate of about 155 gpm (Section G). This is approximately 5% of the estimated well yield based on the 2013 well tests. The static groundwater level measured in the well in December of 2018 was 342.6 feet bgs, indicating that groundwater levels recovered about 61 feet between the 2013 and 2018 static groundwater level measurements.

Following well construction, a groundwater sample was collected on October 10, 2013, for analysis of general irrigation suitability (Table 3). Laboratory results indicate levels of sodium and chloride in excess of that desirable for most crops. In addition, TDS, pH, electrical conductivity, and SAR were measured at levels that are problematic for most crops. The water quality from the well was designated “poor” for crop suitability (Appendix C). TDS, selenium, boron, and nitrates are noted water quality concerns within the Westland Water District’s groundwater (Young and Associates 2017).

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Table 3
On-Site Well Water Quality Results

Test Description	General Irrigation Suitability Test Results			
	mg/L	***mEQ/L***	***% mEQ***	***lbs/AF***
Cations				
Calcium	32	1.6	7	87
Magnesium	9	0.74	3	24
Potassium	2	0.051	0	5
Sodium	460	20	89	1,300
Anions				
Carbonate	<10	0	0	0
Bicarbonate	300	4.9	25	820
Sulfate	175	3.6	19	480
Chloride	390	11	56	1,100
Nitrate	1.9	0.031	0	5
Fluoride	0.2	0.011	0	0.5
Minor Elements				
Boron	1.5	NA	NA	4.1
Copper	0.050	NA	NA	0.14
Iron	0.21	NA	NA	0.57
Manganese	0.030	NA	NA	0.82
Zinc	0.060	NA	NA	0.6
TDS	1,370	NA	NA	3,700
Other				
pH	8.3 pH units	NA	NA	NA
E.C.	2.35 dS/M	NA	NA	NA
SAR	18.5	NA	NA	NA

Source: Appendix C.
Notes: mg/L = milligrams per liter; mEQ/L – milliequivalents per liter; % mEQ = percent milliequivalents; lbs/AF = pounds per acre-foot of water; NA = not applicable; TDS = total dissolved solids; E.C. = electrical conductivity; SAR = sodium adsorption ratio; ds/M = deciSiemens per meter.

6. SURFACE WATER QUALITY AND AVAILABILITY

SAGE Engineers has prepared a WSA for the proposed Project (SAGE 2019). WSAs are required for some projects that are subject to the California Environmental Quality Act in accordance with Senate Bill 610 and 221. They evaluate the availability and sufficiency of the proposed project water supplies to fulfill the project demand through the planning period with consideration of the anticipated water demands on the proposed sources.

The water demand is estimated to be approximately 250 acre-feet for the 12–18-month construction phase and 2–3 AFY for the operational phase of the proposed Project. Potable and non-potable water will be required. The potential water sources are groundwater from on-site wells or water from the Westlands Water District (WWD). Other sources may include water imported via truck or pipeline from unidentified off-site sources. There is an existing groundwater well with the capacity to provide all of the proposed Project water demand (see Section F). The water extracted from this well is from the high-priority, critically overdrafted Westside Subbasin of the San Joaquin Valley Groundwater Basin (DWR number 5-22.09). In accordance with the Sustainable Groundwater Management Act (SGMA), preparation of a Groundwater Sustainability Plan (GSP) is required by January 31, 2020. Implementation of the GSP is required to result in "sustainable management" of the basin within 20 years of adoption. Sustainable management is defined by SGMA as the absence of negative impacts, including excessive decline in groundwater levels, groundwater storage, and water quality.

A GSP draft is expected to be complete in June 2019. The SGMA process could affect the subject property water supply by imposing mandatory groundwater management actions such as groundwater allocations or conservation measures. The proposed Project estimated water use is a small fraction of that of the basin safe yield and that required for most agricultural operations of similar area. Therefore, it is unlikely that the GSP would restrict groundwater extractions for the proposed Project.

There is existing infrastructure for delivery of WWD water to the proposed Project site. WWD has a contract for 1,150,000 AFY from the Central Valley Project. The amount actually available depends on a variety of factors, including precipitation. Full allocation has been available during only six of the last 31 years, and no water has been allocated during two of the recent drought years (i.e., 2014 and 2015). Water users mainly extract groundwater to compensate for shortages in the Central Valley Project supply. A municipal and industrial use program provides for WWD to supply utility-scale solar projects with 5 AFY of water for every 160 acres of solar development, resulting in about 65 AFY of water available to the proposed Project. This amount is insufficient to supply the proposed Project construction phase but is in excess of that required for the operational phase.

The WSA concludes that the "…water supplies determined to be available for the proposed Project will meet the projected water demand associated with the proposed Project, in addition to existing and planned future uses" (SAGE 2019).

WWD supplies only non-potable water. DWR monitors agricultural surface water quality for the California Aqueduct at Check 13, O'Neil Outlet. Concentration range for constituents of concern are provided in Table 4.

Table 4
California Aqueduct O'Neil Outlet Surface Water Quality Results

Constituent	Concentration Range1 (mg/L)	Average Concentration (mg/L)
Arsenic	0.001–0.003	0.002
Boron	0–0.3	0.16
Bromide	0.07–0.42	0.26
Chloride	28–139	88
Manganese	0–0.21	0.005
Nitrate	0.1–4.2	1.99
Selenium	0–0.002	0.001
Sulfate	14–56	35
TDS	163–399	288

Source: Young and Associates 2017.
Notes: mg/L = milligrams per liter; TDS = total dissolved solids.
[1] Concentration range is based on monthly sampling from 2016 to 2017.

7. CONCLUSIONS

1. Soils at the proposed Project site are not suitable for most agricultural crops due to elevated salinity, sodicity (SAR), and boron levels. Only 3 of the 50 soil samples collected contain acceptable levels (optimum concentrations for sensitive plants) of all three soil constituents. Elevated SAR and boron levels in the soils are the most limiting factors in terms of soil agronomic suitability. Additionally, on average, the concentration of other constituents, including chloride, phosphorus, and sulfur, limit agricultural suitability. Intensive agricultural production at the site may result in further concentration of salts due to lack of subsurface drainage and leaching from irrigation source.
2. A water quality sample collected during the construction of the on-site well was analyzed for agricultural suitability. It was found to have "poor" crop suitability due to TDS, pH, electrical conductivity, and SAR. Historical documents indicate ongoing water quality concerns within the subbasin (DWR Bulletin 118; Young and Associates 2017).
3. Central Valley Project water is a potential source of water supply to the subject property. Although it is of acceptable quality for many agricultural uses, allocations have been historically unreliable with full allocations available 19% of the time and 2 years having zero water availability.
4. Soil and groundwater testing conducted at the proposed Project site indicate unfavorable conditions for most agricultural crops. Dry farming or seasonal grazing may be an appropriate land use, the feasibility of which is highly dependent on climate. In addition, the San Joaquin Westside Subbasin has been designated a high-priority, critically overdrafted basin by DWR. The implementation of SGMA, which is currently underway for the basin, may result in agricultural water allocations or fallowing requirements. Conversion of these parcels from irrigated agriculture to a solar power generating facility would reduce groundwater demand in the basin and have no adverse impact to agricultural productivity in the vicinity of the Project site.

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APPENDIX A

Soil Sampling Work Plan

SOIL SAMPLING WORK PLAN

Daylight Legacy Solar Project
Kings County, California

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1.0 INTRODUCTION

This Soil Sampling Work Plan has been prepared by Dudek on behalf of First Solar, Inc. for the Daylight Legacy Solar Project (Project) located in western Kings County, California, Assessor's Parcel Numbers (APNs) 026-300-034, 026-300-060, 026-320-017, and 026-320-020 (Figures 1 and 2). This Work Plan was prepared to satisfy requirements of Kings County Resolution No. 13-058 by conducting a soil investigation at the site to determine the Project's potential impacts to agricultural resources.

1.1 Objective

The objective of the Work Plan is to assess the on-site Project soil agronomic suitability conditions to determine the Project's potential impacts to agricultural resources. Fifty (50) soil samples will be analyzed for Wallace Laboratories' Agronomic Soil Suitability Test which includes pH, salinity, types and concentrations of soluble salts (calcium, magnesium, chloride, sodium, sulfate, phosphate, boron, and nitrate) in saturation extract, sodium adsorption ratio (SAR), all essential nutrients, percent moisture, half saturation, and 14 non-essential, potentially plant-toxic trace minerals (Wallace 2018). Additionally, three (3) samples will be collected for ASTM D422 Grain Size Analyses (dry sieve only: 1" to 400 mesh) to document soil grain size and texture.

1.2 Overview

This Work Plan includes:

- description of the site (location and background information);
- discussion of the site environmental setting (topography, geology and hydrology, and soils); and
- a field sampling plan for soil (sample locations, sampling procedures, sample handling, and sample analysis)

1.3 Data Collection and Analysis

The sampling will be performed to evaluate the agronomic suitability of the soils at the site.

2.0 SITE DESCRIPTION

2.1 Location

The site is located at approximately 3 miles northeast of the intersection of Nevada Avenue and Avenal Cutoff Road in western Kings County, California (Figure 2). The site is located in an agricultural setting on APNs 026-300-034, 026-300-060, 026-320-017, and 026-320-020, which are a combined area of approximately 2,100 acres.

2.2 Background Information

Dudek reviewed historical aerial photographs of the site from 1955 to 2014 as obtained from historicalaerials.com. The entire site was used for agricultural cultivation from at least 1955 to 2014. Review of Google aerial imagery from 2017 indicates the site is currently fallow land.

3.0 ENVIRONMENTAL SETTING

3.1 Site Topography

The site consists of cultivated land with a few dirt roads and drainage canals. A power line runs along the southern boundary of the site.

The elevation of the site ranges from 240 feet above mean sea level (amsl) in the northwestern corner to 215 feet amsl in the southeastern corner (Google Earth 2018).

3.2 Geology and Hydrogeology

The site is located within recent alluvial fan deposits in the Great Valley (CGS 2011). The alluvial fan deposits consist of Quaternary sediments deposited from streams surrounding the Great Valley (CGS 2011).

The site is located within the Arroyo Torcido-Frontal Tulare Lake Bed watershed in the Westlands Hydrologic Area (551.10) and in the San Joaquin Valley Groundwater Basin (5-22) (WBD 2018).

There is one existing irrigation well onsite located at the corner of 28th Ave. and Manteca Ave. (Latitude 36 9”8”N, Longitude 119 57’33”W). The depth to water below ground surface (bgs) measured September 20, 2013 was 404 feet (DWR State Well No. 20S19E31).

3.3 NRCS Soil Types

The site consists of the following four NRCS soil types: Lethent clay loam (1,432.7 acres), Calflax clay loam (50.8 acres), Twisselman silt clay (616.3 acres), and Westhaven clay loam (0.2 acres). The Lethent clay loam and Twisselman silt clay soil series are the dominant soil types at the site making up 68 percent and 29 percent of the soil, respectively. Lethent clay loam consists of alluvium derived from sedimentary rock, is moderately well drained, and is assigned to hydrologic soil group D. Twisselman silt clay consists of alluvium derived from sedimentary rock, is well drained, and is assigned to hydrologic group C.

4.0 PROPOSED FIELD ACTIVITIES

The following sections describe the proposed soil sampling activities at the site. All field activities will be performed under the supervision of a California Registered Professional Engineer or Geologist. All field activities will be conducted in accordance with the site-specific Health and Safety Plan (HSP) presented as Appendix A. Proposed sampling locations are presented in Figure 3.

4.1 Utility Clearance

No utility clearance will be necessary for the collection of surface soil samples.

4.2 Soil Sample Locations and Depths

Soil will be collected from the surface (0-12 inches bgs) of the site at 50 locations (25 samples collected from 0-6 inches bgs and 25 samples collected from 0-12 inches bgs) indicated in Figure 3. Soil sample locations were chosen by generating a regularly spaced grid (800 x 800 feet) with centroid values across the Project site in ArcMap and using a random number generator to select 50 sampling locations. Soil from the 50 locations will be analyzed for agronomic suitability. Three additional soil samples will be collected for grain size analyses.

The coordinates for each boring location will be recorded using a hand-held GPS unit.

4.3 Sampling Procedures

4.3.1 Soil Samples

The following procedure will be employed for sample collection. Soil will be collected from 0-12 inches bgs using a soil hand auger. Soil from each boring will be placed in a gallon size resealable plastic bag.

Once a boring has been dug and sample has been collected the hand auger will be cleaned thoroughly of visible soil particles before the next sample is collected.

4.4 Containers and Preservatives

4.4.1 Soil Samples

Soil samples will be placed in gallon size resealable plastic bags, labeled, logged on a chain-of-custody form, and placed in a safe location out of direct sunlight.

Samples will be packaged in a secure container and shipped or delivered to Wallace Laboratories in El Segundo, California for analysis. If shipped, a custody seal will be signed and placed on the edge of the shipping container prior to sealing the container.

4.5 Laboratory Analyses

4.5.1 Soil Samples

Fifty soil samples will be analyzed for Wallace Laboratories' Agronomic Soil Suitability Test which includes pH, salinity, types and concentrations of soluble salts (calcium, magnesium, chloride, sodium, sulfate, phosphate, boron, and nitrate) in saturation extract, sodium adsorption ratio (SAR), all essential nutrients, percent moisture, half saturation, and 14 non-essential, potentially plant-toxic trace minerals (Wallace 2018). Additionally, three samples will be collected for ASTM D422 Grain Size Analyses (dry sieve only: 1" to 400 mesh) to document soil grain size and texture.

4.6 Field Equipment

Field sampling equipment includes the following:

- Maps/plot plan
- Safety equipment, as specified in the site-specific Health and Safety Plan
- Tape measure
- Camera
- GPS unit
- Resealable plastic bags
- Logbook and/or field forms
- Chain-of-custody forms
- Custody seals
- Sample labels
- Soil hand auger

4.6.1 Sample Documentation and Packaging

4.6.1.1 Field Notes

Dudek field personnel will record pertinent field activities on field forms and/or in a logbook. Copies of site maps will be used to plot sample locations and note any previously unknown structures or landmarks. Photographs will also be taken to document various site characteristics and field activities.

The following information will be recorded in the field logbook or on field forms during sampling activities:

- Sample name
- Sample location and description
- Date and time of sample collection
- Type of sampling equipment used
- Field observations and details related to analysis or integrity of the samples (e.g., weather conditions, noticeable odors, colors, etc.)
- Preliminary sample descriptions (e.g., clay loam, very wet)
- Reference to completed chain-of-custody
- Shipping arrangements
- Name of receiving laboratory

The following information will also be recorded in the field logbook each day of sampling:

- Date and time of arrival and departure
- Personnel onsite and their arrival and departure times
- Summaries of site activities
- Summary of any meetings or discussions with client, contractors, and/or federal/state agency personnel
- Deviations from this Work Plan or HSP procedures
- Calibration readings for any equipment used along with the equipment model and serial number.

4.6.1.2 Photographs

Photographs may be taken at the sampling locations and at other places of interest onsite. They will serve to verify information entered in the field notes. Notes regarding photographs will be recorded in the field notes.

4.6.1.3 Labeling

Samples will be labeled in a clear and precise way for proper identification in the field and for tracking in the laboratory. The sample labels will contain the following information: sample depth and location, sample name, date and time of collection, and sampler's initials.

4.6.1.4 Chain-of-Custody Forms and Custody Seals

Chain-of-custody (COC) record forms are used to document sample collection and shipment to laboratories for analysis. All sample shipments will be accompanied by a COC record.

The contents of each shipment will be identified in the COC record form. In addition, the custodial integrity of the samples will be recorded on the COC record form. Generally, a sample is considered to be in someone's custody if it is either in someone's physical possession, in someone's view, locked up, or kept in a secured area that is restricted to authorized personnel. Until the samples are shipped or delivered to the laboratory, custody of the samples will be the responsibility of Dudek. A member of the sampling team will sign the chain-of-custody form in the "relinquished by" box and note the date and time.

A self-adhesive custody seal will be placed across the lid of the container just prior to shipment. The seal will be signed and dated by a member of the sampling team.

4.6.2 Field Variances Documentation

As conditions in the field may vary, it may be necessary to make modifications to the sampling locations and/or procedures presented in this Work Plan. Modifications to the approved work plan will be documented in the Soil and Water Analysis Report.

5.0 REPORTING

Following receipt of analytical data, Dudek will tabulate and evaluate the results. Dudek will prepare a Soil and Water Analysis Report presenting the tabulated data and summarizing the findings in accordance with Addendum 1, Task 1.0 of the Dudek Scope of Work.

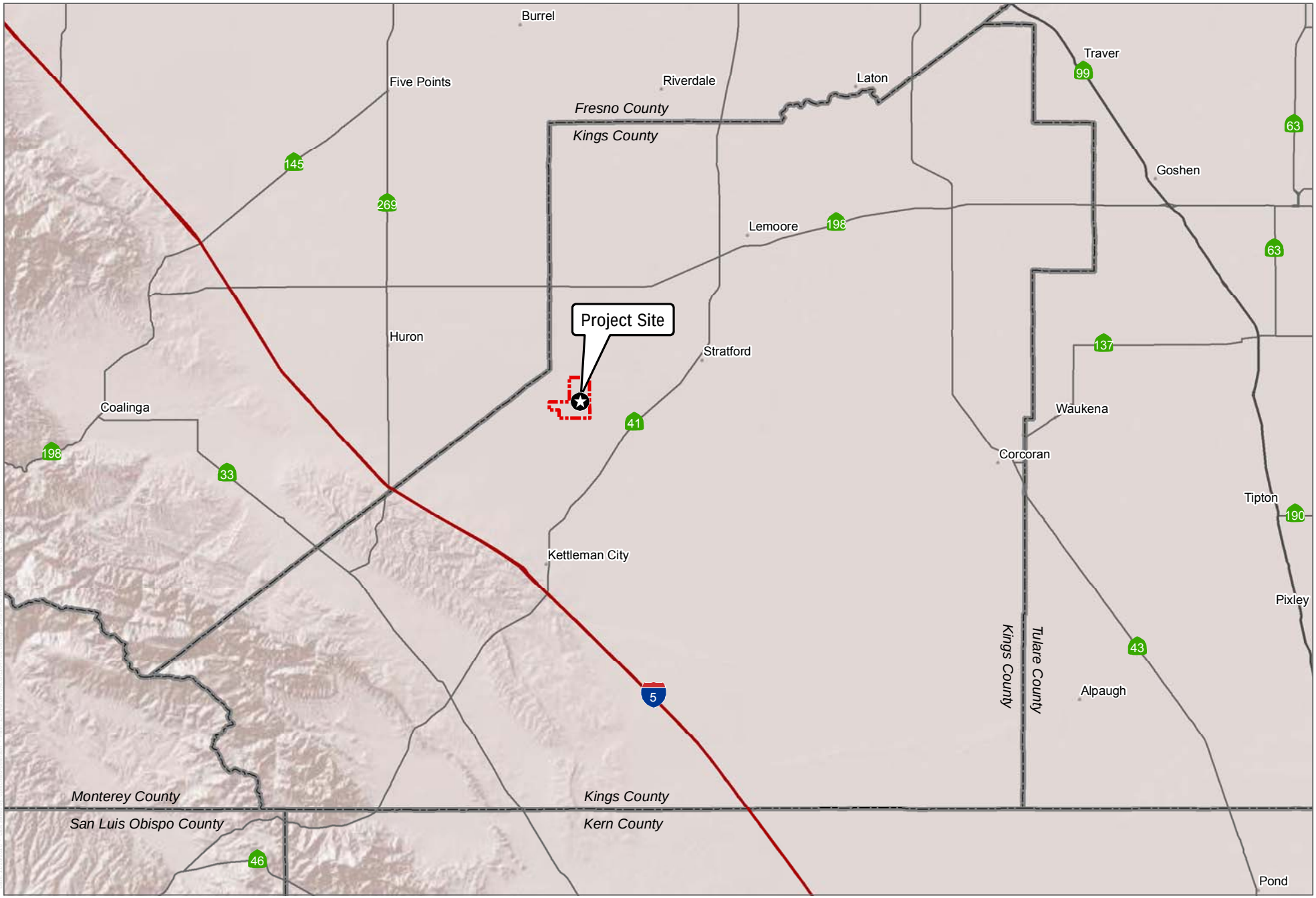
6.0 REFERENCES

CGS 2011. Geologic Map of California: Santa Cruz Sheet, 1965.

Google Earth 2018. Accessed November 7, 2018.

WBD 2018. National Watershed Boundary Dataset. Accessed November 7, 2018.

Wallace 2018. http://us.wlabs.com/services/soil-water-plant-tissue-testing-description/. Accessed November 7, 2018.



SOURCE: ESRI

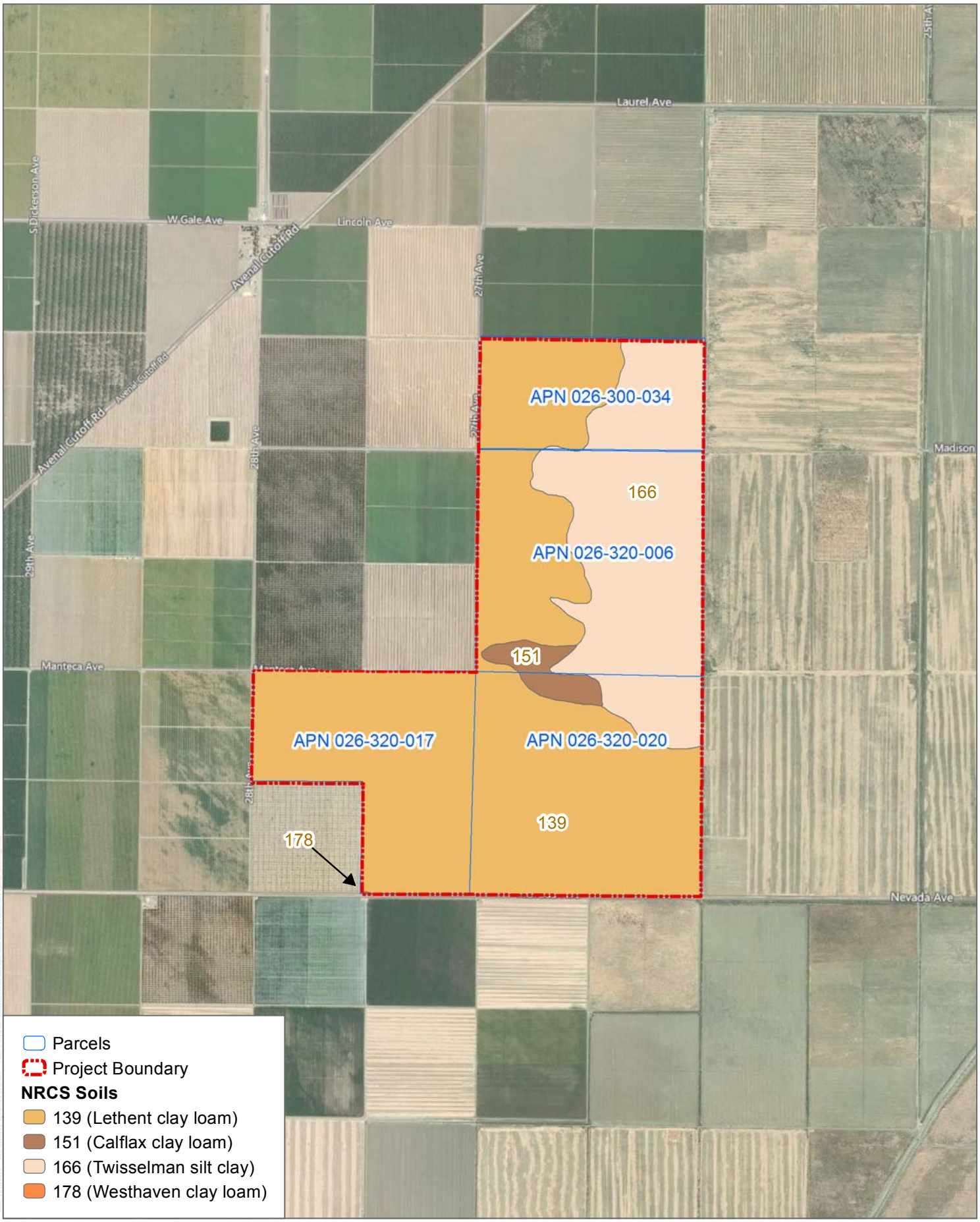
DUDEK

0 5 10 Miles

FIGURE 1

Regional Location

Soil Sampling Work Plan - Daylight Legacy Solar Project



SOURCE: Bing Maps; USDA NRCS

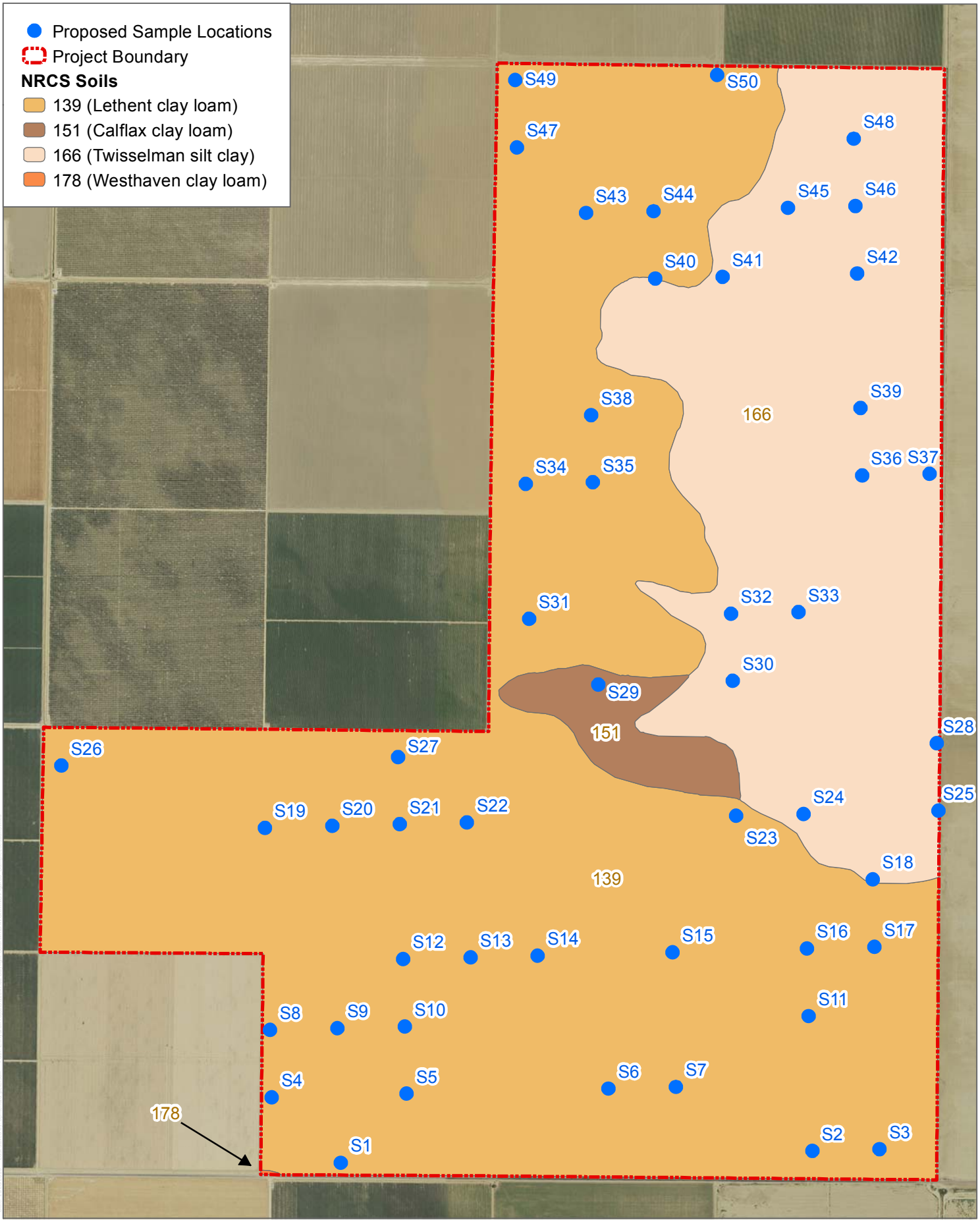
DUDEK

0 0.25 0.5 Miles

FIGURE 2

Project Site and Soils Map

Soil Sampling Work Plan - Daylight Legacy Solar Project



SOURCE: NAIP 2014; USDA NRCS

DUDEK

0 500 1,000 Feet

FIGURE 3

Proposed Sample Locations

Soil Sampling Work Plan - Daylight Legacy Solar Project

APPENDIX A

Health and Safety Plan

Dudek Health and Safety Short Form

Site Information			
Name of Project/Site:	First Solar Daylight Legacy	Project No:	11047.02
Address:	Kings County, CA	Date:	December 2018
Client Name:	First Solar, Inc.		
Project Site Contact	Jessica Kinnahan, PM	Phone:	(805) 308-8509
Purpose for visiting site:	Soil sampling		

Potential Hazards			
☐	Air pressure	☐	Manual material handling
☐	Biological – Infectious waste, blood, etc.	☐	Metal items (Plates, wire, particles)
☒	Biological – Animals, reptiles, rodents, insects	☐	Mineral mining items – Metallic (ore)
☐	Boilers, Pressure Vessels, Cylinders, etc.	☐	Mineral mining items – Non-metallic (dirt, clay, sand)
☐	Chemicals	☒	Noise
☒	Cold – Atmospheric temperature	☒	Plants, trees, vegetation
☐	Cold temperature sources (Cryogenic projects)	☐	Plastic items (powders, sheets particles)
☐	Confined spaces	☐	Power transmission equipment (Shafts, pulleys, gears)
☐	Conveyors	☐	Pumps and prime movers
☐	Electrical equipment/systems	☐	Radiological – Ionizing
☐	Excavations	☐	Radiological – Non-iodizing
☒	Hand tools – Non-powered	☐	Scrap, debris, waste materials
☐	Hand tools – Powered	☐	Steam
☐	Heat – Atmospheric temperatures	☒	Uneven walking/working surfaces
☐	Heat temperature sources (furnaces, heaters)	☒	Vehicles
☒	Heavy equipment (excavators, loaders)	☐	Welding, cutting, brazing
☐	Hoisting equipment (Cranes, forklifts)	☐	Wood items (Logs, lumber, particles)
☐	Ladders, scaffolding, aerial lift platforms	☐	Other:
☐	Machinery (Drilling, presses, mixers)	☐	Other:

Hazard Controls			
Personal Protective Equipment			
☒	Hard Hat	☒	Safety Vest
☒	Safety Glasses	☐	Coveralls
☐	Impact Goggles	☒	Leather Gloves
☐	Chemical Goggles	☐	Cut-resistant Gloves
☐	Face Shield	☐	Chemical Gloves
☒	Leather/Steel-toe boots	☒	Ear Plugs
☐	Rubber Boots	☐	Ear Muffs
☐	Other:		
Other			
☒	First Aid Kit	☐	Flashlight
☒	Mobile Phone/Communication Device	☐	Fire Extinguisher
☒	GPS/Location Device	☒	Water
☐	Other:		

Dudek Health and Safety Short Form

Emergency Contact Information	
Fire:	(559) 852-2881
Police:	(559) 945-2046
Hospital:	1191 Phelps Ave, Coalinga, CA 93210 (559) 935-6503
Dudek Project Manager:	Jessica Kinnahan, (805) 308-8509
Dudek Safety Coordinator:	Kaitlin Lively, (760) 846-6491
Site Safety Officer:	Kaitlin Lively, (760) 846-6491
Client Contact:	First Solar, Inc., (209) 326-1825

By signing below, I acknowledge that I have reviewed and understand all material relating to the activity-specific Job Hazard Analysis and the Health and Safety Plan and agree to follow all protective measures.

