Draft
Environmental Impact Report

SCH# 2021110076

Volume 2

Appendices A through D

GEM HILL QUARRY PROJECT

by CalPortland Company *(PP21404)*

Conditional Use Permit No. 45, Map No. 214

Kern County
Planning and Natural Resources Department Bakersfield, California

August 2022

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Appendix A

Notice of Preparation/Initial Study and Comment Letters

Appendix A.1

Notice of Preparation/Initial Study

Lorelei H. Oviatt, AICP, Director
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Phone: (661) 862-8600
Fax: (661) 862-8601 **TTY Relay 1-800-735-2929**
Email: planning@kerncounty.com
Web Address: http://kernplanning.com/

PLANNING AND NATURAL RESOURCES DEPARTMENT

Planning
Community Development
Administrative Operations

NOTICE OF PREPARATION

DATE: November 4, 2021

TO: See Attached Mailing List

FROM: Kern County Planning and Natural Resources Department
Attn: Randall Cates
2700 "M" Street, Suite 100
Bakersfield, CA 93301
(661) 862-8612; CatesR@kerncounty.com

SUBJECT: NOTICE OF PREPARATION (NOP) OF A DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE GEM HILL QUARRY PROJECT BY CALPORTALND COMPANY

The Kern County Planning and Natural Resources Department as Lead Agency (per CEQA Guidelines Section 15052) has determined that preparation of an Environmental Impact Report (per CEQA Guidelines Section 15161) is necessary for the proposed project identified below. The Planning and Natural Resources Department solicits the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use the EIR prepared by our agency when considering your permit or other approval of the project.

You are invited to view the NOP and submit written comments regarding the scope and content of the environmental information in connection with the proposed project should you wish to do so. Due to the limits mandated by State law, your response must be received by **December 6, 2021 at 5:00 p.m.** Comments can be submitted to the Kern County Planning and Natural Resources Department at the address shown above or to CatesR@kerncounty.com. In addition, comments can be submitted at a scoping meeting that will be held at the Kern County Planning and Natural Resources Department on **Friday, November 18, 2021 at 1:30 p.m.** at the address shown above.

PROJECT TITLE: Gem Hill Quarry Project by CalPortland Company (PP21404); PLN20-01417; CUP 45, Map 214.

PROJECT LOCATION: West side of Mojave Tropico Road, approximately two miles south of Backus Road; approximately four miles northwest of the unincorporated community of Rosamond; also being located within portions of Sections 25, 26, 35 and 36 of Township 10 North, Range 13 West, San Bernardino Base and Meridian (SBBM), County of Kern, State of California.

PROJECT DESCRIPTION:
The project proponent has submitted: (a) a Conditional Use Permit (CUP 45, Map 214) application, to allow a surface mining operation and development of a reclamation plan on 82 acres of an approximately 210-acre reclamation plan boundary, which would utilize a 0.75-acre primary access road outside of such reclamation plan boundary to provide access to/from Mojave Tropico Road.

Access to the site would be obtained via two access roads to Mojave Tropico Road, specifically the aforementioned access road and a secondary access road to the north thereof. The project proponent proposes to employ open pit, multibench, and drill and blast mining techniques to mine naturally occurring pozzolan (volcanic tuff), which is used in the production of cement. No crushing or processing of mined mined material would occur onsite.

The life of the operation is proposed to be 30 years. Annual mineral production is estimated to be 500,000 tons, and the maximum total mineral production is estimated to be 15,000,000 million tons. The total anticipated production of mine waste (overburden) is estimated to be 600,000 tons, which would be disposed in two onsite overburden stockpiles. The proposed maximum depth of excavation is 300 feet below original grade. No phasing of mining is proposed.

Maximum operational inter-bench slopes (also referred to as bench face slopes) for the quarry will be 0.25:1 (horizontal:vertical (H:V)) with overall slopes of 1:1 (H:V). Maximum final reclaimed inter-bench slopes for the quarry will be 0.25:1 (H:V). Overall final reclaimed slopes for the quarry will be a maximum of 1:1 (H:V).

Maximum operational slopes for the overburden stockpiles will be 1.5:1 (H:V). Maximum and overall final reclaimed slopes for the overburden stockpiles will be 2:1 (H:V).

Operations would typically be conducted between 7:00 a.m. and 7:00 p.m., Monday through Saturday, with the understanding that additional shifts or longer/alternative hours may be required due to operational constraints. As proposed, there would be a maximum of 20 employees onsite at any one time. These 20 employees would include haul truck drivers, who would haul overburden onsite (from the quarry to the overburden stockpiles), as well as hauling naturally occurring pozzolan (volcanic tuff) offsite to clients.

Document can be viewed online at: https://kernplanning.com/planning/notices-of-preparation/

Signature: 

Name: Randall Cates, Planner III

Gem Hill Quarry Project
CUP 45, Map 214 PP21404
I:\Planning\WORKGRPS\WP\LABELS\Gem Hill Quarry.docx
cc 09/13/2021

Inyo County Planning Dept
P.O. Drawer "L"
Independence, CA 93526

Kings County Planning Agency
1400 West Lacey Blvd, Bldg 6
Hanford, CA 93230

Los Angeles Co Reg Planning Dept
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Los Angeles, CA 90012

San Bernardino Co Planning Dept
385 North Arrowhead Avenue, 1st Floor
San Bernardino, CA 92415-0182

San Luis Obispo Co Planning Dept
Planning and Building
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San Luis Obispo, CA 93408

Santa Barbara Co Resource Mgt Dept
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Santa Barbara, CA 93101

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Visalia, CA 93291

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Ventura, CA 93009-1740

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Ridgecrest, CA 93555

China Lake Naval Weapons Center
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Mail Stop 4001
China Lake, CA 93555

Edwards AFB, Mission Sustainability Liaison
412 TW, Bldg 2750, Ste 117-14
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Edwards AFB, CA 93524

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Palm Springs, CA 92262

Eastern Kern Resource Cons Dist
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Ridgecrest, CA 93555-4436

Environmental Protection Agency
Region IX Office
75 Hawthorn Street
San Francisco, CA 94105

U.S. Dept of Agriculture/NRCS
5080 California Avenue, Ste 150
Bakersfield, CA 93309-0711

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28201 Franklin Parkway
Santa Clarita, CA 91383-9321

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California State University of Bkfd
9001 Stockdale Highway
Bakersfield, CA 93311

Caltrans/Dist 6
Planning/Land Bank Bldg.
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Fresno, CA 93778

Caltrans/Dist 9
Planning Department
500 South Main Street
Bishop, CA 93514

State Clearinghouse
Office of Planning and Research
1400 - 10th Street, Room 222
Sacramento, CA 95814

State Dept of Conservation
Director's Office
801 "K" Street, MS 24-01
Sacramento, CA 95814-3528

State Dept of Conservation
Geologic Energy Management Division
4800 Stockdale Highway, Ste 108
Bakersfield, CA 93309

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Headquarters
801 "K" Street, MS 12-30
Sacramento, CA 95814

State Dept of Conservation
Office of Land Conservation
801 "K" Street, MS 18-01
Sacramento, CA 95814

State Dept of Conservation
Office of Mine Reclamation
801 "K" Street MS 09-06
Sacramento, CA 95814-3529

State Dept of Conservation
Div Recycling Cert. Sec.
801 "K" Street, MS 19-01
Sacramento, CA 95814

State Mining and Geology Board
801 K Street, MS 20-15
Sacramento, CA 95814

California State University
Bakersfield - Library
9001 Stockdale Highway
Bakersfield, CA 93309

California Fish & Wildlife
1234 East Shaw Avenue
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California Regional Water Quality
Control Board/Lahontan Region
15095 Amargosa Road - Bld 2, Suite 210
Victorville, CA 92392

State Lands Commission
100 Howe Avenue, Ste 100-South
Sacramento, CA 95825-8202

Kern County Administrative Officer

Kern County Public Works Department/
Building & Development/Floodplain

Kern County Public Works Department/
Building & Development/Survey

Kern County
Env Health Services Department

Kern County Fire Dept
David Witt, Fire Chief

Kern County Fire Dept
Cary Wright, Fire Marshall

Kern County Library/Beale
Local History Room

Kern County Library/Beale
Andie Sullivan

Kern County Library
Wanda Kirk/Rosamond Branch
3611 Rosamond Boulevard
Rosamond, CA 93560

Kern County Parks & Recreation

Kern County Sheriff's Dept
Administration

Kern County Public Works Department/
Building & Development/Development
Review

Kern County Public Works
Department/Operations &
Maintenance/Regulatory Monitoring &
Reporting

Kern County Public Works Department/
Building & Development/Code
Compliance

Southern Kern Unified School Dist
P.O. Box CC
Rosamond, CA 93560

Kern County Superintendent of Schools
Attention School District Facility Services
1300 - 17th Street
Bakersfield, CA 93301

Antelope Valley-East Kern
Water Agency
6500 West Avenue N
Palmdale, CA 93551

Kern County Water Agency
P.O. Box 58
Bakersfield, CA 93302-0058

East Kern Air Pollution
Control District

Adams, Broadwell, Joseph & Cardozo
Attention: Janet M. Laurain
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080

U.S. Air Force
Attn: David Bell/AFCEC CZPW
Western Regional/Leg Branch
510 Hickam Avenue, Bld 250-A
Travis AFD, CA 94535-2729

U.S. Army
Attn: Philip Crosbie, Chief
Strategic Plans, S3, NTC
P.O. Box 10172
Fort Irwin, CA 92310

U.S. Army
Attn: Tim Kilgannon, Reg 9 Coord
Office of Strategic Integration
721 - 19th Street, Room 427
Denver, CO 80202

U.S. Navy
Attn: Steve Chung, Plans & Liaison Officer
1220 Pacific Highway
San Diego, CA 92132-5190

U.S. Marine Corps
Command Gen MCIWEST-MCB CamPen
Attn: A/CS, G7
Box 555010, Bldg 1160, Rm 280
Camp Pendleton, CA 92055-5246

AT&T California
OSP Engineering/Right-of-Way
4901 Ashe Road
Bakersfield, CA 93313

Kern Audubon Society
Attn: Frank Bedard, Chairman
4124 Chardonnay Drive
Bakersfield, CA 93306

Center on Race, Poverty
& the Environment
Attn: Marissa Alexander
1999 Harrison Street – Suite 650
San Francisco, CA 94612

Center on Race, Poverty
& the Environmental/
CA Rural Legal Assistance Foundation
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Delano, CA 93215

Defenders of Wildlife/
Kim Delfino, California Dir
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P.O. Box 935
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Native American Heritage Council
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Sierra Club/Kern Kaweah Chapter
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Kern Valley Indian Council
Attn: Robert Robinson, Chairperson
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Weldon, CA 93283

Kern Valley Indian Council
Historic Preservation Office
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Weldon, CA 93283

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Ruben Barrios, Chairperson
P.O. Box 8
Lemoore, CA 93245

Tejon Indian Tribe
Kathy Morgan, Chairperson
1731 Hasti-acres Drive, Suite 108
Bakersfield, CA 93309

Kitanemuk & Yowlumne Tejon Indians
Chairperson
115 Radio Street
Bakersfield, CA 93305

Tubatulabals of Kern County
Attn: Robert Gomez, Chairperson
P.O. Box 226
Lake Isabella, CA 93240

Tule River Indian Tribe
Neal Peyron, Chairperson
P.O. Box 589
Porterville, CA 93258

Joyce LoBasso
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Cynthia Herzog
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Bakersfield, CA 93301

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Bakersfield, CA 93301

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California City, CA 93515

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Delano, CA 93216

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Maricopa, CA 93252

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McFarland, CA 93250

City of Ridgecrest
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Ridgecrest, CA 93555

City of Shafter
336 Pacific Avenue
Shafter, CA 93263

City of Taft
Planning & Building
209 East Kern Street
Taft, CA 93268

City of Tehachapi
Attn: John Schlosser
115 South Robinson Street
Tehachapi, CA 93561-1722

City of Wasco
764 E Street
Wasco, CA 93280

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Attn. Marty Derus
1905 Business Center Drive
San Bernardino, CA 92408

Harrison, Temblador Hungerford & Johnson
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Sacramento, CA 95816

Benchmark Resources
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California Native American Heritage Commission
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West Sacramento, CA 95691

State Air Resources Board
Stationary Resource Division
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California Highway Patrol
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2070 Peabody Road, Suite 710
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MSHA/Field Office
720 Carnegie Drive, Bld A, Ste 100
San Bernardino, CA 92408

State Department of Industrial Relations
CAL/OSHA – Mining & Tunneling
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State Department of Industrial Relations
CAL/OSHA – Mining & Tunneling
Attn: Doug Patterson
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State Department of Industrial Relations
CAL/OSHA – Mining & Tunneling
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Lorelei H. Oviatt, AICP, Director
2700 "M" Street, Suite 350
Bakersfield, CA 93301-2323
Phone: (661) 862-8800
Fax: (661) 862-8801 **TTY Relay 1-800-735-2929**
Email: planning@kerncounty.com
Web Address: http://kernplanning.com/

PLANNING AND NATURAL RESOURCES DEPARTMENT

Planning
Community Development
Administrative Operations

DATE: November 4, 2021

TO: Surrounding Property Owners within 1,000 Feet of Project Boundary; and, Interested Parties

FROM: Kern County Planning and Natural Resources Department
2700 "M" Street, Suite 100
Bakersfield, CA 93301

RE: Notice of Preparation of a Draft Environmental Impact Report – Gem Hill Quarry Project by CalPortland Company (PP21404)

Dear Sir or Madam:

The Kern County Planning and Natural Resources Department has determined that preparation of an Environmental Impact Report (EIR) is necessary for the project identified below. The purpose of this letter is to notify surrounding property owners within 1,000 feet of the project boundaries of this determination. A copy of the Initial Study/Notice of Preparation (IS/NOP) prepared for this project is available for viewing at the following Kern County website:

https://kernplanning.com/planning/notices-of-preparation/

The IS/NOP is also available for review at the Planning and Natural Resources Department, located at 2700 "M" Street, Suite 100, Bakersfield, CA 93301. The purpose of the IS/NOP is to describe the proposed project, specify the project location, and to identify the potential environmental impacts of the project so that Responsible Agencies and interested persons can provide a meaningful response related to potential environmental concerns that should be analyzed in the Environmental Impact Report.

You are invited to view the IS/NOP and submit written comments regarding this project should you wish to do so. Due to the limits mandated by State law, your response must be received by **December 6, 2021 at 5 p.m.** Comments can be submitted to the Kern County Planning and Natural Resources Department, Attn. Randall Cates, at the address shown above or to CatesR@kerncounty.com

A scoping meeting that will be held at the Kern County Planning and Natural Resources Department on **November 18, 2021 at 1:30 p.m.** at the address shown above.

Please be advised that any comments received after the dates listed above will still be included in the public record for this project and made available to decision makers when this project is scheduled for consideration at a public hearing. Please also be advised that you will receive an additional notice in the mail once a public hearing date is scheduled for this project. You will also be provided additional opportunities to submit comments at that time.

PROJECT TITLE: Gem Hill Quarry Project by CalPortland Company (PP21404); PLN20-01417; CUP 45, Map 214.

PROJECT LOCATION: West side of Mojave Tropico Road, approximately two miles south of Backus Road; approximately four miles northwest of the unincorporated community of Rosamond; also being located within portions of Sections 25, 26, 35 and 36 of Township 10 North, Range 13 West, San Bernardino Base and Meridian (SBBM), County of Kern, State of California.

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Operations would typically be conducted between 7:00 a.m. and 7:00 p.m., Monday through Saturday, with the understanding that additional shifts or longer/alternative hours may be required due to operational constraints. As proposed, there would be a maximum of 20 employees onsite at any one time. These 20 employees would include haul truck drivers, who would haul overburden onsite (from the quarry to the overburden stockpiles), as well as hauling naturally occurring pozzolan (volcanic tuff) offsite to clients.

Should you have any questions regarding this project, or the Initial Study/Notice of Preparation, please feel free to contact me at (661) 862-8612 or CatesR@kerncounty.com.

Sincerely,

Randall Cates

Randall Cates, Planner III
Advanced Planning Division

Attachment: Figure 1 - Site Vicnity
Figure 4 - Proposed Mine Plan

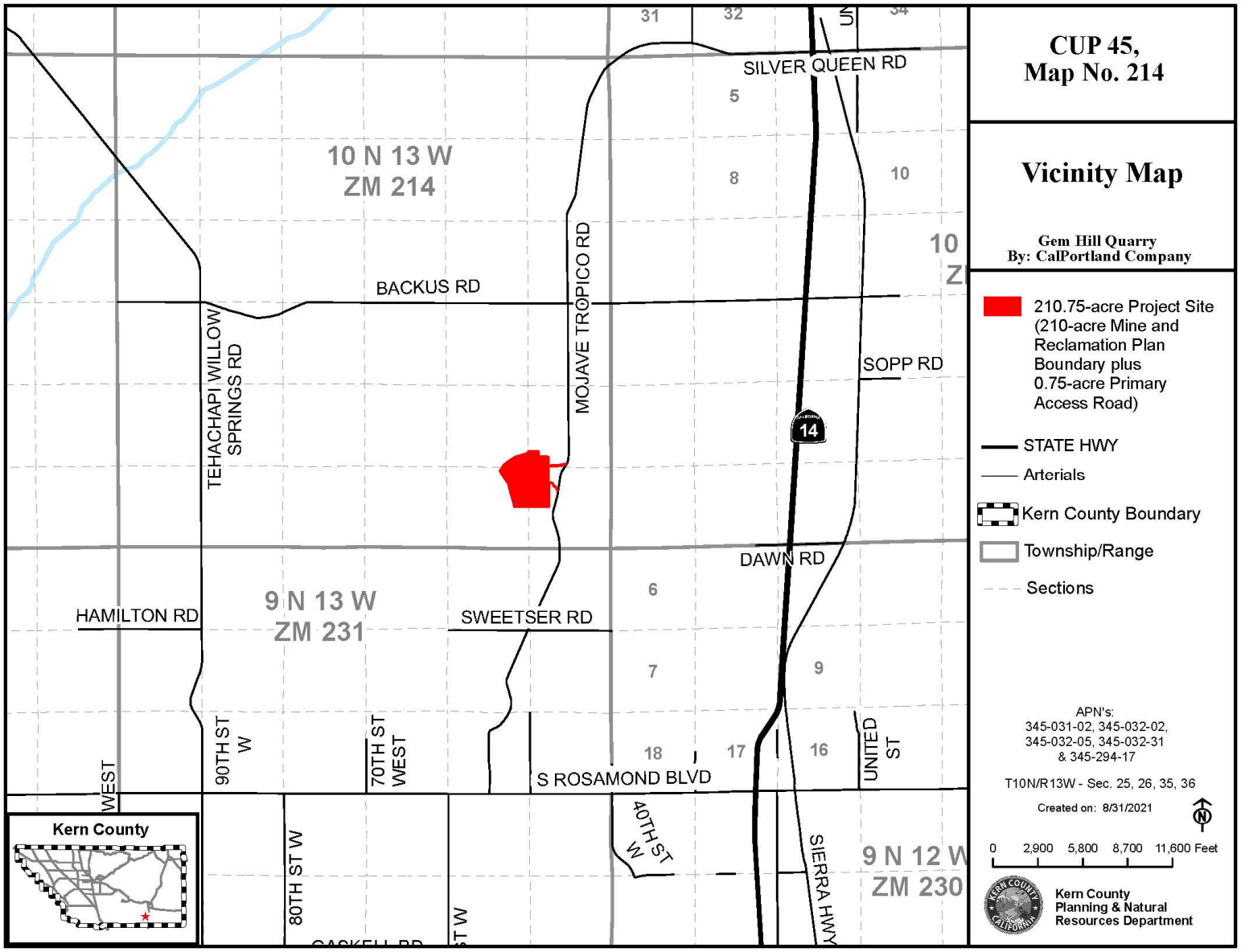


Figure 1: Site Vicinity

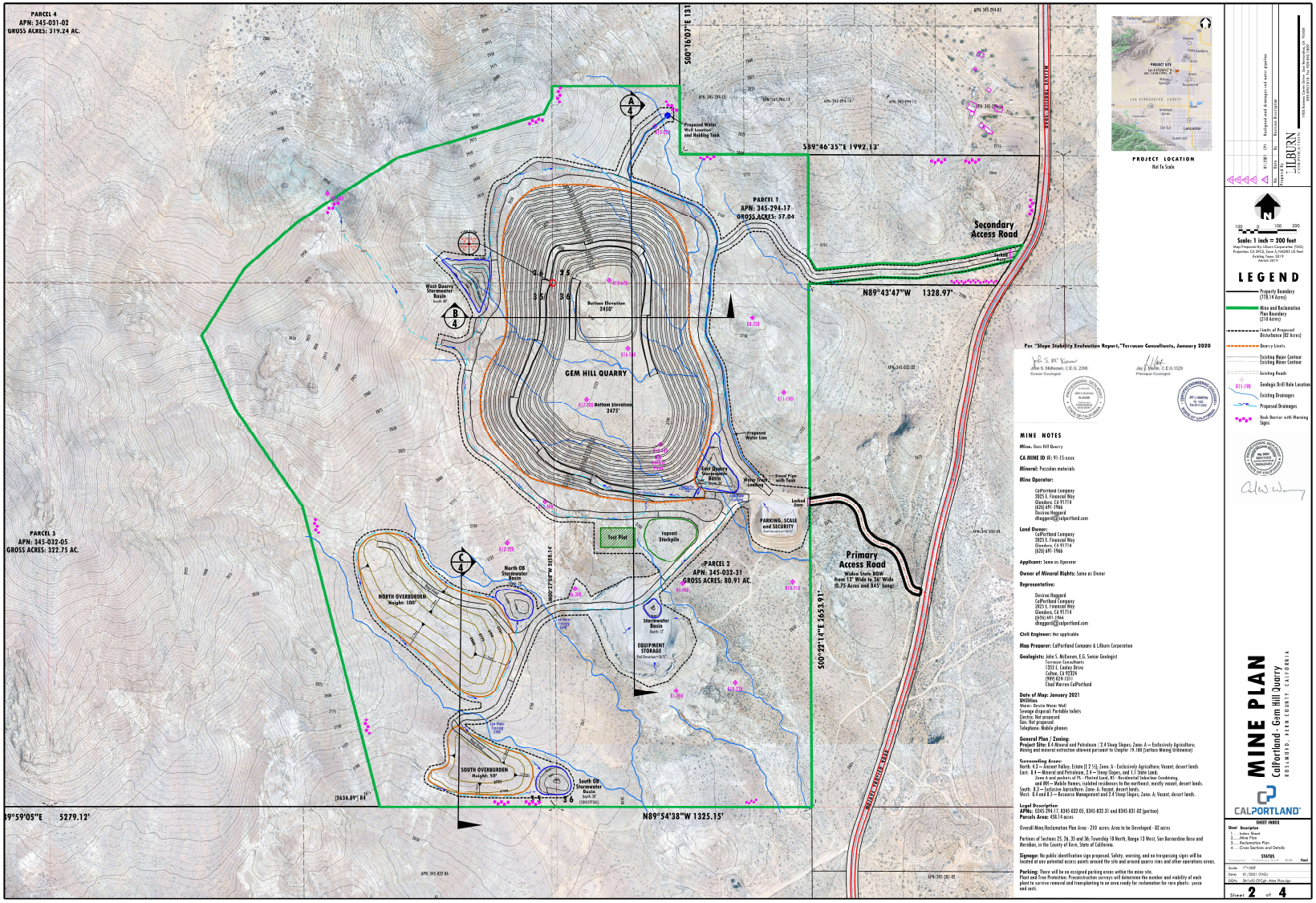


Figure 4: Proposed Mine Plan

Gem Hill Quarry Project
CUP 45, Map 214 PP21404
I:\Planning\WORKGRPS\WP\LABELS\Gem Hill Quarry.docx
cc 09/13/2021

345 272 04 00 9
ACHIVIDA HILARION M & L A
1703 WEST AVE 0-4
PALMDALE CA 93551

345 272 02 00 3
ANA PROPERTIES LLC
P O BOX 1510
LA MIRADA CA 90637

345 262 03 00 3
ARMSTRONG GARY K & ANNIE S TR
2226 WOODCREST LN
CARSON CITY NV 89701-5441

345 262 11 00 6
BARTL LEE A & JACKIE S
605 LURLINE PL
SANTA ROSA CA 95405-5263

345 031 02 00 6
CALPORTLAND CO
2025 E FINANCIAL WY
GLENDORA CA 91741-4692

345 262 04 00 6
CARTER WAYNE R
910 N HINDEMAN ST
SISTERS OR 97759-3128

345 294 13 00 5
CASTER FAMILY TRUST
18531 OAKMOOR ST
CANYON COUNTRY CA 91351

345 272 28 00 9
CRUMPACKER TRUST
2687 SAUSALITO AV
CARLSBAD CA 92010-7903

345 032 36 00 2
DE MONTE FAMILY REVOCABLE TRUST 1990
2423 NICKLAUS DR
SANTA MARIA CA 93455-1524

345 293 10 00 9
AEK GLOBAL INV LLC
4603 HURFORD TR
ENCINO CA 91436-3345

345 272 05 00 2
ANDRADA GERARDO E SR & ARSENIA
35751 GATEWAY DR UNIT L-1226
*

345 262 31 00 4
ARSENAULT MICHAEL G & KAREN E
PO BOX 505
BEDFORD MA 01730-3005

345 262 26 00 0
BATSEL BRIANNA L
6036 E BUTTERFIELD LN
ANAHEIM CA 92807

345 294 01 00 0
CALPORTLAND CO
10655 PARK RUN DR STE 275
LAS VEGAS NV 89144

345 272 03 00 6
CAMPBELL DENNIS J
13655 ESPLANADE AV
SANTA ANA CA 92705-2635

345 294 16 00 4
CASH CARL L & TORCHY R
7167 MOJAVE TROPICO RD
MOJAVE CA 93501-7211

345 031 06 00 8
CHEN REALTY CO INC
PO BOX 361213
BIRMINGHAM AL 35236-1213

345 272 23 00 4
DALUMPINES RENATO & EVANGELINE TRUST
14049 BURTON ST
PANORAMA CITY CA 91402-4202

345 291 15 00 0
DIAZ ROGELIO S
9479 VISTA DR
SPRING VALLEY CA 91977

345 272 27 00 6
AMIROVA ELVIRA R
11340 SIR FRANCIS DRAKE DR
LA MESA CA 91941-7268

345 272 18 00 0
AQUINO ABRAHAM F JR & MELINDA
2475 GOLFCREST LOOP
CHULA VISTA CA 91915-1411

345 272 26 00 3
BACHINI MIGUEL & VIOLETA ET AL
25827 LONDON PL
STEVENSON RANCH CA 91381-1281

345 291 14 00 7
BROWN PAUL
P O BOX 1734
ROSAMOND CA 93560

345 293 27 00 9
CANTU ROBERT LEE
P O BOX 1344
ROSAMOND CA 93560

345 294 10 00 6
CASTER BETTY LOU
18531 OAKMOOR ST
CANYON COUNTRY CA 91351-2934

345 294 06 00 5
CHENG WILLIE T
1590 ROSECRANS AV STE D213
MANHATTAN BEACH CA 90266-3716

345 262 09 00 1 **INC**
DE GUZMAN WARLITO & JOSEPHINE
919-A ONGPIN ST
*

345 262 22 00 8
EAGLE DESERT VISTA CORP
PO BOX 2470
VICTORVILLE CA 92393

345 262 02 00 0
FLORES TERESITA N
4712 QUANTANA CT
LAS VEGAS NV 89102

345 262 10 00 3
ESTIVA ANITA B
1128 E JAY ST
CARSON CA 90745-3520

345 272 01 00 0
FIRST BAPTIST CHR-LA CRESCENTA
4441 LA CRESCENTA AV
LA CRESCENTA CA 91214

345 272 17 00 7
GALL CHARLES P & PALMIRA L
1201 YALE PL APT 508
MINNEAPOLIS MN 55403

345 262 32 00 7
FORECAST LAND CORP
PO BOX 36
WOODLAND HILLS CA 91365-0036

345 294 05 00 2
FRANCIA FEDERICO & MILAGROS TR
3823 STAFFORD SPRINGS WY
FAIRFIELD CA 94533

345 262 07 00 5
GOMEZ LORI NICKEL
PO BOX 73
DUNCANS MILLS CA 95430-0073

345 272 11 00 9
GARDNER NANCY TRUST
2274 SHANNON LN
WALNUT CREEK CA 94598-1230

345 272 10 00 6
GERALDE JEREMIAS JR & FE
44550 SANDHURST LN
LANCASTER CA 93536-6467

345 272 16 00 4
HORTON MILDRED I
2050 W DUNLAP AV # B158
PHOENIX AZ 85021

345 032 10 00 6
GORJIYAN FARAHNAZ
4004 PACHECO DR
SHERMAN OAKS CA 91403-4421

345 291 16 00 3
GREEN FAMILY TR
3086 GRAVE ST
VENTURA CA 93003

345 262 29 00 9
JOHNSON BERKELEY N
940 ALSTON RD
SANTA BARBARA CA 93108

345 282 02 00 6
HUR FAMILY TRUST
18744 VINTAGE ST
NORTHRIDGE CA 91324-1528

345 262 18 00 7
HUSEBY LEIGH J REVOCABLE
LIVING TRUST
2518 S 279TH PL
FEDERAL WAY WA 98003-6938

345 282 01 00 3
KEASLER KAHN ANN REVOCABLE
LIVING TRUST
1112 OXFORD HILLS DR
MARYVILLE TN 37803

345 272 15 00 1
JULIAN DELORES D TR
5554 ROSAMOND BL
ROSAMOND CA 93560

345 262 15 00 8
KAZEROUNI YVONNE
320 THE VILLAGE 104
REDONDO BEACH CA 90277

345 272 20 00 5
KUIDA MINORU & MACHIKO TR
1632 RAMONA DR
NEWBURY PARK CA 91320-3459

345 282 07 00 1
KIM MATTHEW & DWIGHT
1112 N SCREENLAND DR
BURBANK CA 91505-2503

345 281 06 00 1
KNIGHT JAMES E
5 CINNAMON LN
RANCHO PLS VERD CA 90275

345 262 21 00 5
LAGRIMAS DEMPSEY & FLORDELIZA
ET AL
1706 MULFORD ST
EVANSTON IL 60202-3243

345 281 02 00 9
KUPERS JEFFREY B
PO BOX 666
HEALDSBURG CA 95448-0666

345 281 04 00 5
KUPERS LAWRENCE B
605 DALE DR
SILVER SPRING MD 20910

345 294 22 00 1
LICO MICHAEL & KAREN ELENA
6328 NW MIDTOWNE LN
HUNTSVILLE AL 35806-1796

345 272 25 00 0
LAND DREAM LP
3104 E CAMELBACK RD 2104
PHOENIX AZ 85016

345 272 21 00 8
LEDWELL RUSSELL A
16810 RANGER CT
MORGAN HILL CA 95037-3827

345 272 29 00 2
MILES JOHN & LINDA REVOCABLE
TRUST
355 BAY FOREST DR
NAPLES FL 34110

345 272 19 00 3
MACALALAD LYDIA B
PO BOX 250913
GLENDALE CA 91225-0913

345 272 24 00 7
MC LYMAN FAMILY TRUST
P O BOX 3703
IDYLLWILD CA 92549

345 281 03 00 2
NARDI ANTHONY V & CHRISTINE
44022 FENNER AV
LANCASTER CA 93536

345 293 06 00 8
MOORES PHILLIP
7288 MOJAVE TROPICO RD
MOJAVE CA 93501-7283

345 294 07 00 8
MULLIGAN THOMAS C
80 LYME RD APT 245
HANOVER NH 03755-1246

345 294 02 00 3
PABST FAMILY TR
7862 MARIN LN
VENTURA CA 93004

345 032 06 00 5
NEWMAN GORDON W & LINDA L
27050 SANTA CLARITA RD
SAUGUS CA 91350-1558

345 281 19 00 9
OAK INVS LLC
P O BOX 2016
BEVERLY HILLS CA 90213

345 272 22 00 1
PARSONS CHARLOTTE E
9241 W BROWARD BL # 3302
PLANTATION FL 33324

345 272 30 00 4
PADILLA ALICIA HERNANDEZ
38015 65TH STREET E SP D 3
PALMDALE CA 93552

345 294 15 00 1
PANTELE FAMILY TRUST
1847 S STARFIRE AV
CORONA CA 92879-2935

345 281 07 00 4
PLANK CHARLES E
3524 GRAND AV U 206
DES MOINES IA 50312-4315

345 262 16 00 1
PATTON FAMILY TRUST
1135 EASTSIDE LN
COLEVILLE CA 96107

345 272 06 00 5
PETERSON LOIS C & CHARLES T
16 ROCKLEDGE AV APT 5A1
OSSINING NY 10562

345 262 17 00 4
REDKEY APRIL ANN
116 ELMWOOD RD
LUNENBURG MA 01462-1465

345 272 08 00 1
PORNILLOSA GREGORIO L JR ET AL
12321 ALLIN ST
CULVER CITY CA 90230-5808

345 262 05 00 9
POSERIO ARNULFO F
314 E BUFFALO AV
SANTA ANA CA 92706-2950

345 262 06 00 2
SHER EDELLE
3800 KAMEHAMEHA RD APT 6
PRINCEVILLE HI 96722-5328

345 262 08 00 8
RICHARD ADOLPH DAVIS INC
P O BOX 935
RANCHO MIRAGE CA 92270

345 294 20 00 5
SANTOS DAVID C
4978 MONTAIR AV
LAKEWOOD CA 90712

345 294 18 00 0
STARLING LELAND & DARLINE TRS
2932 MAUDE ST
RIVERSIDE CA 92506-4418

345 272 07 00 8
SIERRA SANTIAGO V & ELMA A
6534 BROOK HOLLOW CI
STOCKTON CA 95219-2437

345 262 01 00 7
SMITH TIMOTHY E & LOURIE A
2675 DONEGAL AV
S SAN FRANCISCO CA 94080-5311

345 262 13 00 2
TALBOTT SYLVIA R
546 JUDI DR
MISSOULA MT 59802

345 272 09 00 4
THUDIUM ANNETTE ET AL
1220 HAMPEL ST
OAKLAND CA 94602-1112

345 294 12 00 2
TONG NHIEM & LY-HUONG P
PO BOX 2411
LA HABRA CA 90632-2411

345 262 23 00 1
TOPPETA MICHAEL
PO BOX 875
TEHACHAPI CA 93581-0875

345 282 06 00 8
TRAN TRAC NGOC & TRUONG THINH THI
418 PATRICK LN
HERNDON VA 20170

345 032 02 00 3 **INC**
U S A
*
*

345 294 08 00 1
US TR IRREV TR
711 N PRISCILLA LN
BURBANK CA 91505-3139

345 293 26 00 6
VELARDE FAMILY TRUST
3837 W MORGAN LN
QUEEN CREEK AZ 85142-3107

345 272 14 00 8
VELA TR
18767 LAMSON RD
CASTRO VALLEY CA 94546-2100

345 293 23 00 7
VELARDE FAMILY TRUST
29117 THOUSAND OAKS BL U A
AGOURA HILLS CA 91301-5705

345 262 25 00 7
WHEELER W & V LIVING TRUST
1154 CHEATGRASS DR
DAYTON NV 89403-6322

345 272 12 00 2
VIDAL TEOFILO U
3640 E AVENUE H9
LANCASTER CA 93535-2272

345 272 32 00 0
WALTERS BUD TRUST
RR2 2050 RD 150
LAKIN KS 67860

345 262 27 00 3
STEPHENSON DOUGLAS & PAGE
2359 W 100TH ST
ROSAMOND CA 93560-7011

345 262 19 00 0
STRONG RUSSELL G TR
3128 PATTIZ AV
LONG BEACH CA 90808

345 272 32 00 0
WALTERS BUD TRUST
RR2 2050 RD 150
LAKIN KS 67860

345 262 30 00 1
WOOD ROBBIN RENEE
214 MAIN ST APT 430
EL SEGUNDO CA 90245-3803

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P. O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH # _____

Project Title: Gem Hill Quarry Project by CalPortland Company (PP21404)

Lead Agency: Kern County Planning and Natural Resources Department — Contact Person: Randall Cates

Mailing Address: 2700 "M" Street Suite 100 — Phone: 661-862-8612

City: Bakersfield — Zip: 93301-2323 — County: Kern

Project Location: County: Kern — City/Nearest Community: Rosamond

Cross Streets: The project site is located on the west side of Mojave Tropico Road, approximately two miles south of Backus Road; approximately four miles northwest of the unincorporated community of Rosamond; also being located within portions of Sections 25, 26, 35 and 36 of Township 10 North, Range 13 West, San Bernardino Base and Meridian (SBBM), County of Kern, State of California.

Lat. / Long.: 34° 55′ 19.57488″ N/ 118° 13′ 15.75640″ W — Total Acres: 210.75 acres (210-acre reclamation plan boundary plus .75-acre primary access road)

Assessor's Parcel No.: portion of 345-032-02 (primary access road); portions of APN 345-031-02, APN 345-032-05 and APN 345-294-17, all of 345-032-31 — Section: portions of Sections 25, 26, 35 and 36

Twp.: 10N — Range: 13W — Base: SBB&M

Within 2 Miles: State Hwy #: N/A — Waterways: multiple ephemeral drainage features

Airports: N/A — Railways: N/A — Schools: N/A

Document Type:

CEQA: ☒ NOP ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec ☐ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) _____ Other _____

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other _____

Local Action Type:

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan ☐ Other _____

☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan

☐ Rezone ☐ Prezone ☒ Use Permit ☐ Land Division (Subdivision, etc.)

☐ Annexation ☐ Redevelopment ☐ Coastal Permit

Development Type:

☐ Residential: Units _____ Acres _____
☐ Office: Sq.ft. _____ Acres _____ Employees _____
☐ Commercial: Sq.ft. _____ Acres _____ Employees _____
☐ Industrial: Sq.ft. _____ Acres _____ Employees _____
☐ Educational _____
☐ Recreational _____

☐ Water Facilities: Type _____ MGD _____
☐ Transportation: Type _____
☒ Mining: Mineral: naturally occurring pozzolan (volcanic tuff)
☐ Power: Type _____ MW _____
☐ Waste Treatment: Type _____ MGD _____
☐ Hazardous Waste: Type _____
☐ Other: _____

Project Issues Discussed in Document:

☒ Aesthetic/Visual
☒ Agricultural Land
☒ Air Quality
☒ Archeological/Historical
☒ Biological Resources
☐ Coastal Zone
☒ Drainage/Absorption
☐ Economic/Jobs
☐ Fiscal
☒ Flood Plain/Flooding
☒ Forest Land/Fire Hazard
☒ Geologic/Seismic
☒ Minerals
☒ Noise
☒ Population/Housing Balance
☒ Public Services/Facilities
☒ Recreation/Parks
☒ Schools/Universities
☒ Septic Systems
☒ Sewer Capacity
☒ Soil Erosion/Compaction/Grading
☒ Solid Waste
☒ Toxic/Hazardous
☒ Traffic/Circulation
☒ Vegetation
☒ Water Quality
☒ Water Supply/Groundwater
☒ Wetland/Riparian
☒ Wildlife
☒ Growth Inducing
☒ Land Use
☒ Cumulative Effects
☒ Other Energy, Greenhouse Gas Emissions, Tribal Cultural Resources, Wildfire

---

Present Land Use/Zoning/General Plan Designation:

- Undeveloped / *Zoning*: A (Exclusive Agriculture) / *Kern County General Plan*: 8.3 (Extensive Agriculture), 8.4 (Mineral and Petroleum), 8.4/2.4 (Mineral and Petroleum – Steep Slope), 8.5/2.4 (Resource Management – Steep Slope)

Project Description: *(please use a separate page if necessary)*

The project proponent has submitted: (a) a Conditional Use Permit (CUP 45, Map 214) application, to allow a surface mining operation and development of a reclamation plan on 82 acres of an approximately 210-acre reclamation plan boundary, which would utilize a 0.75-acre primary access road outside of such reclamation plan boundary to provide access to/from Mojave Tropico Road.

Access to the site would be obtained via two access roads to Mojave Tropico Road, specifically the aforementioned access road and a secondary access road to the north thereof. The project proponent proposes to employ open pit, multibench, and drill and blast mining techniques to mine naturally occurring pozzolan (volcanic tuff), which is used in the production of cement. No crushing or processing of mined mined material would occur onsite.

The life of the operation is proposed to be 30 years. Annual mineral production is estimated to be 500,000 tons, and the maximum total mineral production is estimated to be 15,000,000 million tons. The total anticipated production of mine waste (overburden) is estimated to be 600,000 tons, which would be disposed in two onsite overburden stockpiles. The proposed maximum depth of excavation is 300 feet below original grade. No phasing of mining is proposed.

Maximum operational inter-bench slopes (also referred to as bench face slopes) for the quarry will be 0.25:1 (horizontal:vertical (H:V)) with overall slopes of 1:1 (H:V). Maximum final reclaimed inter-bench slopes for the quarry will be 0.25:1 (H:V). Overall final reclaimed slopes for the quarry will be a maximum of 1:1 (H:V).

Maximum operational slopes for the overburden stockpiles will be 1.5:1 (H:V). Maximum and overall final reclaimed slopes for the overburden stockpiles will be 2:1 (H:V).

Operations would typically be conducted between 7:00 a.m. and 7:00 p.m., Monday through Saturday, with the understanding that additional shifts or longer/alternative hours may be required due to operational constraints. As proposed, there would be a maximum of 20 employees onsite at any one time. These 20 employees would include haul truck drivers, who would haul overburden onsite (from the quarry to the overburden stockpiles), as well as hauling naturally occurring pozzolan (volcanic tuff) offsite to clients.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "**X**".
If you have already sent your document to the agency please denote that with an "**S**".

S	Air Resources Board		Office of Emergency Services
	Boating & Waterways, Department of		Office of Historic Preservation
S	California Highway Patrol		Office of Public School Construction
	CalFire		Parks & Recreation
S	Caltrans District # 6 & 9		Pesticide Regulation, Department of
	Caltrans Division of Aeronautics		Public Utilities Commission
	Caltrans Planning (Headquarters)	S	Regional WQCB # Lahontan
	Central Valley Flood Protection Board		Resources Agency
	Coachella Valley Mountains Conservancy		S.F. Bay Conservation & Development Commission
	Coastal Commission		San Gabriel & Lower L.A. Rivers and Mtns Conservancy
	Colorado River Board		San Joaquin River Conservancy
S	Conservation, Department of		Santa Monica Mountains Conservancy
	Corrections, Department of	S	State Lands Commission
	Delta Protection Commission		SWRCB: Clean Water Grants
	Education, Department of		SWRCB: Water Quality
	Energy Commission		SWRCB: Water Rights
S	Fish & Game Region # Fresno		Tahoe Regional Planning Agency
	Food & Agriculture, Department of		Toxic Substances Control, Department of
	General Services, Department of		Water Resources, Department of
	Health Services, Department of		

____	Housing & Community Development	S	Other So. San Joaquin Arch. Info. Ctr.
____	Integrated Waste Management Board	S	Other CalGEM - Bakersfield
S	Native American Heritage Commission	____	Other ____

Local Public Review Period (to be filled in by lead agency)

Starting Date November 4, 2021 Ending Date December 6, 2021

Lead Agency (Complete if applicable):

Consulting Firm: ____
Address: ____
City/State/Zip: ____
Contact: ____
Phone: ____

Applicant: ____
Address: ____
City/State/Zip: ____
Phone: ____

Signature of Lead Agency Representative: **/s/** **Date:** October 28, 2021

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

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INITIAL STUDY/NOTICE OF PREPARATION

Gem Hill Quarry Project
by CalPortland Company

Conditional Use Permit No. 45, Map 214

(PP21404 / PLN20-01417)

LEAD AGENCY:

2700 M Street, Suite 100
Bakersfield, CA 93301-2370

Contact: Mr. Randall Cates
(661) 862-8612
CatesR@kerncounty.com

November 2021

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1. PROJECT DESCRIPTION

1.1 Project Location

The proposed Gem Hill Quarry Project (proposed project) is located in an unincorporated area of the southeastern part of Kern County, approximately four miles northwest of the unincorporated community of Rosamond, and ten miles southwest of Mojave, California. The project site is within the area mapped on United States Geological Survey (USGS) 7.5-minute Soledad Mountain quadrangle and is a portion of Sections 25, 26, 35 and 36, Township 10 North (T10N), Range 13 West (R13W), San Bernardino Base and Meridian (SBB&M). The project site is approximately 210.75 acres and is within portions of parcels identified as Kern County Assessor's Parcel Numbers (APNs) 345-294-17, 345-032-05, 345-032-31, 345-031-02 and 345-032-02. The proposed project would utilize an access road that crosses lands administered by the California State Lands Commission (CSLC) within APN 345-032-02. Figure 1, *Site Vicinity,* illustrates the project location, Figure 2**,** *Project Boundary and Parcels*, illustrates the project site boundary and parcels, and Figure 3*, Aerial Photograph Map*, illustrates the 210-acre mine and reclamation plan boundary and the 82-acre limits of proposed reclamation overlaid on an aerial photograph.

The project site is accessible from Mojave-Tropico Road via an existing primary access road with a length of 845 feet as illustrated on Figure 4, *Proposed Mine Plan*, which illustrates the proposed mine plan. The primary access road is 24 feet wide with a 6-foot shoulder on either side (for a surface disturbance width of 36 feet) and would serve as the main ingress and egress for the proposed project. The primary access road is located on Assessor's Parcel Number (APN) 345-032-02, which is administered by the CSLC, and the project proponent would maintain a lease with CSLC for use of the primary access road. A secondary access road approximately 0.3 mile in length and 24 feet wide with a 6-foot shoulder on either side (for a surface disturbance width of 36 feet), on land owned by the project proponent, would be developed at the northeast portion of the project site to provide secondary access to Mojave-Tropico Road, as illustrated on Figure 4, *Proposed Mine Plan*.

1.2 Environmental Setting

The project site is located approximately four miles northwest of the unincorporated community of Rosamond, and primarily consists of undeveloped land, with several dirt access roads that traverse the site and two recently graded pad areas. The local terrain is variable across the site, with high topographic relief including areas of steep slopes and areas with more gently sloping alluvial fan deposits. No groundwater, gas, oil, or other wells are present on the site. Site elevations range from approximately 2,620 to 3,050 feet above mean sea level (amsl) and the site generally slopes downward from northwest to southeast. The northwestern portion of the site includes steeper topography that slopes downward to more gentle slopes and level areas in the southeast portion of the site. The steeper slopes of the project site are barren or support minimal vegetation with more level areas at slope bottoms supporting moderately denser vegetation cover. Creosote bush scrub represents the predominant vegetation cover throughout the site.

Residences nearest to the site are to the northeast, with the nearest approximately 900 feet from the northeast corner of the site. Additional residences are located 1 mile and further to the south, southeast, and southwest, and the unincorporated community of Rosamond is about 4 miles to the southeast of the site. A solar photovoltaic power generating facility is located about 1 mile southwest of the project site.

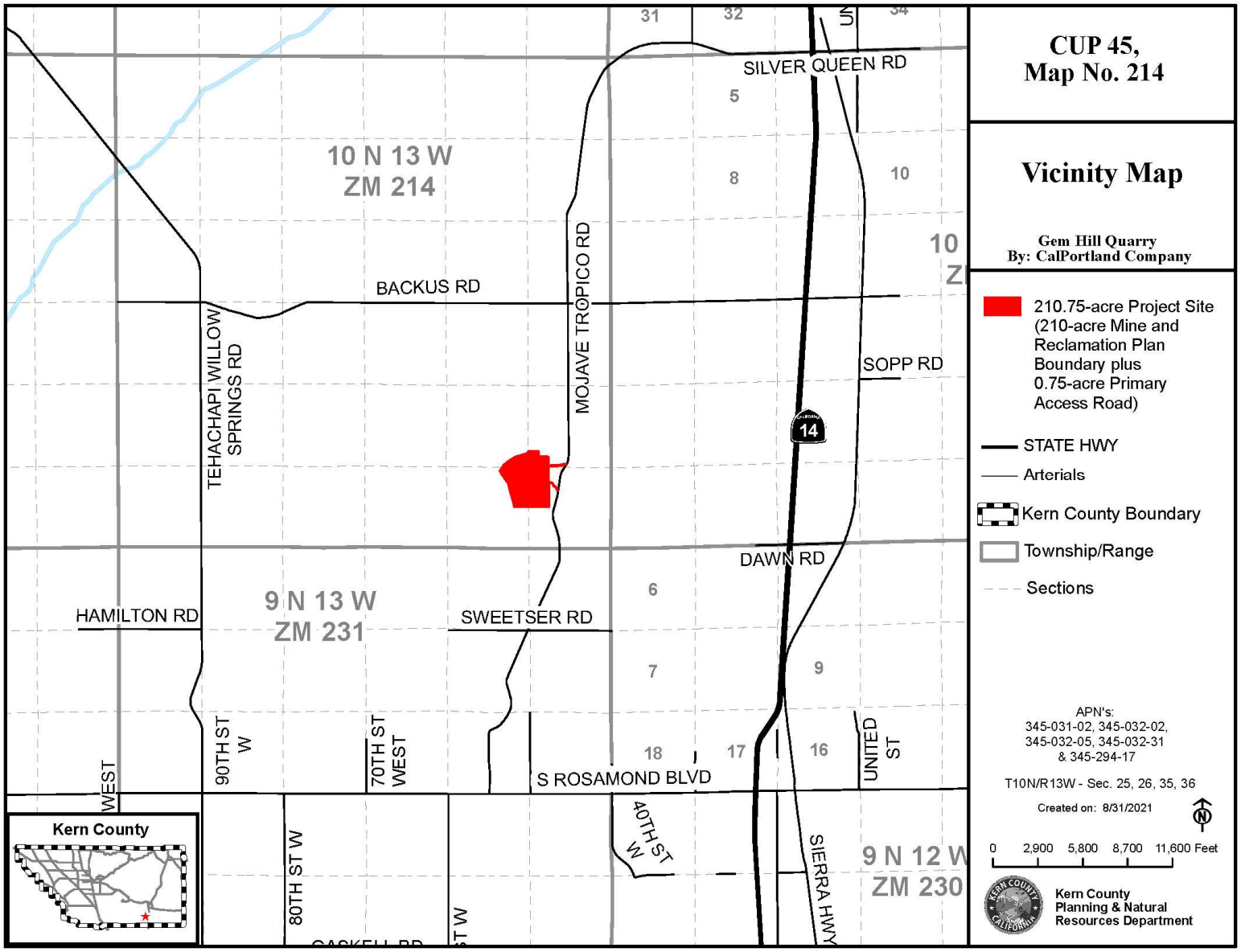


Figure 1: Site Vicinity

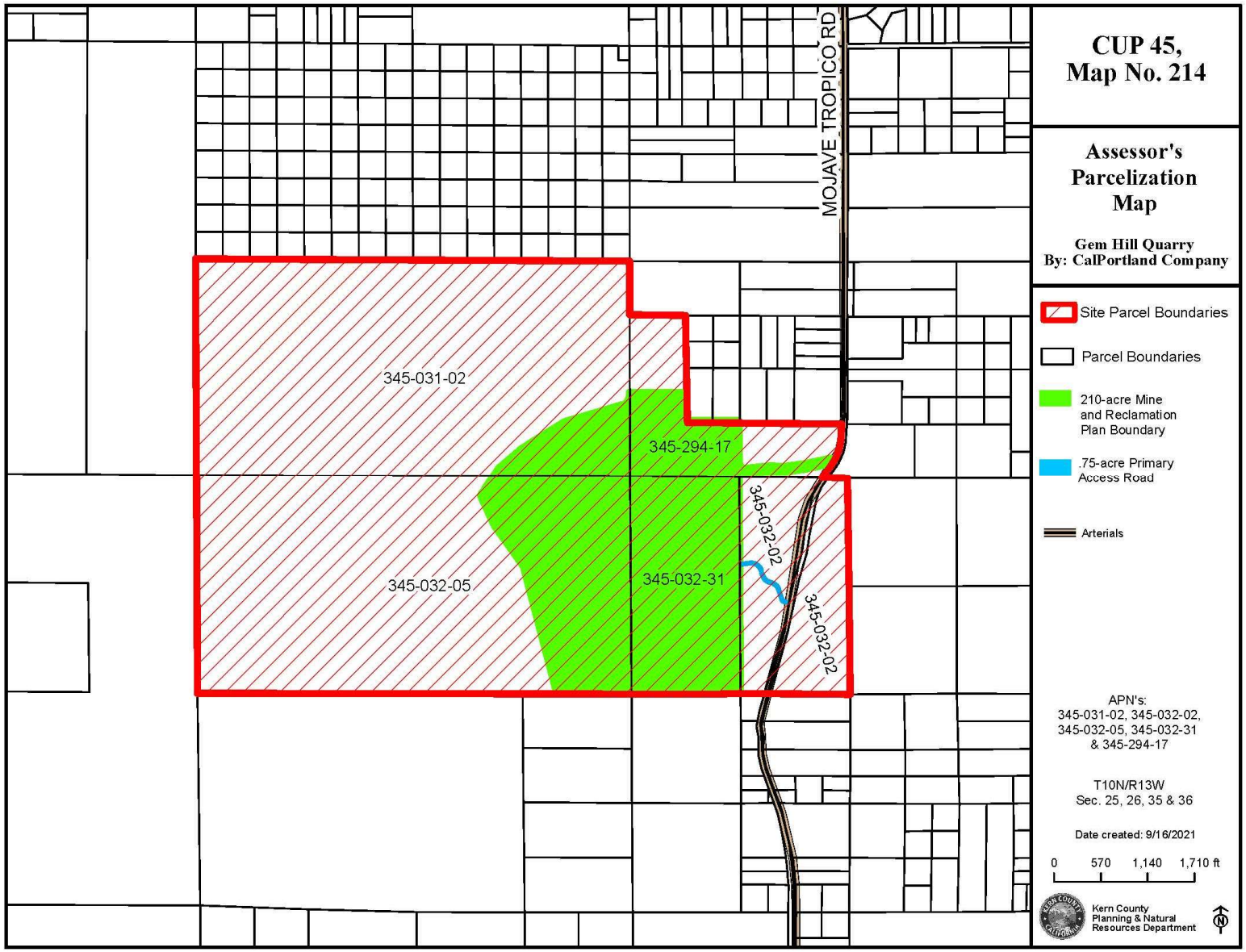


Figure 2: Project Boundary and Parcels

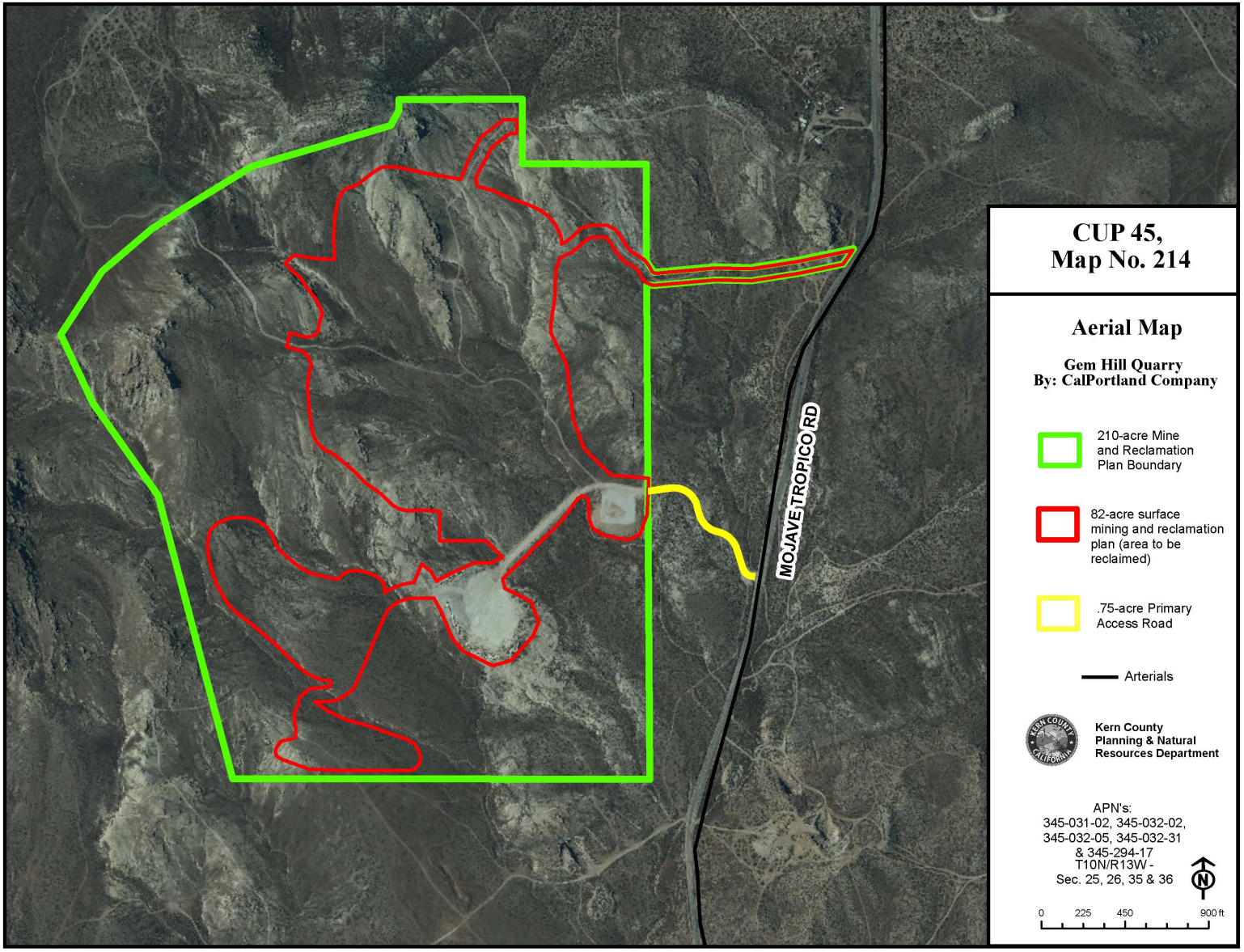


Figure 3: Aerial Photograph Map

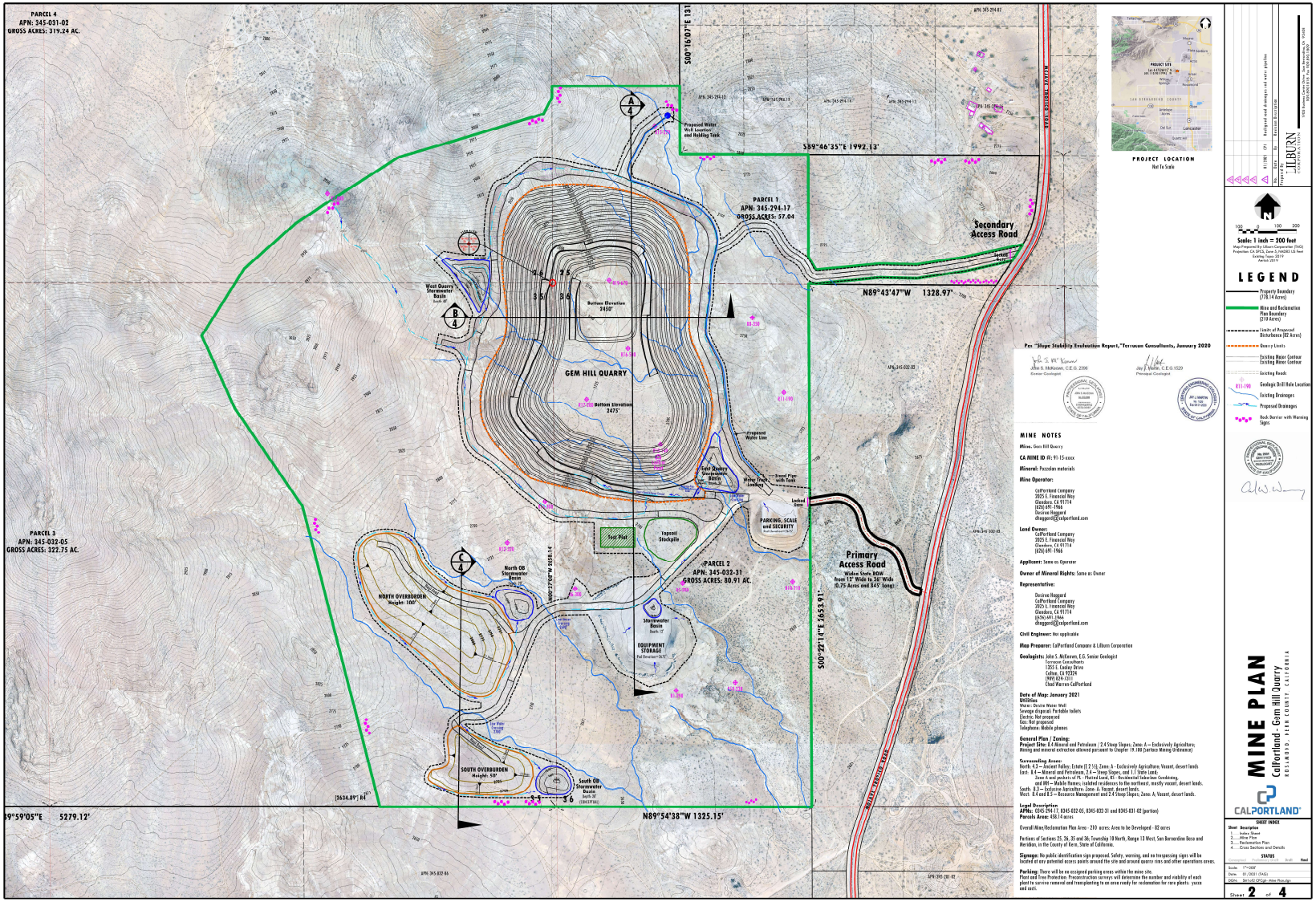


Figure 4: Proposed Mine Plan

Table 1, *Project Site and Surrounding Land Uses, General Plan Designations and Zoning*, tabulates the existing land uses, zoning classifications, and General Plan map code designations for the project site and surrounding areas. Figure 5, *Kern County General Plan Map Code Designations*, and Figure 6, *Kern County Zoning Classifications*, illustrate the existing map code designations and zoning classifications, respectively, of the project site and surrounding areas.

