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Bureau of Land Management**

**Environmental Assessment
DOI-BLM-CA-C060-2019-0093-EA**

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Project Title: **Berry Petroleum; Midway
Sunset/Southwestern; 38 Applications for
Permit to Drill (APD's)
Environmental Assessment**

Location: **Section 2, T. 31S, R. 22E
Kern County, CA**

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38 Southwestern/NMSS Wells (APD's)

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PURPOSE & NEED

Introduction

This Environmental Assessment (EA) has been prepared to analyze the operator's Applications for Permit to Drill (APD's) in Kern County, CA. The EA is a site-specific analysis of potential impacts that could result with the implementation of a proposed action or alternatives to the proposed action. The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any "significant" impacts could result from the analyzed actions. "Significance" is defined by the Council on Environmental Quality (CEQ) and is found in regulation 40 CFR 1508.27. An EA provides evidence for determining whether to prepare an "Environmental Impact Statement" (EIS) or a statement of "Finding of No Significant Impact" (FONSI). A Decision Record (DR), which includes a FONSI statement, is a document that briefly presents the reasons why implementations of the proposed action will not result in "significant" environmental impacts (effects) beyond those already addressed in the Bakersfield Field Office Resource Management Plan (Bakersfield RMP), approved on December 22, 2014. If the decision maker determines that this project has "significant" impacts following the analysis in the EA, then an EIS would be prepared for the project. If not, a DR may be signed for the EA approving the alternative selected.

Background

The operator filed 38 APD's with the Bakersfield Field Office of the Bureau of Land Management (BLM) for thirty-eight (38) oils wells. The wells would be on federal surface and would target federal minerals. The wells would be located on the Southwestern Lease (CAS0019636), within the North Midway Sunset oilfield near Taft, CA and within Kern County, CA. The surface location for the wells listed below is: Section 2, T31S, R22E

Southwestern HP-21, HP-22, HP23, HP24, HP-25, HP-26, HP-27, HP-28, HP-29, HP30, HP31, HP-32, 56-61, 56-63, 57-60, 57-62, 58-59, 58-61, 58-63, 59-58, 59-60, 59-62, 60-59, 60-61, 60-63, 61-58, 61-60, 61-62, 61-64, 62-59, 62-61, 62-63, 63-60, 63-62, 63-64, 64-61, 64-63, & 64-65

The well pads and associated development would be on public lands managed by the Bakersfield Field Office. The location of the well pads, access roads, and associated development are shown on the maps in Appendix A.

Private exploration of and production from federal oil and gas leases is an integral part of BLM's oil and gas leasing program under authority of the Mineral Leasing Act of 1920, as amended by the Federal Land Policy and Management Act (FLPMA) of 1976 and the Federal Onshore Oil and Gas Leasing Reform Act of 1987. Oil and gas exploration and development is recognized as an appropriate use of the public lands in the Bakersfield RMP that provides management direction for the leased area. BLM will consider approval of the proposed drilling in a manner that avoids or reduces impact on other resources and activities as identified in the Bakersfield RMP.

SCOPING AND ISSUES

Internal scoping was conducted among BLM Bakersfield Field Office staff, including Natural Resource Specialist Fernando Banos, Environmental Protection Specialist Matt Thomas, and Archaeologist, Carrie Cecil.

BLM conducts external scoping on routine NOSs and APDs by posting notification that it is considering the NOS(s)/APD(s) on the E-Planning public website, which initiates the 30-day scoping period. In addition, APDs are published nationally at the time of acceptance at <https://reports.blm.gov>. The following APDs were posted on May 1st, 2019 on the E-Planning website to solicit public comment or requests to review the Draft EA; one letter containing multiple comments was received.

The issues identified during internal scoping include:

1. How would the activities under each alternative contribute to emissions of criteria pollutants and greenhouse gases, and would these impacts to air quality and climate change, if any, be significant?
2. How would the activities under each alternative contribute to potential impacts to Special Status Species, and would these impacts, if any, be significant?
3. How would the activities under each alternative influence rates of water and wind erosion to soils, and would these impacts, if any, be significant?
4. How would the activities under each alternative contribute to degradation of surface and groundwater, and would these impacts, if any, be significant?
5. How would the activities under each alternative contribute to degradation of cultural resources, Native American values, and paleontological resources, and would these impacts, if any, be significant?

These issues will be analyzed to make a reasoned choice among the alternatives.

CONFORMANCE WITH BLM LAND USE PLANS

The proposed action has been reviewed for conformance with the Bakersfield Resource Management Plan approved on December 22, 2014; it has been determined that the proposed action conforms with the land use plan, terms, and conditions as required by 43 CFR 1610.5. The proposed action and modifications were specifically provided for in the following land use plan decision and objective:

[MM-D-1.1.5] “Identify approximately 1,011,470 acres as open to fluid mineral leasing, subject to major constraints (both CSU- Protected Species and CSU- Sensitive Species.”

[MM-O-1] “Facilitate reasonable, economical, and environmentally sound exploration and development of leasable minerals while minimizing impacts to other resources.”

The proposed action is located on an existing lease that was issued in conformance with the above land use plan decisions. Issuance of the lease was not judicially challenged and the lease is considered a valid existing right with rights of development.

RELATIONSHIP TO STATUTES, REGULATIONS AND OTHER PLANS

This project is similar in magnitude and scope and is located within the same geographical area as many other fluid mineral actions undertaken within the BLM Bakersfield Field Office. As such, the Relationship to Statutes, Regulations, and Other Plans section from the California Resources Production Corporation, Mount Poso; Four Notices of Staking & Applications for Permit to Drill Environmental Assessment ([DOI-BLM-CA-C060-2011-0103-EA](#)) is hereby incorporated by reference. The document incorporated by reference outlines applicable provisions from the following:

- Oil and Gas Laws and Regulations
- Endangered Species Act
- Clean Air Act
- National Historic Preservation Act of 1966, as amended
- Paleontological Resources Preservation Act
- Clean Water Act
- Safe Drinking Water Act

Chapter 2. Proposed Action and Alternatives

ALTERNATIVE 1: PROPOSED ACTION

Bureau of Land Management (BLM) proposes to approve thirty-eight (38) Applications for Permit to Drill (APD) submitted by Berry Petroleum Company (Berry) to drill Wells: Southwestern HP-21, HP-22, HP23, HP24, HP-25, HP-26, HP-27, HP-28, HP-29, HP30, HP31, HP-32, 56-61, 56-63, 57-60, 57-62, 58-59, 58-61, 58-63, 59-58, 59-60, 59-62, 60-59, 60-61, 60-63, 61-58, 61-60, 61-62, 61-64, 62-59, 62-61, 62-63, 63-60, 63-62, 63-64, 64-61, 64-63, & 64-65, on federal mineral lease CAS0019636 in Section 2, T31S, R22E, MDBM. The proposed project would occur on public land containing BLM administered subsurface minerals within the Midway Sunset Oilfield. Project implementation would include using existing access roads, existing well pad, construction of temporary drilling sumps, drilling thirty-eight (38) wells, and construction of a temporary staging area for equipment and testing of produced fluids. Installation of new permanent flow lines and power poles is also proposed at this time. No new habitat disturbance is expected or approved for this project.