ATTENDEES

Employee Name (Print)	Signature	Date
Devin Pritchard-Peterson		

APPENDIX B

Soil Analysis Laboratory Results

sample ID	description	pH	salinity	chloride	SAR	texture	nitrogen	phosphorus	potassium	iron	manganese	zinc	copper	boron	magnesium	sodium	sulfur	molybdenum	aluminum	arsenic	barium
18-355-04	GR 1	7.80	1.02	59	2.3	clay loam	49	6.4	285	2.73	3.90	1.51	2.98	0.29	455	196	27	0.05	n d	n d	1.51
18-355-05	GR 2	8.20	2.02	209	4.7	clay	67	2.7	336	3.91	0.90	1.67	4.25	0.88	593	603	116	0.09	n d	n d	0.78
18-355-06	GR 3	8.12	3.25	439	4.3	silty clay	75	6.0	455	4.35	3.51	1.42	4.91	1.38	444	637	348	0.13	n d	n d	1.57
	average grain size	8.04	2.10	235	3.8	clay	63	5.0	359	3.66	2.77	1.53	4.05	0.85	497	478	164	0.09	0.00	0.00	1.29

sample ID	description	pH	salinity	chloride	SAR		nitrogen	phosphorus	potassium	iron	manganese	zinc	copper	boron	magnesium	sodium	sulfur	molybdenum	aluminum	arsenic	barium
18-355-07	S 1	8.33	1.46	271	4.4		31	4.3	288	3.15	1.43	1.01	4.18	0.78	443	464	38	0.04	n d	n d	1.05
18-355-08	S 2	8.42	0.91	120	3.9		20	4.9	414	4.06	1.50	0.95	5.09	0.89	550	494	29	0.06	n d	n d	1.38
18-355-09	S 3	8.53	1.49	244	6.3		24	5.8	368	5.05	1.18	0.94	4.66	1.82	595	779	66	0.04	n d	n d	0.07	1.22
18-355-10	S 4	8.41	0.80	112	4.0		12	3.4	240	3.02	0.52	1.21	3.71	0.56	396	424	13	0.02	n d	n d	1.27
18-355-11	S 5	8.33	2.01	350	6.6		57	3.3	266	2.65	2.04	0.76	3.21	0.83	441	602	32	0.07	0.57	n d	1.18
18-355-12	S 6	8.10	4.76	721	5.3		87	5.0	369	2.98	5.32	0.97	3.69	1.43	427	706	494	0.10	n d	n d	0.96
18-355-13	S 7	8.50	1.96	289	7.3		26	2.4	247	2.21	0.69	0.89	3.74	1.34	509	805	111	0.03	0.24	n d	0.82
18-355-14	S 8	8.40	1.51	288	5.2		27	5.3	295	3.30	1.34	1.53	3.63	0.79	371	520	37	0.02	0.11	0.02	1.35
18-355-15	S 9	8.45	0.76	112	3.7		14	1.7	200	2.44	0.45	0.61	2.98	0.49	438	417	13	0.03	0.21	0.03	1.14
18-355-16	S 10	8.44	1.20	244	5.0		21	3.3	284	2.50	0.69	1.26	3.52	0.70	370	428	15	0.03	0.17	n d	1.32
18-355-17	S 11	8.18	3.78	473	4.4		54	2.2	237	2.09	0.86	0.56	3.24	1.67	519	734	430	0.08	0.11	n d	0.71
18-355-18	S 12	8.04	3.40	561	3.4		169	9.5	353	3.67	0.98	1.66	3.95	0.73	384	431	112	0.02	n d	0.05	1.49
18-355-19	S 13	8.47	1.00	121	4.3		22	10.4	361	3.98	0.70	1.40	3.76	0.66	388	401	21	0.03	n d	0.09	1.04
18-355-20	S 14	7.97	1.16	76	2.4		51	6.1	324	3.14	6.25	1.65	2.95	0.40	502	242	49	0.07	n d	n d	1.63
18-355-21	S 15	8.60	0.37	15	3.0		7	2.0	194	3.53	0.68	0.58	2.42	0.62	621	434	10	0.02	1.78	n d	1.98
18-355-22	S 16	8.26	1.17	94	3.9		54	3.3	292	3.02	1.53	0.83	3.20	1.05	612	447	40	0.06	0.48	n d	1.37
18-355-23	S 17	8.37	1.65	235	5.4		45	3.0	259	3.09	0.63	0.66	3.31	1.50	706	638	74	0.07	0.35	n d	0.95
18-355-24	S 18	8.49	0.74	41	4.7		31	3.6	283	2.51	1.15	0.70	3.68	1.05	669	514	27	0.09	n d	n d	1.64
18-355-25	S 19	8.22	0.82	68	3.9		41	8.1	287	6.58	1.22	1.34	4.38	0.60	525	446	27	0.06	n d	n d	1.69
18-355-26	S 20	8.06	3.65	341	4.2		116	6.4	333	2.96	5.20	1.24	3.44	1.17	375	525	275	0.08	n d	0.08	1.13
18-355-27	S 21	7.41	2.42	332	2.6		138	3.9	213	3.37	2.24	0.80	3.57	0.23	772	339	78	0.03	n d	0.02	0.69
18-355-28	S 22	7.77	4.97	592	3.3		150	8.7	356	4.33	3.45	1.50	3.23	0.80	570	492	711	0.07	n d	n d	0.90
18-355-29	S 23	8.52	0.95	59	4.9		31	2.0	231	2.08	1.02	0.52	2.98	1.21	617	620	47	0.11	n d	n d	1.18
18-355-30	S 24	8.22	1.19	85	3.6		69	4.1	343	3.20	4.28	0.75	4.14	0.93	644	448	70	0.08	0.10	n d	1.74
18-355-31	S 25	8.07	3.04	253	4.3		163	7.3	381	7.60	1.62	0.70	5.11	1.15	666	592	258	0.12	0.38	0.11	0.92
18-355-32	S 26	8.12	2.54	500	8.2		74	10.6	320	5.80	5.69	2.45	4.65	0.91	613	868	89	0.09	n d	n d	1.42
18-355-33	S 27	8.23	3.42	262	7.5		49	1.5	138	1.87	0.57	0.51	2.55	0.93	693	829	473	0.03	0.56	n d	0.58
18-355-34	S 28	8.08	0.96	32	3.0		64	7.3	388	4.61	2.37	1.14	4.33	0.70	587	373	48	0.08	n d	0.01	1.85
18-355-35	S 29	7.94	3.47	633	5.4		118	2.6	332	3.28	1.37	2.83	4.59	1.10	650	796	192	0.05	0.12	0.03	0.94
18-355-36	S 30	7.98	1.52	209	3.1		24	3.2	322	2.01	2.73	1.25	4.10	0.85	606	411	125	0.10	n d	n d	1.17
18-355-37	S 31	8.28	0.75	85	3.6		13	3.4	317	2.31	1.72	2.18	3.23	0.75	510	552	32	0.03	0.26	n d	1.29
18-355-38	S 32	7.99	1.35	129	2.5		20	2.7	281	2.61	1.37	1.61	3.82	0.72	693	423	167	0.02	0.33	n d	0.81
18-355-39	S 33	8.05	2.95	589	6.8		85	1.9	303	2.62	0.88	0.77	3.34	1.75	617	953	196	0.07	0.10	n d	0.85
18-355-40	S 34	8.08	1.31	103	1.9		27	14.0	444	13.76	5.54	2.02	5.06	1.51	417	257	104	0.07	n d	0.08	0.81
18-355-41	S 35	8.22	1.21	76	3.3		23	12.2	428	15.58	2.40	0.91	4.33	1.32	325	314	82	0.07	0.08	0.15	0.76
18-355-42	S 36	7.74	2.95	218	3.3		35	9.7	317	9.71	7.16	0.68	4.35	1.25	779	649	416	0.17	n d	0.06	0.88
18-355-43	S 37	6.43	3.88	230	1.7		168	14.7	389	33.56	17.25	4.97	8.55	0.50	1211	387	847	0.29	n d	0.07	0.24
18-355-44	S 38	7.77	3.32	535	3.7		59	4.4	322	3.06	2.29	1.13	3.26	0.83	580	591	345	0.04	0.12	0.05	0.85
18-355-45	S 39	8.00	1.72	165	3.4		27	4.0	349	3.85	1.91	1.22	4.04	0.99	537	572	240	0.04	0.05	0.02	0.89
18-355-46	S 40	7.39	2.25	253	3.9		121	15.9	434	5.68	10.98	1.85	4.18	0.79	863	488	141	0.05	n d	n d	1.61
18-355-47	S 41	7.89	6.30	870	6.2		223	6.6	359	6.43	2.03	1.63	3.81	1.62	629	1118	1941	0.18	0.21	n d	0.36
18-355-48	S 42	7.91	1.89	138	3.5		97	8.7	521	3.51	5.16	1.57	4.45	0.97	523	463	134	0.09	n d	n d	1.67
18-355-49	S 43	7.80	1.68	200	6.5		44	8.1	203	3.05	2.13	1.13	3.13	0.53	637	637	83	0.05	n d	n d	1.07
18-355-50	S 44	7.61	3.32	394	3.9		110	10.7	390	3.89	7.59	1.68	3.91	1.04	563	540	228	0.09	n d	n d	1.30
18-355-51	S 45	7.82	6.01	1112	6.3		191	8.2	393	3.30	2.61	1.68	3.87	1.71	556	929	605	0.05	n d	n d	1.02
18-355-52	S 46	7.71	7.02	1708	4.2		333	6.8	405	4.45	5.65	2.05	4.35	1.24	618	754	467	0.09	0.08	n d	1.13
18-355-53	S 47	8.00	7.84	1178	8.2		181	5.3	259	4.18	2.62	1.62	3.15	3.62	643	1113	3540	0.06	n d	n d	0.40
18-355-54	S 48	7.84	4.36	676	3.2		173	7.0	422	4.34	4.83	1.76	4.75	1.41	554	600	553	0.12	n d	0.05	1.33
18-355-55	S 49	7.75	4.96	918	3.6		121	6.1	265	3.53	1.89	1.88	4.55	1.12	906	783	1715	0.02	n d	n d	0.39
18-355-56	S 50	7.61	5.01	765	4.4		178	10.6	487	6.25	11.05	1.96	4.70	1.29	617	598	1443	0.06	n d	0.07	0.55
	average S	8.06	2.58	362	4.4		80	6.1	324	4.79	3.13	1.35	3.94	1.06	581	579	346	0.07	0.13	0.02	1.10
	minimum S	6.43	0.37	15	1.7		7	1.5	138	1.87	0.45	0.51	2.42	0.23	325	242	10	0.02	0.00	0.00	0.24
	maximum	8.60	7.84	1708	8.2		333	15.9	521	33.56	17.25	4.97	8.55	3.62	1211	1118	3540	0.29	1.78	0.15	1.98
	standard deviation S	0.38	1.80	344	1.6		69	3.6	79	4.92	3.25	0.75	0.93	0.53	156	201	621	0.05	0.28	0.03	0.40
target for sensitive plants		6.5-7.9	0.5-3	<150	<3		20-30	12-20	120-180	4-15	0.6-3	1-3	0.2-3	0.2-0.5	25-100	<200	25-100		<3	<1	

sample ID	description	cadmium	chromium	cobalt	lead	lithium	mercury	nickel	selenium	silver	strontium	tin	vanadium	lime	moisture	half sat	field capacity	sand	silt	clay	gravel
18-355-04	GR 1	0.12	n d	0.10	0.86	0.16	n d	1.58	n d	n d	2.07	n d	0.48	no	7.4%	24.9%	30%	33.8%	30.5%	35.7%	0.0%
18-355-05	GR 2	0.09	n d	0.07	1.25	0.17	0.02	0.68	n d	n d	2.19	n d	0.53	slight	11.1%	35.7%	31%	10.5%	35.1%	54.5%	0.0%
18-355-06	GR 3	0.14	n d	0.15	1.39	0.22	n d	1.45	n d	n d	2.25	n d	0.70	no	17.0%	44.1%	39%	3.4%	41.1%	55.5%	0.0%
	average grain size	0.12	0.00	0.11	1.17	0.18	0.01	1.24	0.00	0.00	2.17	0.00	0.57	0.00	11.8%	34.9%	33%	15.9%	35.6%	48.6%	0.0%

sample ID	description	cadmium	chromium	cobalt	lead	lithium	mercury	nickel	selenium	silver	strontium	tin	vanadium	lime	moisture	half sat	field capacity
18-355-07	S 1	0.11	n d	0.09	1.17	0.15	n d	0.76	n d	n d	2.34	n d	0.51	slight	14.0%	38.3%	36%
18-355-08	S 2	0.13	n d	0.12	1.55	0.17	0.03	1.06	n d	n d	2.56	n d	0.58	no	16.4%	39.4%	42%
18-355-09	S 3	0.11	n d	0.09	1.48	0.19	n d	0.73	n d	n d	2.58	n d	0.62	no	15.3%	43.0%	36%
18-355-10	S 4	0.10	n d	0.08	0.93	0.13	n d	0.70	n d	n d	2.34	n d	0.45	no	11.8%	33.8%	35%
18-355-11	S 5	0.10	n d	0.08	0.88	0.15	n d	0.73	0.04	n d	2.24	n d	0.45	no	10.7%	30.6%	35%
18-355-12	S 6	0.11	n d	0.15	1.11	0.18	n d	1.17	n d	n d	2.10	n d	0.58	slight	9.4%	34.0%	28%
18-355-13	S 7	0.11	n d	0.10	0.93	0.17	0.02	0.71	n d	n d	2.17	n d	0.50	low	12.5%	37.1%	34%
18-355-14	S 8	0.10	n d	0.06	1.03	0.15	0.02	0.87	0.33	n d	2.27	n d	0.57	low	10.0%	30.1%	33%
18-355-15	S 9	0.08	n d	0.06	0.93	0.14	n d	0.46	n d	n d	1.73	n d	0.42	slight	12.8%	33.7%	38%
18-355-16	S 10	0.10	n d	0.10	1.11	0.14	n d	0.93	n d	n d	2.30	n d	0.57	no	9.7%	28.7%	34%
18-355-17	S 11	0.08	n d	0.06	1.32	0.19	n d	0.58	n d	n d	1.88	n d	0.53	slight	14.1%	43.6%	32%
18-355-18	S 12	0.10	n d	0.04	1.01	0.16	n d	1.00	n d	n d	2.23	n d	0.51	no	14.5%	29.1%	50%
18-355-19	S 13	0.09	n d	0.08	1.10	0.13	n d	0.62	0.11	n d	2.34	n d	0.53	no	9.9%	30.5%	32%
18-355-20	S 14	0.10	n d	0.14	1.02	0.17	n d	1.40	n d	n d	2.17	n d	0.54	no	7.5%	27.7%	27%
18-355-21	S 15	0.08	n d	0.08	1.03	0.17	n d	0.47	n d	n d	2.35	n d	0.58	slight	10.7%	37.0%	29%
18-355-22	S 16	0.11	n d	0.11	1.18	0.18	n d	0.86	0.13	n d	2.51	n d	0.58	no	8.8%	30.3%	29%
18-355-23	S 17	0.11	n d	0.11	1.46	0.17	n d	0.54	n d	n d	2.51	n d	0.58	no	10.6%	36.5%	29%
18-355-24	S 18	0.11	n d	0.09	1.21	0.18	n d	0.73	n d	n d	2.62	n d	0.59	slight	9.8%	38.0%	26%
18-355-25	S 19	0.13	n d	0.09	1.48	0.13	n d	1.11	n d	n d	3.16	n d	0.67	no	22.1%	42.6%	52%
18-355-26	S 20	0.10	n d	0.14	0.87	0.19	n d	1.39	0.25	n d	2.26	n d	0.55	no	7.7%	28.5%	27%
18-355-27	S 21	0.12	n d	0.07	1.07	0.16	n d	2.14	0.17	n d	2.59	n d	0.32	no	9.6%	28.4%	34%
18-355-28	S 22	0.14	n d	0.11	1.04	0.17	n d	1.50	n d	n d	2.53	n d	0.53	no	10.5%	32.2%	33%
18-355-29	S 23	0.08	n d	0.12	0.94	0.20	n d	0.55	n d	n d	2.28	n d	0.58	low	11.3%	39.7%	28%
18-355-30	S 24	0.13	n d	0.14	1.41	0.20	n d	1.24	n d	n d	2.52	n d	0.57	slight	9.2%	35.8%	26%
18-355-31	S 25	0.10	n d	0.10	1.59	0.19	0.01	0.65	n d	n d	2.38	n d	0.57	no	10.1%	37.5%	27%
18-355-32	S 26	0.13	n d	0.18	1.43	0.20	n d	1.64	n d	n d	2.63	n d	0.50	no	12.9%	42.8%	30%
18-355-33	S 27	0.09	n d	0.09	0.90	0.19	0.02	0.55	n d	n d	2.92	n d	0.49	slight	10.0%	33.3%	30%
18-355-34	S 28	0.15	n d	0.13	1.44	0.18	n d	1.05	n d	n d	2.60	n d	0.64	no	10.5%	32.0%	33%
18-355-35	S 29	0.12	n d	0.08	1.21	0.18	0.02	0.83	n d	n d	2.72	n d	0.60	no	11.6%	32.9%	35%
18-355-36	S 30	0.13	n d	0.11	1.29	0.20	n d	1.33	n d	n d	2.57	n d	0.59	no	8.6%	31.1%	28%
18-355-37	S 31	0.10	n d	0.08	1.03	0.17	n d	0.92	n d	n d	2.44	n d	0.54	no	8.1%	29.0%	28%
18-355-38	S 32	0.12	n d	0.07	1.24	0.18	n d	1.10	0.02	n d	2.49	n d	0.57	no	10.1%	34.4%	29%
18-355-39	S 33	0.11	n d	0.10	1.33	0.20	0.01	0.53	n d	n d	2.86	n d	0.61	no	11.5%	42.7%	27%
18-355-40	S 34	0.11	0.02	0.18	1.29	0.18	n d	1.44	0.02	n d	1.62	n d	0.88	low	8.7%	30.5%	28%
18-355-41	S 35	0.08	n d	0.12	1.09	0.16	n d	1.12	0.02	n d	1.77	n d	0.58	slight	8.4%	26.7%	31%
18-355-42	S 36	0.10	n d	0.16	0.99	0.28	n d	1.54	0.31	n d	2.32	n d	0.42	no	18.0%	38.7%	47%
18-355-43	S 37	0.20	0.02	0.29	1.76	0.34	n d	5.64	n d	n d	2.55	n d	0.34	no	12.9%	34.0%	38%
18-355-44	S 38	0.10	n d	0.12	0.97	0.19	n d	0.92	n d	n d	2.51	n d	0.60	no	11.4%	30.4%	38%
18-355-45	S 39	0.11	n d	0.13	1.27	0.20	n d	0.77	n d	n d	2.38	n d	0.70	no	12.1%	39.4%	31%
18-355-46	S 40	0.21	n d	0.21	1.32	0.23	n d	3.31	n d	n d	3.28	n d	0.59	no	14.0%	32.4%	43%
18-355-47	S 41	0.11	n d	0.10	1.10	0.20	n d	0.54	n d	n d	2.13	n d	0.57	no	11.3%	37.1%	30%
18-355-48	S 42	0.13	n d	0.19	1.47	0.23	0.01	1.55	n d	n d	2.33	n d	0.76	no	17.4%	34.0%	51%
18-355-49	S 43	0.12	n d	0.10	1.14	0.16	n d	1.49	0.15	n d	2.61	n d	0.42	no	10.9%	32.3%	34%
18-355-50	S 44	0.15	n d	0.16	1.26	0.22	n d	1.70	n d	n d	2.43	n d	0.57	no	13.0%	30.9%	42%
18-355-51	S 45	0.14	n d	0.08	1.44	0.19	n d	0.94	0.07	n d	2.83	n d	0.83	slight	12.2%	32.4%	37%
18-355-52	S 46	0.17	n d	0.15	1.65	0.22	n d	1.44	0.18	n d	2.71	n d	0.81	no	12.4%	30.3%	41%
18-355-53	S 47	0.14	n d	0.13	1.14	0.20	n d	0.76	0.40	n d	2.25	n d	0.59	low	11.9%	32.6%	37%
18-355-54	S 48	0.17	n d	0.09	1.76	0.21	n d	1.54	n d	n d	2.54	n d	0.77	no	14.6%	30.8%	48%
18-355-55	S 49	0.15	n d	0.13	1.49	0.17	n d	1.09	n d	n d	2.35	n d	0.55	no	16.1%	41.3%	39%
18-355-56	S 50	0.15	n d	0.20	1.58	0.22	n d	1.71	0.43	n d	1.93	n d	0.58	no	9.5%	31.8%	30%
	average S	0.12	0.00	0.12	1.23	0.19	0.00	1.17	0.05	0.00	2.41	0.00	0.57		11.7%	34.2%	34%
	minimum S	0.08	0.00	0.04	0.87	0.13	0.00	0.46	0.00	0.00	1.62	0.00	0.32		7.5%	26.7%	26%
	maximum	0.21	0.02	0.29	1.76	0.34	0.03	5.64	0.43	0.00	3.28	0.00	0.88		22.1%	43.6%	52%
	standard deviation S	0.03	0.00	0.05	0.24	0.04	0.01	0.82	0.11	0.00	0.32	0.00	0.11		2.9%	4.6%	7%
target for sensitive plants														no			

WALLACE LABORATORIES
365 Coral Circle
El Segundo, CA 90245
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Sand and Gravel Sieve Analysis

date Dec. 21, 2018
location Daylight Solar
requested by Devin Pritchard-Peterson, Dudek; Encinitas

			Lab ID	18-355-04		18-355-05		18-355-06	
			Material	Grain Size #1		Grain Size #2		Grain Size #3	
				percent	percent	percent	percent	percent	percent
	mesh	millimeter		passing	retained	passing	retained	passing	retained
coarse gravel	2	12.5		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
	4	4.75		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
fine gravel	10	2.00		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
	14	1.41		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
	16	1.19		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
coarse sand	20	0.84		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
	28	0.59		100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
	32	0.50		100.0%	0.0%	100.0%	0.0%	98.4%	1.6%
medium sand	40	0.42		99.7%	0.3%	100.0%	0.0%	98.4%	0.0%
	48	0.30		97.6%	2.1%	97.9%	2.1%	97.2%	1.2%
fine sand	60	0.25		95.5%	2.1%	96.5%	1.4%	95.7%	1.6%
	80	0.177		90.8%	4.7%	93.0%	3.5%	93.7%	2.0%
	100	0.149		82.5%	8.3%	87.1%	5.9%	89.8%	3.9%
very fine sand	150	0.104		64.0%	18.5%	72.0%	15.0%	81.5%	8.3%
	200	0.074		34.8%	29.2%	50.3%	21.7%	64.2%	17.3%
	270	0.053		7.6%	27.2%	17.5%	32.9%	17.3%	46.9%
	pan				7.6%		17.5%		17.3%

Sand Sizing				
very coarse sand	1 to 2 mm	0.0%	0.0%	0.0%
coarse sand	0.5 to 1 mm	0.0%	0.0%	1.6%
medium sand	0.25 to 0.5 mm	4.5%	3.5%	2.8%
fine sand	0.15 to 0.25 mm	13.0%	9.4%	5.9%
very fine sand	0.05 to 0.15 mm	74.9%	69.6%	72.4%

WALLACE LABS
365 Coral Circle
El Segundo, CA 90245
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SOILS REPORT

Print Date Dec. 21, 2018 Receive Date 12/20/18

Location Daylight Solar

Requester Devin Pritchard-Peterson, Dudek; Encinitas

graphic interpretation: * very low, ** low, *** moderate

ammonium bicarbonate/DTPA

* * * * high, * * * * * very high

extractable - mg/kg soil
Interpretation of data
low medium high

Sample ID Number	18-355-04		18-355-05		18-355-06	
Sample Description	Grain Size #1		Grain Size #2		Grain Size #3	
elements		graphic		graphic		graphic
phosphorus (0 - 7 8-15 over 15)	6.44	**	2.72	*	5.96	**
potassium (0-60 60 -120 121-180)	285.26	*****	335.71	*****	455.48	*****
iron (0 - 4 4 - 10 over 10)	2.73	**	3.91	**	4.35	***
manganese (0- 0.5 0.6- 1 over 1)	3.90	****	0.90	***	3.51	****
zinc (0 - 1 1 - 1.5 over 1.5)	1.51	****	1.67	****	1.42	***
copper (0- 0.2 0.3- 0.5 over 0.5)	2.98	****	4.25	*****	4.91	*****
boron (0- 0.2 0.2- 0.5 over 1)	0.29	***	0.88	****	1.38	*****
calcium	315.93	***	245.22	***	313.08	***
magnesium	454.65	*****	592.60	*****	443.61	*****
sodium	195.63	***	603.22	*****	636.52	*****
sulfur	27.39	**	115.67	**	347.74	***
molybdenum	0.05	***	0.09	***	0.13	****
nickel	1.58	**	0.68	*	1.45	**
The following trace elements may be toxic. The degree of toxicity depends upon the pH of the soil, soil texture, organic matter, and the concentrations of the individual elements as well as to their interactions.						
aluminum	n d	*	n d	*	n d	*
arsenic	n d	*	n d	*	n d	*
barium	1.51	*	0.78	*	1.57	*
cadmium	0.12	*	0.09	*	0.14	*
chromium	n d	*	n d	*	n d	*
cobalt	0.10	*	0.07	*	0.15	*
lead	0.86	*	1.25	**	1.39	**
lithium	0.16	*	0.17	*	0.22	*
mercury	n d	*	0.02	*	n d	*
selenium	n d	*	n d	*	n d	*
silver	n d	*	n d	*	n d	*
strontium	2.07	*	2.19	*	2.25	*
tin	n d	*	n d	*	n d	*
vanadium	0.48	*	0.53	*	0.70	*
The pH optimum depends upon soil organic matter and clay content- for clay and loam soils: under 5.2 is too acidic 6.5 to 7 is ideal over 9 is too alkaline						
Saturation Extract						
pH value	7.80	****	8.20	****	8.12	****
ECe (milli-mho/cm)	1.02	***	2.02	****	3.25	****
The ECe is a measure of the soil salinity: 1-2 affects a few plants, 2-4 affects some plants, > 4 affects many plants.						
		millieq/l		millieq/l		millieq/l
calcium	70.8	3.5	121.8	6.1	299.2	15.0
magnesium	25.3	2.1	35.3	2.9	53.8	4.4
sodium	90.0	3.9	228.9	10.0	305.9	13.3
potassium	8.6	0.2	8.9	0.2	17.9	0.5
cation sum		9.8		19.2		33.2
chloride (problems over 150 ppm)	59	1.7	209	5.9	439	12.4
nitrate as N	49	3.5	67	4.8	75	5.4
phosphorus as P	0.4	0.0	0.1	0.0	0.1	0.0
sulfate as S (toxic over 800)	56.9	3.6	141.8	8.9	306.2	19.1
anion sum		8.7		19.5		36.8
boron as B (toxic over 1 for many plants)	0.55	***	1.02	*****	1.36	*****
SAR (increasing problems start at 3)	2.3	**	4.7	***	4.3	***
est. gypsum requirement-lbs./per 1,000 square feet	101		216		172	
relative infiltration rate	slow		slow/fair		slow/fair	
soil texture	clay loam	gravel > 2 mm	clay	gravel > 2 mm	silty clay	gravel > 2 mm
sand	33.8%	0.0%	10.5%	0.0%	3.4%	0.0%
silt	30.5%	gravel > 1/4 inch	35.1%	gravel > 1/4 inch	41.1%	gravel > 1/4 inch
clay	35.7%	0.0%	54.5%	0.0%	55.5%	0.0%
lime (calcium carbonate)	no	gravel > 1/2 inch	slight	gravel > 1/2 inch	no	gravel > 1/2 inch
organic matter	low/fair	0.0%	low/fair	0.0%	low/fair	0.0%
moisture content of soil	7.4%		11.1%		17.0%	
half saturation percentage	24.9%		35.7%		44.1%	

Elements are expressed as mg/kg dry soil or mg/l for saturation extract.
pH and ECe are measured in a saturation paste extract. nd means not detected.
Analytical data determined on soil fraction passing a 2 mm sieve.