Table 1. Project Site and Surrounding Land Uses, General Plan Designations and Zoning

Location	Existing Land Use	Existing Zoning Classifications	Existing General Plan Map Code Designations
Project site	Undeveloped	A (Exclusive Agriculture)	8.3 (Extensive Agriculture (Minimum 20 Acre Parcel Size, 80 Acres with Williamson Act Contract)), 8.4 (Mineral and Petroleum (Minimum 5 Acre Parcel Size)), 8.4/2.4 (Mineral and Petroleum (Minimum 5 Acre Parcel Size) / Steep Slope Overlay), 8.5/2.4 (Resource Management (Minimum 20 Acre Parcel Size, 80 Acres with Williamson Act Contract) / Steep Slope Overlay)
North	Undeveloped	A (Exclusive Agriculture), PL RS MH (Platted Lands, Residential Suburban Combining, Mobilehome Combining)	8.3 (Extensive Agriculture (Minimum 20 Acre Parcel Size, 80 Acres with Williamson Act Contract)), 8.4 (Mineral and Petroleum (Minimum 5 Acre Parcel Size)), 8.4/2.4 (Mineral and Petroleum (Minimum 5 Acre Parcel Size) / Steep Slope Overlay), 8.5/2.4 (Resource Management (Minimum 20 Acre Parcel Size, 80 Acres with Williamson Act Contract) / Steep Slope Overlay), 4.3 - Specific Plan Required (Ancient Valley Specific Plan)
South	Undeveloped	A (Exclusive Agriculture)	8.3 (Extensive Agriculture (Minimum 20 Acre Parcel Size, 80 Acres with Williamson Act Contract)), 8.4 (Mineral and Petroleum (Minimum 5 Acre Parcel Size)), 1.1 – State or Federal land
East	Undeveloped; dispersed residences 900 to 4,000 feet to the northeast	A (Exclusive Agriculture), PL RS MH (Platted Land, Residential Suburban Combining, Mobilehome Combining	8.4 (Mineral and Petroleum (Minimum 5 Acre Parcel Size)), 8.4/2.4 (Mineral and Petroleum (Minimum 5 Acre Parcel Size) / Steep Slope Overlay), 8.5/2.4 (Resource Management (Minimum 20 Acre Parcel Size, 80 Acres with Williamson Act Contract) / Steep Slope Overlay)
West	Undeveloped	A – Exclusive Agriculture	8.3 (Extensive Agriculture (Minimum 20 Acre Parcel Size, 80 Acres with Williamson Act Contract)), 8.4/2.4 (Mineral and Petroleum (Minimum 5 Acre Parcel Size) / Steep Slope Overlay), 8.5/2.4 (Resource Management (Minimum 20 Acre Parcel Size, 80 Acres with Williamson Act Contract) / Steep Slope Overlay)

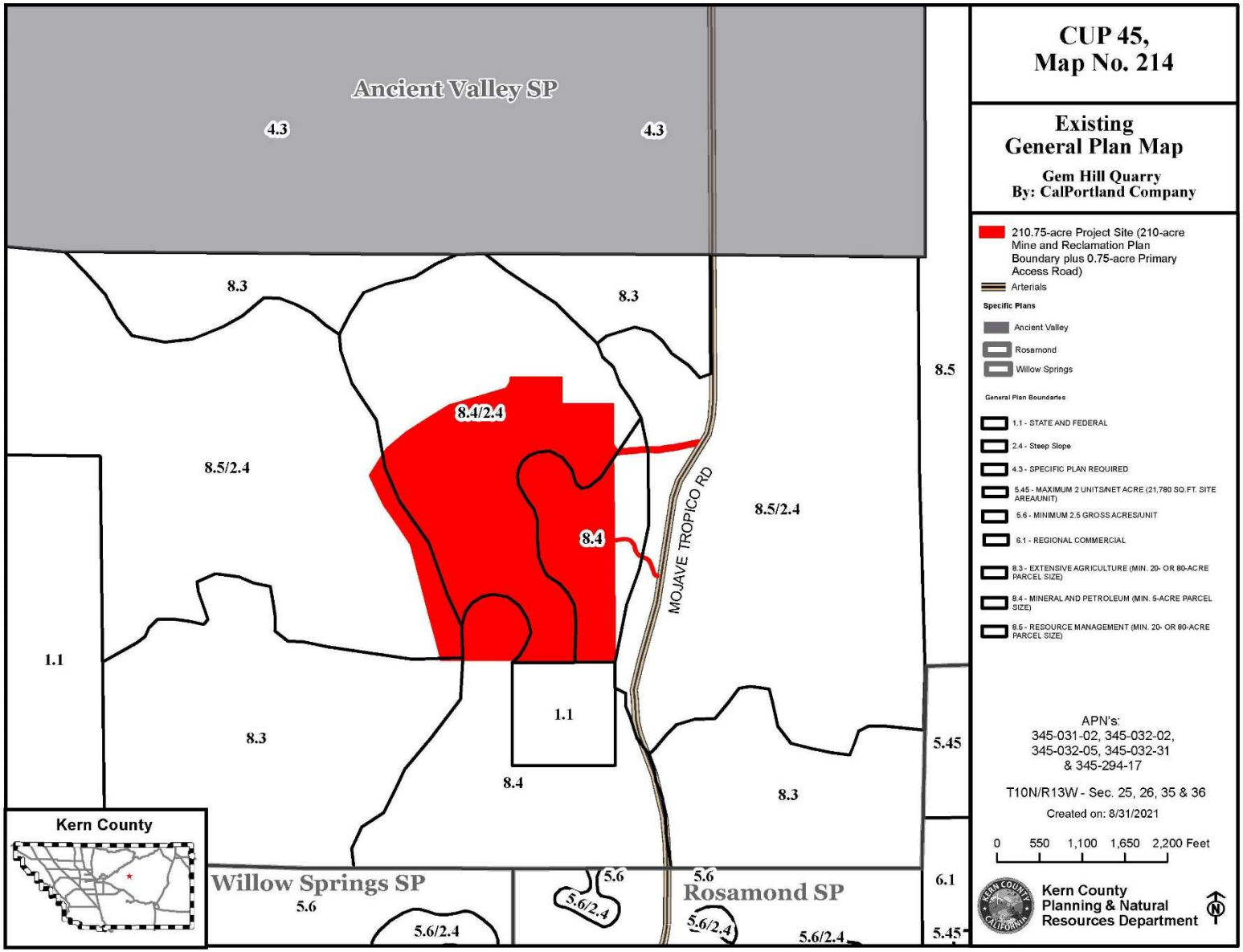


Figure 5: Kern County General Plan Land Use Designations

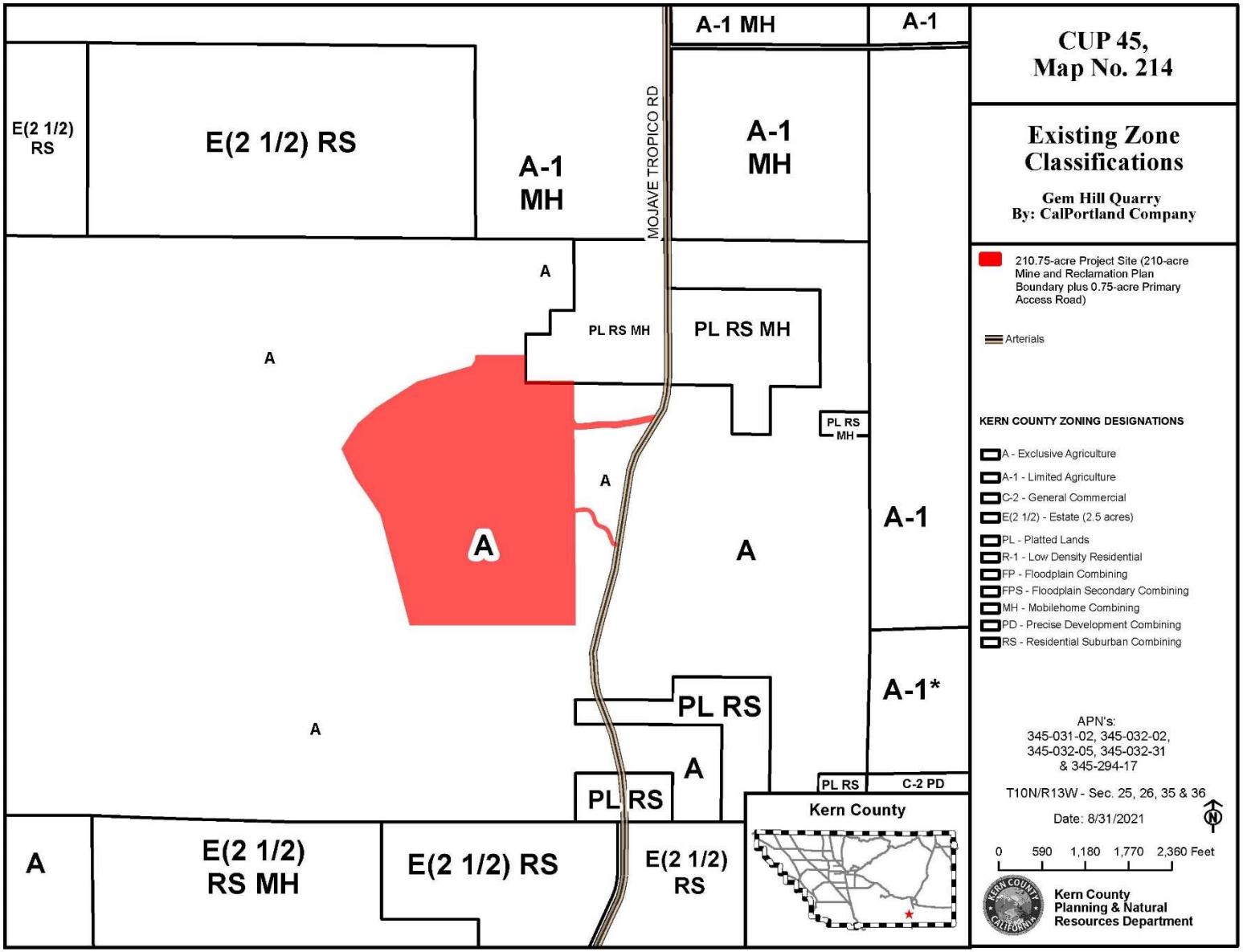


Figure 6: Kern County Zoning Classifications

Table 2, *Project Parcels Ownership and General Plan Map Code Designations*, lists the APNs, ownership, and General Plan Map Code designations for the individual parcels within which the project site is located. Figure 2, *Project Boundary and Parcels*, illustrates the parcels that comprise the project site.

Table 2. Project Parcels Ownership and General Plan Map Code Designations

APN	Owner	Existing General Plan Map Code Designations
345-294-17	CalPortland	8.3 (Extensive Agriculture (Minimum 20 Acre Parcel Size, 80 Acres with Williamson Act Contract)), 8.4 (Mineral and Petroleum (Minimum 5 Acre Parcel Size)), 8.4/2.4 (Mineral and Petroleum (Minimum 5 Acre Parcel Size) / Steep Slope Overlay), 8.5/2.4 (Resource Management (Minimum 20 Acre Parcel Size, 80 Acres with Williamson Act Contract) / Steep Slope Overlay)
345-032-05	CalPortland	8.3 (Extensive Agriculture (Minimum 20 Acre Parcel Size, 80 Acres with Williamson Act Contract)), 8.4 (Mineral and Petroleum (Minimum 5 Acre Parcel Size)), 8.4/2.4 (Mineral and Petroleum (Minimum 5 Acre Parcel Size) / Steep Slope Overlay), 8.5/2.4 (Resource Management (Minimum 20 Acre Parcel Size, 80 Acres with Williamson Act Contract) / Steep Slope Overlay)
345-032-31	CalPortland	8.4 (Mineral and Petroleum (Minimum 5 Acre Parcel Size)), 8.4/2.4 (Mineral and Petroleum (Minimum 5 Acre Parcel Size) / Steep Slope Overlay)
345-031-02	CalPortland	8.3 (Extensive Agriculture (Minimum 20 Acre Parcel Size, 80 Acres with Williamson Act Contract)), 8.4/2.4 (Mineral and Petroleum (Minimum 5 Acre Parcel Size) / Steep Slope Overlay), 8.5/2.4 (Resource Management (Minimum 20 Acre Parcel Size, 80 Acres with Williamson Act Contract) / Steep Slope Overlay)
345-032-02	State of California (administered by State Lands Commission)	8.4 (Mineral and Petroleum (Minimum 5 Acre Parcel Size)), 8.5/2.4 (Resource Management (Minimum 20 Acre Parcel Size, 80 Acres with Williamson Act Contract) / Steep Slope Overlay)

The project site is located in a mostly undeveloped portion of the western Antelope Valley. The western Antelope Valley includes portions of the southeast corner of Kern County and portions of northern Los Angeles County. The Antelope Valley is formed by the Tehachapi Mountains to the northwest and San Gabriel Mountains to the southwest. The region in which the project site is located consists of open flatlands intermixed with hills with sparse creosote bush vegetation. Land uses in the vicinity of the project site include dispersed rural residences and ranches, agricultural fields to the west, and renewable energy facilities to the southwest through northwest. Clay, silver, and gold mining have been conducted at various locations in the area since the 1890s with gold mining continuing at the Soledad Mountain Golden Queen Mine located approximately 5 miles north of the project site. The historic Tropico Gold Mine is located approximately 3 miles southwest of the project site. The Mojave Cement Plant and Quarry, owned and operated by the project proponent, CalPortland, are located approximately 10 miles northwest of the project site. Other active and inactive mine sites are also in the vicinity.

The steeper slopes of the project site are barren or support minimal vegetation cover (less than 5 percent) while the flatland areas at the bottom of the slopes support denser vegetation cover (less than 30 percent). Creosote bush scrub is the dominant plant community. It is an open scrub plant community characterized by sparse, evenly spaced plants and dominated by creosote bush (Larrea tridentata). Several unnamed ephemeral drainage features are present within the project site. The drainages are located at the top of the watershed, originating on the steep slopes along the western northwestern boundary of the site and generally flow to the southeast.

The project site is in the northwestern portion of the Mojave Desert Air Basin (MDAB), which encompasses the desert portion of San Bernardino County and Los Angeles County, the Palo Verde Valley in eastern Riverside County, and the southeastern portion of Kern County. The desert climate is characterized by hot, dry summers and cold, dry winters. The inland position of the MDAB lacks the cooling effects of the Pacific Ocean, while the presence of the mountains that separate the MDAB from the ocean remove much of the atmospheric moisture before reaching the MDAB. Therefore, the region is relatively dry with little precipitation in the summer or winter. Summer high temperatures reach over 100 degrees Fahrenheit (ºF) and averages in the mid to upper 90s with lows in the upper 60s to low 70s. Extreme highs reach over 110º F. Winter highs average in the 60s with lows in the 30s. About 65 percent of the precipitation in the MDAB occurs as rainfall during the winter. The project area receives an average of approximately 6 inches of rain per year.

The Kern County Sheriff's Office (KCSO) provides law enforcement services in the unincorporated areas of the County, including the project area. The Kern County Sheriff substation nearest to the project site is located approximately 3.75-miles south of the project site at 3179 35th Street, Rosamond, with a driving distance of approximately 5.3 miles between the station and project site primary access road intersection with Mojave-Tropico Road. Kern County Fire Department provides fire and emergency services to the unincorporated communities of Kern County, including the project area. The County Fire Station nearest to the project site is Station No. 15 at 3219 35th Street, Rosamond, located approximately 3.75-miles south of the project site with a driving distance of approximately 5.2 miles between the station and project site primary access road intersection with Mojave-Tropico Road.

1.3 Project Site History

The Project site is predominantly undeveloped. In 2019, the property owner and current project proponent obtained a grading permit from Kern County allowing for the construction of an access road and two graded pads on the site totaling an area of 16.2 acres. The road and pad grading was completed in 2019.

1.4 Proposed Project

1.4.1 Project Summary

As discussed in more detail in the following sections, the project proponent is requesting the following discretionary actions from Kern County:

(a) approval of a Conditional Use Permit (CUP) for an approximately 35-acre quarry with a planned disturbance area of approximately 82 acres, within an approximately 210.75-acre project site boundary (the 210.75 acres includes the .75-acre primary access road which is located on land administered by the CSLC); and

(b) approval of a reclamation plan for the 210-acre mine and reclamation plan boundary in accordance with the Surface Mining and Reclamation Act (SMARA) of 1975.

The requested CUP would allow for surface mining of an approximately 35-acre quarry, and approval of a reclamation plan for an approximately 210-acre boundary with a planned total disturbance and reclamation area of approximately 82 acres. Reclamation of the site would be conducted in accordance with a reclamation plan that would be subject to approval by Kern County. The proposed reclamation plan provides a detailed discussion of the mining and reclamation proposed for the site. Figure 7, *Proposed Reclamation Plan*, provides a bird's-eye-view illustration of the reclaimed site conditions and Figure 8, *Proposed Reclamation Cross-Sections*, provides cross-section illustrations of reclaimed site conditions.

Maximum operational inter-bench slopes (also referred to as bench face slopes) for the quarry will be 0.25:1 (horizontal:vertical (H:V)) with overall slopes of 1:1 (H:V). Maximum final reclaimed inter-bench slopes for the quarry will be 0.25:1 (H:V). Overall final reclaimed slopes for the quarry will be a maximum of 1:1 (H:V). Maximum operational slopes for the overburden stockpiles will be 1.5:1 (H:V). Maximum and overall final reclaimed slopes for the overburden stockpiles will be 2:1 (H:V).

The project proponent documents that the project has proven/probable reserves of approximately 16 million tons (mt). The project proponent plans to extract up to 15,000,000 tons of volcanic tuff (500,000 tons per year for a mine life of 30 years). Volcanic tuff is a type of volcanic material that can be utilized as a pozzolan to replace a portion of clinker used in the manufacturing of portland cement as well as replace a portion of portland cement in ready-mix concrete. Pozzolan is defined as a cementitious material that increases the long-term strength and improves other material properties of portland cement concrete and reduces emissions of carbon dioxide (CO_2), a greenhouse gas (GHG) that contributes to global warming or climate change, in the production of cement.

The planned operation includes the quarry, two overburden stockpiles, stormwater basins, an equipment storage area, a water well and conveyance pipe, truck scale, and access roads on a proposed disturbance area of approximately 82 acres. Typical mining operations would consist of blasting, dozing and stockpiling the tuff materials for haulage offsite. The material would be loaded onto on-road trucks and hauled to existing cement production facilities based on market demand. The material does not require crushing or processing, therefore, there would be no processing plant operations conducted on-site. Typical hours of operation would be during daylight hours (generally 7:00 a.m. to 7:00 p.m., Monday through Saturday depending on the season), six days per week, depending on market demand, with the understanding that longer or alternative hours may be required due to operational constraints.

An access road (labeled as Primary Access Road on Figure 4, *Proposed Mine Plan*, and Figure 7, *Proposed Reclamation Plan*) at Mojave-Tropico Road would be widened as part of the project and would serve as the main ingress and egress for the proposed project. A secondary access road would be developed north of the primary access road that would also provide access between the project site and Mojave-Tropico Road.

Operations would include approximately 20 full time employees, including about 10 truck drivers that would operate haul trucks for overburden movement within the site and for transport of volcanic tuff to offsite locations. Security gates and signs would be located on both of the access roads.

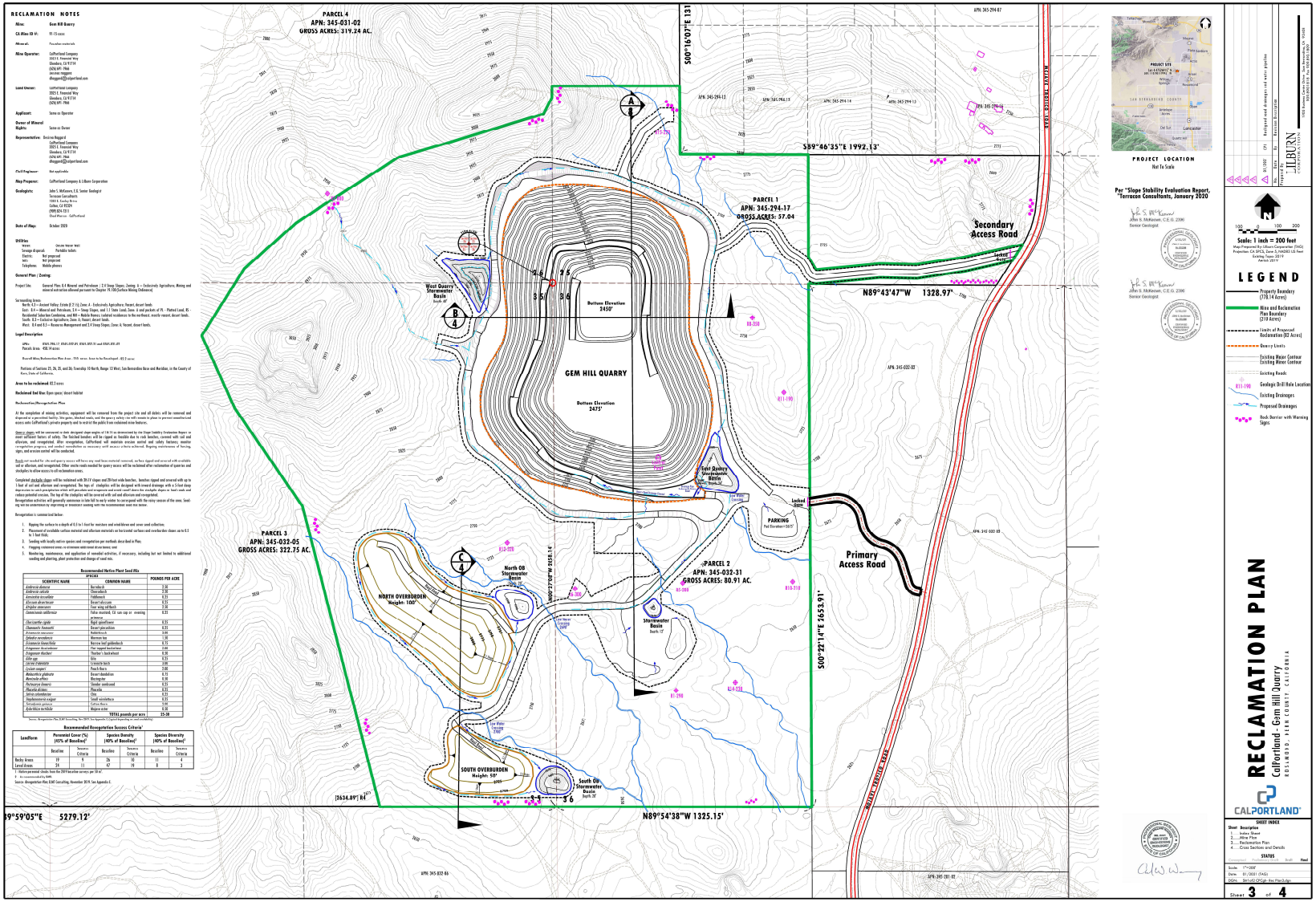


Figure 7: Proposed Reclamation Plan

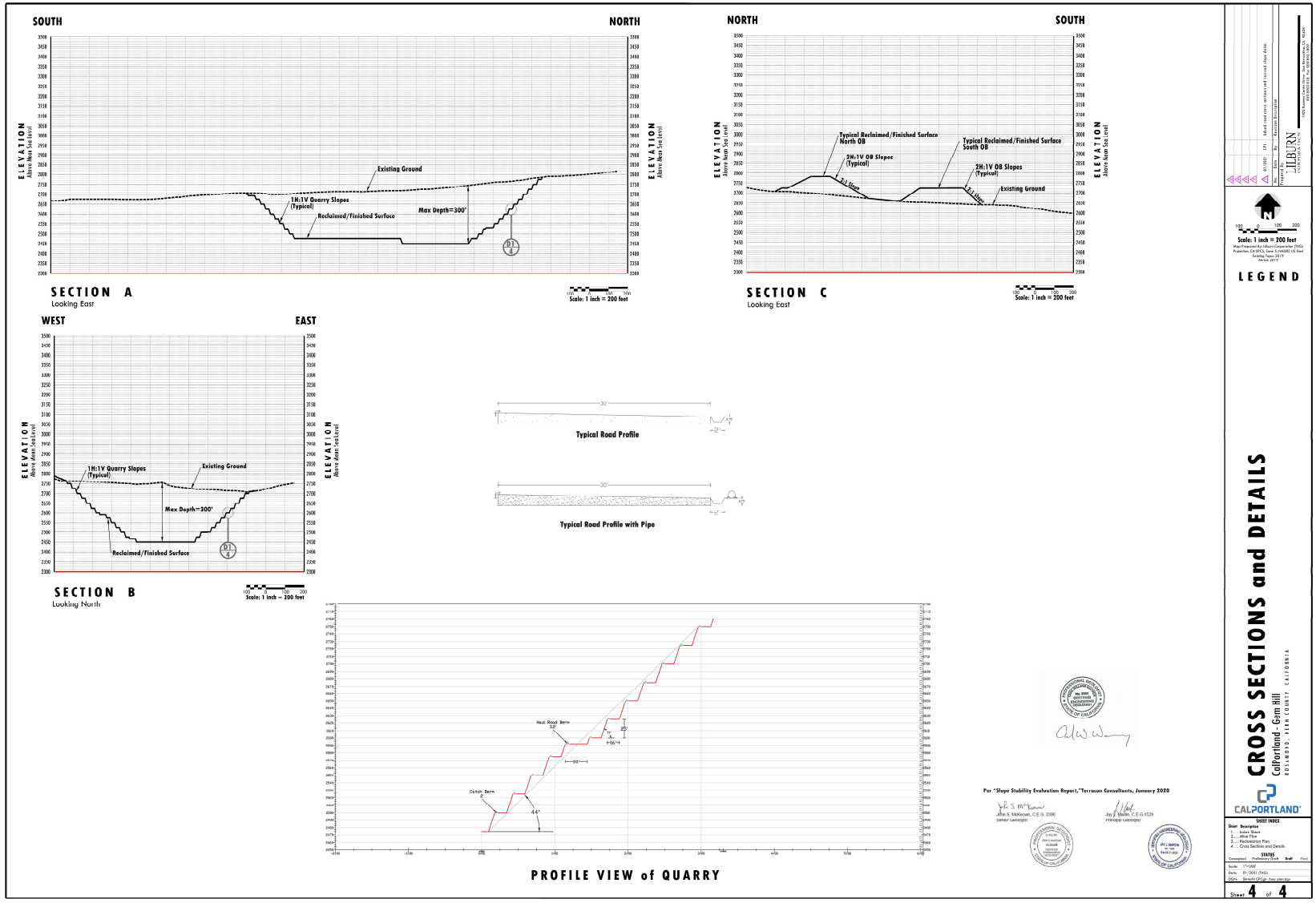


Figure 8: Proposed Reclamation Plan Cross-Sections

Table 3, *Planned Operational Areas*, lists the planned operational and disturbance areas associated with the proposed project.

Table 3. Planned Operational Areas

Quarry, Overburden, & Ancillary Uses	Total Project Areas (acres)
Quarry	35.3
South Overburden Stockpile	2.7
North Overburden Stockpile	8.5
Topsoil Stockpile	1.0
Test Plot	0.4
Equipment Storage	6.9
Scale/Security Area	1.4
Quarry Stormwater Basins	1.6
Overburden Stormwater Basins	1.0
Access Road on CSLC Land (leased)	0.7
Secondary Access Road	3.9
On-site Roads & Misc. Areas within Plan boundary that may be partially disturbed	18.8
Total	**82.2**

The project proponent has identified project design and environmental protection measures that have been incorporated into the planned operations and would be implemented to reduce potential environmental impacts, including:

1. Design quarry to minimize drainage, biological, and visual impacts;
2. Maintain all equipment in compliance with air quality regulations;
3. Implement dust control measures at active quarry, stockpile areas, and on roads per Eastern Kern Air Pollution Control District (EKAPCD) regulations;
4. Utilize water for dust control from an on-site well;
5. Implement employee training that will provide information and protection measures for cultural resources; and
6. As areas become available, implement reclamation/revegetation to reduce visual impacts through recontouring, slope reduction, and revegetation with native plant species.

1.4.2 Proposed Mine Plan and Operations

The quarry would be developed as a multi-bench open pit mine. Several working levels within the quarry could be operated at any one time to supply the quality and quantity of material required for use at offsite locations for adding and blending into the cement production process. Table 4, *Planned Surface Disturbance and Estimated Ore and Overburden Production*, lists the surface area, reserves, overburden quantities, annual production range, and proposed duration of operations.

1.4.2.1 Quarry Operations

The proposed project surface mining area is approximately 35 acres of the total 82.2-acre project disturbance area. The quarry would be mined to a maximum depth of approximately 300 feet from 2,725 feet amsl to a floor depth of 2,450 feet amsl. The quarry is designed to avoid mining the ridgelines to the north and west to reduce the potential for visual impacts. A safety berm six feet high and 12 feet wide at its base would be constructed around the quarry rim for operational and public safety purposes.

Table 4. Planned Surface Disturbance and Estimated Ore and Overburden Production	
Proposed Surface Disturbance (detail in Table 2)	82.2 acres
Quarry Surface Area	35.3 acres
Ore Reserves	16.1 million tons
Ore Excavated[1] (life of mine)	15 million tons
Ore Excavated (annual)	500,000 tons per year
Overburden[2] (life of mine)	600,000 tons
Overburden[2] (annual)	20,000 tons per year
Proposed Life of Mine Duration	30 years

Source: "Gem Hill Quarry Surface Mining Cup and Reclamation Plan Project Description and Alternatives for CEQA" (CalPortland, January 2021)

Notes:

1. Approximately 1.1 million tons of ore may remain at end of mining. Volumes are estimated based on drilling data, mine design, and computer modeling. Areas rounded to nearest tenth of an acre and tonnage to tenths.
2. Overburden is primarily basalt estimated at 4 percent of total volume or about 0.6 million tons over life of mine.

The quarry would be excavated utilizing conventional open pit methods and would involve drilling and blasting benches 25 feet high with inter bench slopes of 70 degrees. The height of proposed benching is based on the site geology and deposit. The 70-degree inter bench would create a bench offset of approximately 9 feet with a 16-foot-wide horizontal bench sloped slightly towards the back of slope to retain precipitation. The overall slope for operations and reclamation is approximately 45 degrees or 1 horizontal:1 vertical (1H:1V). Quarry haul roads would be 30 feet wide with a grade of 8 percent or less depending on locations and conditions. A slope stability evaluation prepared for the project determined that the proposed quarry slopes (and overburden stockpiles, discussed below) would achieve static factors of safety (FS) in excess of 1.5 and seismic factors of safety at or greater than 1.1.

Blasting would be utilized to loosen material allowing for excavation. Blasting operations would involve drilling along the mining face, placement, and detonation of charges by a blaster licensed through the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) for handling explosive materials. The transporting, handling, storage, and use of explosive materials, blasting agents, and blasting equipment would be supervised by a qualified and licensed blasting contractor. The blasting contractor and the explosive delivery company would be properly trained and licensed in accordance with all Federal, State, and local regulations and would provide evidence of compliance with the California blasting license program, U.S. Department of Transportation hazardous materials (HAZMAT) Certificate of Registration, California HAZMAT Transportation License, and general liability insurance for explosive transportation. All blasting materials would be brought on-site by a licensed blasting contractor for each blast, and there would be no storage of blasting agents at the project site.

Drilling would typically be conducted as part of normal mining operations approximately 105 days/year, up to 5 days a week, 10 hours/day with depths of 28 feet. Blasting is planned approximately once per week. Typical blasting activities would take place between the hours of 10:00 a.m. and 4:00 p.m. on weekdays (Monday through Friday); however, hours may shift due to safety driven operational constraints.

After blasting, the pozzolan material would be loosened by an excavator and dozer and loaded into on-road haul trucks for transport to existing cement production facilities. No crushing or processing would be conducted on-site. Operations would typically occur during one shift per day during daylight hours (generally 7:00 a.m. to 7:00 p.m. Monday through Saturday depending on the season), 6 days per week. Based on product demand and other market and operational factors, additional shifts or longer or alternative hours could also occur. Up to 20 employees would work on-site, including about 10 truck drivers that would operate haul trucks for material movement within the site and for transport of material to offsite locations.

1.4.2.2 Overburden and Topsoil Management

Overburden is made up of interspersed layers of basalt and some alluvium at the surface of the mining area that would require removal but would not be transported offsite. The estimated life of mine excavation ratio of overburden to pozzolan is approximately 4 percent, which would result in an average of approximately 1 ton of overburden for each 25 tons of pozzolan produced. Overburden would be loaded into haul trucks with 25-ton capacity and transported along interior haul roads to the two overburden stockpiles (as identified and labeled on Figure 4, *Proposed Mine Plan*, and Figure 7, *Proposed Reclamation Plan*) that would be located in the southwestern portion of the project site.

Overburden stockpiling would take place throughout the life of the mine. The proposed South Overburden Stockpile would be developed on approximately 2.7 acres. The South Overburden Stockpile would have a maximum height of approximately 50 feet (approximately 2,725 feet amsl) and a total storage volume of approximately 80,000 cubic yards (cy). The North Overburden Stockpile would be developed as needed on approximately 8.5 acres. The North Overburden Stockpile would have a total estimated volume of up to approximately 350,000 cy and would be developed up to a maximum height of approximately 100 feet (2,800 feet amsl). Both overburden stockpiles would be developed with overburden placed in 25-foot-high lifts, with interface slopes at the angle of repose of 34 degrees (1.5H:1V). The overburden material would be compacted by tractor roll-over. Final slopes for the overburden stockpiles would be completed at 27 degrees (2H:1V) with horizontal bench widths of approximately 20 feet, as illustrated on the cross-section profiles on Figure 8, *Proposed Reclamation Cross-Sections*. A slope stability evaluation prepared for the project determined that the proposed reclaimed overburden slope design would achieve a static factor of safety of 1.78 and seismic factor of safety of 1.17.

In addition to overburden that would be permanently deposited in the overburden stockpiles discussed above, surface alluvium would be salvaged separately and stored in a topsoil stockpile (as identified and labeled on Figure 4, *Proposed Mine Plan*) that would be located south of the quarry. The alluvium would be stored during the mining operation for use in reclamation (discussed further below).

1.4.2.3 Mobile Equipment and Vehicles

Table 5, *Project Operations Equipment and Usage*, lists the anticipated equipment that would be used for onsite operation and transporting material offsite. Table 6, *Vehicles and Average Daily Trips*, lists the anticipated vehicles and average daily trips. Haul trucks and diesel equipment would be required to comply with all applicable requirements of the California Air Resources Board's (CARB) off-road diesel vehicles regulation to reduce diesel pollutants.

Scheduled equipment maintenance would take place offsite. Minor or emergency repairs and refueling with portable maintenance/fuel trucks would be conducted at the site. Any waste oil generated at the site would be collected and transported for off-site recycling or disposal by approved methods and by properly trained and licensed personnel.

Table 5. Project Operations Equipment and Usage

Equipment[1]	Typical Number	Typical Days per Year	Purpose
Front-End Loader (CAT 980 typ.)	1	300	Loading of excavated materials into haul trucks at quarry.
Dozer (CAT D8 typ.)	1	150	Mining and stockpiling of pozzolan material. Removal of topsoil and waste rock. Construction and maintenance of roads and quarry benches.

Table 5. Project Operations Equipment and Usage			
Equipment[1]	**Typical Number**	**Typical Days per Year**	**Purpose**
Excavator (CAT 325 typ.)	1	60	Mining and stockpiling of pozzolan material and overburden.
Grader (CAT 140 typ.)	1	60	Removal of topsoil and waste rock. Construction and maintenance of roads.
Drill Rig (PowerROC T25 typ.)	1	130	Drill holes for placement of explosives.
On-Road Haul Trucks (25-ton trucks typ.)	10	300	Transportation of excavated material to various clients (i.e. offsite), and overburden to onsite stockpiles.
Water Truck (4,000 gallons)	1	300	Water spray haul roads, active quarry areas, overburden stockpiles, and general dust control onsite.
Tractor skid steer	1	60	Removal of topsoil and waste rock. Construction and maintenance of roads.
Generator Sets (50 hp typ) (CAT XQ 35 typ)	2	300	Power for water well pump and scale/office trailer.
Ancillary Equipment	Varies	Varies	Maintenance vehicles, bobcat, backhoe, pick-ups, SUVs, etc.

Source: "Application Form for Surface Mining Permit and Reclamation Plan" submitted by CalPortland for the Gem Hill Quarry, accepted by Kern County on May 25, 2021.

Notes

1. Lists typical equipment anticipated for use, specific equipment may change during the life of the project due to replacement of aging equipment and updated equipment and fleet averaging requirements.

Table 6. Vehicles and Average Daily Trips		
Vehicle	**Typical Number**	**Average Daily Trips (ADT) (one way trips)**
Vehicles transporting employees to/from the site	20	40
On-road haul trucks	10 trucks (typical) 67 total round trips/day	134
Fuel Truck[1]	1	0.28
Maintenance truck[1]	1	0.28
Portable toilet service[1]	1	0.28
Waste/trash pick-up[1]	1	0.28
Miscellaneous[1]	8	2.29

Source: "Application Form for Surface Mining Permit and Reclamation Plan" submitted by CalPortland for the Gem Hill Quarry, accepted by Kern County on May 25, 2021.

Notes

1. Last five rows total estimated two trucks or vehicles/day for 6 days.

1.4.2.4 Water Use and Supply

A water well and water tank are proposed to be drilled and constructed within the northeast portion of the project site as shown on Figure 4, *Proposed Mine Plan*. The well and tank would provide water for dust suppression within the project site. A 4,000-gallon water truck would be used to apply water for dust control. It is anticipated that up to four truckloads of water per day, six days per week, would be applied for dust control. Based on these rates, water use is estimated to be up to approximately 16,000 gallons per day and approximately 18 acre-feet (AF) per year.

Water produced in the onsite groundwater well would not be used for domestic purposes. Bottled drinking water for workers would be brought to the site as necessary.

No surface water would be used for project operations, and the project would not involve diversions or storage of surface water for water supply.

Portable toilets would be provided for use by employees and would be located at various locations on the site, including at the scale and near locations of active mining. No water or wastewater treatment facilities are needed and no wastewater would be produced as a result of project operations.

1.4.2.5 Dust Control

Dust control measures would be implemented consistent with Eastern Kern Air Pollution Control District (EKAPCD) Rules 401 (limiting visible emissions), 402 (requirements for controlling fugitive dust), 404.1 (limits particulate matter emissions), and 419 (avoid nuisance emissions to people or businesses or property). The dust control measures are required to be in place and operative with an approved Fugitive Dust Emission Control Plan and periodic monitoring by EKAPCD and CalPortland personnel to ensure the regulatory standards are met. The principal dust control measures to be implemented are listed below:

- Water spraying of roads, operational quarry areas, and active overburden stockpiles with dedicated on-site water truck with on-site water well source as needed or an off-site water source;
- Use of approved dust palliatives for roads as appropriate;
- Limiting on-site vehicle speed to 15 mph;
- Use a rumble grate with paved entrance apron to reduce track out;
- Remove any spilled or tracked out material on adjacent portion of Mojave Tropico Road as needed;
- Trucks to be loaded in compliance with California Vehicle Code No. 23114;
- Production shall be scheduled to minimize daily equipment operations and idling equipment and trucks;
- Limit disturbed areas;
- Revegetate areas when complete;
- Trucks in loading queues will have their engines turned off when not in use for more than 5 minutes to reduce idling and vehicle emissions in compliance with Title 13, California Code of Regulations, Section 2485 (Anti-Idling Policy); and
- Surface mining operations, including excavating, shall be suspended during high winds or if dust plumes of 20% opacity impact off-site roads, occupied structures, or neighboring property.

1.4.2.6 Hazardous Materials and Waste

Hazardous materials use on-site would be limited to fuels and oils for mobile equipment operation and for generators used for the well pump and lights. Depending on onsite storage volumes and methods, the project proponent may be required to prepare a Hazardous Materials Business Plan (HMBP) for the project site to

address the hazardous materials used onsite. The HMBP, if required, will be submitted to the Kern County Public Health Services Department, Environmental Health Division (acting Certified Unified Program Agency (CUPA) for the County) for review and approval through the California Environmental Reporting System (CERS). The HMBP, if required, would describe methods and procedures to minimize the potential for hazardous material and waste releases including an emergency response and contingency, spill response procedures, and employee training.

1.4.2.7 Site Access and Safety

Access to the project site would be limited to employees and authorized personnel. Primary access to the site would be from Mojave-Tropico Road via a 0.15-mile-long, 24-foot-wide road with 6-foot-wide shoulders (total width of 36 feet) and covered with Class II base and compacted to greater than 90 percent. The primary access road alignment traverses lands administered by the CSLC (APN 345-032-02) and are leased by the project proponent from the CSLC. A secondary access road 24 feet in width would also be developed to provide secondary access to Mojave-Tropico Road north of the primary access road. The secondary access road would be located within the Project site boundary, as shown on Figure 4*, Proposed Mine Plan*.

Unauthorized access onto the site would be restricted by warning signs and fences, and all legal access roads would have locked gates and signs informing the public that the roads are closed to public access. Quarry areas would have warning signs, and roads not used would be blocked or closed. Safety berms 6 feet high with a base 12 feet wide would be constructed along the quarry rim. Any unauthorized roads would be blocked or closed at the property boundary.

1.4.2.8 Off-Site Materials Transport and Haul Truck Routes

Approximately 75 percent of the pozzolan produced at the site would be transported to the Mojave Cement Plant with the remainder distributed to other cement production facilities. On-road haul trucks with a typical capacity of approximately 25 tons would be used for materials transport. Haul trucks would be loaded at the site and would exit the site on the primary access road to Mojave-Tropico Road, then turn north on Mojave-Tropico Road. From there, the trucks would travel approximately 2.5 miles to Backus Road. From this intersection, approximately 75 percent of the trucks (approximately 5 trucks per hour on average) would travel west on Backus Road for 4.5 miles, northwest on Tehachapi-Willow Springs Road for 8 miles, then east on Oak Creek Road for 3.5 miles to the Mojave Cement Plant entrance for a total of approximately 18.4 miles. An optional route from the quarry to the Mojave Cement Plant during periods of icy road conditions would be to travel north from the Backus Road intersection on State Route 14 for miles, then east on Mono Street for less than 0.1 mile and north on K Street for less than 0.1 mile, then west on Oak Creek Road for 7 miles to the Mojave Plant entrance. The total distance for this route is approximately 20 miles. Haul trucks traveling to other cement production facilities (the remaining approximately 25 percent of the trucks not destined for the Mojave Cement Plant, approximately 2 trucks per hour on average) would travel east on Backus Road for 3 miles to State Route 14, and from there would disperse north or south to other cement production facilities.

An average of approximately 67 truckloads per day would be required to transport material produced at the site to offsite locations (based on annual production volume of 500,000 tons produced during 300 operational days which results in average production of 1,670 tons per day, requiring 67 truckloads at a haul truck capacity of 25 tons). The 67 truckloads per day would require an average of approximately 7 truck trips leaving the site and 7 truck trips returning to the site per hour for ten hours per day.

1.4.2.9 Erosion and Sedimentation Control

Erosion and sedimentation would be controlled during all phases of construction, operation, and reclamation of the site to minimize siltation of lakes and watercourses, as required by the Lahontan Regional Water Quality Control Board (Lahontan RWQCB). Surface runoff and drainage from mining activities would be controlled by berms, stormwater basins, revegetation, or other erosion control measures, to ensure that surrounding land and water resources are protected from erosion, gullying, sedimentation, and contamination. Erosion control methods would be designed to handle runoff from not less than the 20-year/1-hour intensity storm event as required by SMARA Section 3706(c)(d) and in accordance with the Kern County *Hydrology Manual*. The project design is intended to reduce stormwater flows onsite as well as to offsite areas and avoid potential flood inundation impacts.

As proposed, control of surface drainage, erosion, and sedimentation of the operations would involve the following primary components:

- Limiting surface disturbance to the minimum area required for active operations;
- Diverting runoff from flowing unchecked into the quarry or down stockpile slopes; and
- Stabilizing disturbed areas through regrading, replacement of soils, revegetation, and erosion control practices.

1.4.3 Reclamation

The project proponent proposes to reclaim the site in accordance with a proposed reclamation plan that would be approved as a component of the requested project approvals. The following are identified as objectives of the proposed reclamation plan:

- Eliminate or reduce environmental impacts from mining operations;
- Reclaim in a usable condition for a post-mining end use of open space/habitat;
- Reshape mining features and revegetate disturbed areas to return biological productivity and to minimize aesthetic impacts; and
- Reclaim the site as necessary to eliminate hazards to public health and safety.

More specifically, the reclamation plan would involve the following activities, some of which would be initiated upon and run concurrent with mining:

- Stockpile available surface material and alluvium for use as a seed bed and seed bank in a separate identified stockpile seeded with an erosion control ground cover, water sprayed to create a crust, and/or covered with a larger rock material to limit wind and water erosion;
- Sloping and grading of completed quarry and stockpile slopes for safety, slope stability, and erosion control;
- Ripping of compacted areas and roads prior to revegetation;
- Covering disturbed areas with salvaged soil and alluvium overburden to aid in revegetation;
- Revegetation – imprinting seeds and broadcast seeding followed by covering seed with a layer of soil or alluvium by pulling chains or screens over the area;
- Upon completion of mining, remaining equipment, utilities, and internal roads not needed for site access will be reclaimed, and
- Monitoring and remediation until success criteria achieved.

1.4.3.1 Equipment Removal and Site Reclamation

All equipment and utilities used for mining would be removed following the completion of mining. Internal roads not needed for post-mining site access, reclamation, revegetation and general site monitoring, would be removed and reclaimed. Final reclamation will take place within three years of the termination of mining. Structures, tanks, scrap material, refuse, and surplus materials would be removed, recycled, and/or disposed of at an appropriate landfill site. Excess material piles and disturbed areas would be regraded for positive drainage, scarified, and revegetated.

If required, the onsite water well to be developed as the project operations water supply would be closed or destroyed in accordance with the California Department of Water Resources Bulletin 74-91 as revised in 1988 or the latest revision and with the Kern County Public Health Services Department, Environmental Health Division regulations unless deemed at that time to be useful for continued use or monitoring. The well would be closed in a manner to eliminate potential hazards to the health and safety of people and wildlife.

There are no known portals, shafts, tunnels, or openings on the mine site. If any such features are identified during project operations, they would be either closed, gated and/or otherwise protected from public entry but preserved for bat and other wildlife with County consultation.

1.4.3.2 Quarry Reclamation

Quarry slopes would be contoured to their designed final slope angle of 1H:1V. Finished benches would be approximately 16 feet wide separated vertically by approximately 25-foot-tall, 70-degree slopes, although bench heights could vary slightly based on material encountered during mining and final reclamation contouring. Bench surfaces would be ripped as feasible and surfaced with soil and alluvium, and revegetated (see below for discussion of revegetation). After revegetation, the project proponent would maintain erosion control and safety features, monitor revegetation progress, and conduct remediation as necessary until success criteria achieved. Ongoing maintenance of the safety berm, blocked access routes, signs, and erosion control would be conducted.

1.4.3.3 Overburden Stockpiles Reclamation

Overburden stockpile slopes would be developed with lifts of approximately 25 feet with 2H:1V slopes and 20-foot-wide benches. When a bench or level is completed, the lower final slope would be graded with the intent to create more natural surfaces to blend into or conform with the surrounding hills and topography to the north and west and to create islands and pockets to place salvaged soil. This practice would also enhance the capture of seeds and rainfall to facilitate revegetation and stability. The tops of overburden stockpiles would be designed with inward drainage with a 5-foot-deep depression to catch precipitation which would percolate or evaporate and avoid runoff down the stockpile slopes or haul roads and reduce the potential for erosion. The surfaces of the overburden stockpiles would be covered with soil and alluvium and revegetated.

1.4.3.4 Revegetation

Under existing site conditions, creosote bush scrub plant community occurs throughout the undeveloped/undisturbed portions of the project site. This plant community is homogenous throughout the site with only minor variations in composition associated with changes in landforms: level to gently sloping terrain and rocky slopes. The more dominant species included saltbush, cheesebush, creosote, Mormon tea, and buckwheat. Saltbush, buckwheat, and creosote accounted for most of the site cover.

Prior to an area being cleared or developed for mining or related activities, available surface material and alluvium overburden would be collected for use as a seed bed and bank and stockpiled in separate identified

stockpiles. Stockpiles would be seeded with a native erosion control ground cover or covered with a larger rock material to limit wind and water erosion.

Revegetation for reclamation would involve preparing revegetation sites, seed application, monitoring, and remediation, if needed to achieve revegetation success criteria. Site preparation and revegetation procedures in the proposed reclamation plan include:

- Ripping or scarifying compacted areas including closed roads to a 0.5-foot minimum depth (if possible due to rock benches in the quarry), with surface rills and furrows left to aid in water and wind-blown seed collection;
- Placing alluvium overburden on areas to be seeded to a depth of up to 1-foot to provide a more conducive subsurface for root establishment and grading;
- Shaping or contouring final slopes and benches on the overburden for drainage and for natural appearing slopes and landforms. Shallow basins shall be graded into slopes and covered with soil to create favorable conditions for revegetation;
- Seeding with local native species and revegetation per methods described in Reclamation Plan;
- Staking or flagging reclaimed areas to eliminate additional disturbance;
- Monitoring and maintenance; and
- Application of remedial activities, if necessary, including but not limited to additional seeding and planting, plant protection and change of seed mix.

The seeds to be used for revegetation purposes include species that are either present on the site under existing (pre-mining) conditions or are present in the surrounding area as part of the creosote bush scrub plant community. The proposed seed mix or palette is based on native species in the creosote brush scrub plant community. Proposed plant species and seed application rates (pound per acre) are listed in Table 7, *Proposed Revegetation Plant Seed Mix*. While the shrubs would eventually dominate, the forbs and annuals provide early successional species that stabilize the soil and help shelter slower-growing woody shrubs.

Table 7. Proposed Revegetation Plant Seed Mix

Common Name	Scientific Name	Application Rate (pounds per acre)
Burrobush	*Ambrosia dumosa*	2.50
Cheesebush	*Ambrosia salsola*	2.50
Fiddleneck	*Amsinckia tessellata*	0.25
Desert alyssum	*Alyssum desertorum*	0.25
Four wing saltbush	*Atriplex canescens*	2.50
Evening primrose	*Cammisonia californica*	0.25
Rigid spineflower	*Chorizanthe rigida*	0.25
Desert pincushion	*Chaenaetis fremontii*	0.25
Rabbitbrush	*Ericameria nauseous*	3.00
Mormon tea	*Ephedra nevadensis*	1.50
Narrow leaf goldenbush	*Ericameria linearifolia*	0.75
Flat-topped buckwheat	*Eriogonum fasciculatum*	2.00
Thurber's buckwheat	*Eriogonum thurberi*	0.50
Gila	*Gilia spp.*	0.25
Creosote bush	*Larrea tridentata*	3.00
Peach thorn	*Lycium cooperi*	2.00
Desert dandelion	*Malacothrix glabrata*	0.75
Blazingstar	*Mentzelia affinis*	0.50

Table 7. Proposed Revegetation Plant Seed Mix		
Common Name	**Scientific Name**	**Application Rate (pounds per acre)**
Slender combseed	*Pectocarya linearis*	0.25
Phacelia	*Phacelia distans*	0.25
Chia	*Salvia columbariae*	0.25
Small wirelettuce	*Stephanomeria exigua*	0.25
Cotton thorn	*Tetradymia spinosa*	2.00
Mojave aster	*Xylorhhiza tortifolia*	0.50
	TOTAL pounds per acre	25-30

Source: Proposed "Reclamation Plan for Gem Hill Quarry," CalPortland, January 2021.

Invasive species control would be implemented to reduce or eliminate the occurrence of non-native invasive plant species that could invade the site where active and natural revegetation is taking place. Non-native vegetation would be removed using the most efficient method as determined by the site conditions, and could include a combination of manual, mechanical or chemical methods depending on the specific circumstances.

Revegetation test plots would be established during the initial revegetation efforts. The test plots would provide data to be used for assessing successful revegetation. Test plots would involve steep slopes, level to gently sloping area and desert dry wash characteristics and seed application methods including mechanically imprinting and broadcasting would be considered. The revegetation plan identifies success criteria achieving perennial cover, species density, and species diversity of 45, 40, and 40 percent, respectively, of baseline conditions.

1.5 Applicant Project Objectives

The proposed project is intended to achieve the following objectives as identified by the project proponent:

- Provide a reliable, sustainable, local source of high-quality pozzolanic volcanic tuff materials to help reduce CalPortland's CO_2 emissions by up to 20% by using the resource as a replacement for cement clinker and scarce and undependable supplies of fly ash.
- Provide for maximum annual production of up to 500,000 tons of pozzolanic volcanic tuff materials, which would reduce CalPortland's CO_2 footprint by as much as 500,000 tons of CO_2 annually.
- Create an environmentally sound project that would balance the recovery of the pozzolanic volcanic tuff resource with the protection of other resources including wildlife habitat, sensitive and special-status species, groundwater, surface water, and air quality.
- Mine in a location that contains sufficient land with surrounding compatible uses.
- Mine in an area in proximity to CalPortland's cement plants and other users of pozzolanic volcanic tuff, and near the intended market areas, thereby alleviating current and future traffic and associated impacts.
- Provide a final reclamation land surface that is consistent with the proposed end use as open space and the adjacent desert areas.
- Create new and maintain existing levels of employment into the future.

1.6 Proposed Discretionary Actions/Required Approvals

The County as Lead Agency for the Project has discretionary authority over the primary Project proposal. To implement this Project, the Applicant would need to obtain, at a minimum, the following discretionary permits/approvals:

1.6.1 Local

- **Kern County**
  - Certification of an Environmental Impact Report
  - Adoption of a Mitigation Measure Monitoring Program (MMMP)
  - Adoption of CEQA Findings pursuant to State CEQA Guidelines Section 15091
  - Approval of a Conditional Use Permit
  - Approval of a Reclamation Plan
  - Approval of a Water Well Permit
  - Permit for Explosives (Sheriff's Office)

1.6.2 Regional

- **Eastern Kern Air Pollution Control District (EKAPCD)**
  - Fugitive Dust Emission Control Plan

1.6.3 State

- **Lahontan Regional Water Quality Control Board (Lahontan RWQCB)**
  - Waste Discharge Permit, if required
- **California Department of Fish and Wildlife**
  - Lake and Streambed Alteration Agreement, if required
- **State Water Resources Control Board**
  - National Pollutant Discharge Elimination System (NPDES) Construction General Permit and Stormwater Pollution Prevention Plan (SWPPP)
  - NPDES Industrial General Permit and SWPPP *or* Notice of Non-Applicability (NONA)

1.6.4 Federal

- U.S. Fish and Wildlife Service – Approval of appropriate permits

2. KERN COUNTY ENVIRONMENTAL CHECKLIST FORM

2.1 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 impact," as indicated by the Kern County Environmental Checklist on the following pages.

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

2.2 Determination (To be completed by the Lead Agency)

DETERMINATION. (To be completed by the Lead Agency)

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.

☐ 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 project 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 (a) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (b) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENT IMPACT REPORT (EIR) 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 analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Randall Cates — October 28, 2021

Signature — **Date**

Randall Cates — Planner III

Printed Name — **Title**

3. EVALUATION OF ENVIRONMENTAL IMPACTS

(1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a Lead Agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

(2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

(3) Once the Lead Agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.

(4) Negative Declaration: "Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The Lead Agency must describe the mitigation measure and briefly explain how they reduce the effect to a less than significant level.

(5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or Negative Declaration, Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

(a) Earlier Analysis Used. Identify and state where they are available for review.

(b) Impacts Adequately Addressed. Identify which effects from the above checklist where within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

(c) Mitigation Measures. For effects that are "Less Than Significant With Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

(6) Lead Agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

(7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

(8) The adopted guidelines state "This is only a suggested form, and lead agencies are free to use different formats; however, Lead Agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected. "Kern County has adopted this format and included all questions from Appendix G.

(9) The explanation of each issue should identify:

(a) The significance criteria or threshold, if any, used to evaluate each question; and

(b) The mitigation measure identified, if any, to reduce the impact to less than significance.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:				
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 nonurbanized 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 points) 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 daytime or nighttime views in the area?	☒	☐	☐	☐

RESPONSES:

(a) The local terrain is variable across the project site, with high topographic relief including areas of steep slopes and areas with more gently sloping alluvial fan deposits. The area surrounding the project site consists of relatively flat terrain with interspersed mountainous terrain in a rural area of Kern County. The proposed mining area is visible from segments of Mojave-Tropico Road and other areas to the south and southeast of the project site. At the time of preparation of this initial study, the presence or absence of scenic vistas from which the project site may be visible has not been verified. Therefore, this impact is considered potentially significant for the purposes of this initial study and the EIR visual impact evaluation will assess the potential for the project to have substantial adverse effect on a scenic vista.

(b) The nearest eligible state scenic highway routes are State Routes 14 and 58, with the nearest eligible segments of these roadways both approximately 9.5-miles north of the proposed project. Due to the distance and the southern exposure of the project site, the project site is not visible from the eligible segments of these highways. Thus, no impact would result from damage to scenic resources within a state scenic highway and no further analysis is warranted.

(c) Implementation of the proposed project would result in new disturbance as a result of a mining operation in an area predominantly undisturbed under existing conditions. The project site currently consists of undeveloped land (with the exception of access roads and two graded pads) and is surrounded by undeveloped land. Views of the project site from offsite areas could be adversely affected by the proposed mining operation and related site activities and disturbance; however, the

degree of this impact has not been determined for this initial study. Therefore, for the purposes of this initial study it is determined that the proposed project could result in the degradation of visual character/quality at the project site or in the surrounding area. This potentially significant impact will be evaluated in the EIR.

(d) Though the proposed project would operate primarily during daylight hours (7:00 am to 7:00 pm) nighttime lighting for security, safety, and operational purposes could be periodically utilized. Because the proposed project could result in nighttime lighting emitted at the project site, and could result in adverse nighttime views in the surrounding area, further analyses of the project's lighting requirements and the effects of the project's nighttime lighting are warranted. This potentially significant impact will be evaluated in the EIR.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FOREST RESOURCES. Would the project:				
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 nonagricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined in 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 nonagricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒
f) Result in the cancellation of an open space contract made pursuant to the California Land Conservation Act of 1965 or Farmland Security Zone Contract for any parcel of 100 or more acres (Section 15206(b)(3) Public Resources Code)?	☐	☐	☐	☒

RESPONSES:

(a) The California Department of Conservation (DOC) designates the project site as "Nonagricultural or Natural Vegetation" lands (DOC Online California Important Farmland Finder, accessed by Benchmark Resources, August 9, 2021). No Prime Farmland, Unique Farmland, or Farmland of Statewide Importance is designated within the project site. Therefore, construction and/or operation of the proposed project would not result in the conversion of designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a nonagricultural use. No impact would result in this regard and no further analysis is warranted.

(b) The Kern County Interactive GIS website (https://kernplanning.com) (accessed by Benchmark Resources, August 9, 2021) identifies that the project site is zoned Exclusive Agriculture (A) and is within areas that have Kern County General Plan Map Code designations of either 8.3 (Extensive Agriculture (Minimum 20 Acre Parcel Size, 80 acres with Williamson Act Contract)), 8.4 (Mineral and Petroleum (Minimum 5 acre Parcel Size)), 8.4/2.4 (Mineral and Petroleum (Minimum 5 acre Parcel Size) / Steep Slope Overlay), and 8.5/2.4 (Resource Management (Minimum 20 Acre Parcel Size, 80 Acres with Williamson Act Contract) / Steep Slope Overlay). According to the Land Use Element of the Kern County General Plan, mineral extraction is an allowable use within the Extensive Agriculture, Mineral and Petroleum, and Resource Management Map Code designations. The site is in the A (Exclusive Agriculture) Zone District; mining is a permitted use in the A Zone District subject to securing a Conditional Use Permit. The project site is not subject to a California Land Conservation Act (Williamson Act) contract. Therefore, the proposed project would not conflict with existing zoning or Williamson Act contracts; thus, no impact would result in this regard and no further analysis is warranted.

(c-d) No lands within or immediately adjacent to the proposed project are forest land or timberland and none are designated or zoned as forest land or timberland. The proposed project would not result in conflicts with forest or timberland zoning or land designations and the project would not result in the loss of forest land or conversion of forest land to non-forest use. Thus, no further analysis of these issues is warranted.

(e) The project would not convert existing farmlands to a non-agricultural use and would not convert forest land to a non-forest use. Therefore, no impacts associated with conversion of farmland or forest land would occur and no further analysis is warranted.

(f) As discussed in item “b”, above, the project site is not subject to a California Land Conservation Act (Williamson Act) contract, nor is the project subject to a Farmland Security Zone Contract. Therefore, the proposed project would not conflict with existing Williamson Act for Farmland Security Zone contracts; thus, no impact would result in this regard and no further analysis is warranted.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district shall be relied upon to make the following determinations. Would the project:				
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 nonattainment under an applicable federal or state ambient air quality standard ? Specifically, would implementation of the project (in a specific location) exceed any of the following adopted thresholds:				
i. San Joaquin Valley Unified Air Pollution Control District:				
Operational and Area Sources				
Reactive Organic Gases (ROG) 10 tons per year.	☐	☐	☐	☒
Oxides of Nitrogen (NO_x) 10 tons per year.	☐	☐	☐	☒
Particulate Matter (PM_{10}) 15 tons per year.	☐	☐	☐	☒
Stationary Sources as determined by District Rules				
Severe Nonattainment 25 tons per year.	☐	☐	☐	☒
Extreme Nonattainment 10 tons per year.	☐	☐	☐	☒

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
III. AIR QUALITY. (Continued)				
ii. Eastern Kern Air Pollution Control District.				
Operational and Area Sources				
Reactive Organic Gases (ROG) 25 tons per year.	☒	☐	☐	☐
Oxides of nitrogen (NO_x) 25 tons per year.	☒	☐	☐	☐
Particulate Matter (PM_{10}) 15 tons per year.	☒	☐	☐	☐
Stationary Sources - determined by District Rules 25 tons per year.	☒	☐	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.	☐	☐	☐	☒

RESPONSES:

(a) The project site is located entirely within the jurisdiction of the Eastern Kern Air Pollution Control District (EKAPCD), in the Mojave Desert Air Basin (MDAB). San Joaquin Valley Unified Air Pollution Control District (SJVAPCD) thresholds are not applicable to the proposed project, and therefore the project would not result in potential impacts associated with SJVAPCD thresholds.

The MDAB is designated as a nonattainment area for both the state and federal ozone standards and the state particulate matter (PM_{10}) standard. Project construction would generate emissions of reactive organic gases (ROG) and oxides of nitrogen (NO_x), both of which are known as ozone precursors, and PM10 that could result in significant impacts to air quality in the area.

EKAPCD's most recently adopted air quality management plan is its Ozone Air Quality Attainment Plan (AQAP) (EKAPCD 2017). As the proposed project would generate gaseous emissions of ozone precursors (along with PM_{10}), the proposed project could potentially conflict with EKAPCD's Ozone AQAP or thresholds for emissions of other criteria pollutants. Further analysis of the project's air quality impacts is warranted to determine whether the proposed project would have the potential to conflict with or obstruct implementation of EKAPCD's applicable air quality plan for attainment and, if so, to determine the reasonable and feasible mitigation measures that could be imposed. These impacts are potentially significant and will be evaluated in the EIR.

(b) The proposed project is located within the MDAB, which is designated as a nonattainment area for the state and federal ozone standards and the state PM_{10} standard. As such, the emissions of ozone precursors (ROG and NO_x) and PM_{10} during construction and operation of the project could result

in cumulatively considerable net increase of these criteria pollutants in the MDAB. Thus, the project's contribution to cumulative air quality impacts in the MDAB could be potentially significant. The project's contribution to construction and operational emissions to the MDAB will be analyzed in the EIR.

(c) Land uses determined to be "sensitive" to air quality include residential areas, school, convalescent and acute care hospitals, parks and recreational areas, and churches. Project emissions would not occur immediately adjacent to any identified sensitive receptors, however, diesel exhaust and particulate matter emissions associated with project activities would have the potential to adversely affect air quality at offsite sensitive receptor locations. Mitigation Measures for diesel equipment/vehicles and dust control will be evaluated as part of the EIR to avoid or reduce the impacts to onsite workers and sensitive receptors. This impact is considered potentially significant and will be analyzed in the EIR.

(d) The proposed project would involve the excavation and transport of volcanic tuff and overburden material. Potential odors associated with the project would be limited to exhaust from vehicle and equipment operation and onsite portable toilets. Odors associated with these limited onsite sources would not have the potential to affect a substantial number of people given the limited onsite sources and the separation of the site from surrounding odor-sensitive land uses. Thus, the project would not have the potential to result in significant impacts associated with odors and no further analysis is warranted.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:				
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 Wildlife 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 Wildlife or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
c) Have a substantial adverse effect on 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?	☐	☐	☐	☒

RESPONSES:

(a-d) Based on initial review of site conditions, plant species on the project site within the creosote bush scrub community are anticipated to include creosote (*larrea tridentata*), burrobush (*ambrosia dumosa*), california buckwheat (*eriogonum fasciculatum*), beavertail (*opuntia basilaris*), chia (*salvia columbariae*), mormon tea (*ephedra nevadensis*), cheesebush (*ambrosia salsola*), matchweed (*gutierrezia californica*), cryptantha (*cryptantha* sp.), blackbush (*coleogyne*

ramosissima), allscale (*atriplex polycarpa*), red brome (*bromus madritensis* ssp. *Rubens*), and mediterranean grass (*schismus* sp.). Initial review also indicates that the project site has low potential to support golden eagle (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia*), desert tortoise (*Gopherus agassizii*), loggerhead shrike (*Lanius ludovicianus*), and American badger (*Toxostoma lecontei*). Additional study will be performed to assess the potential presence of special-status plant and animal species, species listed as either threatened or endangered by either the state or federal government, riparian habitat, and sensitive natural communities and to assess potential impacts of the proposed project on special-status species and their habitat, wetlands habitat, and potential movement corridors. For the purposes of this initial study, impacts to these biological resources are considered potentially significant and will be further evaluated in the EIR.