The proposed project would utilize existing oil field roads and well pads. The temporary drilling sump area and the equipment staging area would also be within existing pads.

Approximately 1,500 barrels of fresh water per well would be used for drilling and dust abatement per well; all water would be trucked from a West Kern Water District source, utilizing

a permit for surface diversion. Water will be hauled in via vacuum trucks from tanks on lease or from nearest permitted source available and stored in temporary tanks at the project site during construction and drilling. In addition, water would be applied to the surface to reduce dust and used to facilitate drilling in the form of drilling mud.

A low solids non-dispersed mud system containing Wyoming bentonite (a gel), water, non-hazardous polymer and non-reactive lost circulation materials (sawdust, nutplug, and prima-seal) would be used in drilling operations. All cuttings and drilling fluids are to be collected in a 8 foot by 10 foot by 60 foot unlined surface impoundment (sump) and disposed of onsite. Berry obtained a Notice of Applicability of Water Quality Order 2003-0003-DWQ by the regional water quality control board.

Drilling equipment and materials would be placed on the temporary staging area and the pad would be cleared of unnecessary items following well completion. Berry is restricted to use of existing roads and approved areas of disturbance during and following project implementation.

Berry has stated that there are no plans to conduct well stimulation activities regulated by California Senate Bill No. 4 (hydraulic fracturing, matrix or fracture acidization) on the proposed wells at this time. However, it is reasonably foreseeable that in the future Berry may use both acid stimulation and hydraulic fracturing on these well if necessary and feasible in order to maximize production from the wells.

Design Features/Additional Conditions of Approval (COAs) for Surface

The following design features and conditions of approval are part of the proposed action:

Berry shall comply with all applicable Federal, Tribal, State and local laws during project implementation.

Biological Resources

This project is covered under the 2017 Oil and Gas Programmatic Biological Opinion (08ESMF00-2016-F-0683) because it falls within the requirements for projects analyzed and authorized under that biological opinion. The 2017 Oil and Gas Programmatic Biological Opinion provides take coverage for authorization of individual projects occurring on surface and subsurface lands administered by the BLM in Kings and Kern Counties that disturb less than 10 acres of habitat or that encompass linear actions less than 10 miles long. This project occurs in Kern County and disturbs 0 acres of habitat, thus satisfying both requirements for coverage under the 2017 Oil and Gas Programmatic Biological Opinion. No compensation would be required due to the absence of new surface disturbance.

In addition, Berry shall comply with all of the “Avoidance & Mitigation Actions” recommended by BLM:

1. Prior to project initiation, all company and contract personnel should attend a project specific threatened and endangered species orientation and be made aware of threatened and endangered species protection requirements.

2. All potential SJKF dens occurring within 100' of construction footprints should be monitored by a qualified biologist and excavated and/or blocked prior to project initiation.
3. All initial ground disturbing activities should be monitored by a qualified biologist.
4. Boundaries of work areas should be clearly delineated with staking and flagging prior to project activities.
5. A speed limit of 10 miles-per-hour should be implemented on all non-public paved roads. Extra caution should be observed at night because San Joaquin kit fox are primarily nocturnal.
6. No vehicles are permitted off lease roads; project personnel shall stay within areas approved by the biological monitor.
7. Any holes that will not be filled in within the working day must be covered overnight and inspected prior to beginning work on the following day.
1. During the project, all pipes and culverts should be inspected prior to moving or welding to prevent injury or entrapment of wildlife. Pipes which cannot be inspected (due to bends, etc.) should be capped, or otherwise covered. If any wildlife is found entrapped in a pipe section, the pipe should be avoided and the animal(s) left to leave of its own accord, except as otherwise authorized by USFWS and CDFW.
9. All steep-walled trenches or excavations should include escape ramps. At least one escape ramp should be provided in any onsite trenches or excavations at no more than a 2:1 slope. Such trenches or excavations should be inspected for wildlife immediately prior to backfilling.
10. Rat-holes, well cellars, and other holes for which escape ramps are not practical should be covered with a solid barrier to prevent wildlife entrapment. Installed grating on well cellars should be no larger than one-inch.
11. All trash must be placed in covered containers and removed from the site promptly; no trash should be on the ground at any time, especially food waste. Feeding of any wildlife is prohibited.

Cultural Resources Conditions of Approval (COAs)

In the event of inadvertent discovery of cultural resources during project implementation, the BLM Field Office Cultural Staff and Field Manager (661-391-6000) shall be immediately notified by personnel responsible for the project. All work at the site of discovery, and in any other locations where damage to the cultural resource could occur, shall also cease until written approval by the BLM.

If human remains are inadvertently discovered on BLM managed lands, all activity will immediately cease surrounding the unanticipated discovery. Project personnel will ensure that the discovery is secured and protected and will immediately notify the BLM Field Manager (661-391-6000). The BLM will adhere to current regulations regarding the treatment of human remains (see BLM California Information Bulletin No. CAIB-2016-012). Access and use of the area may only proceed with written approval from the Field Manager once the appropriate level of review has been determined and completed.

Paleontological Resources Conditions of Approval (COAs) See attached Conditions of Approval for project Paleontological Resources Mitigation Plan. Due to the dispersed nature of paleontologically sensitive deposits within the Southwestern Lease, compliance requirements may vary depending upon the project disturbance location. **Implementation of the Paleontological Resources Mitigation Plan is required for all ground surface disturbing activities associated with wells HP-22, HP-24, HP-26, HP-28, HP30, HP-32, 56-61, 56-63, 57-60, 57-62, 58-59, 58-61, 58-63, 59-58, 59-60, 59-62, 60-59, 60-63, 61-58, 61-60, 61-62, 61-64, 62-61, 62-63, 63-62, 63-64, 64-63, & 64-65 only.**

Construction and Interim Reclamation

All permanent above-ground structures (e.g., production equipment, etc.) not subject to safety requirements shall be painted to blend with the natural color of the landscape. The paint used will be a color which simulates “Standard Environmental Colors.” The colors selected for the project location are Covert Green or Carlsbad Canyon.

At the beginning of construction, any topsoil (approximately the top four inches of soil) shall be removed from the project area and stockpiled on an existing pad or previously disturbed surface in close proximity to the project site. Subsequent to well completion, topsoil will be re-applied to the cut and fill slopes, as well as the sump. “Well completion” is a technical term used to describe the final phase of well drilling; “well completion” is not synonymous with the final phase of project implementation. Prior to applying topsoil to the sump, it will be cleaned, ripped to a minimum depth of 12 inches, and re-contoured to match the surrounding topography. Remaining topsoil will be stockpiled on an existing well pad or other previously disturbed surface and retained for future reclamation. Topsoil will be retained for no more than one year.