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December 26, 2018

Devin Pritchard-Peterson, DPritchard-Peterson@dudek.com
Dudek & Associates, Inc.
605 Third Street
Encinitas, CA 92024

RE: Daylight Solar
Received December 20, 2018

Dear Devin,

Texture – The average texture is clay for the 3 GR samples:

Description	sand	silt	clay	texture
GR 1	33.8%	30.5%	35.7%	clay loam
GR 2	10.5%	35.1%	54.5%	clay
GR 3	3.4%	41.1%	55.5%	silty clay
average	15.9%	35.6%	48.6%	clay

Sand Sizing		Grain Size #1	Grain Size #2	Grain Size #3
very coarse sand	1 to 2 mm	0.0%	0.0%	0.0%
coarse sand	0.5 to 1 mm	0.0%	0.0%	1.6%
medium sand	0.25 to 0.5 mm	4.5%	3.5%	2.8%
fine sand	0.15 to 0.25 mm	13.0%	9.4%	5.9%
very fine sand	0.05 to 0.15 mm	74.9%	69.6%	72.4%

Acidity/Alkalinity – The average pH of the GR samples is 8.04. The values range from 7.80 to 8.20.

The average pH of the 50 S samples is 8.06. The values range from 6.43 to 8.60. Sample S 37 has a pH value below 7 at 6.43.

Salinity – The average salinity of The GR samples is 2.58 millimho/cm. The values range from 1.02 to 3.25 millimho/cm. The average concentration of chloride is 235 parts per million in the saturation extract.

The average salinity of the S samples is 2.58 millimho/cm. The values range from 0.37 to 7.84 millimho/cm. The average concentration of chloride is 362 parts per million in the saturation extract. Soils are defined as being saline when the salinity is over 4 millimho/cm. The highest concentration of chloride is 1,718 parts per million in the saturation extract for sample S 46. Salt – sensitive plants need chloride below about 150 parts per million in the saturation extract.

Fertility -

Nitrogen – Nitrogen is low for sample S 15 and is sufficient for the other samples.
Phosphorus – On average phosphorus is low. Phosphorus is sufficient for samples S 12, S 13, S 19, S 22, S 26, S 34 – S 37, S 40, S 42-S 45 and S 50.
Potassium – Potassium is well supplied for all the samples.
Iron – Iron is sufficient for 19 samples and is low in the others.
Manganese – Manganese is low for S 8 and is sufficient for the others.
Zinc – Zinc is low for 19 samples.
Copper – Copper is sufficient for all the samples.
Boron – Boron is modestly high on average. The average concentration for the S samples is 1.06 parts per million. Twenty-three samples have boron over 1 part per million.

The optimum level of boron is about 0.2 to 0.3 part per million. Sensitive plants need boron below about 0.5 part per million. Most ornamental plants need boron below 1 part per million. Many native plants are fairly tolerant of elevated boron.

Magnesium – Magnesium is high. High magnesium is undesirable. Magnesium limits the uptake of potassium and calcium. It acts like sodium and disperses soil crumbs. Periodic additions of gypsum can be made to reduce the effects of high magnesium.

Sulfur – Sulfur is low for 5 samples and is high for 4 samples.

Sodicity – The average SAR (sodium adsorption ratio) is 3.8 for the G samples and is 4.4 for the S samples. Ten samples have SAR values over 6.

Ideally, SAR should be less than about 3 for good physical properties. Negative soil properties are fairly high when SAR is over 6. High sodium and high SAR values limit soil physical properties, reduces water percolation, decreases soil aggregate stability, increases clay dispersion, increases swelling of expandable clays, increases surface crusting and reduces soil tilth. High sodium also restricts the uptake of competitive ions such as potassium and calcium. Soils are sodic when the SAR is over 13. Sodium and SAR can be lowered with the addition of gypsum if needed followed with leaching.

Heavy metals - The concentrations of common non-essential heavy metals are low.

Soil properties have been highlighted in the attached worksheet where they are higher or lower than desired.

Recommendations

Use a plant palette as needed for the soil properties or leach amended soils as needed to make the soils more suitable. Micronutrients can be supplied with the addition of a humus-type organic soil amendment.

General soil preparation on a square foot basis. Broadcast the following uniformly; rates are per 1,000 square feet for a 6-inch lift. Incorporate them homogeneously 6" deep.

Triple superphosphate (0-45-0) – 4 pounds where phosphorus is low
agricultural gypsum - 20 pounds to 80 pounds where needed to lower the SAR
Organic soil amendment - about 3 cubic yards where needed, sufficient for 2% to 3% soil organic matter

For the preparation on a volume basis, homogeneously blend the following materials into the soil. Rates are expressed per cubic yard:

Triple superphosphate (0-45-0) – 1/4 pound where phosphorus is low
agricultural gypsum – 1 pound to 4 pounds where needed to lower the SAR
Organic soil amendment - about 15% by volume where needed, sufficient for 2% to 3% soil organic matter

Organic soil amendment:

1. Humus material shall have an acid-soluble ash content of no less than 6% and no more than 20%. Organic matter shall be at least 50% on a dry weight basis.
2. The pH of the material shall be between 6 and 7.5.
3. The salt content shall be less than 10 millimho/cm @ 25° C. on a saturated paste extract.
4. Boron content of the saturated extract shall be less than 1.0 part per million.
5. Silicon content (acid-insoluble ash) shall be less than 50%.
6. Calcium carbonate shall not be present if to be applied on alkaline soils.
7. Types of acceptable products are composts, manures, mushroom composts, straw, alfalfa, peat mosses etc. low in salts, low in heavy metals, free from weed seeds, free of pathogens and other deleterious materials.
8. Composted wood products are conditionally acceptable [stable humus must be present]. Wood based products are not acceptable which are based on red wood or cedar.
9. Sludge-based materials are not acceptable.
10. Carbon:nitrogen ratio is less than 25:1.
11. The compost shall be aerobic without malodorous presence of decomposition products.
12. The maximum particle size shall be 0.5 inch, 80% or more shall pass a No. 4 screen for soil amending.

Maximum total permissible pollutant concentrations in amendment in parts per million on a dry weight basis:

arsenic	12	copper	100	selenium	30
cadmium	15	lead	200	silver	10
chromium	200	mercury	10	vanadium	50
cobalt	30	molybdenum	20	zinc	200
		nickel	100		

Higher amounts of salinity or boron may be present if the soils are to be preleached to reduce the excess or if the plant species will tolerate the salinity and/or boron.

Irrigate deeply initially and lower the salinity, chloride, boron, sodium and SAR where needed. Afterwards, apply ammonium sulfate (21-0-0) at 5 pounds per 1,000 square feet where nitrogen is low.

For maintenance fertilization, apply ammonium sulfate (21-0-0) at 5 pounds per 1,000 square feet several times a year depending the desired growth rate and time of the active growing period. Ammonium sulfate (21-0-0) helps to reduce alkalinity. Acidic areas can be fertilized with calcium nitrate (15.5-0-0) applied at the rate of 6 pounds per 1,000 square feet. If not over applied, calcium nitrate (15.5-0-0) slowly increases the pH.

Monitor the site with periodic soil and leaf tissue testing. Adjust the maintenance program as needed.

Sincerely,

Garn A. Wallace, Ph. D.
GAW:n

APPENDIX C

Well Completion Report, Well Test, Groundwater Analysis Results, and Photograph

13090 Cantua

1/2

*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. e0208756

Page 1 of 2

Owner's Well Number 31-4

Date Work Began 07/15/2013 Date Work Ended 9/20/2013

Local Permit Agency Kings County Planning Agency

Permit Number W1307-006 Permit Date 7/9/13

DWR Use Only – Do Not Fill In

State Well Number/Site Number: 20S 19E 31

Latitude N Longitude W

APN/TRS/Other

Geologic Log

Orientation ◉ Vertical ○ Horizontal ○ Angle Specify

Drilling Method Reverse Circulation Rotary Drilling Fluid Bentonite mud

Depth from Surface Feet	to Feet	Description Describe material, grain size, color, etc
0	70	Sand
70	110	Clay
110	120	Sand
120	130	Clay, Sand
130	200	Clay
200	220	Clay, Sand, Gravel
220	230	Clay, Sand
230	240	Clay
240	290	Clay, Sand
290	330	Clay, Sand, Gravel
330	390	Clay
390	420	Clay, Sand
420	770	Clay
770	780	Clay, Sand
780	800	Clay
800	840	Clay, Sand
840	860	Clay
860	890	Clay, Sand
890	900	Sand
900	910	Clay, Sand
910	970	Sand
970	1,000	Clay, Sand
1000	1,020	Sand
1020	1,030	Clay, Sand
1030	1,040	Sand
1040	1,610	Clay, Sand
1610	1,680	Clay
1680	1,850	Clay, Sand
1850	1,860	Sand
1860	1,950	Clay, Sand

Total Depth of Boring 2270 Feet

Total Depth of Completed Well 2250 Feet

Well Owner

Well Location

Address 27998 Nevada Ave. - 28th Ave. / Manteca Ave.

City Stratford County Kings

Latitude 36 Deg. 9 Min. 8 Sec. N Longitude 119 Deg. 57 Min. 33 Sec. W

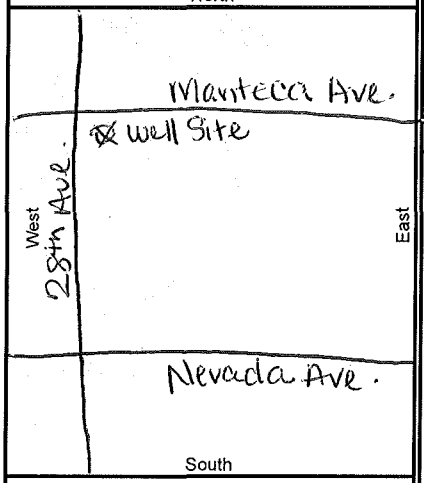
Datum Dec. Lat. Dec. Long.

APN Book 026 Page 320 Parcel 017

Township 20S Range 19E Section 31

Location Sketch

(Sketch must be drawn by hand after form is printed.)



Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. Please be accurate and complete.

Activity

◉ New Well
○ Modification/Repair
○ Deepen
○ Other
○ Destroy
Describe procedures and materials under "GEOLOGIC LOG"

Planned Uses

◉ Water Supply
☐ Domestic ☐ Public
☑ Irrigation ☐ Industrial
○ Cathodic Protection
○ Dewatering
○ Heat Exchange
○ Injection
○ Monitoring
○ Remediation
○ Sparging
○ Test Well
○ Vapor Extraction
○ Other

Water Level and Yield of Completed Well

Depth to first water (Feet below surface)

Depth to Static Water Level 404 (Feet) Date Measured 10/11/2013

Estimated Yield * 3,500 (GPM) Test Type Constant Rate

Test Length 10.0 (Hours) Total Drawdown 137 (Feet)

*May not be representative of a well's long term yield.

Casings

Depth from Surface Feet	to Feet	Borehole Diameter (Inches)	Type	Material	Wall Thickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size if Any (Inches)
0	50	46	Conductor	Low Carbon Steel	.375	36		
0	1,013	28	SoundTube	Sch 80 Mild Steel		2 1/2		
0	798	28	Blank	Low Carbon Steel	.375	18		
798	838	28	Screen	Low Carbon Steel	.375	18	Milled Slots	0.060
838	854	28	Compression	Low Carbon Steel		20x18		
854	1,015	28	Screen	Low Carbon Steel	.375	18	Milled Slots	0.060

Annular Material

Depth from Surface Feet	to Feet	Fill	Description
0	50	Cement	11 Sack Slurry
0	700	Fill	Pea Gravel
700	2,270	Filter Pack	6x20 Premier

Attachments

☐ Geologic Log
☐ Well Construction Diagram
☐ Geophysical Log(s)
☐ Soil/Water Chemical Analyses
☐ Other

Attach additional information, if it exists.

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name Zim Industries, Inc. (Person, Firm or Corporation)

4545 E. Lincoln Ave (Address) Fresno (City) CA (State) 93725 (Zip)

Signed (C-57 Licensed Water Well Contractor) 4-14-14 (Date Signed) 440537 (C-57 License Number)

DWR 188 REV. 1/2006

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. e0208756

DWR Use Only – Do Not Fill In

State Well Number/Site Number

N W

Latitude Longitude

APN/TRS/Other

Owner's Well Number 31-4

Date Work Began 07/15/2013 Date Work Ended 9/20/2013

Local Permit Agency Kings County Planning Agency

Permit Number W1307-006 Permit Date 7/9/13

Geologic Log

Orientation ◉ Vertical ○ Horizontal ○ Angle Specify

Drilling Method Reverse Circulation Rotary Drilling Fluid Bentonite mud

Depth from Surface Feet	to Feet	Description Describe material, grain size, color, etc
1,950	1,980	Sand
1,980	2,030	Clay, Sand
2030	2,080	Sand
2080	2,170	Clay, Sand
2170	2,240	Sand
2240	2,250	Clay, Sand

Total Depth of Boring 2270 Feet

Total Depth of Completed Well 2250 Feet

Well Owner

Well Location

Address 27998 Nevada Ave. - 28th Ave. / Manteca Ave.

City Stratford County Kings

Latitude 36 Deg. 9 Min. 8 Sec. N Longitude 119 Deg. 57 Min. 33 Sec. W

Datum Dec. Lat. Dec. Long.

APN Book 026 Page 320 Parcel 017

Township 20S Range 19E Section 31

Location Sketch

(Sketch must be drawn by hand after form is printed.)

North

West East

South

Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. Please be accurate and complete.

Activity

◉ New Well
○ Modification/Repair
○ Deepen
○ Other
○ Destroy
Describe procedures and materials under "GEOLOGIC LOG"

Planned Uses

◉ Water Supply
☐ Domestic ☐ Public
☑ Irrigation ☐ Industrial
○ Cathodic Protection
○ Dewatering
○ Heat Exchange
○ Injection
○ Monitoring
○ Remediation
○ Sparging
○ Test Well
○ Vapor Extraction
○ Other

Water Level and Yield of Completed Well

Depth to first water (Feet below surface)

Depth to Static Water Level 404 (Feet) Date Measured 10/11/2013

Estimated Yield * 3,500 (GPM) Test Type Constant Rate

Test Length 10.0 (Hours) Total Drawdown 137 (Feet)

*May not be representative of a well's long term yield.

Casings

Depth from Surface Feet	to Feet	Borehole Diameter (Inches)	Type	Material	Wall Thickness (Inches)	Outside Diameter (Inches)	Screen Type	Slot Size if Any (Inches)
1,015	1,017	28	Reducer	Low Carbon Steel	.375	18x16		
1,017	1,625	26	Screen	Low Carbon Steel	.375	16	Milled Slots	0.060
1,625	1,641	26	Compression	Low Carbon Steel		18x16		
1,641	2,250	26	Screen	Low Carbon Steel	.375	16	Milled Slots	0.060

Annular Material

Depth from Surface Feet	to Feet	Fill	Description
0	50	Cement	11 Sack Slurry
0	700	Fill	Pea Gravel
700	2,270	Filter Pack	6x20 Premier

Attachments

☐ Geologic Log
☐ Well Construction Diagram
☐ Geophysical Log(s)
☐ Soil/Water Chemical Analyses
☐ Other

Attach additional information, if it exists.

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name Zim Industries, Inc. (Person, Firm or Corporation)

4545 E. Lincoln Ave (Address) Fresno (City) CA (State) 93725 (Zip)

Signed Robert J. Zimmer (C-57 Licensed Water Well Contractor) 4-14-14 (Date Signed) 440537 (C-57 License Number)

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

October 30, 2013

Kenneth D. Schmidt & Assoc.
600 W. Shaw Ave., Suite #250
Fresno, CA 93704

Lab ID : VI 1344191-001
Customer ID : 4-18180

Sampled On : October 10, 2013
Sampled By : Not Available
Received On : October 23, 2013
Matrix : Ground Water

Description : Well 31-4 3,000gpm
Project : Cantua Orchards

General Irrigation Suitability Analysis

Test Description	Result				Graphical Results Presentation				
Cations	mg/L	Meq/L	% Meq	Lbs/AF	Good	Possible Problem	Moderate Problem	Increasing Problem	Severe Problem
Calcium	32	1.6	7	87	**				
Magnesium	9	0.74	3	24	**				
Potassium	2	0.051	0	5	**				
Sodium	460	20	89	1300					
Anions									
Carbonate	< 10	0	0	0					
Bicarbonate	300	4.9	25	820	**				
Sulfate	175	3.6	19	480	**				
Chloride	390	11	56	1100					
Nitrate	1.9	0.031	0	5					
Fluoride	0.2	0.011	0	0.5					
Minor Elements									
Boron	1.5			4.1					
Copper	0.050			0.14					
Iron	0.21			0.57					
Manganese	0.030			0.082					
Zinc	0.060			0.16					
TDS by Summation	1370			3700					
Other									
pH	8.3			units					
E. C.	2.35			dS/m					
SAR	18.5								
Crop Suitability									
No Amendments	Poor								
With Amendments	Poor								
Amendments									
Gypsum Requirement	2.6			Tons/AF					
Sulfuric Acid (98%)	17			oz/1000Gal	Or 41 oz/1000Gal of urea Sulfuric Acid (15/49).				
Leaching Requirement	20			%					

Good Problem

Note: Color coded bar graphs have been used to provide you with 'AT-A-GLANCE' interpretations.

** Used in various calculations; mg/L = Milligrams Per Liter (ppm) meq/L = Milliequivalents Per Liter

October 30, 2013

Kenneth D. Schmidt & Assoc.

Lab ID : VI 1344191-001
Customer ID : 4-18180
Description : Well 31-4 3,000gpm

Micro Irrigation System Plugging Hazard

Test Description	Result		Graphical Results Presentation
			Slight / Moderate / Severe
Chemical			
Manganese	0.03	mg/L	
Iron	0.21	mg/L	
TDS by Summation	1370	mg/L	
No Amendments			
pH	8.3	units	
Alkalinity (As CaCO3)	240	mg/L	
Total Hardness	117	mg/L	
With Amendments			
Alkalinity (As CaCO3)	48	mg/L	
Total Hardness	48	mg/L	
pH	5.4 - 6.7	units	



Note: Color coded bar graphs have been used to provide you with 'AT-A-GLANCE' interpretations.

Water Amendments Application Notes:

The Amendments recommended on the previous pages include:

Gypsum:

This should be applied at least once a year to the irrigated soil surface area. Gypsum can also be applied in smaller quantities in the irrigation water. Apply the smaller (bracketed) amount of gypsum when also applying the recommended amount of Sulfuric Acid and the larger amount when applying only Gypsum.

Sulfuric Acid:

These products should be applied as needed to prevent emitter plugging in micro irrigation systems and/or as a soil amendment to adjust soil pH to improve nutrient availability and to facilitate leaching of salts. Please exercise caution when using this material as excesses may be harmful to the system and/or the plants being irrigated. The reported Acid requirement is intended to remove approximately 80 % of the alkalinity. The final pH should range from 5.4 to 6.7. We recommend a field pH determination to confirm that the pH you designate is being achieved. This application is based upon the use of a 98% Sulfuric Acid product. The application of Urea Sulfuric Acid is based upon the use of a product that contains 15% Urea (1.89 lbs Nitrogen), 49% Sulfuric Acid and has a specific gravity of 1.52 at 68 °F.

Guidelines for the above interpretations are sourced from USDA & U.C. Cooperative Extension Service publications. Please contact us if you have any questions.

FRUIT GROWERS LABORATORY, INC.

Scott Bucy

Scott Bucy, Director of Ag. Services

SB1:KDM



ENVIRONMENTAL QUESTIONNAIRE AND DISCLOSURE STATEMENT

GENERAL INSTRUCTIONS: Please fill-in the blanks to the best of your ability. If you do not know the answer, please check the "DON'T KNOW" box. If you answer "YES" or the answer requires explanation please use additional pages and reference the table. Thank you, for your time and cooperation.

SITE INFORMATION	
Current Site Address	Unassigned. NS Nevada Ave 1.0 mi. W. of 25th Ave.
Current Site Use	Agriculture
Current Site Zoning	A-2 - General Agriculture
Current Assessor's Parcel Number	026-300-034; 026-320-006,-017,-020
Addresses Formerly Assigned to Site (if any)	None

SITE OWNERSHIP AND PAST USE		
OWNER NAME, ADDRESS & PHONE #	**PERIOD OF OWNERSHIP/USE**	**TYPE OF USE**
Maricopa Orchards, LLC 1306 W. Herndon Ave, Suite 101 Fresno CA 93711	2011 - present	Agriculture
April Garcia 1396 W. Herndon Ave, Suite 106 Fresno, CA 93711	2012 - present	Agriculture

ADJACENT PROPERTY USE		
DIRECTION	**TYPE OF USE**	**LENGTH OF USE**
North	Agriculture	~70 yrs
East	Agriculture	~70 yrs
South	Agriculture	~70 yrs
West	Agriculture	~70 yrs

PRIOR FACILITY MANAGER'S NAME	
Contact Person	Don't know.
Address	
Telephone	

EXISTING SITE STRUCTURES			
STRUCTURE DESCRIPTION	**LOCATION**	**USE**	**DATE OF CONSTRUCTION**
None.			

FORMER SITE STRUCTURES			
STRUCTURE DESCRIPTION	**FORMER LOCATION**	**USE**	**DATE OF DEMOLITION**
Don't know			

SITE LESSEES		
NAME, ADDRESS & PHONE #	**LENGTH/YEARS OF LEASE**	**TYPE OF USE**
PRESENT: N/A		
FORMER:		
FORMER:		

SITE UTILITIES	
UTILITY	**PROVIDER**
Electricity	PG&E
Natural Gas	N/A
Drinking Water	N/A
Storm water Drainage	N/A
Solid Waste Disposal	N/A
Sanitary Sewer	N/A
Emergency Power Source	PG&E ?

************* PLEASE PROVIDE DETAILS FOR ALL YES ANSWERS *************
Additional space is provided on page 9

#	SPECIFIC USES OF SITE AND ADJACENT PROPERTY*	SITE			ADJACENT		
		YES	NO	DON'T KNOW	YES	NO	DON'T KNOW
1A	Agricultural chemical formulation, distribution, or application			✓			✓
2A	Airport and/or airplane maintenance		✓	✓			✓
3A	Automotive wrecking yard		✓				✓
4A	Bulk chemical or fuel storage			✓			✓
5A	Commercial printing		✓			✓	
6A	Dry cleaning		✓			✓	
7A	Landfill			✓			✓
8A	Metal plating or finishing		✓			✓	
9A	Mining or minerals processing	✓					✓
10A	Motor vehicle or equipment repair and/or maintenance		✓				✓
11A	Photographic laboratory		✓			✓	
12A	Service station		✓			✓	
13A	Skeet shooting or gun club		✓			✓	
14A	Releases, or spills of hazardous materials as a result of illegal dumping, or traffic accidents along the adjoining roadways.			✓			✓
15A	Waste treatment, storage, disposal, processing or recycling, other than a landfill			✓			✓

* "Adjacent Property" includes those properties that border the immediate site and properties located across the street from the site.

*********** PLEASE PROVIDE DETAILS FOR ALL YES ANSWERS **********

Additional space is provided on page 9

#	ON-SITE HAZARDOUS MATERIALS USE, STORAGE AND DISPOSAL	YES	NO	DON'T KNOW
1B	Are asbestos-containing materials present in on-site structures?			✓
2B	Has an asbestos survey been conducted for on-site structures?			✓
3B	Are any electrical transformers or capacitors on-site?	✓		
4B	Are any electrical transformers or capacitors on-site **not** owned by an electrical utility?			✓
5B	Does the Site have any elevators on-Site?		✓	
6B	Has an Environmental Audit or Assessment been conducted for the site?			✓
7B	Do you know of any current or former aboveground storage tanks?	✓		
8B	Do you know of any current or former underground storage tanks (not septic)?			✓
9B	Do you know of any fill dirt having been imported to the site?			✓
10B	Do you know of any current or former wells on site, including, domestic drinking water, irrigation water, disposal, oil and/or abandoned wells?	✓		
11B	Do you know of any pesticides/herbicides permits for the site?		✓	✓
12B	Do you know of any pesticides/herbicides stored or used on-site?			✓
13B	Are solvents, petroleum products, or paint products stored on-site?			✓
14B	Are you aware of any permits having been issued for the site by the local fire, environmental health, or air pollution control agencies?			✓

*********** *PLEASE PROVIDE DETAILS FOR ALL YES ANSWERS* **********

Additional space is provided on page 9

#	SITE WASTE GENERATION, STORAGE AND DISPOSAL	YES	NO	DON'T KNOW
1C	Is liquid waste disposed of to a septic tank on-site?			✓
2C	Is liquid waste disposed of elsewhere on-site?			✓
3C	Are any ponds, sumps, basins, lagoons, or clarifiers used on-site to collect, treat, or dispose of liquid?	✓		
4C	If liquid waste is disposed of on-site, is a waste discharge permit required?			✓
5C	Is liquid waste disposed of to an off-site treatment works?			✓
6C	Is solid waste disposed of on-site (burned or buried)?			✓
7C	Does any solid or liquid off-site waste disposal require a waste manifest or disposal permit?			✓
8C	Is any hazardous waste generated, stored, or treated on-site?			✓
9C	Are any spills or releases of hazardous materials known or suspected to have occurred at the site?			✓
10C	Is there another individual who may have additional or more complete information regarding the former use and activities at the site?			✓

Please provide details of any investigations of an environmental or geotechnical nature that have been performed by you or by others related to the subject property. If you are not aware of any investigation(s) that have been performed in the past regarding the subject property, whether or not a report was ever prepared and/or issued to you, please so state in the space below.

Don't know.

Please provide details of any conditions known to you that could represent an environmental impairment to the subject property other than those items previously noted in this questionnaire. If you are not aware of any conditions, please so state in the space below.

Don't know.

To your knowledge, has the property been subject to any regulatory action related to environmental conditions, whether or not a report was issued to you or filed with a regulatory agency. If you are not aware of any actions, please so state in the space below.

Don't know.

PLEASE INDICATE IN THE BOXES BELOW IF THE FOLLOWING ITEMS EXIST AND IF YOU ARE ABLE TO PROVIDE THEM
Additional space is provided on page 9

	DOCUMENTS, REPORTS, LISTS, PLANS AND MAPS	Exists/Will Provide Copy	Exists/Will Not Provide Copy	Does Not Exist	Don't Know
1D	Site plans and/or maps that include legal property boundaries				✓
2D	Building plans (architectural, utilities and structural)				✓
3D	Hazardous materials inventory				✓
4D	Hazardous waste inventory				✓
5D	Previously conducted Environmental Site Assessments				✓
6D	Reports of subsurface investigations performed on the site including analytical data	✓			
7D	Reports of subsurface investigations performed on adjacent properties including analytical data		✓		
8D	Previously conducted geotechnical/ soil investigations at the Site				✓
9D	Permits and location of USTs, sumps, pits, and drainage systems				✓
10D	Permits and inspection reports for elevators			✓	
11D	Environmental permits and plans, including hazardous materials management plans, UST closure, etc.				✓
12D	Agricultural Chemical Permits				✓
13D	Literature or other sources of information regarding operations at the site				✓
14D	Individual who may have additional or more complete information regarding uses and activities at the site				✓

Additional Questions per ASTM E 1527-13:

1) Have any environmental cleanup liens been filed or recorded against the Site?

Don't know.

2) Do you have knowledge of any activity and/or land use limitations that are in place on the Site or that have been filed or recorded in a registry?

Don't know.

3) As the user of this Environmental Site Assessment (ESA) do you have any specialized knowledge related to the Site or activities at adjacent properties?

No.

4) Does the purchase price being paid for the Site reasonably reflect the fair market value? If you conclude that there is a difference, have you considered whether the lower price is because contamination is known or believed to be present at the Site?