(e) The County Zoning Ordinance does not include protections for biological resources that would apply to the proposed project. Additionally, the project site is devoid of trees. Specifically, page 15 of the *Habitat Assessment and Desert Tortoise Presence/Absence Survey* (ELMT Consulting, Inc., October 2020) stipulates in part: "No bat species are expected to occur due to a lack of suitable roosting habitat (i.e., trees, crevices, abandoned structures) within and surrounding the project site. As currently designed, the project would be consistent with the Land Use, Open Space, and Conservation Element of the Kern County General Plan. Therefore, the project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. No impact would occur in this regard and no further analysis is warranted in the EIR.

(f) There are no existing Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan which encompass the project site. Therefore, the proposed project would not have the potential to conflict with a local, regional, or state habitat conservation plan.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?	☒	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines § 15064.5?	☒	☐	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☒	☐	☐	☐

RESPONSES:

(a-b) A Phase I Historical/Archaeological Resource Survey (CRM TECH, March 6, 2019), Phase II Cultural Resources Investigation (McKenna et al., June 26, 2019), and Addendum Report to the Phase II Cultural Resources Investigation (McKenna et al., January 4, 2020) have been submitted for the project and are undergoing review. Further evaluation in the EIR is warranted to identify potential impacts to historical, archaeological resources and tribal cultural resources and to formulate avoidance or mitigation measures, if applicable.

(c) The EIR will evaluate the potential for human remains to be encountered during project activities and will identify measures to be implemented if any are encountered.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:				
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?	☒	☐	☐	☐

RESPONSES:

(a) An Energy Utilization Study (Lilburn Corporation, January 2021) has been submitted for the project and is undergoing review. The project's potential to result in wasteful, inefficient, or unnecessary consumption of energy will be documented in the EIR.

(b) An Energy Utilization Study (Lilburn Corporation, January 2021) has been submitted for the project and is undergoing review. The project's potential to conflict with state or local plans for renewable energy or energy efficiency will be documented in the EIR.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:				
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 groundshaking?	☒	☐	☐	☐
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, sub-sidence, liquefaction, or collapse?	☒	☐	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (19914), creating substantial risks to life or property?	☒	☐	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	☒	☐	☐	☐

RESPONSES:

(a) (i) Construction of the project would be subject to applicable ordinances of the Kern County Building Code (Chapter 17.08). Kern County has adopted the California Building Standards Code, 2019 Edition (CCR Title 24), effective January 1, 2020, which imposes substantially the same requirements as the International Building Code (IBC), with some modifications and amendments. The entirety of Kern County is located in a seismic Zone 4, a designation previously used in the Uniform Building Code (UBC) (the predecessor to the IBC) to denote the areas of highest risk to earthquake ground motion. Adherence to all applicable regulations is anticipated to mitigate any potential impacts associated with the project. However, further analysis in the EIR is warranted.

The project is not crossed by an Alquist-Priolo Special Studies Zone; however, significant seismic activity in the area could adversely affect conditions at the site. A Slope Stability Evaluation Report (Terracon, January 30, 2020) for the proposed project has been submitted and is undergoing review, and potential impacts will be discussed in the EIR.

(ii) Strong seismic ground shaking could occur at the project site, resulting in damage to structures that are not properly designed to withstand strong ground shaking. The project would potentially be subject to moderate to strong ground shaking from local and regional earthquakes. This potential impact will be evaluated in the EIR.

(iii) The Slope Stability Evaluation Report (Terracon, January 2020) submitted for the proposed project examines the potential for substantial adverse effects due to seismic-related ground failure, including liquefaction. Related potential impacts will be evaluated in the EIR.

(iv) The Slope Stability Evaluation Report (Terracon, January 2020) submitted for the proposed project examines the potential for substantial adverse effects due to landslides or slope failure within the project site. Related potential impacts will be evaluated in the EIR.

(b) Grading associated with construction of project access roads and facilities, excavation associated with mining, and overburden and topsoil stockpiling would occur as a result of the project. These activities could create conditions under which substantial soil erosion could occur if topsoil is not appropriately managed. The handling and reapplication of topsoil will be described in the EIR, and impacts associated with the potential loss of topsoil will be evaluated. These impacts are potentially significant and the potential for increased erosion will be evaluated in the EIR.

(c) The project would be designed such that it would not degrade the stability of the underlying soils. A Slope Stability Evaluation Report (Terracon, January 2020) submitted for the proposed project examines the stability of the soils, overburden, and mineral resources that underlie the project area and the findings of that report, including slope stability recommendations, will be evaluated in the EIR. These impacts are potentially significant and the potential for degradation of soil stability will be evaluated in the EIR.

(d) Expansive soils generally result from specific clay minerals that expand when saturated and that shrink when dry. Geotechnical analysis in the form of a Slope Stability Evaluation Report (Terracon, January 2020) submitted for the proposed project will confirm the presence or absence of expansive soils within the project area and those results will be evaluated in the EIR.

(e) As proposed, sewage requirements for the project will be met by the use of portable toilet(s) that will be serviced by a contractor. As proposed, the project will not include septic systems or wastewater disposal facilities and there would be no impact. Therefore, further evaluation in the EIR is not warranted.

(f) A paleontological report (McKenna, et al., May 28, 2020) was submitted for the project and is undergoing review. Potential effects on unique paleontological or unique geological resources will

be documented in the EIR. Further evaluation is warranted to identify potential impacts and formulate avoidance or mitigation measures, if applicable.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VIII GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐	☐	☐

RESPONSES:

(a-b) Global Climate change is an international phenomenon, and the regulatory background and scientific data are changing rapidly. In 2006, the California state legislature adopted AB 32, the California Global Warming Solutions Act of 2006. Assembly Bill (AB) 32 describes how global climate change would affect the environment in California. The impacts described in AB 32 include changing sea levels, changes in snowpack and availability of potable water, changes in storm flows and flood inundation zones, and other impacts.

As required by AB 32, California Air Resources Board (CARB) determined what the statewide greenhouse gas (GHG) emissions level was in 1990 and approved a statewide GHG emissions limit that is equivalent to that level, which is to be achieved by 2020. CARB approved the 2020 limit on December 6, 2007. CARB's GHG inventory estimated the 1990 emissions level in California to be 427 million metric tons carbon dioxide equivalent ($MMTCO_2e$). In 2004, the emissions were estimated to be 480 $MMTCO_2e$.

The proposed project would generate GHG emissions from operation of the equipment and vehicles listed in Table 5, *Project Operations Equipment and Usage*, and Table 6, *Vehicles and Average Daily Trips*, above. An Air Quality and Greenhouse Gas Assessment (Lilburn Corporation, November 2020, updated January 2021) has been submitted to analyze GHG emissions associated with the project, which is undergoing review. Impacts related to GHGs and climate associated with project-related GHG emissions, and potential conflicts with any applicable plan or policy relative to GHGs, will be evaluated in the EIR.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
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 1/4 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 § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within the adopted Kern County Airport Land Use Compatibility Plan, would the project result in a safety hazard or excessive noise 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?	☒	☐	☐	☐

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
IX HAZARDS AND HAZARDOUS MATERIALS. (Continued)				
h) Would implementation of the project generate vectors (flies, mosquitoes, rodents, etc.) or have a component that includes agricultural waste? Specifically, would the project exceed the following qualitative threshold: The presence of domestic flies, mosquitoes, cockroaches, rodents, and/or any other vectors associated with the project is significant when the applicable enforcement agency determines that any of the vectors:				
i. Occur as immature stages and adults in numbers considerably in excess of those found in the surrounding environment; and	☒	☐	☐	☐
ii. Are associated with design, layout, and management of project operations; and	☒	☐	☐	☐
iii. Disseminate widely from the property; and	☒	☐	☐	☐
iv. Cause detrimental effects on the public health or wellbeing of the majority of the surrounding population.	☒	☐	☐	☐

RESPONSES:

(a-b) The use, transport, and disposal of these materials would be subject to existing local, state, and federal regulations that require a hazardous materials management plan (approved by the Kern County Public Health Services Department/Environmental Health Services Division, acting as the Certified Unified Program Agency [CUPA] designee). During the life of the proposed project, there would be some hazardous materials on the project site, such as diesel fuel, hydraulic oil, grease, solvents, adhesives, paints, other petroleum-based products, and blasting agents. Compliance with all applicable safety standards for the safe handling and use of these materials would be required and the project proponent/operator would be required to develop and implement a spill prevention control and countermeasures plan. Although it is anticipated that compliance with applicable regulations will minimize the potential for creating a significant risk to the public or release of materials to the environment, for the purposes of this initial study, this impact is considered potentially significant. More specific identification of the types of hazardous materials, and their transport, use, and disposal will be provided in the EIR.

(c) The nearest school to the project site is Tropico Middle School, located approximately 3.5-mile south of the project site. The project would not emit hazardous materials or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Therefore, no impacts would occur, and further analysis is not warranted.

(d) The project site is not included in a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. No impact would result in this regard and no further analysis is warranted.

(e) The nearest airports and airstrips to the project site are Ancient Valley/Pontius airport/airstrip (approximately 2.8 miles northeast), Lloyds Landing airport/airstrip (approximately 3.5 miles west), and Rosamond Skypark, the nearest asphalt paved landing strip (approximately 3.25 miles south). The project area is not located within two miles of any identified public or private-use airport or airstrip and the site is not within the sphere of influence of any airport as identified by the Kern County Airport Land Use Compatibility Plan (ALUCP). Therefore, there are no anticipated safety hazards or excessive noise which would impact people residing or working in the project area with respect to the proposed project's proximity to an airport or airstrip. Therefore, no impacts would occur, and no further analysis is warranted.

(f) The project is not anticipated to physically impede the existing emergency response plans, emergency vehicle access, or personnel access to the site. The site is located along Mojave-Tropico Road, which provides access to the site in the event of an emergency. The proposed access road would be gravel surfaced and suitable for emergency vehicle travel, and the proposed secondary access road would also be available for emergency vehicle access. Therefore, no impacts related to impairment of the implementation of, or physical interference with, an adopted emergency response plan or emergency evacuation plan is anticipated. Therefore, no impacts would occur, and no further analysis is warranted.

(g) The project site is located in an area of potential susceptibility to wildfires. The potential for project activities to create a risk of wildland fire ignition and pose risk of exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires will be evaluated in the EIR.

(h) (i-iv) The proposed project would have the potential to create areas of open water during operations in water containment basins, mining areas, and other areas where stormwater could collect. Reclamation could also result in areas of standing or ponded water. If not drained or otherwise appropriately managed, areas of standing water could create the potential for mosquito habitat. It is anticipated that design and management measures could be implemented to avoid the creation of mosquito habitat. Further evaluation will be provided in the EIR to identify potential impacts and to formulate avoidance or mitigation measures, if applicable.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
X HYDROLOGY AND WATER QUALITY. Would the project:				
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 that the project may impede 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 a substantial erosion or siltation on –or off-site	☒	☐	☐	☐
ii) substantially increase the rate of amount of surface runoff in a manner which would result in flooding on-or offsite;	☒	☐	☐	☐
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) impeded or redirect flood flows?	☒	☐	☐	☐
d) In flood hazard, tsunami, 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?	☒	☐	☐	☐

RESPONSES:

(a) The project would be subject to County, State, and Federal water quality regulations. Development of the project would result in a significant impact to hydrology and water quality if associated construction activities, operations, or mining areas would create conditions that would result in the violation of any water quality or waste discharge standards. Such violations could occur through

the creation of erosion, sedimentation, and/or polluted runoff, through the accidental release of potentially hazardous materials required during operational activities, or through the discharge of contaminated groundwater during dewatering activities. It is anticipated that appropriate best management practices and compliance with applicable regulations would reduce potential water quality impacts to a less-than-significant level; however, this potential impact will be evaluated fully in the EIR.

(b) Water utilized on the project site would be obtained from a proposed onsite well. All water used on the project site is proposed to be used for dust control. The water obtained from the onsite well would be stored onsite in a storage tank located near the well, then transported via a proposed water line to a stand pipe and deposited in a water truck. Potential impacts could occur associated with the use of groundwater. Potential impacts could also occur as a result of project ground compaction and potential reduction in groundwater recharge. These potential impacts are considered potentially significant, and will be evaluated in the EIR.

(c) (i) The proposed project would potentially alter the existing drainage patterns of the site or area. This impact is potentially significant. Evaluation of impacts to existing drainage patterns onsite, as well as the potential for increased erosion and/or siltation, will be evaluated in the EIR.

(ii) Ground compaction could increase surface water runoff both within and discharged from the project site, creating an increased potential for flooding. An increase in impervious surfaces (and/or surfaces with reduced permeability as a result of ground compaction) could increase storm water runoff, and the resulting impacts would be potentially significant. Therefore, an evaluation of impacts resulting from the project's potential alteration of drainage patterns of the site will be provided in the EIR.

(iii) Ground compaction on soils could increase surface water runoff both within and discharged from the project site and could create the potential to exceed the capacity of stormwater facilities. Therefore, an evaluation of potential flooding-related impacts will be evaluated in the EIR.

(iv) Ground compaction on soils could increase surface water runoff both within and discharged from the project site and could create the potential to impede or redirect surface water runoff. Therefore, an evaluation of potential changes to surface water runoff patterns will be evaluated in the EIR.

(d) The proposed project is not located near an ocean or enclosed body of water and would not be subject to inundation by seiche or tsunami. Mudflows are a type of mass wasting and landslide, where earth and surface materials are rapidly transported downhill under the force of gravity. Mudflow events are caused by a combination of factors, including soil type, precipitation, and slope. Mudflow may be triggered by heavy rainfall that the soil is not able to sufficiently drain or absorb. As a result of this super-saturation, soil and rock materials become unstable and eventually slide away from their existing location. The project site is situated on sloping topography, which may potentially be subject to localized mudflows. As such, further analysis in the EIR is required to identify appropriate mitigation/design measures to address potential mudflows and evaluate their effectiveness.

(e) Water for the proposed project would be obtained from an on-site well developed as a component of the project. The project's potential to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan will be evaluated in the EIR.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XI. LAND USE AND PLANNING. Would the project:				
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?	☒	☐	☐	☐

RESPONSES:

(a) The project would be developed on land which is currently undeveloped with the exception of access roads and two graded pads. No established communities are located within or adjacent to the project site. Therefore, the project would not have the potential to divide an established community and no further analysis is warranted.

(b) The project site is zoned A (Exclusive Agriculture), as shown in Figure 6*, Kern County Zoning Classifications*. According to the Kern County Zoning Ordinance, mining and mineral extraction, pursuant to Chapter 19.100 of the Kern County Zoning Ordinance, is a conditionally permitted use. The project site is located within the Kern County General Plan (KCGP) area and has Map Code designations of 8.3 (Extensive Agriculture (Minimum 20 Acre Parcel Size, 80 Acres with Williamson Act Contract)), 8.4 (Mineral and Petroleum (Minimum 5 Acre Parcel Size)), 8.4/2.4 (Mineral and Petroleum (Minimum 5 Acre Parcel Size) / Steep Slope Overlay), and 8.5/2.4 (Resource Management (Minimum 20 Acre Parcel Size, 80 Acres with Williamson Act Contract) / Steep Slope Overlay). The KCGP contains an implementation measure requiring that development proposed in areas with steep slopes (Map Code 2.4) will be reviewed for conformity to Chapter 19.88 Hillside Development Ordinance or Chapter 19.52 Special Planning (SP) District to ensure that appropriate soil stability, drainage, and sewage treatment will result. No sewage treatment is proposed for the project; however, further evaluation is warranted to identify potential impacts associated with soil stability and drainage, and will be provided in the EIR. The appropriateness of the project with regard to its consistency with the policies of the KCGP Plan adopted for the purpose of avoiding or mitigating an environmental effect will be evaluated in the EIR.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES. Would the project:				
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?	☒	☐	☐	☐

RESPONSES:

(a) Implementation of the surface mining and reclamation plan would allow for recovery of volcanic tuff. Extracted volcanic tuff would be beneficially and productively used as a natural pozzolan for use in the manufacturing of portland cement. Impacts are anticipated to be less than significant; however, this issue will be analyzed further in the EIR.

(b) The project does not contain locally important mineral resources recovery sites as delineated in the Kern County General Plan. Impacts are anticipated to be less than significant; however, this issue will be analyzed further in the EIR.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XIII. NOISE. Would the project result in:				
a) Generation of a substantial temporary or permanent increase in the 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 ground borne vibration or ground borne noise levels?	☒	☐	☐	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
d) For a project located within the Kern County Airport Land Use Compatibility Plan, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

RESPONSES:

(a) Land uses determined to be "sensitive" to noise as defined by the Kern County General Plan include residential areas, schools, convalescent and acute care hospitals, parks and recreational areas, and churches. Noise from the proposed project would be generated during mining and reclamation, as well as by the operation of haul trucks. The Kern County General Plan Noise Element sets a 65-decibel limit on exterior noise levels for stationary sources (i.e., non-transportation) at sensitive receptors and the County's Noise Control Ordinance (County Code Section 8.36.020 et seq.) prohibits a variety of nuisance noises. A Noise Assessment (Urban Crossroads, July 27, 2020) has been submitted for the project and is undergoing review, and potential impacts will be presented within the EIR. Further evaluation is warranted to identify potential impacts and formulate avoidance or mitigation measures, if applicable.

(b) Groundborne vibration and groundborne noise could originate from earth movement during mining and reclamation. The project would be expected to comply with all applicable requirements for long-term operation, as well as with measures to reduce excessive groundborne vibration and noise to ensure that the project would not expose persons or structures to excessive groundborne vibration. Further analysis of groundborne vibration and groundborne noise will be included in the EIR.

(c) The project would introduce new noise sources from mining, reclamation, and haul truck trips. This impact is potentially significant. Therefore, further analysis of ambient noise levels and the project's potential operational impacts on those levels will be included in the EIR.

(d) The project area is not located within the sphere of influence of any airport as identified by the County of Kern Airport Land Use Compatibility Plan (ALUCP) (Kern County, November 13,

2012). The project is not expected to expose individuals working in the project area to excessive noise levels resulting from any airports located within the ALUCP, and no further analysis related to public airports is warranted.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING. Would the project:				
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?	☐	☐	☐	☒

RESPONSES:

(a) Typical established local thresholds of significance for housing and population growth pursuant to the *CEQA Guidelines*, Section 15064.7, include effects that would induce substantial growth or concentration of a population beyond County projections; alter the location, distribution, density, or growth rate of the population beyond that projected in the Kern County General Plan Housing Element; result in a substantial increase in demand for additional housing; or create a development that significantly reduces the ability of the County to meet housing objectives set forth in the Kern County General Plan Housing Element.

The project would create a small increase in employment through the addition of approximately 20 jobs associated with the project. Increased jobs provided by the project would not be expected to result in a substantial change in the demand for new housing; therefore, no environmental impacts associated with the provision of new housing would occur as a result of the project. The project would not require the development and extension of infrastructure facilities located in and/or adjoining the project site and, thus, would not have the potential to induce population growth through extension of roads or infrastructure. Thus, the project would have no impact and no further analysis is warranted.

(b) No residential uses are within or surrounding the project site. No people or housing would be displaced as a result of the proposed project. Thus, no impacts would result in this regard and no further analysis is warranted.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES. Would the project**:**				
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 to other performance objectives for any of the public services:				
Fire Protection?	☒	☐	☐	☐
Police Protection?	☒	☐	☐	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other Public Facilities?	☒	☐	☐	☐

RESPONSES:

(a) **Fire Protection:** The Kern County Fire Department provides fire suppression and medical emergency services. The nearest fire station from the project site is Station No. 15 at 3219 35th Street, Rosamond, located approximately 3.75-miles south of the Project Site with a driving distance of approximately 5.2 miles between the station and project primary access road intersection with Mojave-Tropico Road. The station would direct access to the project site access road along Mojave Tropico Road. The project could increase the number of ignition sources in an undeveloped area of Kern County and could include the storage and use of fuels and other hazardous materials. These sources of potential fire hazards could result in additional fire calls for service. The project's impact on fire services is potentially significant and will be evaluated in the EIR.

Police Protection: The Kern County Sheriff's Department provides police protection services in the project area. The nearest Sheriff's Department substation is located approximately 3.75-miles south of the Project Site at 3179 35th Street, Rosamond, with a driving distance of approximately 5.3 miles between the station and project primary access road intersection with Mojave-Tropico Road. The EIR will discuss whether the proposed project would increase calls for service to the County Sheriff's Department.

Schools: The project would create a small increase in employment through the addition of approximately 20 jobs associated with the project. Given the number of individuals to be employed and that some may already be a part of the local workforce, it is not anticipated that such a workforce would have enough school aged children to appreciably affect local school populations.

The project's potential to result in substantial adverse impacts on school services or in the need for new or physically altered school facilities is considered less than significant.

Parks: The project would create a small increase in employment through the addition of approximately 20 jobs associated with the project. Given the number of individuals to be employed and that some may already be a part of the local workforce, implementation of the project is not expected to result in additional demands on park facilities. The project's potential to result in substantial adverse impacts on park services or in the need for new or physically altered parks is considered less than significant.

Other Public Facilities: The proposed project is not expected to result in significant impacts on other public services such as courts, libraries, public health, probation, and behavioral health. Nevertheless, potential impacts associated with increased demands or on the need for improvements to any other public facilities will be evaluated in the EIR.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVI. RECREATION. Would the project:				
a) 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) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

RESPONSES:

(a) The project area does not include any neighborhood or regional parks or other recreational facilities. The project would create a small increase in employment through the addition of approximately 20 jobs associated with the project. Given the number of individuals to be employed and that some may already be a part of the local workforce, implementation of the project is not expected to result in a significant increase in the use of existing parks or recreational facilities such that adverse impacts on the facilities would occur. Potential impacts are considered less than significant.

(b) The project does not include recreational facilities or propose the construction or expansion of recreational facilities, nor would the project require construction or expansion of recreational facilities. Additionally, the proposed reclaimed end use of the project site does not include recreational facilities. Therefore, the project would not have an impact associated with this item and no further analysis is warranted.

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Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION. Would the project:				
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☒	☐	☐	☐
b) Conflict 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?	☒	☐	☐	☐

RESPONSES:

(a) There are no dedicated pedestrian or bicycle facilities in the immediate vicinity of the project site or along the surrounding roadways. Due to the rural nature of the project area, pedestrian and bicycle traffic is limited. The project is not located along an existing bus route and few bus stops exist on the roadways likely to be used by the project. The project would not house residents or employees, and therefore, would not have characteristics that would influence alternative means of transportation. Therefore, impacts in this regard would be less than significant. The project's operational traffic would be limited, with a small work force of approximately 20 employees generating approximately 20 worker round trips (40 average daily trips) each operational day and an average of approximately 67 haul truck round trips (134 average daily trips) each operational day to transport material from the site. Further analysis of the operational trip characteristics of the project and an assessment of potential conflicts with local plans will be provided in the EIR. For the purposes of this initial study, this impact is considered potentially significant.

(b) CEQA Guidelines section 15064.3, subdivision (b) was adopted in December 2018 by the California Natural Resources Agency. These revisions to the CEQA Guidelines criteria for determining the significance of transportation impacts are primarily focused on projects within transit priority areas and shifts the focus of analysis from automobile congestion and delay to consideration of vehicular greenhouse gas emissions through creation of multimodal networks, and creation of a mix of land uses that can facilitate fewer and shorter vehicle trips. Vehicle miles traveled (VMT) is a measure of the total number of miles driven for various purposes and is sometimes expressed as an average per trip or per person. The project's operational traffic would be limited, with a small work force of approximately 20 employees generating worker trips each day and an average of approximately 67 haul loads each operational day to transport material from the site. Further analysis of the operational VMT characteristics of the project and an assessment of the project's VMT characteristics will be provided in the EIR. For the purposes of this initial study, this impact is considered potentially significant.

(c) The proposed project would result in increased traffic at the intersection of the two project access roads with Mojave-Tropico Road. In the absence of appropriate design and signage, increased ingress and egress at these locations could increase hazards. Potential traffic-related design hazards at the intersection of the two project access roads with Mojave-Tropico Road will be evaluated in the EIR.

(d) The project would include two access roads – a primary and secondary access road both from Mojave-Tropico Road – that would also be available for emergency access to the project site. Although it is anticipated that these access roads will provide suitable emergency access to the site, the potential for the proposed project to result in inadequate emergency access will be further evaluated in the EIR.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES. Would the project:				
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 in a local register of historical resources defined in Public Resources Code section 5020.1 (k) or	☒	☐	☐	☐
ii) A recourse 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 section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native America tribe.	☒	☐	☐	☐

RESPONSES:

(a) (i-ii) The proposed project has the potential to impact presently unknown surface or subsurface tribal cultural resources. A Phase I Historical/Archaeological Resource Survey (CRM TECH, March 6, 2019), Phase II Cultural Resources Investigation (McKenna et al., June 26, 2019), Addendum Report to the Phase II Cultural Resources Investigation (McKenna et al., January 4, 2020), and a paleontological report (McKenna, et al., May 28, 2020) have been submitted for the project and are undergoing review. All tribes with possible cultural affiliation and interest within the project area were notified pursuant to Assembly Bill (AB) 52 and consultation with the potentially affected tribes will occur, as appropriate, between the County and the tribes. Further evaluation in the EIR is warranted to identify potential impacts to tribal cultural resources and to formulate avoidance or mitigation measures, if applicable.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, 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, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, State, and local management and reduction statutes and regulations related to solid waste	☐	☐	☒	☐

RESPONSES:

(a) The project would not require new wastewater treatment, electric power, natural gas, or telecommunication facilities to be constructed. The project would construct an onsite water supply well and would construct onsite storm water drainage facilities. Evaluation of potential environmental effects associated with the proposed onsite well and storm water drainage facilities are considered potentially significant and will be evaluated in the EIR.

(b) Water consumption would occur as result of dust suppression at the site during mining and reclamation operations. Water is proposed to be obtained from an onsite groundwater well to be installed as a component of the project. The project's water use is estimated to be up to approximately 16,000 gallons per day and approximately 18 acre-feet per year. A Water Supply Assessment (SESPE Consulting, Inc.) has been submitted for the project and is undergoing review. The project's potential impacts and water supply availability will be documented in the EIR.

(c) The project site is located in an area with no wastewater treatment provider. The project is not expected to generate a significant amount of wastewater. Wastewater produced during the life of the project would be collected in portable toilet facilities and disposed of at an approved facility.

The project is not within an area serviced by a water treatment provider and no further analysis is warranted.

(d) The project is not expected to generate a substantial amount of solid waste that would exceed the capacity of local landfills. Impacts are anticipated to be less than significant; however, further analysis of this issue will be included in the EIR.

(e) The 1989 California Integrated Waste Management Act (AB 939) requires the County to attain specific waste diversion goals. In addition, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development projects to incorporate storage areas for recycling bins into the project design. The project would comply with the 1989 California Integrated Waste Management Act and the 1991 California Solid Waste Reuse and Recycling Access Act of 1991, as amended. Therefore, impacts are anticipated to be less than significant but will be further analyzed in the EIR.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XX. WILDFIRE. 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?	☒	☐	☐	☐
b) Due to slope, prevailing winds, or 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?	☒	☐	☐	☐

RESPONSES:

(a-d) The potential for the development and operation of the project to result in exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires will be evaluated in the EIR. The evaluation will include a review of the most recent version of the Kern County Fire Department Wildland Fire Management Plan and California Department of Forestry and Fire Protection's (CAL FIRE's) and Kern County Fire Department's prevention measures for wildland fires. With implementation of mitigation to reduce wildfire ignitions and prevent the spread of wildfires, the project is not expected to result in significant impacts to the exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires. Nevertheless, the EIR will further evaluate these issues.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XXI . MANDATORY FINDINGS OF SIGNIFICANCE.				
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, substantially 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 significant 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?	☒	☐	☐	☐

Discussion:

(a) A biological study (Habitat Assessment and Desert Tortoise Presence/Absence Survey Report, ELMT Consulting, Inc., October 2020) has been submitted for the proposed project and is undergoing review. The EIR's biological resources section will discuss of specific project impacts on plants and wildlife including avian and bat species. The EIR will also evaluate the project's contribution to cumulative biological resources impacts and propose mitigation that will reduce the impacts. Additionally, the potential exists for archeological/paleontological resources to be present on the site and encountered during the life of the proposed project. Therefore, the EIR will evaluate the proposed project's potential to affect biological, cultural and tribal cultural resources.

(b) The project has the potential to contribute to cumulative impacts including to aesthetics, air quality, biological resources, cultural resources, and utilities and public services, among others. The EIR will evaluate the project's contribution to cumulative impacts in these and other areas as further impacts are identified.

(c) Potential environmental impacts and adverse effects on human beings will be evaluated in the EIR.

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Appendix A.2
Scoping Meeting Summary

SUMMARY OF PROCEEDINGS

KERN COUNTY AGENCY SCOPING MEETING

Kern County Planning and Natural Resources Department
2700 M Street, Suite 100
Bakersfield, California

Date: November 18. 2021

STAFF ATTENDANCE:

Terrance Smalls, Planning Supervisor Advanced Planning
Randall Cates, Planner III

The meeting convened at **1:35 p.m**. at the Kern County Planning Department offices noted above. Randall Cates convened the meeting and introduced himself as the meeting leader, outlining the purpose of the scoping meeting. As Lead Agency, the Kern County Department of Planning and Natural Resources is required to conduct public scoping meetings.

NOTICE OF PREPARATION PROJECT:

Gem Hill Quarry Project by CalPortland Company (PP21404);

EIR – Notice of Preparation 2021 CUP No. 45, Map No. 214;

Mr. Cates described the project as proposed. Additionally, he outlined the EIR process and asked that attendees provide information on what they considered important to be studied about the project. Actual dates of release for the EIR, PC, and BOS meeting are not known at this time. After the discussion of the proposed project the floor was opened to the public to provide information about what they feel should be included in the EIR. There were four members of the public in attendance and the comments provided are as follows:

Mr. Phillip Moores stated that he had concerns about groundwater usage, as well as potential impacts to the transportation system. Mr. Moores wishes to see the EIR discuss impacts on groundwater, hydrology and transportation. Specifically related to transportation impacts, he stated his concern that the road system in the vicinity of the project may not be able to handle the increase in truck traffic from the proposed project.

Mr. Darin Kuida was in attendance and asked that the County ensure the EIR studies potential aesthetic impacts to the viewshed as well as potential noise impacts from the project.

No other members of the public attended the Scoping Meeting.

No other public comments were presented at this scoping meeting.

Public testimony closed at approximately **2:06 p.m**.

Summary prepared by:
Terrance Smalls, Supervising Planner

Appendix A.3

Notice of Preparation/Initial Study Comments

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California
Department of Conservation
Geologic Energy Management Division

Gavin Newsom, Governor
David Shabazian, Director
801 K Street, MS 18-05
Sacramento, CA 95814
T: (916) 445-9686

11/24/2021

Randall Cates
2700 M Street Suite 100, Bakersfield, CA 93301, USA
catesr@kerncounty.com

Construction Site Well Review (CSWR) ID: 1012367

Assessor Parcel Number(s): 34503102, 34503202, 34503205, 34503231, 34529417

Property Owner(s): CalPortland Company

Project Location Address: Sections 25, 26, 35 and 36 of Township 10 North, Range 13W, Mojave Tropical, California 93501

Project Title: Gem Hill Quarry Project by CalPortland Company (PP21404); PLN20-01417; CUP 45, Map 214

Public Resources Code (PRC) § 3208.1 establishes well reabandonment responsibility when a previously plugged and abandoned well will be impacted by planned property development or construction activities. Local permitting agencies, property owners, and/or developers should be aware of, and fully understand, that significant and potentially dangerous issues may be associated with development near oil, gas, and geothermal wells.

The California Geologic Energy Management Division (CalGEM) has received and reviewed the above referenced project dated 11/24/2021. To assist local permitting agencies, property owners, and developers in making wise land use decisions regarding potential development near oil, gas, or geothermal wells, the Division provides the following well evaluation.

The project is located in Kern County, within the boundaries of the following fields:

N/A

Our records indicate there are no known oil or gas wells located within the project boundary as identified in the application.

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- Number of wells Not Abandoned to Current Division Requirements as Prescribed by Law and Projected to Be Built Over or Have Future Access Impeded by this project: 0

- Number of wells Not Abandoned to Current Division Requirements as Prescribed by Law and Not Projected to Be Built Over or Have Future Access Impeded by this project: 0

- Number of wells Abandoned to Current Division Requirements as Prescribed by Law and Projected to Be Built Over or Have Future Access Impeded by this project: 0

- Number of wells Abandoned to Current Division Requirements as Prescribed by Law and Not Projected to Be Built Over or Have Future Access Impeded by this project: 0

As indicated in PRC § 3106, the Division has statutory authority over the drilling, operation, maintenance, and abandonment of oil, gas, and geothermal wells, and attendant facilities, to prevent, as far as possible, damage to life, health, property, and natural resources; damage to underground oil, gas, and geothermal deposits; and damage to underground and surface waters suitable for irrigation or domestic purposes. In addition to the Division's authority to order work on wells pursuant to PRC §§ 3208.1 and 3224, it has authority to issue civil and criminal penalties under PRC §§ 3236, 3236.5, and 3359 for violations within the Division's jurisdictional authority. The Division does not regulate grading, excavations, or other land use issues.

If during development activities, any wells are encountered that were not part of this review, the property owner is expected to immediately notify the Division's construction site well review engineer in the Inland district office, and file for Division review an amended site plan with well casing diagrams. The District office will send a follow-up well evaluation letter to the property owner and local permitting agency.

Should you have any questions, please contact me at (661) 334-3649 or via email at Daniel.Woldemariam@conservation.ca.gov.

Sincerely,

for

Mark Ghann-Amoah
District Deputy

cc: Randall Cates - Submitter

STATE OF CALIFORNIA Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

PARLIAMENTARIAN
Russell Attebery
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Paiute/White Mountain Apache

COMMISSIONER
Isaac Bojorquez
Ohlone-Costanoan

COMMISSIONER
Sara Dutschke
Miwok

COMMISSIONER
Buffy McQuillen
Yokayo Pomo, Yuki, Nomlaki

COMMISSIONER
Wayne Nelson
Luiseño

COMMISSIONER
Stanley Rodriguez
Kumeyaay

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Pomo

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nahc@nahc.ca.gov
NAHC.ca.gov

RECEIVED
NOV 18 2021
Kern County Planning & Natural Resources Dept.

November 12, 2021

Randall Cates
Kern County Planning and Natural Resources Department
2700 "M" Street Suite 100
Bakersfield, CA 93301-2323

Re: 2021110076, Gem Hill Quarry Project by CalPortland Company (PP21404), Kern County

Dear Mr. Cates:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

cc: State Clearinghouse

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

JENNIFER LUCCHESI, *Executive Officer*
(916) 574-1800
TTY CA Relay Service: **711** *or Phone*
800.735.2922
from Voice Phone **800.735.2929**
or for Spanish **800.855.3000**

***Contact Phone:* (916) 574-1890**

Established in 1938

December 1, 2021

File Ref: SCH # 2021110076

Randall Cates
Kern County Planning and Natural
Resources Department
2700 "M" Street, Suite 100
Bakersfield, CA 93301

VIA ELECTRONIC MAIL ONLY (CatesR@kerncounty.com)

Subject: Notice of Preparation for an Environmental Impact Report for the Gem Hill Quarry Project by CalPortland Company Project, Kern County

Dear Randall Cates:

The California State Lands Commission (Commission) staff has reviewed the subject Notice of Preparation (NOP) for the Environmental Impact Report (EIR) for the Gem Hill Quarry Project (Project) proposed by CalPortland Company (Project proponent). Kern County, as the public agency with regulatory authority over the Project, is the lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq) for preparation of the EIR. The Commission is a trustee agency for projects that could directly or indirectly affect school land and accompanying resources or uses. Additionally, because the Project involves work on State school land, the Commission will act as a responsible agency. Commission staff requests that the County consult with us on preparation of the Draft EIR as required by CEQA section 21153, subdivision (a) and State CEQA Guidelines[1] section 15086, subdivisions (a)(1) and (a)(2).

Commission Jurisdiction and School Lands

In 1853, the U.S. Congress granted to California nearly 5.5 million acres of land for the specific purpose of supporting public schools. In 1984, the State Legislature passed the School Land Bank Act (Act), which established the School Land Bank Fund and appointed the Commission as its trustee (Pub. Resources Code, § 8700 et seq.). The Act directed the Commission to develop school lands into a permanent and productive

[1] As used in this letter, "State CEQA Guidelines" refers to California Code of Regulations, title 14, Division 6, Chapter 3.

resource base for revenue generating purposes. The Commission manages approximately 462,830 +/- acres of school lands still held in fee ownership by the state and the reserved mineral interests on an additional 790,000 +/- acres where the surfaces estates have been sold. Revenue from school lands is deposited in the State Treasury for the benefit of the Teachers' Retirement Fund (Pub. Resources Code, § 6217.5).

The Project proponent has applied to the Commission (application A2481) for an amendment to Lease No. PRC 9504, a General Lease – Right-of-Way Use, of State-owned School land in a portion of Section 36, Township 10 North, Range 13 West, SBM, northwest of the Town of Rosamond, Kern County. The leased right-of-way includes an existing dirt road that provides access from Mojave-Tropico Road across APN 345-032-02 to land owned by the Project proponent.

Project Description

The Project is located at the West side of Mojave Tropico Road, approximately 2 miles south of Backus Road, and approximately 4 miles northwest of the unincorporated community of Rosamond in the County of Kern. The Project proponent has proposed a surface mining operation and development of a reclamation plan on 82 acres of an approximately 210-acre reclamation plan boundary, which would utilize a 0.75-acre primary access road outside of such reclamation plan boundary to provide access to and from Mojave Tropico Road.

From the Project Description, Commission staff understands that the proposed Project would increase the existing road width within APN 345-032-02 from 12 feet to 24 feet, with two 6-foot-wide shoulders on each side (for a total width of 36 feet). Class II Road Base would be installed and compacted to 90 percent or greater, and the road would be crowned to provide for proper drainage.

Environmental Review

Commission staff requests that the County consider the following comments when preparing the Draft EIR to ensure that impacts to State school land are adequately analyzed for the Commission's review and use of the EIR to support any Commission action related to the current application and any future amendments for Lease No. PRC 9504.

Project Description:

1. A thorough and complete Project Description should be included in the Draft EIR in order to facilitate meaningful environmental review of potential impacts, mitigation measures, and alternatives. The Project Description should be as precise as possible in describing the details of all allowable activities (e.g., types of equipment or methods that may be used, maximum area of impact, etc.), as well as the details of the timing and length of activities. In particular, please illustrate on figures and engineering plans and provide written description of activities occurring on State lands within the Project area. Thorough descriptions will facilitate Commission staff's

determination of the extent and locations of its leasing jurisdiction, make for a more robust analysis of the work that may be performed, and minimize the potential for subsequent environmental analysis to be required.

Biological Resources

2. For land under the Commission's jurisdiction, the Draft EIR should disclose and analyze all potentially significant effects on sensitive species and habitats in and around the Project area, including special-status wildlife and plants, and if appropriate, identify feasible mitigation measures to reduce those impacts. The County should conduct queries of the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database and U.S. Fish and Wildlife Service's (USFWS) Special Status Species Database to identify any special-status plant or wildlife species that may occur in the Project area. The Draft EIR should also include a discussion of consultation with the CDFW and USFWS as applicable, including any recommended mitigation measures and potentially required permits identified by these agencies.

3. Construction Noise: The Draft EIR should evaluate noise and vibration impacts on wildlife and birds from construction and operating activities. Mitigation measures could include species-specific work windows as defined by CDFW and USFWS. Again, Commission staff recommends early consultation with these agencies to minimize the impacts of the Project on sensitive species.

Climate Change

4. Greenhouse Gas (GHG): A GHG emissions analysis consistent with the California Global Warming Solutions Act (Assembly Bill [AB] 32; Nuñez, Chapter 488, Statutes of 2006) and required by the State CEQA Guidelines should be included in the Draft EIR. This analysis should identify a threshold of significance for GHG emissions, calculate the level of GHGs that will be emitted as a result of construction and operation of the Project, determine the significance of the impacts of those emissions, and, if impacts are significant, identify mitigation measures that would reduce them to the extent feasible.

Cultural Resources

5. Title to Resources: The Draft EIR should also mention that the title to archaeological sites and historic or cultural resources on jurisdictional lands is vested in the state and under the jurisdiction of the California State Lands Commission (Pub. Resources Code, § 6301). Commission staff requests that the County consult with Staff Attorney Jamie Garrett (contact information below), should any cultural resources on State lands be discovered during construction of the proposed Project. In addition, Commission staff requests that the following statement be included in the EIR's Mitigation and Monitoring Plan: "The final disposition of archaeological or historical resources recovered on State lands under the jurisdiction of the California State Lands Commission must be approved by the Commission."

Mitigation and Alternatives

6. Deferred Mitigation: In order to avoid the improper deferral of mitigation, mitigation measures must be specific, feasible, and fully enforceable to minimize significant adverse impacts from a project, and "shall not be deferred until some future time" (State CEQA Guidelines, § 15126.4, subd. (a).) However, recent amendments to the guidelines[2] explain that such deferral may be appropriate where another regulatory agency will issue a permit for the project and is expected to impose mitigation requirements independent of the CEQA process, so long as the EIR includes performance criteria, and the lead agency commits itself to the mitigation.

7. Alternatives: In addition to describing mitigation measures that would avoid or reduce the potentially significant impacts of the Project, the County should identify and analyze a range of reasonable alternatives to the proposed Project that would attain most of the Project objectives while avoiding or reducing one or more of the potentially significant impacts (see State CEQA Guidelines, § 15126.6).

Thank you for the opportunity to comment on the NOP for the Project. As a trustee and responsible agency, Commission staff requests that you consult with us on this Project and keep us advised of changes to the Project Description and all other important developments. Please send additional information on the Project to the Commission staff listed below as the Draft EIR is being prepared.

Please refer questions concerning environmental review to Cynthia Herzog, Senior Environmental Scientist, at (916) 574-1310 or cynthia.herzog@slc.ca.gov. For questions concerning archaeological or historic resources under Commission jurisdiction, please contact Staff Attorney Jamie Garrett, at (916) 574-0398 or jamie.garrett@slc.ca.gov. For questions concerning Commission leasing jurisdiction, please contact Randy Collins, Public Land Management Specialist, at 916-574-0900 or randy.collins@slc.ca.gov.

Sincerely,

Nicole Dobroski, Chief
Division of Environmental Planning
and Management

cc: Office of Planning and Research
C. Herzog, Commission
R. Collins, Commission

[2] Clover Valley Foundation v. City of Rocklin (2011) 197 Cal.App.4th 200, 237; see also Oakland Heritage Alliance v. City of Oakland (2011) 195 Cal.App.4th 884, 910-912; Defend the Bay v. City of Irvine (2004) 119 Cal.App.4th 1261, 1276. Subsection (a)(1)(B) of §15126.4 was amended in 2018 to reflect case law developments.

December 3, 2021

Mr. Randall Cates
Kern County
Planning and Natural Resources Department
2700 M Street Suite 100
Bakersfield, CA 93301

Copy sent via email: CatesR@kerncounty.com

SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT
GEM HILL PROJECT (SCH# 2021110076)

Dear Mr. Cates:

Thank you for including the Department of Conservation's Division of Mine Reclamation (Division) in the environmental review process for the proposed Gem Hill Quarry Project (Proposed Project) Notice of Preparation (NOP) of a draft Environmental Impact Report (EIR). The NOP indicates that Kern County (County), as lead agency under the California Environmental Quality Act (CEQA), will prepare a draft EIR for the Proposed Project.

As described in the NOP, the County seeks written comments regarding the scope and content of the environmental information to be included in the draft EIR. The Proposed Project is for approval of a Conditional Use Permit application to mine 35 acres within an approximately 210-acre area, with a total disturbance and reclamation area of 82-acres and approval of a reclamation plan for the 210-acre mine and reclamation plan boundary. CalPortland Cement Company is the project proponent and plans to mine volcanic tuff. The proposed surface mining operation will include the quarry, two overburden stockpiles, stormwater basins, an equipment storage area, a water well and conveyance pipe, truck scale, and access roads.

The Division's primary focus is on active surface mining operations; however, the Division also addresses issues related to abandoned (pre-1976) legacy mines. Additionally, the Division has review responsibilities associated with lead agency implementation of the Surface Mining and Reclamation Act (SMARA). SMARA provides a comprehensive surface mining and reclamation policy to assure that:

- Adverse environmental effects of surface mining operations are prevented or minimized and mined lands are reclaimed to a usable condition which is readily adaptable for alternative land uses
- Production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment
- Residual hazards to the public health and safety are eliminated

Division staff has reviewed the subject NOP and Initial Study pursuant to CEQA Statutes and Guidelines and offers the following comments regarding scoping of the draft EIR:

Comment 1:
The Division recommends that the draft EIR includes:

- A biological assessment including identification of state and federal special status species and that incorporates appropriate avoidance and mitigation measures. Typically, the special status species evaluation includes a 9-quadrant evaluation using the California Department of Fish and Wildlife's Biogeographic information and Observation System (a.k.a. BIOS).

- Any special status species surveys, as appropriate for the site.

- An evaluation of proposed RP, including RP requirements such as test plots (initiating them concurrent with mining as per SMARA requirements)

Comment 2:
Division staff will provide specific comments on the RP for this proposed mining activity once the Division receives the complete RP and any supporting documents, along with the statement from the County that certifies the submission as complete and in accordance with PRC Section 2772.1(a)(3)(A-C). Additionally, Division staff will provide comments on the financial assurance cost estimate for the Proposed Project in accordance with PRC Section 2773.4(a-d).

The Division requests to be included on the distribution list for this Proposed Project. Additionally, the Division requests that any subsequent project documents (e.g., the draft EIR, hearing notices for the draft and final EIRs, and any supplemental environmental documents), as well as a copy of the certified final EIR, be sent to the Division at DMR-Submittals@conservation.ca.gov or the mailing address on the bottom of page 1 of this letter. If you have any questions, please contact me at (916) 323-9198.

Sincerely,

DocuSigned by:
Claire Meehan
7C67E0775504421...

Claire Meehan
Environmental Scientist
Environmental Services Unit

ec: State Clearinghouse, state.clearinghouse@opr.ca.gov

Department of Conservation, Office of Legislative and Regulatory Affairs, OLRA@conservation.ca.gov

Randall Cates

From: Samantha McCarty <SMcCarty@tachi-yokut-nsn.gov>
Sent: Tuesday, November 23, 2021 11:05 AM
To: Randall Cates
Cc: Shana Powers; Maria Gonzales; William K. Barrios; Paige Berggren; Damion Cuara
Subject: Gem Hill Quarry Project by CalPortland Company

CAUTION: This email originated from outside of the organization. Do not click links, open attachments, or provide information unless you recognize the sender and know the content is safe.

Dear Randall,

Thank you for contacting the Santa Rosa Rancheria Tachi-Yokut Tribe regarding: Gem Hill Quarry Project by CalPortland Company. The Tribe will be deferring to the Tejon Indian Tribe for this project, their Cultural Resources Manager is Colin Rambo. If you have any questions, comments, and or concerns please contact the Santa Rosa Rancheria Cultural Department. Thank you.

Sincerely,

Samantha McCarty

Santa Rosa Rancheria Tachi-Yokut Tribe
Cultural Specialist ll
SMcCarty@tachi-yokut-nsn.gov
Office: (559) 924-1278 x 4091
Cell: (559) 633-6640

***PLEASE KEEP ALL CULTURAL STAFF IN EMAILS UNLESS STATED OTHERWISE**

Kern County
Superintendent of Schools

Office of Mary C. Barlow ...advocates for children

November 8, 2021

Kern County Planning Department
Attn: Randall Cates
2700 M Street, Suite 100
Bakersfield, CA 93301

Our File No.: CO21-0124

RE: **DEVELOPER FEES FOR:** Draft EIR Gem Hill Quarry Project; Map No. 214-25, 26, 35 & 36
(West side of Mojave Tropico Rd, approx. 2 miles south of Backus Rd.)

Dear Mr. Cates,

This office represents the Southern Kern Unified School District with regard to the imposition of developer fees, and appreciates the opportunity to respond on behalf of the district regarding the proposed project. This letter is limited to addressing the possible effects which the project might have on school facilities created by students attributable to the project. It is not intended to address other possible environmental concerns which might be identified by the district(s) after reviewing it.

It is our determination that the above mentioned project detailed in the Draft Environmental Impact Report to include (a) a Conditional Use Permit to allow a surface mining operation and development of a reclamation plan on 82 acres of approx. 210-acre reclamation plan boundary, with an operation life of 30 years will have no significant effects on either of the district's facilities and mitigation of this project's impacts on public school facilities will be limited to the collection of statutory fees authorized under Education Code Section 17620 and Government Code Sections 65995 et seq. at the time that building permits are issued.

Thank you for the opportunity to comment on the project. Should you have any questions, or if we can be of any further assistance in this matter, please contact me at 636-4599, or through e-mail at anwatson@kern.org.

Sincerely,

Mary C. Barlow
County Superintendent of Schools

awatsm

Andrea Watson, Specialist
School District Facility Services

ALW
cc: District(s)

1300 17th Street – CITY CENTRE | Bakersfield, CA 93301-4533
(661) 636-4000 | FAX (661) 636-4130 | TDD (661) 636-4800 | www.kern.org

Office Memorandum

KERN COUNTY

To: Planning and Natural Resources Department
Randall Cates

Date: November 10, 2021

From: Public Works Department
Floodplain Management Section
Kevin Hamilton, by Brian Blase

Phone: (661) 862-5098
Email: BlaseB@kerncounty.com

Subject: Notice of Preparation of Draft Environmental Impact Report
Gem Hill Quarry Project by CalPortland Company

Our section has reviewed the attached subject documents and has the following comments:

This section recommends the following be included as Conditions of Approval for this project:

The applicant shall provide a plan for the disposal of waste or drainage waters originating on site, subject to approval of the Public Works Department, per the Kern County Development Standards.

CRAIG M. POPE, P.E., DIRECTOR
ADMINISTRATION & HUMAN RESOURCES
FINANCE & ENGINEERING
BUILDING & CODE
OPERATIONS

KERN COUNTY
PUBLIC WORKS

2700 "M" STREET, Suite 400
BAKERSFIELD, CA 93301-2370
Phone: (661) 862-5000
FAX: (661) 862-8851
Toll Free: (800) 552-5376 Option 5
TTY Relay: (800) 735-2929

November 17, 2021

To: Lorelei Oviatt, Director
Planning and Natural Resources Department

Randall Cates, Planner III

From: Brian Blacklock, County Surveyor
By: Andres Arias, Engineering Tech III Phone: 28959

Subject: Initial Study/Notice of Draft Environmental Impact Report for Gem Hill Quarry Project by CalPortland Company (PP21404)

I have reviewed the above noted project DEIR and recommend the following conditions be placed on the Conditional Use Permits:

1. Prior to issuance of a building or grading permit: All survey monuments shall be tied out by a Licensed Land Surveyor. A corner record for each monument or record of survey shall be submitted to the County Surveyor for review and processing, per Section 8771 of the Professional Land Surveyor's (PLS) Act.

2. Prior to Final Inspection: All survey monuments that were destroyed during construction shall be re-set or have a suitable witness corner set. A post construction corner record for each monument re-set or a record of survey shall be submitted to the County Surveyor for processing, per Section 8771 of the Professional Land Surveyor's Act.

3. Upon completion of project: All survey monuments shall be accessible by a Licensed Land Surveyor or their representatives, with prior notice, per Section 8774 of the PLS Act and Civil Code 846.5 (a).

Thank you for the opportunity to review and comment on this projects initial Study/Notice of preparation of Draft. We are looking forward to reviewing the finalized EIR when available. Should you have any questions please contact me.

Office of the Fire Marshal
Kern County Fire Department

Fire Prevention
2820 M St. • Bakersfield, CA 93301 • www.kerncountyfire.org
Telephone 661-391-3310 • FAX 661-636-0466/67 • TTY Relay 800-735-2929

December 1, 2021

Kern County Planning and Natural Resources Department
2800 M St., Bakersfield, CA 93301
Attn.: Randall Cates

Re: Kern County Fire Department Comments Regarding Planning Department Project

To Whom It May Concern,

The Kern County Fire Department (KCFD), as the local fire authority, has received a request for comments regarding **PP21404 Gem Hill Quarry Project**. Upon initial review, it has been determined that all fire access roads to each parcel must meet specifications set forth in Section 503.2 of the California Fire Code and the applicable Appendix and Ordinance sections. Additionally, all new construction will need fire water flowing a minimum of 1500gpm for 2 hrs with 20 psi residual pressure, located within 400' of the furthest point of the proposed project.

A more detailed review and project comments will be conducted when the building permit is pulled and plans are submitted to KCFD.

Please feel free to call our Fire Prevention Office at 661-391-3310 with any questions.

Sincerely,
Michael Nicholas
Assistant Fire Marshal
Kern County Fire Department

KERN COUNTY
Public Health Services
DEPARTMENT

BRYNN CARRIGAN
DIRECTOR

KRISTOPHER LYON, MD
HEALTH OFFICER

2700 M STREET, SUITE 300 BAKERSFIELD, CALIFORNIA 93301-2370 661-862-8740 WWW.KERNPUBLICHEALTH.COM

INTEROFFICE MEMORANDUM

To: Randall Cates, Planner III
From: Dayana Torres, EHS
Subject: Draft EIR – Gem Hill Quarry Project – Revised
Date: March 29, 2022

The Kern County Environmental Health Division has reviewed the above referenced project. This Division has the local regulatory authority to enforce state regulations and local codes as they relate to waste discharge, water supply requirements, and other items that may affect the health and safety of the public or that may be detrimental to the environment.

The Environmental Health Division requests that the following conditions be placed on the subject project:

1. Please log in to the California Environmental Reporting System (CERS) at http://cers.calepa.ca.gov/ and create an account and facility. If you have questions on what needs to be uploaded please contact Bilal Korin at (661)862-8730 or korinb@kerncounty.com
2. The method of water supply and for the site shall be approved by the Environmental Health Division.
3. A contract for the sewage pumper who will be maintaining the portable toilets shall be provided directly to Environmental Health.
4. If a building containing plumbing is constructed on site, then the method of water supply and sewage disposal for the proposed project shall be approved by Kern County Environmental Health Division.
5. If any abandoned wells are found during the grading and construction process, the applicant shall contact the Land and Water Division for permitting and destruction procedures.

CENTER for BIOLOGICAL DIVERSITY Because life is good.

protecting and restoring natural ecosystems and imperiled species through science, education, policy, and environmental law

via electronic and US mail

December 6, 2021

Kern County Planning and Natural
Resources Department
Attn: Randall Cates
2700 "M" Street, Suite 100
Bakersfield, CA 93301
(661) 862-8612; CatesR@kerncounty.com

RE: Scoping Comments on Gem Hill Quarry Project

Dear Mr. Cates,

The Center for Biological Diversity ("Center") is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 1.8 million members and supporters throughout California and the western United States, including members that live in the vicinity of the proposed Gem Hill Quarry Project mine. The Center submits these comments regarding the Notice of Preparation for the Gem Hill Quarry Project - Environmental Impact Report on behalf of our board, staff, and members.

I. INTRODUCTION

The proposed project is located on lands that currently support both state and federally listed threatened species – the federally and state listed threatened desert tortoise, and the state-listed threatened Mohave ground squirrel. Indeed, the proposed project area is located within the Mohave Ground Squirrel Conservation Area, designated in the West Mojave Plan.

A. Appropriate Survey Protocols Required

Several state and/or federally threatened species in addition to species of concern may be present on or near the project site. Appropriate surveys must be implemented for the species that have them. The U.S. Fish and Wildlife Service (USFWS) now has specific recommendations for pre-project surveys[1] to be implemented for the federally (and state-listed) threatened desert tortoise.

1 http://www.fws.gov/ventura/species_information/protocols_guidelines/docs/dt/DT%20Pre-project%20Survey%20Protocol_2010%20Field%20Season.pdf

Ileene Anderson, Senior Scientist
660 S. Figueroa Street, Suite 1000 • Los Angeles, CA 90017
tel: (323) 490.0223 *email*: ianderson@biologicaldiversity.org
www.BiologicalDiversity.org

For the state-listed threatened Mohave ground squirrel, the California Department of Fish and Wildlife (CDFW) has specific survey requirements[2] that a project applicant must implement. The required survey window for Mohave ground squirrel (MGS) is much early in the year.

For the rare and declining burrowing owl, surveys must be implemented using the CDFW's recommendation for *survey* protocol[3], which includes a four-phase approach and includes four separate site visits, and a survey for winter burrowing owl residents

Plant surveys must be implemented during the appropriate time of year to evaluate all the flora. A vegetation map and floral inventory must be provided in the EIR. CDFW guidelines require multiple survey days based on the possible diversity of rare plants, the use of reference sites, vegetation map (as the basis for special status species surveys), and a floristic approach to surveys[4].

Western Joshua Tree are facing significant threats to their long-term survival in the region.

The Project site is located within the range of the western Joshua tree South population (YUBR South). The geographic area in which YUBR South is situated is comprised of 3.7 million acres, with just over 50% in private ownership, 48% federally owned, and just under 2% state, county and local owned (USFWS 2018). The USFWS (2018) estimates that 3,255,088 acres of this area was suitable for Joshua trees based on soils and other habitat factors. However, Joshua tree actually occupy only a fraction of this area, as they have a patchy and disjunct distribution, and large areas of former habitat have been lost to development or agricultural conversion.

Increasing development, climate change, increasing drought and wildfires, invasive species that adversely affect fire dynamics, and other threats have led to ongoing reductions in western Joshua trees and western Joshua tree habitat range wide. Protecting western Joshua trees and their habitat from continued destruction and habitat loss is therefore of utmost importance to the persistence of the species in California.

The CEQA Guidelines indicate that a project can be expected to have significant impacts to biological resources if the Project has 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. (CEQA Guidelines, Appendix G, subd. IV(a).)

On September 22, 2020, the California Fish and Game Commission ("CFGC") advanced the western Joshua tree to candidacy under the California Endangered Species Act ("CESA"),

2 http://www.dfg.ca.gov/wildlife/nongame/MGS/docs/MGSSurveyGuidelines2010.pdf
3 http://www.dfg.ca.gov/wildlife/nongame/docs/boconsortium.pdf
4 http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/Protocols_for_Surveying_and_Evaluating_Impacts.pdf

protecting these imperiled plants from harm during the ongoing review process. (CFGC 2020.) Consequently, the Project's impacts to the western Joshua trees must be fully evaluated and disclosed to the public.

B. Impact Analysis and Mitigation Requirements

The EIR must use the most recent impact analysis recommended or required by wildlife agencies. For desert tortoise, the USFWS' pre-project survey recommendations involve estimating the number of desert tortoise on project sites based on the survey protocol[5]. Additionally, USFWS considers the results of a pre-project survey to be valid for no more than one year[6], so additional years of surveys may be required depending on the environmental review timeline.

For MGS, the EIR must identify potential habitat and location of protocol surveys including trapping array locations. Camera traps should also be required to detect trap-shy MGS.

For burrowing owl, the EIR must incorporate the most recent methodology to avoid and minimize impacts and evaluate remaining impacts if needed and mitigation for the species[7].

The EA must also evaluate the impacts to wildlife connectivity goals within the area. Because this area is developing, keeping space for wildlife to move, particularly as climate change progresses is essential. Therefore, the EIR must evaluate the impact of this project on the connectivity for species, in conjunction with other existing and proposed activities (see cumulative impact section).

C. Green House Gases

Mining and cement manufacturing is a significant source of greenhouse gas (GHG) production. This project will create GHGs, so the EIR must quantify the amount of GHG production resulting not only from the proposed project (on-site mining activities, transportation to ultimate processing plant, etc.), but also the ultimate production of the pozzolan cement.

D. Alternatives

The EIR must include a full range of alternatives – including the proposed action and the no action alternative.

5http://www.fws.gov/ventura/species_information/protocols_guidelines/docs/dt/Table%203_DT%20Preproject%20Survey%20Protocol_2010.xls

6 http://www.fws.gov/ventura/species_information/protocols_guidelines/docs/dt/DT%20Pre-project%20Survey%20Protocol_2010%20Field%20Season.pdf

7 http://www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf

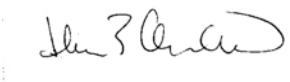
E. Cumulative Impacts Must Be Fully Disclosed and Analyzed

The EIR must include consider impacts from all the proposed and recently permitted projects in the area in the cumulative impacts analysis.

CONCLUSION

We expect that the County will provide adequate data and analysis of the impacts proposed by the mine. Thank you for the opportunity to submit these scoping comments. Please feel free to contact me (323)-490-0223 or at ianderson@biologicaldiversity.org. Please add me to the list of interested public for all notices associated with this project.

Respectfully submitted,



Ileene Anderson
Senior Scientist, Wildlands Desert Director
Center for Biological Diversity

Randall Cates

From: Carol Letus-Dumin <carolkeekat@gmail.com>
Sent: Sunday, November 14, 2021 11:48 AM
To: Randall Cates
Subject: Gem Hill Quarry Project

CAUTION: This email originated from outside of the organization. Do not click links, open attachments, or provide information unless you recognize the sender and know the content is safe.

No No No No No No!

We have lived off Backus in the 93501 zip code for the last ten years.

And over the last ten years, Backus Road has become a super highway of huge rock and water trucks; we have seen people's wells seized, our aquifer diminished; and we have been surrounded by solar fields and windmills. We've had several mining concerns come to the area as well. The dirt pollution has risen, the noise level is much higher, and of infinite duration. Only on Sundays is the noise level bearable any more. Our Joshua trees are dying, and our wildlife is seriously diminished.
Our property taxes have gone up, yet we have made no improvements to it, and where does it go? Tehachapi! Where the rich people live.

So with all of this, you want to put in another mining concern? To destroy the roads, steal our water in a how many year drought? and further add to the dirty air and noise pollution? And what chemicals and fuel leaks will be leaching into our already contaminated dirt?

No No No No No!

No!

Carol and Michael Dumin
Ancient Valley
Mojave, CA 93501

--
The trouble with cats is they've got no tact.

--P.G. Wodehouse

Randall Cates

From: Jun Kumazawa <nipporitokyojapan@yahoo.com>
Sent: Monday, November 15, 2021 8:25 PM
To: Randall Cates
Subject: Draft EIR for Gem Hill Quarry Project: Public Comments

CAUTION: This email originated from outside of the organization. Do not click links, open attachments, or provide information unless you recognize the sender and know the content is safe.

Dear Mr. Cates,

As a nearby resident of this project, the following are my concerns regarding the proposal of a quarry at the Gem Hill Location:

1) The roads surrounding the proposed quarry cannot handle the heavy weight of the ore hauling trucks without damage. CalPortland should pay for upgrades such as thickening and widening the surrounding roads they will use to haul ore, such as Mojave-Tropico and any other roads used to haul the ore back to the CalPortland cement plant or to the 14 freeway. I propose CalPortland cement be used instead of asphalt for increased durability.