All practicable measures will be taken to minimize erosion and stabilize disturbed soils. The following types of interim stabilization or similar methods may be used if necessary: jute netting, hydro-mulch, straw wattles, or crimped straw mulch.

No fencing will be used for cut and fill slopes. However, fencing and signage may be used to protect the reclaimed sump from unauthorized disturbance.

Management of Noxious Weeds

A site-specific weed control Environmental Assessment (EA) and a Pesticide Use Permit (PUP) must be completed before any use of pesticides on BLM lands. This can be a lengthy process

and requires specific information, public notification, and review by the BLM State Office. In addition, any use of pesticides shall comply with all applicable Federal and State laws. Pesticides shall only be used in accordance with their registered uses, must be on the list of pesticides approved for use on California BLM lands, and used within limitations imposed by the Secretary of the Interior. Applicators of herbicides must have completed pesticide certification training and have a Certified Pesticide Applicator's License. A Pesticide Use Report (PUR) must be completed within 48 hours of all herbicide applications and pesticide application records for the areas and acres treated must be submitted to the Authorized BLM Officer each year.

Final Reclamation

Disturbed lands shall be re-contoured to conform with existing undisturbed topography unless the BLM determines that re-contouring would result in negative impacts to special status species. No depressions shall be left that trap water or form ponds. All portions of final reclamation may be subject to additional cultural resources and paleontological inventory and may require a permit. The reclaimed landscape shall have characteristics that approximate the visual quality of the adjacent area with regard to location, scale, shape, color and orientation of major landscape features and meet the needs of the planned post disturbance land use.

Final reclamation shall specifically achieve the following:

1. The reclaimed area shall be stable and exhibit none of the following characteristics:
 - a. Large rills or gullies (greater than 6 inches deep).
 - b. Perceptible soil movement or head cutting in drainages.
 - c. Slope instability on, or adjacent to, the reclaimed area in question.
2. The soil surface must be stable and have adequate surface roughness to reduce runoff and capture rainfall and snow melt. Additional short-term measures, such as the application of mulch, shall be used to reduce surface soil movement.
3. Vegetation production and species diversity (including shrubs) shall approximate the surrounding undisturbed area (50-150% of the adjacent species composition and cover). The vegetation shall stabilize the site and support the planned post disturbance land use, provide for natural plant community succession and development, and be capable of renewing itself. This shall be demonstrated by:
 - a. Successful onsite establishment of species included in the planting mixture or other desirable species.
 - b. Evidence of vegetation reproduction, either spreading by rhizomatous species or seed production.
4. Habitat Restoration

- a. Restoration will be required on unused portions, including abandoned, unused, or unnecessary roads, of the project area or oil and gas lease when deemed necessary by the BLM to maintain or improve habitat values. Restoration will be required when reserve area (Red Zone) and habitat corridor (Green Zone) limits are exceeded and when a project or lease is abandoned. Restoration activities will be supervised by an onsite monitoring biologist.
- b. The following are examples of actions that may be required as part of restoration:
 - i. All trash will be removed from the site and disposed of properly.
 - ii. All cement, asphalt, and oil-contaminated soils will be removed from the site and disposed of properly.
 - iii. All pipelines and other oilfield infrastructure no longer in use will be removed from the site and disposed of properly.
 - iv. Topographic contours will be restored to the maximum extent possible.
 - v. Non-compacted soils or areas previously deep ripped will be disced to a depth of approximately 8 inches.
 - vi. Compacted sites will be deep ripped to a depth of 12 to 18 inches.
 - vii. Slopes greater than 30 percent will be treated by erosion control methods such as disking along the contour, imprinting, mulching, or installing wattles.
 - viii. Sites will be seeded using methods such as drill or broadcast seeding with a site-appropriate seed mix, approved by the BLM Botanist. Exact seeding mixes and rates will depend on the site characteristics, the species chosen, and the current availability of native seed. Seed mixes will include dominant shrubs and native grasses and herbs compatible with the adjacent plant community. The best time for seeding is generally late summer to early fall prior to the onset of the rainy season.
 - ix. Sites will be considered restored when it can be documented that they support functional, native habitat. Evidence of attainment of this goal will be provided by the project applicant. Restoration in drainages, streambeds, and similar habitats where water is a substantial component may require conformance with conditions of a CDFW Streambed Alteration Agreement or other state or local permit. Demonstration of restoration may include documentation of:
 - 1. Visual continuity or similarity with adjacent native, undisturbed habitat or a designated reference site.

2. Topography that follows natural contours and allows for the natural flow of water across the landscape.
3. Indiscernible boundary lines or areas between the disturbed and undisturbed areas.
4. Presence of habitat that supports threatened and endangered species.
5. Vegetation community composition within the normal or desired range. Ratios of native and non-native plants within normal or desired parameters. Presence and abundance of reproducing plants. Presence and abundance of biological soil crusts.
6. Evidence or presence of animals or animal sign on the site. Presence and abundance of desired species. Evidence, presence, and abundance of reproducing species.
7. Evidence of species diversity for both plants and animals.
8. Evidence of soil stability (minimal erosion).
9. Absence of signs of vehicle or other trespass. Absence of trash and contaminated soils.

ALTERNATIVE 2: NO ACTION

Under this alternative, BLM would not approve the thirty-eight (38) Applications for Permit to Drill (APD) submitted by Berry Petroleum Company (Berry) to drill Wells: Southwestern HP-21, HP-22, HP23, HP24, HP-25, HP-26, HP-27, HP-28, HP-29, HP30, HP31, HP-32, 56-61, 56-63, 57-60, 57-62, 58-59, 58-61, 58-63, 59-58, 59-60, 59-62, 60-59, 60-61, 60-63, 61-58, 61-60, 61-62, 61-64, 62-59, 62-61, 62-63, 63-60, 63-62, 63-64, 64-61, 64-63, & 64-65, on federal mineral lease CAS0019636 in Section 2, T31S, R22E, MDBM.

By denying the application, the federal lessee/operator would be denied the opportunity access their federal minerals.

Chapter 3. Affected Environment

This chapter briefly describes the physical and regulatory environment for elements that may be affected by the proposed action, including construction of a temporary staging area, and drilling for Wells: Southwestern HP-21, HP-22, HP23, HP24, HP-25, HP-26, HP-27, HP-28, HP-29, HP30, HP31, HP-32, 56-61, 56-63, 57-60, 57-62, 58-59, 58-61, 58-63, 59-58, 59-60, 59-62, 60-59, 60-61, 60-63, 61-58, 61-60, 61-62, 61-64, 62-59, 62-61, 62-63, 63-60, 63-62, 63-64, 64-61, 64-63, & 64-65, on federal mineral lease CAS019636 in Section 2, T31S, R22E, MDBM.