Don't know.

5) Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases?

Don't know.

6) As the user of this ESA, based on your knowledge and experience related to the Site, are there any obvious indicators that point to the presence of on Site contamination?

Don't know.

PLEASE PROVIDE DETAILED INFORMATION FOR YES ANSWERS TO QUESTIONS (1A-15A), (1B-13B), (1C-10C)

ADDITIONALLY, PLEASE PROVIDE AN EXPLANATION WHY YOU ARE UNABLE TO PROVIDE (1D-13D) IF THEY EXIST

9A. At least one oil/gas well (Mary Bellock) in western portion of site. Per CalGEM this well is idle.

3B. At least one pole-mounted transformer located on east site boundary at southeast corner of former tailwater pond.

7B. Tank appears to be associated with ag. well at west/nw corner of site.

10B. Ag. well located at w/nw corner of site.

3C. Former tailwater pond (now dry) located in east central portion of site.

6D. Soil + Groundwater analysis performed by SWCE for previous solar applicant. (Report is attached to this questionnaire.

7D. Soil + Groundwater report prepared by MTA on adjacent property to east (Chestnut Solar) (MTA rpt. No. CG4406.01; May 30, 2019).

THIS ENVIRONMENTAL QUESTIONNAIRE AND DISCLOSURE STATEMENT WAS PREPARED BY:

NAME Bert Verrips

TITLE Principal

FIRM Bert Verrips, AICP, Environmental Consulting

RELATIONSHIP TO SITE Consultant

ADDRESS 11942 Red Hill Avenue
Santa Ana, CA 92705

TELEPHONE NUMBER 714/838-0192

DATE 11/22/21

PREPARER REPRESENTS THAT TO THE BEST OF THE PREPARER'S KNOWLEDGE THE ABOVE STATEMENTS AND FACTS ARE TRUE AND CORRECT AND THAT TO THE BEST OF THE PREPARER'S KNOWLEDGE NO MATERIAL FACTS HAVE BEEN SUPPRESSED OR MISSTATED UNDER PENALTY OF PURGERY BY LAW.

[signature] 11/22/21

Signed Date

APPENDIX D-2

Soil Sampling and Pesticide Analysis

Prepared by

Moore Twining Associates

February 2022

MOORE TWINING ASSOCIATES, INC.

February 28, 2022 C64409.03

Mr. Bert Verrips, AICP
Environmental Consulting Services
11942 Red Hill Avenue
Santa Ana, California 92705

RE: Limited Soil Sampling
Cherry 2
North of Nevada Avenue and West of 25th Avenue
Lemoore, California

Dear Mr. Verrips,

This report presents the results and findings of a Limited Phase II Environmental Site Assessment (Phase II ESA) conducted to assess shallow soil as proposed by Moore Twining at the 188 acres of land located generally southeast of the intersection of 25th Avenue and Avenal Cutoff Road in an unincorporated area of Kings County, west of the City of Stratford, California. It is Moore Twining Associates, Inc.'s (Moore Twining's) understanding that this investigation was requested by Mr. Bert Verrips, AICP as part of their due diligence for the subject property.

SITE INFORMATION AND ENVIRONMENTAL BACKGROUND

The Site comprises 2,109 acres of land located north of Nevada Avenue and West of 25th Avenue on a property south of Lemoore, California.

PURPOSE OF INVESTIGATION

The purpose of the soil sampling and analysis was to assess if persistent PCOCs were present in on-Site soil that exceed human health or waste disposal screening levels.

SCOPE OF WORK

The scope of work was in accordance with our Phase II ESA proposal executed on February 4, 2022. The scope of the Phase II ESA included the following:

- Installing five hand auger borings to a total of 2 feet;
- Collecting soil samples at 0-0.5 and 1.5 to 2 feet;
- Soil analysis; and
- This report was prepared to present our procedures, findings, conclusions, and recommendations.

PH: 559.268.7021
FX: 559.268.7126
2527 Fresno Street
Fresno, CA 93721

INVESTIGATIVE PROCEDURES

In order to evaluate the presence of persistent PCOCs at the Site, five (5) hand auger borings were advanced 2 feet below surface grade (bsg) by Moore Twining personnel. Soil samples were collected from the borings at approximate depths of the surface to 0.5 feet, 1 to 1.5 feet, and 3 to 3.5 feet. Soil samples were collected with a slide-hammer soil sampler lined with stainless steel sample sleeves. Following collection, the samples were preserved in the field by capping both ends with Teflon tape and plastic caps and placing them in a properly-chilled ice chest. Soil samples were submitted to Moore Twining's California State-certified analytical laboratory under chain-of-custody protocol for analysis. The soil samples were analyzed in the laboratory for CAM 17 Metals and organochloric pesticides.

RESULTS AND FINDINGS

Arsenic was detected at typical background levels for the area, ranging from 8.8 mg/kg to 12 mg/kg. Arsenic was detected at similar concentrations at both surface and 2-foot samples.

Chromium was detected at concentrations ranging from 78 mg/kg to 97 mg/kg. Chromium was detected at similar concentrations at both surface and 2-foot samples.

4,4 DDE was detected in samples ranging from 0.010 mg/kg and 0.070 mg/kg. These concentrations are below the Environmental Screening Level (ESL) of 0.33 mg/kg.

Toxaphene was detected in samples ranging from 0.057 mg/kg to 0.25 mg/kg. These concentrations are below the Environmental Screening Level (ESL) of 2.2 mg/kg.

A copy of the laboratory report for soil samples is included in Appendix A.

Based on the results of the limited assessment, it does not appear that the historic use of the property impacted the Site beyond screening levels.

LIMITATIONS

The scope of the investigation was intended to be an interactive process. The purpose of an environmental assessment is to reasonably characterize existing site conditions based on the available data. In performing such a study, it is understood that a balance must be struck between a reasonable inquiry into the site conditions and an exhaustive analysis of each conceivable environmental characteristic.

Conditions of interest may exist at the site that cannot be identified by visual observations and the scope of the work performed as part of this Phase II ESA. Where subsurface exploratory work was performed, our professional opinions were based in part on interpretation of data from discrete sampling locations that may not represent actual conditions or un-sampled locations. If conditions of interest were not identified during performance of the work, such a finding should not be construed as a guarantee that such conditions do not exist at the site.

This work was conducted in accordance with generally accepted engineering principles and practices in at the time the work was performed. This warranty is in lieu of all other warranties, either expressed or implied. This report was prepared for the sole use of the client and appropriate regulatory agencies. Any reliance on this report by a third party is at such party's sole risk.

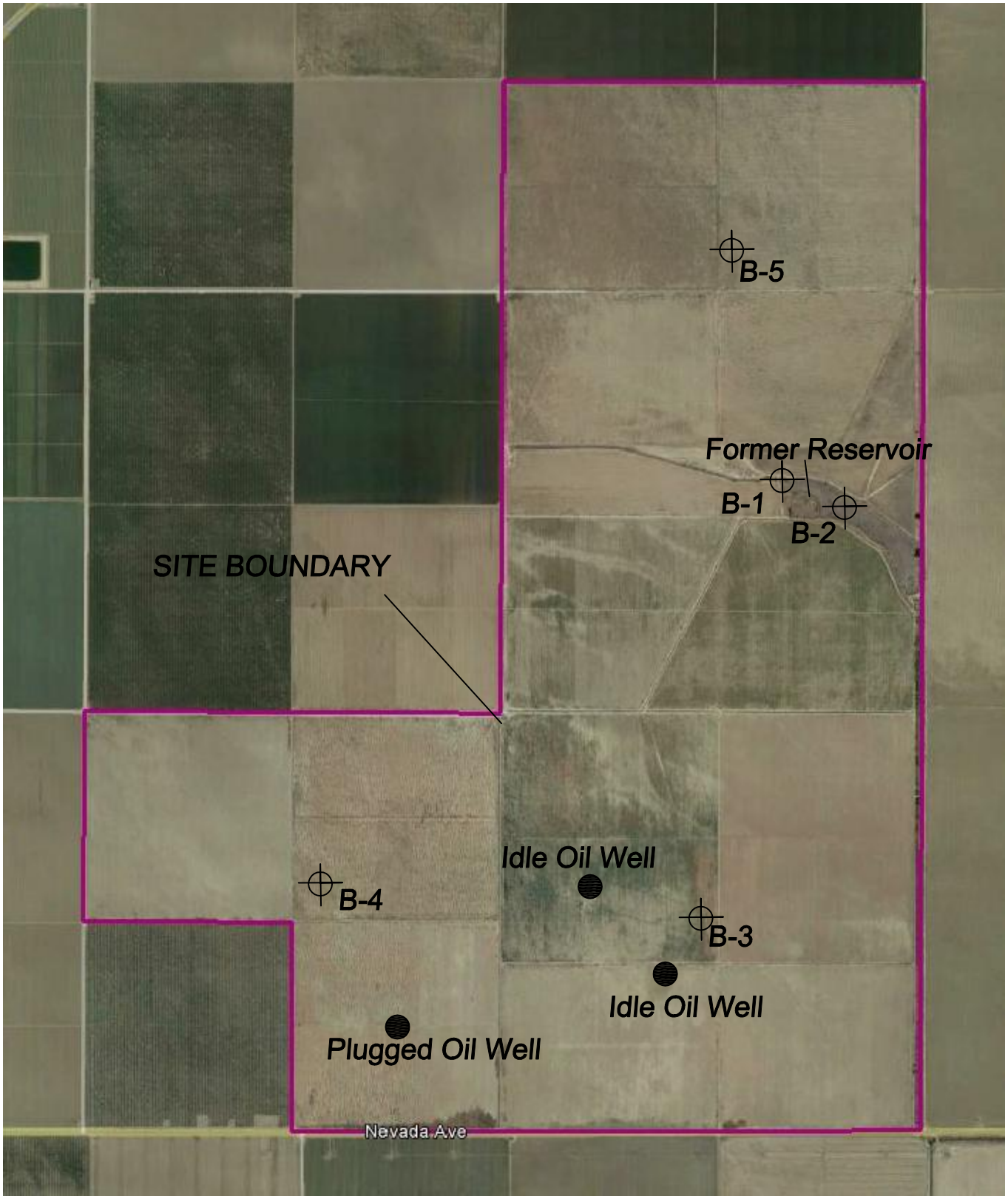
CLOSING

If you have questions, please contact our office. Our environmental services staff can answer your inquiries regarding this report at (800) 268-7021.

Sincerely,
MOORE TWINING ASSOCIATES, INC.
Environmental Services Division

Katie Lister, PG, QSD
Environmental Division Manager
Moore Twining Associates, Inc.

PROFESSIONAL GEOLOGIST
Katherine Lister
No. 8984
Exp 12/31/23
STATE OF CALIFORNIA



LEGEND

B-1 SOIL BORING LOCATION

N

100 FEET

SITE MAP CHERRY 2 SOLAR PROJECT 25TH AVENUE AND NEVADA AVENUE KINGS COUNTY, CALIFORNIA	FILE NO. Site Map	DATE DRAWN: 02-18-2022
	DRAWN BY: KL	APPROVED BY:
	PROJECT NO. C64409.0400	DRAWING NO. 1

MOORE TWINING ASSOCIATES, INC.

APPENDIX A

Laboratory Report and Chain of Custody Documentation

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

February 28, 2022

Work Order #: **IB14024**

Katie Lister
MTA Environmental Division
2527 Fresno Street
Fresno, CA 93721

RE: Cherry 2

Enclosed are the analytical results for samples received by our laboratory on **02/14/22** . For your reference, these analyses have been assigned laboratory work order number **IB14024**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.

DRAFT REPORT
DATA SUBJECT TO CHANGE

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
S1- 1'		IB14024-01	Soil	02/14/22 10:05	02/14/22 12:35
S1- 2'		IB14024-02	Soil	02/14/22 10:10	02/14/22 12:35
S2- 1'		IB14024-03	Soil	02/14/22 10:16	02/14/22 12:35
S2- 2'		IB14024-04	Soil	02/14/22 10:20	02/14/22 12:35
S3- 1'		IB14024-05	Soil	02/14/22 10:31	02/14/22 12:35
S3- 2'		IB14024-06	Soil	02/14/22 10:34	02/14/22 12:35
S4- 1'		IB14024-07	Soil	02/14/22 10:39	02/14/22 12:35
S4- 2'		IB14024-08	Soil	02/14/22 10:43	02/14/22 12:35
S5- 1'		IB14024-09	Soil	02/14/22 10:48	02/14/22 12:35
S5- 2'		IB14024-10	Soil	02/14/22 10:52	02/14/22 12:35

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MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S1- 1'

IB14024-01 (Soil) Sampled: 02/14/22 10:05

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Arsenic		**9.4**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Barium		**190**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Beryllium		**2.1**	0.40	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Chromium		**84**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Cobalt		**16**	0.80	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Copper		**41**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Lead		**6.0**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2B1617	02/17/22	02/18/22	EPA 7471A
Molybdenum		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Vanadium		**77**	2.5	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Zinc		**77**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Semi-Volatile Organics									
8081A Twining									
4,4´-DDD		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
4,4´-DDE		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
4,4´-DDT		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Aldrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
alpha-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
alpha-Chlordane		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
beta-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Chlordane (tech)		ND	0.030	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
delta-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Dieldrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan I		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan II		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan sulfate		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin aldehyde		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin ketone		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
gamma-BHC (Lindane)		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
gamma-Chlordane		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Heptachlor		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Heptachlor epoxide		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Methoxychlor		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Toxaphene		ND	0.017	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Trifluralin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Surr: Decachlorobiphenyl (DCB)		*88.2%*	*Recovery Limits: 11.4% - 122%*			*B2B1412*	02/14/22	02/15/22	*EPA 8081A*
Surr: Tetrachloro-meta-xylene (TMX)		*70.0%*	*Recovery Limits: 8.5% - 170%*			*B2B1412*	02/14/22	02/15/22	*EPA 8081A*
Volatile Organics									

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MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S1- 1'

IB14024-01 (Soil) Sampled: 02/14/22 10:05

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

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MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S1- 1'

IB14024-01 (Soil) Sampled: 02/14/22 10:05

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Chloroprene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*85.4%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*
Surr: Dibromofluoromethane		*105%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*
Surr: Toluene-d8		*97.1%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S1- 2'

IB14024-02 (Soil) Sampled: 02/14/22 10:10

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Arsenic		**10**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Barium		**180**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Beryllium		**2.5**	0.40	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Chromium		**83**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Cobalt		**14**	0.80	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Copper		**37**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Lead		**5.6**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2B2314	02/24/22	02/25/22	EPA 7471A
Molybdenum		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Nickel		**96**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Thallium		**12**	5.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Vanadium		**79**	2.5	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Zinc		**78**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B

S2- 1'

IB14024-03 (Soil) Sampled: 02/14/22 10:16

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Arsenic		**12**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Barium		**190**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Beryllium		**2.1**	0.40	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Chromium		**91**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Cobalt		**17**	0.80	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Copper		**42**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Lead		**6.2**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2B1617	02/17/22	02/18/22	EPA 7471A
Molybdenum		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Nickel		**110**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Vanadium		**75**	2.5	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Zinc		**79**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Semi-Volatile Organics									
8081A Twining									
4,4´-DDD		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
4,4´-DDE		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A

DRAFT REPORT
Danielle Abrames, Director of Analytical Chemistry

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S2- 1'

IB14024-03 (Soil) Sampled: 02/14/22 10:16

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Semi-Volatile Organics									
8081A Twining									
4,4´-DDT		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Aldrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
alpha-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
alpha-Chlordane		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
beta-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Chlordane (tech)		ND	0.030	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
delta-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Dieldrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan I		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan II		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan sulfate		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin aldehyde		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin ketone		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
gamma-BHC (Lindane)		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
gamma-Chlordane		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Heptachlor		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Heptachlor epoxide		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Methoxychlor		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Toxaphene		ND	0.017	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Trifluralin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Surr: Decachlorobiphenyl (DCB)		*84.0%*	*Recovery Limits: 11.4% - 122%*			*B2B1412*	02/14/22	02/15/22	*EPA 8081A*
Surr: Tetrachloro-meta-xylene (TMX)		*68.5%*	*Recovery Limits: 8.5% - 170%*			*B2B1412*	02/14/22	02/15/22	*EPA 8081A*
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B

DRAFT REPORT
Danielle Abrames, Director of Analytical Chemistry

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S2- 1'

IB14024-03 (Soil) Sampled: 02/14/22 10:16

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B

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California ELAP Certificate #1371

2527 Fresno Street
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MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S2- 1'

IB14024-03 (Soil) Sampled: 02/14/22 10:16

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
n-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*91.0%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*
Surr: Dibromofluoromethane		*108%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*
Surr: Toluene-d8		*96.3%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*

S2- 2'

IB14024-04 (Soil) Sampled: 02/14/22 10:20

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Arsenic		**9.5**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Barium		**180**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Beryllium		**2.4**	0.40	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Chromium		**97**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Cobalt		**17**	0.80	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Copper		**40**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Lead		**6.8**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2B2314	02/24/22	02/25/22	EPA 7471A
Molybdenum		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Nickel		**120**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B

DRAFT REPORT
Danielle Abrames, Director of Analytical Chemistry

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S2- 2'

IB14024-04 (Soil) Sampled: 02/14/22 10:20

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Thallium		**12**	5.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Vanadium		**81**	2.5	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Zinc		**84**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B

S3- 1'

IB14024-05 (Soil) Sampled: 02/14/22 10:31

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Arsenic		**9.5**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Barium		**190**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Beryllium		**1.9**	0.40	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Chromium		**85**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Cobalt		**16**	0.80	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Copper		**37**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Lead		**5.9**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2B1617	02/17/22	02/18/22	EPA 7471A
Molybdenum		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Vanadium		**69**	2.5	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Zinc		**72**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Semi-Volatile Organics									
8081A Twining									
4,4´-DDD		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
4,4´-DDE		**0.070**	0.033	mg/kg	4	B2B1412	02/14/22	02/16/22	EPA 8081A
4,4´-DDT		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Aldrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
alpha-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
alpha-Chlordane		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
beta-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Chlordane (tech)		ND	0.030	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
delta-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Dieldrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan I		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan II		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan sulfate		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin aldehyde		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin ketone		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A

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California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
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(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S3- 1'

IB14024-05 (Soil) Sampled: 02/14/22 10:31

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Semi-Volatile Organics									
8081A Twining									
gamma-BHC (Lindane)		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
gamma-Chlordane		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Heptachlor		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Heptachlor epoxide		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Methoxychlor		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Toxaphene		**0.25**	0.067	mg/kg	4	B2B1412	02/14/22	02/16/22	EPA 8081A
Trifluralin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Surr: Decachlorobiphenyl (DCB)		*79.2%*	*Recovery Limits: 11.4% - 122%*			*B2B1412*	02/14/22	02/15/22	*EPA 8081A*
Surr: Tetrachloro-meta-xylene (TMX)		*57.0%*	*Recovery Limits: 8.5% - 170%*			*B2B1412*	02/14/22	02/15/22	*EPA 8081A*
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B

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California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S3- 1'

IB14024-05 (Soil) Sampled: 02/14/22 10:31

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Bromobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B

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MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S3- 1'

IB14024-05 (Soil) Sampled: 02/14/22 10:31

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*91.0%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*
Surr: Dibromofluoromethane		*109%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*
Surr: Toluene-d8		*98.1%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*

S3- 2'

IB14024-06 (Soil) Sampled: 02/14/22 10:34

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Arsenic		**10**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Barium		**170**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Beryllium		**2.3**	0.40	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Chromium		**83**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Cobalt		**14**	0.80	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Copper		**32**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Lead		**5.3**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2B2314	02/24/22	02/25/22	EPA 7471A
Molybdenum		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Thallium		**11**	5.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Vanadium		**70**	2.5	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Zinc		**71**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B

S4- 1'

IB14024-07 (Soil) Sampled: 02/14/22 10:39

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Arsenic		**9.8**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Barium		**180**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Beryllium		**1.9**	0.40	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S4- 1'

IB14024-07 (Soil) Sampled: 02/14/22 10:39

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Cadmium		ND	0.40	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Chromium		**83**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Cobalt		**16**	0.80	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Copper		**36**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Lead		**5.1**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2B1617	02/17/22	02/18/22	EPA 7471A
Molybdenum		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Vanadium		**71**	2.5	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Zinc		**71**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Semi-Volatile Organics									
8081A Twining									
4,4´-DDD		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
4,4´-DDE		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
4,4´-DDT		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Aldrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
alpha-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
alpha-Chlordane		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
beta-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Chlordane (tech)		ND	0.030	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
delta-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Dieldrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan I		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan II		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan sulfate		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin aldehyde		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin ketone		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
gamma-BHC (Lindane)		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
gamma-Chlordane		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Heptachlor		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Heptachlor epoxide		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Methoxychlor		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Toxaphene		**0.057**	0.017	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Trifluralin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Surr: Decachlorobiphenyl (DCB)		*89.5%*	*Recovery Limits: 11.4% - 122%*			*B2B1412*	02/14/22	02/15/22	*EPA 8081A*
Surr: Tetrachloro-meta-xylene (TMX)		*72.4%*	*Recovery Limits: 8.5% - 170%*			*B2B1412*	02/14/22	02/15/22	*EPA 8081A*
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B

DRAFT REPORT
Danielle Abrames, Director of Analytical Chemistry

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S4- 1'

IB14024-07 (Soil) Sampled: 02/14/22 10:39

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S4- 1'

IB14024-07 (Soil) Sampled: 02/14/22 10:39

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Dibromochloromethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2B1501	02/15/22	02/15/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*91.3%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*
Surr: Dibromofluoromethane		*111%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*
Surr: Toluene-d8		*96.5%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/15/22	02/15/22	*EPA 8260B*

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
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MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S4- 2'

IB14024-08 (Soil) Sampled: 02/14/22 10:43

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Arsenic		**9.3**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Barium		**170**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Beryllium		**2.3**	0.40	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Chromium		**82**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Cobalt		**14**	0.80	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Copper		**32**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Lead		**5.3**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2B2314	02/24/22	02/25/22	EPA 7471A
Molybdenum		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Thallium		**10**	5.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Vanadium		**71**	2.5	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Zinc		**72**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B

S5- 1'

IB14024-09 (Soil) Sampled: 02/14/22 10:48

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Arsenic		**8.8**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Barium		**160**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Beryllium		**1.8**	0.40	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Chromium		**78**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Cobalt		**15**	0.80	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Copper		**34**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Lead		**5.3**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2B1617	02/17/22	02/18/22	EPA 7471A
Molybdenum		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Nickel		**96**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Vanadium		**65**	2.5	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Zinc		**71**	2.0	mg/kg	1	B2B1404	02/16/22	02/16/22	EPA 6010B
Semi-Volatile Organics									
8081A Twining									
4,4´-DDD		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
4,4´-DDE		**0.010**	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A

DRAFT REPORT
Danielle Abrames, Director of Analytical Chemistry

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S5- 1'

IB14024-09 (Soil) Sampled: 02/14/22 10:48

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Semi-Volatile Organics									
8081A Twining									
4,4´-DDT		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Aldrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
alpha-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
alpha-Chlordane		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
beta-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Chlordane (tech)		ND	0.030	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
delta-BHC		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Dieldrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan I		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan II		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endosulfan sulfate		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin aldehyde		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Endrin ketone		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
gamma-BHC (Lindane)		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
gamma-Chlordane		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Heptachlor		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Heptachlor epoxide		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Methoxychlor		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Toxaphene		**0.081**	0.017	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Trifluralin		ND	0.0083	mg/kg	1	B2B1412	02/14/22	02/15/22	EPA 8081A
Surr: Decachlorobiphenyl (DCB)		*91.5%*	*Recovery Limits: 11.4% - 122%*			*B2B1412*	02/14/22	02/15/22	*EPA 8081A*
Surr: Tetrachloro-meta-xylene (TMX)		*73.7%*	*Recovery Limits: 8.5% - 170%*			*B2B1412*	02/14/22	02/15/22	*EPA 8081A*
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S5- 1'

IB14024-09 (Soil) Sampled: 02/14/22 10:48

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B

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MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S5- 1'

IB14024-09 (Soil) Sampled: 02/14/22 10:48

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
n-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2B1501	02/16/22	02/16/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*90.3%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/16/22	02/16/22	*EPA 8260B*
Surr: Dibromofluoromethane		*107%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/16/22	02/16/22	*EPA 8260B*
Surr: Toluene-d8		*99.1%*	*Recovery Limits: 70% - 130%*			*B2B1501*	02/16/22	02/16/22	*EPA 8260B*

S5- 2'

IB14024-10 (Soil) Sampled: 02/14/22 10:52

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Arsenic		**9.7**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Barium		**170**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Beryllium		**2.1**	0.40	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Chromium		**82**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Cobalt		**14**	0.80	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Copper		**33**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Lead		**4.8**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2B2314	02/24/22	02/25/22	EPA 7471A
Molybdenum		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Nickel		**99**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B

DRAFT REPORT
Danielle Abrames, Director of Analytical Chemistry

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(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2	**Reported:**
2527 Fresno Street	**Project Number:** C64409.02	02/28/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

S5- 2'

IB14024-10 (Soil) Sampled: 02/14/22 10:52

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Thallium		**12**	5.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Vanadium		**70**	2.5	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B
Zinc		**74**	2.0	mg/kg	1	B2B2302	02/24/22	02/25/22	EPA 6010B

Notes and Definitions

MS2	Recovery for this analyte was biased high; associated blank spike recoveries are within range.
MS3	Recovery for this analyte was biased low; associated blank spike recoveries are within range.
µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
	Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field. If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

MOORE TWINING ASSOCIATES, INC. EST. 1898

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

CHAIN OF CUSTODY/ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

WORK ORDER #: IB14024
PAGE 1 **OF** 2

REPORT TO: ☐ INVOICE TO: ☐ REPORT COPY TO:

REPORT TO	INVOICE TO
ATTENTION: Katie Lister	ATTENTION: Katie Lister
NAME: Moore Twining Associates	NAME: Moore Twining Associates
ADDRESS: 2527 Fresno Street	ADDRESS: 2527 Fresno Street
Fresno, California 93721	Fresno, California 93721
PHONE: (559) 408-6976	PHONE: (559) 408-6976
FAX: 559-268-7126	FAX: 559-268-7126

REPORTING:
- ☐ STANDARD FORMAT
- ☐ WRITE-ON (STATE FORM)
- ☐ GEOTRACKER/COELT (LUFT)
- ☐ PDF ☐ SPREADSHEET
- ☐ County DHS :
- ☐ Environmental Health Agency :
- ☐ OTHER:

SAMPLE INFORMATION

SAMPLED BY (PRINT): Thomas Harris
SIGNATURE:

☐ PUBLIC SYSTEM ☐ ROUTINE
☐ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME: ☒ RUSH, DUE ON: ASAP
☐ STANDARD

SAMPLE TYPES:

SOLID:
BS – BIOSOLID
CR – CERAMIC
SL – SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW – WASTE WATER

PROJECT INFORMATION

CONTRACT/P.O. NO.:
PROJECT: Cherry2
PROJECT NUMBER: C64409.02
PROJECT MANAGER: Katie Lister

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☒ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION
4.0

	CLIENT SAMPLE ID	DATE	TIME	TYPE	OCPs EPA8081A	VOCs 8260	CAM 17 Metals EPA60108	
1	S1-1'	2/14/2022	1005	SL	X	X	X	
2	S1-2'	2/14/2022	1010	SL	~~X~~	~~X~~	~~X~~	HOLD
3	S2-1'	2/14/2022	1016	SL	X	X	X	
4	S2-2'	2/14/2022	1020	SL	~~X~~	~~X~~	~~X~~	HOLD
5	S3-1'	2/14/2022	1031	SL	X	X	X	
6	S3-2'	2/14/2022	1034	SL	~~X~~	~~X~~	~~X~~	HOLD
7	S4-1'	2/14/2022	1039	SL	X	X	X	
8	S4-2'	2/14/2022	1043	SL	~~X~~	~~X~~	~~X~~	HOLD
9	S5-1'	2/14/2022	1048	SL	X	X	X	
10	S5-2'	2/14/2022	1052	SL	~~X~~	~~X~~	~~X~~	HOLD

COMMENTS/ADDITIONAL INSTRUCTIONS:

Samples held at 4 degrees C in the field

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
THOMAS HARRIS	MTA	2/14/22	12:35	Kim McCullough	MTA

Moore Twining Associates

Sample Integrity — Page 2 of 2 — WO# IB14024 — MTA Bottles: (Yes) or No

COC Info

Was temperature within range? Chemistry ≤6°C Micro <10°C Temp 4.0 °C	(Yes) No N/A	Did all bottle labels agree with COC?	(Yes) No N/A	Were there bubbles in VOA vials? (**Volatiles Only**)	Yes No (N/A)
If samples were taken today, is there evidence that chilling has begun? Recvd ____ C°	(Yes) No N/A	Was a sufficient amount of sample received?	(Yes) No N/A	Was PM notified of discrepancies? PM: By/Time:	Yes No (N/A)
Did all bottles arrive unbroken and intact?	(Yes) No N/A	Were correct containers and preservatives received for the tests requested?	(Yes) No N/A		
Do samples have a hold time <72 hours?	Yes (No) N/A				

Bottles Received

			Container	Preservative	Date/Time/Initials
125ml (A) 250ml (B) 1Liter (C) 40ml VOA (V)	1				
Bacti $Na_2S_2O_3$					
None (P)					
None (AG)					
None (CG) 500ml					
Cr6 Buffer (P) Borate Carbonate Buffer					
Dissolved Oxygen 300ml (P)					
HNO_3 (P)					
HCl (AG)					
H_2SO_4 (P)					
H_3PO_4 (AG)					
NaOH (P)					
NaOH + ZnAc (P)					
$Na_2S_2O_3$ (AG)					
$Na_2S_2O_3$ (CG)					
$Na_2S_2O_3$ 250ml (Brown P) 549					
Thio/K Citrate					
NH_4Cl (AG) 552					
Other:					
Client Own					
Low Level Hg/Metals Double Bag					
Plastic Bag					
Glass Jar: 125 / 250 / 500					
Soil Tube: Brass / (Steel) / Plastic	1-10				
5g Encore					
1G Cubitaner					

Comments

Filter or Split

	Container	Preservative	Date/Time/Initials
S P F			
S P F			
S P F			
S P F			
S P F			

Labeled by: LM @ 12:50 — Labels checked by: MB @ 1300

FL-SC-0003-07

IB4/C24 pg 3

Greg Betts

From: Julio Morales
Sent: Monday, February 14, 2022 12:56 PM
To: George Barrett; Dara Vongkhampha; Ralph Delgado; Victoria Castanada; Humberto Melgoza
Cc: Danielle Abrames; Greg Betts
Subject: RE: Soil Samples

Correction: Per Katie Lister, she asked that we hold the 2' samples listed on the COC previously attached. Therefore there will only be 5 samples to rush ~~at~~ this time. HOLD

From: Julio Morales
Sent: Monday, February 14, 2022 12:52 PM
To: George Barrett <GeorgeB@mooretwining.com>; Dara Vongkhampha <DaraV@mooretwining.com>; Ralph Delgado <RalphD@mooretwining.com>; Victoria Castanada <VictoriaC@mooretwining.com>; Humberto Melgoza <HumbertoM@mooretwining.com>
Cc: Danielle Abrames <DanielleA@mooretwining.com>; Greg Betts <GregB@mooretwining.com>
Subject: FW: Soil Samples
Importance: High

Good Afternoon,

MTA Environmental is submitting 10 soils for 8081, 8260 and CAM17. They would like these to be rushed. Can you please let me know if how soon of a rush can be done and if a rush is not possible, can you please let me know so that we can sub them out?