2) The ore trucks traffic will present a new traffic hazard at intersections. CalPortland should pay for upgrades to intersections where their trucks will be turning, such as Mojave-Tropico & Backus and Backus & Tehachapi-Willow Springs. Currently, these intersections are designed to only handle light traffic and increased use by large ore hauling truck-trailers would cause a traffic hazard. For the safety and smooth flow of the new truck traffic and the current vehicles, CalPortland should pay to upgrade these and any other intersections their trucks may use by enlarging the intersections and adding left and possibly right turn pockets for all directions of travel.

3) Slow trucks may cause traffic delays. If there is a haul route with an uphill grade, CalPortland should pay to install a truck lane, passing lane, or a turn-out lane. Passing vehicles on a road with one lane in each direction are a hazard for oncoming traffic, and more slow trucks going up grades will exacerbate this hazard.

4) Increased visibility needed for safety at the primary and secondary haul roads as well as at intersections. Unfortunately, people sometimes drive at fast speeds on Mojave-Tropico, Backus, and Tehachapi-Willow springs. When a slow truck joins the road either from the primary and secondary haul roads onto Mojave-Tropico, or any intersections they may use, such as Mojave-Tropico & Backus, or Backus & Tehachapi-Willow Springs, there is a chance a fast moving car or truck will not be able to respond in time to slow down, especially at dawn/dusk or at night. I propose CalPortland pay for the installation of solar streetlights at these four locations to increase visibility in the early mornings and evening hours when the ore trucks will be on the road. This will provide increased safety for both the general public and CalPortland's drivers.

I hope these issues get discussed and worked out before approval of this project.

Sincerely,

Jun Kumazawa
4426 Maxwell Ave.
Mojave, CA 93501

From: Melinda <mkhambrick@gmail.com>
Sent: Tuesday, November 16, 2021 1:33 PM
To: Terrance Smalls <smallst@kerncounty.com>
Subject: Gem Hill Quarry Project by Calportland

CAUTION: This email originated from outside of the organization. Do not click links, open attachments, or provide information unless you recognize the sender and know the content is safe.

Warning: This email contains elements that may indicate "Phishing" intent - aimed at tricking you to disclose private/financial information or even your credentials. Do you think this email is legitimate?
Yes No

Good afternoon Terrance,

My name is Melinda Hambrick. My family owns and occupies property within 1,000 feet of the above-proposed project. I am writing today in hopes of better understanding both the planning process and what is necessary to make sure my family's concerns are heard and addressed.

Would you please help me find answers to the following questions:

1) Could you please provide an overview of the planning process?

2) What happens during a scoping meeting and what comes next?

3) How long does it typically take to create the EIR?

4) What all needs to happen before this project is scheduled for a public hearing and how long does that typically take?

5) Are there guidelines or is there a preferred format for comments and concerns submitted to Mr. Cates?

Thank you so much for any information or assistance you can provide.

Best regards,

Melinda Hambrick

Nov 16, 2021

To: Kern County Planning and Natural Resources Dept

SUBJECT: Glen Hill Quarry Project

ATTN: Randall Cates (For the scoping meeting)

This Project will affect the quality of life for the residents of Ancient Valley and Rosemond.

It will have a major effect on the environment. It will have a major impact on the groundwater quality and supply. The residents of Ancient Valley get their water supply from wells. The amount of water the mine would use, Creates a very real danger of affecting that supply, especially Concidering the ongoing draught.

Air quality will be impacted greatly from reactive Organic Gases, Oxides of nitrogen, Particulate matter and diesel exhaust. 134 one way trips up and down Mojave Tropico and Backus roads, plus other on site sources will adversely affect residents. These trucks will also create a hazard for regular traffic and 2 trips per day of the school bus going to and from Tropico Middle School in Rosemond. The prevailing wind direction 75% of the time is Northeast which blows the air pollution into Rosemond. It also blows into ancient Valley from the Southwest.

Noise pollution from normal operations plus blasting will have an adverse affect on the Population. Hazardous materials from blasting

(over)

are a danger to those in the area.
Nightime lighting will also be an annoyance.

This project should not go forward with so many major negative impacts to the environment, the residents and the sacred land.

Thank you for considering my concerns.

Jack Purdy

Comments regarding the Gem Hill Quarry Project proposed by CalPortland (Conditional Use Permit No. 45) to be read at the Scoping Meeting on 11/18/2021

Dear Sir(s) and Madam(s):

Thank you for the opportunity to submit comments regarding the above. While we recognize the primary purpose of this meeting is to allow agencies to provide input as to what information should be included in the Environmental Impact Report necessitated by the above proposal, there is no agency that represents the property owners who will be affected by the project proposed and so we respectfully submit our concerns below.

We own property located at 7288 Mojave Tropico Rd. The property includes both our primary residence and adjacent parcels. It is circled in blue below.

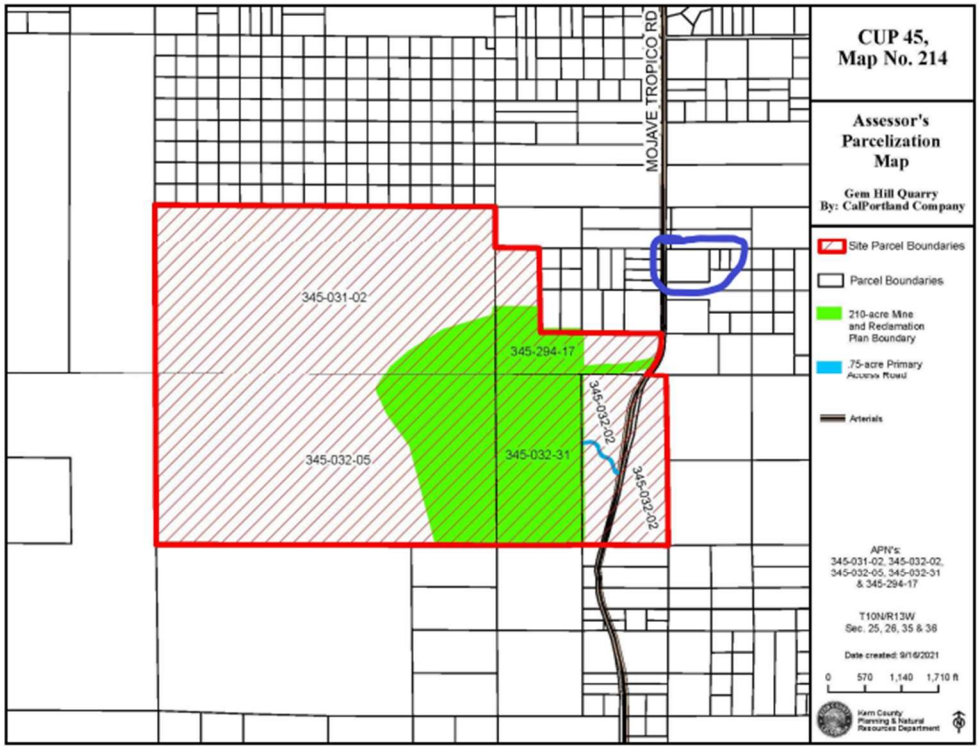


Figure 2: Project Boundary and Parcels

As property owners, we are concerned by the following items mentioned in the responses provided in the IS/NOP regarding the proposed Gem Hill Quarry Project:

PAGE 27 I. Aesthetics

Regarding responses a), c) and d):

We purchased our home and property in large part because of the undisturbed scenic vistas and minimal light pollution. The proposed project will significantly impact the above as well as decrease the value of our property. It will also significantly impact our ability to sell our home and property as we cannot fail to disclose there is a mining operation less than 1,000 feet from our property.

PAGE 31 III. Air Quality

Regarding response c):

Response c states that particulate matter emissions associated with the project has the potential to adversely affect air quality at offsite sensitive receptor locations which includes residential property owners. We have already been forced to file numerous air quality complaints when Calportland was creating the roads, landing pads, and drilling for the well several months ago. Although the response mentions mitigation measures, it is our experience that those measures were never implemented successfully in the past. We would be happy to submit a record of the complaints against the Golden Queen Mine and Calportland.
As I am sure you are aware, the dangers of Valley Fever caused by disturbing soil in this area are severe.

PAGE 34 IV. Biological Resources

Regarding response a), b), and d):

Calportland has already bulldozed sensitive Joshua trees in this area to connect to the proposed pit. This isn't even mentioned in the impact. No efforts were made to preserve or reclaim the area.
The response incorrectly states there are no bat or owl species present. As property owners, we have seen bats, owls, and raptors directly in this area.

PAGE 37 VI. Energy

Regarding response b):

Nothing has been mentioned regarding the impact to residential property owners' plans for using renewable energy. We are currently in the process of installing solar panels on our property in efforts to move toward a reliance on renewable energy. No mention has been made of the proposed project's effects on residential solar panels in terms of increased inefficiency due to dust or damage from airborne debris.

PAGE 45 X. Hydrology and Water Quality

Regarding response b)

There is no mention of the potential impacts on sensitive offsite receptors/residential property owners whose wells also rely on the same aquifer/water source to supply water to their homes. We respectfully suggest the EIR consider the broader consequences to residential property owners of allowing the proposed project's use of an estimated 16,000 gallons per day over the course of 30 years.

PAGE 49 XIII. Noise

Regarding responses a), b) and c):

We strongly encourage the EIR to consider the impact of noise on residential property owners. We both have been required to work from home during the Covid-19 pandemic. Significant noise from blasting, drilling, and heavy equipment traffic would render that impossible. Furthermore, such noise would directly impact our overall property value.

PAGE 51 XIV. Population and Housing

Regarding response b):

While substantial numbers of people and/or housing are not present, primary residences are. We strongly encourage the EIR to include in its report the effects on and perspectives of sensitive offsite receptors/residential property owners whose lives and investments will be directly affected by the proposed project.

PAGE 61 XXI. Mandatory Findings of Significance

Regarding response c):

We strongly encourage the EIR's scope to include the particular concerns of property owners, especially those occupying their property, located near the proposed project. These particular concerns include the health of those in residence as well as the detrimental effects on the value of those properties.

IN ADDITION TO THE ABOVE

We would like to point out, no mention was made of the effects increased heavy equipment (haul trucks, etc.) would have on Mojave Tropico Road. As adjacent property owners, we have seen the damage done to the road by traffic associated with the current operations of the Soledad Mountain Golden Queen mine and quarry operations as well as Calportland's quarry efforts at Gem Hill. We have experienced damage to our vehicles and loss of time from work because of the terrible condition of the road. No mention is made as to whose responsibility it is to oversee the maintenance of the road which directly affects the safety of all motorists and especially that of nearby property owners.

We truly appreciate your time and attention to the concerns of nearby property owners and sincerely hope they will be incorporated into the upcoming Environmental Impact Report.

If myself and my family can be of any service during any agency's investigations, please do not hesitate to contact us.

Respectfully,

Erin Hambrick
7288 Mojave-Tropico Rd

Mojave CA 93501
aeronire@gmail.com
(c) 818.300.4842

Randall Cates

From: Jack Purdy <certifiedrvmd@hotmail.com>
Sent: Wednesday, November 17, 2021 9:01 PM
To: Randall Cates
Subject: Gem Hill Quarry Project

CAUTION: This email originated from outside of the organization. Do not click links, open attachments, or provide information unless you recognize the sender and know the content is safe.

This project will affect the quality of life for the residents of Ancient Valley and Rosemond. It will have a major negative impact on the environment.
It will have a major impact on groundwater quality and supply. The residents of Ancient Valley get their water supply from wells. The amount of water
The mine would use, creates a very real danger of affecting that supply especially considering the ongoing draught.

Air quality will be impacted greatly from Reactive Organic Gases, Oxides of Nitrogen, particulate matter and diesel exhaust. 134 one way trips up and down
Mojave Tropico and Backus roads, plus other on site sources will adversely affect residents. These trucks will also create a hazard for regular traffic and 2
Trips per day of the school bus on Mojave Tropico to and from Tropico Middle School in Rosemond.

Valley Fever is an ever present threat when dirt is disturbed and dust is in the air. The prevailing wind direction 75% of the time is Northeast which would
blow the dust into Rosemond and toward Rosemond High School. When there is a Santa Ana wind condition, it would blow toward Tropico Middle school and
The Exotic Feline Compound. It also blows into Ancient Valley from the Southwest.

Noise pollution from normal operations plus blasting and continuous diesel truck traffic would have adverse affect on the population.

Hazardous materials from blasting are a danger to those in the area.

Nighttime lighting would be another annoyance.

This project should not go forward with so many major negative impacts to the environment, the residents and the sacred land.

Thank you for considering our concerns.

Jack Purdy

Phillip Moores

7288 Mojave Tropico Rd

Mojave Ca.

93501

Attention Mr. Randall Cates, Planner III:

Please see and include my comments for the scoping meeting (Nov 18) relating to the Notice of Preparation for the draft Environmental Impact Report for the Gem Hill Quarry Project by Calportland.

I am submitting these comments as a concerned homeowner and residential property owner of property within 1000 feet of the Calportland Gem hill quarry project boundary.

I have already been dealing with the environmental and health concerns of this project. Beginning in 2019 as stated in the NOP, Calportland was already preparing their proposed quarry site, they have already cut in the primary and secondary roads and were actively transporting loads of excavated material out of the site for months. In addition to the primary and secondary roads, they cut another road not illustrated anywhere in NOP report, it is north of the proposed mining site. While constructing this road, multiple Joshua trees were cleared. This initial construction produced excessive dust conditions that persist to this day. Several complaints were sent to the air resource board regarding the matter. During initial construction, while Calportland was transporting excavated materials, the road conditions of Mojave Tropico Rd. became severely degraded resulting in potholes & road edge erosion. There were several occasions were material fell off the trucks in transit and remained in the road, this material was sizable and would cause substantial damage if a vehicle were to hit it. With a proposed 134 average daily trips for on road haul trucks weighing 25 tons, what will be done to ensure the integrity and condition of Mojave Tropico Rd, and what will be done to prevent debris from falling onto the roadway? I have already experienced neglect from Calportland regarding this matter.

As a residential homeowner located within 1000 feet of the proposed mine boundary I am extremely concerned with the proposed irresponsible water usage of this project. With an

expected daily usage of 16000 gallons a day, what protections do I have that the Calportland project won't consume the entire ground water supply for the area? There is not an option to connect to the county water main here. The idea that this project is going to use this massive quantity of water to spray on the ground during this period of sustained drought as a dust mitigation tactic is beyond frustrating. There are products made to reduce dust in such environments without wasting a valuable resource (water).

> From NOP Page 46, Hydrology and Water Quality:
>
> (b) Water utilized on the project site would be obtained from a proposed onsite well. All water used on the project site is proposed to be used for dust control. The water obtained from the onsite well would be stored onsite in a storage tank located near the well, then transported via a proposed waterline to a stand pipe and deposited in a water truck. Potential impacts could occur associated with the use of groundwater. Potential impacts could also occur as a result of project ground compaction and potential reduction in groundwater recharge. These potential impacts are considered potentially significant, and will be evaluated in the EIR.
>
> From NOP Page 58, Utilities and Service Systems:
>
> (b) Water consumption would occur as result of dust suppression at the site during mining and reclamation operations. Water is proposed to be obtained from an onsite groundwater well to be installed as a component of the project. The project's water use is estimated to be up to approximately 16,000 gallons per day and approximately 18 acre-feet per year. A Water Supply Assessment (SESPE Consulting, Inc.) has been submitted for the project and is undergoing review. The project's potential impacts and water supply availability will be documented in the EIR.

Regarding air quality; there are potentially significant impacts. The mitigating statement claims that there would be no project emissions that would occur immediately adjacent to any identified sensitive receptors; my residential property, where my family lives is within 1000 feet of the proposed boundary.

> From NOP Page 33, Biological Resources:
>
> (c) Land uses determined to be "sensitive" to air quality include residential areas, school, convalescent and acute care hospitals, parks and recreational areas, and churches. Project emissions would not occur immediately adjacent to any identified sensitive receptors, however, diesel exhaust and particulate matter emissions associated with project activities would have the potential to adversely affect air quality at offsite sensitive receptor locations. Mitigation Measures for diesel equipment/vehicles and dust control will be evaluated as part of the EIR to avoid or reduce the impacts to onsite workers and sensitive receptors. This impact is considered potentially significant and will be analyzed in the EIR.

My family bought this residence because of its picturesque landscape and quiet surroundings, both of these aspects are under attack by this proposal. The Noise section, again lists residential areas as sensitive, please take this into consideration when conducting the evaluation.

From NOP page 49, Noise:

(a) Land uses determined to be "sensitive" to noise as defined by the Kern County General Plan include residential areas, schools, convalescent and acute care hospitals, parks and recreational areas, and churches. Noise from the proposed project would be generated during mining and reclamation, as well as by the operation of haul trucks. The Kern County General Plan Noise Element sets a 65-decibel limit on exterior noise levels for stationary sources (i.e., non-transportation) at sensitive receptors and the County's Noise Control Ordinance (County Code Section 8.36.020 et seq.) prohibits a variety of nuisance noises. A Noise Assessment (Urban Crossroads, July 27, 2020) has been submitted for the project and is undergoing review, and potential impacts will be presented within the EIR. Further evaluation is warranted to identify potential impacts and formulate avoidance or mitigation measures, if applicable.

(b) (b) Ground borne vibration and ground borne noise could originate from earth movement during mining and reclamation. The project would be expected to comply with all applicable requirements for long-term operation, as well as with measures to reduce excessive ground borne vibration and noise to ensure that the project would not expose persons or structures to excessive ground borne vibration. Further analysis of ground borne vibration and ground borne noise will be included in the EIR.

(c) (c) The project would introduce new noise sources from mining, reclamation, and haul truck trips. This impact is potentially significant. Therefore, further analysis of ambient noise levels and the project's potential operational impacts on those levels will be included in the EIR

This section is perhaps the most alarming and coincidentally is has the least amount of content as the NOP identifies potentially significant impacts to human beings.

From NOP page 61, Mandatory Findings of Significance:

(b) The project has the potential to contribute to cumulative impacts including to aesthetics, air quality, biological resources, cultural resources, and utilities and public services, among others. The EIR will evaluate the project's contribution to cumulative impacts in these and other areas as further impacts are identified.

(c) Potential environmental impacts and adverse effects on human beings will be evaluated in the EIR.

In summary, I am very concerned by this project as it threatens my family's health, my access to water, my property, and the environment which I live. The amount of alarming significant impacts to human beings, water, and air quality alone are enough to question this project. Combine these issues with the ground water usage concerns, it puts into question the ethics of the company pushing forward with this project.

11-19-21

Ann Keasler. Kahn Revocable Living Trust
1112 Oxford Hills Dr.
Maryville, Tn. 37803

Mr. Randall Cates,

I am responding to the letter I received concerning the property tax # 345-282-01
#345-282-19

I am against a mining company going in at this location. I have seen this happen before and the value of the property goes down. The blasting and vibration is terrible.

I vote No!

Thank you for the information

Ann Keasler Kahn

Randall Cates

From: Erin Hambrick <aeronire@gmail.com>
Sent: Saturday, November 27, 2021 1:30 PM
To: Randall Cates
Cc: Terrance Smalls; phillip moores
Subject: Parcel Ownership Inquiry with Respect to Gem Hill Project

CAUTION: This email originated from outside of the organization. Do not click links, open attachments, or provide information unless you recognize the sender and know the content is safe.

Randall,
Per our conversation, I would like to know the ownership of the Gem Hill and adjacent parcels and if/when Calportland assumed ownership of any parcels and if/when/for what operations Calportland received permits to conduct. Please reference the below screenshot from the county GIS website that lists the larger parcel numbers and outlines the shapes of the adjacent parcels. To be clear, I would like to know this information from Mojave Tropico Rd to the east to as far northwest as 345-031-02 and as far southwest as 345-032-10 because recent and extensive grating, bulldozing, and grading operations have occurred in all of these areas. I will follow up in a separate email with aerial and ground photographs of these operations.

Thanks,

Erin Hambrick



Randall Cates

From: Erin Hambrick <aeronire@gmail.com>
Sent: Sunday, November 28, 2021 7:56 PM
To: Randall Cates
Cc: Terrance Smalls; phillip moores
Subject: Inquiry of Additional Extraction Operations Surrounding Gem Hill

CAUTION: This email originated from outside of the organization. Do not click links, open attachments, or provide information unless you recognize the sender and know the content is safe.

Hello Randall,
Per our conversation, I would like to provide you with information regarding the extensive bulldozing operations outside the proposed Gem Hill project area as indicated in the NOP. Please see the attached document. Please let Phil or I know if you need any additional clarity. We look forward to understanding the scope of the approved operations outside of the NOP area.

Thanks,
Erin Hambrick 8183004842
Phil Moores 7012707663

Gem Hill Photos.pdf

References
Gem Hill Notice of Preparation
https://psbweb.co.kern.ca.us/planning/pdfs/notices/Gem_Hill_NOP_IS_10_29_2021_FINAL.pdf

Comments Submission for Gem Hill NOP 11-18-2021
https://docs.google.com/document/d/1BtfD9rq4fTcqJJ1BglWSSK4nXkvBb1ID/edit?usp=sharing&ouid=102625270073685247705&rtpof=true&sd=true

Photos of Gem Hill Area prior to Quarry Operations
https://photos.app.goo.gl/kRALQ8XLqMLBxSRF7

Photos of Gem Hill Area after Initializing Quarry Operations
https://photos.app.goo.gl/LtXJXrLjZwafGm6E8

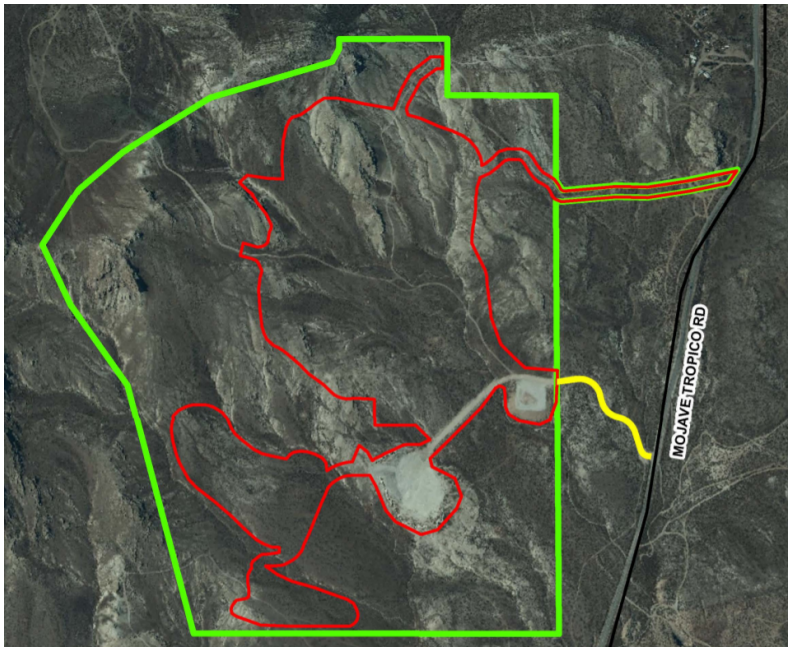
This document includes satellite aerials as available from the Kern County GIS website as well as amateur photography from on and surrounding Gem Hill since 2017.
The satellite overhead imagery is presented first as orientation to the various areas in question. Many photographs at Gem Hill prior to (Calportland's ownership?) are presented to represent the biodiversity that was at Gem Hill prior to the 2020 drought and Calportland bulldozing or disturbing nearly all of the surface area.



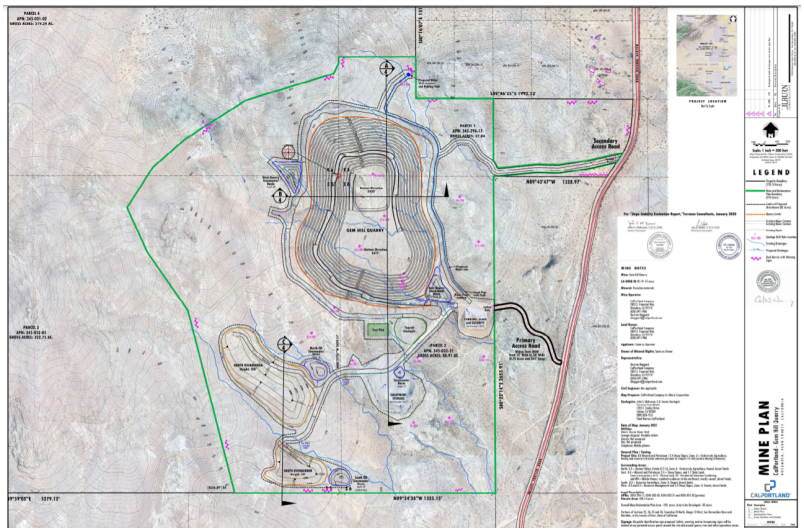
Kern County GIS Aerial 2016 of Gem Hill. Note all trails are faint barely wide enough for a standard vehicle to weave between desert vegetation while some are only wide enough to be motorcycle/bicycle/hiking trails.



Kern County GIS Aerial 2020 of Gem Hill. Note this shows further development than the NOP and still does not reflect current development. Extensive expansion of existing trails has been completed surrounding all sides of the proposed pit that is not reflected in the NOP.



Gem Hill NOP Figure 3 Page 26 reprinted here for reference is an inaccurate representation of the extensive bulldozing actually occurring on and around Gem Hill.



Gem Hill NOP Figure 4 Page 27 reprinted here for reference is an inaccurate representation of the extensive bulldozing actually occurring on and around Gem Hill.



Aerial photo of Gem Hill looking west 11-26-2021. Heavily disturbed areas have been outlined in blue. Note extensive bulldozing operations to the north and west not reflected in the NOP as well as additional bulldozed roads paralleling Mojave-Tropico Road that connects the yellow and red access roads illustrated in the NOP.



Yellow areas currently identified as California Protected Areas “for open space purposes” by California Department of Fish and Wildlife. Note background imagery provided by the Dept website is also not current as it does not depict extensive bulldozing operations described below.

Gem Hill is not a barren area. During the superbloom years when this area received rainfall, it actually shelters the most gorgeous desert meadow I have had the privilege to see and smell. When I crested the hill hiking southward, it was like I got punched in the face with wildflowers, that’s how strong the smell was from the flowers lushly carpeting what appears in drought years as a rocky Mars-like landscape. Streams of water cascaded down the mountain and left purple, blue, pink, yellow, orange, and white flowers strewn along their banks. Many of the photographs presented below have GPS coordinates available by selecting the Google photo album and selecting Info. These are amateur photographs taken in appreciation of my neighborhood.



West of Gem Hill looking northeast 03-19-2017.



Southwest of Gem Hill looking southeast 03-14-2017. Only single track tire paths led across the hills.



South of Gem Hill looking north 03-14-2017.



Flowers growing out of rocks near Gem Hill peak 03-14-2017.



Flowers growing out of rocks near Gem Hill peak 03-19-2017.



South of Gem Hill looking south 2019.



South of Gem Hill looking north 2019.



South of Gem Hill looking east. A meadow with lush wildflowers and flowing stream 2019.



South of Gem Hill 2019.



Gem Hill looking southeast 2019.



Gem Hill looking north 2019.



Northeast of Gem Hill desert vegetation and hawk in flight 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation and butterfly 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation and butterfly 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Southeast of Gem Hill looking west snake on a bike trail through desert vegetation 05-28-2020.



East of Gem Hill looking northeast at quail and roadrunner 05-28-2021.



East of Gem Hill looking northwest at Tehachapi Mountains. Note no visible roads or trails as I caught this little bunny foraging for a morning snack 06-25-2020.

The following photographs were taken after noticing significant noise and dust adjacent to my home to convey the destruction of the desert. Not knowing what else to do, I tackled the obvious first and contacted Eastern Kern County Air Pollution Control District. Their representative arrived onsite and conveyed that Calportland was establishing a road to drill a water well. There was no dust mitigation used for any of this work despite the EKAPCD directive to do so. Sensitive species like the Joshua tree were discarded along the tall sand berm sides of this road or totally bulldozed.



Northeast of Gem Hill looking west along freshly bulldozed road about 4 car lanes wide that is significantly wider than Mojave Tropico road 08-13-2020.



Northeast of Gem Hill looking east along the south side of the freshly bulldozed road about 4 car lanes wide that is significantly wider than Mojave Tropico road 08-13-2020. Note adjacent residence. Note the side of the plowed road is the sand berm along the left side of the photo while bulldozer tread tracks clearly extend many feet beyond to topple a Joshua tree just right of center.



Northeast of Gem Hill looking east along the east side of freshly bulldozed road about 3 car lanes wide leading up to the proposed well site 08-13-2020. Note adjacent residence. Note the side of the plowed road is the sand berm along the bottom of the photo while bulldozer tread tracks clearly extend many feet beyond to topple a large creosote bush just left of center.



Northeast of Gem Hill looking east along freshly bulldozed road 08-13-2020. Note adjacent residences and note the softness of plowed sand and vegetation debris in very deep footprints and vehicle tracks.



Northeast of Gem Hill looking east where Joshua trees and other desert vegetation were bulldozed and tossed aside, covered up, or mulched into soft desert sand 08-13-2020.



North of Gem Hill looking north across the bulldozed road with shredded Joshua tree and other vegetation 08-13-2020. Note adjacent residences.



North of Gem Hill looking north at parked bulldozer 08-13-2020.



North of Gem Hill looking southeast at parked bulldozer 08-13-2020.



Northeast of Gem Hill looking south at freshly bulldozed and trafficked road east of Gem Hill 08-13-2020 that did not exist prior.



North of Gem Hill looking north at freshly bulldozed vegetation and debris in soft thick sand 08-13-2020.



North of Gem Hill looking west 08-13-2020 at bulldozer tracks crisscrossing everywhere adjacent to north-south road connecting Gem Hill to the new extremely wide sand road.



East of Gem Hill peak looking west at breaking and leveling operations near proposed water well site 08-13-2020. This area pictured was previously completely covered in natural vegetation.



East of Gem Hill looking northwest at Tehachapi Mountains. Note large bulldozed road from center eastward and dust cloud 8-14-2020.



Vehicle traffic generates large dust clouds 9-3-2020, one of many daily trucks turning west from Mojave-Tropico road then south crossing Gem Hill to the pad areas.



Natural wind generates large dust clouds 12-17-2020.



West of Gem Hill looking southeast along fresh bulldozing connecting south and north sides of Gem Hill 02-18-2021. Typically this area would be covered in wildflowers but we didn’t get any rain. Previously this was a rough hiking or off road vehicle trail.



Northeast of Gem Hill looking southwest. Note the extra wide bulldozed road from Mojave Tropico north of Gem Hill that is actually wider than Mojave Tropico. All discernible roads are recently bulldozed or dragged and heavily trafficked by residents, recreational offroad vehicles, and Calportland 11-26-2021.



Dust cloud generated from half a dozen vehicles traversing the northern pad south of Gem Hill looking north 11-26-2021. This area is very popular for all types of off road recreational vehicles. I saw about a dozen in my hour long survey.



Southeast of Gem Hill looking north along the bulldozed road parallel to Mojave Tropico road through the California Protected Area 11-26-2021. This was previously a nearly indiscernible trail through thick brush and is now scraped bare.



At Gem Hill looking northeast, presumably the site of the water drilling operation 02-18-2021.



On Gem Hill looking north with whatever substance they left from drilling running down the mountain 11-26-2021.



Northside of Gem Hill looking north 11-26-2021. This was previously a narrow trail through thick brush and rock but is now scraped flat and bare.



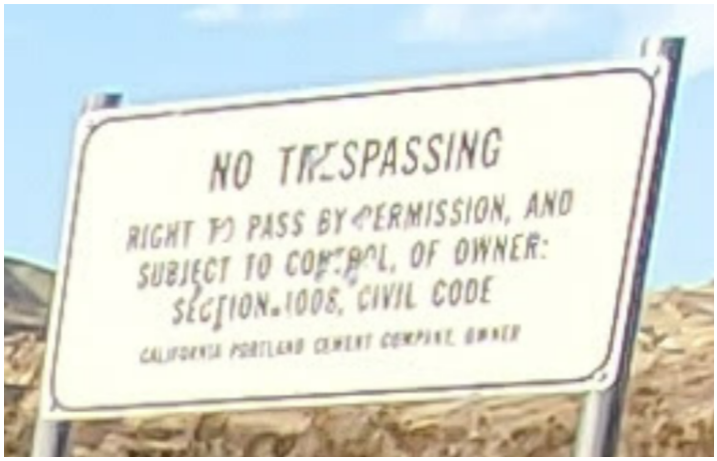
On Gem Hill looking west 11-26-2021. This was a meadow before. Extensive bulldozing and scraping operations have occurred to create a very wide level road as well as features perpendicular to the road obscuring and deepening natural drainage paths.



South of Gem Hill looking north. This sign notes “No trespassing” to the south. Nowhere does it provide information about the health danger of the extraction operation 11-26-2021.



Further south of Gem Hill looking north. This sign notes “No trespassing” to the north. Nowhere does it provide information about the health danger of the extraction operation 11-26-2021. This and adjacent areas are heavily trafficked by recreational vehicles.





East of Gem Hill looking west, blowing dust from Calportland bulldozing operations 12-04-2020.



Trash dumped southeast of Gem Hill looking northwest 11-26-2021 is an eyesore and poses unknown waste and fire danger.



Debris from scraping and/or trash dump southeast of Gem Hill looking north 11-26-2021 is an eyesore and fire danger.



East of Gem Hill looking south 11-27-2021. Bulldozing operations have been extensively conducted in the past year within the areas marked in blue. Previously these were very narrow rocky uneven overgrown trails used only by hikers, cyclists, and other offroad vehicles. Note 2 new bulldozed roads parallel to Mojave Tropico road through the designated California Protected Area. This road development is not noted in the proposal.



South of Gem Hill looking west 11-27-2021. These areas indicated have been significantly bulldozed and the adjacent areas disturbed. Note in the center and upper right of the photo the dark shadows indicating the depth of grating operations in the furthest west road well outside the proposal area as identified in the NOP.

The Kern County Planner mentioned that some folks might not be disturbed to live by a mine. I suspect those folks don't spend much time by a mine. Here are a selection of what it looks like to drive by a mine on your daily commute. Note the extensive unmitigated dust in every photo.That is because there is always dust. These aren't even the worst conditions, just a slice of next to a mine life. Despite drilling many new wells and pulling out a frightening amount of water and having many water spraying trucks onsite, there is still a large amount of dust that makes it into the air.



Northwest of Soledad mountain looking southeast. The blurriness to the top and western sides of the mountain is due to dust 12-20-2020.



South of Soledad mountain looking north at pink dust clouds traveling from the top of the site eastward obscuring what should be a clear blue sky 02-24-2021.



Northeast of Soledad mountain Golden Queen mining operation. Note pink dust clouds 2-26-2021.



West of Soledad mountain Golden Queen mining and quarry operations. Note dust cloud 3-30-2021.



West of Soledad mountain looking east. Note large dust clouds behind and in the trucks 4-1-2021.



Quarry operations west of Soledad mountain looking southeast, nearly obscured by large dust clouds 4-1-2021.



North side of Soledad mountain looking south through thick pink dust cloud 04-03-2021.



South of Soledad mountain looking north. Note the waves of pink dust blowing eastward 4-7-2021.

Eastern Kern
Air Pollution Control District

Glen E. Stephens, P.E.
Air Pollution Control Officer

February 23, 2022

Mr. Randall Cates, Planner III
Kern County Planning & Natural Resources Department
2700 M Street, Suite 100
Bakersfield, California 93301

SUBJECT: Comments for Notice of Preparation (NOP) of a draft Environmental Impact Report (EIR) for the GEM Hill Quarry Project by CalPortland Company

Dear Mr. Cates:

The Eastern Kern Air Pollution Control District (District) is in receipt of your Notice of Preparation (NOP) of a draft Environmental Impact Report (EIR) for the GEM Hill Quarry Project by CalPortland Company. The District also received a copy of the Air Quality and Greenhouse Gas (GHG) Assessment prepared for this project. In accordance with your correspondence, proposed GHG mitigation measures for this project are the following:

Prior to initiating mining, the project proponent/operator, at its option, shall either:

A. Prepare and implement a plan subject to approval of the Kern County Planning and Natural Resources Department that achieves an emissions reduction or offset equal to a 16% reduction in GHG emissions from BAU. Examples of quantifiable measures include electrification of fuel-burning processes, substitution of natural gas-powered vehicles for diesel-powered vehicles, reduction of VMT on- or off-site, white roofs, energy efficiency upgrades, solar panels and other green energy solutions, land dedication, woodland preservation, methane recovery, and market-based offsets or credits. These measures need not be applied on-site; or

B. Secure and retire offsets or credits that help achieve an emissions reduction or offset equal to a 16% reduction in GHG emissions from BAU from either: (a) the Climate Action Reserve of the California Climate Action Registry; (b) the American Carbon Registry; (c) The Green Exchange (NYMEX); or (d) any other comparable exchange.

In accordance with the Air Quality and GHG assessment conducted for this project, the project-Specific GHG emissions are expected to be less than the District's significant thresholds of 25,000 tons per year (tpy). Therefore, no significant adverse impacts are identified or are anticipated, and in accordance with District established CEQA guidelines, no mitigation measures are required. However, in the event additional GHG reduction measures are required to compensate for, or offset an increase in GHG emissions resulting from the project, the District supports the proposed mitigation measures listed above.

Should you have any questions, please contact Miguel Sandoval at (661) 862-5250 or via email at sandovalm@kerncounty.com.

Sincerely,



Glen E. Stephens, P.E.
Air Pollution Control Officer

GES:MS:kl

Randall Cates

From: Erin Hambrick <aeronire@gmail.com>
Sent: Wednesday, December 8, 2021 1:27 PM
To: Randall Cates
Cc: phillip moores; Terrance Smalls
Subject: Re: Comment on Gem Hill EIR Submission

CAUTION: This email originated from outside of the organization. Do not click links, open attachments, or provide information unless you recognize the sender and know the content is safe.

Hello Randall,
Could you try the direct unzipped link below and let me know if that works?
https://docs.google.com/document/d/1BtfD9rq4fTcqJJ1BglWSSK4nXkvBb1ID/edit?usp=sharing&ouid=102625270073685247705&rtpof=true&sd=true

If not, do I send to the address below?

Thanks,
Erin Hambrick

On Wed, Dec 8, 2021 at 9:04 AM Randall Cates <CatesR@kerncounty.com> wrote:

> Erin,
>
> Microsoft Word is not allowing me to download the file attached to your below email (it displays the message "We're sorry. We can't open the Gem Hill EIR Comments because we found a problem with its contents.").
>
> As such, it is requested that you burn the file onto a USB drive or CD, and then mail to me via postal service. Thank you.
>
> Randall Cates
>
> Kern County Planning and
>
> Natural Resources Department
>
> 2700 M Street, Suite 100, Bakersfield, CA 93301
>
> (661)862-8612
>
> CatesR@kerncounty.com

From: Erin Hambrick <aeronire@gmail.com>
Sent: Monday, December 6, 2021 12:48 PM
To: Randall Cates <CatesR@kerncounty.com>
Cc: Terrance Smalls <smallst@kerncounty.com>; phillip moores <phillip.m.moores@gmail.com>
Subject: Comment on Gem Hill EIR Submission

CAUTION: This email originated from outside of the organization. Do not click links, open attachments, or provide information unless you recognize the sender and know the content is safe.

Hello Randall,

Please see the attached comment that I respectively ask to be included in full in the Gem Hill EIR. Please confirm your receipt of this file.

Thanks,

Erin Hambrick

_Gem Hill EIR Comments.zip

Comments regarding the Gem Hill Quarry Project proposed by CalPortland (Conditional Use Permit No. 45) for the EIR

Dear Sir(s) and Madam(s):

Thank you for the opportunity to submit comments regarding the above. While we recognize the primary purpose of this meeting is to allow agencies to provide input as to what information should be included in the Environmental Impact Report necessitated by the above proposal, there is no agency that represents the property owners who will be affected by the project proposed and so we respectfully submit our concerns below.

We own property located at 7288 Mojave Tropico Rd. The property includes both our primary residence and adjacent parcels. It is circled in blue below.

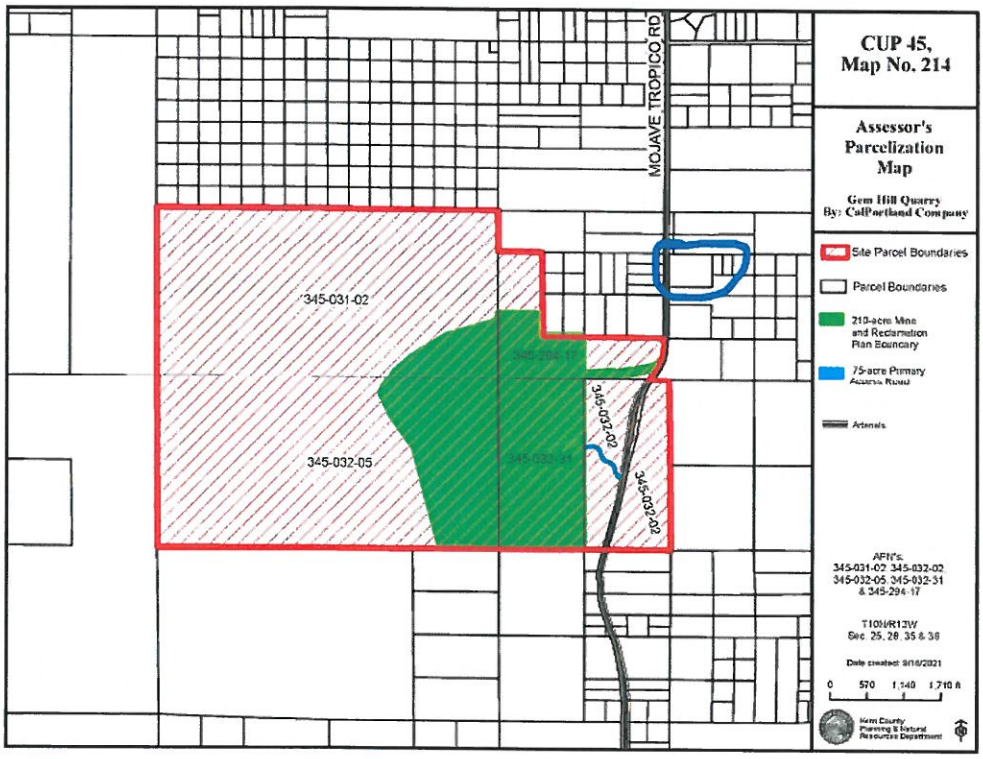


Figure 2: Project Boundary and Parcels

As property owners, we are concerned by the following items mentioned in the responses provided in the IS/NOP regarding the proposed Gem Hill Quarry Project:

PAGE 27 I. Aesthetics

Regarding responses a), c) and d):

We purchased our home and property in large part because of the undisturbed scenic vistas and minimal light pollution. The proposed project will significantly impact the above as well as decrease the value of our property. It will also significantly impact our ability to sell our home and property as we cannot fail to disclose there is a mining operation less than 1,000 feet from our property. Please refer to photographs to follow of extensive undisturbed vegetation at Gem Hill prior to Calportland's bulldozing operations.

PAGE 31 III. Air Quality

Regarding response c):

Response c states that particulate matter emissions associated with the project has the potential to adversely affect air quality at offsite sensitive receptor locations which includes residential property owners. We have already been forced to file numerous air quality complaints when Calportland was creating the roads, landing pads, and drilling for the well several months ago. Please refer to photographs to follow of unmitigated dust at the site. Although the response mentions mitigation measures, it is our experience that those measures were never implemented successfully in the past. Please refer to the Eastern Kern Air Pollution Control District's record of the complaints against the Golden Queen Mine and Calportland to follow.
The dangers of Valley Fever caused by disturbing soil in this area are severe. The dangers of the pozzolan material to be extracted include causing irritation of the eyes, skin and mucous membranes, sneezing, coughing, asthma, bronchitis, silicosis, a fibrotic (scarring) disease of the lungs, potentially lung cancer, and increasing the risk of scleroderma.

PAGE 34 IV. Biological Resources

Regarding response a), b), and d):

Calportland has already bulldozed sensitive Joshua trees in this area to connect to the proposed pit. This isn't even mentioned in the impact. No efforts were made to preserve or reclaim the area.
The response incorrectly states that the area is barren. Please refer to photographs to follow that the Gem Hill area is not barren.
The response incorrectly states there are no bat or owl species present. As property owners, we have seen bats, owls, and raptors directly in this area.
The response doesn't mention the Mohave ground squirrel, which is present and listed as a threatened species.

PAGE 37 VI. Energy

Regarding response b):

Nothing has been mentioned regarding the impact to residential property owners' plans for using renewable energy. We are currently in the process of installing solar panels on our property in efforts to move toward a reliance on renewable energy. No mention has been

made of the proposed project's effects on residential solar panels in terms of increased inefficiency due to dust or damage from airborne debris.

PAGE 45 X. Hydrology and Water Quality

Regarding response b)

There is no mention of the potential impacts on sensitive offsite receptors/residential property owners whose wells also rely on the same aquifer/water source to supply water to their homes. We respectfully suggest the EIR consider the broader consequences to residential property owners of allowing the proposed project's use of an estimated 16,000 gallons per day over the course of 30 years.

PAGE 49 XIII. Noise

Regarding responses a), b) and c):

We strongly encourage the EIR to consider the impact of noise on residential property owners. We both have been required to work from home during the Covid-19 pandemic. Significant noise from blasting, drilling, and heavy equipment traffic would render that impossible. Furthermore, such noise would directly impact our overall property value.

PAGE 51 XIV. Population and Housing

Regarding response b):

While substantial numbers of people and/or housing are not present, primary residences are. We strongly encourage the EIR to include in its report the effects on and perspectives of sensitive offsite receptors/residential property owners whose lives and investments will be directly affected by the proposed project.

Gem Hill is located in an area already designated as a California Disadvantaged Community, which identifies areas disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation.

PAGE 61 XXI. Mandatory Findings of Significance

Regarding response c):

We strongly encourage the EIR's scope to include the particular concerns of property owners, especially those occupying their property, located near the proposed project. These particular concerns include the health of those in residence as well as the detrimental effects on the value of those properties.

IN ADDITION TO THE ABOVE

We would like to point out, no mention was made of the effects increased heavy equipment (haul trucks, etc.) would have on Mojave Tropico Road. As adjacent property owners, we have seen the damage done to the road by traffic associated with the current operations of the Soledad Mountain Golden Queen mine and quarry operations as well as Calportland's quarry efforts at Gem Hill. We have experienced damage to our vehicles and loss of time from work because of the terrible condition of the road. No mention is made as to whose responsibility it is to oversee the maintenance of the road which directly affects the safety of all motorists and especially that of nearby property owners.

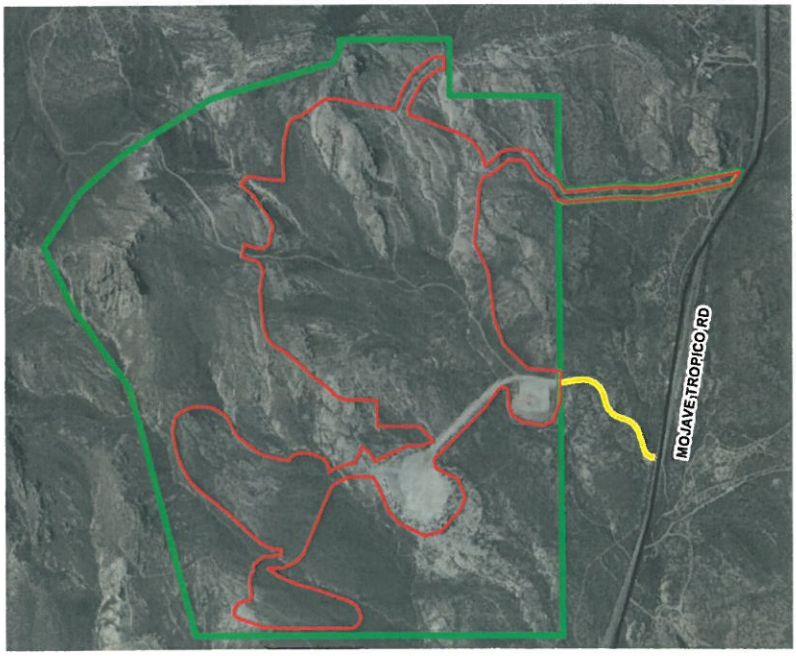
The satellite overhead imagery available from the Kern County GIS website is presented first as orientation to the various areas in question.
Many photographs at Gem Hill (prior to Calportland's ownership?) are presented to represent the biodiversity that was at Gem Hill prior to Calportland bulldozing or disturbing nearly all of the surface area. No physical property boundaries are located on this site. Recent photographs were taken from outside of signage indicating Calportland's ownership adjacent to access roads.



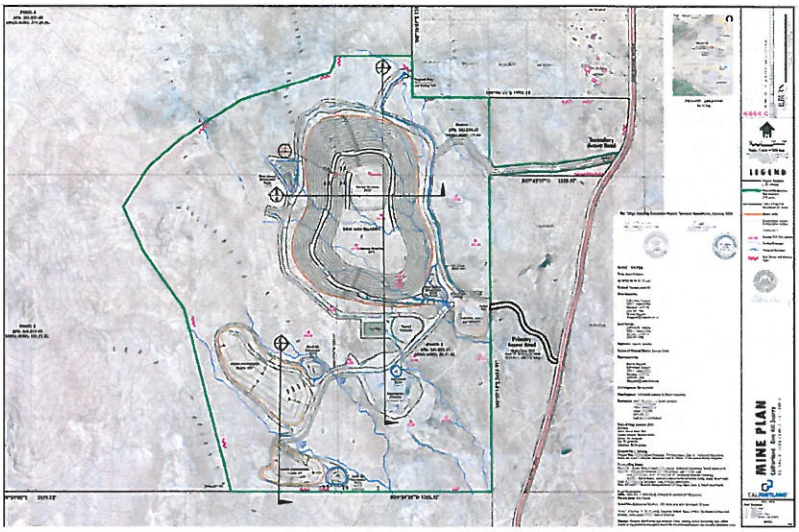
Kern County GIS Aerial 2016 of Gem Hill. Note all trails are faint barely wide enough for a standard vehicle to weave between desert vegetation while some are only wide enough to be motorcycle/bicycle/hiking trails.



Kern County GIS Aerial 2020 of Gem Hill. Note this shows further development than the NOP and still does not reflect current development. Extensive expansion of existing trails has been completed surrounding all sides of the proposed pit that is not reflected in the NOP.



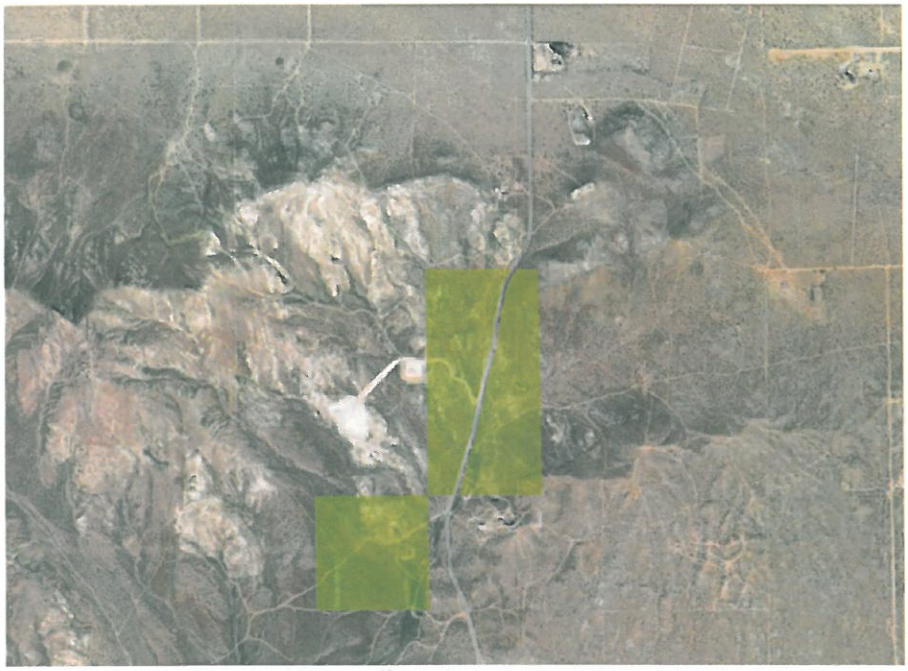
Gem Hill NOP Figure 3 Page 26 reprinted here for reference is an inaccurate representation of the extensive bulldozing actually occurring on and around Gem Hill.



Gem Hill NOP Figure 4 Page 27 reprinted here for reference is an inaccurate representation of the extensive bulldozing actually occurring on and around Gem Hill.

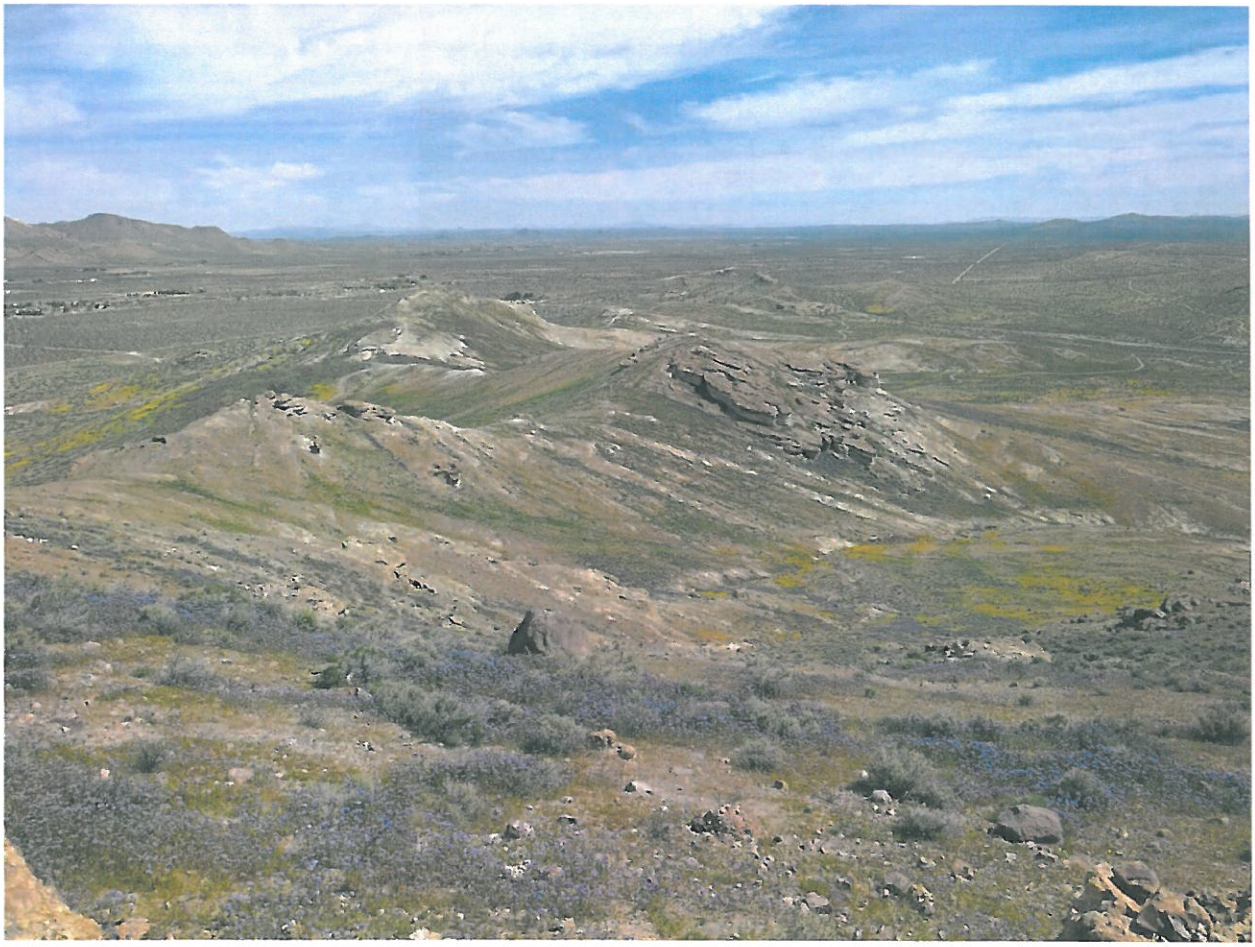


Aerial photo of Gem Hill looking west 11-26-2021. Heavily disturbed areas have been outlined in blue. Note extensive bulldozing operations to the north and west not reflected in the NOP as well as additional bulldozed roads paralleling Mojave-Tropico Road that connects the yellow and red access roads illustrated in the NOP.



Yellow areas currently identified as California Protected Areas "for open space purposes" by California Department of Fish and Wildlife. Note background imagery provided by the Dept website is also not current as it does not depict extensive bulldozing operations described below.

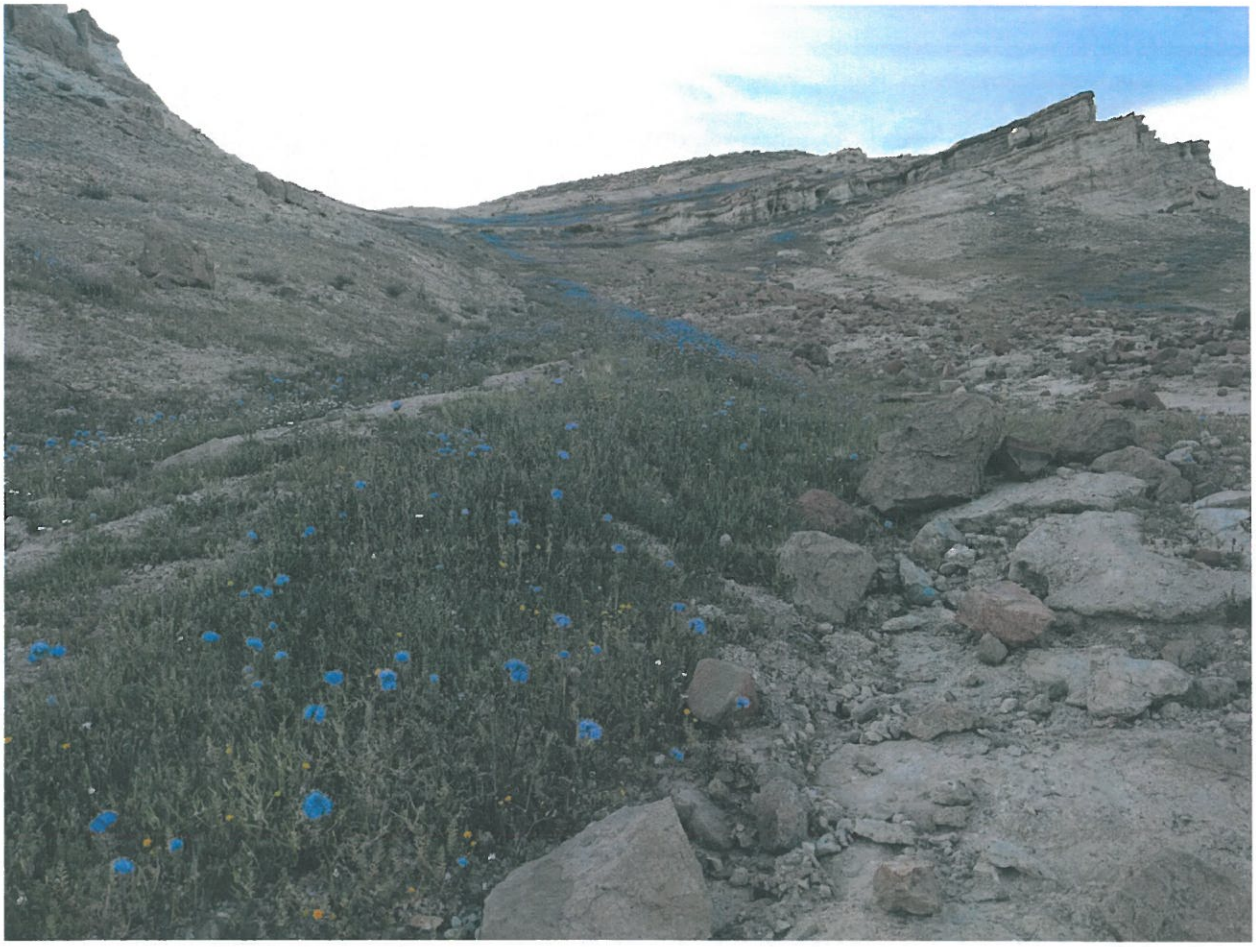
Gem Hill is not a barren area. During the superbloom years when this area received rainfall, it actually shelters the most gorgeous desert meadow I have had the privilege to see and smell. When I crested the hill hiking southward, it was like I got punched in the face with wildflowers, that's how strong the smell was from the flowers lushly carpeting what appears in drought years as a rocky Mars-like landscape. Streams of water cascaded down the mountain and left purple, blue, pink, yellow, orange, and white flowers strewn along their banks. These are amateur photographs taken in appreciation of my neighborhood.



West of Gem Hill looking northeast 03-19-2017.



Southwest of Gem Hill looking southeast 03-14-2017. Only single track tire paths led across the hills.



South of Gem Hill looking north 03-14-2017.



Flowers growing out of rocks near Gem Hill peak 03-14-2017.



Flowers growing out of rocks near Gem Hill peak 03-19-2017.



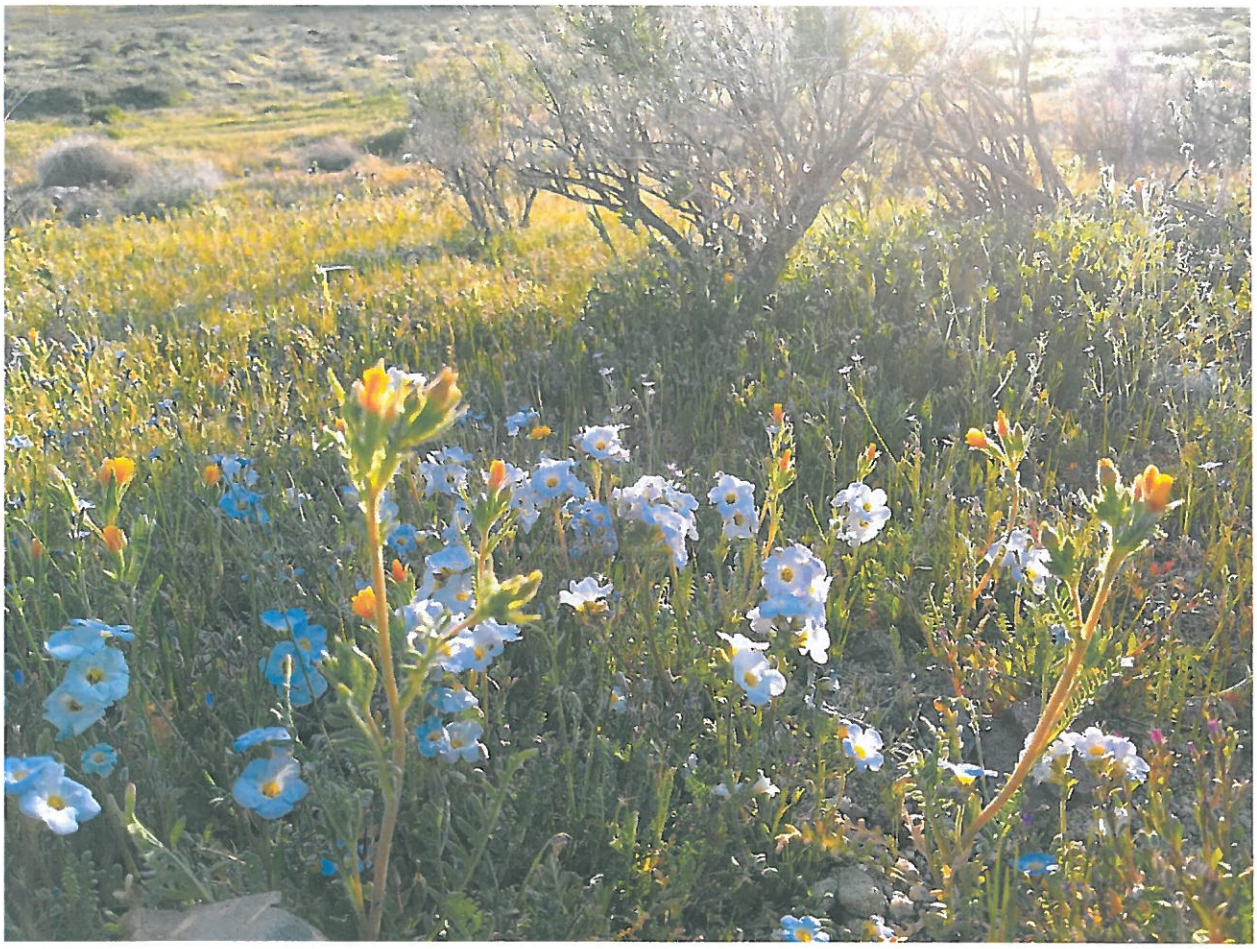
South of Gem Hill looking south 2019.