The following elements of the human environment were considered but determined to be either not present or unaffected by the proposed action and will therefore not be addressed further in this analysis:

- This project location does not occur within a designated Area of Critical Environmental Concern.
- The project does not contain essential fish habitat, and there are no wetlands or riparian zones in the project area.
- The project would not affect low income or minority populations.
- The project area is located on public surface and does serve as a base property for a BLM grazing allotment, where grazing potential within the project location is available, not allocated.
- The proposed project would not affect recreational experience, and visual resources would not be impacted since the project resides in a high density oilfield.
- A cultural resources inventory had been previously conducted for the area of potential effect for the proposed project (BLM Cultural Resource Inventory Report #CA-C/V-467). No cultural resources or historic properties were identified within the project area. There will be no impact to cultural resources as a result of the proposed action.
- Tribal notification and coordination was conducted for potential future development within an area which includes the project locations (TNL 19-15). No places of cultural importance to Native American tribes were identified within the project areas as a result of this coordination.

Air Quality

The proposed project area is located in Kern County, California, and within the San Joaquin Valley Air Basin. At the state level, air regulatory duties lie with the California Air Resources Board (CARB) and at the federal level with the U.S. Environmental Protection Agency (EPA), Region IX. Oversight authority for air quality matters in California has been delegated to the county (District) level. The BLM has air program responsibilities through its permitting programs and Clean Air Act (CAA) requirements to analyze all actions for conformity to air quality plans. The BLM is further committed to comply with the procedures outlined in an Air Quality MOU (effective June 23, 2011) with the DOI, the USDA, and the EPA; this MOU outlines a common framework for analyzing and mitigating impacts to air quality and AQRVs associated with Federal oil and gas decisions through the NEPA process.

The federal Clean Air Act (CAA), as amended, and the California Clean Air Act (CCAA) contain the primary provisions relating to air quality. Provisions of the federal CAA that apply to BLM actions include the National Ambient Air Quality Standards (NAAQS), nonattainment area designation, the development of state implementation plans (SIPs), prevention of significant deterioration (PSD), air toxics, and federal conformity. The U.S. EPA, CARB, and regional air districts have issued rules to implement federal and state Clean Air Acts.

EPA uses “criteria pollutants” as indicators of air quality and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called: [National Ambient Air Quality Standards \(NAAQS\)](#). One set of limits (primary standard) protects health; another set of limits (secondary standard) is intended to prevent environmental and property damage. Under the federal CAA, the U.S. EPA has established NAAQS for seven criteria pollutants: ozone, respirable particulate matter (PM₁₀), fine particulate matter (PM_{2.5}), carbon monoxide, nitrogen dioxide, lead, and sulfur dioxide. California has established state Ambient Air Quality Standards for the same criteria pollutants, plus an additional three pollutants (visibility reducing particulates, sulfates, and hydrogen sulfide). States may have standards that are more restrictive than the federal thresholds, but they cannot be less restrictive. Although more stringent, the State standards have no specific dates for attainment, unlike federal standards. Under State law, designations are made by pollutant, rather than by averaging time. A geographic area that meets or exceeds the primary standard is called an attainment area; areas that do not meet the primary standard are called nonattainment areas (<http://www.epa.gov/air/caa/peg/>).

Federal air quality standards for PM_{2.5} and ozone have been exceeded in the San Joaquin Valley air basin due to locally generated and/or transported in pollutants. This has resulted in the current designation of the air basin as a federal non-attainment area for PM_{2.5} and ozone under the NAAQS. The air basin has recently been designated as a federal maintenance area for PM₁₀. Based on the EPA 2010 designations, the primary pollutants of concern in the Project area are 8-hour ozone, PM₁₀, and PM_{2.5}. The remaining criteria pollutants are either unclassified or in attainment with the NAAQS.

The proposed project area is within the EPA Pacific Southwest Region 9 Planning Area; a State Implementation Plan (SIP) has been prepared for the planning area, which identifies sources of emissions and control measures to reduce emissions. In 2007, CARB adopted the State Strategy for achieving emissions reductions toward bringing these areas into attainment with federal standards for ozone and PM_{2.5}. The SIP mainly addresses stationary sources that have been identified as major contributors affecting regional air quality, such as power plants, facilities, etc.

District air quality plans that have recently been adopted and are relevant to the proposed Project include the *SJVAPCD 2007 Ozone Plan*, *2013 Plan for the Revoked 1-Hour Ozone Standard*, *2012 PM_{2.5} Plan*, and *2007 PM₁₀ Maintenance Plan*. These plans outline the strategy for achieving federal air quality standards by specific dates and identify control measures to reduce criteria pollutant emissions. Control measures identified in the *2007 Ozone Plan* reduce ozone precursor emissions, NO_x and Volatile Organic Compounds (VOCs). Particulate matter attainment strategies include control measures to reduce dust from unpaved roads and construction activities.

Applicable SJVAPCD Rules to Implement Air Quality Plans

Once air quality attainment demonstration Plans are adopted, the reductions necessary to meet the respective reduction mandates contained in the Plan(s) are achieved through prohibitory rules created and enforced by the local air quality board/APCD. Compliance with applicable Rules, Regulations, and land use and zoning requirements ensures continued movement towards

achieving the SJVAPCD attainment goals. Examples of SJVAPCD rules that may be applicable to the proposed project are described below.

Rule 2280 (Portable Equipment Registration): Certain portable emissions units would be required for well drilling, service or workover rigs, pumps, compressors, generators, and field flares.

Rule 4101(Visible Emissions): The purpose of this rule is to prohibit the emissions of visible air contaminants to the atmosphere.

Rule 4623 (Storage of Organic Liquids): The purpose of this rule is to limit VOC emissions from the storage of organic liquids.

Regulation VIII (Fugitive PM₁₀ Prohibitions): The purpose of Regulation VIII is to reduce ambient concentrations of particulate matter (PM₁₀) by requiring actions to prevent, reduce, or mitigate anthropogenic fugitive dust emissions. Regulation VIII rules pertinent to the proposed project include, but are not limited to, the following:

Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities): This rule limits fugitive dust emissions (PM₁₀) from construction, demolition, excavation, extraction, and other earthmoving activities. This rule applies to any such activity and other earthmoving activities, including, but not limited to, land clearing, grubbing, scraping, travel on-site, and travel on access roads to and from the site.

Rule 8031 (Bulk Materials): The purpose of this rule is to limit fugitive dust emissions from the outdoor handling, storage, and transport of bulk materials.

Conformity Determination

The classification of any area as a federal nonattainment and/or maintenance area brings an additional requirement for federal agencies. Section 176(c) of the CAA, as amended (42 U.S.C. 7401 et seq.), and regulations under 40 CFR, part 93, subpart W, state that “no department, agency or instrumentality of the federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve any activity which does not conform to an applicable implementation plan.” This means that under the CAA 176(c) and 40 CFR, part 93, subpart W (conformity rules), federal agencies must make a determination that proposed actions in federal nonattainment areas conform to the applicable EPA approved implementation plans (if pertinent) before the action is taken.