Thanks!!

MOORE TWINING ASSOCIATES, INC.
Julio Morales, Analytical Chemistry Division
Client Services Supervisor
Moore Twining Associates, Inc.
2527 Fresno St.
Fresno, CA 93721
Direct: (559) 777-8961
Toll Free: (800) 268-7021
Office: (559) 268-7021
Fax: (559) 268-7126
juliom@mooretwining.com

We accept VISA and MasterCard. * Effective October 1st, 2021 there will be a 3% surcharge for all credit card transactions.

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IB14624 Pg 4

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From: Katie Lister <katiel@mooretwining.com>
Sent: Monday, February 14, 2022 12:47 PM
To: Julio Morales <juliom@mooretwining.com>
Cc: Susan Federico <SusanF@mooretwining.com>; Thomas Harris <ThomasH@mooretwining.com>
Subject: RE: Soil Samples
Importance: High

It's this one. (Can you please modify to hold all of the 2' samples?) HOLD

Metals, OCPs, VOCs

From: Julio Morales <juliom@mooretwining.com>
Sent: Monday, February 14, 2022 12:35 PM
To: Katie Lister <katiel@mooretwining.com>
Cc: Susan Federico <SusanF@mooretwining.com>; Thomas Harris <ThomasH@mooretwining.com>
Subject: RE: Soil Samples

Hi Katie,

Do you know which tests? I'd like to let the lab analysts know.

MOORE TWINING ASSOCIATES, INC.
Julio Morales, Analytical Chemistry Division
Client Services Supervisor
Moore Twining Associates, Inc.
2527 Fresno St.
Fresno, CA 93721
Direct: (559) 777-8961
Toll Free: (800) 268-7021
Office: (559) 268-7021
Fax: (559) 268-7126
juliom@mooretwining.com

We accept VISA and MasterCard. * Effective October 1st, 2021 there will be a 3% surcharge for all credit card transactions.

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From: Katie Lister <katiel@mooretwining.com>
Sent: Monday, February 14, 2022 12:20 PM
To: Julio Morales <juliom@mooretwining.com>
Cc: Susan Federico <SusanF@mooretwining.com>; Thomas Harris <ThomasH@mooretwining.com>
Subject: Soil Samples

APPENDIX D-3

Limited Soil Sampling – Auxiliary Airfield No. 4

Prepared by

Moore Twining Associates

April 2022

MOORE TWINING ASSOCIATES, INC.

April 6, 2022 C64409.04

Mr. Bert Verrips, AICP
Environmental Consulting Services
11942 Red Hill Avenue
Santa Ana, California 92705

RE: Limited Soil Sampling – Cherry 2 Auxiliary Airfield 4
Section 31, NW, NE, and SE Quadrants
North of Nevada Avenue and West of 25th Avenue
Lemoore, California

Dear Mr. Verrips,

This report presents the results and findings of a Limited Phase II Environmental Site Assessment (Phase II ESA) conducted to assess shallow soil as proposed by Moore Twining at Section 31 located generally southeast of the intersection of 25th Avenue and Avenal Cutoff Road in an unincorporated area of Kings County, west of the City of Stratford, California. It is Moore Twining Associates, Inc.'s (Moore Twining's) understanding that this investigation was requested by Mr. Bert Verrips, AICP as part of their due diligence for the subject property.

PURPOSE OF INVESTIGATION

Due to the historical use of Section 31 as a military auxiliary landing field, the purpose of the soil sampling and analysis was to assess if persistent PCOCs were present in on-Site soil that exceed human health or waste disposal screening levels.

SCOPE OF WORK

The scope of work was in accordance with our Phase II ESA proposal executed on March 23, 2022. The scope of the Phase II ESA included the following:

- Installing 12 hand auger borings to a total of 2 feet;
- Collecting soil samples at 0-0.5 and 1.5 to 2 feet;
- Soil analysis; and
- This report was prepared to present our procedures, findings, conclusions, and recommendations.

INVESTIGATIVE PROCEDURES

In order to evaluate the presence of persistent PCOCs at the Site, twelve (12) hand auger borings were advanced 2 feet below surface grade (bsg) by Moore Twining personnel. Soil samples were collected from the borings at approximate depths of the surface to 0.5 feet, and 1.5 to 2 feet. Soil samples were collected with a slide-hammer soil sampler lined with stainless steel sample sleeves.

Following collection, the samples were preserved in the field by capping both ends with Teflon tape and plastic caps and placing them in a properly chilled ice chest. Soil samples were submitted to Moore Twining's California State-certified analytical laboratory under chain-of-custody protocol for analysis. The soil samples were analyzed in the laboratory for CAM 17 Metals, VOCs, TPHg, and TPHd.

RESULTS AND FINDINGS

Arsenic was detected at typical background levels for the area, ranging from 11 mg/kg to 13 mg/kg.

Chromium was detected at concentrations ranging from 72 mg/kg to 81 mg/kg. These concentrations exceed nonhazardous waste screening levels.

VOC's were not reported above laboratory screening levels.

TPHg was not reported above laboratory screening levels.

TPHd was not reported above laboratory screening levels.

A copy of the laboratory report for soil samples is included in Appendix A.

Based on the results of the limited assessment, it does not appear that the historic use of the property as an airfield impacted the Site beyond screening levels.

If soils are planned to be exported to a landfill, they would need to be further analyzed for STLC concentrations of chromium. Depending on the result, the waste may be considered a non-RCRA hazardous waste and sent to a Class III landfill that accepts chromium or it may be a RCRA hazardous waste and would be required to be disposed of at a Class I landfill. In Moore Twining's experience TTLC chromium concentrations of the levels reported would fall into the non-RCRA classification. No action is required if the soils are to remain within the Cherry project site or, if the soil profile is approved by the importing party, to a location other than a landfill.

LIMITATIONS

The scope of the investigation was intended to be an interactive process. The purpose of an environmental assessment is to reasonably characterize existing site conditions based on the available data. In performing such a study, it is understood that a balance must be struck between a reasonable inquiry into the site conditions and an exhaustive analysis of each conceivable environmental characteristic.

Conditions of interest may exist at the site that cannot be identified by visual observations and the scope of the work performed as part of this Phase II ESA. Where subsurface exploratory work was performed, our professional opinions were based in part on interpretation of data from discrete sampling locations that may not represent actual conditions or un-sampled locations. If conditions of interest were not identified during performance of the work, such a finding should not be construed as a guarantee that such conditions do not exist at the site.

This work was conducted in accordance with generally accepted engineering principles and practices in at the time the work was performed. This warranty is in lieu of all other warranties, either expressed or

implied. This report was prepared for the sole use of the client and appropriate regulatory agencies. Any reliance on this report by a third party is at such party's sole risk.

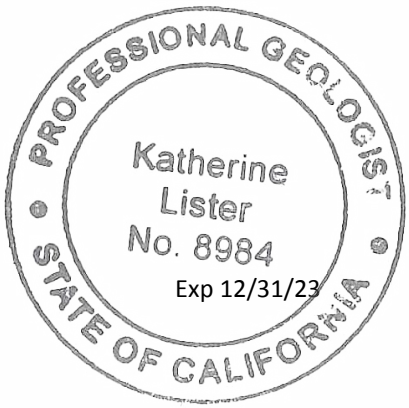
CLOSING

If you have questions, please contact our office. Our environmental services staff can answer your inquiries regarding this report at (800) 268-7021.

Sincerely,
MOORE TWINING ASSOCIATES, INC.
Environmental Services Division



Katie Lister, PG, QSD
Environmental Division Manager
Moore Twining Associates, Inc.

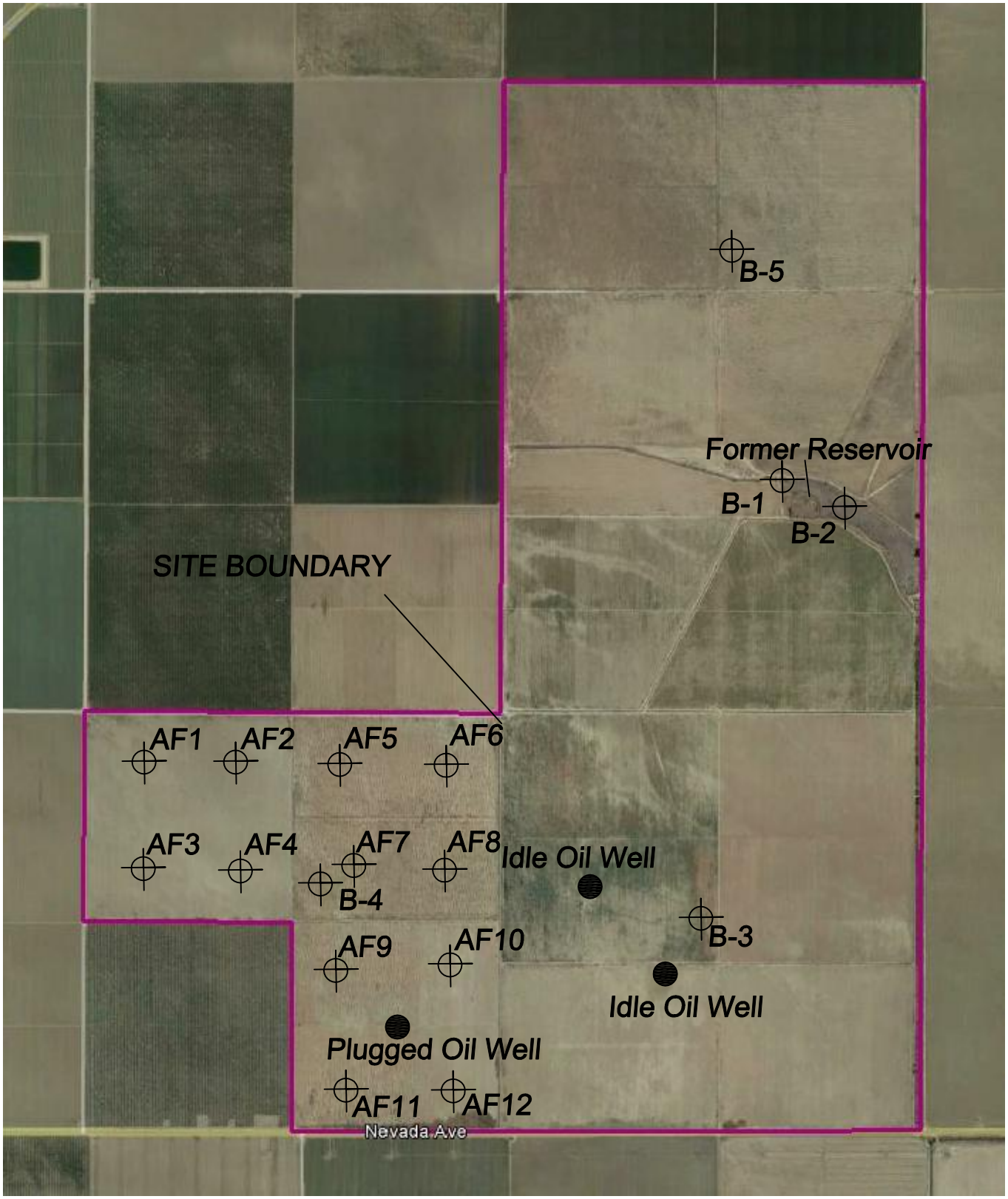




N

APPX 1:24000

SITE LOCATION MAP CHERRY 2 SOLAR PROJECT 25TH AVENUE AND NEVADA AVENUE KINGS COUNTY, CALIFORNIA	FILE NO. Site Loc Map	DATE DRAWN: 02-10-2022	MOORE TWINING ASSOCIATES, INC.
	DRAWN BY: KL	APPROVED BY:	
	PROJECT NO. C64409.0300	DRAWING NO. 1	



LEGEND

B-1 SOIL BORING LOCATION - February 2022

AF1 SOIL BORING LOCATION FOR AIRFIELD - March 2022

N

100 FEET

SITE MAP CHERRY 2 SOLAR PROJECT 25TH AVENUE AND NEVADA AVENUE KINGS COUNTY, CALIFORNIA	FILE NO. Site Map	DATE DRAWN: 03-30-2022
	DRAWN BY: KL	APPROVED BY:
	PROJECT NO. C64409.0400	DRAWING NO. 1

MOORE TWINING ASSOCIATES, INC.

APPENDIX A

Laboratory Report and Chain of Custody Documentation

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

April 05, 2022

Work Order #: **IC25007**

Katie Lister
MTA Environmental Division
2527 Fresno Street
Fresno, CA 93721

RE: Cherry 2 Soil AF

Enclosed are the analytical results for samples received by our laboratory on **03/25/22** . For your reference, these analyses have been assigned laboratory work order number **IC25007**.

All analyses have been performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, Moore Twining Associates, Inc. (MTA) is not responsible for use of less than complete reports. Results apply only to samples analyzed.

If you have any questions, please feel free to contact us at the number listed above.

Sincerely,

Moore Twining Associates, Inc.



Julio Morales
Client Services Supervisor

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Analytical Report for the Following Samples

Sample ID	Notes	Laboratory ID	Matrix	Date Sampled	Date Received
Af1-1 feet		IC25007-01	Soil	03/24/22 13:02	03/25/22 11:00
Af2-1 feet		IC25007-03	Soil	03/24/22 13:18	03/25/22 11:00
Af3-1 feet		IC25007-05	Soil	03/24/22 13:31	03/25/22 11:00
Af4-1 feet		IC25007-07	Soil	03/24/22 13:46	03/25/22 11:00
Af5-1 feet		IC25007-09	Soil	03/24/22 14:02	03/25/22 11:00
Af6-1 feet		IC25007-11	Soil	03/24/22 14:14	03/25/22 11:00
Af7-1 feet		IC25007-13	Soil	03/24/22 15:02	03/25/22 11:00
Af8-1 feet		IC25007-15	Soil	03/24/22 14:48	03/25/22 11:00
Af9-1 feet		IC25007-17	Soil	03/24/22 15:16	03/25/22 11:00
Af10-1 feet		IC25007-19	Soil	03/24/22 15:30	03/25/22 11:00
Af11-1 feet		IC25007-21	Soil	03/24/22 15:47	03/25/22 11:00
Af12-1 feet		IC25007-23	Soil	03/24/22 16:01	03/25/22 11:00

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af1-1 feet

IC25007-01 (Soil) Sampled: 03/24/22 13:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**11**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**180**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**1.8**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**79**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**16**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**34**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**6.5**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**5.2**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Vanadium		**71**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**73**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*76.3%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af1-1 feet

IC25007-01 (Soil) Sampled: 03/24/22 13:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
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(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af1-1 feet

IC25007-01 (Soil) Sampled: 03/24/22 13:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.7%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*98.9%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*100%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af2-1 feet

IC25007-03 (Soil) Sampled: 03/24/22 13:18

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**13**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**170**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**2.1**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**81**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**16**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**35**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**6.0**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		**0.042**	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**5.6**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B

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California ELAP Certificate #1371

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Fresno, CA 93721
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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af2-1 feet

IC25007-03 (Soil) Sampled: 03/24/22 13:18

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Vanadium		**70**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**71**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*74.3%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af2-1 feet

IC25007-03 (Soil) Sampled: 03/24/22 13:18

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af2-1 feet

IC25007-03 (Soil) Sampled: 03/24/22 13:18

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*95.3%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*98.6%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*98.6%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af3-1 feet

IC25007-05 (Soil) Sampled: 03/24/22 13:31

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**11**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**160**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**1.6**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**75**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**15**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**33**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**6.2**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**4.6**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**98**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Vanadium		**67**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**68**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*62.8%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af3-1 feet

IC25007-05 (Soil) Sampled: 03/24/22 13:31

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af3-1 feet

IC25007-05 (Soil) Sampled: 03/24/22 13:31

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*98.6%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*98.5%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*98.8%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af4-1 feet

IC25007-07 (Soil) Sampled: 03/24/22 13:46

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af4-1 feet

IC25007-07 (Soil) Sampled: 03/24/22 13:46

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**11**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**160**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**1.9**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**72**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**14**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**30**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**5.3**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**4.4**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**91**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Vanadium		**64**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**62**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*80.7%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af4-1 feet

IC25007-07 (Soil) Sampled: 03/24/22 13:46

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af4-1 feet

IC25007-07 (Soil) Sampled: 03/24/22 13:46

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.2%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*100%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*100%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af5-1 feet

IC25007-09 (Soil) Sampled: 03/24/22 14:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**12**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**180**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**1.8**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**77**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**16**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**32**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**6.2**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**5.3**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af5-1 feet

IC25007-09 (Soil) Sampled: 03/24/22 14:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Vanadium		**67**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**67**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*78.4%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af5-1 feet

IC25007-09 (Soil) Sampled: 03/24/22 14:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af5-1 feet

IC25007-09 (Soil) Sampled: 03/24/22 14:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*100%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*101%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*101%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af6-1 feet

IC25007-11 (Soil) Sampled: 03/24/22 14:14

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**12**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**170**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**2.1**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**77**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**15**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**31**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**6.3**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**5.0**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Vanadium		**67**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**67**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*78.2%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af6-1 feet

IC25007-11 (Soil) Sampled: 03/24/22 14:14

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af6-1 feet

IC25007-11 (Soil) Sampled: 03/24/22 14:14

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.1%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*101%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*100%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af7-1 feet

IC25007-13 (Soil) Sampled: 03/24/22 15:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af7-1 feet

IC25007-13 (Soil) Sampled: 03/24/22 15:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**12**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**180**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**2.1**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**77**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**15**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**32**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**5.9**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**5.8**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**98**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		**5.3**	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Vanadium		**71**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**68**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*82.4%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af7-1 feet

IC25007-13 (Soil) Sampled: 03/24/22 15:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af7-1 feet

IC25007-13 (Soil) Sampled: 03/24/22 15:02

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.6%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*97.7%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*99.6%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af8-1 feet

IC25007-15 (Soil) Sampled: 03/24/22 14:48

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**11**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**160**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**1.9**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**75**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**15**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**29**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**5.6**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**4.5**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**98**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af8-1 feet

IC25007-15 (Soil) Sampled: 03/24/22 14:48

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Vanadium		**64**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**65**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*74.8%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af8-1 feet

IC25007-15 (Soil) Sampled: 03/24/22 14:48

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af8-1 feet

IC25007-15 (Soil) Sampled: 03/24/22 14:48

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.3%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*97.8%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*101%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af9-1 feet

IC25007-17 (Soil) Sampled: 03/24/22 15:16

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**12**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**180**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**1.8**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**75**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**15**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**34**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**6.5**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**4.7**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**96**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Vanadium		**70**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**69**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*86.1%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af9-1 feet

IC25007-17 (Soil) Sampled: 03/24/22 15:16

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af9-1 feet

IC25007-17 (Soil) Sampled: 03/24/22 15:16

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.7%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*99.6%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*101%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af10-1 feet

IC25007-19 (Soil) Sampled: 03/24/22 15:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									

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California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
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(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af10-1 feet

IC25007-19 (Soil) Sampled: 03/24/22 15:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**11**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**160**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**2.0**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**74**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**14**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**28**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**6.2**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**4.2**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**94**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Vanadium		**63**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**64**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*77.6%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af10-1 feet

IC25007-19 (Soil) Sampled: 03/24/22 15:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af10-1 feet

IC25007-19 (Soil) Sampled: 03/24/22 15:30

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.6%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*96.6%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*100%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af11-1 feet

IC25007-21 (Soil) Sampled: 03/24/22 15:47

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**11**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**180**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**1.8**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**77**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**16**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**33**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**6.0**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**4.9**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af11-1 feet

IC25007-21 (Soil) Sampled: 03/24/22 15:47

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Vanadium		**69**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**70**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*77.8%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af11-1 feet

IC25007-21 (Soil) Sampled: 03/24/22 15:47

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af11-1 feet

IC25007-21 (Soil) Sampled: 03/24/22 15:47

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*99.4%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*96.9%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*100%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

Af12-1 feet

IC25007-23 (Soil) Sampled: 03/24/22 16:01

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Metals (Total)									
Antimony		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Arsenic		**11**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Barium		**180**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Beryllium		**2.0**	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cadmium		ND	0.40	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Chromium		**77**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Cobalt		**16**	0.80	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Copper		**31**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Lead		**6.4**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Mercury		ND	0.040	mg/kg	1	B2C2512	03/28/22	03/28/22	EPA 7471A
Molybdenum		**4.9**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Nickel		**100**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Selenium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Silver		ND	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Thallium		ND	5.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Vanadium		**67**	2.5	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Zinc		**68**	2.0	mg/kg	1	B2C2514	03/28/22	03/28/22	EPA 6010B
Semi-Volatile Organics									
TPH-D (C10-C28)									
Diesel		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Surr: o-Terphenyl		*78.7%*	*Recovery Limits: 11.8% - 130%*			*B2C2917*	03/29/22	04/05/22	*EPA 8015B*
TPH-MO (C14-C40)									
Motor Oil		ND	10	mg/kg	1	B2C2917	03/29/22	04/05/22	EPA 8015B
Volatile Organics									
8260B Twining									
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af12-1 feet

IC25007-23 (Soil) Sampled: 03/24/22 16:01

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
1,1,2-Trichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,1-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,3-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
1,4-Dichlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2,2-Dichloropropane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Butanone (MEK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chloroethylvinyl ether		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
2-Hexanone		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Chlorotoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acetone		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrolein		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Acrylonitrile		ND	0.010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Benzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromodichloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromoform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Bromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon disulfide		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Carbon tetrachloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chlorobenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroform		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Chloroprene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
cis-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromochloromethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Dibromomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Af12-1 feet

IC25007-23 (Soil) Sampled: 03/24/22 16:01

Analyte	Flag	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Volatile Organics									
8260B Twining									
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethanol		ND	0.050	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Ethylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Hexachlorobutadiene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Iodomethane		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Isopropylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
m,p-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl Methacrylate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Methylene chloride		ND	0.0020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Naphthalene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
n-Propylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
o-Xylene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
p-Isopropyltoluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
sec-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Styrene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
tert-Butylbenzene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Tetrachloroethene (PCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Toluene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,2-Dichloroethene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,3-Dichloropropene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichloroethene (TCE)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl acetate		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Vinyl chloride		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Xylenes		ND	0.0010	mg/kg	1	B2C2902	03/29/22	03/29/22	EPA 8260B
Surr: 4-Bromofluorobenzene		*97.0%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Dibromofluoromethane		*97.1%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*
Surr: Toluene-d8		*100%*	*Recovery Limits: 70% - 130%*			*B2C2902*	03/29/22	03/29/22	*EPA 8260B*

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California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Quality Control Sample Results - Metals (Total)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B2C2512										
Blank (B2C2512-BLK1)		Prepared & Analyzed: 03/28/22								
EPA 7471A										
Mercury		ND	0.040	mg/kg						
LCS (B2C2512-BS1)		Prepared & Analyzed: 03/28/22								
EPA 7471A										
Mercury		0.310	0.040	mg/kg	0.333		92.9	80-120		
LCS Dup (B2C2512-BSD1)		Prepared & Analyzed: 03/28/22								
EPA 7471A										
Mercury		0.314	0.040	mg/kg	0.333		94.1	80-120	1.23	20
Matrix Spike (B2C2512-MS1)		Prepared & Analyzed: 03/28/22				**Source: IC24022-01**				
EPA 7471A										
Mercury		0.327	0.040	mg/kg	0.334	0.0116	94.3	70-130		
Matrix Spike Dup (B2C2512-MSD1)		Prepared & Analyzed: 03/28/22				**Source: IC24022-01**				
EPA 7471A										
Mercury		0.330	0.040	mg/kg	0.335	0.0116	95.2	70-130	1.05	20
Matrix Spike (B2C2512-MS2)		Prepared & Analyzed: 03/28/22				**Source: IC25007-23**				
EPA 7471A										
Mercury		0.313	0.040	mg/kg	0.331	0.0346	84.2	70-130		
Matrix Spike Dup (B2C2512-MSD2)		Prepared & Analyzed: 03/28/22				**Source: IC25007-23**				
EPA 7471A										
Mercury		0.334	0.040	mg/kg	0.334	0.0346	89.5	70-130	6.31	20
Batch - B2C2514										
Blank (B2C2514-BLK1)		Prepared & Analyzed: 03/28/22								
EPA 6010B										
Antimony		ND	2.0	mg/kg						
Arsenic		ND	2.0	mg/kg						
Barium		ND	2.0	mg/kg						
Beryllium		ND	0.40	mg/kg						
Cadmium		ND	0.40	mg/kg						
Chromium		ND	2.0	mg/kg						
Cobalt		ND	0.80	mg/kg						
Copper		ND	2.0	mg/kg						
Lead		ND	2.0	mg/kg						
Molybdenum		ND	2.0	mg/kg						
Nickel		ND	2.0	mg/kg						
Selenium		ND	5.0	mg/kg						
Silver		ND	2.0	mg/kg						
Thallium		ND	5.0	mg/kg						
Vanadium		ND	2.5	mg/kg						
Zinc		ND	2.0	mg/kg						
LCS (B2C2514-BS1)		Prepared & Analyzed: 03/28/22								

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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Quality Control Sample Results - Metals (Total)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B2C2514										
LCS (B2C2514-BS1)		Prepared & Analyzed: 03/28/22								
EPA 6010B										
Antimony		20.1	2.0	mg/kg	20.0		100	75-125		
Arsenic		38.3	2.0	mg/kg	40.0		95.8	75-125		
Barium		41.9	2.0	mg/kg	40.0		105	75-125		
Beryllium		3.89	0.40	mg/kg	4.00		97.3	75-125		
Cadmium		3.77	0.40	mg/kg	4.00		94.3	75-125		
Chromium		19.2	2.0	mg/kg	20.0		96.0	75-125		
Cobalt		8.09	0.80	mg/kg	8.00		101	75-125		
Copper		19.8	2.0	mg/kg	20.0		99.1	75-125		
Lead		19.6	2.0	mg/kg	20.0		97.8	75-125		
Molybdenum		20.1	2.0	mg/kg	20.0		100	75-125		
Nickel		22.3	2.0	mg/kg	20.0		112	75-125		
Selenium		70.6	5.0	mg/kg	80.0		88.2	75-125		
Silver		20.8	2.0	mg/kg	20.0		104	75-125		
Thallium		77.3	5.0	mg/kg	80.0		96.6	75-125		
Vanadium		39.5	2.5	mg/kg	40.0		98.7	75-125		
Zinc		17.7	2.0	mg/kg	20.0		88.6	75-125		
LCS Dup (B2C2514-BSD1)		Prepared & Analyzed: 03/28/22								
EPA 6010B										
Antimony		19.7	2.0	mg/kg	20.0		98.5	75-125	1.97	20
Arsenic		38.2	2.0	mg/kg	40.0		95.6	75-125	0.200	20
Barium		41.9	2.0	mg/kg	40.0		105	75-125	0.0635	20
Beryllium		4.08	0.40	mg/kg	4.00		102	75-125	4.60	20
Cadmium		3.74	0.40	mg/kg	4.00		93.6	75-125	0.741	20
Chromium		19.4	2.0	mg/kg	20.0		96.9	75-125	0.981	20
Cobalt		8.11	0.80	mg/kg	8.00		101	75-125	0.323	20
Copper		20.0	2.0	mg/kg	20.0		99.9	75-125	0.744	20
Lead		19.8	2.0	mg/kg	20.0		98.9	75-125	1.20	20
Molybdenum		19.7	2.0	mg/kg	20.0		98.5	75-125	1.79	20
Nickel		22.1	2.0	mg/kg	20.0		110	75-125	1.13	20
Selenium		70.9	5.0	mg/kg	80.0		88.7	75-125	0.473	20
Silver		20.7	2.0	mg/kg	20.0		104	75-125	0.142	20
Thallium		77.2	5.0	mg/kg	80.0		96.4	75-125	0.172	20
Vanadium		40.0	2.5	mg/kg	40.0		99.9	75-125	1.19	20
Zinc		17.8	2.0	mg/kg	20.0		89.0	75-125	0.448	20
Matrix Spike (B2C2514-MS1)		Prepared & Analyzed: 03/28/22				**Source: IC24022-01**				
EPA 6010B										
Antimony	MS3	4.05	2.0	mg/kg	20.1	ND	20.2	75-125		
Arsenic		64.7	2.0	mg/kg	40.2	26.0	96.4	75-125		
Barium	MS2	156	2.0	mg/kg	40.2	101	137	75-125		
Beryllium		6.31	0.40	mg/kg	4.02	2.74	88.8	75-125		