South of Gem Hill looking north 2019.



South of Gem Hill looking east. A meadow with lush wildflowers and flowing stream 2019.



South of Gem Hill 2019.



Gem Hill looking southeast 2019.



Gem Hill looking north 2019.



Northeast of Gem Hill desert vegetation and hawk in flight 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation and butterfly 5-15-2020.



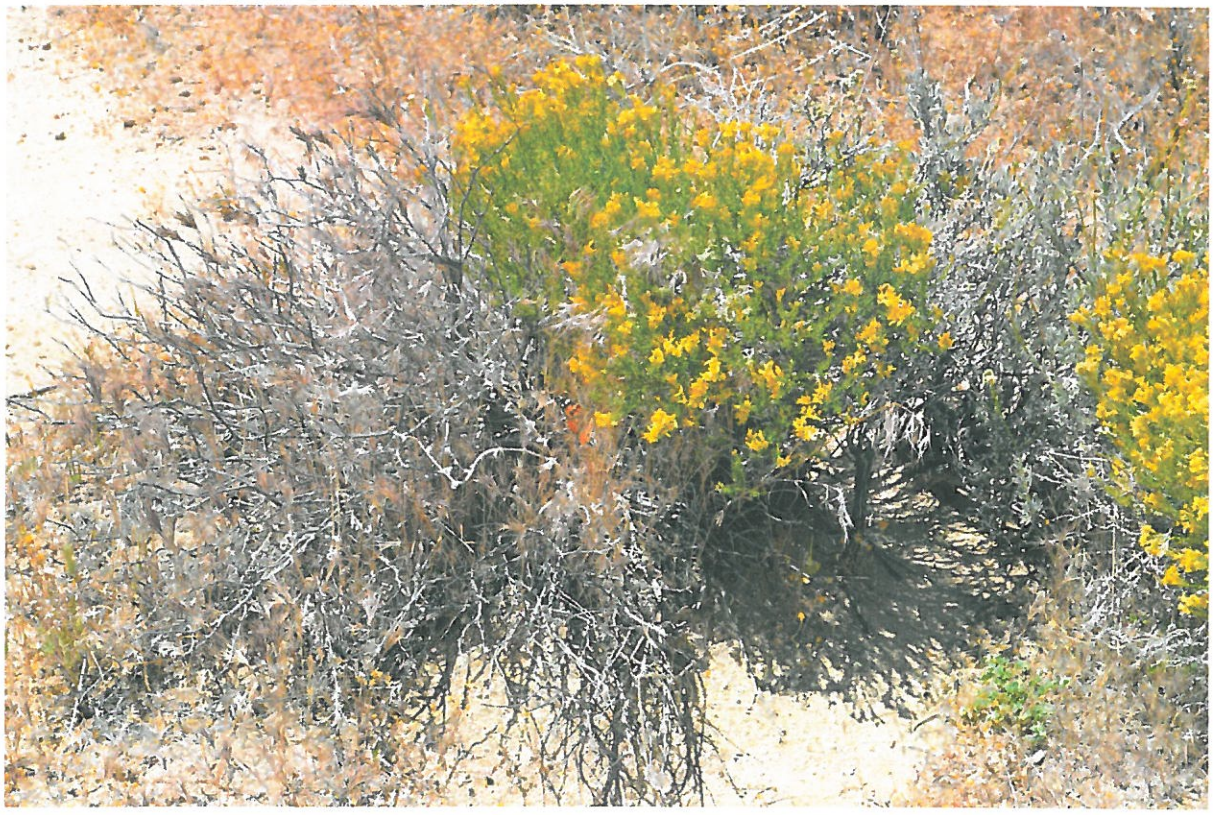
Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



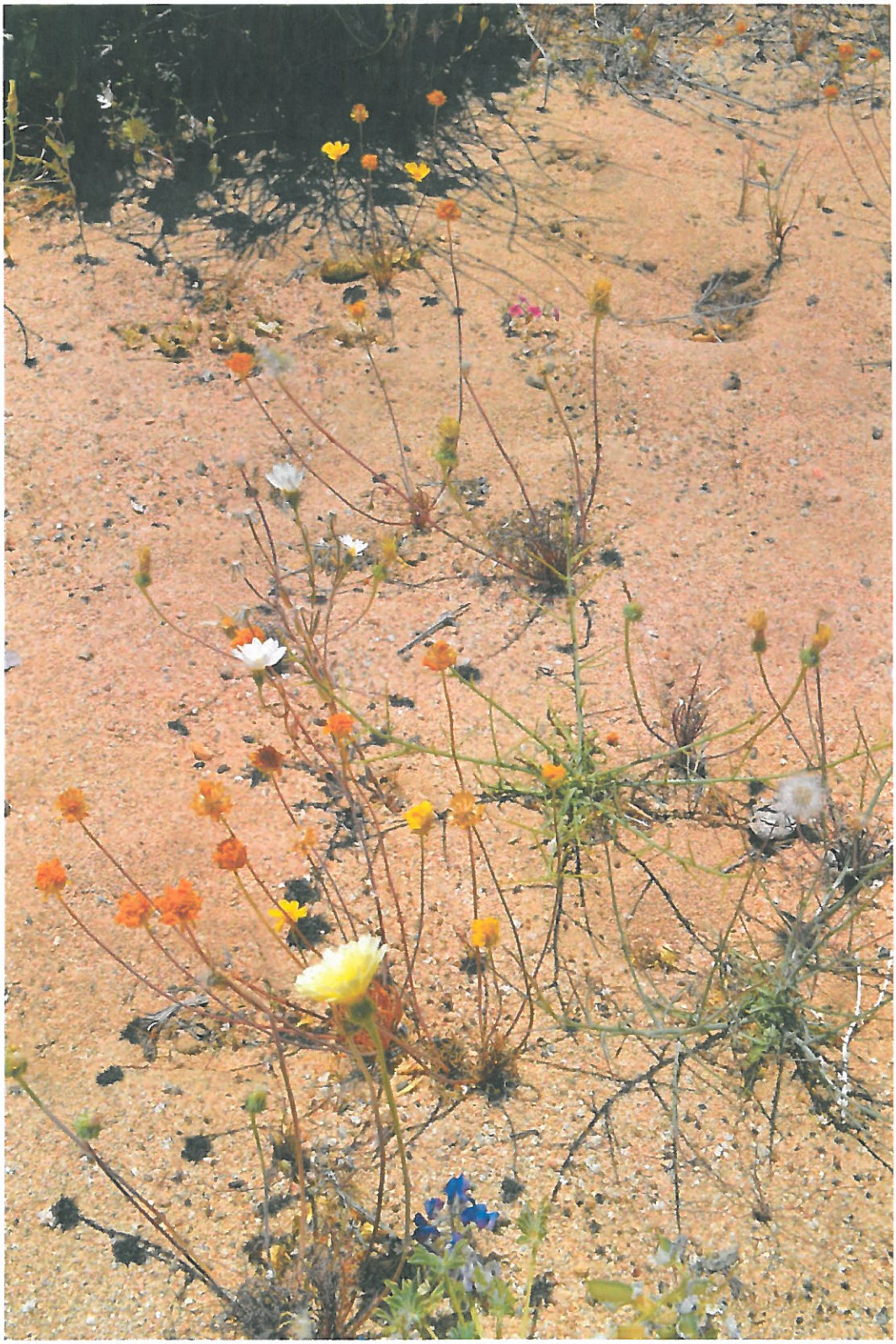
Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation and butterfly 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Northeast of Gem Hill desert vegetation 5-15-2020.



Southeast of Gem Hill looking west snake on a bike trail through desert vegetation 05-28-2020.



East of Gem Hill looking northeast at quail and roadrunner 05-28-2021.



East of Gem Hill looking northwest at Tehachapi Mountains. Note no visible roads or trails as I caught this little bunny foraging for a morning snack 06-25-2020.

The following photographs were taken after noticing significant noise and dust adjacent to my home to convey the destruction of the desert. Not knowing what else to do, I tackled the obvious first and contacted Eastern Kern County Air Pollution Control District. Their representative arrived onsite and conveyed that Calportland was establishing a road to drill a water well. There was no dust mitigation used for any of this work despite the EKAPCD directive to do so. Sensitive species like the Joshua tree were discarded along the tall sand berm sides of this road or totally bulldozed.



Northeast of Gem Hill looking west along freshly bulldozed road at least 4 car lanes wide that is significantly wider than Mojave Tropico road 08-13-2020.



Northeast of Gem Hill looking east along the south side of the freshly bulldozed road about 4 car lanes wide that is significantly wider than Mojave Tropico road 08-13-2020. Note adjacent residence. Note the side of the plowed road is the sand berm along the left side of the photo while bulldozer tread tracks clearly extend many feet beyond to topple a Joshua tree just right of center.



Northeast of Gem Hill looking east along the east side of freshly bulldozed road about 3 car lanes wide leading up to the proposed well site 08-13-2020. Note adjacent residence. Note the side of the plowed road is the sand berm along the bottom of the photo while bulldozer tread tracks clearly extend many feet beyond to topple a large creosote bush just left of center.



Northeast of Gem Hill looking east along freshly bulldozed road 08-13-2020. Note adjacent residences and note the softness of plowed sand and vegetation debris in very deep footprints and vehicle tracks.



Northeast of Gem Hill looking east where Joshua trees and other desert vegetation were bulldozed and tossed aside, covered up, or mulched into soft desert sand 08-13-2020.



North of Gem Hill looking north across the bulldozed road with shredded Joshua tree and other vegetation 08-13-2020. Note adjacent residences.



North of Gem Hill looking north at parked bulldozer 08-13-2020.



North of Gem Hill looking southeast at parked bulldozer 08-13-2020.



Northeast of Gem Hill looking south at freshly bulldozed and trafficked road east of Gem Hill 08-13-2020 that did not exist prior.



North of Gem Hill looking north at freshly bulldozed vegetation and debris in soft thick sand 08-13-2020.



North of Gem Hill looking west 08-13-2020 at bulldozer tracks crisscrossing everywhere adjacent to north-south road connecting Gem Hill to the new extremely wide sand road.



East of Gem Hill peak looking west at breaking and leveling operations near proposed water well site 08-13-2020. This area pictured was previously completely covered in natural vegetation.



East of Gem Hill looking northwest at Tehachapi Mountains. Note large bulldozed road from center eastward and dust clouds 8-14-2020.



East of Gem Hill looking northwest at Tehachapi Mountains. Vehicle traffic generates large dust clouds 9-3-2020, one of many daily trucks turning west from Mojave-Tropico road then south crossing Gem Hill to the pad areas.



East of Gem Hill looking northwest at Tehachapi Mountains. Natural wind generates large dust clouds 12-17-2020.



East of Gem Hill looking northwest at Tehachapi Mountains. Vehicle traffic generates large dust clouds on a calm wind day 11-27-2021, one of many daily trucks turning west from Mojave Tropico road.



West of Gem Hill looking southeast along fresh bulldozing connecting south and north sides of Gem Hill 02-18-2021. Typically this area would be covered in wildflowers but we didn't get any rain. Previously this was a narrow rough hiking or off road vehicle trail.



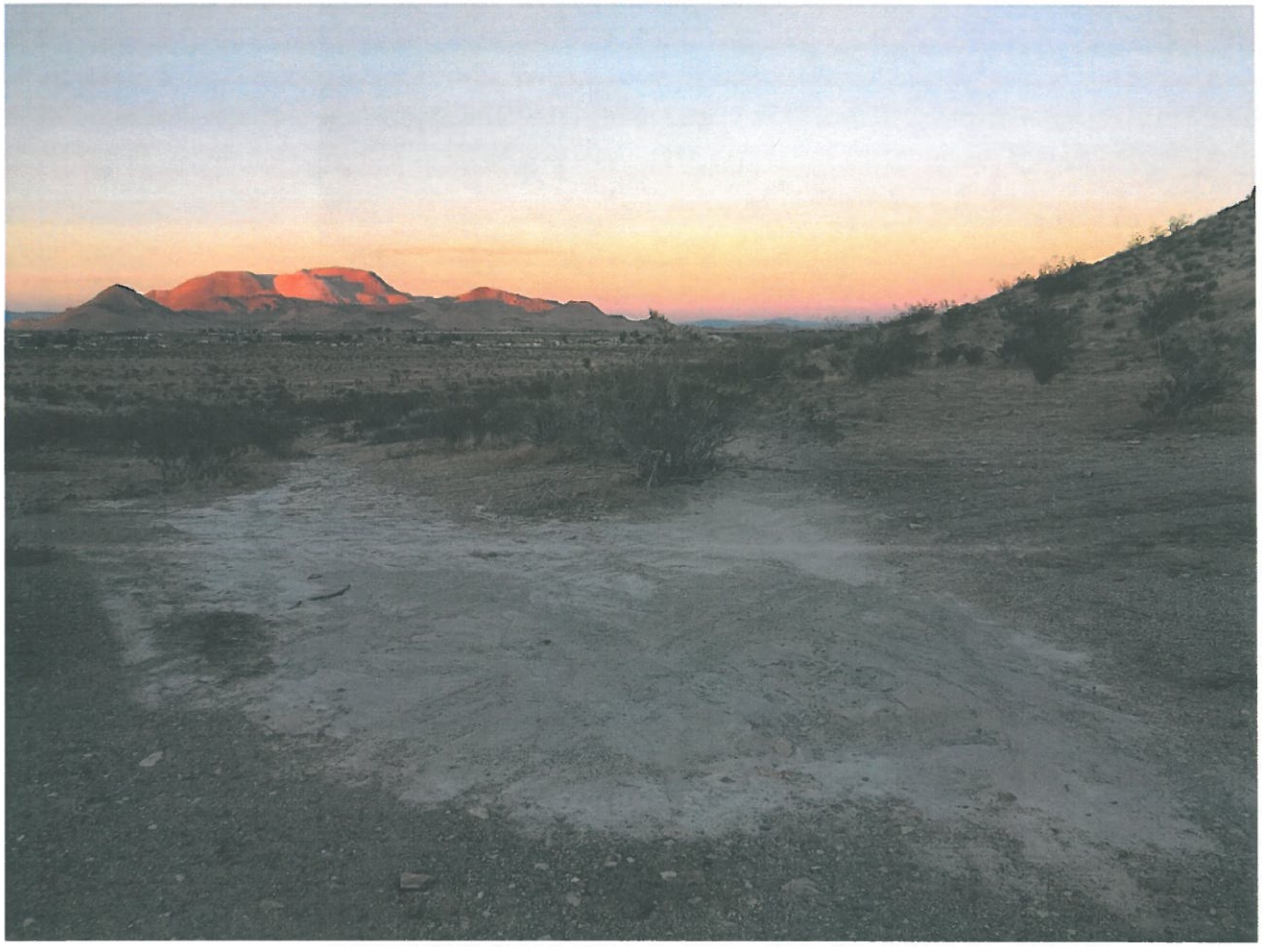
Northeast of Gem Hill looking southwest. Note the extra wide bulldozed road from Mojave Tropico north of Gem Hill that is actually wider than Mojave Tropico. All discernible roads are recently bulldozed or dragged and heavily trafficked by residents, recreational offroad vehicles, and Calportland 11-26-2021.



Dust cloud generated from half a dozen vehicles traversing the northern pad south of Gem Hill looking north 11-26-2021. This area is very popular for all types of off road recreational vehicles. I saw about a dozen in my hour long survey.



Southeast of Gem Hill looking north along the bulldozed road parallel to Mojave Tropico road through the California Protected Area 11-26-2021. This was previously a nearly indiscernible trail through thick brush and is now scraped bare.



At Gem Hill looking northeast, presumably the site of the water drilling operation 02-18-2021.



On Gem Hill looking north with whatever substance they left from drilling running down the mountain 11-26-2021.



Northside of Gem Hill looking north 11-26-2021. This was previously a narrow trail through thick brush and rock but is now scraped flat and bare.



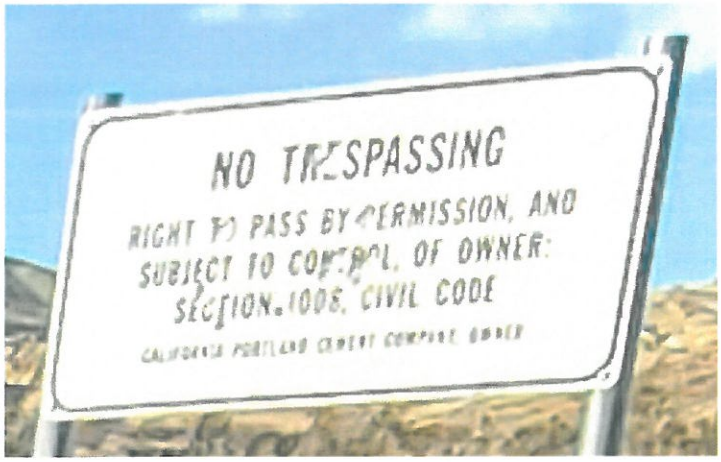
On Gem Hill looking west 11-26-2021. This was a meadow before. Extensive bulldozing and scraping operations have occurred to create a very wide level road as well as features perpendicular to the road obscuring and deepening natural drainage paths.



South of Gem Hill looking north. This is the location of the sign for “No trespassing” to the south. Nowhere does it provide information about the health danger of the extraction operation 11-26-2021.



Further south of Gem Hill looking north. This sign notes “No trespassing” to the north. Nowhere does it provide information about the health danger of the extraction operation 11-26-2021. This and adjacent areas are heavily trafficked by recreational vehicles as property boundaries are not indicated and many assume it is BLM land.

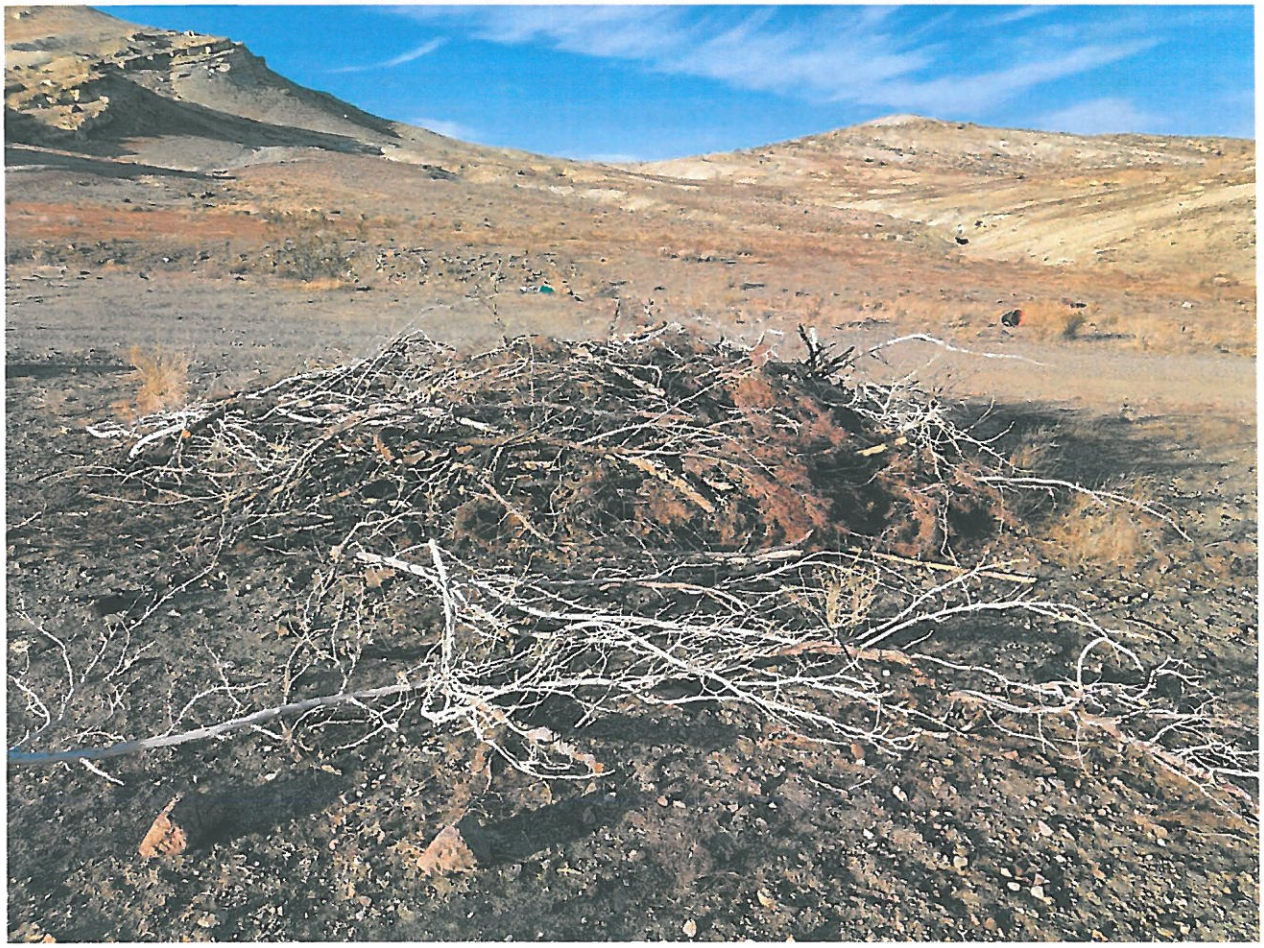




East of Gem Hill looking west, blowing dust from Calportland bulldozing operations 12-04-2020.



Trash dumped southeast of Gem Hill looking northwest 11-26-2021 is an eyesore and poses unknown waste and fire danger.



Debris from scraping and/or trash dump southeast of Gem Hill looking north 11-26-2021 is an eyesore and fire danger.



East of Gem Hill looking south 11-27-2021. Bulldozing operations have been extensively conducted in the past year within the areas marked in blue. Previously these were very narrow rocky uneven overgrown trails used only by hikers, cyclists, and other offroad vehicles. Note 2 new bulldozed roads parallel to Mojave Tropico road through the designated California Protected Area. This road development is not noted in the proposal.

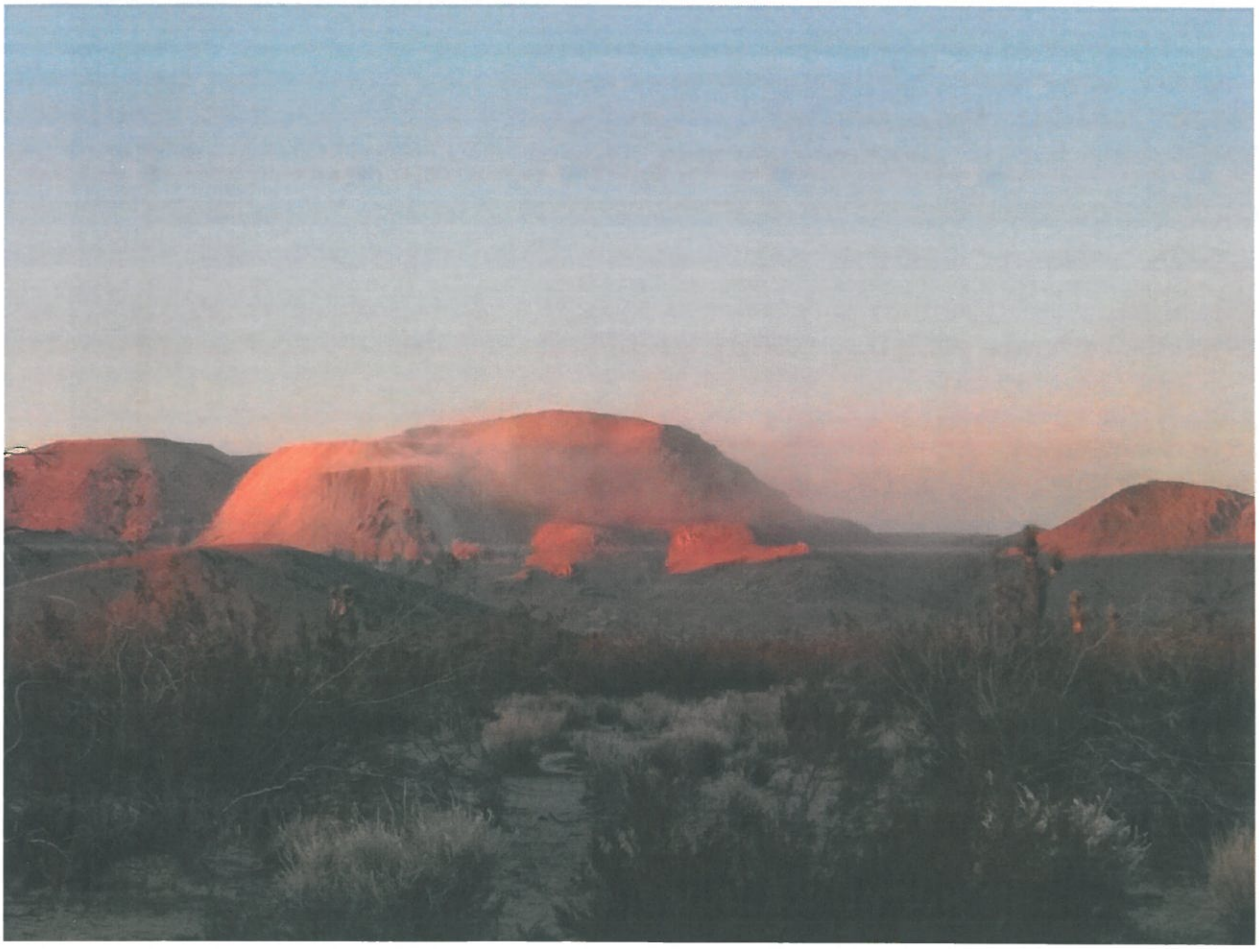


South of Gem Hill looking west 11-27-2021. These areas indicated have been significantly bulldozed and the adjacent areas disturbed. Note in the center and upper right of the photo the dark shadows indicating the depth of grating operations in the furthest west road well outside the proposal area as identified in the NOP.

The Kern County Planner mentioned that some folks might not be disturbed to live by a mine. I suspect those folks don't spend much time by a mine. Here are a selection of what it looks like to drive by a mine on your daily commute. Note the extensive unmitigated dust in every photo.That is because there is always dust. These aren't even the worst conditions, just a slice of next to a mine life. Despite drilling many new wells and pulling out a frightening amount of water and having many water spraying trucks onsite, there is still a large amount of dust that makes it into the air.



Northwest of Soledad mountain looking southeast. The blurriness to the top and western sides of the mountain is due to dust 12-20-2020.



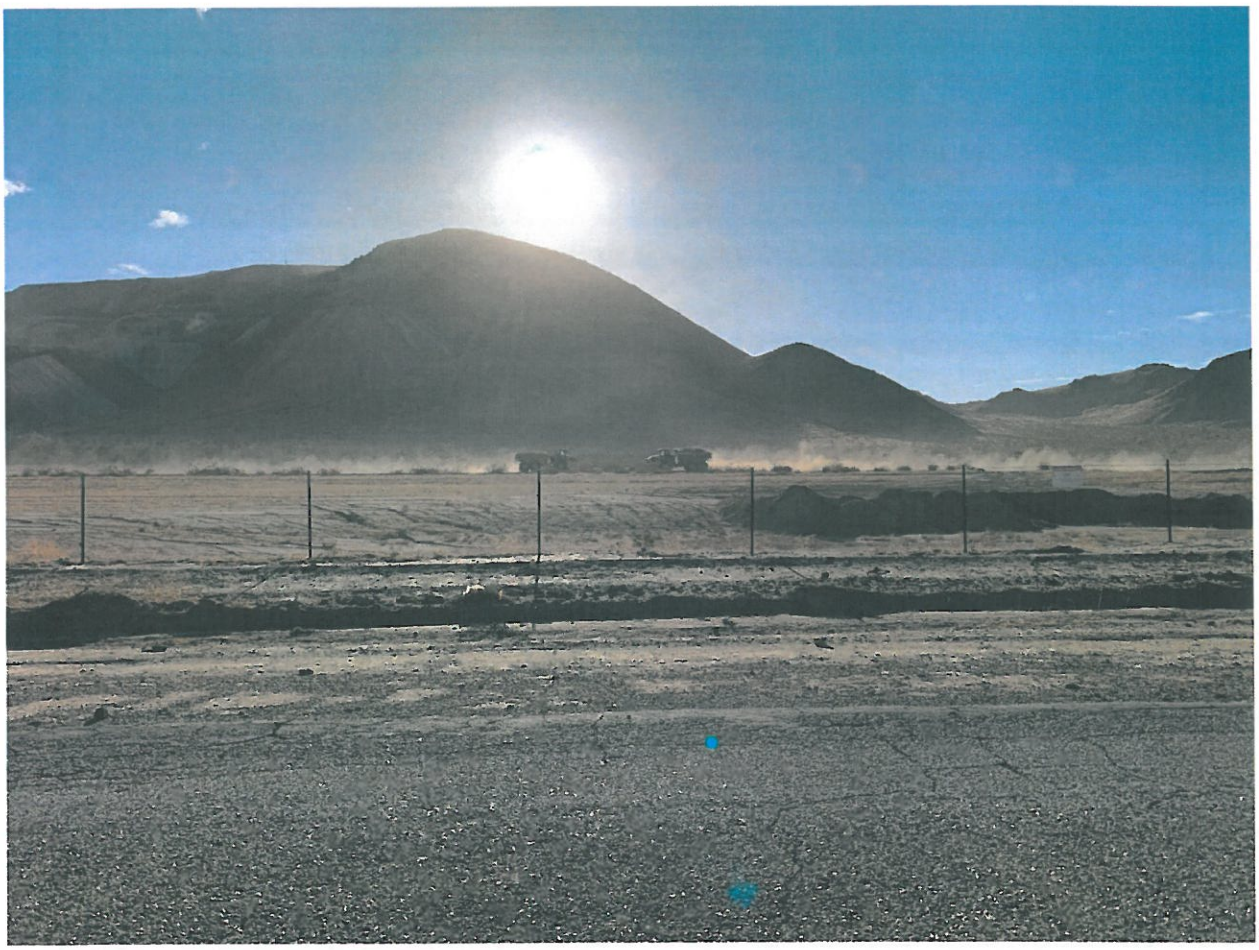
South of Soledad mountain looking north at pink dust clouds traveling from the top of the site eastward obscuring what should be a clear blue sky 02-24-2021.



Northeast of Soledad mountain Golden Queen mining operation. Note pink dust clouds 2-26-2021.



West of Soledad mountain Golden Queen mining and quarry operations. Note dust cloud 3-30-2021.



West of Soledad mountain looking east. Note large dust clouds behind and in the trucks 4-1-2021.



Quarry operations west of Soledad mountain looking southeast, nearly obscured by large dust clouds 4-1-2021.

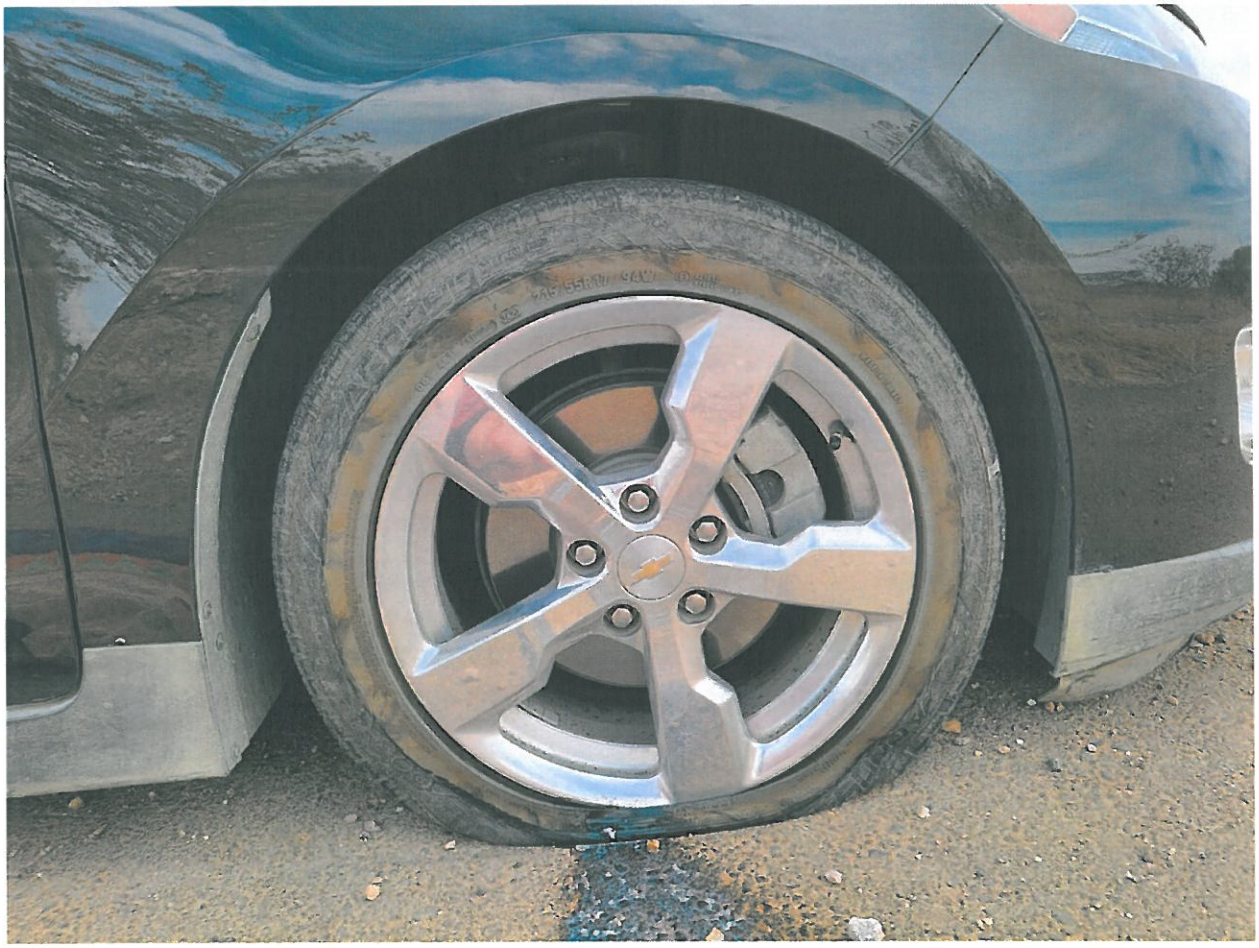


North side of Soledad mountain looking south through thick pink dust cloud 04-03-2021.



South of Soledad mountain looking north. Note the waves of pink dust blowing eastward 4-7-2021.

The frequent heavy trucking to support the quarry and mining operations has significantly degraded Mojave Tropico and adjacent roads. The outboard portion of the road on both sides is completely crumbled in most areas. The heavy trucks often drive across the yellow centerline impinging on the other lane and endangering opposite way traffic. Large potholes combined with road and rock debris require extreme vigilance, especially at night as the road is not lighted. I experienced the consequences of hitting one of these potholes with debris even below the posted speed limit, a total tire failure.



Tire damage to my vehicle on Mojave Tropico Rd due to poor road conditions caused by heavy trucking 11-04-2021.



West of Soledad mountain looking south. Mojave Tropico road condition adjacent to mining and quarry operations 11-04-2021.



West of Soledad mountain looking north. Mojave Tropico road condition adjacent to mining and quarry operations 11-04-2021.

I queried Eastern Kern County Air Pollution Control District for their record of recent complaints against Calportland and Golden Queen Mining. Note neither I nor the EKAPCD inspector witnessed any dust mitigation actions by Calportland at Gem Hill in 2020. Additionally, the extensive complaints against Golden Queen show the challenge of actually mitigating dust in this location which experiences extreme wind. The following log is as provided by Gary Ray.

2021 COMPLAINTS LOG Eastern Kern APCD					
Date/Time/ Rec'd By	Company or	Complaint		Date / Time	
Complaint	Location fo complaint	Type	Complaint	& Inspector	Investigation
JANUARY					
1/22/21 12:05 TF	Golden Queen Mine	Dust	Dust coming from Golden Queen Mine. It is filling up the whole valley and the dust has a "stench" to it.		
FEBRUARY					
2/17/21 2:35pm KL	Golden Queen Mine	Dust	Dust blowing off the mountain. Not doing what they should to mitigate it. -He said he will send pictures		
4/8/21 5:52 PM EKAPCD Email	Neighbor of 1232 Backus Rd.	Dust	Neighbor cleared 10 of his 20 acres; not using water. Creating a lot of dust	DA; 11:00 4/9	The site was visited on 4/9 and with vegetation and topsoil removed from the property across the street from complainants residence. No fugitive dust was observed leaving the property at the time of the visit. The complainant was contacted by phone and interviewed. The complainant indicated that tthe neighboring property across the street on Backus Rd had removed vegetation and topsoil from the property using a tractor,

					which resulted in the dust blowing across the street and into the residence. The site contained dirt piles which did not have covers or other controls being used. No water or other dust mitigation was used and the property owner refused to do anything to control the dust from leaving the property. A follow up visit was conducted on 4/12 with no dust being ovserved leaving the property.
4/14/ 11:55am TF	Golden Queen Mine	Dust	Dust from Golden Queen Mining Operation was really bad on April 8th (Thursday). They do not use water to keep dirt down on windy days. This is an on-going problem on windy days.	ND/MA 4/15; 10:30	An onsite visit was conducted on 4/9/21, 5/21/21 & 5/24/21, during high wind event days, or when mining operations could be witnessed from Backus Rd. in Mojave the inspector identified visible dust emissions coming from the NW and S areas of Soledad mountain. The complainants that called the District on 5/18 and 5/25 were contacted and interviewed. Both complainants indicated that the dust had been coming from Soledad Mountain for some time and that nothing was being done about the problem, in the form of water trucks being used. The dust most visible during high wind event days could be seen "for miles". Both complainants indicated that their homes were in the wind direction of the dust and that it was coming into their homes. - On May 21, MRC Rock and LEDCOR mining sites were visited at Soledad Mountain, as well as

					informing Golden Queen Mining Co's Enviro Technician Jason Rodden on May 18 to investigate and discuss the fugitive dust and complaints. During the visit on 5/21, the inspector witnessed fugitive dust coming from the property in excess of 20% opacity using Method 9 VEE. A Notice of Violation was issued on May 24, to LEDCOR and MRC Rock and Sand under fugitive dust and nuisance rules.
MAY					
5/11 9:34am; ND	Cal Portland	Dust	Haul road leading from bottom of quarry into the quarry and they do not water the road. It is dusting out everyone.	ND; 5/11 11a,	I called complainant but received no return call after I left a message. I then called Brian Males and left message. He eventually called back and I informed him of complaint. He said he would make sure the haul roads were being watered.
5/18 1:58pm KL	Soledad Mine	Dust	Lots of dust coming from Soledad Mountain		An onsite visit was conducted on 4/9/21, 5/21/21 & 5/24/21, during high wind event days, or when mining operations could be witnessed from Backus Rd. in Mojave the inspector identified visible dust emissions coming from the NW and S areas of Soledad mountain. The complainants that called the District on 5/18 and 5/25 were contacted and interviewed. Both complainants indicated that the dust had been coming from Soledad Mountain for some time and that nothing was being done about the
5/21/21 12:30pm ND	NW side of Soledad Mountain; Mojave/Tampico Rd	Dust	Dust blowing everywhere. Does not know if it is safe to be outside. Sees a water truck but doesn't know if its doing very much.	DA	

5/25/21 10:24am KL via CalEPA	Mining operation; Backus Rd	Dust	Minig operation creating really bad dust blowing in the air for several miles	DA	problem, in the form of water trucks being used. The dust most visible during high wind event days could be seen "for miles". Both complainants indicated that their homes were in the wind direction of the dust and that it was coming into their homes. - On May 21, MRC Rock and LEDCOR mining sites were visited at Soledad Mountain, as well as informing Golden Queen Mining Co's Enviro Technician Jason Rodden on May 18 to investigate and discuss the fugitive dust and complaints. During the visit on 5/21, the inspector witnessed fugitive dust coming from the property in excess of 20% opacity using Method 9 VEE. A Notice of Violation was issued on May 24, to LEDCOR and MRC Rock and Sand under fugitive dust and nuisance rules.
JUNE 2019					
6/21/21 2:50pm TF	Golden Queen	Dust	He is driving southbound on Hwy 14 just past Jawbone Canyon. The dust cloud is blowing for about 5 miles	ND 6/21/21 2:30pm	As I was driving north on the 14, I saw a huge dust cloud coming from Golden Queen. I drove to Golden Queen and called Jason Rodden to see if I could speak with him in person about what I was seeing but he was not on site, so we spoke on the phone. I told him that something needs to be done because there is always dust coming off the mountain. He agreed and also stated he'd contact someone

					on-site to try to control the dust. at this point, there needs to be a reevaluation of their dust plan. we are going to meet with the CEO of Golden Queen after July 15

2020 COMPLAINTS LOG Eastern Kern APCD					
Date/Time/ Rec'd By	Company or	Complaint		Date / Time	
Complaint	Location fo complaint	Type	Complaint	& Inspector	Investigation
JUNE					
6/16/20 KL via Cal OES	Solidad Mining, Mojave	Dust	Dust is blowing off mountain. Concerned about ground water levels and use of cyanide in the mineral processing.		
AUGUST					
8/14/20 KL 8:40am	Northwest of 7288 Mojave Tropico Rd.	Dust	Tractors/trucks moving earth and rocks, creating a lot of dust	Nicole 8/13 10:11am	Spoke w/ Warren from Cal Portland and explained to him that if I see blowing dust coming from the area where they are working then a Notice of Violation will be issued. Warren stopped the work for the day and let me know that he'd have a water truck out on the site on 8/14/20
December					

12/4/20	SW of Bright Ave (Green Hill)	Dust	Company drilling creating a plume of dust.	Nicole 12/4/20 12/:06	This property belongs to Cal Portland and they are currently drilling on-site. I spoke with Brian Males and explained to him that the dust needs to be mitigated and he let me know he'd call the contractor to see what they could do and give me a call back. Brian called back at approx. 1:05pm and told me the contractor made a mistade and started work before water truck arrived. The drill made contact with water dable and the water truck arrived. The drilling is finished.

2019 COMPLAINTS LOG Eastern Kern APCD					
Date/Time/ Rec'd By	Company or	Complaint		Date / Time	
Complaint	Location fo complaint	Type	Complaint	& Inspector	Investigation
APRIL 2019					
4/5 12:40 GR	Backus Rd / 20th St	Dust	Mining operation transferring soil from one site to another. Dust caused by dumping and wind due to the unstable material	4/9/19 / 1:00pm	Complainant states that Golden Queen is dumping dirt off backside (southside) of mountain. Causing fugitive dust. I spoke with Jason Rodden @ Golden Queen and he stated that he would make sure the water trucks side spray the piles with water to eliminate the dust as the dirt is dumped. I will keep an eye on the activity.

4/12/2019 12:35 GR	Backus Rd / 14 Hwy	Dust	Mining operation transferring soil from one site to another. Dust caused by dumping and wind due to the unstable material	4/12/19 / 4:43 ND	Spoke to Jason Rodden and let me know that he'd make sure that the water trucks wet the side of the mountain where they were dropping material

We truly appreciate your time and attention to the concerns of nearby property owners and sincerely hope they will be incorporated into the upcoming Environmental Impact Report.

If myself and my family can be of any service during any agency's investigations, please do not hesitate to contact us.

Respectfully,

Erin Hambrick
7288 Mojave-Tropico Rd
Mojave CA 93501
aeronire@gmail.com
(c) 818.300.4842

From: Erin Hambrick <aeronire@gmail.com>
Sent: Sunday, January 16, 2022 7:41 AM
To: Randall Cates <CatesR@kerncounty.com>
Cc: Terrance Smalls <smallst@kerncounty.com>; phillip moores <phillip.m.moores@gmail.com>
Subject: Re: Parcel Ownership Inquiry with Respect to Gem Hill Project

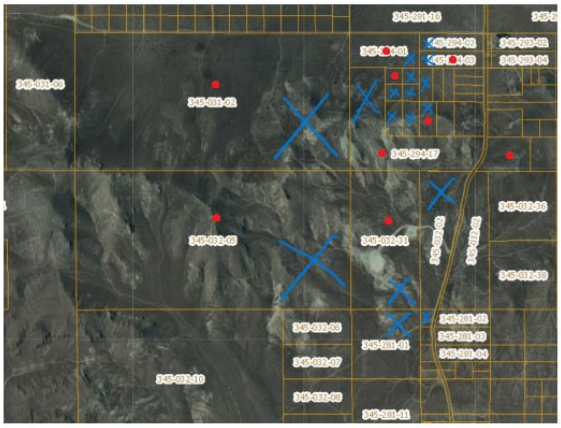
CAUTION: This email originated from outside of the organization. Do not click links, open attachments, or provide information unless you recognize the sender and know the content is safe.

Hi Randall,

Thank you for the information. I have attached a mark up of your image supplemented with blue x's where recent bulldozing has taken place. This includes both land you have indicated is now owned by Calportland and land that you have not indicated as owned by Calportland. I hope this is helpful to you in resolving the discrepancy between what you presented in the NOP and the current project status. I look forward to your response. Please let me know if you have any questions.

Thanks,

Erin



On Wed, Jan 5, 2022 at 9:17 AM Randall Cates <CatesR@kerncounty.com> wrote:

Erin,

Good morning. With regards to parcel ownership, below is an image included in your November 27, 2021 submittal, to which I added red circles to represent the parcels owned by CalPortland Company. The parcel ownership information was obtained from the Kern County GIS website, which utilizes information furnished by the Kern County Assessor.



Randall Cates
Kern County Planning and
Natural Resources Department
2700 M Street, Suite 100, Bakersfield, CA 93301
(661)862-8612
CatesR@kerncounty.com

From: Erin Hambrick <aeronire@gmail.com>
Sent: Monday, December 27, 2021 8:07 AM
To: Randall Cates <CatesR@kerncounty.com>
Cc: Terrance Smalls <smallst@kerncounty.com>; phillip moores <phillip.m.moores@gmail.com>
Subject: Re: Parcel Ownership Inquiry with Respect to Gem Hill Project

CAUTION: This email originated from outside of the organization. Do not click links, open attachments, or provide information unless you recognize the sender and know the content is safe.

Hello Randall,

I hope you have had a wonderful holiday.

Do you have any information or when I should expect your update on the parcel ownership for the land within and adjacent to the proposed Gem Hill project?

Thanks,

Erin Hambrick

On Wed, Dec 1, 2021 at 4:34 PM Randall Cates <CatesR@kerncounty.com> wrote:

Erin,

Acknowledging receipt of your below email; it is undergoing review by this Department and a written response will be forthcoming.

Randall Cates
Kern County Planning and
Natural Resources Department
2700 M Street, Suite 100, Bakersfield, CA 93301
(661)862-8612
CatesR@kerncounty.com

From: Erin Hambrick <aeronire@gmail.com>
Sent: Saturday, November 27, 2021 1:30 PM
To: Randall Cates <CatesR@kerncounty.com>
Cc: Terrance Smalls <smallst@kerncounty.com>; phillip moores <phillip.m.moores@gmail.com>
Subject: Parcel Ownership Inquiry with Respect to Gem Hill Project

CAUTION: This email originated from outside of the organization. Do not click links, open attachments, or provide information unless you recognize the sender and know the content is safe.

Randall,

Per our conversation, I would like to know the ownership of the Gem Hill and adjacent parcels and if/when Calportland assumed ownership of any parcels and if/when/for what operations Calportland received permits to conduct. Please reference the below screenshot from the county GIS website that lists the larger parcel numbers and outlines the shapes of the adjacent parcels. To be clear, I would like to know this information from Mojave Tropico Rd to the east to as far northwest as 345-031-02 and as far southwest as 345-032-10 because recent and extensive grating, bulldozing, and grading operations have occurred in all of these areas. I will follow up in a separate email with aerial and ground photographs of these operations.

Thanks, Erin Hambrick



From: Sherri <sherri.dumin@gmail.com>
Sent: Monday, January 17, 2022 11:00 PM
To: Randall Cates <CatesR@kerncounty.com>
Subject: Gem Hill Project in Rosamond

CAUTION: This email originated from outside of the organization. Do not click links, open attachments, or provide information unless you recognize the sender and know the content is safe.

Dear Mr. Cates,
I am a 30 year resident of Rosamond and live in the Lands of Promise area. I am within a two mile radius of the Gem Hill project. I am writing to voice my objection to this horrible project. The open pit mine using blasting is not an acceptable project for the many hundreds of people that live in this area. Our rural way of life is once again under attack by Kern County. Our beautiful desert landscape is being destroyed before our eyes. A 210 acre, 30 year open pit mining project that destroys more of our land and destroys native plants and animals is not wanted nor appreciated.
We are already subjected to the noise and physical impacts from the blasting at the Silver Queen mining project. Our pets are stressed. My husband works from home and the weekly blasting from this mine greatly disturbs his work. The Silver Queen mining activity is approximately SEVEN miles from our home. I can only imagine what we will have to endure with another mining blasting project that is only TWO miles from our home! Haul trucks will create traffic and destroy our local roads.
In addition, I understand that Cal Portland will drill wells and deplete water from one of our local aquifers for dust control. We are in a SEVER drought and our precious resources should not be used for more mining purposes.
Property values will be negatively impacted.
THIS IS AN NOT ACCEPTABLE PROJECT!
Please please please DENY this project.
Would YOU want to live near a project like this? Please for once LISTEN TO YOUR CONSTITUENTS!!
Signed a very unhappy Rosamond resident, Sherri Dumin-Timm
661-699-0410

Sent from my iPhone

From: FThompson <fthompson3828@sbcglobal.net>
Sent: Tuesday, January 18, 2022 11:55 AM
To: Randall Cates <CatesR@kerncounty.com>
Cc: Sherri Dumin <sherri.dumin@gmail.com>
Subject: Open mining pit and use of water

CAUTION: This email originated from outside of the organization. Do not click links, open attachments, or provide information unless you recognize the sender and know the content is safe.

Greetings Mr Randal Cates

My husband and I are totally opposed to this opening mining pit operation and it's huge use of water coming from out aquifer. Like projects leave the area and it inhabitants a horrible mess, an increase of airborne disases (KC already has a problem with valley fever), poor living conditions, and reduction in the value of neighborhoods.. We do NOT want this project to go forward. This projects needs to prevented from spoiling our desert, our community, and our health. ------Sincerely, Frances & Henry Thompson

Appendix B

Surface Mining and Reclamation Plan

Appendix B.1

Reclamation Plan for Gem Hill Quarry (updated July 2022)

RECLAMATION PLAN

FOR

GEM HILL QUARRY

CALPORTLAND COMPANY

Submitted to:

KERN COUNTY
Planning and Natural Resources Department
2700 "M" Street, Suite 100
Bakersfield, CA 93301

Prepared by:



CALPORTLAND COMPANY
2025 E. Financial Way
Glendora, CA 91741

Updated July 2022
January 2021
November 2020

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B **Habitat Assessment and Desert Tortoise Presence/Absence Survey Report** – ELMT Consulting, January 2022

C **Revegetation Plan -** ELMT Consulting, January 2022

D **ALTA Survey -** Smithco Surveying Engineering**,** January 2020

E **Drainage Report for Gem Hill Quarry** – Chang Consultants, February 2022

F **Phase 1 Historical/Archaeological Resources Survey for Rosamond Hills Mine Project. (entire project area) -** CRM TECH, March 6, 2019 (redacted version).

G1 **Phase II Cultural Resources Investigation of the CalPortland Rosamond Hills (Gem Hill) Project Area in the Rosamond Area of Kern County, California. (entire project area) -** McKenna et al., January 4, 2020 (redacted version).

G2 **Supplemental Report: Cultural Resource Investigations of Additional Acreage at Gem Hill** - McKenna et al., August 2021 (redacted version).

H **Paleontological Overview** - McKenna et al., May 28, 2020 (redacted version).

I **Air Quality and Greenhouse Gas Assessment** - Lilburn Corporation, January 2022

J **Visual Resource Assessment** - Lilburn Corporation, November 2020

K1 **Water Supply Assessment (WSA) Technical Memorandum in Support of the WSA -** Sespe Consulting, INC November 2020

K2 **Technical Memorandum in Support of the WSA -** Sespe Consulting, INC Feb. 2022

L **Trip Generation Assessment (Revised)** - Urban Crossroads, December 2021

M **County SMARA Application for the Gem Hill Quarry Project July 2022 (FORM 520 (9/2013)**

MAP SHEETS (attached and on CD)

Sheet 1 Gem Hill Quarry Cover Sheet
Sheet 2 Gem Hill Surface Mining Plan
Sheet 3 Gem Hill Quarry Reclamation Plan
Sheet 4 Gem Hill Quarry Cross Sections and Details

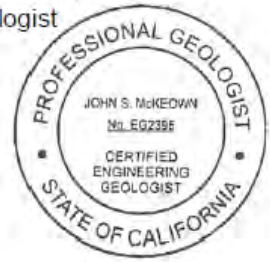
PROFESSIONAL CERTIFICATIONS

Slope Stability Evaluation Report (Appendix A)

The California Professional Geologist/Certified Engineering Geologist and the California Certified Engineering Geologist, by stamping the *Slope Stability Evaluation Report for the Proposed CalPortland Gem Hill Pozzolan Quarry* prepared by Terracon Consultants, Inc. (February 2022) (attached in Appendix A) for CalPortland Company solely in respect to the report's scope of work, is accepting responsibility for its findings and recommendations within said report.

Terracon GeoReport

John S. McKeown, C.E.G. 2396
Senior Geologist



Jay J. Martin, C.E.G.1529
Principal Geologist



ALTA/N.S.P.S. Land Title Survey (see Appendix D)

SURVEYOR'S CERTIFICATE:

TO: CALPORTLAND COMPANY AND CHICAGO TITLE INSURANCE COMPANY:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS", JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 3, 4, 8, 11, AND 13 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON SEPTEMBER 14, 2018.

01-23-2020
DATE OF PLAT OR MAP

D'ARTAGNAN ALBA
CALIFORNIA PROFESSIONAL LAND SURVEYOR
P.L.S. NO. 9052

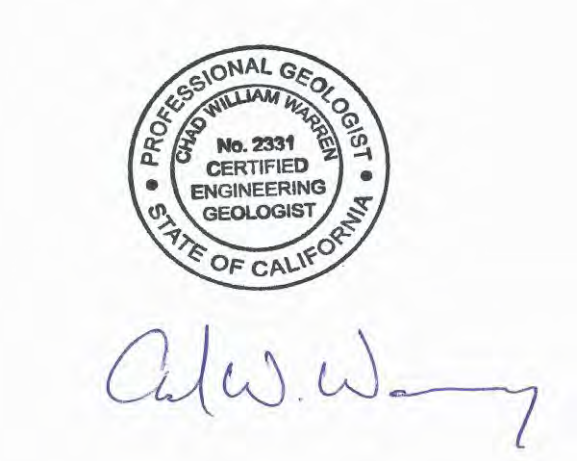


D'Artagnan Alba– California Professional Land Surveyor, Smithco Surveying Engineers (see Appendix D for stamped map)

Map Sheets (Map Sheets #1 to #4) – Quarry, Roads, and Overburden Designs

California Professional Geologist, Chad Warren, CalPortland, by working with and reviewing and signing/stamping the Map Sheets #1 to #4, with mine design prepared by Paul L. Martin, CalPortland (PE, Mining, Nevada, BS Mining Engineering), Ed Harrison, CalPortland (BS Mining Engineering), and Adam Chapman, CalPortland (BS Mining Engineering).

Chad Warren – California Professional Geologist – CalPortland (See Maps #1 to #4 as attachments and figures).



CALPORTLAND COMPANY
RECLAMATION PLAN
GEM HILL QUARRY

SUMMARY

CalPortland Company (CalPortland) is submitting to Kern County (County) a Surface Mining Conditional Use Permit (CUP) and a Reclamation Plan for the development of the Gem Hill Quarry for a 30-year period. The CUP and Reclamation Plan (together defined as the Plan) describes the development and subsequent reclamation of a 35-acre quarry within a 210-acre project area located within approximately 778 acres of private lands owned by CalPortland. The site is located in the western Antelope Valley, approximately four miles northwest of Rosamond and ten miles southwest of Mojave on the west end of the Rosamond Hills in southeastern Kern County in Sections 25, 26, 35 and 36, Township 10 North (T10N), Range 13 West (R13W), San Bernardino Base and Meridian (SBB&M) (see Figures 1, 2, and 3).

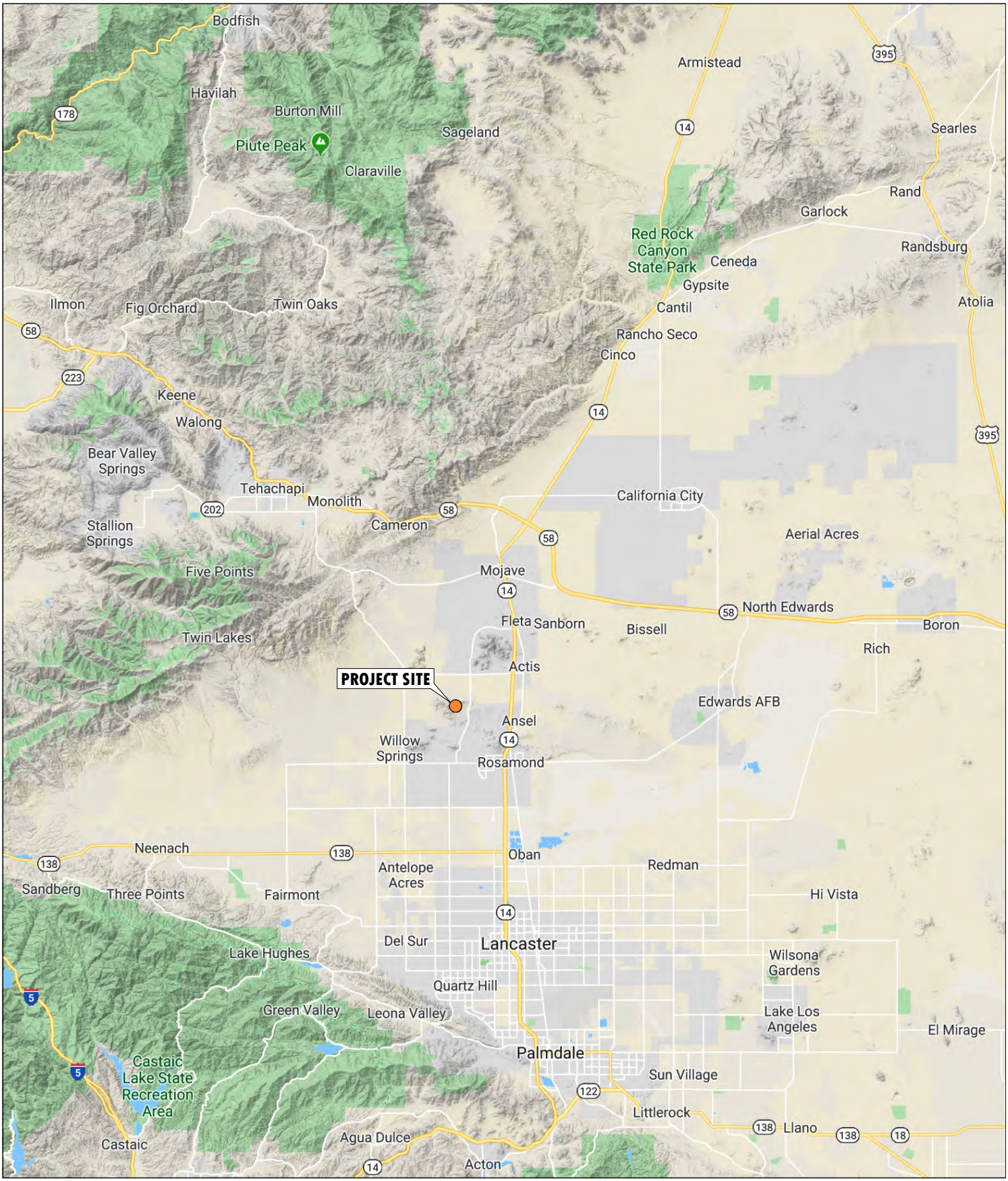
Production will be up to 500,000 tons per year (tpy) of volcanic tuff. This volcanic tuff has pozzolanic properties. Pozzolanic materials react in a synergistic way with portland cement and thus can be utilized to replace a portion of clinker used in the manufacturing of portland cement as well as a portion of portland cement in ready-mix concrete. CalPortland is a significant supplier of portland cement and concrete in California and is committed to reducing the carbon footprint (greenhouse gas (GHG) emissions) of their products. The utilization of Gem Hill natural pozzolan will directly reduce their carbon footprint as an ingredient in concrete.

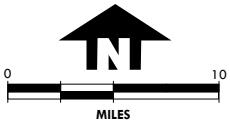
This Plan for the Gem Hill Quarry describes the planned operations for a period of 30 years from approval. The planned operation includes a quarry, two overburden stockpiles, stormwater basins, an equipment storage area, water well and tank, scale, and access roads on a proposed disturbance area of approximately 82 acres. Refer to Figure 4 for the Mine Plan showing the planned boundaries of the quarry, overburden stockpiles, basins, and other features.

The California Surface Mining and Reclamation Act (SMARA) is implemented by the County, SMARA's local lead agency. CalPortland is submitting a Reclamation Plan per Chapter 19.100 of the County's Development Code and the County's Mine and Reclamation Plan Information and Application form. Obtaining the necessary approvals will require compliance with the California Environmental Quality Act (CEQA).

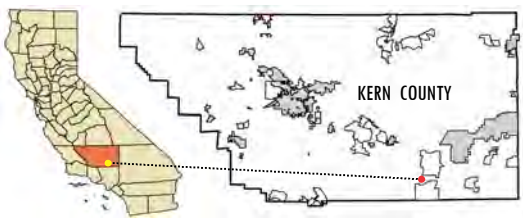
Benefits of Pozzolan in Cement and Concrete

Natural pozzolan has a history of use dating back to the Roman period where it was mixed with burnt lime to form a concrete binder for structures such as the Colosseum which have stood the test of time. Modern concrete is made with portland cement consisting of manufactured calcium silicate minerals that react with water to form a highly durable concrete matrix. Pozzolan contributes to modern concrete by taking advantage of a synergistic reaction with Portland Cement. This project will provide natural pozzolan to be used in concrete. There is a direct (approximately 1:1 by weight) reduction in the carbon footprint of concrete by replacing a





Source: Lilburn Corp., Feb. 2020.