Biological Resources

The project is proposed on BLM surface that occurs within an area identified as “Green Zone” or wildlife corridor in the Bakersfield RMP and the 1998 *Recovery Plan for Upland Species of the San Joaquin Valley, California* (USFWS, 1998). A key component of the reserve and corridor linkage strategy is to maintain suitable amounts of habitat that are largely undisturbed by development activities. Habitat disturbance thresholds are criteria for maintaining long-term suitability of reserve areas (red zones) and habitat corridors (green zones). Limiting the amount of habitat (and ground) disturbance will allow sufficient habitat to remain intact, keep ecosystem

processes functioning properly, and connect viable species populations across the landscape (see Bakersfield Proposed RMP/Final EIS, Appendix B, pp. 771-775).

Federally listed plant species in the southern San Joaquin Valley include Kern mallow (*Eremalche kernensis*), San Joaquin woolly-threads (*Monolopia congdonii*), California jewelflower (*Caulanthus californicus*), Hoover's woolly-star (*Eriastrum hooveri*), and Bakersfield cactus (*Opuntia basilaris* var. *treleasei*). Listed animal species include San Joaquin kit fox (*Vulpes macrotis*), blunt-nosed leopard lizard (*Gambelia sila*), giant kangaroo rat (*Dipodomys ingens*), and Tipton kangaroo rat (*Dipodomys nitratoides*). Additionally, this region contains the State listed San Joaquin antelope squirrel (*Ammospermophilus nelsoni*). A project-specific onsite inspection was completed by BLM Natural Resource Specialist, Fernando Banos on May 15, 2019.

In general, the proposed project location is located within non-native annual grassland and valley saltbush scrub habitat that is moderately developed with oilfield infrastructure and is also used for livestock grazing. There is no critical habitat for any threatened or endangered species on the project site or in the vicinity. Dominant species that are observed onsite include red brome, rip-gut brome, red-stemmed filaree, and common pepper grass. Kern mallow, San Joaquin woolly-threads, Hoover's woolly-star, California jewelflower, and Bakersfield cactus were not observed in or near the project area. California jewelflower is not known to naturally exist in Kern County, and Bakersfield cactus is endemic to a limited area of central Kern County in the vicinity of the city of Bakersfield.

The project-specific onsite found no evidence of giant kangaroo rat (*Dipodomys ingens*) or Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*) in the vicinity of the project sites, nor were there any observations of San Joaquin antelope squirrel (*Ammospermophilus nelsoni*).

No species-specific protocol surveys for blunt-nosed leopard lizard (*Gambelia sila*) were carried out for the current year. No blunt-nosed were observed during any of the protocol level surveys. There are no burrows suitable for use by blunt-nosed leopard lizard within the proposed project site.

No potential San Joaquin kit fox dens (*Vulpes macrotis*) were observed within the project area. No potential SJVKF dens were observed within the survey boundaries and will be monitored.

No California Condors were observed in the project area.

Climate Change

Global climate change is the term commonly used to refer to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer). Emissions of GHGs such as carbon dioxide and its equivalents (methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) are known to contribute to the global phenomenon of climate change. Based on research conducted by the Intergovernmental Panel on Climate Change (IPCC), evidence suggests, even with mitigation efforts, a strong, consistent, positive linear relationship between GHGs and temperature, changes

in precipitation patterns, oceanic warming, oceanic acidification, and reductions in Arctic sea ice. In addition, species extinction, threats to food security, and threats to human health are predicted. In general, “Climate change will amplify existing risks and create new risks for natural and human systems” (IPCC, 2014).

The current scientific consensus holds that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have resulted in much higher concentrations of GHGs in the atmosphere than would be expected to occur naturally. In the last decade, increased GHGs are believed to have resulted in increases in global temperature and other climate change effects never previously recorded. Data show that the earth’s average surface temperature has increased by about 1.2 to 1.4 degrees Fahrenheit in the last 100 years.

Applicable Federal, State, and Local Regulations to Reduce Impacts of Oil and Gas Production on Climate Change

On April 17, 2012, EPA issued Final Air Rules to reduce harmful air pollution from the oil and natural gas industry. In addition, EPA issued final updates to its 2012 VOC performance standard for storage tanks used in crude oil and natural gas production and transmission on August 5, 2013. In addition, on May 12, 2016, EPA issued final rules to reduce emissions of methane, smog-forming volatile organic compounds, and toxic air pollutants from new, reconstructed and modified oil and gas sources; these final rules established updates to the New Source Performance Standards (NSPS) and the Source Determination Rule. The EPA also requires reporting of greenhouse gases from large GHG emissions sources in the United States through the Greenhouse Gas Reporting Program (GHGRP) (EPA, 2016).

The California Legislature passed the California Global Warming Solutions Act of 2006 [Assembly Bill 32 (AB 32)], creating a comprehensive, multi-year program to reduce greenhouse gas emissions in California. AB 32 requires the reporting of GHGs by major sources, applicable to industrial facilities, fuel suppliers, and electricity reporters. In 2015, California Governor issued Executive Order B-30-15, establishing a mid-term GHG reduction target for California of 40 percent below 1990 levels by 2030 (CARB, 2016).

In August 2008, San Joaquin Valley Unified Air Pollution Control District (SJVAPCD) adopted the Climate Change Action Plan (CCAP), which directed the District to develop guidance to assist Lead Agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project specific GHG emissions on global climate change (SJVAPCD, 2016). SJVAPCD has developed *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA and District Policy Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA*, intended to be applied to CEQA analysis. Although these policies are only available for CEQA analyses, the air district guidance may be generally applied by land-use agencies for reference. BLM concludes that the SJVAPCD requirement to quantify GHG emissions and to implement SJVAPCD Best Performance Standards to reduce GHG emissions would occur at the APD or Sundry stage, to be analyzed in a site-specific NEPA analysis. Therefore, this environmental assessment includes an analysis of GHG emissions for the proposed action.

Paleontological Resources

Every geologic unit can be assigned a Potential Fossil Yield Classification (PFYC) class based on the probability and abundance of known vertebrate fossils and scientifically significant invertebrate and plant fossils (BLM 2007). The PFYC scheme ranges from very low (PFYC 1) to very high (PFYC 5) depending on the potential fossil yield (BLM 2016). Unknown fossil potential is assigned to geologic units that do not have a clear PFYC assignment (PFYC U). Typically paleontological resource compliance is required for earthwork occurring within PFYC classes 3, 4, 5, or U rock units.

The project area is underlain by the Tulare Formation and other paleontologically sensitive Alluvial Deposits. All of these have a high potential for fossil resources (PFYC 4) BLM Paleontological Resource Inventory Report # 6000-2019-03P). There has been extensive cut and fill grading within portions of the project area. As a result, certain locations consist entirely of highly disturbed fill material, which has no potential for the presence of intact fossil remains. These locations have been mapped and it has been determined that several of the proposed projects are within these areas. These include wells Southwestern HP-21, HP23, HP-25, HP-27, HP-29, HP31, 60-61, 62-59, 63-60, and 64-61. Those wells which are located within non-fill paleontologically sensitive areas include Southwestern HP-22, HP-24, HP-26, HP-28, HP30, HP-32, 56-61, 56-63, 57-60, 57-62, 58-59, 58-61, 58-63, 59-58, 59-60, 59-62, 60-59, 60-63, 61-58, 61-60, 61-62, 61-64, 62-61, 62-63, 63-62, 63-64, 64-63, & 64-65.