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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Quality Control Sample Results - Metals (Total)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B2C2514										
Matrix Spike (B2C2514-MS1)	Prepared & Analyzed: 03/28/22					**Source: IC24022-01**				
EPA 6010B										
Cadmium	MS3	2.52	0.40	mg/kg	4.02	ND	62.8	75-125		
Chromium		52.6	2.0	mg/kg	20.1	34.9	87.9	75-125		
Cobalt		16.9	0.80	mg/kg	8.04	8.95	98.7	75-125		
Copper		33.1	2.0	mg/kg	20.1	13.6	97.3	75-125		
Lead		22.7	2.0	mg/kg	20.1	4.25	91.8	75-125		
Molybdenum		21.1	2.0	mg/kg	20.1	2.66	91.9	75-125		
Nickel		58.4	2.0	mg/kg	20.1	39.5	94.1	75-125		
Selenium		74.5	5.0	mg/kg	80.4	2.20	90.0	75-125		
Silver		17.0	2.0	mg/kg	20.1	ND	84.7	75-125		
Thallium		78.3	5.0	mg/kg	80.4	ND	97.4	75-125		
Vanadium		95.5	2.5	mg/kg	40.2	51.6	109	75-125		
Zinc	MS2	104	2.0	mg/kg	20.1	47.7	278	75-125		
Matrix Spike Dup (B2C2514-MSD1)	Prepared & Analyzed: 03/28/22					**Source: IC24022-01**				
EPA 6010B										
Antimony	MS3	4.59	2.0	mg/kg	20.1	ND	22.8	75-125	12.5	20
Arsenic		65.2	2.0	mg/kg	40.2	26.0	97.5	75-125	0.757	20
Barium		146	2.0	mg/kg	40.2	101	112	75-125	6.41	20
Beryllium		6.24	0.40	mg/kg	4.02	2.74	86.9	75-125	1.16	20
Cadmium	MS3	2.52	0.40	mg/kg	4.02	ND	62.7	75-125	0.0465	20
Chromium		54.3	2.0	mg/kg	20.1	34.9	96.4	75-125	3.24	20
Cobalt		16.7	0.80	mg/kg	8.05	8.95	96.1	75-125	1.19	20
Copper		34.1	2.0	mg/kg	20.1	13.6	102	75-125	2.84	20
Lead		22.5	2.0	mg/kg	20.1	4.25	90.7	75-125	0.887	20
Molybdenum		21.5	2.0	mg/kg	20.1	2.66	93.7	75-125	1.77	20
Nickel		55.6	2.0	mg/kg	20.1	39.5	80.1	75-125	4.92	20
Selenium		74.8	5.0	mg/kg	80.5	2.20	90.2	75-125	0.409	20
Silver		17.5	2.0	mg/kg	20.1	ND	87.2	75-125	2.95	20
Thallium		78.3	5.0	mg/kg	80.5	ND	97.2	75-125	0.0944	20
Vanadium		95.1	2.5	mg/kg	40.2	51.6	108	75-125	0.501	20
Zinc	RPD3	66.9	2.0	mg/kg	20.1	47.7	95.2	75-125	43.1	20
Matrix Spike (B2C2514-MS2)	Prepared & Analyzed: 03/28/22					**Source: IC25007-23**				
EPA 6010B										
Antimony	MS3	4.36	2.0	mg/kg	19.9	ND	21.9	75-125		
Arsenic		53.7	2.0	mg/kg	39.8	11.1	107	75-125		
Barium		222	2.0	mg/kg	39.8	181	103	75-125		
Beryllium		6.13	0.40	mg/kg	3.98	2.01	104	75-125		
Cadmium	MS3	1.32	0.40	mg/kg	3.98	ND	33.2	75-125		
Chromium		102	2.0	mg/kg	19.9	76.8	125	75-125		
Cobalt		23.7	0.80	mg/kg	7.95	15.7	101	75-125		
Copper		51.5	2.0	mg/kg	19.9	31.3	102	75-125		

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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Quality Control Sample Results - Metals (Total)

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B2C2514										
Matrix Spike (B2C2514-MS2)	Prepared & Analyzed: 03/28/22					**Source: IC25007-23**				
EPA 6010B										
Lead		24.7	2.0	mg/kg	19.9	6.35	92.5	75-125		
Molybdenum		22.6	2.0	mg/kg	19.9	4.90	89.1	75-125		
Nickel		122	2.0	mg/kg	19.9	104	86.7	75-125		
Selenium		75.9	5.0	mg/kg	79.5	3.92	90.6	75-125		
Silver		16.1	2.0	mg/kg	19.9	ND	80.8	75-125		
Thallium		80.9	5.0	mg/kg	79.5	ND	102	75-125		
Vanadium		117	2.5	mg/kg	39.8	67.4	125	75-125		
Zinc		88.7	2.0	mg/kg	19.9	67.8	105	75-125		
Matrix Spike Dup (B2C2514-MSD2)	Prepared & Analyzed: 03/28/22					**Source: IC25007-23**				
EPA 6010B										
Antimony	MS3	4.81	2.0	mg/kg	20.0	ND	24.1	75-125	9.81	20
Arsenic		51.7	2.0	mg/kg	40.0	11.1	101	75-125	3.88	20
Barium		212	2.0	mg/kg	40.0	181	76.4	75-125	4.79	20
Beryllium		6.03	0.40	mg/kg	4.00	2.01	101	75-125	1.58	20
Cadmium	MS3	1.21	0.40	mg/kg	4.00	ND	30.2	75-125	8.96	20
Chromium		101	2.0	mg/kg	20.0	76.8	119	75-125	1.10	20
Cobalt		23.3	0.80	mg/kg	7.99	15.7	95.1	75-125	1.71	20
Copper		50.9	2.0	mg/kg	20.0	31.3	97.8	75-125	1.24	20
Lead		24.4	2.0	mg/kg	20.0	6.35	90.3	75-125	1.49	20
Molybdenum		22.2	2.0	mg/kg	20.0	4.90	86.4	75-125	2.02	20
Nickel		121	2.0	mg/kg	20.0	104	82.5	75-125	0.627	20
Selenium		73.9	5.0	mg/kg	79.9	3.92	87.5	75-125	2.75	20
Silver		15.9	2.0	mg/kg	20.0	ND	79.7	75-125	0.924	20
Thallium		77.5	5.0	mg/kg	79.9	ND	97.0	75-125	4.30	20
Vanadium		116	2.5	mg/kg	40.0	67.4	121	75-125	0.937	20
Zinc		87.6	2.0	mg/kg	20.0	67.8	98.8	75-125	1.26	20

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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Quality Control Sample Results - Semi-Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B2C2917										
Blank (B2C2917-BLK1)		Prepared: 03/29/22 Analyzed: 04/04/22								
EPA 8015B										
Surr: o-Terphenyl		*1.60*		*mg/kg*	*2.00*		*80.2*	*11.8-130*		
Diesel		ND	10	mg/kg						
Blank (B2C2917-BLK2)		Prepared: 03/29/22 Analyzed: 04/04/22								
EPA 8015B										
Motor Oil		ND	10	mg/kg						
LCS (B2C2917-BS1)		Prepared: 03/29/22 Analyzed: 04/04/22								
EPA 8015B										
Surr: o-Terphenyl		*1.86*		*mg/kg*	*2.00*		*93.2*	*11.8-130*		
Diesel		21.1	10	mg/kg	25.0		84.4	48-131		
LCS (B2C2917-BS2)		Prepared: 03/29/22 Analyzed: 04/04/22								
EPA 8015B										
Motor Oil		29.1	10	mg/kg	25.0		117	62-132		
LCS Dup (B2C2917-BSD1)		Prepared: 03/29/22 Analyzed: 04/04/22								
EPA 8015B										
Surr: o-Terphenyl		*2.14*		*mg/kg*	*2.00*		*107*	*11.8-130*		
Diesel		22.0	10	mg/kg	25.0		87.9	48-131	4.07	20
LCS Dup (B2C2917-BSD2)		Prepared: 03/29/22 Analyzed: 04/04/22								
EPA 8015B										
Motor Oil		23.9	10	mg/kg	25.0		95.4	62-132	19.9	20
Matrix Spike (B2C2917-MS1)		Prepared: 03/29/22 Analyzed: 04/05/22				**Source: IC25007-23**				
EPA 8015B										
Surr: o-Terphenyl		*1.85*		*mg/kg*	*2.00*		*92.4*	*11.8-130*		
Diesel		19.9	10	mg/kg	25.0	ND	79.7	48-131		
Matrix Spike (B2C2917-MS2)		Prepared: 03/29/22 Analyzed: 04/05/22				**Source: IC25007-23**				
EPA 8015B										
Motor Oil		28.7	10	mg/kg	25.0	5.24	93.9	48-131		
Matrix Spike Dup (B2C2917-MSD1)		Prepared: 03/29/22 Analyzed: 04/05/22				**Source: IC25007-23**				
EPA 8015B										
Surr: o-Terphenyl		*1.85*		*mg/kg*	*2.00*		*92.6*	*11.8-130*		
Diesel		19.1	10	mg/kg	25.0	ND	76.5	48-131	4.16	20
Matrix Spike Dup (B2C2917-MSD2)		Prepared: 03/29/22 Analyzed: 04/05/22				**Source: IC25007-23**				
EPA 8015B										
Motor Oil		26.7	10	mg/kg	25.0	5.24	85.9	48-131	7.18	20

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2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B2C2902										
Blank (B2C2902-BLK1)	Prepared & Analyzed: 03/29/22									
EPA 8260B										
Surr: 4-Bromofluorobenzene		*0.0252*		*mg/kg*	*0.0250*		*101*	*70-130*		
Surr: Dibromofluoromethane		*0.0250*		*mg/kg*	*0.0250*		*99.9*	*70-130*		
Surr: Toluene-d8		*0.0250*		*mg/kg*	*0.0250*		*99.9*	*70-130*		
1,1,1,2-Tetrachloroethane		ND	0.0010	mg/kg						
1,1,1-Trichloroethane (TCA)		ND	0.0010	mg/kg						
1,1,2,2-Tetrachloroethane		ND	0.0010	mg/kg						
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		ND	0.0010	mg/kg						
1,1,2-Trichloroethane		ND	0.0010	mg/kg						
1,1-Dichloroethane		ND	0.0010	mg/kg						
1,1-Dichloroethene		ND	0.0010	mg/kg						
1,1-Dichloropropene		ND	0.0010	mg/kg						
1,2,3-Trichlorobenzene		ND	0.0010	mg/kg						
1,2,3-Trichloropropane (123TCP)		ND	0.0010	mg/kg						
1,2,4-Trichlorobenzene		ND	0.0010	mg/kg						
1,2,4-Trimethylbenzene		ND	0.0010	mg/kg						
1,2-Dibromo-3-chloropropane (DBCP)		ND	0.0050	mg/kg						
1,2-Dibromoethane (EDB)		ND	0.0010	mg/kg						
1,2-Dichlorobenzene		ND	0.0010	mg/kg						
1,2-Dichloroethane (1,2-DCA)		ND	0.0010	mg/kg						
1,2-Dichloropropane		ND	0.0010	mg/kg						
1,3,5-Trimethylbenzene		ND	0.0010	mg/kg						
1,3-Dichlorobenzene		ND	0.0010	mg/kg						
1,3-Dichloropropane		ND	0.0010	mg/kg						
1,4-Dichlorobenzene		ND	0.0010	mg/kg						
2,2-Dichloropropane		ND	0.0010	mg/kg						
2-Butanone (MEK)		ND	0.0010	mg/kg						
2-Chloroethylvinyl ether		ND	0.020	mg/kg						
2-Chlorotoluene		ND	0.0010	mg/kg						
2-Hexanone		ND	0.0010	mg/kg						
4-Chlorotoluene		ND	0.0010	mg/kg						
4-Methyl-2-pentanone (MIBK)		ND	0.0010	mg/kg						
Acetone		ND	0.020	mg/kg						
Acrolein		ND	0.050	mg/kg						
Acrylonitrile		ND	0.010	mg/kg						
Benzene		ND	0.0010	mg/kg						
Bromobenzene		ND	0.0010	mg/kg						
Bromochloromethane		ND	0.0010	mg/kg						
Bromodichloromethane		ND	0.0010	mg/kg						
Bromoform		ND	0.0010	mg/kg						
Bromomethane		ND	0.0010	mg/kg						

MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B2C2902										
Blank (B2C2902-BLK1)	Prepared & Analyzed: 03/29/22									
EPA 8260B										
Carbon disulfide		ND	0.0010	mg/kg						
Carbon tetrachloride		ND	0.0010	mg/kg						
Chlorobenzene		ND	0.0010	mg/kg						
Chlorodifluoromethane		ND	0.0010	mg/kg						
Chloroethane		ND	0.0010	mg/kg						
Chloroform		ND	0.0010	mg/kg						
Chloromethane		ND	0.0010	mg/kg						
Chloroprene		ND	0.0010	mg/kg						
cis-1,2-Dichloroethene		ND	0.0010	mg/kg						
cis-1,3-Dichloropropene		ND	0.0010	mg/kg						
Dibromochloromethane		ND	0.0010	mg/kg						
Dibromomethane		ND	0.0010	mg/kg						
Dichlorodifluoromethane (CFC-12)		ND	0.0010	mg/kg						
Dichlorotetrafluoroethane (CFC-114)		ND	0.010	mg/kg						
Di-isopropyl ether (DIPE)		ND	0.0010	mg/kg						
Ethanol		ND	0.050	mg/kg						
Ethyl methacrylate		ND	0.0010	mg/kg						
Ethyl tert-Butyl Ether (ETBE)		ND	0.0010	mg/kg						
Ethylbenzene		ND	0.0010	mg/kg						
Hexachlorobutadiene		ND	0.0010	mg/kg						
Iodomethane		ND	0.0010	mg/kg						
Isopropylbenzene		ND	0.0010	mg/kg						
m,p-Xylene		ND	0.0010	mg/kg						
Methyl Methacrylate		ND	0.0010	mg/kg						
Methyl tert-Butyl Ether (MTBE)		ND	0.0010	mg/kg						
Methylene chloride		ND	0.0020	mg/kg						
Naphthalene		ND	0.0010	mg/kg						
n-Butylbenzene		ND	0.0010	mg/kg						
n-Propylbenzene		ND	0.0010	mg/kg						
o-Xylene		ND	0.0010	mg/kg						
p-Isopropyltoluene		ND	0.0010	mg/kg						
sec-Butylbenzene		ND	0.0010	mg/kg						
Styrene		ND	0.0010	mg/kg						
Tert-Amyl Methyl Ether (TAME)		ND	0.0010	mg/kg						
tert-Butyl alcohol (TBA)		ND	0.020	mg/kg						
tert-Butylbenzene		ND	0.0010	mg/kg						
Tetrachloroethene (PCE)		ND	0.0010	mg/kg						
Toluene		ND	0.0010	mg/kg						
trans-1,2-Dichloroethene		ND	0.0010	mg/kg						
trans-1,3-Dichloropropene		ND	0.0010	mg/kg						

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MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B2C2902										
Blank (B2C2902-BLK1)	Prepared & Analyzed: 03/29/22									
EPA 8260B										
trans-1,4-Dichloro-2-butene		ND	0.0010	mg/kg						
Trichloroethene (TCE)		ND	0.0010	mg/kg						
Trichlorofluoromethane (CFC-11)		ND	0.0010	mg/kg						
Trichlorotrifluoroethane (CFC-113)		ND	0.0010	mg/kg						
Vinyl acetate		ND	0.0010	mg/kg						
Vinyl chloride		ND	0.0010	mg/kg						
Xylenes		ND	0.0010	mg/kg						
LCS (B2C2902-BS1)	Prepared & Analyzed: 03/29/22									
EPA 8260B										
Surr: 4-Bromofluorobenzene		*0.0249*		*mg/kg*	*0.0250*		*99.7*	*70-130*		
Surr: Dibromofluoromethane		*0.0245*		*mg/kg*	*0.0250*		*97.9*	*70-130*		
Surr: Toluene-d8		*0.0248*		*mg/kg*	*0.0250*		*99.3*	*70-130*		
1,1-Dichloroethene		0.0199	0.0010	mg/kg	0.0200		99.6	70-130		
Benzene		0.0194	0.0010	mg/kg	0.0200		96.9	70-130		
Chlorobenzene		0.0206	0.0010	mg/kg	0.0200		103	70-130		
Toluene		0.0186	0.0010	mg/kg	0.0200		92.8	70-130		
Trichloroethene (TCE)		0.0198	0.0010	mg/kg	0.0200		99.2	70-130		
LCS Dup (B2C2902-BSD1)	Prepared & Analyzed: 03/29/22									
EPA 8260B										
Surr: 4-Bromofluorobenzene		*0.0252*		*mg/kg*	*0.0250*		*101*	*70-130*		
Surr: Dibromofluoromethane		*0.0246*		*mg/kg*	*0.0250*		*98.5*	*70-130*		
Surr: Toluene-d8		*0.0252*		*mg/kg*	*0.0250*		*101*	*70-130*		
1,1-Dichloroethene		0.0193	0.0010	mg/kg	0.0200		96.3	70-130	3.37	20
Benzene		0.0191	0.0010	mg/kg	0.0200		95.6	70-130	1.35	20
Chlorobenzene		0.0203	0.0010	mg/kg	0.0200		101	70-130	1.71	20
Toluene		0.0182	0.0010	mg/kg	0.0200		91.2	70-130	1.74	20
Trichloroethene (TCE)		0.0184	0.0010	mg/kg	0.0200		91.9	70-130	7.64	20
Matrix Spike (B2C2902-MS1)	Prepared & Analyzed: 03/29/22					**Source: IC25007-23**				
EPA 8260B										
Surr: 4-Bromofluorobenzene		*0.0242*		*mg/kg*	*0.0250*		*96.9*	*70-130*		
Surr: Dibromofluoromethane		*0.0235*		*mg/kg*	*0.0250*		*93.9*	*70-130*		
Surr: Toluene-d8		*0.0251*		*mg/kg*	*0.0250*		*100*	*70-130*		
1,1-Dichloroethene		0.0156	0.0010	mg/kg	0.0200	ND	78.2	70-130		
Benzene		0.0158	0.0010	mg/kg	0.0200	ND	78.9	70-130		
Chlorobenzene		0.0165	0.0010	mg/kg	0.0200	ND	82.4	70-130		
Toluene		0.0153	0.0010	mg/kg	0.0200	ND	76.4	70-130		
Trichloroethene (TCE)		0.0156	0.0010	mg/kg	0.0200	ND	77.8	70-130		
Matrix Spike Dup (B2C2902-MSD1)	Prepared & Analyzed: 03/29/22					**Source: IC25007-23**				
EPA 8260B										
Surr: 4-Bromofluorobenzene		*0.0245*		*mg/kg*	*0.0250*		*97.8*	*70-130*		

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MOORE TWINING ASSOCIATES, INC.
California ELAP Certificate #1371

2527 Fresno Street
Fresno, CA 93721
(559) 268-7021 Phone
(559) 268-0740 Fax

MTA Environmental Division	**Project:** Cherry 2 Soil AF	**Reported:**
2527 Fresno Street	**Project Number:** C64413.0100	04/05/2022
Fresno CA, 93721	**Project Manager:** Katie Lister	

Quality Control Sample Results - Volatile Organics

Analyte	Flag	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limits
Batch - B2C2902										
Matrix Spike Dup (B2C2902-MSD1)	Prepared & Analyzed: 03/29/22					**Source: IC25007-23**				
EPA 8260B										
Surr: Dibromofluoromethane		*0.0242*		*mg/kg*	*0.0250*		*97.0*	*70-130*		
Surr: Toluene-d8		*0.0250*		*mg/kg*	*0.0250*		*99.8*	*70-130*		
1,1-Dichloroethene		0.0148	0.0010	mg/kg	0.0200	ND	74.2	70-130	5.12	20
Benzene		0.0155	0.0010	mg/kg	0.0200	ND	77.5	70-130	1.79	20
Chlorobenzene		0.0159	0.0010	mg/kg	0.0200	ND	79.4	70-130	3.71	20
Toluene		0.0147	0.0010	mg/kg	0.0200	ND	73.6	70-130	3.87	20
Trichloroethene (TCE)		0.0150	0.0010	mg/kg	0.0200	ND	74.8	70-130	4.06	20

Notes and Definitions

MS2	Recovery for this analyte was biased high; associated blank spike recoveries are within range.
MS3	Recovery for this analyte was biased low; associated blank spike recoveries are within range.
RPD3	The RPD is out of range for this spike and its duplicate due to a low or high bias of one of the two spikes.
µg/L	micrograms per liter (parts per billion concentration units)
mg/L	milligrams per liter (parts per million concentration units)
mg/kg	milligrams per kilogram (parts per million concentration units)
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
	Analysis of pH, filtration, and residual chlorine is to take place immediately after sampling in the field. If the test was performed in the laboratory, the hold time was exceeded. **(for aqueous matrices only)**

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BSK Associates Laboratory Fresno
1414 Stanislaus St
Fresno, CA 93706
559-497-2888 (Main)

AFC2843
3/31/2022
Invoice: AF08235

Julio Morales
Moore Twining Associates
2527 Fresno Street
Fresno, CA 93721

RE: Report for AFC2843 General

Dear Julio Morales,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 3/25/2022. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2016 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

This certificate of analysis shall not be reproduced except in full, without written approval of the laboratory.

If additional clarification of any information is required, please contact your Project Manager, Heather S. White , at 559-497-2888.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Heather S. White, Project Manager

Accredited in Accordance with NELAP
ORELAP #4021

Case Narrative

Project and Report Details		Invoice Details	
Client:	Moore Twining Associates	**Invoice To:**	Moore Twining Associates
Report To:	Julio Morales	**Invoice Attn:**	Julio Morales
Project #:	IC25007	**Project PO#:**	36958
Received:	3/25/2022 - 15:50		
Report Due:	3/30/2022		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 5.7

Containers Intact
COC/Labels Agree
Received On Blue Ice
Packing Material - Foam
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

SR1.0 Surrogate recovery exceeds upper control limit. No material impact as associated analytes are Non-Detect.

Report Distribution

Recipient(s)	Report Format	CC:
Julio Morales	FINAL.RPT	
Susan Federico	FINAL.RPT	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-01
Sampled By: Client
Sample Description: Af-1-1 feet // IC25007-01

Sample Date - Time: 03/24/2022 - 13:02
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	149 %	*Acceptable range: 50-150 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-02
Sampled By: Client
Sample Description: Af-2-1 feet // IC25007-03

Sample Date - Time: 03/24/2022 - 13:18
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	145 %	*Acceptable range: 50-150 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-03
Sampled By: Client
Sample Description: Af-3-1 feet // IC25007-05

Sample Date - Time: 03/24/2022 - 13:31
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	156 %	*Acceptable range: 50-150 %*			*Qualifiers - SR1.0*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-04
Sampled By: Client
Sample Description: Af-4-1 feet // IC25007-07

Sample Date - Time: 03/24/2022 - 13:46
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	154 %	*Acceptable range: 50-150 %*			*Qualifiers - SR1.0*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-05
Sampled By: Client
Sample Description: Af-5-1 feet // IC25007-09

Sample Date - Time: 03/24/2022 - 14:02
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	150 %	*Acceptable range: 50-150 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-06
Sampled By: Client
Sample Description: Af-6-1 feet // IC25007-11

Sample Date - Time: 03/24/2022 - 14:14
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	165 %	*Acceptable range: 50-150 %*			*Qualifiers - SR1.0*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-07
Sampled By: Client
Sample Description: Af-7-1 feet // IC25007-13

Sample Date - Time: 03/24/2022 - 15:05
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	160 %	*Acceptable range: 50-150 %*			*Qualifiers - SR1.0*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-08
Sampled By: Client
Sample Description: Af-8-1 feet // IC25007-15

Sample Date - Time: 03/24/2022 - 14:48
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	150 %	*Acceptable range: 50-150 %*						

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-09
Sampled By: Client
Sample Description: Af-9-1 feet // IC25007-17

Sample Date - Time: 03/24/2022 - 15:16
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	170 %	*Acceptable range: 50-150 %*			*Qualifiers - SR1.0*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-10
Sampled By: Client
Sample Description: Af-10-1 feet // IC25007-19

Sample Date - Time: 03/24/2022 - 15:30
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	158 %	*Acceptable range: 50-150 %*			*Qualifiers - SR1.0*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-11
Sampled By: Client
Sample Description: Af-11-1 feet // IC25007-21

Sample Date - Time: 03/24/2022 - 15:47
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	170 %	*Acceptable range: 50-150 %*			*Qualifiers - SR1.0*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Sample ID: AFC2843-12
Sampled By: Client
Sample Description: Af-12-1 feet // IC25007-23

Sample Date - Time: 03/24/2022 - 16:01
Matrix: Soil
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
TPH-Gasoline by GC-MS									
Gasoline Range Organics (C6-10)	LUFT GC/MS	ND	1000	ug/kg	1	AFC1725	03/28/22	03/28/22	
Surrogate: 1,2-Dichloroethane-d4	LUFT GC/MS	153 %	*Acceptable range: 50-150 %*			*Qualifiers - SR1.0*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

BSK Associates Laboratory Fresno

Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
LUFT GC/MS - Quality Control											
Batch: AFC1725										Prepared: 3/28/2022	
Prep Method: no prep-volatiles										Analyst: AMN	
Blank (AFC1725-BLK1)											
Gasoline Range Organics (C6-10)	ND	1000	ug/kg							03/28/22	
Surrogate: 1,2-Dichloroethane-d4	*69*			*50*		*139*	*50-150*			03/28/22	
Blank Spike (AFC1725-BS1)											
Gasoline Range Organics (C6-10)	7500	1000	ug/kg	5000	ND	150	50-150			03/28/22	
Surrogate: 1,2-Dichloroethane-d4	*56*			*50*		*112*	*50-150*			03/28/22	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Field tests are outside the scope of laboratory accreditation and there is no certification available for field testing.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.
- (2) - Formerly known as Bis(2-Chloroisopropyl) ether.
  Unless otherwise noted, TOC results by SM 5310C method do not include purgeable organic carbon, which is removed along with the inorganic carbon interference. The POC contribution to TOC is considered to be negligible.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Certificate of Analysis

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected below MRL/MDL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit	U:	The analyte was not detected at or above the reported sample quantitation limit.

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP program for the following parameters: **NA**

Certifications: **Please refer to our website for a copy of our Accredited Fields of Testing under each certification.**

Fresno

State of California - ELAP	1180	State of Hawaii	4021
Los Angeles CSD	9254479	NELAP certified	4021-019
State of Nevada	CA000792022-1	State of Oregon - NELAP	4021-019
EPA UCMR5	CA00079	State of Washington	C997-22a

Sacramento

State of California - ELAP	2435

San Bernardino

State of California - ELAP	2993	Los Angeles CSD	9254478
NELAP certified	4119-006	State of Oregon - NELAP	4119-006

Vancouver

NELAP certified	WA100008-014	State of Oregon - NELAP	WA100008-014
State of Washington	C824-21		

AFC2843 Moore7021 03/25/2022

3

SUBCONTRACT ORDER

Purchase Order # 36958
MTA Project # IC25007

S. 7#65

Please reference these numbers on all reports and invoices.
We also request QC data be provided with final report.