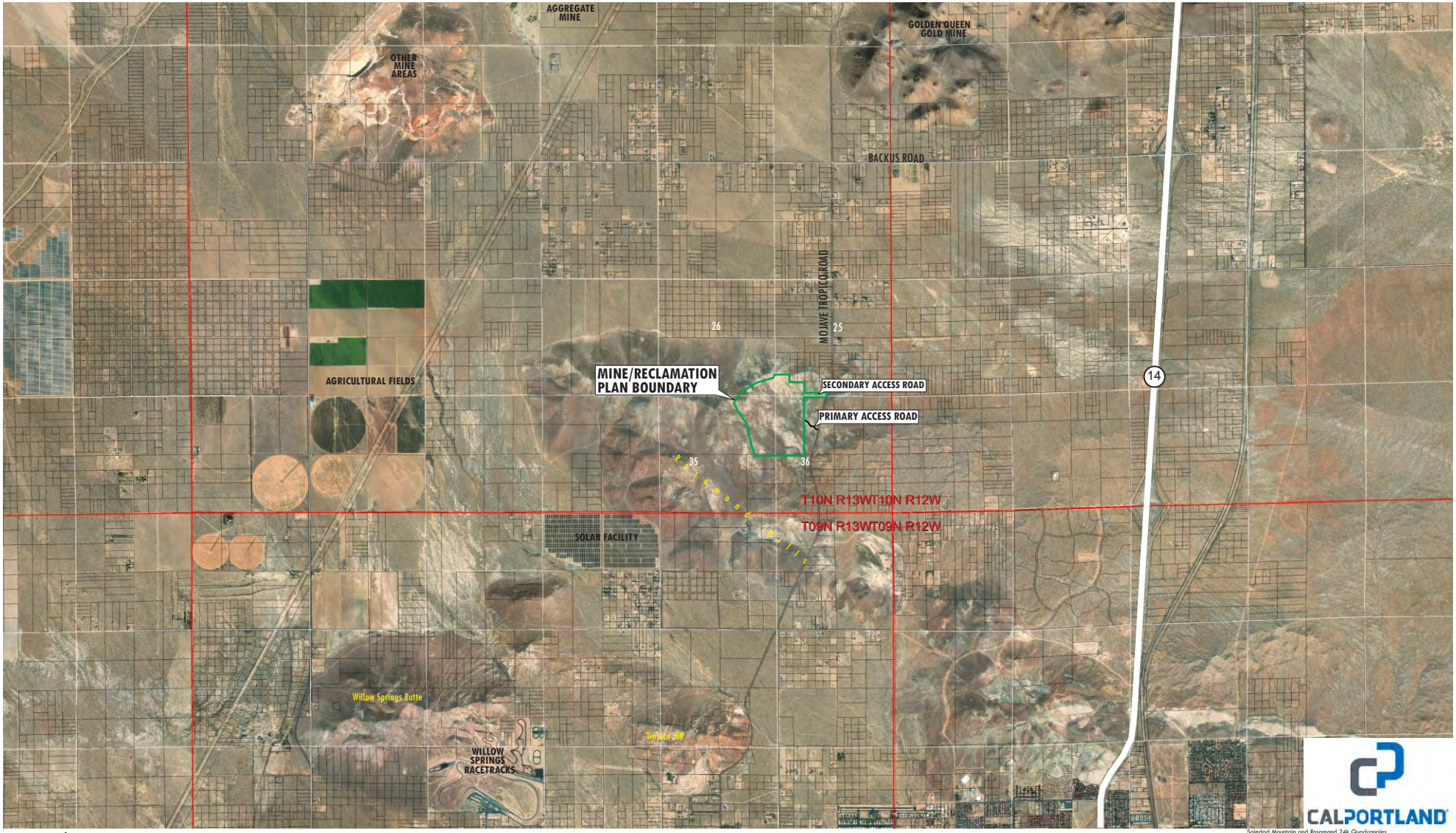
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REGIONAL LOCATION

Surface Mining Permit and Reclamation Plan

Kern County, CA

FIGURE 1

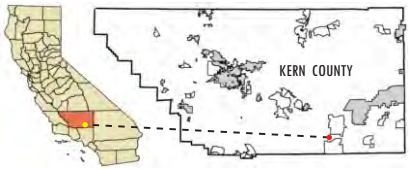


Soledad Mountain and Rosamond 24k Quadrangles.



Source: Lilburn Corp., October, 2020.

LILBURN CORPORATION

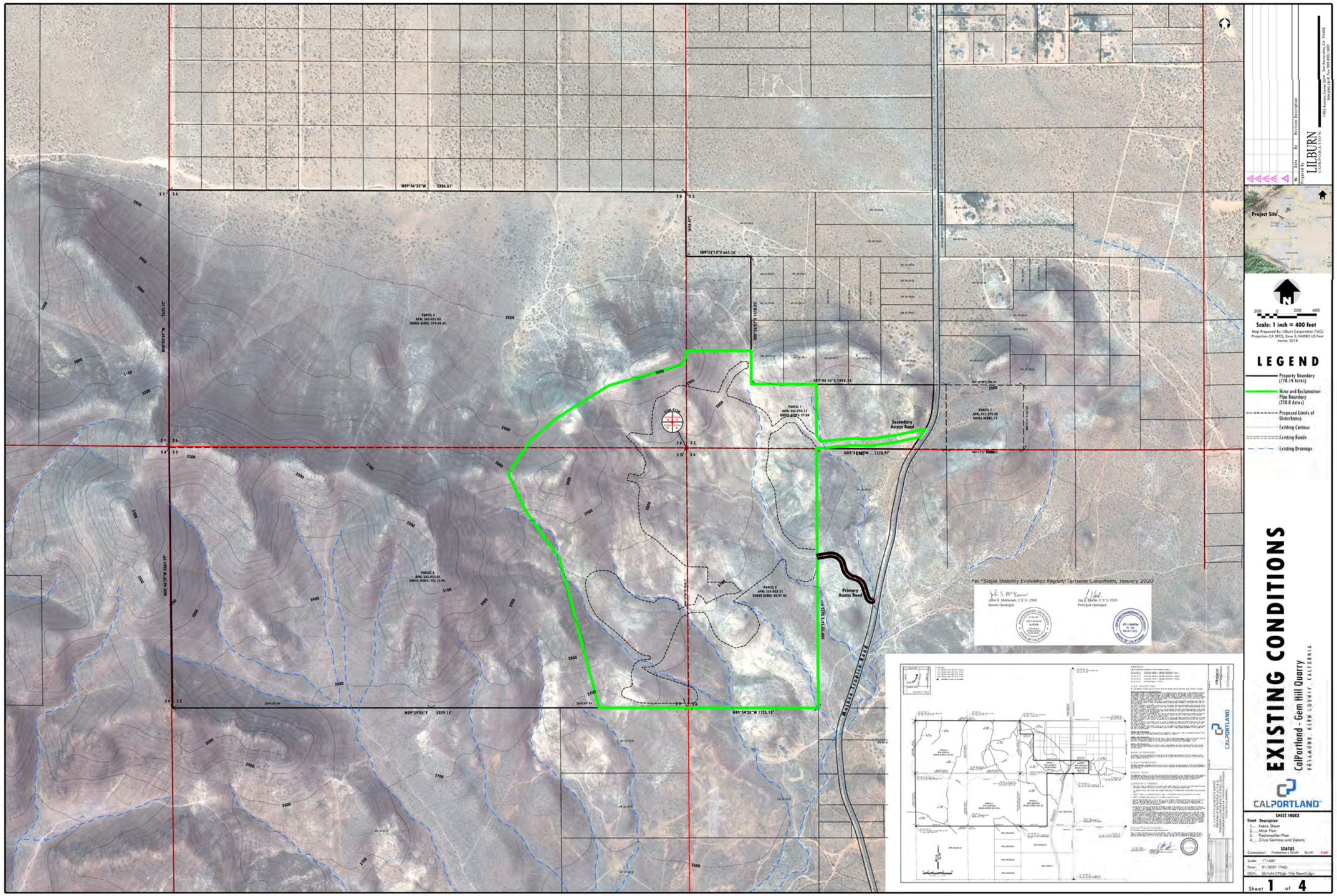


PROJECT VICINITY

Gem Hill Quarry Surface Mining Permit and Reclamation Plan
CalPortland Company

Kern County, CA

FIGURE 2



EXISTING CONDITIONS

Gem Hill Quarry
Surface Mining Permit and Reclamation Plan
Kern County, CA
FIGURE 3

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CORPORATION

portion of the clinker used in portland cement as well as a portion of portland cement in ready-mix concrete with natural pozzolan. This project will positively contribute to the State of California's goals to reduce GHG emissions to reduce potential climate change.

Mine Plan Summary

The Gem Hill Quarry is planned to be permitted to operate for 30 years through the end of year 2052. The proposed mining is estimated to disturb or partially disturb approximately 82 acres. Based on drilling samples, proven/probable reserves are estimated at approximately 16 million tons (mt). The proposed annual production is estimated at 500,000 tpy; approximately 1,670 tons/day on up to 300 operational days/year. CalPortland is requesting a 30-year life of mine.

One open pit quarry and two overburden stockpile areas are proposed to be developed. Typical mining operations will consist of drilling, blasting, dozing, and stockpiling the tuff materials within the quarry for haulage offsite. The material will be loaded onto on-road trucks for shipments offsite to market. The material does not require crushing or processing, therefore, there will be no processing plant operations conducted on-site reducing dust and noise effects. Table 1 lists the planned operational areas for the quarry, overburden stockpiles, topsoil, infrastructure, roads, and stormwater basins

Numerous project designs and environmental protection measures have been incorporated into the planned operations to reduce potential environmental impacts. This Plan includes the following planned avoidance/minimization and environmental protection measures:

1. Design quarry to minimize drainage, biological, and visual impacts;

2. Maintain all equipment in compliance with air quality regulations;

3. Implement dust control measures at the active quarry, stockpile areas, and on roads per Eastern Kern Air Pollution Control District (EKAPCD) regulations;

4. Utilize water from on-site well to be drilled for dust control;

5. Implement employee training that will provide information and protection measures for cultural resources; and

6. As areas become available, implement reclamation/revegetation to reduce visual impacts through recontouring, slope reduction, and revegetation with native plant species.

Table 1
Planned Operational Areas
Gem Hill Quarry

Quarry, Overburden, & Ancillary Uses	Total Project Areas (acres)
North Quarry	35.3
South Overburden Stockpile	2.7
North Overburden Stockpile	8.5
Topsoil Stockpile	1.0
Test Plot	0.4
Equipment Storage	6.9
Scale/Security Area	1.4
Quarry Stormwater Basins	1.6
Overburden Stormwater Basins	1.0
Access Road on SLC Land (leased)	0.7
Secondary Access Road	3.9
On-site Roads & Misc. Areas within Plan boundary that may be partially disturbed	18.8
Totals	82.2

Source: CalPortland, Lilburn 2020
Notes: Totals may be slightly different due to rounding.

1.0 MINE PLAN

History

This area of eastern Kern County in the Antelope Valley has a long history of mining activity. Clay, silver and gold mining have been conducted at various locations in the area since the 1890s with gold mining continuing today at the Soledad Mountain Gold Mine located approximately 5 miles north of the Gem Hill site. CalPortland's Mojave Cement Plant and Quarry are located approximately 10 miles northwest of the site. Other mines in the area include Holliday Rock's aggregate mine (4 miles northwest), a limestone mine and several inactive gold mine sites located 4.5 miles northwest, and another aggregate mine located 3 miles southeast.

Project Objectives

The mining, overburden development, and reclamation with cross-sections, slopes and contours are depicted on the attached Mine and Reclamation Plan sheets. The Plan was developed with the following objectives:

1. To mine the Natural Pozzolan resource that can be used as a partial replacement of cement in concrete to substantially reduce the CO_2 footprint of the concrete;
2. To meet the State's and County's SMARA reclamation requirements;
3. To reclaim the site for post-mining uses which will include open space/wildlife habitat;
4. To contour mining features and revegetate disturbed areas to minimize visual and erosion impacts; and
5. To reclaim and maintain the site as necessary to eliminate hazards to public safety.

Project Information Summary

Landowner: CalPortland Company
2025 E. Financial Way
Glendora, CA 91714
(626) 691-1966

Operator: CalPortland Company
2025 E. Financial Way
Glendora, CA 91714
(626) 691-1966

Representative: Desirea Haggard
CalPortland Company
2025 E. Financial Way
Glendora, CA 91714
(626) 691-1966 dhaggard@calportland.com

Location: Approximately 10 miles southwest of the Town of Mojave and 3 miles west of State Route 14 on private lands within Kern County, CA. The project area is within portions of Sections 25, 26, 35 and 36, Township 10 North (T10N), Range 13 West (R13W), San Bernardino Base and Meridian (SBBM).

County General Plan Designation: 8.3 (Extensive Agriculture), 8.4 (Mineral and Petroleum), 8.4 / 2.4 (Mineral and Petroleum-Steep Slopes), 8.5/2.4 (Resource Management-Steep Slope)

County Zoning Map 214: A – Exclusive Agriculture; Mining and mineral extraction allowed pursuant to Chapter 19.100 (Surface Mining Ordinance)

Estimated Operating Life: 30 years (January 1, 2023 – December 31, 2052)

Planned Production: Estimated 500,000 tons/year; approximately 1,670 tons/day on up to 300 operational days/year, Monday through Saturday.

Estimated Mining Termination Date: December 31, 2052

Estimated Reclamation Completion: December 31, 2157 (monitoring until revegetation deemed successful);

Reclaimed End Use: Open space/wildlife habitat.

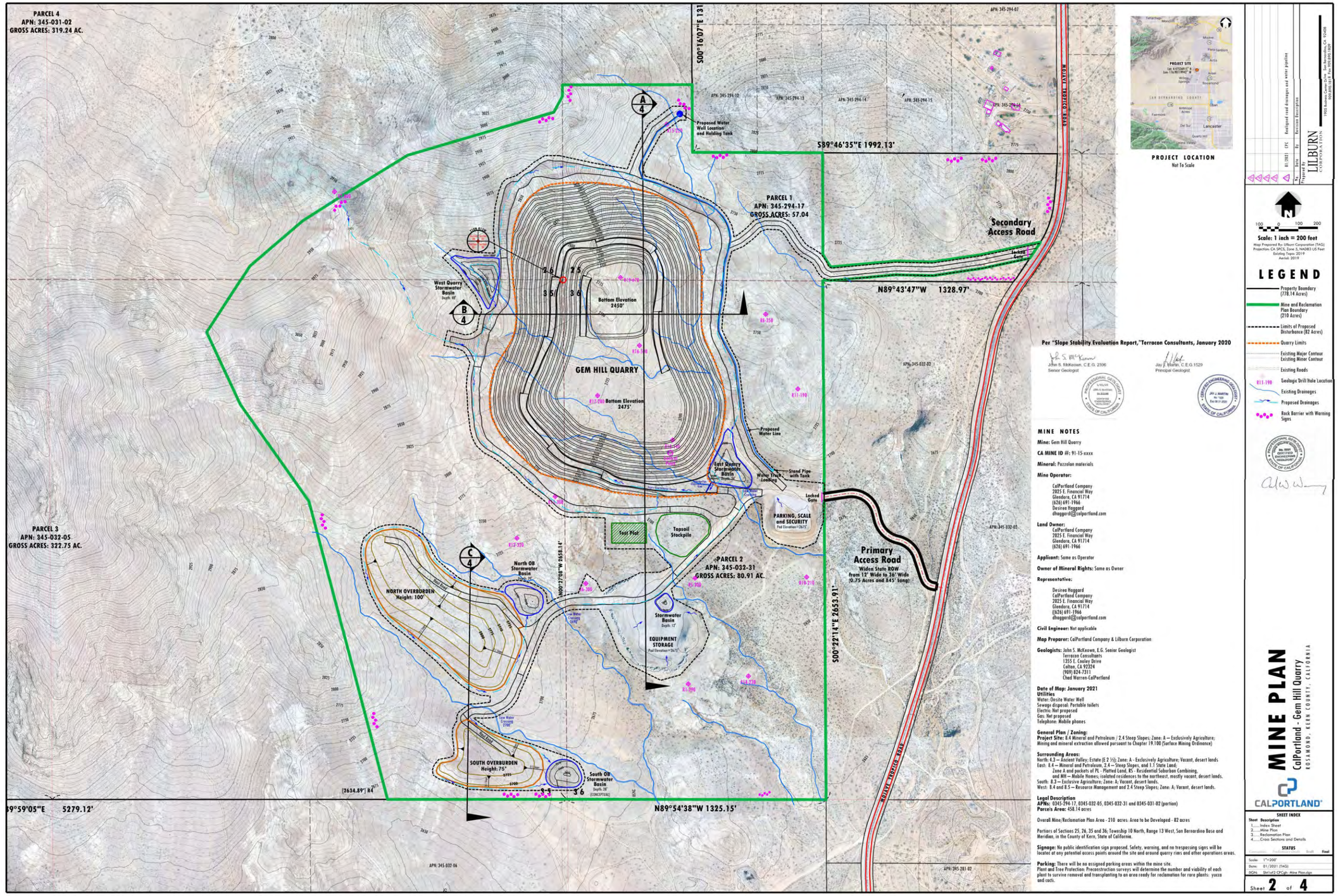
Land Holdings

CalPortland's contiguous private land holdings that make up the mine and reclamation plan boundary are listed below (refer to Figures 3 and 4 and Sheet 1). Table 2 lists the assessor's parcel number, area, and section location.

Table 2
CalPortland Privately-Held Land Holdings
associated with the Gem Hill Quarry Area

Parcel Number	Total Property Area (acres)	Location: Sections within T10N, R13W
0345-294-17	58.14	Sec. 25
0345-032-05	320	Sec. 35
0345-032-31	80	Sec. 36
0345-031-02	320	Sec 26
Total Parcel Areas	**778.14**	Sects. 25, 26, 35, & 36

Sources: Chicago Title Company and County APN information, 2020



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MINE PLAN

Gem Hill Quarry

Surface Mining Permit and Reclamation Plan

Kern County, CA

FIGURE 4

1.1 MINING OPERATIONS

The Gem Hill Quarry will consist of a 35.3-acre quarry and two overburden stockpiles on approximately 11 acres. Table 3 lists the quarry surface area, reserves, overburden quantities, annual production range, and its expected operational timeframe. The information for reserves, overburden, production, and operational timeframes are estimates based on geologic and drilling data and product demand and are affected by economic conditions and operational parameters. Figure 4 is a reduction of the full sized mine plan Sheet 2. This sheet provides detailed mapping and information as discussed below.

The quarry will be a developed as a multi-bench open pit mine. Several working levels within the quarry are typically operated at any one time to supply the quality and quantity of material as a cement additive.

Production and Reserves

Based on drilling sampling, proven/probable reserves are approximately 16 mt for a mine life of 30 years with an average pozzolan production of 500,000 tpy (see Table 3); approximately 1,670 tons/day on up to 300 operational days/year.

Table 3
Estimated Gem Hill Quarry
Ore and Overburden Production

Quarry	Quarry Surface Area (acres)	Ore Reserves (million tons)	Ore Excavated (tons)	Overburden[1] (tons)	Estimated Years	Estimated Years
Totals	35.3	16.1	500,000 tons/yr. 15 mt total[2]	20,000 tons/yr. 600,000 total	30	2023 – end of 2052

Source: CalPortland 2020
1 – Overburden is primarily basalt estimated at 4% of total volume or about 0.6 mt over life of mine and will vary year to year.
2 - Approx. 1.1 mt of ore may remain at end of 2052.
Volumes are estimated based on drilling data, mine design, and computer modeling.
Areas rounded to nearest tenth of an acre and tonnage to tenths. Totals may be slightly different due to rounding.

Quarry Operations

Pre-Mining Activities of Undisturbed Lands

The following activities will be conducted prior to mining and overburden stockpile development on undisturbed lands to limit disturbed areas to the mine plan boundaries and to facilitate ongoing and future reclamation and revegetation:

- Excavation and stockpile limits will be located and marked in the field and
- Salvageable soils and/or growth media up to 0.5 feet typically and deeper in alluvium will be placed in a separate identified topsoil stockpile for use as a seed bank during

reclamation. The soil stockpile will be located to the southeast of the pit to minimize transportation distances and will be clearly marked and managed to limit erosion.

Quarry Excavations

The Gem Hill Quarry will be developed on approximately 35 acres and will be mined to a depth of up to 300 feet (250 feet average) from 2,725 feet above mean sea level (amsl) to a floor depth of 2,450 feet amsl. The north wall will have an elevation change of up to 250 feet and the west wall will have an elevation change of up to 300 feet from the pit floor (see Table 4). The quarry is designed to remain below the ridgelines to the north and west to avoid visual impacts. A safety berm six feet high and 12 feet wide at its base will be constructed around the quarry rim for operational and public safety concerns.

Table 4
Planned Quarry & Overburden Design

Parameters	Gem Hill Quarry
Highest Elevation (amsl)	2,875 feet – northwest; 2,680 feet - southeast
Max. Depth / Pit floor elevation	300 feet / Floor- 2,450 feet amsl
Max. Length (approx. North – South)	1,600 feet
Max. Width (approx. West to East)	1,200 feet
Max. Inter Bench Slope Angle	70°, 0.25:1V
Overall Slope Angles (active & reclaimed)	45°; approx. 1H:1V; 25-foot bench heights
Bench Height & Width	Height – 25 feet & Width – 25 feet
Safety Berm Ht. & Width	6 feet in height & 20 feet in width
	Overburden Stockpiles
Highest Elevation (amsl)	South: 2,725' amsl; 75 feet & North: 2,800' amsl; 100 feet
Max Length & Width (approx. in feet)	South OB – 500 feet (W – E) & 300 feet (N - S) North OB – 1,000 feet (NW - SE) & 450 feet (SW - NE)
Overall Slope Angle	27°; 2H:1V; 25-foot bench heights

Source: CalPortland 2020
Elevations above mean sea level (amsl). Slope – horizontal:vertical (H:V)
Quarry inter-bench angles are cut at approx. 70° (0.25H:1V); or 9' hor. for 25-foot vertical bench with 16-foot wide bench.

The quarry will be excavated utilizing conventional open pit methods. This consists of drilling and blasting benches 25 feet high with an inter bench slope of 70°. The height of benching is determined by the site geology and deposit. Quarry haul roads are 30 feet wide and grade is 8% or less depending on locations and conditions. The 70° inter bench creates a bench off-set of approx. 9 feet with a 16-foot wide horizontal bench sloped slightly towards the slope to retain precipitation (see Figure 5). Bench heights and widths may slightly vary with deposit geometry as determined in the field. The overall slope for operations and reclamation is approximately 45° or 1H:1V. See Figure 5 for the Quarry Cross Sections and Sheet 4 for detailed cross-sections.

After blasting, the pozzolan material is loosened by an excavator and dozer and loaded into on-road haul trucks for off-site transport to existing cement production facilities. No crushing or

processing will be conducted on-site. The site will be a continuous quarry operation typically being operated in one shift during daylight hours (generally 7:00 a.m. to 7:00 p.m. Monday through Saturday depending on the season), 6 days per week based on product demand with the understanding that additional shifts or longer/alternative hours may be required due to operational constraints. Up to 20 employees including about 10 truck drivers will work on-site and drive the haul trucks offsite to market based on demand.

Overburden and waste rock is made up of interspersed layers of basalt and some alluvium at the surface. The amount of basalt is minimal, estimated at approximately 600,000 tons over the life of the mine. For the overall mine life, the strip ratio of overburden to pozzolan is only 4%, that is, approximately 1 ton of overburden to 25 tons of pozzolan. The overburden will also be loaded into on-highway 25-ton haul trucks and transported along interior haul roads to the overburden stockpiles located on the south side of the mine site. Salvaged alluvium at the surface will also be stockpiled in a "topsoil" stockpile to the southeast of the pit to be used for revegetation and stored separately from the overburden stockpiles. The overburden stockpiles are discussed in Section 1.2.

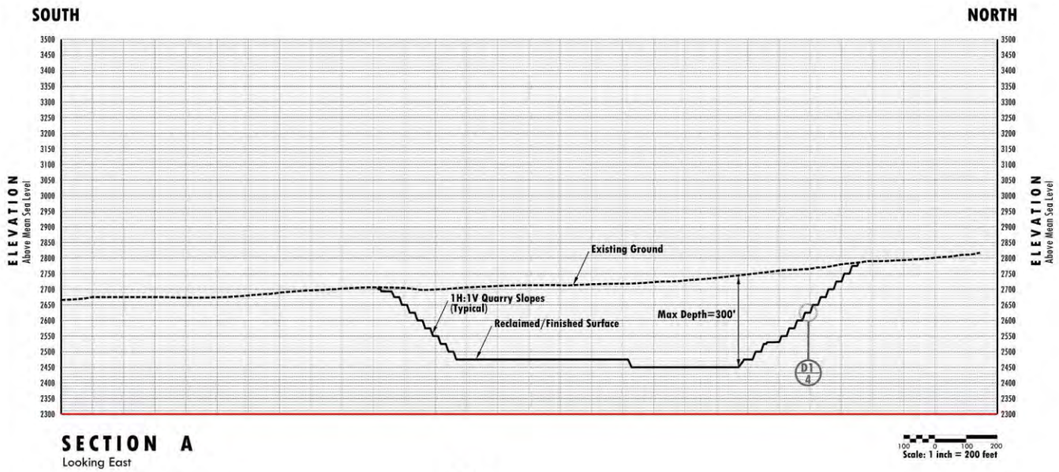
Slope Stability

The *Slope Stability Evaluation Report* prepared by Terracon 2022 (see Appendix A) calculated slope stability for potential failure geometries in representative slopes for the future quarry and overburden stockpiles. Based on geologic field observations and results of the Terracon slope stability analysis, it is their opinion that the proposed rock and stockpile reclamation slopes are feasible with respect to slope stability from a geotechnical standpoint. Slopes formed in the tuff (Tt) unit are stable by calculation at angles near 45 degrees utilizing 375-foot-tall faces.

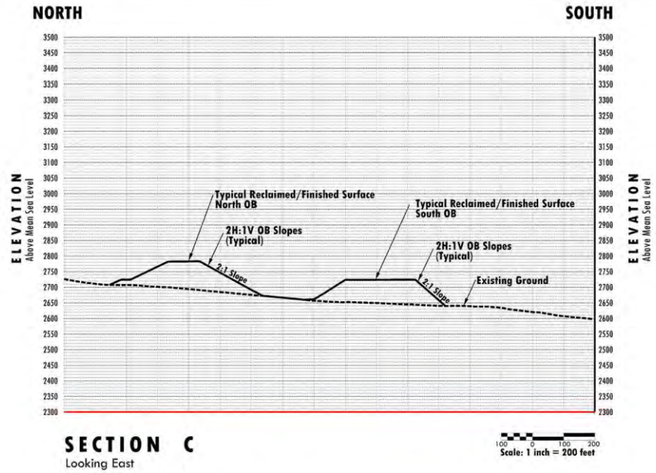
The following slope heights/angles versus materials are considered feasible for reclamation:

- Rock materials (basalt/conglomerate interbeds) - 45° (1H:1V) up to 375 feet in height
- Overburden Stockpile (OB) fill—27° (2H:1V) up to 120 feet in height

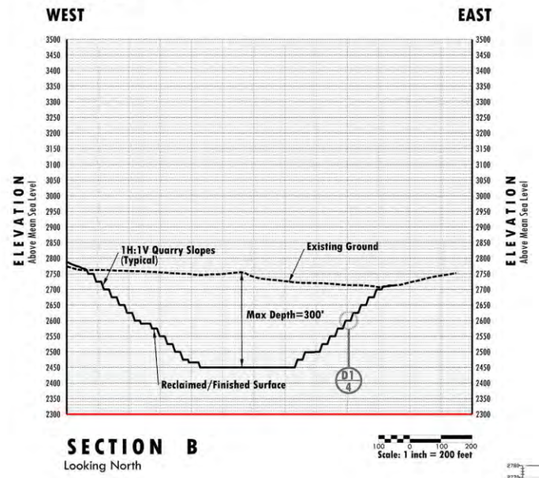
Static factors of safety calculated for the west and north walls over 300 feet in height were 2.75 and 3.15 with seismic factor of safety ranging from 1.63 to 2.27. The overburden stockpiles have static factors of safety of 1.78 with seismic factor of safety ranging from 1.17. These factors of safety are in excess with Division of Mine Reclamation (DMR) criteria of static factors of safety (FS) in excess of 1.5 and seismic factors of safety at or greater than 1.1. Therefore, the proposed rock slope configurations are considered suitably stable under static and seismic conditions as reclaimed slopes (refer to Table 4 in Appendix A).



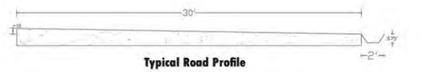
SECTION A
Looking East



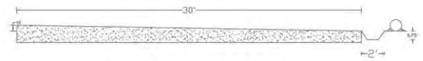
SECTION C
Looking East



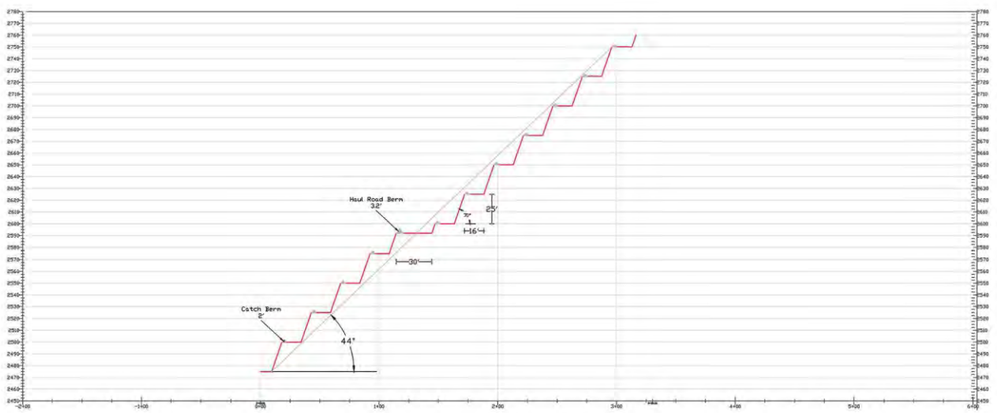
SECTION B
Looking North



Typical Road Profile



Typical Road Profile with Pipe



PROFILE VIEW of QUARRY

Per "Slope Stability Evaluation Report," Terracon Consultants, January 2020

John S. McKeown, C.E.G. 2386
Senior Geologist

Jay J. Martin, C.E.G. 1529
Principal Geologist

No.	Date	By	Revision Description
1	01/2021	CPC	Added road cross sections and revised slope detail.

Prepared By: LILBURN CORPORATION
1905 Business Center Drive, San Bernardino, CA 92408
909.890.1818 Fax 909.890.1822

N

100 0 100 200
Scale: 1 inch = 200 feet

Map Prepared By: Ultram Corporation (TAG)
Projection: CA SPCS, Zone 5, NAD83 US Feet
Existing Topo: 2019
Aerial: 2019

LEGEND

CROSS SECTIONS and DETAILS

CalPortland - Gem Hill
ROSAMOND, KERN COUNTY, CALIFORNIA

CALPORTLAND

SHEET INDEX

Sheet	Description
1	Index Sheet
2	Mine Plan
3	Reclamation Plan
4	Cross Sections and Details

STATUS
Conceptual Preliminary Draft Draft Final

Scale: 1"=200'
Date: 01/2021 (TAG)
DGN: Sinkafd-CPCgh-Xsec plan.dgn

Sheet 4 of 4

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CORPORATION

CROSS SECTIONS
Gem Hill Quarry
Surface Mining Permit and Reclamation Plan
Kern County, CA
FIGURE 5

A scenario model for a bedding condition indicates suitable along bedding strength in quarry walls with daylighted bedding. A potential for bench back break along fault planes is identified for the south wall. This potential condition is mitigatable by inspection and bench adjustment during mining/reclamation. Terracon recommended the following design/monitoring measures during operations and reclamation which have been included in the various slope designs:

- Inclusion of horizontal safety benches in final slope design as listed in Table 4 which are an effective protection from rockfall, reduces tensional forces in surface rock, and reduces surface erosion rates.
- Quarry rims will be protected with berms as necessary to prevent slope erosion in areas where overland flow is directed toward slopes and also for safety.
- Overall final cut slopes in the rock materials shall be no steeper than the slopes designed on the Mine Plan and listed in Table 4.
- Large, unstable rounded boulders on slopes steeper than approximately 2H:1V shall be removed or stabilized where accessible. Areas below loose rock shall be restricted and indicated by means of signage or fencing.
- Geotechnical evaluation and design, management of mine bench geometry based on encountered conditions, or use of mechanical support systems shall be implemented as necessary.
- Continued inspection and monitoring of mine benches and slope conditions for indications of potential instability and failure warming signs shall be implemented.
- Final reclaimed overburden stockpile slopes shall be no steeper than 2H:1V to the maximum proposed heights as shown on the Mine Plan.

Quarry Equipment

The typical quarry equipment listed in Table 5 is planned for mining, hauling, and road maintenance activities on-site. Haul trucks and diesel equipment will meet all requirements of the California Air Resources Board's (CARB) on-road and off-road diesel vehicles regulations to reduce diesel pollutants and CalPortland's fleet averaging requirements.

Scheduled equipment maintenance will take place at off-site facilities. Minor or emergency repairs and re-fueling with portable maintenance/fuel trucks will be conducted at the quarry with appropriate safeguards. Any used oil generated at the mine site will be collected and transported for off-site recycling or disposal by approved methods and by properly trained and licensed personnel.

Table 5
Typical Quarry Equipment
Gem Hill Quarry

Equipment	Typical Number	Typical Days/year	Purpose
Front-End Loader (CAT 980 typ.)	1	300	Loading of excavated materials into haul trucks at quarry.
Dozer (CAT D8 typ.)	1	150	Mining and stockpiling of pozzolan material. Removal of topsoil and waste rock. Construction and maintenance of roads and quarry benches.
Excavator (CAT 325 typ.)	1	60	Mining and stockpiling of pozzolan material and overburden.
Grader (CAT 140 typ.)	1	60	Removal of topsoil and waste rock. Construction and maintenance of roads.
Drill Rig (PowerROC T25 typ.)	1	130	Drill holes for placement of explosives.
On-Road Haul Trucks (25-ton trucks typ.)	10	300	Transportation of excavated material to various clients and overburden to stockpiles.
Water Truck (4,000 gallons)	1	300	Water spray haul roads, active quarry areas, overburden stockpiles, and general dust control onsite.
Tractor skid steer	1	60	Removal of topsoil and waste rock. Construction and maintenance of roads.
Generator Sets (<50 hp) (CAT XQ 35 typ.)	2	300	Power for water well pump and scale/office trailer
Ancillary Equipment	Varies	Varies	Maintenance vehicles, bobcat, backhoe, pick-ups, and SUVs, etc.

Source: CalPortland 2020
The list above is typical equipment to be used on-site. Equipment types are not expected to vary. Specific equipment will change during the life of the project due to replacement of aging equipment and updated equipment and fleet emission standards.

Dust Control

Dust control measures will be consistent with Eastern Kern Air Pollution Control District (EKAPCD) Rules 401 (limiting visible emissions), 402 (requirements for controlling fugitive dust), 404.1 (limits particulate matter emissions), and 419 (avoid nuisance emissions to people or businesses or property). The dust control measures are required to be in place and operative with an approved Fugitive Dust Emission Control Plan and periodic monitoring by EKAPCD and CalPortland personnel ensuring that the regulatory standards are met. As proposed, the principal dust control measures to be implemented will be the following:

- Water spraying of roads, operational quarry areas, and active overburden stockpiles with dedicated on-site water truck with on-site water well source as needed or an off-site water source;
- Use of approved dust palliatives for roads as appropriate;

- Limiting on-site vehicle speed to 15 mph;
- Use a rumble grate with paved entrance apron to reduce track out;
- Remove any spilled or tracked out material on adjacent portion of Mojave Tropico Road as needed;
- Trucks to be loaded in compliance with California Vehicle Code No. 23114;
- Production shall be scheduled to minimize daily equipment operations and idling equipment and trucks;
- Limit disturbed areas;
- Revegetate areas when complete;
- Trucks in loading queues will have their engines turned off when not in use for more than 5 minutes to reduce idling and vehicle emissions in compliance with Title 13, California Code of Regulations, Section 2485 (Anti-Idling Policy); and
- Surface mining operations, including excavating, shall be suspended during high winds or if dust plumes of 20% opacity impact off-site roads, occupied structures, or neighboring property.

Hazardous Materials and Waste

No hazardous materials will be used on-site except for fuels and oils for mobile equipment and small generators for the well pump and lights. If necessary, CalPortland will prepare a Hazardous Materials Business Plan (HMBP) for the mine site to address the hazardous materials used on-site (fuel and oil) with the Kern County Public Health Services, Environmental Health Division (acting Certified Unified Program Agency (CUPA)) for the County and with the California Environmental Reporting System (CERS). The HMBP describes methods and procedures to minimize the potential for hazardous material and waste releases including an emergency response and contingency, spill response procedures, and employee training.

CalPortland will prepare a Spill Prevention Control and Countermeasure (SPCC) Plan if applicable for the mine site. The SPCC is designed to minimize the potential for spills or releases of oil and fuel and outlines procedures to be followed in the event of a spill.

Sanitation

Portable toilets will be supplied for use by employees and will be located at various locations on-site mainly at the scale and where current operations are being undertaken.

Site Access and Public Safety

The main access to the Gem Hill Quarry will be limited to employees and authorized personnel. Access will be gained from Mojave Tropico Road via a 0.15-mile long, 24-foot wide road with 6-foot wide shoulders and covered with Class II base and compacted to greater than 90%. The

access road crosses state lands (APN 345-032-02) managed by and leased from the California State Lands Commission (SLC). It is outside the planned Reclamation Plan boundary. A 24-foot wide secondary access road with 6-foot wide shoulders will be developed on CalPortland property to the northeast to access Mojave Tropico Road (see Figure 4 and Sheet 2).

Access is restricted by warning signs and fences, and all legal access roads will have locked gates and signs informing the public that the roads are closed to public access. Quarry areas will have warning signs, roads not used will be blocked or closed, and safety berms six feet high and 12 feet wide will be constructed along the quarry rims. Any unauthorized roads will be blocked or closed at the property boundary.

There are no known portals, shafts, tunnels or openings on the mine site.

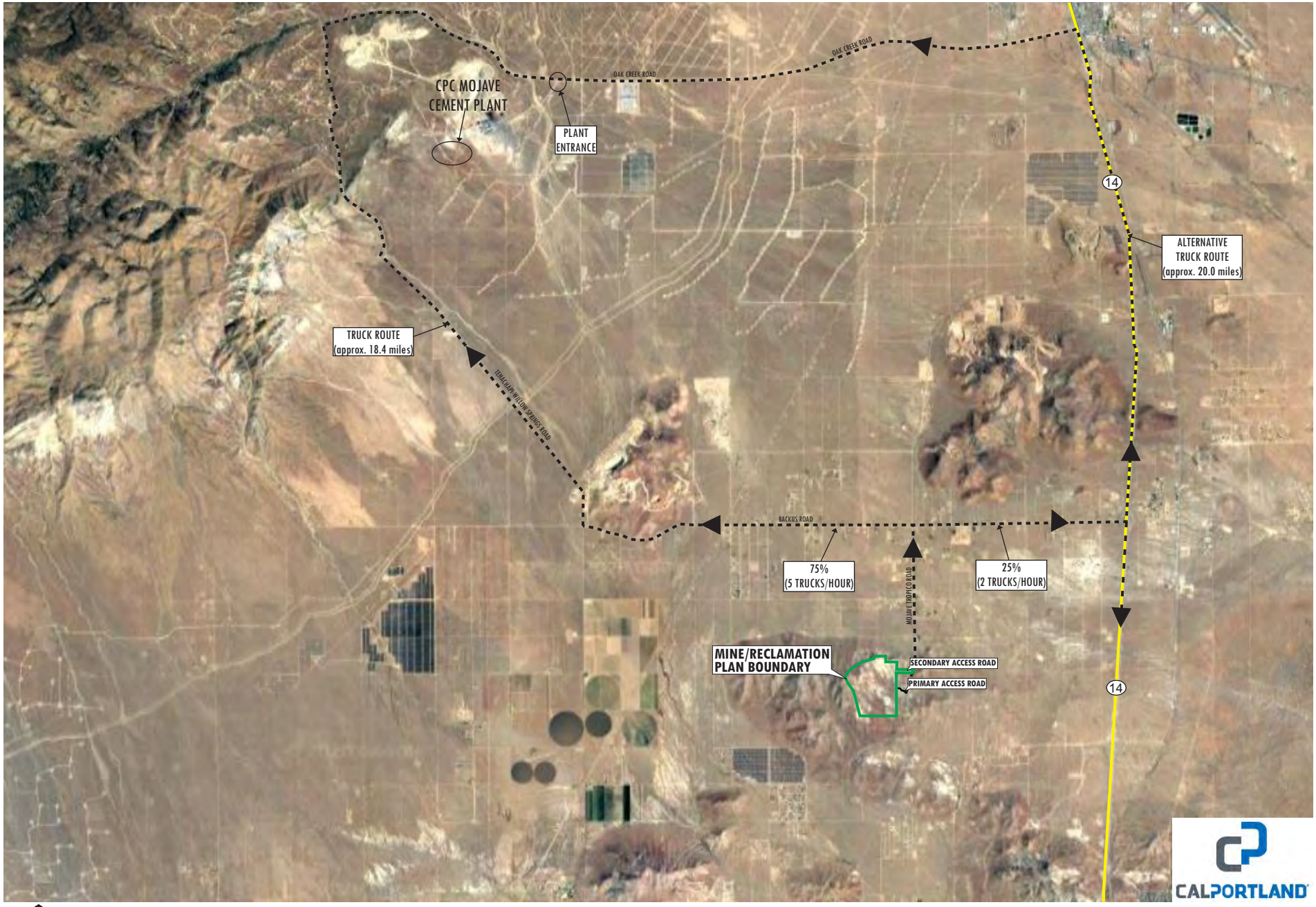
Quarry Development

Mining will be continuous throughout the life of the mine with the development of the quarry linked to operational parameters and product demand. Mining operations may experience unscheduled changes due to various market/economic demands and variation in material quality since the natural deposit is not of uniform quality. The County will be updated in the annual monitoring report on the status of operations.

Truck Distribution

The street-legal haul trucks with a typical capacity of 25 tons will exit the site on the main access road and travel north on Mojave-Tropico Road for 2.5 miles to Backus Road (see Figure 6). From this intersection, approximately 75% of the trucks (approximately 5 trucks per hour on average) will travel west on Backus Road for 4.5 miles, northwest on Tehachapi-Willow Springs Road for 8 miles, then east on Oak Creek Road for 3.5 miles to the Mojave Cement Plant entrance for a total of approximately 18.4 miles. The remaining approximately 25% of the trucks (approximately 2 trucks per hour on average) would travel east on Backus Road for 3 miles to State Route 14 where the trucks would disperse north or south to various client destinations. An optional route from the quarry to the Mojave Cement Plant during poor road conditions would be to travel north from the Backus Road intersection on State Route 14 for 7.5 miles, then east on Mono Street for less than 0.1 miles and north on K Street for less than 0.1 miles, then west on Oak Creek Road for 7 miles to the Mojave Plant entrance. The total distance for this route is approximately 20 miles.

A production volume of 500,000 tons per year, or about 1,667 tons per day based on 300 days per year of operation and a typical truck capacity of 25 tons, results in approximately 67 trucks per day or 134 two-way trips transporting pozzolan to various off-site cement production facilities. This equates to approximately 14 trucks leaving and returning per hour for ten hours per day. A Trip Generation Assessment, prepared by Urban Crossroads (December 2021), used a passenger equivalent factor (PCE) factor of 3.0 for large 4+ axle trucks to estimate a total of approximately 422 PCE trip-ends per day with 42 PCE AM peak hour and 31 PCE PM peak hour trips. Pursuant to the County of Kern Division 9 (Standards for Traffic Engineering, 902-1.02), a Project where the increase in project trip generation during any peak hour is expected to



N

0 1.3
Miles

Source: Lilburn Corp., Feb. 2020.

LILBURN
CORPORATION

TRUCK ROUTE

Gem Hill Quarry
Surface Mining Permit and Reclamation Plan
CalPortland Company
Kern County, CA

FIGURE 6

exceed 50 peak hour trips requires a traffic study unless waived by the Kern County Roads Department. The proposed Project is anticipated to generate fewer than 50 PCE-based peak hour trips during the morning and evening peak hours.

1.2 OVERBURDEN

Overburden at the Gem Hill Quarry is composed of basalt and mainly surficial alluvium material. Overburden and alluvium are nontoxic, naturally occurring rock materials. For the overall mine life, the strip ratio of basalt/alluvium to tuff is forecast to be approximately 0.04 (0.04 tons of basalt/ alluvium overburden for 1 ton of tuff ore). Approximately 600,000 tons or 0.24 million cy of basalt are estimated within the deposit at a ratio of 0.04. The overburden ratios are very minimal compared to most industrial minerals. The overburden stockpiles have been designed to hold approximately 0.43 million cy to accommodate overburden as encountered. The surface alluvium will mainly be removed and stockpiled during the first two years of quarry development. Alluvium is estimated at 250,000 tons or 205,000 cy and will be placed in separate areas on the South Overburden Stockpile and segregated into the topsoil stockpile for future revegetation.

Overburden stockpiling will take place throughout the life of the mine. The South Overburden Stockpile will initially be developed on approximately 2.7 acres in the south-central portion of the site in 25-foot lifts up to a maximum height of approximately 75 feet or 2,725 feet amsl with a volume of approximately 80,000 cy. The North Overburden Stockpile will be developed as needed on approximately 8.5 acres to the north of the South Stockpile with a volume of approximately 350,000 cy. It will be developed in 25-foot lifts up to a maximum height of approximately 100 feet or 2,800 feet amsl. The interface slopes are the angle of repose; 34° or 1.5H:1V. The overburden material is compacted by tractor roll-over. Final slopes for the stockpiles will be sloped at 2H:1V or 27° with a horizontal bench of about 20 feet. Refer to Figures 4 and 5 and Sheets 2 and 4 for the overburden stockpiles' locations, design, slopes, and cross sections.

The *Slope Stability Evaluation Report* (Terracon 2022) (Appendix A) found the overburden slopes static factors of safety of 1.78 with seismic factor of safety of 1.17 to exceed the DMR criteria of 1.5 and 1.1, respectively.

The stockpile slopes will be graded upon completion of the lift and at final reclamation sloped to 2H:1V with 20-foot horizontal benches every 25 feet to create more natural surfaces to blend into the hills to the north and east and to create islands and pockets to place salvaged soil. This practice will enhance the capture of seeds and rainfall to facilitate revegetation and stability. The top of the stockpile will be designed with inward drainage with a 10-foot deep basin to catch precipitation which will percolate and evaporate and to avoid runoff down the stockpile slopes or haul roads and potential erosion.

1.3 ORE PROCESSING

There will be no crushing or processing at the Gem Hill Quarry site. Mining operations will consist of blasting, dozing, stockpiling, and loading the natural pozzolan materials for haulage off-site.

1.4 PRODUCTION WATER

A water well is proposed to be drilled on-site for dust suppression requirements at the quarry, overburden stockpiles, and haul roads. A 4,000-gallon water truck will be used for dust control. Up to 4 truckloads of water may be sprayed on-site and on the unpaved access per day as needed to control dust, six days a week. This equates to approximately 18 acre-feet (AF)/year. Note that the use of dust palliative as approved by the Regional Water Quality Control Board (RWQCB) on roads and active mine areas and infrequent wet weather, contribute to reducing the amount of water needed to control dust.

Bottled drinking water for employees at the mining area is brought to the site as necessary. No surface water is used in the operation. As shown on Figure 4, as proposed there would be a holding tank adjacent to the water well, water line, and stand pipe with tank (where water truck loading would happen). No treatment facilities are needed and no wastewater will be produced.

1.5 EROSION AND SEDIMENTATION CONTROL

Erosion and sedimentation control have been designed to meet all applicable SMARA, County, and Regional Board standards. Erosion and sedimentation shall be controlled during construction, operation, reclamation, and closure of the site to minimize siltation of watercourses, as required by the RWQCB. Surface runoff and drainage from mining activities shall be controlled by berms, silt fences, sediment basins, revegetation, hay bales, or other erosion control measures, to ensure that surrounding land and water resources are protected from erosion, gullying, sedimentation and contamination. Erosion control methods shall be designed to handle runoff from not less than the 20 year/1-hour intensity storm event (SMARA Section 3706(c)(d)). Control of surface drainage, erosion, and sedimentation of the operations will involve the following primary components:

- Limiting surface disturbance to the minimum area required for active operations;
- Diverting runoff from flowing unchecked into the quarry or down stockpile slopes by diverting runoff around the quarry and into four catchment basins; and
- Stabilizing disturbed areas through regrading, replacement of soils, revegetation, and erosion control practices.

This site will comply with the requirements in the Industrial General Permit for storm water and has been designed to qualify for a Notice of Non-Applicability (NONA). The planned control practices are described below.

Limiting Surface Disturbance

The quarry and overburden stockpiles will be developed as needed to limit surface disturbances. Surface disturbance areas which will be subject to potential erosion and sediment loss will be limited through long-range planning, effective-design practices, development of expansion areas as needed, sequencing of soil removal, and reclamation of disturbed areas.

Diverting Runoff

The overall drainage for the site is from the north - northwest to the south - southeast. A drainage and catchment basins system for a design storm of 25-year/one-hour intensity storm was developed for the site and assessed by the *Drainage Study for the Gem Hill Quarry* (Chang Consultants, February 2022; see Appendix E). The Gem Hill Quarry has been designed to retain storm volumes in excess of the maximum historic rain event recorded by WRCC's three rain gages closest to the site. Storm runoff from the industrial operations areas will be retained in order to meet the NONA requirements. Since the project incorporates retention, will not create any significant impervious areas, and will generally maintain runoff directions in the undisturbed areas, storm flows from the project to off-site areas and flood inundation impacts will not occur.

Drainage will be conveyed from the north and west side of the quarry into the West Quarry Catchment Basin and natural drainage maintained in an existing drainage running south and southeast between the two overburden stockpiles and off-site (see Figure 4 and Sheets 2 and 4 for details). Drainage on the east side of the quarry will be collected into an interceptor ditch along the access road and lined with rip-rap as needed and conveyed into the East Quarry Catchment Basin. The inflow and outflow spillways will be lined with rip-rip as needed. The scale and equipment storage areas will also drain into basins and interceptor ditches and directed into East Quarry Catchment Basin.

Within the quarry, run-off from on-site precipitation will be allowed to remain in the quarry. The quarry's benching will be graded slightly toward the quarry wall to limit over the bench rim run-off and to provide some moisture for revegetation. A safety berm six feet high and 20 feet wide will be constructed around the quarry which will also serve to restrict any run-on from flowing down the quarry slopes.

The overburden stockpiles will be developed at a slope of 2H:1V with 20-foot benches at 25-foot vertical lifts to reduce potential run-off and to enhance revegetation. The slopes will be benched as developed and graded if needed at final reclamation to 2H:1V slopes with 20-foot benches. This will create more natural surfaces to blend into the hills to the north and west and to create islands and pockets to place salvaged soil. This practice will enhance the capture of seeds and rainfall to facilitate revegetation and stability. The top of the overburden stockpiles will be designed with inward drainage with a 5-foot deep depression to catch precipitation which will percolate and evaporate and avoid runoff down the stockpile slopes or haul roads and potential erosion. In addition, small stormwater catchment basins will be developed down gradient of each stockpile to control sediment.

Stabilization of Disturbed Areas

For the overall area, including the quarry, the overburden stockpiles, and haul/access roads, erosion and sediment loss and transport will be controlled using permanent localized drainage and sediment control measures as discussed above and temporary measures that may include temporary collection ditches, berms, or catchment basins; placement of erosion control materials or straw bales; and other appropriate measures individually or in combination. The soil/alluvium stockpile (identified and labeled as Topsoil Stockpile on Figure 4) will be stabilized through establishment of a temporary vegetative cover if they are designed for storage periods exceeding 1 year and/or covered with larger rock material.

The site will be visually inspected after major precipitation events to determine if any substantial erosion is evident such as sheet, rill or gully erosion or any surficial instability. Appropriate erosion control measures will be implemented where erosion is observed. In active quarry areas, drainage control generally will not be a significant concern since essentially all disturbed area drainage will be retained within the basin created by the quarry excavation.

Long-term stabilization, or reclamation, will generally involve grading or reshaping disturbed areas, establishing effective drainage, placement of soil and alluvium, and revegetation. Surface stabilization of quarry areas will consist of removal of loose rocks from highwall areas, and soil/alluvium replacement and revegetation of quarry bench surfaces. Following reclamation, the majority of surface runoff from quarry areas will be retained in the quarry limits where it will either infiltrate or evaporate.

Industrial General Permit Compliance

CalPortland will submit required information into the State Water Board's Storm Water Multiple Application and Report Tracking System (SMARTS) on-line database for the NONA. At a minimum, this will include facility and owner information and the technical report prepared by a Professional Engineer that demonstrates this facility does not discharge to Waters of the United State during the historical maximum precipitation events.

All operations on-site will comply with a National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges associated with industrial activities and employ storm water BMPs during construction, operations, and temporary cessation of operations. NPDES goals are to eliminate unauthorized non-storm water discharges and to monitor storm water discharges requirements. Any surface water monitoring would be through this requirement as needed.

1.6 BLASTING

Blasting operations involve drilling along the mining face, placement of charges, and detonation of the charges by a blaster licensed through the Bureau of Alcohol, Tobacco, Firearms, and Explosives (BATF&E) for handling explosive materials. The transporting, handling, storage, and use of explosive materials, blasting agents, and blasting equipment shall be directed and supervised by a qualified blasting contractor. The blasting contractor and the explosive delivery

company must be properly trained and licensed in accordance with all Federal, State, and local agencies and regulations and must show evidence of compliance with the California blasting license program, U.S. Department of Transportation hazardous materials (HAZMAT) Certificate of Registration, California HAZMAT Transportation License, and general liability insurance policy for explosive transportation. All vehicles and explosive transport magazines will conform to all Federal, State, and local regulations associated with the transportation and handling of explosives. CalPortland and its contractors currently hold applicable licenses and permits.

The use and handling of all explosive materials shall be done by fully trained and experienced personnel. All blasters shall possess a current blasting license issued by CAL-OSHA and hold applicable insurance. The blasting contractor's employees must be trained in accordance with CAL-OSHA and MSHA requirements and possess certification of such training.

Blasting shall only be conducted by a licensed blaster under the Office of Surface Mining (OSM) Blasting Performance standards (30 CFR Section 816.61-68). A blast design is required if conducted within 1,000 feet of any building used as a dwelling, public building, school, church, or community or institutional building outside the permit area. No such dwellings or residents exist within 1,000 feet to blasting operations. Nonetheless, as discussed below, a blasting plan will be prepared for the project.

Drilling will typically be conducted approximately 105 days/year, up to 5 days a week, 10 hours/day with depths of 28 feet. Blasting is planned approximately once per week. Blasting activities shall take place between the hours of 10:00 a.m. and 4:00 p.m. on a weekday (Monday through Friday), however, hours may shift depending on operational constraints.

2.0 RECLAMATION PLAN

2.1 LAND USE

The project site is located in the western Antelope Valley, approximately four miles northwest of Rosamond, California and ten miles southwest of Mojave, California on the west end of the Rosamond Hills in southeastern Kern County in portions of Sections 25, 26, 35 and 36, T10N, R13W, SBB&M (refer to Figures 1, 2, and 3). The site is outside and north of the boundary of the Willow Springs and Rosamond County Plan areas. The site is vacant, desert lands with steep slopes and ridges and some dirt roads.

Table 6 tabulates the existing land uses, zoning classifications, and General Plan land use designations for the project site and surrounding areas.

Table 6 - Project Site and Surrounding Land Uses, General Plan Designations and Zoning

Location	Existing Land Use	Existing Zoning Classifications	Existing General Plan Map Code Designations
Project site	Undeveloped	A – Exclusive Agriculture	8.3 (Extensive Agriculture (Minimum 20 Acre Parcel Size, 80 Acres with Williamson Act Contract)), 8.4 (Mineral and Petroleum (Minimum 5 Acre Parcel Size)), 8.4/2.4 (Mineral and Petroleum (Minimum 5 Acre Parcel Size) / Steep Slope Overlay), 8.5/2.4 (Resource Management (Minimum 20 Acre Parcel Size, 80 Acres with Williamson Act Contract) / Steep Slope Overlay)
North	Undeveloped	A – Exclusive Agriculture	8.3, 8.4, 8.4/2.4, 8.5/2.4, 4.3
South	Undeveloped	A – Exclusive Agriculture	8.3, 8.4, 1.1
East	Undeveloped; dispersed residences 900 to 4,000 feet to the northeast	A – Exclusive Agriculture	8.4, 8.4/2.4, 8.5/2.4
West	Undeveloped	A – Exclusive Agriculture	8.3, 8.4/2.4, 8.5/2.4

2.2 VISIBILITY

The project site is located in the mostly undeveloped portion of the western Antelope Valley between Rosamond and Mojave. The area consists of open flatlands intermixed with hills with sparse creosote bush vegetation. Land uses include isolated rural residences and ranches, agricultural fields to the west, renewable energy facilities to the southwest through northwest, and the community of Rosamond about 4 miles southeast. The area also has a long history of mining activity. Clay, silver and gold mining has been conducted at various locations in the area

since the 1890s with gold mining continuing today at the Soledad Mountain – Golden Queen Mine located approximately 5 miles north of the Gem Hill site and the historic Tropico Gold Mines is located 3 miles southwest, about 2 miles west of Rosamond. CalPortland's Mojave Cement Plant and Quarry are located approximately 10 miles northwest of the site. Other active and inactive mine sites are located in the vicinity.

The quarry will be located in a natural horseshoe shaped landform with ridges or hills on the west (elevations of 3,200 feet amsl), north (Gem Hill elevation of 3,020 feet amsl), and east (elevation of 2,750 feet amsl). The quarry will remain below the ridgelines to avoid any visual impacts to the isolated residences to the west, north, and east. The viewshed from the south will be able to discern the upper portions of the quarry from about two miles and greater in distance. Much of the quarry will not be visible due to the distance and intervening hills and obstacles. The quarry will be below the Gem Hills ridgeline so as not to impact the ridgelines contrasted to the horizon. Despite exposing additional lighter pozzolan material, the quarry at this distance will not contrast substantially from the existing varying colors of the Gem Hills due to existing exposed light color outcrops and ridges. The mine features will not be visible from the isolated homes located closer to the south due to intervening terrain in the form of low hills.

The Proposed Project will also be visible for a short distance of approximately one mile as vehicles travel north on Mojave-Tropico Road from southeast of the project site to due east. Mojave-Tropico Road is a rural desert two-lane paved road with minimal traffic usage. Annual average daily traffic (AADT) as reported by the Kern Council of Governments for Mojave-Tropico Road north of Backus Road was 158 in 2019.

In order to minimize potential visual impacts, CalPortland will implement the following Project Design features to reduce visual impacts:

- Deposit overburden to the south to form a low visual barrier and also deposit overburden within the quarry as feasible to reduce overburden volumes;
- Implement reclamation and revegetation on completed overburden slopes and benches concurrent with operations where feasible;
- Cut or roughen overburden slopes that may be visible from south to reduce straight lines and visual impacts as benches completed;
- Limit surface disturbances to areas identified in the Plan; and
- Implement appropriate dust controls to reduce visible dust during operations

2.3 VEGETATION

The proposed project site was surveyed for biological resources by ELMT Consulting, Inc. Two reports were prepared and are included in Appendix B; *Habitat Assessment and Desert Tortoise Survey Report* (January 2022. A summary of the report's findings is provided below and in Section 2.4 – Wildlife. The CEQA document that will be prepared by the County for this proposed project will assess biological resources including potential impacts to sensitive plant species and recommended mitigation.

The habitat assessment was conducted to characterize existing site conditions and to assess the probability of occurrence of special-status plant and wildlife species that could pose a constraint to project implementation. A literature review and records search were conducted to determine which special-status biological resources have the potential to occur on or within the general vicinity of the project site. In addition, a general habitat assessment or field investigation of the project site was conducted to document existing conditions within the project site and assess the potential for special-status biological resources to occur. No special-status biological resources were identified onsite.

General Vegetation Description

The project site primarily consists of vacant, undeveloped land with several dirt access road that traverse the site. The steeper slopes of the project site are barren or support minimal vegetation (<5% cover) while the flatland areas at the bottom of the slopes support a denser (<30% cover) cover of vegetation. The majority of the disturbed areas are located in the eastern portion of the project site and are associated with exploration staging area. During the field investigation, one (1) plant community, creosote bush scrub, was observed within the boundary of the project site. In addition, one (1) land cover type that would be classified as disturbed was observed onsite.

Creosote bush scrub is an open scrub plant community characterized by sparse, evenly spaced plants and dominated by creosote *(Larrea tridentata*). This plant community typically occurs below 3,500 feet amsl in the southeastern deserts of California. An abundance of open ground is common in creosote brush scrub, as an adaptation by the associated plants to prevent the spreading of wildfires. Plants found in this plant community are adapted to extreme seasonal shifts in temperature and high winds.

Plant species found on the project site within the creosote bush scrub community included creosote, burrobush (*Ambrosia dumosa*), California buckwheat (*Eriogonum fasciculatum)*, beavertail *(Opuntia basilaris*), chia (*Salvia columbariae*), Mormon tea (*Ephedra nevadensis*), cheesebush (*Ambrosia salsola*), matchweed (*Gutierrezia californica*), cryptantha (*Cryptantha sp.)*, blackbush (*Coleogyne ramosissima*), allscale (*Atriplex polycarpa*), red brome (*Bromus madritensis ssp. rubens*), and Mediterranean grass (*Schismus sp*.).

Disturbed areas refer to unpaved or dirt areas that have been exposed to anthropogenic disturbances and do not comprise a plant community. Surface soils within these areas are generally devoid of vegetation or support non-native and ruderal/weedy plant species and have been heavily disturbed/compacted from anthropogenic disturbances. Disturbed areas on-site encompass dirt access roads, areas that have been subject to off-road vehicle use, and staging areas.

Threatened, Endangered and Sensitive Plant Species

No special-status plant species were observed on-site. Based on habitat requirements for specific species and the availability and quality of onsite habitats, it was determined that the proposed project supports moderate habitat for alkali mariposa-lily (*Calochortus striatus*), Mojave spineflower *(Chorizanthe spinosa*), recurved larkspur (*Delphinium recurvatum*), and sagebrush

loeflingia (*Loeflingia squarrosa var. artemisiarum*). None of these plant species were observed onsite during two focused surveys performed in 2019. As a result, it was determined that all special-status plant species known to occur in the area are absent from the project site.

2.4 WILDLIFE

The proposed project site was surveyed for biological resources by ELMT Consulting, Inc. Two reports were prepared and are included in Appendix B; *Habitat Assessment* and *Desert Tortoise Survey Report* (November 2020). A summary of the report's findings is provided below.

The habitat assessment was conducted to characterize existing site conditions and to assess the probability of occurrence of special-status plant and wildlife species that could pose a constraint to project implementation. A literature review and records search were conducted to determine which special-status biological resources have the potential to occur on or within the general vicinity of the project site. In addition, a general habitat assessment or field investigation of the project site was conducted to document existing conditions within the project site and assess the potential for special-status biological resources to occur.

General Wildlife

Fish and Amphibians - No fish, amphibians, or hydrogeomorphic features (e.g., perennial creeks, ponds, lakes, reservoirs) with frequent sources of water that would provide suitable habitat for fish or amphibians were observed on or immediately adjacent to the project site.

Reptiles - The project site provides suitable foraging and cover habitat for a variety of reptile species. Reptiles observed during the field investigation include western side-blotched lizard (*Uta stansburiana*) and California king snake (*Lampropeltis californiae*). Common reptilian species that have the potential to occur on-site include Great Basin whiptail (*Aspidoscelis tigris tigris*), northern Mohave rattlesnake (*Crotalus scutulatus scutulatus*), Great Basin gopher snake (*Pituophis catenifer deserticola*), and red racer (*Coluberflagellum piceus*)

Birds - The project site provides suitable foraging and cover habitat for a variety of resident and migrant bird species adapted to conditions within the Mojave Desert. Avian species detected during the survey included horned lark (*Eremophila alpestris*), red-tailed hawk (*Buteo amaicensis*), cactus wren (*Campulorhynchys brunneicapillus*), common raven (*Corvus corax*), and black-throated sparrow (*Amphispiza bilineata*).