Soil Resources

One soil map unit occurs in the proposed project area: Chanac-Pleito-Premier association, 20 to 60 percent slopes (#305). This map unit is present on hills. The typical profile of these soils are loam from 0-60 inches of loam.

The above map unit has a water erosion K factor of 0.37. Values of K can range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Therefore, these soils have a moderate susceptibility to water erosion.

The project location is within a previously developed oilfield with numerous access roads, abandoned wells, pipelines, and power lines. As such, soils are highly disturbed within the project area and those that are previously disturbed are particularly prone to erosion from water and wind.

Water Quality and Quantity

The proposed project is within the southern portion of the Kern County Subbasin, in the Tulare Lake Hydrologic Region of the San Joaquin Basin. This subbasin is bound on the north by the Kern County line, on the east and southeast by granitic bedrock of the Sierra Nevada foothills and Tehachapi Mountains, and on the southwest and west by the marine sediments of the San Emigdio Mountains and Coast Ranges. From oldest to youngest, the intermediate to shallow depth water-bearing deposits include the Olcese and Santa Margarita Formations (drinking water only in northeastern subbasin), the Tulare Formation (western subbasin), the Kern River Formation (eastern subbasin), older alluvium/stream

deposits, and younger alluvium and flood basin deposits (DWR, 2006). The aquifers in this subbasin are generally quite thick, commonly exceeding 1,000 feet in depth. The maximum thickness of freshwater-bearing deposits (4,400 feet) occurs at the southern end of the subbasin (DWR, 2003).

There is an underground source of drinking water in the project area, which is contained in the undifferentiated Kern River Series and Upper Etchegoin sands above the Macoma Claystone Aquitard. This aquifer is located above the target hydrocarbon producing formation and is separated from the target formation by the Macoma Claystone Aquitard.

Approximately 1,500 barrels of fresh water per well would be used for drilling and dust abatement per well; all water would be trucked from the Kern Water District. Water will be hauled in via vacuum trucks from tanks on lease or from nearest Kern Water outlet available and stored in temporary tanks at the project site during construction and drilling. In addition, water would be applied to the surface to reduce dust and used to facilitate drilling in the form of drilling mud.

Chapter 4. Environmental Impacts

This section describes the environmental impacts of the Proposed Action and No Action Alternatives. This analysis addresses the direct and indirect effects of implementing the proposed wells and includes the identified measures and COAs described in Chapter 2.

Air Quality

Proposed Action:

The proposed project would result in the emission of criteria pollutants for which the San Joaquin Valley Air Basin has a non-attainment or maintenance designation, including 8-hour ozone, PM₁₀, and PM_{2.5}. These emissions are associated with combustion sources such as diesel drill and completion/workover rig engines, drill pad construction equipment (i.e., dozers, backhoe, grader, etc.), equipment trucks, water trucks, drill rig crew trucks/vehicles, and portable lift equipment. Emissions of criteria pollutants or hazardous air pollutants could also occur through venting or fugitive losses from use of chemicals, use of open sumps and/or pits, or valves and fittings, pumps, compressors, and the well head. In addition, localized impacts to air quality would occur during project implementation as a result of soil disturbance and fugitive dust emissions.

Berry has estimated project emissions assuming four wells designs drilled at Poso Creek: (1) A slotted linear completed producer, and (2) Injectors and other wells that consist of a single casing string cemented to surface. Historic drilling and completion data was used for determining an average time to drill and complete the well(s). In addition, historic data was analyzed and used to determine a maintenance schedule of pump changes approximately or slightly longer than one year; a one year maintenance schedule was assumed. Actual engine data was utilized where available, although some of the equipment data was unavailable given a variation in actual equipment and contractors for the work required. Mobile emissions data was acquired from

EMFAC 2014 based on average vehicle age of three to four years, the type of fuel (gas or diesel), and the service rating (heavy duty, medium to light duty, passenger vehicle, etc.).

The following table compares estimated emissions from the proposed action with the EPA-determined *de minimis* emissions levels for all non-attainment and maintenance criteria pollutants in the San Joaquin Valley Air Basin.

Comparison of Project Emissions (Yearly Average, All Wells, Year One) to Federal *De minimis* Levels for San Joaquin Valley Air Basin

Regulated Pollutant	Federal Designation	<i>De minimis</i> level (tons/year)	Emission Estimate for Project (tons/year)
Ozone (ROG)	Extreme non-attainment	10	6.124
Ozone (NOx)		10	3.737
PM10	Maintenance	100	81.897
PM2.5 (Direct emissions, SO2, NOx, VOC, or ammonia)	Non-attainment	100	3.069

Comparison of Project Emissions (Yearly Average, All Wells, Year 2-18) to Federal *De minimis* Levels for San Joaquin Valley Air Basin

Regulated Pollutant	Federal Designation	<i>De minimis</i> level (tons/year)	Emission Estimate for Project (tons/year)
Ozone (ROG)	Extreme non-attainment	10	0.632
Ozone (NOx)		10	0.438
PM10	Maintenance	100	5.823
PM2.5 (Direct emissions, SO2, NOx, VOC, or ammonia)	Non-attainment	100	0.401

Therefore, the proposed project is consistent with the SIP and emissions would not exceed the *de minimis* emission levels and are exempt from conformity determination (40 CFR Part 93.153). As a result, no formal conformity analysis or determination is required.

As described in Chapter 3, there are a number of SJVAPCD rules that would minimize air quality impacts, such as Rules 2280, 4101, 8021, and 8031. For example, applicant compliance with Regulation VIII (Rules 8021 and 8031) would minimize particulate emissions by requiring Berry to water unpaved access roads in the project area and to water soils prior to excavation and trenching and during backfilling while compacting. Applicant compliance with Rule 2280

would ensure that VOC and NOx emissions from certain portable units, such as the drilling rig, would be evaluated per the SJVAPCD's calculation methodologies, and any increase in emissions would be fully offset during the air permitting process. Implementation of this existing regulatory mechanism would offset the increase in potential emissions related to the proposed project.

The indirect effects to air quality from the Proposed Action alternative would occur downstream from the project site through transportation, refining, and consumption of the end product. However, due to the large scale of oil and gas production in California and the rate at which existing wells are being abandoned, the addition of nineteen (19) new producing wells would not constitute a significant addition of oil to the market, and burning of that oil would likewise not constitute and significant emission of criteria pollutants.

No Action:

There would be no impacts to air quality from the No Action Alternative outside of those already occurring in the project area because the project would not occur. Any impacts on site would remain the same in absence of the proposed project.