SENDING LABORATORY:	PROJECT MANAGER / REPORT TO:	RECEIVING LABORATORY:
Moore Twining Associates, Inc 2527 Fresno Street Fresno, CA 93721 Phone: (559) 268-7021 Fax: (559) 268-0740	Julio Morales JulioM@MooreTwining.com **INVOICE TO:** Denise Willis AccountsPayable@MooreTwining.com	BSK Analytical Laboratories 1414 Stanislaus St. Fresno, CA 93706 Phone: (559) 497-2888 Fax: (559) 485-6935

SAMPLE INFORMATION 777-8961 **COMMENTS / SOURCE ID**

1 **Client Sample ID: Af1-1 feet**
MTA Sample ID: IC25007-01 **Matrix:** Soil **Sampled Date/Time:** 03/24/22 13:02
Requested Analysis: TPH-G **Holding Time Expires:** 04/07/22 13:02 3-Day RUSH
Containers Supplied:
VOA Vial Unpreserved (C)

2 **Client Sample ID: Af2-1 feet**
MTA Sample ID: IC25007-03 **Matrix:** Soil **Sampled Date/Time:** 03/24/22 13:18
Requested Analysis: TPH-G **Holding Time Expires:** 04/07/22 13:18 3-Day RUSH
Containers Supplied:
VOA Vial Unpreserved (C)

3 **Client Sample ID: Af3-1 feet**
MTA Sample ID: IC25007-05 **Matrix:** Soil **Sampled Date/Time:** 03/24/22 13:31
Requested Analysis: TPH-G **Holding Time Expires:** 04/07/22 13:31 3-Day RUSH
Containers Supplied:
VOA Vial Unpreserved (C)

4 **Client Sample ID: Af4-1 feet**
MTA Sample ID: IC25007-07 **Matrix:** Soil **Sampled Date/Time:** 03/24/22 13:46
Requested Analysis: TPH-G **Holding Time Expires:** 04/07/22 13:46 3-Day RUSH
Containers Supplied:
VOA Vial Unpreserved (C)

5 **Client Sample ID: Af5-1 feet**
MTA Sample ID: IC25007-09 **Matrix:** Soil **Sampled Date/Time:** 03/24/22 14:02
Requested Analysis: TPH-G **Holding Time Expires:** 04/07/22 14:02 3-Day RUSH
Containers Supplied:
VOA Vial Unpreserved (C)

Released By	Date / Time	Received By	Date / Time
[signature] 3-25-22		[signature] MTA	3/25/22 / 1540
[signature] MTA	3/25/22 / 1550	[signature] BSK FA	3252 / 15 5.

Please email copy of receipt with your assigned Sample ID Number to JulioM@MooreTwining.com

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AFC2843 Moore7021 03/25/2022

MOORE TWINING ASSOCIATES, INC.

Analytical Chemistry Division
California ELAP Certification # 1371

Purchase Order # _____

MTA Project # IC25007

Please reference these numbers on all reports and invoices.

5.7 H6S

We also request QC data be provided with final report.

SAMPLE INFORMATION						COMMENTS / SOURCE ID
Client Sample ID:	**Af6-1 feet**					
MTA Sample ID:	IC25007-11	**Matrix:**	Soil	**Sampled Date/Time:**	03/24/22 14:14	
Requested Analysis:	TPH-G			**Holding Time Expires:**	04/07/22 14:14	3-Day RUSH
Containers Supplied:						
VOA Vial Unpreserved (C)						
Client Sample ID:	**Af7-1 feet**					
MTA Sample ID:	IC25007-13	**Matrix:**	Soil	**Sampled Date/Time:**	03/24/22 15:05	
Requested Analysis:	TPH-G			**Holding Time Expires:**	04/07/22 15:05	3-Day RUSH
Containers Supplied:						
VOA Vial Unpreserved (C)						
Client Sample ID:	**Af8-1 feet**					
MTA Sample ID:	IC25007-15	**Matrix:**	Soil	**Sampled Date/Time:**	03/24/22 14:48	
Requested Analysis:	TPH-G			**Holding Time Expires:**	04/07/22 14:48	3-Day RUSH
Containers Supplied:						
VOA Vial Unpreserved (C)						
Client Sample ID:	**Af9-1 feet**					
MTA Sample ID:	IC25007-17	**Matrix:**	Soil	**Sampled Date/Time:**	03/24/22 15:16	
Requested Analysis:	TPH-G			**Holding Time Expires:**	04/07/22 15:16	3-Day RUSH
Containers Supplied:						
VOA Vial Unpreserved (C)						
Client Sample ID:	**Af10-1 feet**					
MTA Sample ID:	IC25007-19	**Matrix:**	Soil	**Sampled Date/Time:**	03/24/22 15:30	
Requested Analysis:	TPH-G			**Holding Time Expires:**	04/07/22 15:30	3-Day RUSH
Containers Supplied:						
VOA Vial Unpreserved (C)						
Client Sample ID:	**Af11-1 feet**					
MTA Sample ID:	IC25007-21	**Matrix:**	Soil	**Sampled Date/Time:**	03/24/22 15:47	
Requested Analysis:	TPH-G			**Holding Time Expires:**	04/07/22 15:47	3-Day RUSH
Containers Supplied:						
VOA Vial Unpreserved (C)						

Released By	Date / Time	Received By	Date / Time
		BSUR	3/25/22 @ 1550
Released By	Date / Time	Received By	Date / Time

Please email copy of receipt with your assigned Sample ID Number to JulioM@MooreTwining.com

b, F

AFC2843 Moore7021 03/25/2022

3

MOORE TWINING ASSOCIATES, INC.

Analytical Chemistry Division
California ELAP Certification # 1371

Purchase Order # _____

MTA Project # IC25007

5.7 #65

Please reference these numbers on all reports and invoices.
We also request QC data be provided with final report.

SAMPLE INFORMATION					COMMENTS / SOURCE ID
Client Sample ID:	**Af12-1 feet**				
MTA Sample ID:	IC25007-23	**Matrix:**	Soil	**Sampled Date/Time:**	03/24/22 16:01
Requested Analysis:	TPH-G			**Holding Time Expires:**	04/07/22 16:01
Containers Supplied:					3-Day RUSH
VOA Vial Unpreserved (C)					

Released By	Date / Time	Received By	Date / Time
			3/25/22 0155 0
Released By	Date / Time	Received By	Date / Time

Please email copy of receipt with your assigned Sample ID Number to JulioM@MooreTwining.com

b, F

AFC2843 Moore7021 03/25/2022

BSK Associates SR-FL-0002-23

3

Sample Integrity

BSK Bottles: Yes (No) Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 8°C	(Yes) No NA	Were correct containers and preservatives received for the tests requested?	(Yes) No NA
If samples were taken today, is there evidence that chilling has begun?	Yes No (NA)	Bubbles Present VOAs (524.2/TTHM/TCP)? TB Received? (Check Method Below)	Yes No (NA) Yes No (NA)
Did all bottles arrive unbroken and intact?	(Yes) No	Was a sufficient amount of sample received?	(Yes) No
Did all bottle labels agree with COC?	(Yes) No	Do samples have a hold time <72 hours?	Yes No
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes (NA)	Was PM notified of discrepancies? PM: Heche By/Time: 6/6	(Yes) No (NA)

Bottles Received — = means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40mlVOA(V) 125ml(D)	Checks*	Passed?					
Bacti $Na_2S_2O_3$	—	—	~~5.12~~	7.12			
None (P) White Cap	—	—					
Cr6 (P) Lt. Green Label/Blue Cap NH4OH(NH4)2SO4 **DW**	Cl, pH > 8	P F					
Cr6 (P) Pink Label/Blue Cap NH4OH(NH4)2SO4 **WW**	pH 9.3-9.7	P F					
Cr6 (P) Black Label/Blue Cap NH4OH(NH4)2SO4 **7199** ***24 HOUR HOLD TIME***	pH 9.0-9.5	P F					
HNO_3 (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—	—					
H_2SO_4 (P) or (AG) Yellow Cap/Label	pH < 2	P F					
NaOH (P) Green Cap	Cl, pH >10	P F					
NaOH + ZnAc (P)	pH > 9	P F					3.28.22
Dissolved Oxygen 300ml (g)	—	—					
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—					
HCl (AG) Lt. Blue Label O&G, Diesel, **TCP**	—	—					
Ascorbic, EDTA, KH_2Ct (AG) Pink Label 525	—	—					
Na_2SO_3 250mL (AG) Neon Green Label 515	—	—					
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—	—					
$Na_2S_2O_3$ (AG) Blue Label 548, THM, 524	—	—					
$Na_2S_2O_3$ (CG) Blue Label 504, 505, 547	—	—					
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH < 3	P F					
NH_4Cl (AG) Purple Label 552	—	—					
EDA (P) or (AG) Brown Label DBPs	—	—					
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—					
Buffer pH 4 (CG)	—	—					
H_3PO_4 (CG) Salmon Label	—	—					
Trizma – EPA 537.1 - **Field Blank Required**							
Other:							
Asbestos 1L (P) w/ Foil / LL Metals Bottle	—	—					3/25/22
Bottled Water	—	—					
Clear Glass	—	—	IV				
Solids: Brass / Steel / Plastic Bag	—	—					

* NO COC RECEIVED

Split

	Container	Preservative	Lot #	Initials	Date/Time
S P					
S P					

Preservation Check
pH Lot #
Cl Lot #

Comments

*Preservation check completed by lab performing analysis.

Only received Aff the COCs Em 3/25/22
PB 2&3 Rec @ 1650 g
VIA Email

✓ **Indicates Blanks Received**

504 ___ 524.2 ___ TTHM ___ 537.1 ___ TCP___

✓ **MS/MSD Received Method:** _____

Scanned: _____ Rush/Short HT Page: _____ Time: _____

MOORE TWINING

CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 4 IC25007
PAGE 1 **OF** 4

REPORT TO:	☐ INVOICE TO:	☐ REPORT COPY TO:	REPORTING:
ATTENTION: Katie Lister	ATTENTION: Katie Lister		☑ STANDARD FORMAT ☐ PDF
COMPANY NAME: Moore Twining Associates	COMPANY NAME: Moore Twining Associates		☐ EDT (SWRCB) ☐ EXCEL
ADDRESS: 2527 Fresno Street	ADDRESS: 2527 Fresno Street		☐ GEOTRACKER/COELT (LUFT) GLOBAL ID:
Fresno, CA 93721	Fresno, CA 93721		☐ COUNTY ENVIRONMENTAL HEALTH:
PHONE: (559)268-7021	PHONE: (559)268-7021		☑ STATE WATER RESOURCES CONTROL BOARD:
EMAIL / FAX:	EMAIL / FAX:		☐ OTHER:

SAMPLE INFORMATION

SAMPLED BY (PRINT): Thomas Harris
SIGNATURE:

☐ PUBLIC SYSTEM ☐ ROUTINE
☐ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☐ STANDARD
☑ RUSH, DUE ON: 03-30-2022

SAMPLE TYPES

SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION

CONTRACT / P.O. NO.:
PROJECT: Cherry 2 Soil AF
PROJECT NUMBER: C64413.0100
PROJECT MANAGER: Katie Lister

ANALYSIS REQUESTED

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLES(S) DAMAGED
☒ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION
5.5

LAB USE	CLIENT SAMPLE ID	DATE	TIME	TYPE	TPH g / d / mo	VOCs 8260	CAM17	HOLD							STATION CODE
1	Af1-1'	03-24-22	1302	SL	x	x	x								
2	Af1-2'		1307	SL				x							
3	Af2-1'		1318	SL	x	x	x								
4	Af2-2'		1321	SL				x							
5	Af3-1'		1331	SL	x	x	x								
6	Af3-2'		1337	SL				x							
7	Af4-1'		1346	SL	x	x	x								
8	Af4-2'		1350	SL				x							
9	Af5-1'		1402	SL	x	x	x								
10	Af5-2'		1405	SL				x							

COMMENTS / ADDITIONAL INSTRUCTIONS:

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
		3.24.22	1600	[illegible]	MTA

Payment for services rendered as noted herein are due in full within 30 days from the date invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are either the Client or an authorized agent to the Client, that the Client agrees to be responsible for payment for the services on this Chain of Custody and agrees to MTA's terms and conditions for laboratory services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

FL-SC-0005-04 A

MOORE TWINING — CHAIN OF CUSTODY / ANALYSIS REQUEST

2527 FRESNO STREET • FRESNO, CA 93721 • PHONE (559) 268-7021 • FAX: (559) 268-0740

ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 1C25007
PAGE 2 **OF** 4

REPORT TO:	☐ INVOICE TO:	☐ REPORT COPY TO:	REPORTING:
ATTENTION: Katie Lister	ATTENTION: Katie Lister		☑ STANDARD FORMAT ☐ PDF
COMPANY NAME: Moore Twining Associates	COMPANY NAME: Moore Twining Associates		☐ EDT (SWRCB) ☐ EXCEL
ADDRESS: 2527 Fresno Street	ADDRESS: 2527 Fresno Street		☐ GEOTRACKER/COELT (LUFT) GLOBAL ID:
Fresno, CA 93721	Fresno, CA 93721		☐ COUNTY ENVIRONMENTAL HEALTH:
PHONE: (559)268-7021	PHONE: (559)268-7021		☑ STATE WATER RESOURCES CONTROL BOARD:
EMAIL / FAX:	EMAIL / FAX:		☐ OTHER:

SAMPLE INFORMATION

SAMPLED BY (PRINT): Thomas Harris
SIGNATURE:

☐ PUBLIC SYSTEM ☐ ROUTINE
☐ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☐ STANDARD
☑ RUSH, DUE ON: 03-30-2022

SAMPLE TYPES

SOLID:
BS - BIOSOLID
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SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
GW - GROUND WATER
OL - OIL
SF - SURFACE WATER
ST - STORM WATER
WW - WASTEWATER

PROJECT INFORMATION

CONTRACT / P.O. NO.:
PROJECT: Cherry 2 Soil AF
PROJECT NUMBER: C64413.0100
PROJECT MANAGER: Katie Lister

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLES(S) DAMAGED
☒ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION
5.5

	CLIENT SAMPLE ID	DATE	TIME	TYPE	TPH g / d / mo	VOCs 8260	CAM17	HOLD	STATION CODE
11	Af6-1'	03-24-22	1414	SL	x	x	x		
12	Af6-2'		1418	SL				x	
13	Af7-1'		1502	SL	x	x	x		
14	Af7-2'		1505	SL				x	
15	Af8-1'		1448	SL	x	x	x		
16	Af8-2'		1452	SL				x	
17	Af9-1'		1516	SL	x	x	x		
18	Af9-2'		1520	SL				x	
19	Af10-1'		1530	SL	x	x	x		
20	Af10-2'		1536	SL				x	

COMMENTS / ADDITIONAL INSTRUCTIONS:

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
		3.25.22	1100		MTA

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MOORE TWINING

CHAIN OF CUSTODY / ANALYSIS REQUEST

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ANALYTICAL CHEMISTRY DIVISION
CALIFORNIA ELAP CERTIFICATION # 1371

WORK ORDER #: 1C25007
PAGE 3 **OF** 4

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Fresno, CA 93721	Fresno, CA 93721		☐ COUNTY ENVIRONMENTAL HEALTH:
PHONE: (559)268-7021	PHONE: (559)268-7021		☑ STATE WATER RESOURCES CONTROL BOARD:
EMAIL / FAX:	EMAIL / FAX:		☐ OTHER:

SAMPLE INFORMATION

SAMPLED BY (PRINT): Thomas Harris
SIGNATURE:

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☐ PRIVATE WELL ☐ REPEAT
☐ OTHER ☐ REPLACEMENT

TURN AROUND TIME
☐ STANDARD
☑ RUSH, DUE ON: 03-30-2022

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SOLID:
BS - BIOSOLID
CR - CERAMIC
SL - SOIL/SOLID
LIQUID:
DW - DRINKING WATER
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WW - WASTEWATER

PROJECT INFORMATION

CONTRACT / P.O. NO.:
PROJECT: Cherry 2 Soil AF
PROJECT NUMBER: C64413.0100
PROJECT MANAGER: Katie Lister

ANALYSIS REQUESTED

LAB USE

NOTES ON RECEIVED CONDITION:
☐ CUSTODY SEAL(S) BROKEN ☐ SAMPLE(S) DAMAGED
☑ ON ICE ☐ AMBIENT TEMP. ☐ INCORRECT PRESERVATION
5.5

	CLIENT SAMPLE ID	DATE	TIME	TYPE	TPH g / d / mo	VOCs 8260	CAM17	HOLD	STATION CODE
21	Af11-1'	03-24-22	1547	SL	x	x	x		
22	Af11-2'	"	1552	SL				x	
23	Af12-1'	"	1601	SL	x	x	x		
24	Af12-2'	"	1606	SL				x	

COMMENTS / ADDITIONAL INSTRUCTIONS:

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY
		3-25-22	1100	[signature]	MTA

Payment for services rendered as noted herein are due in full within 30 days from the date invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service charges and interest specified in MTA's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are either the Client or an authorized agent to the Client, that the Client agrees to be responsible for payment for the services on this Chain of Custody and agrees to MTA's terms and conditions for laboratory services unless contractually bound otherwise. MTA's current terms and conditions can be obtained by contacting our accounting department at (559) 268-7021.

Sample Integrity — Page 4 of 4 — Moore Twining Associates — WO# 1C25007 — MTA Bottles: Yes or No

COC Info

Was temperature within range? Chemistry ≤6°C Micro <10°C Temp 5.5 °C	Yes No N/A	Did all bottle labels agree with COC?	Yes No N/A	Were there bubbles in VOA vials? (**Volatiles Only**)	Yes No N/A
If samples were taken today, is there evidence that chilling has begun? Recvd 5.5 C°	Yes No N/A	Was a sufficient amount of sample received?	Yes No N/A	Was PM notified of discrepancies? PM: By/Time:	Yes No N/A
Did all bottles arrive unbroken and intact?	Yes No N/A	Were correct containers and preservatives received for the tests requested?	Yes No N/A		
Do samples have a hold time <72 hours?	Yes No N/A				

Bottles Received

| | | | | | | |

APPENDIX E

Mitigation Monitoring and Reporting Program (MMRP)

July 2022

MITIGATION MONITORING AND REPORTING PROGRAM

CHERRY SOLAR PROJECT

CUP 22-05

COUNTY OF KINGS, CALIFORNIA

JULY 2022

MITIGATION MONITORING AND REPORTING PROGRAM

Cherry Solar Project CUP 22-05

Mitigation Measure	Responsible Party/ Timing/Action	Monitoring Agency/ Timing/Action	Verification Log
4.2. AGRICULTURE AND FORESTRY RESOURCES			
Mitigation Measure AG-1: Agricultural Management Plan. Prior to the issuance of a building permit, the applicant shall submit to Kings County an Agricultural Management Plan (AMP) that provides for the ongoing agricultural productivity of the entire project site for the life of the project. The AMP shall specify that at least 90 percent of this area of the site shall be vegetated with grasses and forbs and shall be managed for dry farm seasonal sheep grazing. The AMP shall include specific provisions for soil preparation and revegetation including specifications for a seed mix which is appropriate to the soil and climatic conditions in the absence of irrigation, methods of avoiding invasive species, and a list of acceptable vegetation that meets the dietary needs of sheep. The AMP shall include detailed provisions to ensure the successful establishment of the planned vegetative cover, and shall identify appropriate maintenance activities, including conditions under which herbicides may be used, and particularly the identification and selection of herbicides that are non-toxic to livestock and wildlife. The AMP shall also prescribe the management practices for sheep grazing. The AMP shall include provisions for ongoing monitoring and annual reporting of agricultural activity on the site to the Kings County Community Development Agency. The AMP shall also comply with the requirements of the Kings County Development Code related to weed abatement and pest control.	Responsible Party: Applicant/Operator *Actions:* Prior to Building Permit Issuance: Prepare and submit AMP to Kings County CDA. During Project Operation: Implement AMP as approved by Kings County CDA.	Monitoring Agency: Kings County Community Development Agency (CDA). *Actions:* Prior to Building Permit Issuance: Verify that AMP is complete and in compliance with County requirements. During Project Operation: Conduct field inspections to verify implementation of AMP as approved.	
Mitigation Measure AG-2: Soil Reclamation Plan. Prior to the issuance of a building permit, the applicant shall submit, for review and approval by the Kings County Community Development Agency, a Soil Reclamation Plan (Plan) for the restoration of the entire project site at the end of the project's useful life. The Plan shall contain an analysis of general pre-construction conditions of the project site, and the site shall be photographically documented by the applicant prior to the start of construction. The Plan shall contain specific measures to restore the soil to approximate its pre-project condition, including: (1) removal of all above-ground and below-ground project fixtures, equipment, and non-agricultural driveways; (2) tilling to restore the sub-grade material to a density and depth consistent with its pre-project condition; (3) revegetation using a Kings County-approved grasses and forbs seed mixture designed to maximize revegetation with noninvasive species shall be broadcast or drilled across the project site; and (4) application of weed-free mulch spread, as needed, to stabilize the soil until germination occurs and young plants are established to facilitate moisture retention in the soil. Whether the project area has been restored to pre-construction conditions would be assessed by Kings County staff. Additional seedlings and applications of weed-free mulch shall be applied to areas of the project site that have been determined to be unsuccessfully reclaimed (i.e., restored to pre-project conditions) until the entire project area has been restored to conditions equivalent to pre-construction conditions.	Responsible Party: Applicant/Operator *Actions:* Prior to Building Permit Issuance: Prepare and submit Soil Reclamation Plan to Kings County CDA. During Project Decommissioning: Implement Soil Reclamation Plan as approved by Kings County CDA.	Monitoring Agency: Kings County CDA. *Actions:* Prior to Building Permit Issuance: Verify that Soil Reclamation Plan is complete and in compliance with County requirements. During Project Decommissioning: Conduct field inspections to verify implementation Soil Reclamation Plan as approved.	

MITIGATION MONITORING AND REPORTING PROGRAM

Cherry Solar Project CUP 22-05

Mitigation Measure	Responsible Party/ Timing/Action	Monitoring Agency/ Timing/Action	Verification Log
4.2. AGRICULTURE AND FORESTRY RESOURCES			
(*Continued*) All waste shall be recycled and disposed of in compliance with applicable law. The applicant shall verify the completion of reclamation within 18 months after expiration of the project use permit with Planning Division staff.			
Mitigation Measure AG-3: Financial Assurance. Prior to the issuance of a building permit, the applicant shall either post a performance or cash bond, submit a Certificate of Deposit, submit a letter of credit, or provide such other financial assurances acceptable to the County, in an amount provided in an Engineer's Cost Estimate, approved by the Kings County Community Development Agency, to ensure completion of the activities under the Soil Reclamation Plan. Every 5 years from the date of completion of construction of the project, the applicant shall submit an updated Engineer's Cost Estimate for financial assurances for the Plan, which will be reviewed every 5 years by the Kings County Community Development Agency to determine if amount of the assurances is sufficient to implement the Plan. The amount of the assurances must be adjusted if, during the five-year review, the amount is determined to be insufficient to implement the Plan.	Responsible Party: Applicant/Operator *Actions:* Prior to Building Permit Issuance: Submit financial assurance to Kings County CDA. Every Five Years: Prepare and submit revised Engineer's Cost Estimate, and submit adjusted financial assurance to Kings County CDA.	Monitoring Agency: Kings County CDA. *Actions:* Prior to Building Permit Issuance: Verify that acceptable financial assurance has been provided. Every Five Years: Verify completion of revised Engineer's Cost Estimate and confirm adjustment of the amount of assurance.	
4.3. AIR QUALITY			
Mitigation Measure AQ-1: Control of Construction Emissions. During project grading and construction, utilize mobile off-road diesel construction equipment that meets US EPA Tier 4 interim or Tier 4 final engine standards for emissions of NOx to the extent feasible.	Responsible Party: Applicant/Contractor *Actions:* During Project Construction: Utilize Tier 3 or Tier 4 equipment to the extent practicable. Maintain daily records of equipment use, including daily hours of Tier 3 and Tier 4 equipment use, by equipment type.	Monitoring Agency: Kings County Public Works Department. *Actions:* During Project Construction: Conduct field inspections to verify utilization of Tier 3 or Tier 4 equipment.	

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Mitigation Measure	Responsible Party/ Timing/Action	Monitoring Agency/ Timing/Action	Verification Log
4.4 BIOLOGICAL RESOURCES			
Mitigation Measure BIO-1: San Joaquin Kit Fox Protection. In order to minimize the potential for impacts to San Joaquin kit fox, the following measures shall be implemented in conjunction with the construction of the Cherry Solar Project: a. Pre-construction Surveys. Pre-construction surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance, construction activities, and/or any project activity likely to impact the San Joaquin kit fox. These surveys shall be conducted in accordance with the "U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior To or During Ground Disturbance" (USFWS 2011). The primary objective is to identify kit fox habitat features (e.g., potential dens and refugia) on the project site and evaluate their use by San Joaquin kit fox. If an active San Joaquin kit fox den is detected within or immediately adjacent to the area of work, the USFWS shall be contacted immediately to determine the best course of action. b. Kit Fox Avoidance Measures. Should San Joaquin kit fox be found using the Cherry Solar Project site during preconstruction surveys, the construction activity shall avoid the habitat occupied by kit fox and the Sacramento Field Office of the USFWS and the Fresno Field Office of CDFW shall be notified. c. Employee Education Program. Prior to the start of construction, the applicant shall retain a qualified biologist to conduct an on-site training session to educate all construction staff on the San Joaquin kit fox. This training shall include a description of the San Joaquin kit fox, a brief summary of their biology; and a list of minimization measures and instructions on what to do if a San Joaquin kit fox is observed within the Cherry Solar Project site. d. Minimization of Potential Disturbance to Kit Fox. Whether or not kit foxes are found to be present, all permanent and temporary construction activities and other types of project-related activities shall be carried out in a manner that minimizes disturbance to San Joaquin kit fox. Minimization measures include, but are not limited to: restriction of project-related vehicle traffic to established roads, construction areas, and other designated areas; inspection and covering of structures (e.g., pipes), as well as installation of escape structures, to prevent the inadvertent entrapment of San Joaquin kit fox; restriction of rodenticide and herbicide use; and proper disposal of food items and trash. (*Continued on next page.*)	Responsible Party: Applicant/Contractor/ Operator *Actions:* Prior to Construction: 1) Authorize qualified biologist to conduct preconstruction surveys; 2) If kit fox found on or near site, undertake avoidance measures and notify USFWS and CDFW; 3) Direct qualified biologist to conduct employee education program. (*Continued*)	Monitoring Agency: Kings County CDA. *Actions:* Prior to Construction: 1) Verify completion of pre-construction surveys; 2) Verify that avoidance measures have been implemented if kit fox found on site; 3) Verify completion of employee education prior to ground disturbing activities. (*Continued*)	

Mitigation Measure	Responsible Party/ Timing/Action	Monitoring Agency/ Timing/Action	Verification Log
4.4 BIOLOGICAL RESOURCES (CONT'D)			
(*Continued from preceding page*.) The full list of protection measures required by the USFWS during construction and operation contained in USFWS Standardized Recommendations (USFWS 2011), and is presented in Table BIO-1. The protection measures set forth in Table BIO-1 are fully incorporated into this mitigation measure by reference. e. Mortality Reporting. The Sacramento Field Office of the USFWS and the Fresno Field Office of CDFW will be notified in writing within three working days in case of the accidental death of or injury to a San Joaquin kit fox during project-related activities. Notification must include the date, time, location of the incident or of the finding of a dead or injured animal, and any other pertinent information. f. Wildlife-friendly Fencing. The perimeter fencing surrounding each phase of the Cherry Solar Project shall consist of wildlife-friendly or permeable fencing that allows San Joaquin kit fox and other wildlife to move through the site unimpeded. The bottom of the perimeter fencing shall be 5 to 7 inches above the ground, as measured from the top of the ground to the lowest point of the fence. The bottom of the fence edges shall be knuckled (wrapped back to form a smooth edge) to allow wildlife to pass through safely. The fencing shall not be electrified.	During Construction: 1) Install wildlife-friendly fencing; 2) Implement disturbance minimization measures, as specified; 3) Report any kit fox mortalities as specified. During Project Operation: 1) Report any kit fox mortalities as specified.	During Construction: 1) Conduct field inspections to verify installation of wildlife friendly fencing; 2) Conduct field inspections to confirm disturbance minimization measures have been implemented; 3) Verify that any kit fox mortalities have been reported as required. During Project Operation: 1) Verify that any kit fox mortalities have been reported as required.	