Mammals -The project site provides suitable habitat for a variety of mammalian species adapted to conditions within the Mojave Desert. Most mammal species are nocturnal and are difficult to observe during a diurnal field visit. Mammalian species expected to occur include desert woodrat *(Neotoma lepida*), Audubon's cottontail (*Sylvilagus audubonii*), kangaroo rat *(Dipodomys sp.*), desert cottontail *(Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus*), and coyote *(Canis latrans).* No bat species are expected to occur due to a lack of suitable roosting habitat (i.e., trees, crevices, abandoned structures) within and surrounding the project site.

Wildlife Corridors - The project site does not contain or occur adjacent to a wildlife corridor, therefore, no impacts to wildlife corridors are expected to occur.

Threatened or Endangered Wildlife Species

No special-status wildlife species were observed on-site during the field investigation. Based on habitat requirements for specific species and the availability and quality of on-site habitats, it was determined that the project site has low potential to support golden eagle (*Aquila chrysaetos*), burrowin (*Athene cunicularia*), desert tortoise (*Gopherus agassizii*), loggerhead shrike *(Lanius ludovicianus*), and American badger (*Toxostoma lecontei*). The project site does not provide suitable habitat for any of the other special-status wildlife species known to occur in the area and they are presumed absent from the project site. Except for desert tortoise, none of the aforementioned species are federally or state listed as endangered or threatened.

In addition, based on the California Natural Diversity Data Base (CNDDB) and other electronic databases, historic ranges, and the on-site surveys, the Mohave ground squirrel (*Xerospermophilus mohavenesis*) (CA threatened), it was determined this species is absent from the project site.

A desert tortoise presence/absence survey was conducted on September 26, 2019. Despite a systematic 100% visual survey of the project site, no desert tortoises, signs, or burrows were observed on the project site. Additionally, no suitable burrows or signs of American badger were observed during the desert tortoise presence/absence survey. Therefore, it was determined that desert tortoise and American badger are absent from the project site.

The project site is not located within federally designated Critical Habitat. The closest Critical Habitat designation is located over 16 miles west of the site for California condor (Gymnogyps californianus) in the Tehachapi Mountains. Therefore, the loss or adverse modification of Critical Habitat from site development will not occur and consultation with the USFWS will not be required for implementation of the proposed project.

Migratory or Nesting Birds

Nesting birds are protected pursuant to the Migratory Bird Treaty Act and California Fish and Game Code (Sections 3503, 3503.3, 3511, and 3513 of the California Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs). To protect nesting birds including golden eagle and loggerhead shrike, the following measure to comply with the MBTA will be implemented:

If proposed mining activities are planned to occur during the nesting seasons for raptors and migratory birds (typically February 1 through August 31), the project proponent shall retain a qualified biologist to conduct a focused survey for active nests of raptors and migratory birds within and in the vicinity of (no less than 500 feet outside project boundaries, where possible) the disturbance area no more than 30 days before mining activities and at the onset of each phase. These surveys shall be conducted during breeding seasons for any special-status birds potentially present in the disturbance areas.

2.5 RECLAMATION

The intent of the California SMARA is to "maintain an effective and comprehensive surface mining and reclamation policy with regulation of surface mining operations so as to assure that: (a) adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition which is readily adaptable for alternative uses; (b) the production and conservation of minerals are encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment; and (c) residual hazards to the public health and safety are eliminated" (Section 2712).

Article 9, Section 3700 of SMARA states the following: "Reclamation of mined lands shall be implemented in conformance with standards in this Article (Reclamation Standards). The standards shall apply to each surface mining operation to the extent that:

(1) they are consistent with required mitigation identified in conformance with CEQA; and

(2) they are consistent with the planned or actual subsequent use or uses of the mining site."

CalPortland proposes to reclaim the site to meet SMARA implemented by the County that will minimize impacts to the surrounding environment and provide public safety. The objectives of this Reclamation Plan are to:

- Eliminate or reduce environmental impacts from mining operations;
- Reclaim in a usable condition for post-mining end uses which will include open space/wildlife habitat;
- Reshape mining features and revegetate disturbed areas to return biological productivity and to minimize aesthetic impacts; and
- Reclaim the site as necessary to eliminate hazards to public health and safety.

Because of the relatively small quarry or excavation area, reclamation concurrent with mining only can occur to a limited degree on the upper benches for safety and logistical reasons. Concurrent reclamation starts with the initiation of mining and development of new roads and the new overburden stockpiles and includes the following:

- Stockpile available surface material and alluvium for use as a seed bed and seed bank in a separate identified stockpile seeded with an erosion control ground cover, water sprayed to create a crust, and/or covered with a larger rock material to limit wind and water erosion;
- Sloping and grading of completed quarry and stockpile slopes for safety, slope stability, and erosion control;
- Ripping of compacted areas and roads prior to revegetation;

- Covering disturbed areas with salvaged soil and alluvium overburden to aid in revegetation;
- Revegetation – imprinting seeds and broadcast seeding followed by covering seed with layer of soil or alluvium by pulling chains or screens over the area;
- Upon completion of mining, remaining equipment, utilities, and internal roads not needed for site access will be reclaimed, and
- Monitoring and remediation until success criteria achieved.

Although mining is continuous, the development of the quarries' stockpiles and their ultimate timing for reclamation are linked to operational parameters and product demand needs. Mining operations may experience unscheduled development changes due to various market/economic demands and variation in material quality since deposits are not of uniform quality. The County will be updated in the annual monitoring report on the status of operational and reclamation areas.

The Reclamation Plot Plan is included as Figure 7 and attached as Sheet 3 of 4. Reclamation of the quarry will consist of final sloping of excavated cuts and benches as needed to meet the designed approximate 1H:1V overall slope and benches approximately 25 feet vertical at 70° and 16 feet wide. Bench heights also may also slightly vary with material encountered. General reclamation activities are listed in Table 7.

Table 7
Reclamation Activities
Gem Hill Quarry

	YEARS OF OPERATION (estimated)	PLANNED RECLAMATION ACTIVITIES
During Initiation of Mining	2023 – 2032	Newly developed areas - Stockpile salvaged soil and alluvium overburden. Test Plots - Establish and monitor revegetation test plots. Drainage – Establish and maintain drainages and stormwater basins; avoid drainages as shown on plan.
Concurrent with Mining	2033 – end of 2052	Concurrent – Finish sloping of any upper completed slopes to overall 1H:1V and revegetate completed benches; maintain erosion control and safety features; monitor revegetation progress; and conduct remediation as necessary until success criteria achieved. Overburden Stockpile - Finish sloping of any completed lower slopes to overall 2H:1V and revegetate.

	YEARS OF OPERATION (estimated)	PLANNED RECLAMATION ACTIVITIES
Final Reclamation	2053 – 2057 Yrs. 31 - 35	**Final Reclamation** Remove any structures, utilities, and equipment (within three years after completion of mining). Gem Hill Quarry – Finish sloping of any slopes to overall 1H:1V; revegetate; maintain erosion control and safety features; monitor revegetation progress; and conduct remediation as necessary until success criteria achieved. Overburden Stockpiles - Finish sloping to 2H:1V; revegetate; maintain erosion control; monitor revegetation; and conduct remediation as necessary until success criteria achieved. Access and Haul Roads; Storage and Staging Areas – Remove any rock or gravel surface, rip compacted surfaces, cover with available alluvium or topsoil, and revegetate. Maintain erosion control; monitor revegetation; and conduct remediation as necessary until success criteria achieved. Note that the primary and secondary access roads, the quarry perimeter road, and the roads to the overburden stockpiles and the well to remain for site access, revegetation monitoring, and long-term maintenance of site for safety and trash removal and are not proposed to be reclaimed. These roads comprise an approximate area of 8 acres.

Source: CalPortland 2020
Note: Concurrent reclamation is dependent on material quality, operational parameters and product demand needs. Mining operations followed by reclamation may experience unscheduled development changes due to various market/economic demands and variation in material quality since the natural deposit is not of uniform quality. The County will be updated in the annual monitoring report on the status of operations and reclamation.

Final Reclamation

Equipment Removal

Final reclamation will take place within three years after termination of mining. All remaining equipment, utilities, and internal roads not needed for site access, reclamation, revegetation and general site monitoring, will be removed and reclaimed within three years.

Quarry

Quarry slopes will be contoured to their designed slope angles of 1H:1V as determined by the Slope Stability Report to meet sufficient static factors of safety (FS) in excess of 1.5 and seismic factors of safety at or greater than 1.1 in conformance with DMR criteria. The finished benches will be solid rock; portions as feasible will be ripped, covered with soil and alluvium, and revegetated. After revegetation, CalPortland will maintain erosion control and safety features; monitor revegetation progress; and conduct remediation as necessary until success criteria achieved. Ongoing maintenance of safety berm, blocked access routes, signs, and erosion control will be conducted.

RECLAMATION NOTES

Mine: Gem Hill Quarry

CA Mine ID #: 91-15-xxxx

Mineral: Pozzolan-materials

Mine Operator: CalPortland Company
2025 E. Financial Way
Glendora, CA 91714
(626) 691-1966
Desiree Haggard
dhaggard@calportland.com

Land Owner: CalPortland Company
2025 E. Financial Way
Glendora, CA 91714
(626) 691-1966

Applicant: Same as Operator

Owner of Mineral Rights: Same as Owner

Representative: Desiree Haggard
CalPortland Company
2025 E. Financial Way
Glendora, CA 91714
(626) 691-1966
dhaggard@calportland.com

Civil Engineer: Not applicable

Map Preparer: CalPortland Company & Lilburn Corporation

Geologists: John S. McKeown, C.E.G. Senior Geologist
Terracon Consultants
1325 E. Cooley Drive
Colton, CA 92324
(909) 824-7311
Chad Warren - CalPortland

Date of Map: October 2020

Utilities
Water: Onsite Water Well
Sewage disposal: Portable toilets
Electric: Not proposed
Gas: Not proposed
Telephone: Mobile phones

General Plan / Zoning:

Project Site: General Plan: E-4 Mineral and Petroleum / Z-4 Steep Slopes; Zoning: A — Exclusively Agriculture; Mining and mineral extraction allowed pursuant to Chapter 19.100 (Surface Mining Ordinance)

Surrounding Areas:
North: A-1 — Ancient Valley Estate (2 1/2) Zone A - Exclusively Agriculture; Vacant, desert lands
East: E-4 — Mineral and Petroleum, Z-4 — Steep Slopes; and 1.1 State Land; Zone: A and pockets of PL - Platted Land, R - Residential Suburban Combining, and MH — Mobile Homes; isolated residences to the northeast, mostly vacant, desert lands.
South: A-2 — Exclusive Agriculture; Zone: A; Vacant, desert lands.
West: E-4 and R-1 — Resource Management and Z-4 Steep Slopes; Zone: A; Vacant, desert lands.

Legal Description

APNs: 0345-294-17, 0345-032-05, 0345-032-31 and 0345-031-02
Parcels Area: 458.14 acres

Overall Mine/Reclamation Plan Area - 210 acres: Area to be Developed - 82.2 acres

Portions of Sections 25, 26, 35, and 36: Township 10 North, Range 13 West, San Bernardino Base and Meridian; in the County of Kern, State of California.

Area to be reclaimed: 82.2 acres

Reclaimed End Use: Open space/ desert habitat

Reclamation/Revegetation Plan

At the completion of mining activities, equipment will be removed from the project site and all debris will be removed and disposed of a permitted facility. Site gates, blocked roads, and the quarry safety rim will remain in place to prevent unauthorized access onto CalPortland's private property and to restrict the public from reclaimed mine features.

Quarry slopes will be contoured to their designed slope angles of 1H:1V as determined by the Slope Stability Evaluation Report to meet sufficient factors of safety. The finished benches will be ripped as feasible due to rock benches, covered with soil and alluvium, and revegetated. After revegetation, CalPortland will maintain erosion control and safety features; monitor revegetation progress, and conduct remediation as necessary until success criteria achieved. Ongoing maintenance of fencing, signs, and erosion control will be conducted.

Roads not needed for site and quarry access will have any road base material removed, surface ripped and covered with available soil or alluvium, and revegetated. Other onsite roads needed for quarry access will be reclaimed after reclamation of quarries and stockpiles to allow access to all reclamation areas.

Completed stockpile slopes will be reclaimed with 2H:1V slopes and 20-foot wide benches, benches ripped and covered with up to 1-foot of soil and alluvium and revegetated. The tops of stockpiles will be designed with inward drainage with a 5-foot deep depression to catch precipitation which will percolate and evaporate and avoid runoff down the stockpile slopes or haul roads and reduce potential erosion. The top of the stockpiles will be covered with soil and alluvium and revegetated.
Revegetation activities will generally commence in late fall to early winter to correspond with the rainy season of the area. Seeding will be undertaken by inspriating or broadcast seeding with the recommended seed mix below.

Revegetation is summarized below:

1. Rigging the surface to a depth of 0.5 to 1-foot for moisture and wind-blown and saves seed collection;
2. Placement of available surface material and alluvium materials on horizontal surfaces and overburden slopes up to 0.5 to 1-foot thick;
3. Seeding with locally native species and revegetation per methods described in Plan;
4. Flagging reclaimed areas to eliminate additional disturbance; and
5. Monitoring, maintenance, and application of remedial activities, if necessary, including but not limited to additional seeding and planting, plant protection and change of seed mix.

Recommended Native Plant Seed Mix

SPECIES		POUNDS PER ACRE
SCIENTIFIC NAME	COMMON NAME	
Ambrosia dumosa	Burrobush	2.50
Ambrosia salsola	Cheesebush	2.50
Amsinckia tessellata	Fiddleneck	0.25
Atriplex desertorum	Desert atriplex	0.25
Atriplex canescens	Four wing saltbush	2.50
Camissonia claviformis	Palse mustard, CA sun cup or evening primrose	0.25
Chaenactis rigida	Rigid spinyflower	0.25
Chaenactis fremontii	Desert pincushion	0.25
Eriogonum nevadense	Rabbitbrush	3.00
Ephedra nevadensis	Mormon tea	1.50
Eriogonum limnitibile	Narrow leaf goldenbush	0.75
Eriogonum fasciculatum	Flat topped buckwheat	2.00
Eriogonum thurberi	Thurber's buckwheat	0.50
Gilia spp.	Gila	0.25
Larrea tridentata	Creosote bush	3.00
Lycium cooperi	Peach thorn	2.00
Malacothrix glabrata	Desert dandelion	0.75
Mentzelia affinis	Blazingstar	0.50
Pectocarya linearis	Slender combseed	0.25
Phacelia distans	Phacelia	0.25
Salvia columbariae	Chia	0.25
Stephanomeria exigua	Small wirelettuce	0.25
Tetradymia spinosa	Cotton thorn	2.00
Xylorhiza tortifolia	Mojave aster	0.50
	TOTAL pounds per acre	25-30

Source: Revegetation Plan ECAT Consulting, Nov 2019. See Appendix E (typical depending on seed availability)

Recommended Revegetation Success Criteria[1]

Landform	Perennial Cover (%) (45% of Baseline)[2]		Species Density (40% of Baseline)[2]		Species Diversity (40% of Baseline)[2]	
	Baseline	Success Criteria	Baseline	Success Criteria	Baseline	Success Criteria
Rocky Areas	19	9	26	10	11	4
Level Areas	24	11	47	19	8	3

1 - Native perennial shrubs from the 2019 baseline surveys per 50 m².
2 – As recommended by DMG
Source: Revegetation Plan ECAT Consulting, November 2019. See Appendix E.

Roads: Note that the primary and secondary access roads, the quarry perimeter road, and the roads to the overburden stockpiles and the well to remain for site access, revegetation monitoring, and long term maintenance of site for safety and trash removal and are not proposed to be reclaimed. These roads comprise an approximate area of 8 acres.

PARCEL 4
APN: 345-031-02
GROSS ACRES: 319.24 AC.

PARCEL 1
APN: 345-294-17
GROSS ACRES: 57.04

PARCEL 3
APN: 345-032-05
GROSS ACRES: 322.75 AC.

PARCEL 2
APN: 345-032-31
GROSS ACRES: 80.91 AC.

GEM HILL QUARRY

Bottom Elevation 2450'

Bottom Elevation 2475'

NORTH OVERBURDEN Height: 100'

SOUTH OVERBURDEN Height: 75'

West Quarry Stormwater Basin
Depth: 6'

East Quarry Stormwater Basin
Depth: 12'

North OB Stormwater Basin
Depth: 3'

Stormwater Basin
Depth: 12'

South OB Stormwater Basin
Depth: 28'

PARKING
Pad Elevation=2675'

Secondary Access Road

Primary Access Road

Locked Gate

Low Water Crossing

Quarry Rim

Quarry Perimeter Road

S89°46'35"E 1992.13'

N89°43'47"W 1328.97'

S00°16'07"E 1319.76'

S00°27'09"W 2658.14'

S00°22'14"E 2653.91'

N89°54'38"W 1325.15'

[2634.89' R4]

S89°59'05"E 5279.12'

APN: 345-294-07
APN: 345-294-12
APN: 345-294-13
APN: 345-294-14
APN: 345-294-15
APN: 345-032-02
APN: 345-032-06
APN: 345-281-02

R10-320
R10-300
R10-210
R5-300
R1-290
R14-230
R11-190
RA-350

PROJECT LOCATION
Not To Scale

Per "Slope Stability Evaluation Report, Terracon Consultants, January 2020

John S. McKeown, C.E.G. 2396
Senior Geologist

John S. McKeown, C.E.G. 2396
Senior Geologist

Scale: 1 inch = 200 feet
Map Prepared By: Lilburn Corporation (TAG)
Projection: CA-SPCS, Zone 5, NAD83 US Feet
Existing Topo: 2019
Aerial: 2019

LEGEND

- Property Boundary (778.14 Acres)
- Mine and Reclamation Plan Boundary (210 Acres)
- Limits of Proposed Reclamation (82 Acres)
- Quarry Limits
- Existing Major Contour / Existing Minor Contour
- Existing Roads
- R11-190 Geologic Drill Hole Location
- Existing Drainages
- Proposed Drainages
- Rock Barrier with Warning Signs

Revised Date	By	Revision Description
01/2021	CPC	Realigned road drainages and water pipeline

LILBURN CORPORATION
1905 Business Center Drive · San Bernardino, CA 92408
SURVEYING & ENGINEERING

RECLAMATION PLAN
CalPortland - Gem Hill Quarry
ROSAMOND, KERN COUNTY, CALIFORNIA

CALPORTLAND

SHEET INDEX

Sheet Description
1 ..... Index Sheet
2 ..... Mine Plan
3 ..... Reclamation Plan
4 ..... Cross Sections and Details

STATUS: Draft / Final

Scale: 1"=200'
Date: 01/2021 (TAG)
DGN: 5x1of2 CPCph- Rec Plan3.dgn

Sheet 3 of 4

RECLAMATION PLAN
Gem Hill Quarry
Surface Mining Permit and Reclamation Plan
Kern County, CA
FIGURE 7

LILBURN CORPORATION

Roads

The primary and secondary access roads, the quarry perimeter road, and the roads to the overburden stockpiles and the well will remain in-place for site access, revegetation monitoring, and long-term maintenance of site for public safety and trash removal and are not proposed to be reclaimed**.** These roads comprise an approximate area of 8 acres. Note that the main access road is outside the Reclamation Plan boundary and will be maintained for site access.

Roads not needed for site and quarry access will have any road base material removed, surface ripped and covered with available soil or alluvium, and revegetated.

Overburden Stockpiles

The stockpile slopes will be reclaimed with lifts of approximately 25 feet with 2H:1V slopes and 20-foot wide benches. The *Slope Stability Evaluation Report* determined that the worst-case stockpile slope of 100 feet at 2H:1V will meet or exceed static and seismic factors of safety in conformance with DMR criteria suitable for use as open space/wildlife habitat.

The stockpile slopes will be graded concurrently and when a bench or level is completed, the lower final slope will be graded to create more natural surfaces to blend into or conform with the surrounding hills and topography to the north and west and to create islands and pockets to place salvaged soil. This practice will enhance the capture of seeds and rainfall to facilitate revegetation and stability. The tops of stockpiles will be designed with inward drainage with a 5-foot deep depression to catch precipitation which will percolate and evaporate and avoid runoff down the stockpile slopes or haul roads and reduce potential erosion**.** The top of the stockpiles will be covered with soil and alluvium and revegetated.

2.6 REVEGETATION

A *Revegetation Plan* for the Gem Hill operations was prepared by ELMT Consulting (January 2022). This Revegetation Plan is included as Appendix C and includes more detailed procedures and methodologies for the revegetation effort. This section includes a summary of the Revegetation Plan. The goal of most native plant revegetation projects is to recreate the plant cover, distribution and species composition of the plant community found on a site prior to disturbance.

Existing Vegetation Baseline Data

The creosote bush scrub plant community occurs throughout the undeveloped/undisturbed portions of the project site. It is homogenous throughout the site with only minor variations in composition associated with changes in landforms: level to gently sloping terrain and rocky slopes. Baseline surveys were conducted within the mine boundary to identify the existing vegetation composition to determine what plant species should be used for the revegetation effort. The baseline plant surveys provide qualitative and quantitative assessments of the existing vegetative conditions. A qualitative assessment was conducted to visually document the health and functions of the existing vegetation community to be disturbed and revegetated at a broad

scale to document general native habitat composition, the general extent of non-native vegetation, and the overall function of the site as creosote bush scrub habitat.

For the quantitative assessment, the biologist used the RELEVE method for each major area to be revegetated and established two transect lines to be used with the intercept methodology to quantify baseline vegetative conditions. The location of these transect lines were recorded with a GPS unit for future reference. Vegetation within in each line was sampled using the point-intercept method (California Native Plant Society 2014). Each transect was 50 meters long and 1 meter wide. All native and non-native plant species within a 50-meter square transect were recorded. The information collected was used to document species diversity, density, and the percent cover by each perennial species recorded.

Table 8 shows the results of the plant transect data gathered on-site in terms of cover, density and species richness. The revegetation effort will focus on the perennial pioneer shrubs, herbs, and annuals that aid in providing organic material, holding moisture, and breaking up the surface.

Table 8
Gem Hill Quarry
Plants Identified within Transects

Plant Species	Transects	
	Rocky Slopes	Level Area
Native Perennials		
Ambrosia salsola (cheesebush)	X	
Atriplex canescens (four wing saltbush)	X	X
Ephedra nevadensis (Mormon tea)	X	X
Ericameria pinifolia (pine bush)	X	X
Eriogonum fasciculatum (Flat-topped buckwheat)	X	
Larrea tridentata (Creosote bush)	X	X
Stipa speciosa (Desert needlegrass)	X	
Native Annuals		
Amsinckia tesselata (fiddleneck)	X	
Camissonia californica (CA primrose)	X	
Chorizanthe brevicornu (brittle spineflower)		X
Chorizanthe watsonii (Watson's spineflower)		X
Emmenanthe penduliflora (whistering bells)		X
Mirabilis laevis (desert wishbone bush)	X	
*Phacelia distans (*distant phacelia)		X
Thysanocarpus laciniatus common lace pod)	X	
Non-Native Species		
Erodium cicutarium (red stemmed filaree)	X	X

Source: *Revegetation Plan,* ELMT, Inc. January 2022. See Appendix C

Average plant cover, species density, and species diversity are listed in Table 9 for rocky slopes and level areas. The more dominant species included saltbush, cheesebush, creosote, Mormon tea, and buckwheat. Saltbush, buckwheat, and creosote accounted for most of the site cover.

Table 9
Gem Hill Quarry
Perennial Shrubs Cover, Density, and Diversity

Creosote Bush Scrub	Rocky Slopes	Level Areas Combined
Shrub Cover (%) Dominant Species	Total - 19% Cheesebush – 1% Four wing saltbush – 5% Mormon tea – 1% Pine bush – 2% Flat-topped buckwheat – 5% Creosote bush – 3% Desert needlegrass – 2%	Total - 24% Cheesebush – <1% Four wing saltbush – 15% Mormon tea – 3% Pine bush – 1% Flat-topped buckwheat – <1% Creosote bush – 5% Desert needlegrass - <1%
Shrub Density (stems/50 m^2)	26	47
Species Diversity (species/50 m^2)	11 (all natives) 7 (perennials)	8 (all natives) 4 (perennials)

Source: *Revegetation Plan*; ELMT Consulting, January 2022. See Appendix C.

Procedures to be Conducted Prior to Clearing

Prior to an area being cleared or developed, available surface material and alluvium overburden will be collected for use as a seed bed and bank and stockpiled in separate identified stockpiles. These stockpiles will be seeded with a native erosion control ground cover or covered with a larger rock material to limit wind and water erosion.

The project revegetation specialist will have the authority to make adaptions to the procedures above based on past revegetation efforts, test plot results, new revegetation research, and field experience in order to improve the revegetation success. Any changes to procedures will be reported in the annual revegetation report. In addition, all personnel involved will receive mine safety instruction.

Soil Salvage and Storage

The top 0.5 to 1-foot of alluvium soil along with vegetative material cleared from the quarry, overburden stockpile sites, and roads will be salvaged only immediately prior to those areas being developed over time. Salvaged soil may be distributed directly to an active reclamation site to minimize the storage period. However, most soil will be stored in a separate identified soil stockpile as shown on the Mine Plan or on separated areas from the South Overburden Stockpile (Figure 4 and Sheet 2). The soil stockpile may be seeded with a native erosion control ground cover, water sprayed to form a soil crust, and/or covered with a larger rock material to limit wind and water erosion.

Site Preparation and Revegetation Procedures

The following procedures will be implemented for site preparation of seeding:

- Ripping or scarifying compacted areas including closed roads to a depth ranging from 0.5 to 1-foot (if possible due to rock benches in quarry), with surface rills and furrows left to aid in water and wind-blown seed collection;
- Placing alluvium overburden on areas to be seeded to a depth ranging from 0.5 to 1-foot to provide a more conducive subsurface for root establishment and grading;
- Shaping or contouring final slopes and benches on the overburden stockpiles for drainage and for natural appearing slopes and landforms. Shallow basins shall be graded into slopes and covered with soil to create favorable conditions for revegetation. (Quarry slopes will be below grade.);
- Seeding with locally native species and revegetation per methods described below and as listed in Table 10;
- Staking or flagging reclaimed areas to eliminate additional disturbance; Monitoring and maintenance; and
- Application of remedial activities, if necessary, including but not limited to additional seeding and planting, plant protection and change of seed mix.

Seed Mix

The seeds to be used for revegetation purposes include species that are either present on the site already or are present in the surrounding area as part of the creosote bush scrub plant community. The proposed seed mix or palette (see Table 10 below) is based on native species found in this plant community. While the shrubs will eventually dominate a habitat type, the forbs and annuals provide early successional species that stabilize the soil and help shelter slower-growing woody shrubs.

Seeding

Seeds will be distributed throughout an area scheduled for revegetation during the rainy season, generally between October 1 and January 30, or during a suitable period based on weather forecasts and rainfall. The preferred method of seed installation is by imprinting. Imprinting is a method in which heavy steel drum rollers with imprinting teeth on them are dragged (rolled) by a small tractor across a site to leave troughs for seeds to be placed in. Seeds are placed into a hopper in front of the imprinter, and the hopper disperses the seed onto the rollers, which subsequently press the seeds into the ground while creating troughs. When properly implemented, the troughs trap seeds, collect moisture, reduce runoff, and reduce erosion, while also providing shelter from winds and intense sunlight. Imprinting will be enhanced by ripping the existing surface up to one-foot deep (ranging from three inches to twelve inches deep) and then covering with salvaged soil and alluvium to provide a rough surface for catching the seeds.

Table 10
Gem Hill Quarry
Recommended Native Plant Seed Mix

SPECIES		POUNDS PER ACRE
SCIENTIFIC NAME	**COMMON NAME**	
Ambrosia dumosa	Burrobush	2.50
Ambrosia salsola	Cheesebush	2.50
Amsinckia tessellata	Fiddleneck	0.25
Alyssum desertorum	Desert alyssum	0.25
Atriplex canescens	Four wing saltbush	2.50
Cammisonia californica	Evening primrose	0.25
Chorizanthe rigida	Rigid spineflower	0.25
Chaenaetis fremontii	Desert pincushion	0.25
Ericameria nauseous	Rabbitbrush	3.00
Ephedra nevadensis	Mormon tea	1.50
Ericameria linearifolia	Narrow leaf goldenbush	0.75
Eriogonum fasciculatum	Flat-topped buckwheat	2.00
Eriogonum thurberi	Thurber's buckwheat	0.50
Gilia spp.	Gila	0.25
Larrea tridentata	Creosote bush	3.00
Lycium cooperi	Peach thorn	2.00
Malacothrix glabrata	Desert dandelion	0.75
Mentzelia affinis	Blazingstar	0.50
Pectocarya linearis	Slender combseed	0.25
Phacelia distans	Phacelia	0.25
Salvia columbariae	Chia	0.25
Stephanomeria exigua	Small wirelettuce	0.25
Tetradymia spinosa	Cotton thorn	2.00
Xylorhhiza tortifolia	Mojave aster	0.50
	TOTAL pounds per acre	**25-30**

Source: *Revegetation Plan*; ELMT Consulting, January 2022. See Appendix C. (typical depending on seed availability)

The seed hopper must be thoroughly cleaned prior to the arrival of the imprinter at the site. Seed can be mixed with wheat bran or another approved substitute to aid in application and the prevention of seed segregation. In addition, mycorrhizal fungi can be applied to the seeds where necessary, particularly in highly disturbed areas where plants may otherwise have difficulty growing. The restoration contractor shall determine the appropriate mixing ratio of the seed to the binder and/or mycorrhizae, if used.

Where imprinting is not possible due to access issues or due to potential damage to surrounding habitat, broadcast seeding will be used. Broadcasting will be conducted by hand and therefore should not occur when there are detectable winds that might carry seed away from its intended location. Seed should be broadcast twice: first, half of the seed should be spread while moving in one direction, and then the other half of the seed should be spread while moving perpendicular to the original direction. Seed is either mixed or raked into the top layer of replaced soil to increase seed germination, moisture infiltration and reduce erosion.

Invasive Non-Native Species or Weed Control

The purpose of the non-native invasive species control plan is to reduce or eliminate the occurrence of non-native invasive plant species that may invade the site where active and natural revegetation is taking place. Non-native invasive species (weeds) can compete with native plant species for available moisture and nutrients and consequently interfere with revegetation of the site.

Only one non-native plant species was identified on site, redstem fillaree (*Erodium cicutarium*). The occurrence of non-native species on-site after revegetation shall be monitored by visual inspection semi-annually for the first two years and then annually thereafter. The goal is to prevent non-native invasive species from becoming established and depositing seeds in revegetated areas.

Non-native vegetation will be removed using the most efficient method as determined by the site conditions. Weed removal will be accomplished through manual, mechanical or chemical methods depending on the specific circumstances. Removal may occur regularly in the first year and may consist of using mechanized equipment, hand tools and/or herbicide spraying. Herbicides may be applied to control an instance where there is an aggressive and extensive weed invasion on site. Cover and density of non-native grass species within the revegetation area shall be no greater than the baseline and in comparable surrounding lands that have not been disturbed by the project. For non-native species other than non-native grasses, no areas will be allowed to have more than 10 percent non-native invasive species ground cover. If inspections reveal that non-native invasive species are becoming or have become established on site, then removal will be initiated. Inspections shall be made in conjunction with revegetation monitoring. Reports of inspections and weed control implementation shall be part of the revegetation monitoring and kept on file by the operator.

Test Plots

Revegetation test plots will be established during the initial revegetation efforts. These test plots will provide valuable data for successful revegetation efforts. Three general topographic aspects were identified within the creosote bush scrub plant community: steep slopes, level to gently sloping area and desert dry washes. Two different seeding processes have been recommended for use in revegetating sites: mechanically imprinting seeds and broadcast seeding on steep slopes, inaccessible areas or area that would otherwise be damaged by the use of an imprinter. The level to gently sloping areas on benches, roads, and much of the overburben stockpiles will generally be imprinted, while steep slopes and dry wash areas, due to the fragile nature and sensitivity of the wash habitats, are usually seeded by hand. If possible, the first revegetation site can be used to test the benefits of the two seeding methodologies on the three discussed topographic aspects found within the creosote bush scrub plant community as well as covering with soil and no seeding. Test plots could also be employed to test for the effective of using mycorrhizal fungi as part of the imprinting process. Table 11 below is a suggested matrix of test plots that could be used at the initial revegetation site to test the methodologies of seeding on each topographic aspects of the site and the benefits of using mycorrhizal fungi during the seeding process. Potential test plot locations are shown on the Mine Plan, Sheet 2.

Table 11
Potential Test Plots

Type of Seeding	Steep Slopes	Level	Dry Wash
Soil Coverage only			
Seeding by Hand			
Imprinting with Micorrhizal Fungi			
Imprinting without Micorrhizal Fungi			

Success Criteria

The site consists of creosote bush scrub as described above. Success criteria is based on baseline data for perennial shrub species and DMR standards as listed in Table 12 below per sample area of 50 m^2: 45% of baseline cover and 40% for both density and diversity. Successful revegetation will be achieved when the reseeded areas have met the success criteria based on quantitative revegetation monitoring at approximately 5 years after reclamation or until success criteria are met.

Following completion of the revegetation, the surviving perennial plant species shall be evaluated annually by the consulting revegetation specialist for relative growth as determined by cover, diversity and density. Individual specimens or areas shall receive appropriate remedial attention as necessary. The above procedure will be repeated annually for a total of five years or until success criteria achieved.

Table 12
Gem Hill Quarry
Recommended Revegetation Success Criteria[1]

Landform	Perennial Cover (%) (45% of Baseline)[2]		Species Density (40% of Baseline)[2]		Species Diversity (40% of Baseline)[2]	
	Baseline	Success Criteria	Baseline	Success Criteria	Baseline	Success Criteria
Rocky Areas	19	9	26	10	11	4
Level Areas	24	11	47	19	8	3

1 - Native perennial shrubs from the 2020 baseline surveys per 50 m^2.

2 – As recommended by DMR.

Source: *Revegetation Plan*; ELMT Consulting, January 2022. See Appendix C.

Implementation Monitoring - The biological monitor(s) will ensure that the revegetation and weed control plans are followed and assist in making necessary modifications to the plan, if necessary. Monitoring records will be kept for all revegetation activities including weed control, soil preparation, and seeding activities. The monitoring records will include dates for each activity, location of each activity, the type of treatments or actions taken, any problems encountered, and modifications made to the revegetation effort. This information will be documented and used to develop an implementation (as-built) report that will be included in the annual monitoring report.

Qualitative monitoring is necessary to subjectively evaluate the general health of reseeded areas and to identify and correct any problems such as proliferation of non-native invasive species. Under qualitative monitoring, revegetated areas will be visited by the monitor on a defined schedule (i.e., at least semi-annually in years 1 through 3) to evaluate the effectiveness of nonnative species control and to document the growth and vigor of seeded vegetation. The monitor will record and report observations on the qualitative monitoring form. A sample form is provided in Appendix C. If required, the monitor will make specific recommendations for correcting any identified problems, including issues with seed germination and growth, erosion concerns, increased treatment for weed control, and other requirements for site protection.

Quantitative monitoring will be used to annually quantify specific attributes of the revegetated habitat. Revegetation in the desert can take several years to accomplish depending in climatic conditions, rain vs. drought, and other unpredictable variables. The quantitative monitoring is designed to determine whether the revegetated site demonstrates a trend toward development of a self-sustaining creosote bush scrub habitat and to assess when the revegetated areas achieve the prescribed success criteria. Quantitative monitoring will commence after qualitative monitoring indicates that the vegetative cover within each of the revegetated areas is approaching the performance standards. This should occur between years 2 and 5 after the initial revegetation effort and continue until success criteria are achieved. This monitoring will occur annually during the spring, when the creosote bush scrub habitat is normally the most diverse.

Each revegetation site will be sampled by selecting transect locations using the RELEVE methodology and intercept methodology to measure vegetation along the transect method line. The methodology shall be the same methodology used during the initial evaluation prior to revegetation and used to document conditions at the reference site. Data will be collected on each area at the same time each year, in the spring, to ensure consistency between years. The monitoring data from each revegetation area will be analyzed for changes or trends in densities/cover of the most common perennial and annual species. The monitor will record and report observations on the quantitative monitoring form found in Appendix C.

Each revegetated area will be monitored for up to 5 years or until performance standards are met. If restoration performance standards have been met prior to 5 years, then the project will be considered successful and no further quarterly monitoring will be conducted and closure procedures can be initiated with the County. If performance standards have not been met, CalPortland will implement alternative corrective actions based on the revegetation efforts and results of the monitoring efforts.

The Annual Revegetation Report will be prepared to summarize revegetation and monitoring efforts over the past year and to assess the results of revegetation on the disturbed areas of the site.

2.7 CLEANUP

All clean-up operations will be conducted within three years of the termination of mining. Structures, tanks, scrap material, refuse, and surplus materials will be removed, recycled, and/or disposed of at an appropriate landfill site. Excess material piles and disturbed areas will be

regraded for positive drainage, scarified, and revegetated. Any spillage of fuel, oil, grease, or hazardous materials will be cleaned up in a proper and legally acceptable manner.

If required, the on-site water well to be drilled will be closed or destroyed in accordance with the California Department of Water Resources Bulletin 74-91 as revised in 1988 or the latest revision and with the Kern County Department of Environmental Health regulations unless deemed at that time to be useful for continued use or monitoring. The well will be closed in such a manner that will no longer be a hazard to the health and safety of people and wildlife.

There are no known portals, shafts, tunnels or openings on the mine site. If any are uncovered, they will be either closed or gated or protected from public entry but preserved for bat and other wildlife with County consultation.

2.8 POST RECLAMATION AND FUTURE MINING

The planned land use subsequent to mining is open space/wildlife habitat. The excavated quarry and reclamation will result in a series of reclaimed benches with revegetation on the horizontal benches. The overburden stockpiles will be benched with 2H:1V slopes and revegetated.

The planned mine areas are designed to excavate pozzolan in the most efficient and economical manner. The quarry location and the placement of overburden have been planned based on known geological data so as not to cover potential future resources. Thus, future pozzolan mining on or adjacent to the planned quarry may be feasible but is not foreseeable at this time.

2.9 SLOPE AND SLOPE TREATMENT

A *Slope Stability Evaluation Report* was prepared by Terracon Consultants in February 2022 (see Appendix A). Slope stability was discussed under Section 1.1 above. Terracon concluded that the proposed rock and stockpile reclamation slopes are feasible with respect to slope stability from a geotechnical standpoint. Slopes formed in the tuff (Tt) unit are stable by calculation at angles near 45 degrees utilizing up to 375-foot-tall faces. Consideration of local fault conditions in reclamation may include modification of geometry to achieve suitable face angles and overall slope angles in this material.

The following slope heights/angles versus materials are considered feasible for reclamation:

- Rock materials including basalt and conglomerate interbeds—45 degrees up to 375 feet in height
- Overburden Stockpile (OB) fill—27 degrees up to 120 feet in height

The proposed rock slope configurations are considered suitably stable under static and seismic conditions as reclaimed slopes (refer to Table 4 in Appendix A). Sufficient static factors of safety (FS) in excess of 1.5 and seismic factors of safety at or greater than 1.1, in conformance with DMR criteria, were indicated for the modeled quarry slopes and stockpile configuration. A scenario model for a bedding condition indicates suitable along bedding strength in quarry walls

with daylighted bedding. A potential for bench back break along fault planes is identified for the south wall. This potential condition is mitigatable by inspection and bench adjustment during mining/reclamation.

Terracon recommended the following design and monitoring measures during operations and reclamation which have been included in the various slope designs:

- Inclusion of horizontal safety benches in final slope design as listed in Table 4 which are an effective protection from rockfall, reduces tensional forces in surface rock, and reduces surface erosion rates.
- Quarry rims will be protected with berms as necessary to prevent slope erosion in areas where overland flow is directed toward slopes and also for safety.
- Overall final cut slopes in the rock materials shall be no steeper than the slopes designed on the Mine Plan and listed in Table 4.
- Large, unstable rounded boulders on slopes steeper than approximately 2H:1V should be removed or stabilized where accessible. Areas below loose rock shall be restricted and indicated by means of signage or fencing.
- Geotechnical evaluation and design, management of mine bench geometry based on encountered conditions, or use of mechanical support systems shall be implemented as necessary.
- Continued inspection and monitoring of mine benches and slope conditions for indications of potential instability and failure warming signs shall be implemented.
- Final reclaimed overburden stockpile slopes should be no steeper than 2H:1V to the maximum proposed heights as shown on the Mine Plan and listed in Table 4.
- A final slope stability assessment report will be prepared for the County to assess the final slopes as part of the site closure.

2.10 OVERBURDEN STOCKPILES

No operational ponds, reservoirs or tailings are utilized or produced at the project site. No "waste" is produced on-site. Overburden will be deposited in the overburden stockpile areas as detailed in Section 1.2.

Minimal overburden will be produced during the mining operations as described in Section 1.2. Overburden placement areas will be reclaimed with 2H:1V slopes and revegetated as discussed under Sections 2.5 and 2.6 above.

2.11 SOILS

On-site elevation ranges from approximately 2,620 to 3,050 feet above mean sea level and generally slopes from northwest to southeast. The northwestern portion of the site supports steep slopes that extend southeast to flat areas. The project site is underlain by the following soil units:

Arizo gravelly loam sand (2 to 9 percent slopes), Cajon sand (5 to 15 percent slopes), Porterville cobbly clay (5 to 9 percent slopes), and rock outcrop (Exhibit 4, Soils; Appendix B). The Arizo series consists of very deep, excessively drained soils that formed in mixed alluvium on recent alluvial fans, inset fans, fan apron, fan skirts, stream terraces, floodplains of intermittent streams and channels. The Porterville series consists of deep, well drained soils that formed in fine textured alluvial material from basic and metabasic igneous rock on fans and foothills. (Source: ELMT 2022 – Appendix B)

2.12 DRAINAGE AND EROSION CONTROLS

Please refer to Section 1.5 above. Numerous erosion and sedimentation controls have been implemented in the mining and stockpile areas to control, minimize or prevent off site sedimentation. Runoff is directed into the quarry or collected by interceptor channels and directed into sediment catchment basins downstream. Long-term stabilization or reclamation will generally involve final benching and grading disturbed areas, establishing and maintaining effective drainage, placement of soil and alluvium, and revegetation. Following reclamation, surface runoff from quarry area will be retained in the quarry limits where it will either infiltrate or evaporate.

2.13 PUBLIC SAFETY

Because it is private property owned by CalPortland, the company is responsible to maintain the site and limit access onto the site for public safety. The site will be monitored at least once per month after closure to check and repair gates, blocked roads, and signs and to remove illegally dumped material. The main access to the Gem Hill Quarry is limited to authorized personnel. During operations, gates, and signs will be located on the access roads at the property boundary. After closure, access will be restricted by locked or blocked roads, warning signs and gates. All legal access roads will have locked gates and signs informing the public that the roads are closed to public access.

Quarry areas will have warning signs every 250 feet, roads not used will be blocked or closed, and safety berms six feet high and 20 feet wide will be constructed along the quarry rims. Any unauthorized roads will be blocked or closed at the property boundary.

There are no known portals, shafts, tunnels or openings on the mine site. If any are uncovered, they will be either closed or gated or protected from public entry but preserved for bat and other wildlife in consultation with County.

2.14 MONITORING AND MAINTENANCE

Monitoring will include both site monitoring to assess control, trash dumping and other forms of human disturbances, as well as biological monitoring for revegetation success. Site monitoring of human use (access, trash dumping and off-road vehicle use) will consist of:

- **Installation monitoring**: to observe and document the construction of fences/barriers, gates (including chains and locks) and signs, and to document the removal of trash and elimination of human disturbance and
- **Security monitoring**: to observe the status and effectiveness of the fences/barriers, gates, chains, locks, and signs.
- **Biological monitoring** to qualitatively and quantitatively evaluate overall conditions of a revegetated site with respect to native plant conditions and monitoring of weed growth and control effectiveness as detailed in Section 2.6 above and Appendix C.

SMARA requires annual reporting of Mining and Reclamation activities. The reports are filed with the State Division of Mining Reclamation and the County. Revegetated areas will be monitored for up to 5 years or until performance standards are met following initial seeding and/or planting. Data on plant species diversity, cover, survival and vigor will be collected on revegetated sites and compared to baseline data from undisturbed sites to evaluate project success and documented in an annual report.

Monitoring and maintenance of reclamation is an ongoing responsibility of CalPortland. The project site will be inspected annually by the County.

2.15 RECLAMATION ASSURANCE

CalPortland will post an updated reclamation assurance annually in an amount sufficient to pay for the cost of reclamation for existing disturbance and disturbances estimated for the upcoming year as outlined in this Plan. Kern County is the lead agency for SMARA and will annually review the updated reclamation financial assurance cost estimate (FACE) as well as annual reports submitted to the County and State. SMARA also requires the FACE to be reviewed and approved by the California Division of Mine Reclamation (DMR).

3.0 GEOLOGY

3.1 REGIONAL GEOLOGY

The area within this Reclamation Plan is has been previously studied from a geologic aspect by Van Buer (2019). Van Buer provided summarized geologic mapping of the mine area with an emphasis on the volcanic tuff units and alluvium cover. Van Buer recognized the presence of southwest-dipping tuff beds and several faults and inferred faults within future pit area.

Dibblee mapped the Rosamond Hills region as documented in maps dated 1959 and 1962. He indicated several volcanic units within the mine area as Gem Hill formation including tuff, tuffbreccia and tuffaceous sandstone and basalt. Dibblee includes a cross section that depicts the Gem Hill area showing tuff beds overlying quartz monzonite in several down-to-the-northwest fault blocks formed between east-southeast striking normal faults. Dibblee provides a summary description of the lithology, mode and timing of emplacement of the Gem Hill volcanics during Tertiary time.

The future Gem Hill Quarry is located in Kern County northwest of the community of Rosamond in the western Mojave Desert region. The site is generally located in an area of moderate to steep relief formed within a series of resistant and recessive volcanic tuffs and welded tuffs locally mantled by young colluvial and alluvial sediments and cobble lag. The Mojave Desert is dominated by broad alluviated basins that receive sediments from adjacent uplands that bury the older topography. Hills and playa lakes are a common feature of the region including Rosamond Lake to the southeast. Bedrock units in the project area include basalt, tuff, conglomerate and minor limestone. These units are exposed in natural outcrops formed by erosion and dissection of gently southwest dipping bedding. A description of geologic units in the quarry area is provided in a later section of this report.

The Gem Hill pozzolan deposit is in the western Mojave Desert province at the western end of the Rosamond Hills. Generally, there are three types of rock units in the area separated by unconformities. These groups are: 1) pre-Tertiary crystalline rocks; 2) Tertiary volcanic, pyroclastic, and sedimentary rocks; and 3) Quaternary sedimentary deposits. The Rosamond Hills consist of granitic rocks flanked by red beds and volcanics of the Miocene (Tertiary) Rosamond Formation.

The geologic history of the site and vicinity is described as follows. An erosion surface of low relief was developed on the granitic complex of the Rosamond Hills area during the early part of the Tertiary period. Sometime during the Miocene epoch, faulting and volcanic activity formed a series of shallow lakes in which pyroclastic debris accumulated to a maximum depth of 900 feet to form the lower part of the Rosamond series. Deformation and volcanic activity culminated with the elevation of a mountain range of considerable relief, the outpouring of a comparatively large amount of rhyolite, and the ejection of much pyroclastic debris. A series of alluvial fan deposits with interbedded layers of pyroclastic debris accumulated along the margin of this mountain range to a maximum thickness of about 500 feet to form the upper part of the Rosamond series. The area was subsequently tilted southward, and erosion removed the

Rosamond series from the tilted block except for a narrow strip along its southern margin. Hillocks formed by erosion of this strip of Rosamond rocks constitute the Rosamond Hills including Gem Hill.

3.2 SITE GEOLOGY

Geologic units within the reclamation area include alluvium, colluvium, welded tuff and tuff volcanic rocks, conglomerate and basalt. The units summarized below form the primary geologic materials in the quarry area and adjacent areas. A Geologic Map and Site Plan and more detailed geologic information are compiled from published and unpublished mapping by Van Buer (2019) is included as Figure 8 and in the *Slope Stability Evaluation Report* (Terracon 2022) in Appendix A.

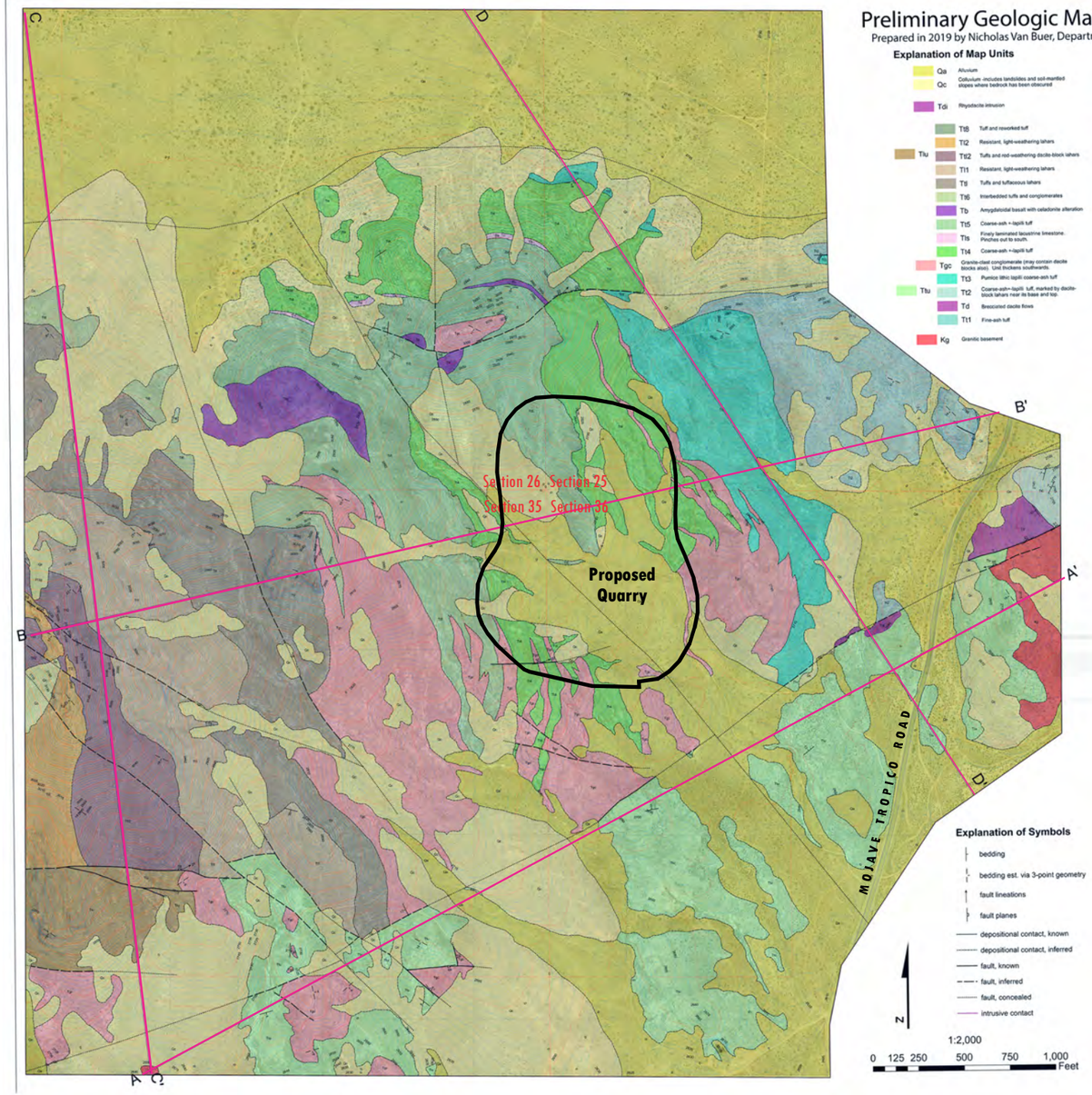
The mine reclamation area includes geologic units of Tertiary age and geologically young surface sediments. Structural elements within the rock units are dominated by well-defined and consistent bedding and include joints and inactive faults. At the mine bench scale, the primary influence on stability of rock material is anticipated to be jointing oriented parallel to future bench faces coupled locally with faults and/or joints oriented perpendicular to bench faces. At the mine wall scale, the larger-scale fault and thrust structures influenced locally by bedding provide the primary structure. Bench-scale features were examined in the field at selected locations and compiled into a database for kinematic evaluation. Major elements of the wall-scale structure include:

- East-west oriented mapped faults in the southern portion of the North Quarry area
- A northwest-trending concealed and inferred fault separating the northeast and southwest pit areas. This fault is depicted as northeast-dipping (60 degrees) on structural sections constructed from bore-hole data.
- Southwest-dipping bedding that is relatively uniform throughout the mine footprint with measured dips varying between 14 and 19 degrees
- North-dipping minor faults observed in outcrops located in the northeast and southwest areas of the quarry footprint

Consideration of the dominant geologic structures was included in the slope stability cross sections for consideration of the effect on global stability.

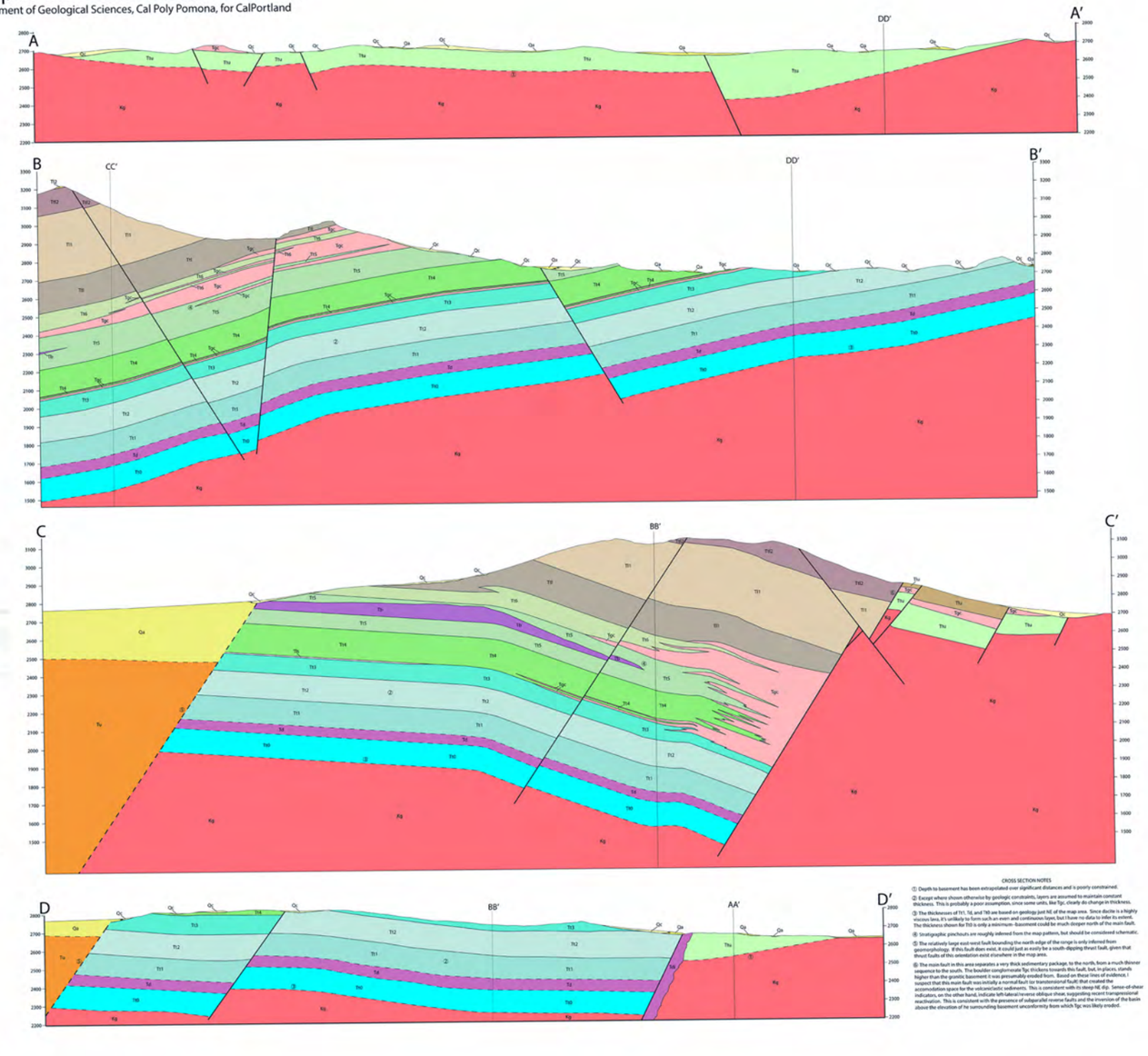
Preliminary Geologic Map of the Eastern Rosamond Hills

Prepared in 2019 by Nicholas Van Buer, Department of Geological Sciences, Cal Poly Pomona, for CalPortland



Explanation of Map Units

- Qa — Alluvium
- Qc — Colluvium -includes landslides and soil-mantled slopes where bedrock has been obscured
- Tdi — Rhyodacite intrusion
- Thu — Tuffs and rod-weathering dacite-block lahars
  - Tt8 — Tuff and reworked tuff
  - Tl2 — Resistant, light-weathering lahars
  - Tt12 — Tuffs and rod-weathering dacite-block lahars
  - Tl1 — Resistant, light-weathering lahars
  - Tt — Tuffs and tuffaceous lahars
  - Tt6 — Interbedded tuffs and conglomerates
  - Tb — Amygdaloidal basalt with celadonite alteration
  - Tl5 — Coarse-ash + lapilli tuff
  - Tl5 — Finely laminated lacustrine limestone. Pinches out to south.
  - Tl4 — Coarse-ash + lapilli tuff
- Tgc — Granite-clast conglomerate (may contain dacite blocks also). Unit thickens southwards.
- Tlu — Coarse-ash+ lapilli tuff, marked by dacite-block lahars near its base and top.
  - Tt3 — Pumice lithic lapilli coarse-ash tuff
  - Td — Brecciated dacite flows
  - Tt1 — Fine-ash tuff
- Kg — Granitic basement



CROSS SECTION NOTES

① Depth to basement has been extrapolated over significant distances and is poorly constrained.

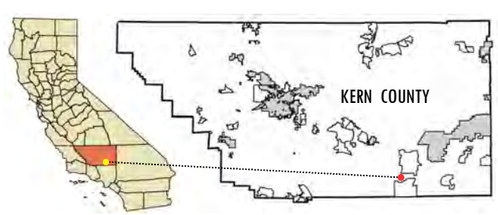
② Except where shown otherwise by geologic constraints, layers are assumed to maintain constant thickness. This is probably a poor assumption, since some units, like Tgc, clearly do change in thickness.

③ The thicknesses of Tl1, Td, and Tt0 are based on geology just NE of the map area. Since dacite is a highly viscous lava, it's unlikely to form such an even and continuous layer, but I have no data to infer its extent. The thickness shown for Tt0 is only a minimum- basement could be much deeper north of the main fault.

④ Stratigraphic pinchouts are roughly inferred from the map pattern, but should be considered schematic.

⑤ The relatively large east-west fault bounding the north edge of the range is only inferred from geomorphology. If this fault does exist, it could just as easily be a south-dipping thrust fault, given that thrust faults of this orientation exist elsewhere in the map area.

⑥ The main fault in this area separates a very thick sedimentary package, to the north, from a much thinner sequence to the south. The boulder conglomerate Tgc thickens towards this fault, but, in places, stands higher than the granitic basement it was presumably eroded from. Based on these lines of evidence, I suspect that this main fault was initially a normal fault or transtensional fault that created the accomodation space for the thick sequence of sediments. This is consistent with its steep NE dip. Sense-of-shear indicators, on the other hand, indicate left-lateral reverse oblique shear, suggesting recent transpressional reactivation. This is consistent with the presence of subparallel reverse faults and the inversion of the basin above the elevation of its surrounding basement unconformity from which Tgc was likely eroded.



N

0 800

Feet

Source: Lilburn Corp., Feb. 2020.

LILBURN CORPORATION

REGIONAL GEOLOGY

Gem Hill Quarry

Surface Mining Permit and Reclamation Plan

Kern County, CA

FIGURE 8

4.0 HYDROLOGY

4.1 CLIMATE CONDITIONS

The Mojave Desert is found at elevations of 2,000 to 5,000 feet amsl and is characterized by cool winter temperatures and warm summer temperatures, with its rainfall occurring almost entirely in the winter. Climatological data obtained from nearby weather stations indicated the annual precipitation in Rosamond averages 5.87 inches per year. Almost all of the precipitation occurs November through March, with hardly any occurring between May and August. The wettest month of February, with a monthly average total of 1.23 inches. The average maximum and minimum temperatures for Rosamond are 96.2- and 57.1-degrees Fahrenheit (°F), respectively with July and August being the hottest months and December and January being the coldest. Temperatures during the site visits were in the mid- 60s to high-70s (degrees Fahrenheit) with light winds and no cloud cover.

4.2 DRAINAGE PATTERNS

The site slopes generally from north to south. The elevation of the project site ranges from 3,025 on the north (Gem Hill) to 2,625 feet amsl on the southeast. Surface drainage at the site currently flows south-southeast in a series of unnamed desert drainages. Drainages will either be avoided, or run-off will be conveyed or directed into a series of interceptor channels and retained in several catchment basins as discussed in Section 1.4 above. A *Drainage Study* was prepared by Chang Consultants (February 2022; Appendix E) to assess hydrology and drainage facilities.

4.3 GROUNDWATER

(Summary from *Slope Stability Evaluation Report* (Terracon 2022) in Appendix A)

Groundwater measurements were recorded for several drill holes within the future mine area. Water was reported for borehole R12 and R13 at a depth of approximately 250 feet below ground surface (bgs) in basalt. Water was encountered in borehole R19 at 350 feet bgs and at deeper depths in basalt. Borehole R2 and R16 encountered water at depths of 660 feet bgs and 440 feet bgs in basalt. The shallowest water reported was in boreholes located south of the South Fault with water at approximately 200 feet bgs in tuff. All the borehole measurements indicated water at elevations below the planned pit bottom elevation at 2,450 feet amsl. Therefore, static groundwater is not anticipated to occur in the pit.

Groundwater conditions at completion of mining (reclamation stage) may include water seepage and ponding of limited extent. Groundwater is not anticipated to significantly affect the stability of the proposed reclamation slopes.

REFERENCES, ACRONYMS, and GLOSSARY

REFERENCES

California Department of Conservation, State Mines and Geology Board, January 2022. *Surface Mining and Reclamation Act* (SMARA). https://www.conservation.ca.gov/index/Documents/DMR-SR-1%20Web%20Copy.pdf

Eastern Kern Air Pollution Control District, 2022. *Rules and Regulations (a*mendments to: January 13, 2022). http://www.kernair.org/Main_Pages/rules.html

Kern County, July 2022. *Kern County General Plan* (as updated). https://kernplanning.com/planning/planning-documents/general-plans-elements/

Kern County, July 2022. *Kern County Zoning Ordinance (April 2021 Revision); https://kernplanning.com/planning/planning-documents/zoning-ordinance/*
Chapter 19.100 Surface Mining Operations;
https://psbweb.co.kern.ca.us/planning/pdfs/KCZOApr2021.pdf

ACRONYMS

AF	acre-feet
amsl	above mean sea level
ANFO	ammonium nitrate and fuel oil
BATF&E	Bureau of Alcohol, Tobacco, Firearms and Explosives (federal agency)
bgs	below ground surface
BMP	Best Management Practices
Cal-OSHA	California Occupational Safety and Health Administration
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CF, cf	cubic feet
CFR	Code of Federal Regulations
CNPS	California Native Plant Society
CUPA	Certified Unified Program Agency (Environmental Health Division of the Kern County Public Health Services is designated as the "CUPA.")
CY, cy	Cubic yards
DEHS	Department of Environmental Health (County)
DMR	Division of Mine Reclamation
DOC	Department of Conservation
EKAPCD	Eastern Kern Air Pollution Control District
FESA	Federal Endangered Species Act
H:V	horizontal to vertical; typically in feet (slope inclination)

MBTA	Migratory Bird Treaty Act (protects nesting birds)
MCY, mcy	million cubic yards
MSHA	Mining Safety and Health Administration
mt	million (short)tons
mtpy	million (short) tons per year
NPDES	National Pollutant Discharge Elimination System
SLC	State Lands Commission
SMARA	Surface Mining and Reclamation Act
SPCC	Spill Prevention, Control, and Countermeasure
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

GLOSSARY OF TERMS

BACT: Best Available Control Technology – Air quality term used to describe air pollutant control equipment for equipment and facilities that produce air emissions.