Biological Resources

Proposed Action:

Although direct impacts to federally listed species would not be expected as there is no evidence of their presence in the vicinity of the project site. No potential kit fox dens have been identified and will be monitored. A "no effect" determination has been made for all federally listed species. In addition, the implementation of design features (COAs) for avoidance and protection of special status species would minimize any potential for impacts. Adherence to provisions of the BLM would compensate for unavoidable impacts to listed species.

Assuming that well stimulation is an unlikely but reasonably foreseeable future technique to be applied to stimulate production from this well, there is a potential for direct impacts to species on the project site in the form of acute toxicity from exposure to fracking or chemical fluids as a result of a chemical spill (assuming chemicals are used in the fracking process). Acute toxicity could result in damage and/or mortality to plants and distress, impair health, result in abnormality, reproductive harm, or mortality of animals (CDOGGR, 2015). However, implementation of spill prevention regulations, including EPA regulation 40 CFR 112, Oil Pollution Prevention, and BLM California IM CA-92-124, Oil and Gas Guidelines for Undesirable Events (NTL-3A), and provisions of the 2017 Biological Opinion would mitigate potential impacts to wildlife species, including listed and sensitive species. Given the required regulatory compliance framework, the likelihood of these spills and the potential for significant impacts to biological resources are low (CDOGGR, 2015).

No Action

There would be no additional impacts to biological resources from the No Action Alternative. However, the rejection of the thirty-eight (38) APD's would not alter the trajectory of listed species populations relative to thirty-eight (38) APD's approval because the amount of disturbance is inconsequential on a regional scale. Also, under the No Action alternative, there

would be no long term off-site conservation of listed species habitat, and the impacts to habitat may only be postponed until the next APD is approved for the development of the mineral lease

Climate Change

Proposed Action:

The proposed action would result in emissions of GHGs that contribute to global climate change. These emissions are associated with combustion sources such as diesel drill and completion/workover rig engines, drill pad construction equipment (i.e., dozers, backhoe, grader, etc.), equipment trucks, water trucks, drill rig crew trucks/vehicles, and portable lift equipment. Emissions of GHGs could also occur through venting or fugitive losses from open sumps and/or pits, valves and fittings, pumps, compressors, and the wellhead.

Berry provided a summary of expected GHG emissions from site preparation and drilling of the thirty-eight (38) wells. The expected GHG emissions for year one of the project would be 2834 metric tons of CO_{2e} and the yearly emissions for years 2-19 would be 189 metric tons of CO_{2e}.

Based on emissions estimates above, site preparation and drilling thirty-eight (38) new wells in the North Midway Sunset oilfield would not constitute a significant addition of GHGs to the atmosphere. Put into perspective, the California Air Resources Board estimated a total of 440.4 million metric tons of CO_{2e} emitted to the atmosphere in 2015, whereas the total emissions for the project would be 3023 metric tons of CO_{2e} (CARB, 2017).

Climate change is a global phenomenon resulting from the accumulation of GHGs locally, then regionally, but GHG emissions resulting from the proposed action are inconsequential at the local scale due to the small scale of the project.

The indirect effects to climate change from the Proposed Action alternative would occur downstream from the project site through transportation, refining, and consumption of the end product. However, due to the large scale of oil and gas production in California and the rate at which existing wells are being abandoned, the addition of thirty-eight (38) new wells would not constitute a significant addition of oil to the market, and burning of that oil would likewise not constitute and significant emission of GHGs.

As discussed in Chapter 3, evidence suggests that even with mitigation efforts, a strong, consistent, positive linear relationship between GHGs and temperature, changes in precipitation patterns, oceanic warming, ocean acidification, and reduction in Arctic sea ice. In addition, species extinction, threats to food security, and threats to human health are predicted. In general, “Climate change will amplify existing risks and create new risks for natural and human systems” (IPCC, 2014). The current scientific consensus holds that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have resulted in much higher concentrations of GHGs in the atmosphere than would be expected to occur naturally. In the last decade, increased GHGs are believed to have resulted in increases in global temperature and other climate change effects never previously recorded. Data show that the earth’s average surface temperature has increased by about 1.2 to 1.4 degrees Fahrenheit in the last 100 years.

The cumulative impacts section of this environmental assessment does not include Climate Change because the phenomenon is innately a result of cumulative impacts, and analysis of greenhouse gas emissions serves as a proxy for assessing potential climate change effects. Thus, the discussion of direct and indirect impacts of the proposed action on global climate change adequately address cumulative impacts as well.

No Action

There would be no additional impacts to the trajectory of global climate change from the No Action alternative; implementing this alternative would result in no net gain of GHGs in the atmosphere because the project would not occur.

Paleontological Resources

Proposed Action:

The project area is largely underlain by the Tulare Formation and other paleontologically sensitive alluvial deposits. These formations have a high potential for fossil resources (PFYC 4) (BLM Paleontological Resource Inventory Report # 6000-2019-03P). As a result, direct impacts to paleontological resources could occur during any excavation and earthwork that has the potential to impact these formations. These activities include, but are not limited to, buried electrical line installation, road and well pad grading, sump construction, and power pole installation. Due to this potential, a Paleontological Resource Mitigation Plan, which includes paleontological monitoring and specimen collection, shall be implemented for all construction-related activities within those areas where these sensitive formations occur. The implementation of this plan mitigates all potential impacts to paleontological resources as a result of project activities. Mitigation shall be required for wells Southwestern HP-22, HP-24, HP-26, HP-28, HP30, HP-32, 56-61, 56-63, 57-60, 57-62, 58-59, 58-61, 58-63, 59-58, 59-60, 59-62, 60-59, 60-63, 61-58, 61-60, 61-62, 61-64, 62-61, 62-63, 63-62, 63-64, 64-63, & 64-65.

In some locations within the project area, extensive cut and fill has occurred. As a result, certain locations consist entirely of highly disturbed fill material, which has no potential for the presence of intact fossil remains. These locations have been mapped and it has been determined that several of the proposed projects are within these areas. These include wells Southwestern HP-21, HP23, HP-25, HP-27, HP-29, HP31, 60-61, 62-59, 63-60, and 64-61. Due to the absence of potential impacts to paleontological resources within areas of cut and fill, these project locations will be exempt from mitigation requirements.

No Action:

There would be no impacts to paleontological resources under the no action alternative. There would be no ground disturbance and fossils would stay in place; however, leaving fossils buried limits opportunities for scientific investigation, which can be facilitated through the implementation of a Paleontological Mitigation and Monitoring Plan, which includes monitoring and collection. This mitigation is required for all project activities on BLM surface lands.