Table BIO-1

U.S. FISH AND WILDLIFE SERVICE STANDARDIZED RECOMMENDATIONS FOR PROTECTION OF THE ENDANGERED SAN JOAQUIN KIT FOX PRIOR TO OR DURING GROUND DISTURBANCE

CONSTRUCTION AND ON-GOING OPERATIONAL REQUIREMENTS

1. Project-related vehicles should observe a daytime speed limit of 20-mph throughout the site in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active. Night-time construction should be minimized to the extent possible. However if it does occur, then the speed limit should be reduced to 10-mph. Off-road traffic outside of designated project areas should be prohibited.
2. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of a project, all excavated, steep-walled holes or trenches more than 2-feet deep should be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the Service and the California Department of Fish and Wildlife (CDFW) shall be contacted as noted under measure 13 referenced below.
3. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the USFWS has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.
4. All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers and removed at least once a week from a construction or project site.
5. No firearms shall be allowed on the project site.
6. No pets, such as dogs or cats, should be permitted on the project site to prevent harassment, mortality of kit foxes, or destruction of dens.
7. Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the USFWS. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to kit fox. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative will be identified during the employee education program and their name and telephone number shall be provided to the USFWS.
8. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative will be identified during the employee education program and their name and telephone number shall be provided to the USFWS

(*Continued on next page.*)

Table BIO-1 (Cont'd)

U.S. FISH AND WILDLIFE SERVICE STANDARDIZED RECOMMENDATIONS FOR PROTECTION OF THE ENDANGERED SAN JOAQUIN KIT FOX PRIOR TO OR DURING GROUND DISTURBANCE

CONSTRUCTION AND ON-GOING OPERATIONAL REQUIREMENTS

9. An employee education program should be conducted for any project that has anticipated impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and/or agency personnel involved in the project. The program should include the following: A description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this information should be prepared for distribution to the previously referenced people and anyone else who may enter the project site.
10. Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc., should be re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with the USFWS, California Department of Fish and Wildlife (CDFW), and revegetation experts.
11. In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or the USFWS should be contacted for guidance.
12. Any contractor, employee, or military or agency personnel who are responsible for inadvertently killing or injuring a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the CDFW immediately in the case of a dead, injured or entrapped kit fox. The CDFW contact for immediate assistance is State Dispatch at (916) 445-0045. They will contact the local warden or Mr. Paul Hoffman, the wildlife biologist, at (530) 934-9309. The USFWS should be contacted at the numbers below.
13. The Sacramento Fish and Wildlife Office and CDFW shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The USFWS contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFW contact is Mr. Paul Hoffman at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.
14. New sightings of kit fox shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed should also be provided to the Service at the address below.

Any project-related information required by the Service or questions concerning the above conditions or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at:

Endangered Species Division
2800 Cottage Way, Suite W2605
Sacramento, California 95825-1846
(916) 414-6620 or (916) 414-6600

Mitigation Measure	Responsible Party/ Timing/Action	Monitoring Agency/ Timing/Action	Verification Log
4.4 BIOLOGICAL RESOURCES (CONT'D)			
Mitigation Measure BIO-2: Protection for Nesting Raptors and Migratory Birds. In order to minimize construction disturbance to active raptor and other migratory bird nests, the following measures shall be implemented in conjunction with the construction of the Cherry Solar Project: a. Pre-construction Surveys. If tree removal, site preparation, grading, or construction is planned to occur within the breeding season (February 1 - August 31), a qualified biologist shall conduct pre-construction surveys for active migratory bird nests within 10 days of the onset of these activities. If construction activity is planned to commence outside the breeding period, no pre-construction surveys are required for nesting birds and raptors. b. Monitoring Active Nests. Should any active nests be discovered in or near planned construction zones, a qualified biologist shall continuously monitor identified nests for the first 24 hours prior to any construction related activities to establish a behavioral baseline. Once work commences, continuously monitor all nests to detect any behavioral changes as a result of the project. If behavioral changes are observed, stop the work causing that change and consult with the California Department of Fish and Wildlife for additional avoidance and minimization measures. c. Exclusion Zones for Active Nests. Alternatively, should any active nests be discovered in or near the planned construction zones, the biologist shall establish a 250-foot construction-free buffer around the nest for non-listed birds, 500-foot buffer for unlisted raptors, and a half-mile for listed bird species. This buffer shall be identified on the ground with flagging or fencing, and shall be maintained until the biologist has determined that the young have fledged. Variance from these setback distances may be allowed if a qualified biologist provides compelling biological or ecological reason to do so and if CDFW is notified in advance of implementation of a no disturbance buffer variance. d. Tailgate Training for Workers. All construction and operations workers on the Cherry Solar Project shall be trained by a qualified biologist. The tailgate training shall include a description of the Migratory Bird Treaty Act, instructions on what to do if an active nest is located, and the importance of capping pipes and pipe-like structures standing upright in order to avoid birds falling into the pipes and getting stuck. (*Continued on next page.*)	Responsible Party: Applicant/Contractor *Actions:* Prior to Construction: 1) Authorize qualified biologist to conduct preconstruction surveys; 2) If active nest(s) found on or near site, authorize biologist to monitor nest(s) and notify CDFW, as needed; OR 3) Authorize biologist to establish exclusion zone around nest(s), as needed; 4) Direct qualified biologist to conduct employee education program. (*Continued*)	Monitoring Agency: Kings County CDA. *Actions:* Prior to Construction: 1) Verify completion of pre-construction surveys; 2) Verify that nest protection measures have been implemented if nest(s) found on site; 3) Verify completion of employee education prior to ground disturbing activities. (*Continued*)	

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Mitigation Measure	Responsible Party/ Timing/Action	Monitoring Agency/ Timing/Action	Verification Log
4.4 BIOLOGICAL RESOURCES (CONT'D)			
(*Continued from preceding page*.) e. Capping of Hollow Poles and Posts. Should any vertical tubes, such as solar mount poles, chain link fencing poles, or any other hollow tubes or poles be utilized on the Cherry Solar Project site, the poles shall be capped immediately after installation to prevent entrapment of birds.	During Construction: 1) Ensure that all hollow poles and posts are capped.	During Construction: 1) Conduct field inspection to confirm capping of poles and posts.	
Mitigation Measure BIO-3: Burrowing Owl Protection. In order to minimize the potential for impacts to burrowing owls, the following measures shall be implemented, as necessary, in conjunction with the construction of the Cherry Solar Project: a. Pre-Construction Surveys. Pre-construction surveys shall be conducted by a qualified biologist no more than 14 days prior to the onset of ground-disturbing activity. Pre-construction surveys shall be repeated if construction halts for more than 14 days. These surveys shall be conducted in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012) or the most recent CDFW guidelines. The surveys shall cover all areas of suitable habitat within the planned construction zones. b. Avoidance of Active Nests during Breeding Season. If pre-construction surveys are undertaken during the breeding season (February through August) and active nest burrows are located within or near construction zones, a construction-free buffer *of 150 to 250 feet* shall be established around all active owl nests. The specific dimensions of the exclusion zone in each case shall be established by a qualified biologist based on site conditions and the level of intensity of the disturbance activity. The buffer zones shall be enclosed with temporary fencing, and construction equipment and workers shall not be allowed to enter the enclosed setback areas. These buffer zones shall remain in place for the duration of the breeding season. After the breeding season (i.e., once all the young have left the nest), passive relocation of any remaining owls may take place, but only under the conditions described below. (*Continued on next page*.)	Responsible Party: Applicant/Contractor *Actions:* Prior to Construction: 1) Authorize qualified biologist to conduct preconstruction surveys; 2) If active nest(s) found on or near site, authorize biologist to establish exclusion zone(s) around nest(s); (*Continued*)	Monitoring Agency: Kings County CDA. *Actions:* Prior to Construction: 1) Verify completion of pre-construction surveys; 2) Conduct field inspection to verify establishment of any exclusion zone(s); (*Continued*)	

Mitigation Measure	Responsible Party/ Timing/Action	Monitoring Agency/ Timing/Action	Verification Log
4.4 BIOLOGICAL RESOURCES (CONT'D)			
(*Continued from preceding page*.) c. Avoidance of Occupied Burrows during Non-Breeding Season, and Passive Relocation of Resident Owls. During the non-breeding season (September through January), any burrows occupied by resident owls in areas planned for construction shall be protected by a construction-free buffer with a radius of 150 feet around each active burrow. Passive relocation of resident owls is not recommended by CDFW where it can be avoided. If passive relocation is not avoidable, resident owls may be passively relocated according to a relocation plan prepared by a qualified biologist. d. Tailgate Training for Workers. All construction workers shall attend a tailgate training session conducted by a qualified biologist. The training is to include a description of the species, a brief summary of its biology, and minimization measures and instructions on what to do if a burrowing owl is observed within or near a construction zone.	3) Direct qualified biologist to conduct employee education program; 4) Implement mitigation, as needed, per recommendation of qualified biologist.	3) Verify completion of employee education prior to ground disturbing activities; 4) Verify implementation of any required mitigation.	
Mitigation Measure BIO-4: Swainson's Hawk Protection. In order to minimize the potential for impacts to Swainson's hawks, the following measures shall be implemented, as necessary, in conjunction with the construction of the Cherry Solar Project: a. Pre-Construction Surveys. During the nesting season prior to the construction on the Cherry Solar Project site, preconstruction surveys shall be conducted within a half-mile of a potential nest tree located on and within a half-mile of the project site to identify any nesting pairs of Swainson's hawks. These surveys will conform to the guidelines of CDFW as presented in *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley,* Swainson's Hawk Technical Advisory Committee, May 31, 2000. No preconstruction surveys are required for construction activity located farther than a half-mile from a potential nest tree. (Continued on next page.)	Responsible Party: Applicant/Contractor Actions: Prior to Construction: 1) Authorize qualified biologist to conduct preconstruction surveys; (*Continued*)	Monitoring Agency: Kings County CDA. Actions: Prior to Construction: 1) Verify completion of pre-construction surveys; (*Continued*)	

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Mitigation Measure	Responsible Party/ Timing/Action	Monitoring Agency/ Timing/Action	Verification Log
4.4 BIOLOGICAL RESOURCES (CONT'D)			
(*Continued from preceding page.*) b. Establish Buffers. Should any active nests be discovered in or near proposed construction zones, the qualified biologist shall establish a suitable construction-free buffer around the nest. This buffer shall be identified on the ground with flagging or fencing, and shall be maintained until the biologist has determined that the young have fledged. c. Tailgate Training. All workers on the construction of the project shall attend tailgate training that includes a description of the species, a brief summary of its biology, and minimization measures and instructions on what to do if a Swainson's hawk is observed on or near the construction zone.	2) If active nest(s) found on or near site, authorize biologist to establish exclusion zone(s) around nest(s); 3) Direct qualified biologist to conduct employee education program.	2) Conduct field inspection to verify establishment of any exclusion zone(s); 3) Verify completion of employee education prior to ground disturbing activities.	
Mitigation Measure BIO-5: American Badger Mitigation. The following measures shall be implemented to minimize impacts to the American badger, as necessary, in conjunction with the construction of the Cherry Solar Project: a. Preconstruction Surveys for American Badger. During the course of pre-construction surveys prescribed for other species, a qualified biologist shall also determine the presence or absence of badgers prior to the start of construction. If badgers are found to be absent, a report shall be written to the applicant so stating and no other mitigations for the protection of badgers would be warranted. b. Avoidance of Active Badger Dens and Monitoring. If an active badger den is identified during pre-construction surveys within or immediately adjacent to an area subject to construction, a construction-free buffer of up to 300 feet shall be established around the den. Once the biologist has determined that the badger(s) have vacated the burrow, the burrow can be collapsed or excavated, and ground disturbance can proceed. Should the burrow be determined to be a natal or reproductive den, and because badgers are known to use multiple burrows in a breeding burrow complex, a biological monitor shall be present on-site during construction activities in the vicinity of the burrows to ensure the buffer is adequate to avoid direct impact to individuals or natal/reproductive den abandonment. The monitor shall be required to be present on-site until it is determined that young are of an independent age and construction activities would not harm individual badgers. (*Continued on next page*.)	Responsible Party: Applicant/Contractor *Actions:* Prior to Construction: 1) Authorize qualified biologist to conduct preconstruction surveys; 2) If active den(s) found on or near site, authorize biologist to establish exclusion zone(s) around den(s), and to monitor den(s) until end of breeding period; (*Continued*)	Monitoring Agency: Kings County CDA. *Actions:* Prior to Construction: 1) Verify completion of pre-construction surveys; 2) Conduct field inspection to verify establishment of any exclusion zone(s); (*Continued*)	

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Mitigation Measure	Responsible Party/ Timing/Action	Monitoring Agency/ Timing/Action	Verification Log
4.4 BIOLOGICAL RESOURCES (CONT'D)			
(*Continued from preceding page*.) c. Tailgate Training for Workers. All construction workers shall attend a tailgate training session conducted by a qualified biologist. The training is to include a description of the species, a brief summary of its biology, and minimization measures and instructions on what to do if an American Badger is observed.	3) Direct qualified biologist to conduct employee education program.	3) Verify completion of employee education prior to ground disturbing activities.	
4.5 CULTURAL RESOURCES			
Mitigation Measure CR-1: Protection of Cultural Resources. In order to avoid the potential for impacts to historic and prehistoric archaeological resources, the following measures shall be implemented, as necessary, in conjunction with the construction of the Cherry Solar Project: a. Cultural Resources Alert on Project Plans: The project proponent shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources. b. Pre-Construction Briefing: The project proponent shall retain Santa Rosa Rancheria Cultural Staff to provide a pre-construction Cultural Sensitivity Training to construction staff regarding the discovery of cultural resources and the potential for discovery during ground disturbing activities, which will include information on potential cultural material finds and on the procedures to be enacted if resources are found. c. Stop Work Near any Discovered Cultural Resources: The project proponent shall retain a professional archaeologist on an "on-call" basis during ground disturbing construction for the project to review, identify and evaluate cultural resources that may be inadvertently exposed during construction. Should previously unidentified cultural resources be discovered during construction of the project, the project proponent shall cease work within 100 feet of the resources, and Kings County Community Development Agency (CDA) shall be notified immediately. The archaeologist shall review and evaluate any discoveries to determine if they are historical resource(s) and/or unique archaeological resources under CEQA. (*Continued on next page*.)	Responsible Party: Applicant/Contractor *Actions:* Prior to Issuance of Building Permit: 1) Place Cultural Resources Alert on project plans. Prior to Construction: 1) Arrange for Tribe to conduct pre-construction briefing. During Construction: 1) If cultural resources discovered, establish 100-foot setback zone and contact archaeologist and Kings County CDA; (*Continued*)	Monitoring Agency: Kings County CDA. *Actions:* Prior to Issuance of Building Permit: 1) Confirm Cultural Resources Alert has been placed on project plans. Prior to Construction: 1) Verify Tribe has completed briefing prior to construction. During Construction: 1) Coordinate with applicant/contractor and archaeologist to ensure protection of cultural resources; (*Continued*)	

Mitigation Measure	Responsible Party/ Timing/Action	Monitoring Agency/ Timing/Action	Verification Log
4.5 CULTURAL RESOURCES (CONT'D)			
(*Continued from preceding page*.) d. Mitigation for Discovered Cultural Resources: If the professional archaeologist determines that any cultural resources exposed during construction constitute a historical resource and/or unique archaeological resource, he/she shall notify the project proponent and other appropriate parties of the evaluation and recommended mitigation measures to mitigate the impact to a less-than-significant level. Mitigation measures may include avoidance, preservation in-place, recordation, additional archaeological testing and data recovery, among other options. Treatment of any significant cultural resources shall be undertaken with the approval of the Kings County CDA. The archaeologist shall document the resources using DPR 523 forms and file said forms with the California Historical Resources Information System, Southern San Joaquin Valley Information Center. The resources shall be photo-documented and collected by the archaeologist for submittal to the Santa Rosa Rancheria's Cultural and Historical Preservation Department. The archaeologist shall be required to submit to the County for review and approval a report of the findings and method of curation or protection of the resources. Further grading or site work within the area of discovery shall not be allowed until the preceding steps have been taken. e. Native American Monitoring: Prior to any ground disturbance, the project proponent shall offer the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during ground disturbing activities during both construction and decommissioning. Tribal participation would be dependent upon the availability and interest of the Tribe. f. Disposition of Cultural Resources: Upon coordination with the Kings County Community Development Agency, any prehistoric archaeological artifacts recovered shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resources laws and guidelines.	2) Coordinate with Kings County CDA, archaeologist, and Santa Rosa Rancheria Tachi Yokut Tribe regarding appropriate mitigation; 3) Coordinate with Santa Rosa Rancheria Tachi Yokut Tribe regarding monitoring during construction; 4) Coordinate with Kings County CDA and Santa Rosa Rancheria Tachi Yokut Tribe regarding appropriate disposition of any cultural resources recovered from the site.	2) Coordinate with applicant, archaeologist, and Santa Rosa Rancheria Tachi Yokut Tribe regarding appropriate mitigation; 3) Verify applicant has coordinated with Santa Rosa Rancheria Tachi Yokut Tribe regarding monitoring during construction; 4) Coordinate with applicant and Santa Rosa Rancheria Tachi Yokut Tribe regarding appropriate disposition of any cultural resources recovered from the site.	

Mitigation Measure	Responsible Party/ Timing/Action	Monitoring Agency/ Timing/Action	Verification Log
4.5 CULTURAL RESOURCES (CONT'D)			
Mitigation Measure CR-2: Protection of Buried Human Remains. In order to avoid the potential for impacts to buried human remains, the following measures shall be implemented, as necessary, in conjunction with the construction of each phase of the Cherry Solar Project: a. Pursuant to State Health and Safety Code Section 7050.5(e) and Public Resources Code Section 5097.98, if human bone or bone of unknown origin is found at any time during on- or off-site construction, all work shall stop within 25 feet of the discovery and the Kings County Coroner shall be notified immediately and the resource shall be protected in compliance with applicable state and federal laws. If the remains are determined to be Native American, the Coroner shall notify the California State Native American Heritage Commission (NAHC), who shall identify the person believed to be the Most Likely Descendant (MLD) pursuant to Public Resources Code Section 5097.98. The project proponent and MLD, with the assistance of the archaeologist, shall make all reasonable efforts to develop an agreement for the treatment of human remains and associated or unassociated funerary objects with appropriate dignity (CEQA Guidelines Sec. 15064.5(d)). The agreed upon treatment shall address the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. California Public Resources Code allows 48 hours to for the MLD to make their wishes known to the landowner after being granted access to the site. If the MLD and the other parties do not agree on the reburial method, the project will follow Public Resources Code Section 5097.98(b) which states that ". . . the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance." b. Any findings shall be submitted by the archaeologist in a professional report submitted to the project applicant, the MLD, the Kings County Community Development Agency, and the California Historical Resources Information System, Southern San Joaquin Valley Information Center	Responsible Party: Applicant/Contractor *Actions:* During Construction: 1) If human remains are discovered, engage project archaeologist and coordinate with Kings County CDA in implementing the legally required actions as specified in the mitigation measure.	Monitoring Agency: Kings County CDA. *Actions:* During Construction: 1) If human remains are discovered, coordinate with applicant and archaeologist to ensure that all legally required actions are implemented.	

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Mitigation Measure	Responsible Party/ Timing/Action	Monitoring Agency/ Timing/Action	Verification Log
4.7 GEOLOGY AND SOILS			
Mitigation Measure GEO-1: Expansive Soils within Cherry Solar Project Site. Prior to the issuance of the first building permit for the Cherry Solar Project, the applicant shall retain a qualified registered civil engineer to prepare a preliminary soils report, based on soil borings or excavations, to determine the potential for soils expansion and to prepare recommendations for corrective actions to mitigate potential damage to project structures due to potential soils expansion. The preliminary soils report shall be submitted to Kings County Community Development Agency Building Division for review and approval. The potential damage from soils expansion can be reduced by one or more of several alternative engineering measures, as recommended by the registered civil engineer. These measures could include: overexcavation and replacement with non-expansive soils; extending foundations below the zone of shrink and swell; chemically treating the soils with quicklime or cement; or foundation design measures. The corrective measures specified would become conditions of Building Permit approval and would be subject to inspection and approval by the Kings County Building Official.	Responsible Party: Applicant/Contractor *Actions:* Prior to Issuance of Building Permit: 1) Authorize engineer to prepare soils report; 2) Submit soils report to Kings County CDA for review and approval. During Construction: 1) Implement soils engineering measures recommended in soils report.	Monitoring Agency: Kings County CDA. *Actions:* Prior to Issuance of Building Permit: 1) Review and approve soils report as appropriate. During Construction: 1) Conduct field inspections to verify implementation of soils engineering measures.	
Mitigation Measure GEO-2: Protection of Paleontological Resources. In order to avoid the potential for impacts to paleontological resources, the following measures shall be implemented, as necessary, in conjunction with the construction of the Cherry Solar Project: **a.** If paleontological resources are discovered during excavation activities at the project site, work within 100 feet of the find shall cease, and a qualified professional paleontologist shall be retained to evaluate the significance of the resources and make recommendations regarding the treatment, recovery, curation of the resources, as appropriate. Treatment of any significant paleontological resources shall be undertaken with the approval of the Kings County CDA.	Responsible Party: Applicant/Contractor *Actions:* During Construction: 1) If paleontological resources discovered, establish 100-foot setback zone, retain paleontologist to make recommendations regarding treatment, and notify Kings County CDA; 2) Submit treatment recommendations to Kings County CDA for approval as appropriate; 3) Implement approved treatment measures.	Monitoring Agency: Kings County CDA. *Actions:* During Construction: 1) If paleontological resources discovered, verify establishment of 100-foot setback zone pending approval of treatment plan; 2) Review and approve treatment recommendations as appropriate; 3) Verify implementation of treatment measures as approved.	

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Mitigation Measure	Responsible Party/ Timing/Action	Monitoring Agency/ Timing/Action	Verification Log
4.9 HAZARDS AND HAZARDOUS MATERIALS			
Mitigation Measure HAZ-1: Protection from Hazardous Materials. In order to protect the public from potential release of hazardous materials, the following measures shall be implemented during project construction, operation, and decommissioning: a. The project applicant shall prepare and implement a Hazardous Materials Business Plan (HMBP) in accordance with the requirements of, and to the satisfaction of, the Kings County Public Health Department Environmental Services Division; b. The project applicant shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the requirements of the State Water Resources Control Board, and to the satisfaction of the Central Valley Regional Water Quality Control Board. The potential for minor spills would be largely avoided through implementation of the Hazardous Materials Business Plan (HMBP), as required under the Hazardous Materials Release Response Plan and Inventory Act of 1985. Under this state law, the applicant is required to prepare an HMBP to be submitted to the Kings County Public Health Department, Environmental Health Services Division, which is the Certified Unified Program Agency (CUPA) for Kings County. The HMBP would include a hazardous material inventory, emergency response procedures, training program information, and basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of at the proposed project site, and procedures for handling and disposing of unanticipated hazardous materials encountered during construction. The HMBP would include an inventory of the hazardous waste generated on site, and would specify procedures for proper disposal. As required, hazardous waste would be transported by a licensed hauler and disposed of at a licensed facility. According to the HMBP reporting requirements, workers must be trained to respond to releases of hazardous materials in accordance with State and federal laws and regulations governing hazardous materials and hazardous waste (e.g., HAZWOPER training required by OSHA). Any accidental release of small quantities of hazardous materials would be promptly contained and abated in accordance with applicable regulatory requirements and reported to the Environmental Health Services Division. As the CUPA for Kings County, the Environmental Health Services Division of the County Public Health Department is responsible for implementation and enforcement of HMBPs. Implementation of the HMBPs for each phase of the Cherry Solar Project would ensure that minor spills or releases of hazardous materials would not pose a significant risk to the public or the environment.	Responsible Party: Applicant/Contractor/Operator *Actions:* Prior to Issuance of Building Permit: 1) Authorize qualified engineer to prepare SWPPP; and submit to Kings County CDA. 2) File a Notice of Intent (NOI) to State Water Resources Control Board. During Construction: 1) Implement SWPPP. Prior to Project Operation: 1) Prepare HMBP and submit to Kings County Public Health Department. During Project Operation: 1) Implement HMBP.	Monitoring Agencies: Kings County CDA and Kings County Public Health Department. *Actions:* Prior to Issuance of Building Permit: 1) Verify receipt of SWPPP (CDA). During Construction: 1) Verify implementation of SWPPP (CDA). Prior to Project Operation: 1) Verify receipt of HMBP (Public Health). During Project Operation: 1) Verify implementation of HMBP.	

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Mitigation Measure	Responsible Party/ Timing/Action	Monitoring Agency/ Timing/Action	Verification Log
4.9 HAZARDS AND HAZARDOUS MATERIALS (CONT'D)			
Mitigation Measure HAZ-2: Preventing Valley Fever Exposure. In order to protect the public and workers from Valley Fever, the following measures shall be implemented during project construction and decommissioning: a. Implement the Dust Control Plan required to be approved for the project by the San Joaquin Valley Air Pollution District under District Rule 8021 prior to ground disturbing activity. b. Provide workers with NIOSH-approved respiratory protection with particulate filters rated as N95, N99, N100, P100, or HEPA, as recommended in the California Department of Public Health publication "Preventing Work-Related Coccidioidomycosis (Valley Fever)," available at http://www.cdph.ca.gov/programs/hesis/Documents/CocciFact.pdf	Responsible Party: Applicant/Contractor *Actions:* Prior to Construction: 1) Prepare Dust Control Plan and submit to SJVAPCD and Kings County CDA for approval. During Construction: 1) Implement Dust Control Plan; 2) Provide workers with respirators as recommended.	Monitoring Agency: Kings County CDA. *Actions:* Prior to Construction: 1) Review and approve Dust Control Plan. During Construction: 1) Verify implementation of Dust Control Plan and distribution of respirators.	

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Mitigation Measure	Responsible Party/ Timing/Action	Monitoring Agency/ Timing/Action	Verification Log
4.10 HYDROLOGY AND WATER QUALITY			
Mitigation Measure HYD-1: Stormwater Quality Protection. Prior to construction grading and prior to the decommissioning, the applicant shall be required to file a "Notice of Intent" (NOI) with the SWRCB to comply with the General Construction Permit and prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP for each project phase shall be prepared by a licensed engineer and shall detail the treatment measures and best management practices (BMPs) to control pollutants that shall be implemented and complied with during the construction and post-construction phases of solar development. The SWPPP(s) required for decommissioning shall specify BMPs to be implemented during that final project phase. The construction contracts for each project phase, and for the decommissioning phase, shall include the requirement to implement the BMPs in accordance with the SWPPPs. The SWPPPs will specify such practices as: designation of restricted-entry zones, sediment tracking control measures (e.g., crushed stone or riffle metal plate at construction entrance), truck washdown areas, diversion of runoff away from disturbed areas, protective measures for sensitive areas, outlet protection, application of mulch for soil stabilization during construction, and provision for revegetation upon completion of construction within a given area. The SWPPPs will also prescribe treatment measures to trap sediment once it has been mobilized, such as straw bale barriers, straw mulching, fiber rolls and wattles, silt fencing, and siltation or sediment ponds. Upon completion of each solar phase, the finished grades beneath and around the finished rows of solar panels will be revegetated with a seed mix which has been approved by the Kings County Community Development Agency. The reestablished vegetated cover would stabilize the soils and minimize the potential for post-construction erosion. The construction contracts for each project phase, and for the decommissioning phase, will include the requirement to implement the BMPs in accordance with the SWPPPs, and proper implementation of the specified BMPs is subject to inspection by the Regional Board staff.	Responsible Party: Applicant/Contractor/Operator *Actions:* Prior to Construction: 1) File NOI with SWRCB; 2) Authorize qualified engineer to prepare SWPPP. During Construction: 1) Implement SWPPP. During Operation: 1) Implement post-construction elements of SWPPP. During Decommissioning: 1) Implement SWPPP.	Monitoring Agencies: Kings County CDA and Public Works Department. *Actions:* Prior to Construction: 1) Verify filing of NOI. 2) Verify preparation of SWPPP. During Construction: 1) Verify implementation of SWPPP. During Operation: 1) Verify implementation of post-construction elements of SWPPP. During Decommissioning: 1) Verify implementation of SWPPP.	

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Mitigation Measure	Responsible Party/ Timing/Action	Monitoring Agency/ Timing/Action	Verification Log
4.17 TRANSPORTATION			
Mitigation Measure TR-1: Traffic Safety Measures for Solar Project Construction. As a condition of project approval, and prior to the issuance of encroachment permits, the applicant shall consult with the Kings County Public Works Department regarding construction activities that may affect area traffic (such as equipment and supply delivery necessitating lane closures, trenching, etc.). Additionally, the project plans will be reviewed by the appropriate County departments for conformance with all applicable fire safety code and ordinance requirements for emergency access. The contractor shall implement appropriate traffic controls in accordance with the California Vehicle Code and other state and local requirements to avoid or minimize impacts on traffic. Traffic measures that shall be implemented during construction and decommissioning activities include the following: a. Construction traffic shall not block emergency equipment routes. b. Construction activities shall be designed to minimize work in public rights-of-way and use of local streets. As examples, this might include the following: i. Identify designated off-street parking areas for construction-related vehicles throughout the construction and decommissioning periods. ii. Identify approved truck routes for the transport of all construction- and decommissioning-related equipment and materials. iii. Limit the employee arrivals and departures, and the delivery of equipment and materials, to non-peak traffic periods (e.g., avoid unnecessary travel from 7 to 9 AM and 4 to 6 PM). iv. Provide for farm worker vehicle access and safe pedestrian and vehicle access. v. Provide advance warning and appropriate signage whenever road closures or detours are necessary. c. Construction shall comply with San Joaquin Valley Air Pollution Control District standards for unpaved roads, which include a requirement to keep vehicle speeds below 15 miles per hour.	Responsible Party: Applicant/Contractor *Actions:* Prior to Issuance of Encroachment Permits: 1) Consult with Kings County Public Works Department regarding appropriate traffic safety measures. During Construction: 1) Implement traffic safety measures as approved by Public Works Department. During Decommissioning: 1) Implement traffic safety measures as approved by Public Works Department.	Monitoring Agencies: Kings County CDA, Public Works Department, and Fire Department. *Actions:* Prior to Issuance of Encroachment Permits: 1) Coordinate with Applicant/Civil/Contractor regarding appropriate traffic safety measures. During Construction: 1) Verify implementation of traffic safety measures. During Decommissioning: 1) Verify implementation of traffic safety measures.	