Soil Resources

Proposed Action:

Soil disturbance would occur as a result of well pad, and sump construction, staging site construction, and thirty-eight (38) drilling operations. Topsoil and soil horizons would be removed and/or mixed, changing soil-water dynamics and removing nutrients from the project site. In addition, soils would be compacted, which could lead to surface runoff, sediment carry, and erosion concerns. Water erosion is moderately likely, while there is a relatively low potential for erosion from wind at the project site. However, Berry would minimize and mitigate these impacts by conducting interim reclamation utilizing site-specific topsoil on the temporary staging areas, cut and fill slopes, and the sump subsequent to drilling operations. This would include all practicable measures to minimize erosion and stabilize disturbed soils. Also, Berry would conduct final reclamation at the project site when the wells are abandoned. In addition, Berry would comply with all applicable federal, state, and local air quality rules and regulations in order to reduce emissions of particulate matter originating from soil disturbance at the project site.

Berry is required to comply with all federal, state, and local laws and regulations, including provisions of EPA regulation 40 CFR 112, Oil Pollution Prevention, and BLM California IM CA-92-124, Oil and Gas Guidelines for Undesirable Events (NTL-3A). Nonetheless, the potential remains for hydrocarbon and chemical leaks or spills to occur on the project site and contaminate soils during project implementation. Given the required regulatory compliance framework, the likelihood of these spills are low and the impacts to soils from spills would not be significant.

No Action

There would be no impacts to soil from the No Action alternative because the project would not occur.

Water Quality and Quantity**Proposed Action:**

The proposed action would not result in direct or indirect impacts to underground sources of drinking water or surface waters. Although there are groundwater aquifers contained in multiple formations underlying the North Midway Sunset Oilfield, some aquifers have been treated as exempt by the U.S. Environmental Protection Agency while others would be avoided through casing and engineering controls. Surface waters are not expected to be directly or indirectly impacted because Berry would implement all applicable Design Features/Conditions of Approval for Surface, which would avoid erosion, sediment carry, and other potential impacts to the closest intermittent drainage in the project area. Berry has obtained an Underground Injection Control permit and a Notice of Applicability of Water Quality Order 2003-0003-DWQ permit, which are intended to reduce and mitigate impacts to underground sources of water and surface waters. In addition, the project would not result in fresh water quantity impacts because Berry would receive drilling and dust abatement water from a local municipal water source, which is frequently tested for quality. Also, any water supplied by Kern Water District is guaranteed to be accounted for, while the District also implements water conservation strategies.

Although the North Midway Sunset has experienced a small number of well integrity failures over the years due to stresses from thermal operations and aging wellbores, Berry implements mechanical integrity tests as required by regulations to identify and locate wellbore failures. If failures have been identified, the wellbore is either repaired or abandoned to prevent potential leakage into the surrounding underground aquifers. Berry has stated that the probability of failure is extremely low. Even so, Berry would implement additional casing and engineering controls to prevent contamination of the underground aquifer.

No Action

There would be no impacts to water quality and quantity from the No Action alternative.

CUMULATIVE IMPACTS

Air Quality

The direct and indirect impacts to air quality from the proposed action are miniscule at the local scale and inconsequential at the regional and global scale due to the small scale of the project. Thus, there would be no significant cumulative impacts.

Biological Resources

Compliance with the Project Specific Provisions and other regulatory mechanisms such as EPA regulation 40 CFR 112, Oil Pollution Prevention, and BLM California IM CA-92-124, Oil and Gas Guidelines for Undesirable Events (NTL-3A) would effectively compensate for any direct or indirect effects to habitat and species in the San Joaquin Valley, including listed and sensitive species. In addition, BLM has made a “no effect” determination for listed species because there is no evidence that any occupy the project site. Cumulative impacts from habitat disturbance would be minimized by purchasing off-site mitigation acreage for federal oil and gas projects, ensuring that land identified as core areas, linkages, or corridors be conserved as habitat. Cumulative impacts from exposure to well stimulation fluids would be minimized by adherence to all applicable federal, state, and local regulations that prevent exposure of wildlife species to toxic chemicals.

Paleontological Resources

For projects located within the Tulare Formation (PFYC 4), federal requirements for paleontological resource mitigation would be implemented for any future projects located on BLM surface lands within this lease, as well as for other federal leases within the Midway Sunset Oilfield. Due to an absence of paleontological compliance for non-federal projects in this area, this project will benefit the scientific study of regional paleontology, resulting in a positive cumulative effect.

Soil Resources

Cumulative effects are expected to be negligible with the implementation of interim and final reclamation measures required in the Design Features. In addition, soils altered by project activities would be compensated for offsite as required by the Project Specific Provisions. Although the Provisions are intended to compensate for habitat disturbance, they effectively compensate for soil disturbance as well because development is restricted on compensation

lands. Thus, soil disturbance would be inconsequential at a local, regional, and global scale with no cumulative impacts.

Water Quality and Quantity

There would be no cumulative impacts to water quality and quantity from the Proposed Action alternative because there would be no direct or indirect impacts.

Chapter 5. Consultation and Public Involvement

National Historic Preservation Act Public Scoping

Public review for the purposes of NHPA decision compliance was conducted through the E-Planning public website. This was conducted according to the process and timelines specified in the 2014 BLM State Protocol Agreement for NHPA compliance. No comments were received as a result of a “no historic properties affected” posting for the proposed action.

Persons, groups, and agencies consulted

Gabriel Garcia, Bakersfield Field Office Manager
Silvet Holcomb, Petroleum Engineer
John Hodge, Assistant Field Manager for Minerals
Carlos Lovera, Berry Petroleum

Recipients of Native American Notification Letters (TNL# 19-15)

Mr. Neil Peyron, Chairman, Tule River Reservation
Ms. Kerri Vera, Environmental Specialist, Tule River Reservation
Mr. Octavio Escobedo, , Chairman, Tejon Indian Tribe
Mr. Colin Rambo, THPO, Tejon Indian Tribe
Ms. Stephanie Smith, EPA Program, Tejon Indian Tribe
Mr. Leo Sisco, Chairman, Santa Rosa Rancheria
Ms. Shana Powers, Archaeologist, Santa Rosa Rancheria
Mr. Greg Cuara, Heritage Program, Santa Rosa Rancheria

SUMMARY OF PUBLIC PARTICIPATION

The BLM posted notification that it was considering this APD on the E-Planning public website on May 1st, 2019. This notice initiated the 30-day scoping period. The BLM also posted copies of the Applications for Permit to Drill (APD) in the front lobby of the Bakersfield Field Office for that 30-day period.

The BLM did not receive any scoping comments or requests to review this EA during the 30 day scoping period.

National Historic Preservation Act: For the purposes of public notification and review, as required under Section 106 of the National Historic Preservation Act, a description of this project was posted on the BLM public NEPA project webpage. This description included a statement that indicated that this action has been determined to be an exempted activity as defined in the 2019 State Protocol. As required under the Protocol, this determination was posted for a period of 15 days. There was no response by the public to this decision.

LIST OF PREPARERS

Tamara Whitley, Cultural and Paleontological Resources
Fernando Banos, Natural Resource Specialist
Matt Thomas, Environmental Protection Specialist

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