Bench: Terrace or leveled area breaking the continuity of a slope.

Berm: An elongated earthen structure which acts as a barrier; e.g. to make it difficult for a vehicle or ORV to cross over the rim of a quarry or along a haul road or to redirect water flow.

California Environmental Quality Act (CEQA): Policies enacted in 1970, and subsequently amended, the intent of which is the maintenance of a quality environment for the people of California now and in the future.

Endangered species: A species whose prospects of survival and reproduction in the wild are in immediate jeopardy from one or more causes.

Factor of safety: Ratio of forces resisting slope failure over forces driving slope failure.

Haul road: A road used by haul trucks to haul ore and waste rock from the open pit to other locations usually to the crusher feed or to the waste rock stockpiles.

Hazardous material: Substance which, because of its potential for corrosivity, toxicity, ignitability, chemical reactivity, or explosiveness, may cause injury to persons or damage to property.

Ore body: A generally continuous mass of ore distinct from the surrounding rock.

Overburden: Material which does not meet quality specifications and other rock types encountered during excavations which will be hauled directly to overburden stockpiles.

Rare species: A species, which, although not presently threatened, is in such small numbers throughout its range that it may become endangered if its present environment worsens.

Reclamation: The combined process of land treatment that minimizes water degradation, air pollution, damage to aquatic or wildlife habitat, flooding, erosion, and other adverse effects from surface mining operations (SMARA).

Reclamation Plan: A restoration plan for the stabilization and recovery of a mine site after cessation of mining operations for another use; generally open space or other low intensity use.

Revegetation: Establishment of native vegetation on lands that have been disturbed.

Sensitive species: A plant or animal species, which is recognized by the government or by a conservation group, as being depleted, rare, threatened, or endangered.

Threatened species: Species, which, although not presently threatened with extinction, are likely to become endangered in the foreseeable future in the absence of special protection and management efforts.

Water table: The upper water level of a body of groundwater.

Appendix B.2

Kern County SMARA Application

CROSS REFERENCE MATRIX

Gem Hill Quarry Reclamation Plan (including appendices referenced) (CA Mine ID# 91-36-xxxx)

Including reference to:
ARTICLE 1. GENERAL PROVISIONS. SECTION 2710 et seq.
ARTICLE 2. DEFINITIONS. SECTION 2725 et seq.
ARTICLE 3. DISTRICT COMMITTEES. SECTION 2740 – 2741
ARTICLE 4. STATE POLICY FOR THE RECLAMATION OF MINED LANDS. SECTION 2755 et seq.
ARTICLE 5. RECLAMATION PLANS AND THE CONDUCT OF SURFACE MINING OPERATIONS. SECTION 2770 et seq., as amended
CCR TITLE 14 (REGISTER 85, No. 18-5-4-83)
CHAPTER 8. MINING AND GEOLOGY
SUBCHAPTER 1. STATE MINING AND GEOLOGY BOARD
ARTICLE 1. SURFACE MINING AND RECLAMATION PRACTICE. SECTION 3500 et seq.
ARTICLE 9. RECLAMATION STANDARDS. SECTION 3700 et seq.

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
SMARA 2770.5	100-year flood, Caltrans contact	X		
SMARA 2772 (c) (1)	Name and Address of operator/agent.		7	1.0
SMARA 2772 (c) (2)	Quantity & type of minerals to be mined.		1-8	Summary; 1.0
SMARA 2772 (c) (3)	Initiation and termination date.		1-8	Summary; 1.0
SMARA 2772 (c) (4)	Maximum anticipated depth of mining.		10-12	1.1
SMARA 2772 (c) (5)	Description, including map with boundaries, topographic details, geology, streams, roads, utilities.		6-17	1.0, 1.1
SMARA 2772 (c) (6)	Mining plan and time, schedule for reclamation (concurrent or phased reclamation).		6-17 29-33	1.0, 1.1, 2.5
SMARA 2772 (c) (7)	Proposed subsequent use.		41	2.8
SMARA 2772 (c) (8)	Description of reclamation measures adequate for proposed end use.		29-33	2.5
SMARA 2772 (c) (8) (a)	Description of containment control and mine waste disposal.		10-19	1.1, 1.2

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
SMARA 2772 (c) (8) (b)	Rehabilitation of stream banks/beds to minimize erosion		20-22	1.5
SMARA 2772 (c) (9)	Impact of reclamation on future mining.		41	2.8
SMARA 2772 (c) (10)	Applicant statement accepting responsibility for reclamation per the reclamation plan.		44	2.15
SMARA 2773 (a)	Water quality monitoring plan specific to property.		20-22	1.5
SMARA 2773 (a)	Sediment and erosion control monitoring plan specific to property.		20-22 43	1.5, 2.12
SMARA 2773 (a)	Revegetation plan specific to property. Monitoring Plan.		33-40	2.6; Appendix C
SMARA 2773.1	Performance (financial) assurances.		44	2.15
SMARA 2777	Amended reclamation plans required prior to substantial deviations to approved plans.		Informational	
CCR 3502 (b) (1)	Environmental setting and impact of reclamation on surrounding land uses. (Identify sensitive species, wildlife habitat, sensitive natural communities, e.g., wetlands, riparian zones, etc.).		24-29	2.1-2.4
CCR 3502 (b) (2)	Public health and safety (exposure).		10-19 43	1.1, 2.13
CCR 3502 (b) (3)	Slopes: critical gradient, consider physical properties and landscaping.		10-19 41-42	1.1, 2.9
CCR 3502 (b) (4)	Fill materials in conformance with current engineering practice.		19	1.2
CCR 3502 (b) (5)	Disposition of old equipment		41	2.7
CCR 3502 (b) (6)	Temporary stream and water diversions shown.		20-22	1.5

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
CCR 3503 (a) (1)	Removal of vegetation and overburden preceding mining kept to a minimum.		29-40	2.5; 2.6
CCR 3503 (a) (2)	Overburden stockpiles managed to minimize water and wind erosion.		19	1.2
CCR 3503 (a) (3)	Erosion control facilities (dikes, ditches, etc.) as necessary.		20-22 43	1.5; 2.12
CCR 3503 (b) (1)	Settling ponds (sedimentation and water quality).		For erosion control; no production settling ponds. 20-22	1.5
CCR 3503 (b) (2)	Prevent siltation of groundwater recharge areas.		20-22	1.5
CCR 3503 (c)	Protection of fish and wildlife habitat (all reasonable measures).		27-29	2.4
CCR 3503 (d)	Disposal of mine waste and overburden (stable-no natural drainage restrictions without suitable provisions for diversion).		19-22	1.2; 1.5
CCR 3503 (e)	Erosion and drainage (grading to drain to natural courses or interior basins).		20-22	1.5
CCR 3503 (f)	Resoiling (fine material on top plus mulches).		29-40	2.5, 2.6
CCR 3503 (g)	Revegetation and plant survival (use available research).		33-40	2.6
CCR 3703 (a)	Sensitive species conserved or mitigated		25-27 33-40	2.3; 2.6
CCR 3703 (b)	Wildlife habitat at least as good as pre-project, if approved end use is habitat.		33-40	2.6
CCR 3703 (c)	Wetlands avoided or mitigated at 1:1 minimum	X		
CCR 3704 (a)	For urban use, fill compacted in accordance with UBC or local grading ordinance.	X		

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
CCR 3704 (b)	For resource conservation, compare to standard for that end use		33-40	2.6
CCR 3704 (c)	Mine waste stockpiled to facilitate phased reclamation and separate from growth media.		29-40	2.5; 2.6
CCR 3704 (d)	Final reclamation fill slopes not exceed 2:1, except when engineering and revegetation analysis allow.		29-33 41-42	2.5; 2.9; 2.10
CCR 3704 (e)	Final landforms or fills conform with surrounding topography or end use.		29-33 41-42	2.5; 2.9; 2.10
CCR 3704 (f)	Cut slopes have minimum factor of safety for end use and conform with surrounding topography.		10-19 29-33; 41-42	1.1; 2.5; 2.9
CCR 3704 (g)	Piles or dumps not placed in wetlands without mitigation.	X		
CCR 3705 (a)	Vegetative cover, suitable to end use, self-sustaining. Baseline studies documenting cover, density and species richness.		33-40	2.6
CCR 3705 (b)	Test plots if success has not been proven previously		33-40	2.6
CCR 3705 (c)	Decompaction of site.		29-40	2.5; 2.6
CCR 3705 (d)	Roads stripped of road base materials, resoiled and revegetated, unless exempted.		33-40	2.6
CCR 3705 (e)	Soil altered or other than native topsoil, required soil analysis. Amend if necessary.		33-40	2.6
CCR 3705 (f)	Temporary access not bladed. Barriers installed.	X		
CCR 3705 (g)	Use native plant species, unless exotic species meet end use.		33-40	2.6
CCR 3705 (h)	Plant during correct season.		33-40	2.6
CCR 3705 (i)	Erosion control and irrigation, when necessary.	X		

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
CCR 3705 (j)	If irrigated, demonstrate self-sustaining without for two-year minimum.	X		
CCR 3705 (k)	Weeds managed.		33-40	2.6
CCR 3705 (l)	Plant protection measures, fencing, caging.	X		
CCR 3705 (m)	Success quantified by cover, density and species-richness. Standards proposed in plan. Sample method set forth in plan and sample size provides 80 percent confidence level, as minimum.		33-40	2.6
CCR 3706 (a)	Mining and reclamation to protect downstream beneficial uses.		20-22 43	1.5; 2.12
CCR 3706 (b)	Water quality, recharge, and groundwater storage shall not be diminished, except as allowed by plan.		20-22 43	1.5; 2.12
CCR 3706 (c)	Erosion and sedimentation controlled during all phases as per RWQCB/SWRCB.		20-22 43	1.5; 2.12
CCR 3706 (d)	Surface runoff and drainage controlled and methods designed for not less than 20 year/1 hour intensity storm event.		20-22 43	1.5; 2.12
CCR 3706 (e)	Altered drainages shall not cause increased erosion or sedimentation.		20-22 43	1.5; 2.12
CCR 3706 (f)	Stream diversions constructed in accordance with DFG 1603, EPA 404, Sec. 10 Rivers and Harbors.		20-22; 43 (if applicable)	1.5; 2.12
CCR 3706 (g)	All temporary diversions eventually removed.		20-22 44	1.5; 2.15
CCR 3707 (a)	Return prime ag to prime ag, unless exempted.	X		
CCR 3707 (b)	Segregate and replace topsoil by horizon.	X		

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
CCR 3707 (c)	Productivity rates equal pre-project or similar site for two consecutive years. Rates set forth in plan.	X		
CCR 3707 (d)	Fertilizers and amendments not contaminate water.	X		
CCR 3708	Other ag capable of sustaining crops of area.	X		
CCR 3709 (a)	Equipment stored in designated area and waste disposed of according to ordinance.		41	2.7
CCR 3709 (b)	Structures and equipment dismantled and removed.		41	2.7
CCR 3710 (a)	Surface and groundwater protected.		20-22 43	1.5; 2.12
CCR 3710 (a)	Surface and groundwater projected in accordance with Porter Cologne and Clean Water Acts (RWQCB/SWRCB).		20-22 43	1.5; 2.12
CCR 3710 (b)	In-stream in accordance with CFG 1600, EPA 404, and Sec. 10 Rivers and Harbors.		CDFW 1602 as applicable	1.5; 2.12
CCR 3710 (c)	In-stream channel elevations and bank erosion evaluated annually using extraction quantities, cross-sections, and aerial photos.	X		
CCR 3710 (d)	In-stream mining activities shall not cause fish to become entrapped in pools or in off-channel pits. California Fish and Game Code section 1600.	X		
CCR 3711(a)	All salvageable topsoil removed. Topsoil and vegetation removal should not proceed mining by more than one year.		29-40	2.5; 2.6

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
CCR 3711 (b)	Topsoil resources mapped prior to stripping, location of stockpiles on map. Topsoil and growth media in separate stockpiles.		29-40	2.5; 2.6
CCR 3711 (c)	Soil salvage and phases set forth in plan, minimize disturbance, designed to achieve revegetation success.		33-40	2.6
CCR 3711 (d)	Topsoiling phased ASAP. Stockpiles not to be disturbed until needed. Stockpiles clearly identified and planted with vegetation or otherwise protected.		33-40	2.6
CCR 3711 (e)	Topsoil redistributed in stable site and consistent thickness.		33-40	2.6
CCR 3712	Waste and tailings, and waste disposal governed by SWRCB (Article 7, Chapter 15, Title 23, CCR).		19 43	1.2; 2.13
CCR 3713 (a)	Drill holes, water wells, monitoring wells abandoned in accordance with laws.		41	2.7
CCR 3713 (b)	All portals, shafts, tunnels or openings, gated or protected from public entry, but preserve access for wildlife.		41	2.7

INSTRUCTIONS FOR PREPARATION OF APPLICATION FORM FOR SURFACE MINING PERMIT AND RECLAMATION PLAN

KERN COUNTY PLANNING AND
COMMUNITY DEVELOPMENT DEPARTMENT
2700 "M" Street, Suite 100
Bakersfield, CA 93301
(661) 862-8600

Specific instructions are given below for certain items in the suggested model plan:

Item 1. Applicant. Answer Items 3 - 7, where applicable, as "Same as applicant." If the actual reclamation is to be conducted by a person other than the applicant or operator, name and address of said person shall be indicated.

Item 3. If more than one owner, enter name and address of each. If more than one parcel is included in the operation, enter the owners of each parcel. This information is needed under Item 25 below. If the surface and mineral rights are separated, show the owners of surface rights under this item. On federal land, enter USA as owner, with administrating agency (e.g., USFS, BLM, NPS).

Item 4. Owner of Mineral Rights. List, if separate from surface owner. If a mining claim, indicate the owner(s) of the possessory rights (claim owner).

Item 6. Operator. List as individual, partnership, corporation, etc. If a joint venture, also show name of managing person or concern.

Item 8. Brief description, including legal, of the mined lands (see definition in Guidelines or Act - Section 2729) in either metes and bounds or by land office subdivisions. Show section(s), township, and range.

Item 10. Location and Vicinity Map. It is suggested that this be shown on a USGS 7 1/2-minute topographic quadrangle sheet (Scale: l" = 2000') unless larger-scale maps are available. If these are not available, or if the operation is extensive, 15-minute sheets (Scale: 1" = 1 mile) may be used. Contours, roads, drainage, adjacent towns, etc., should be shown, as well as the site of the operation.

Item 12. A brief and concise answer is requested for this item, including only essential data on geologic formations, structures, rocks, and minerals, and nature of the mineral deposit.

Item 13. If an Environmental Impact Report (EIR) has been or is being filed for the project, the answer to this item may be very brief in outline form, with reference to the EIR. Reference to the EIR may be used to simplify answers to other pertinent items also. Note that soil conditions will be covered in more detail in Item 32.

Item 14. If the applicant's surface mine was already in operation on January 1, 1976, or the operation was conducted prior to that date, so state. If applicant has elected to "phase" his operation, indicate duration of first phase. For anticipated life of long-term operations, show estimated range (e.g., 35 - 50 years).

Items 15. If more than one individual pit or quarry is included in the plan, answer these items for each such operation. Note that either tons, or cubic yards (in-place), are requested. The unit not used should be crossed out. Include all ore, minerals, over-burden, and waste as one total quantity in answering.

Items 18, 19 and 20. In the case of large, integrated operations with several separate mines or pits, it will be to the advantage of the applicant to answer these items in sufficient detail not only for clarifying the nature of his operation, but also for protecting his vested rights under the provisions of the Act. The principal map should be of a scale sufficient to show the required details clearly. For a large operation, a smaller-scale, overall map with larger-scale detail maps of the critical areas may be more practical. In long-range operations, precision of detail is not as important as a clear exposition of the operation. The use of symbols or map overlays is recommended to simplify the map preparation. Aerial photographs may be substituted for maps where they adequately indicate the required information.

Item 21. Applicant shall consult with the Lead Agency before completing this item.

Items 24 through 35. Refer to the referenced section of SMARA for specific requirements. The applicant may contact Staff for further clarification.

A checklist has been prepared for items to be discussed in all reclamation plans and is attached to these instructions. Please be sure the proposed reclamation plan addresses all the items included in the checklist. Applicants are encouraged to make copies of the application and checklist before using them. Having a sufficient amount of the necessary forms will enable the applicant to formulate and self-review an initial draft before submitting the final version. It is not necessary to return a completed checklist with an application.

The State Office of Mine Reclamation will be sent a complete copy of the application. Applicants are encouraged to attach additional pages, if necessary, to ensure that all reclamation plan submittal requirements are satisfied. ***Typically, a surface mining permit and/or reclamation plan will require approximately four to five months to process from the date the application is deemed complete, unless an Environmental Impact Report is required, in which case approximately one year will be required for processing.*** Please note, Public Resources Code Section 2207 and California Code of Regulations Section 3697 require a new mining operation to submit an initial report to the Department of Conservation before one of the following occurs:

(1) Commencement of operations; or
(2) 30 days from permit approval

These requirements apply to all mining operations in the State, including operations on federal lands. For mining operations outside of incorporated city jurisdictions, Kern County is defined as the lead agency by SMARA. Copies of the New Mining Operation Report form (MRRC-3) can be obtained from the Department of Conservation. As stated in the MRRC-3 instructions, the completed report with the required reporting fee should be sent to the following address:

Department of Conservation
Office of Mine Reclamation
801 K Street, MS 09-06
Sacramento, CA. 95814-3529

The telephone number for the Department of Conservation is (916) 323-8567.

APPLICATION FOR
SURFACE MINING PERMIT AND RECLAMATION PLAN

KERN COUNTY PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT

OWNER, OPERATOR, AND AGENT:

1. Applicant: **CalPortland Company**

   Name: **Desirea Haggard**
   Address: **2025 E. Financial Way, Glendora, CA 91741**

   Telephone: **(626) 691-1966**

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2. Name (if any) of Mineral Property:

   Gem Hill Quarry

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3. Property Owner(s) or Owner(s) of Surface Rights (list all owners):

   Name: **SAME AS APPLICANT**
   Address:

   Telephone:

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4. Owner(s) of Mineral Rights:

   Name: **SAME AS APPLICANT**
   Address:

   Telephone:

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5. Lessee:

   Name: **SAME AS APPLICANT**
   Address

   Telephone

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6. Operator:

   Name: **SAME AS APPLICANT**
   Address

   Telephone

OWNER, OPERATOR, AND AGENT: (continued):

7. Agent of Process (person designated by operator as his agent for the service of process):

   Name: **SAME AS APPLICANT**
   Address

   Telephone

(Reference SMARA 2772(C)(1))

LOCATION:

8. Brief description, including legal, of the extent of the mined lands (to be) involved by this operation, including total acreage:

   Section(s) **25, 26, 35, 36** Township **10N** Range **13W** **San Bernardino** B&M
   Assessor's Parcel Number (APN): **0345-294-01,03,14,17,21; 0345-293-05,28; 345-031-02; 345-032-05,31**

(Reference SMARA 2772(C)(5))

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9. Description of the access route to the operation site:

Access to the Gem Hill Quarry is limited to employees and authorized personnel. Primary access is gained from Mojave Tropico Road due east of the project site. A secondary access road will be constructed to the northeast of the site also connecting with Mojave Tropico Road. Both roads will have a road surface of 24 feet with shoulders up to 6 feet on each side. Gates, fencing, and signs will be located adjacent to the access roads at the property boundary. During off hours for mine operations, access is restricted by warning signs and fences, and all legal access roads have locked gates and signs informing the public that the roads are closed to public access. Warning signs notify the public that the mining area has restricted access and that the roads are not public access roads. During non-operating hours, gates are closed and locked.
(Reference SMARA 2772(C)(11))

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10. Attach Location and Vicinity Map.

Refer to Reclamation Plan.

(Reference SMARA 2772(C)(11))

DESCRIPTION:

11. Mineral commodity (to be) mined:

    Naturally Occurring Pozzolan (Volcanic Tuff)

(Reference SMARA 2772(C)(2))

DESCRIPTION (continued):

12. Geologic description, including brief general geologic setting, more detailed geologic description of the mineral deposit (to be) mined, and principal minerals or rock types present:

The Gem Hill pozzolan deposit is in the western Mojave Desert province at the western end of the Rosamond Hills. Generally, there are three types of rock units in the area separated by unconformities. These groups are: 1) pre-Tertiary crystalline rocks; 2) Tertiary volcanic, pyroclastic, and sedimentary rocks; and 3) Quaternary sedimentary deposits. The Rosamond Hills consist of granitic rocks flanked by red beds and volcanics of the Miocene (Tertiary) Rosamond Formation. Rock types associated with the Gem Hill deposit include rhyolite tuff, rhyolite tuff breccia, tuffaceous sandstone, conglomerate, and associated rhyolitic volcanic rocks. Minor amounts of alluvium exist in water courses and stream channels. Granitic bedrock underlying the tuff and related volcanic rocks is quartz monzonite. The naturally occurring pozzolan at the Gem Hill deposit are of volcanic origin, specifically, volcanic tuffs.

(Reference SMARA 2773(a))

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13. Brief description of environmental setting of the site and the surrounding areas, including existing area land use, soil, vegetation, groundwater elevation, surface water characteristics, average annual rainfall, and/or any other factors pertaining to environmental impacts and their mitigation and reclamation:

The project site is located in the northwest portion of Rosamond Hills in a primarily undeveloped area in unincorporated Kern County, California. Minimal development occurs in proximity to the project site. Scattered residential plots occur to the north, and undeveloped, vacant land occurs to the east, south, and west. The nearest residential development is 0.15 miles to the northeast. There is also a solar panel field 1.2 miles to the southwest of the project site on the western site of the Rosamond Hills.

On-site elevation ranges from approximately 2,620 to 3,050 feet amsl and generally slopes from northwest to southeast. The project site is underlain by the following soil units: Arizo gravelly loam sand (2 to 9 percent slopes), Cajon sand (5 to 15 percent slopes), Porterville cobbly clay (5 to 9 percent slopes), and rock outcrop (Exhibit 4, Soils).

During the field investigation, one (1) plant community (Creosote Bush Scrub) was observed within the project boundary. Per drill data at the site, groundwater is expected to be below the planned bottom pit at 2,450 feet amsl. Annual precipitation in Rosamond averages 5.87 inches per year.

(Reference SMARA 3502 (b)(1))

PROPOSED (EXISTING) SURFACE MINING OPERATION:

14. Time Frame of Project

    a. Proposed Starting Date of Operation: **2023**

       Estimated Life of Operation: 30 years

       Duration of First Phase: N/A

    b. Operation will be (is):

       Continuous **X** Seasonal _____ Intermittent____

Developed, Not Yet in Operation	Temporarily Deactivated	Stockpile in Mine
_____	_____	_____

(Reference SMARA 2772(C)(3))

PROPOSED (EXISTING) SURFACE MINING OPERATION (continued):

15. Project Production

a. Annual production will be (is):

Under 5,000 tons/cubic yds/yr _____

5,000 - 50,000 tons/cubic yds/yr _____

50,000 - 250,000 tons/cubic yds/yr _____

250,000 - 1,000,000 tons/cubic yds/yr **500,000 tons/year**

Over 1,000,000 tons/cubic yds/yr _____

b. Total anticipated production:

Mineral commodities to be removed - (circle one) (tons) cubic yds) 15 million tons

Waste retained on the site - (circle one) (tons) cubic yds) 600,000

Waste disposed off site - (circle one) (tons) cubic yds) **0**

Maximum anticipated depth 250-300 ft

(Reference SMARA 2772(C)(2) and (4))

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16. Mining Method (check all applicable):

a. Open Pit	✓	Gravel/Sand Pit	
Single Bench		Drill and Blast	✓
Quarry:		Clay Pit	
Hill Top		Truck to Processing	
Multibench	✓	Plant (to RR)	x
Side Hill		Borrow Pit	
Dragline		Tailings Ponds	
Low Level		Slurry Pump	
Shovel		Waste Dump	
Underground		Rail	
Gravel Bar Skimming		Other Overburden stockpiles	

b. Identify the number and types of vehicles and equipment used in addition to their ADT (average daily trips).

Equipment	Typical Number	Typical Days/year	Purpose
Front-End Loader (CAT 980 typ.)	1	300	Loading of excavated materials into haul trucks at quarry.
Dozer (CAT D8 typ.)	1	150	Mining and stockpiling of pozzolan material. Removal of topsoil and waste rock. Construction and maintenance of roads and quarry benches.
Excavator (CAT 325 typ.)	1	60	Mining and stockpiling of pozzolan material and overburden.
Grader (CAT 140 typ.)	1	60	Removal of topsoil and waste rock. Construction and maintenance of roads.
Drill Rig (PowerROC T25 typ.)	1	130	Drill holes for placement of explosives.
On-Road Haul Trucks (25-ton trucks typ.)	10	300	Transportation of excavated material to various clients and overburden to stockpiles.
Water Truck **(**4,000 gallons)	1	300	Water spray haul roads, active quarry areas, overburden stockpiles, and general dust control onsite.
Tractor skid steer	1	60	Removal of topsoil and waste rock. Construction and maintenance of roads.
Generator Sets (<50 hp) (CAT XQ 35 typ)	2	300	Power for water well pump and scale/office trailer
Ancillary Equipment	Varies	Varies	Maintenance vehicles, bobcat, backhoe, pick-ups, and SUVs, etc.

Vehicle	Typical Number	Ave. Daily Trips (ADT) (one way trips)
Vehicles transporting employees to/from the site	10	40
On-road haul trucks	10 trucks (typ); 67 total round trips/day	134
Fuel Truck	1	0.28
Maintenance truck	1	0.28
Portable toilet service	1	0.28
Waste/trash pick-up	1	0.28
Miscellaneous	8	2.29

Last five rows total estimated two trucks or vehicles/day for 6 days.

c. Maximum number of employees on site at any one time: 20

(Reference SMARA 2772(C)(11))

PROPOSED (EXISTING) SURFACE MINING OPERATION (continued):

17. Processing:

a. If processing of the ores or minerals mined is planned to be conducted at or adjacent to the site, briefly describe the nature of the processing and explain disposal method of the tailings or waste from processing.

No crushing or processing at the Gem Hill site

b. Estimate quantity (gallons per day) and quality of water required by the proposed operation, specifying proposed sources of this water and method of its conveyance to this property and the quantity and quality and method of disposal of used and/or surplus water.

A water well is proposed to be drilled on-site for dust suppression requirements at the quarry, overburden stockpile, and haul roads. A 4,000-gallon water truck is planned to be used for dust control. Typically, 4 truckloads of water are sprayed on-site per day, five to six days a week. This equates to approximately 18 acre-feet (AF)/year.

(Reference SMARA 2772(C)(11))

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18. If the nature of the deposit and the mining method used will permit, describe and show the steps or phases of the mining operation that allow concurrent reclamation, and include a proposed time schedule for such concurrent activities.

Concurrent reclamation will not occur during mining operations.

(Reference 2772(C)(6) and 3503(a)(1))

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19. Attach a map of the mined lands showing the following information:

    a. Boundaries and topographic details of the site.
    b. Location of all streams, roads, railroads, water wells, structures, dwellings, and utility facilities within 500 feet of the site.
    c. Location of all currently proposed access roads to be constructed in conducting the surface mining operation.
    d. Location of areas (to be) mined, and of waste dumps and tailings ponds.
    e. By use of symbol or map overlay, depiction of separate mining phases, if applicable.
    f. The source of map base, orientation (North arrow), and scale (e.g., 1" = 500', etc.) of the map.

(Reference 2772(C)(5))
Refer to Mine Plan

RECLAMATION PLAN:

20. Indicate on an overlay of map of Item 19, or by symbol on map, those areas to be covered by reclamation plan.

Acreage 82 acres within a 210-acre project area

(Reference SMARA 2772(C)(5))

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21. Describe the ultimate physical condition of the site and specify proposed use(s), or potential use(s), of the mined lands as reclaimed.

Open space/wildlife habitat

(Reference SMARA 2772(C)(7)

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22. Provide evidence that all owners of a possessory interest in the land have been notified of the proposed use(s) or potential use(s) identified in Item 21. (Attach copy of notarized statement of acknowledgment, etc.)

(Reference SMARA 2772(C)(7))

CalPortland Board letter attached.

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23. Describe how implementation of the reclamation plan will affect future mining in the area.

(Reference SMARA 2772(C)(9))

Reclamation will not affect future mining in the area.

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24. Describe how the proposed reclamation plan will affect public health and safety, giving consideration to the degree and type of present and probable future exposure of the public to the site.

(Reference SMARA 3502(b)(2)

Safety features will include a gate and a rock berm to limit site and quarry access. A safety berm will be constructed around the quarry. Refer to the Reclamation Plan for additional information.

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25. Describe how the project will adhere to the specified requirements for protection of wildlife habitat.

(Reference SMARA 3703 and 3503(c))

Refer to Reclamation Plan for detailed information.

RECLAMATION PLAN: (continued)

26. Describe the reclamation procedures used to ensure adherence with the specified requirements for backfilling, regrading, slope stability, and recontouring. Indicate on map (Items 19 - 20) or on diagrams as necessary. Discussion should explain why final cut slopes proposed have a minimum slope stability factor of safety which is suitable for the proposed end use and conform with surrounding topography and/or approved end use. Additionally, a sufficient number of cross-sections, no larger than 11 inches by 17 inches, which demonstrate existing and proposed final slopes should be incorporated into the plan. **NOTE:** If any final reclaimed fill slopes exceed 2:1 (horizontal to vertical), submit specific geologic and engineering analysis which demonstrates the proposed slope has a minimum slope stability factor of safety that is suitable for the proposed end use and when the proposed final slope can be successfully revegetated.

(Reference SMARA 3704 and 3502(b)(3))

Refer to Reclamation Plan

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27. If revegetation is proposed, describe what procedures will be employed to ensure adherence with the specified requirements. Indicate on map (Items 19 - 20) or on diagrams as necessary. If revegetation is not applicable, indicate why not. At a minimum, the plan should include or elaborate on the following:

    a. A baseline study documenting the vegetative density, cover, and species richness of the site.
    b. Test plots to be employed/monitoring.
    c. Need for decompaction.
    d. Need for soil analysis.
    e. Proposed revegetation mix.
    f. When planting will be conducted.
    g. Need for irrigation.
    h. Protection measures to be employed.
    i. Success of revegetation.*

    *Success of revegetation will be judged upon the effectiveness of the vegetation for the approved end use, and by comparing the quantified measures of vegetative cover, density, and species richness; therefore, the plan will also need to specify:

BASELINE	PERFORMANCE STANDARD
Density -	Density -
Cover -	Cover -
Species -	Species -
Richness -	Richness -

(Reference SMARA 3705 and 3503(g))

Refer to Reclamation Plan

RECLAMATION PLAN: (continued)

28. Describe the reclamation procedures used to ensure adherence with the specified requirements for drainage, diversion structures, waterways, and erosion control. Additionally, indicate on map (Items 19 - 20) or on diagrams as necessary the following:

    a. All existing, interim, and final drainage patterns.
    b. Location of any diversion structures. If not applicable, indicate why not.
    c. Erosion control facilities (i.e. sumps).

(Reference SMARA 3706, 3710, 3502(b)(6), 3503(a)(3),(b)(1),(d) and (e), 2772(c)(8)(b))

Refer to Reclamation Plan

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29. Describe the reclamation procedures used to ensure adherence with the specified requirements for prime agricultural land reclamation. If not applicable, please explain why.

(Reference SMARA 3707)

Not applicable as not within prime agricultural land.

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30. Describe the reclamation procedures used to ensure adherence with the specified requirements for other agricultural land reclamation. If not applicable, please explain why.

(Reference SMARA 3708)

Not applicable as not within prime agricultural land.

---

31. Describe the reclamation procedures used to ensure adherence with the specified requirements for building, structure, and equipment removal. Additionally, indicate on the map (Items 19 - 20) or on diagrams as necessary the following:

    a. Where all equipment, supplies, and other materials will be stored.
    b. Identify which buildings, structures, and equipment will be: (1) dismantled and removed off site; and/or (2) remain on site as consistent with the approved end use.

(Reference SMARA 3709 and 3502(b)(5))

Refer to Reclamation Plan.

---

32. Describe soil conditions. Elaborate on the reclamation procedures used to ensure adherence with the specified requirements for topsoil salvage, maintenance, and distribution.

(Reference SMARA 3711, 3707(b) and 3503(f) and (a)(2))

Refer to Reclamation Plan.

RECLAMATION PLAN: (continued)

33. Describe how contaminants will be controlled and mine waste will be disposed of (i.e., refuse, fuel storage, tailings, etc.), especially with regard to surface runoff and groundwater. Indicate on map (Items 19 - 20) or on diagrams as necessary.

(Reference SMARA 3712 and 2772(c)(8)(a))

Refer to Reclamation Plan.

---

34. Describe the reclamation procedures used to ensure adherence with the specified requirements for closure of surface openings. If not applicable, please explain why.

(Reference SMARA 3713)

Refer to Reclamation Plan.

---

35. Financial Assurances

Upon approval of the surface mining permit and reclamation plan and prior to commencement of surface mining operations, financial assurance(s) ensuring that reclamation is performed in accordance with the surface mining operation's approved reclamation plan must be submitted to and approved by Kern County. Financial assurances may take the form of surety bonds, irrevocable letters of credit, trust funds, or other forms of financial assurances specified by the State Mining and Geology Board and Kern County.

Financial assurance instruments shall be made payable to "Kern County or the Department of Conservation." The financial assurance may also be made payable to additional public agencies, including federal agencies responsible for enforcing reclamation requirements over the mining operation. Financial assurances, along with a copy of the itemized reclamation cost estimate ***(based on the approved reclamation plan)***, must be submitted to Kern County for review and approval prior to commencement of mining operations. The amount of financial assurances required of a surface mining operation for any one year shall be adjusted annually to account for new lands disturbed by surface mining operations, inflation, and reclamation of lands accomplished in accordance with the approved reclamation plan.

RECLAMATION PLAN: (continued)

35. Financial Assurances (continued)

The permit application shall include a detailed, itemized estimate of reclamation costs. ***The assumption when preparing the estimate is that the mine operator is incapable of performing the work or has abandoned the surface mining operation, thereby resulting in the County or State hiring an independent contractor to perform the reclamation work.*** At a minimum, the detailed itemized estimate of all associated reclamation costs shall include, but is not limited to:

a. Costs of backfilling, regrading, slope stabilization, and recontouring.
b. Costs of revegetation and wildlife habitat replacement, including any monitoring.
c. Costs of final engineering design.
d. Costs of labor, including supervision.

e. Costs of mobilization.
f. Costs of equipment.
g. Costs of removal of buildings, structures, and equipment.
h. Costs associated with reduction of specific hazards, such as: heap leaching facilities, chemical processing ponds, soil decontamination, in-water slopes, highwalls, landslides, subsidence, or other mass ground failure.
i. Costs of drainage and erosion control measures.
j. Costs of soil tests.
k. Costs of haul road ripping and reseeding.
l. Costs of fencing.
m. Costs of liability insurance.
n. Costs of long-term stabilization, control, containment of waste solids and liquids.

(Reference SMARA 2773.1)

A Financial Assurances Cost Estimate will to be prepared as soon as the County approves the project or when requested.

FOR OFFICE USE ONLY

Date Accepted: May 25, 2021 Received By: Randall Cates **FEES** $18,330.25

Case # 45 Map # 214 S.D. # 2 Case $ 18,330.25
Floodplain N/A Zoning Ord. Sec. 19.12.030.G
Env'l EIR
G.P/S.P 8.3, 8.4, 8.4/2.4, 8.5/2.4 X Consistent ___ Not Consistent Other___

Element or Name Kern County General Plan

Reviewed By: Randall Cates Other _____

Total $18,330.25 ($17,220.25 for receipt #431355, $1,110.00 for receipt #420471)

NOTES:_____

Recpt # 431355 & 420471

Attachments

STATEMENT OF RESPONSIBILITY

In consideration of approval by the Kern County Planning Commission of this application for a Surface Mining Permit and Reclamation Plan, the undersigned, jointly and severally, hereby covenants with Kern County as follows:

(1) That all of the provisions of said permit and/or plan and any and all conditions appended thereto shall be faithfully performed and completed by the undersigned within the time therein provided, or within any additional time as may be allowed pursuant to the Ordinance Code of Kern County (Chapter 19.100).

(2) That the obligations of the undersigned to perform and complete the provisions of said permit and/or plan, including any and all conditions appended thereto, shall be subject to the provisions of said Ordinance Code which are incorporated herein by reference.

(3) That the place of performance by the undersigned of the covenants herein shall be the County of Kern, State of California.

(4) That any notice required to be given, or otherwise given to the undersigned may be by personal service or by ordinary United States mail, postage prepaid, and addressed to the agent, or any of the agents, named in paragraph 7 of the application filed by the undersigned.

Dated this 28TH day of JANUARY, 20 21.

(Signature - to be signed in presence of Notary Public)

BRUCE SHAFER
(Printed Name)

(Reference SMARA 2772.C.10)

For Office Use Only

(To be completed by Staff after approval of project)

CUP No. _____, Map No. _____

SURFACE MINING AND RECLAMATION ACT OF 1975
ARTICLE 1. GENERAL PROVISIONS. SECTION 2710 et seq.
ARTICLE 2. DEFINITIONS. SECTION 2725 et seq.
ARTICLE 3. DISTRICT COMMITTEES. SECTION 2740 - 2741.
ARTICLE 4. STATE POLICY FOR THE RECLAMATION OF MINED LANDS. SECTION 2755 et seq.
ARTICLE 5. RECLAMATION PLANS AND THE CONDUCT OF SURFACE MINING OPERATIONS. SECTION 2770 et seq., as amended
CCR TITLE 14 (REGISTER 85, NO. 18-5-4-85)
CHAPTER 8. MINING AND GEOLOGY
SUBCHAPTER 1. STATE MINING AND GEOLOGY BOARD
ARTICLE 1. SURFACE MINING AND RECLAMATION PRACTICE. SECTION 3500 et seq.
ARTICLE 9. RECLAMATION STANDARDS. SECTION 3700 et seq.

Mining Operation and Closure

YES	NO	?	N/A		
Refer to Reclamation Plan: ***SMARA Cross Reference Matrix***				SMARA 2770.5	100-year flood, CalTrans contact.
__	__	__	X	SMARA 2772 (c) (1)	Name and address of operator/agent.
X	__	__	__	SMARA 2772 (c) (2)	Quantity & type of minerals to mined.
X	__	__	__	SMARA 2772 (c) (3)	Initiation and termination date.
X	__	__	__	SMARA 2772 (c) (4)	Maximum anticipated depth of mining.
X	__	__	__	SMARA 2772 (c) (5)	Description, including map with boundaries, topographic details, geology, streams, roads, utilities.
X	__	__	__	SMARA 2772 (c) (6)	Mining plan and time schedule for reclamation (concurrent or phased reclamation).
X	__	__	__	SMARA 2772 (c) (9)	Impact of reclamation on future mining.
X	__	__	__	SMARA 2772 (c)(10)	Applicant statement accepting responsibility for reclamation per the reclamation plan.
X	__	__	__	SMARA 2773.1	Performance (financial) assurances.
X	__	__	__	CCR 3502 (b) (2)	Public health and safety (exposure).
X	__	__	__	CCR 3713 (b)	All portals, shafts, tunnels, or openings, gated or protected from public entry, but preserve access for wildlife.
X	__	__	__	CCR 3502 (b) (5)	Disposition of old equipment.
X	__	__	__	CCR 3709 (a)	Equipment stored in designated area and waste disposed of according to ordinance.
YES	**NO**	**?**	**N/A**		
X	__	__	__	CCR 3709 (b)	Structures and equipment dismantled and removed.

X				CCR 3713 (a)	Drill holes, water wells, monitoring wells abandoned in accordance with laws.

End Land Use

X				SMARA 2772 (c) (7)	Proposed subsequent use.
X				CCR 3704 (e)	Final landforms conform with surrounding topography or end use.
			X	CCR 3707 (a)	Return prime ag to prime ag, unless exempted.
			X	CCR 3707 (c)	Productivity rates equal pre-project or similar site for two consecutive years. Rates set forth in plan.
			X	CCR 3708	Other ag capable of sustaining crops of area.
X				SMARA 2772 (c) (8)	Description of reclamation measures adequate for proposed end use.
X				CCR 3706 (a)	Mining and reclamation to protect downstream beneficial uses.

Geotechnical Requirements

X				CCR 3502 (b) (3)	Slopes: critical gradient, consider physical properties and landscaping.
X				CCR 3704 (f)	Cut slopes have minimum factor of safety for end use and conform with surrounding topography.
X				CCR 3502 (b) (4)	Fill materials in conformance with current engineering technology.
			X	CCR 3704 (a)	For urban use, fill compacted in accordance with UBC or local grading ordinance.
X				CCR 3704 (b)	For resource conservation, compact to standard for that end use.
X				CCR 3704 (d)	Final reclamation fill slopes not exceed 2:1, except when engineering and revegetation analysis allow.
X				CCR 3704 (e)	Final landforms of fills conform with surrounding topography or end use.

Hydrology and Water Quality

YES	NO	?	N/A		
X				CCR 3710 (a)	Surface and groundwater protected in accordance with Porter-Cologne and Clean Water Acts (RWQCB/SWRCB).
X				CCR 3706 (a)	Mining and reclamation to protect downstream beneficial uses.
X				CCR 3706 (b)	Water quality, recharge, and groundwater storage shall not be diminished, except as allowed by plan.
X				CCR 3503 (b) (2)	Prevent siltation of groundwater recharge areas.
X				SMARA 2773 (a)	Water quality monitoring plan specific to property.
X				CCR 3713 (a)	Drill holes, water wells, monitoring wells abandoned in accordance with laws.
X				CCR 3503 (e)	Erosion and drainage (grading to drain to natural courses or interior basins).
X				SMARA 2772(c)(8)(b)	Rehabilitation of streambanks/beds to minimize erosion.
X				CCR 3502 (b) (6)	Temporary stream and water diversions shown.
X				CCR 3503 (a) (3)	Erosion control facilities (dikes, ditches, etc.) as necessary.
X				CCR 3706 (c)	Erosion and sedimentation controlled during all phases as per RWQCB/SWRCB.
X				CCR 3503 (b) (1)	Settling ponds (sedimentation and water quality).
X				CCR 3706 (d)	Surface runoff and drainage controlled and methods designed for not less than 20 year/1 hour intensity storm event.
X				CCR 3706 (e)	Altered drainages shall not cause increased erosion or sedimentation.
X				SMARA 2773 (a)	Sediment and erosion control monitoring plan specific to property.
X				CCR 3503 (d)	Disposal of mine waste and overburden (stable--no natural drainage restrictions without suitable provisions for diversion).
X				SMARA 2772(c)(8)(a)	Description of contaminant control and mine waste disposal.
X				CCR 3503 (a) (2)	Overburden stockpiles managed to minimize water and wind erosion.

YES NO ? N/A

__	__	__	X	CCR 3704 (g)	Piles or dumps not placed in wetlands without mitigation.
X	__	__	__	CCR 3711 (e)	Topsoil redistributed in stable site and consistent thickness.
X	__	__	__	CCR 3712	Waste and tailings, and waste disposal governed by SWRCB (Article 7, Chapter 15, Title 23, CCR).
X	__	__	__	CCR 3710 (b)	In-stream in accordance with DFG 1600, EPA 404, and Sec. 10 Rivers and Harbors.
__	__	__	X	CCR 3710 (c)	In-stream channel elevations and bank erosion evaluated annually using extraction quantities, cross-sections, aerial photos.
X	__	__	__	CCR 3706 (f)	Stream diversions constructed in accordance with DFG 1603, EPA 404, Sec. 10 Rivers and Harbors.
X	__	__	__	CCR 3706 (g)	All temporary diversions eventually removed.

Environmental Setting and Protection of Fish and Wildlife Habitat

X	__	__	__	CCR 3502 (b) (1)	Environmental setting and impact of reclamation on surrounding land uses. (Identify sensitive species, wildlife habitat, sensitive natural communities, e.g., wetlands, riparian zones, etc.)
X	__	__	__	CCR 3705 (a)	Vegetative cover, suitable to end use, self-sustaining. Baseline studies documenting cover, density and species richness.
X	__	__	__	CCR 3503 (c)	Protection of fish and wildlife habitat (all reasonable measures).
X	__	__	__	CCR 3703 (a)	Sensitive species conserved or mitigated.
X	__	__	__	CCR 3703 (b)	Wildlife habitat at least as good as pre-project, if approved end use is habitat.
__	__	__	X	CCR 3703 (c)	Wetlands avoided or mitigated at 1:1 minimum.
__	__	__	X	CCR 3704 (g)	Piles or dumps not placed in wetlands without mitigation.
X	__	__	__	CCR 3706 (a)	Mining and reclamation to protect downstream beneficial uses.
X	__	__	__	CCR 3706 (f)	Stream diversions constructed in accordance with DFG 1603, EPA 404, Sec. 10 Rivers and Harbors.
X	__	__	__	CCR 3706 (g)	All temporary diversions eventually removed. (Restore wildlife habitat).

YES	NO	?	N/A		
X				CCR 3710 (a)	Surface and groundwater protected.
X				CCR 3710 (b)	In-stream in accordance with DFG 1600, EPA 404, and Sec. 10 Rivers and Harbors.
			X	CCR 3710 (c)	In-stream channel elevations and bank erosion evaluated annually using extraction quantities, cross-sections, aerial photos.
			X	CCR 3710 (d)	In-stream not cause fish impacts according to DFG 1600.
X				CCR 3713 (b)	All portals, shafts, tunnels, or openings, gated or protected from public entry, but preserve access for wildlife.

Resoiling and Revegetation

X				CCR 3503 (f)	Resoiling (fine material on top plus mulches).
X				CCR 3704 (c)	Mine waste stockpiled to facilitate phased reclamation and separate from growth media.
X				CCR 3711 (a)	All salvageable topsoil removed. Topsoil and vegetation removal not process mining by more than one year.
X				CCR 3711 (b)	Topsoil resources mapped prior to stripping, location of stockpiles on map. Topsoil and growth media in separate stockpiles.
X				CCR 3711 (c)	Soil salvage and phases set forth in plan, minimize disturbance, designed to achieve revegetation success.
			X	CCR 3707 (b)	Segregate and replace topsoil by horizon.
X				CCR 3711 (d)	Topsoiling phased ASAP. Stockpiles not be disturbed until needed. Stockpiles clearly identified and planted with vegetation or otherwise protected.
X				CCR 3711 (e)	Topsoil redistributed in stable site and consistent thickness. Harbors.
X				CCR 3705 (d)	Roads stripped of roadbase materials, resoiled and revegetated, unless exempted.
X				CCR 3705 (e)	Soil altered or other than native topsoil, required soil analysis. Amend if necessary.
			X	CCR 3707 (d)	Fertilizers and amendments not contaminate water.

YES	NO	?	N/A		
X				CCR 3503 (g)	Revegation and plant survival (use available research).
X				CCR 3503 (a) (1)	Removal of vegetation and overburden preceding mining kept to a minimum.
X				SMARA 2773 (a)	Revegetation plan specific to property. Monitoring plan.
X				CCR 3705 (a)	Vegetative cover, suitable to end use, self-sustaining. Baseline studies documenting cover, density and species richness.
X				CCR 3705 (b)	Test plots if success has not been proven previously.
X				CCR 3705 (c)	Decompaction of site.
X				CCR 3705 (d)	Roads stripped of roadbase materials, resoiled and revegetated, unless exempted.
			X	CCR 3705 (f)	Temporary access not bladed. Barriers installed.
X				CCR 3705 (g)	Use native plant species, unless exotic species meet end use.
X				CCR 3705 (h)	Plant during correct season.
			X	CCR 3705 (i)	Erosion control and irrigation, when necessary.
			X	CCR 3705 (j)	If irrigated, demonstrate self-sustaining without for two-year minimum.
X				CCR 3705 (k)	Weeds managed.
			X	CCR 3705 (l)	Plant protection measures, fencing, caging.
X				CCR 3705 (m)	Success quantified by cover, density and species-richness. Standards proposed in plan. Sample method set forth in plan and sample size provide 80 percent confidence level, as minimum.

Administrative Requirements

X				SMARA 2774 (b)	Annual inspection.
X				SMARA 2776	All mining operations since 1/1/76 included in reclamation plan.
			X	SMARA 2777	Amended reclamation plans required prior to substantial deviations to approved plans.
		X		PRC 21151.7	EIR required for cyanide heap leaching.

NOTES:

Appendix B.3

Gem Hill Project Revegetation Plan

GEM HILL PROJECT

ROSAMOND, KERN COUNTY, CALIFORNIA

Revegetation Plan

Prepared For:

Lilburn Corporation
1905 Business Center Drive
San Bernardino, California 92408
Contact: *Frank Amendola*
909.890.1818

Prepared By:

ELMT Consulting, Inc.
2201 N. Grand Avenue #10098
Santa Ana, California 92711
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714.714.5050

October 2020
Updated January 2022

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APPENDIX

Appendix A Transect Data Sheets
Appendix B Site Photographs
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Section 1 Introduction

CalPortland Company (CalPortland) is submitting to Kern County (County) a Reclamation Plan for the reclamation of the Gem Hill Quarry. As part of the planning process for the Gem Hill Quarry, CalPortland will be submitting an application under the Surface Mining and Reclamation Act (SMARA) to Kern County, the local lead agency. The reclamation plan review submittal under SMARA for the proposed project requires several documents be prepared, including a revegetation plan. The revegetation plan will be implemented to restore a site when mining is complete but must first be reviewed and approved as part application process prior to commencing the mining operation.

Section 2 Project Location

The project site is generally located west of State Route 14, south of State Route 58, north of State Route 138, and east of the Tehachapi Mountains northwest of Rosamond, unincorporated Kern County, California (Exhibit 1, *Regional Vicinity*). The project site is depicted on the Soledad Mountain quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic map series within Sections 25, 26, 35 and 36 of Township 10 North, Range 13 West (Exhibit 2, *Site Vicinity*). Specifically, the project site is located west of Mojave Tropico Road within the northwestern portion of the Rosamond Hills approximately 3.8 miles north of Rosamond Boulevard and approximately 2.3 miles south of Backus Road (Exhibit 3, *Project Site*). The project site is located within portions of Assessor Parcel Number (APN) 0345-032-31, -05, 0345-031-02, and 0345-294-17.



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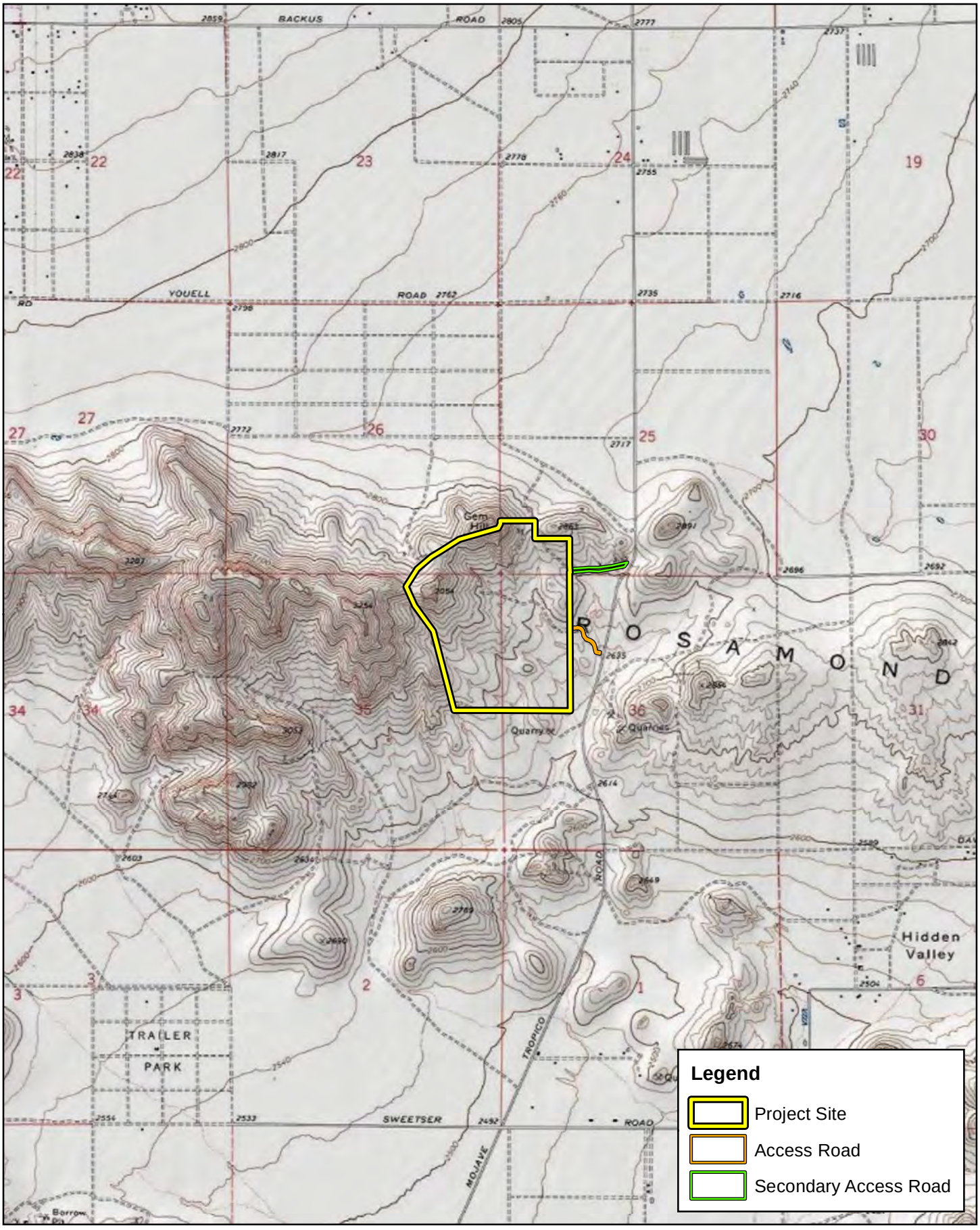
0 5 10 20 Miles

Source: Federal Highway Administration, US Department of Transportation

GEM HILL
REVEGETATION PLAN

Regional Vicinity

Exhibit 1



ELMT CONSULTING

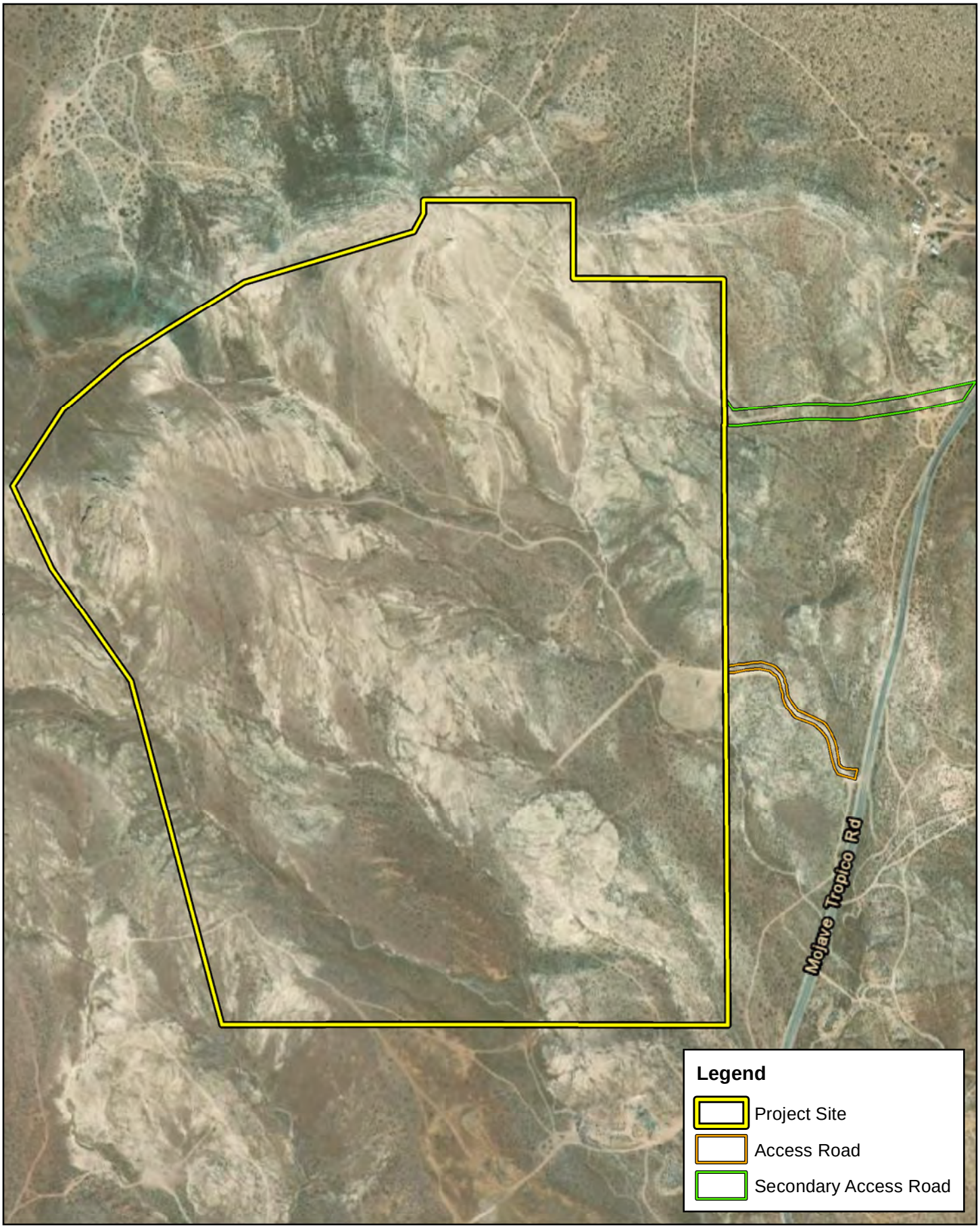
0 1,250 2,500 5,000 Feet

Source:USA Topographic Maps, Kern County

GEM HILL
REVEGETATION PLAN

Site Vicinity

Exhibit 2



ELMT CONSULTING

0 250 500 1,000 Feet

Source: ESRI Aerial Imagery, Kern County

GEM HILL
REVEGETATION PLAN

Project Site

Exhibit 3

Section 3 Environmental Setting

3.1 LOCAL CLIMATE

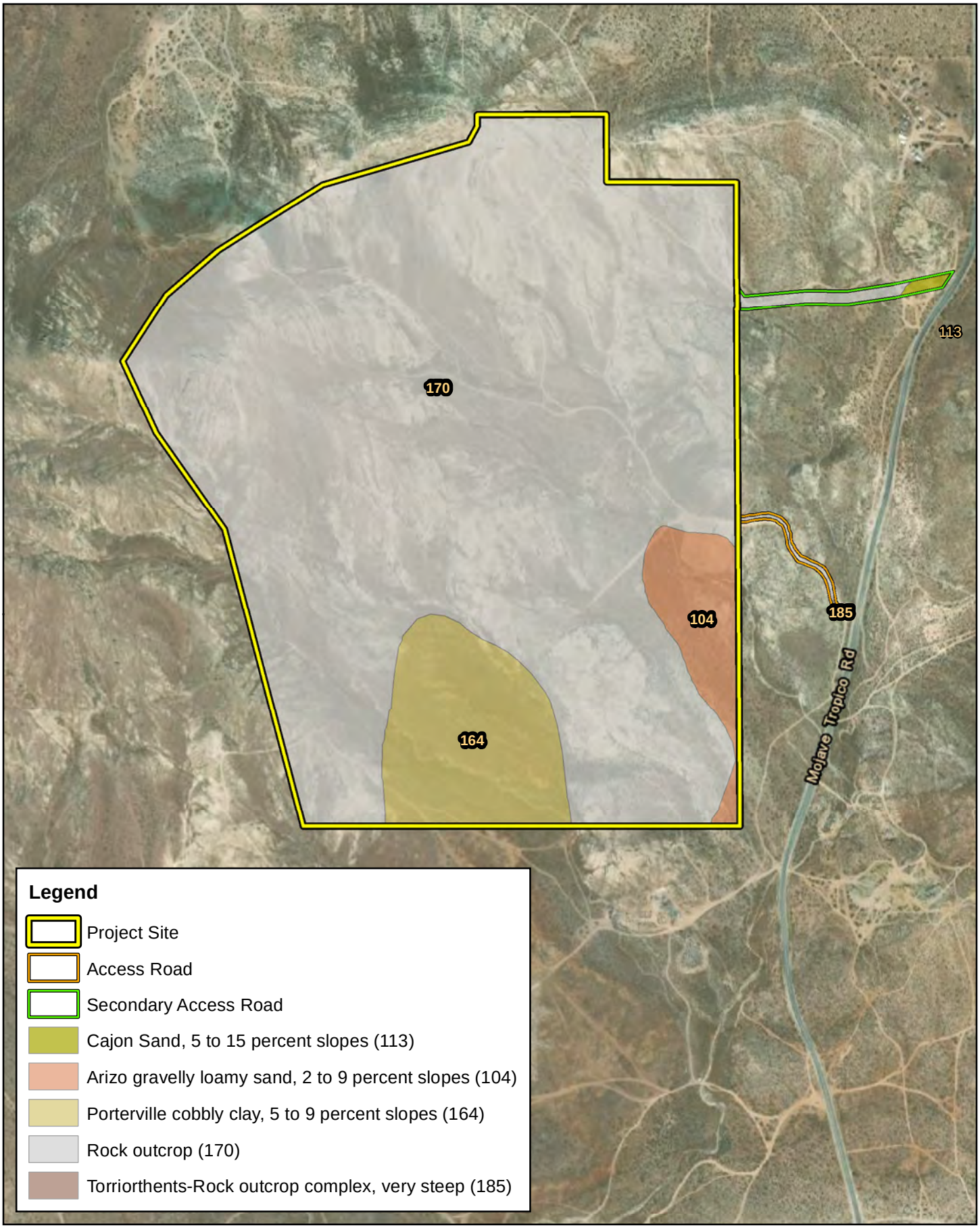
The Mojave Desert is found at elevations of 2,000 to 5,000 feet above mean sea level (msl) and is characterized by cool winter temperatures and warm summer temperatures, with its rainfall occurring almost entirely in the winter. Climatological data obtained from nearby weather stations indicated the annual precipitation in Rosamond averages 5.87 inches per year. Most of the precipitation occurs November through March, with hardly any occurring between May and August. The wettest month is February, with a monthly average total of 1.23 inches. The average maximum and minimum temperatures for Rosamond are 96.2 and 57.1 degrees Fahrenheit (°F), respectively with July and August being the hottest months and December and January being the coldest.

3.2 TOPOGRAPHY AND SOILS

On-site elevation ranges from approximately 2,620 to 3,050 feet above mean sea level and generally slopes from northwest to southeast. The northwestern portion of the site supports steep slopes that extend southeast to flat areas. Based on the NRCS USDA Web Soil Survey, the project site is underlain by the following soil units: Arizo gravelly loam sand (2 to 9 percent slopes), Porterville cobbly clay (5 to 9 percent slopes), and rock outcrop. The Arizo series consists of very deep, excessively drained soils that formed in mixed alluvium on recent alluvial fans, inset fans, fan apron, fan skirts, stream terraces, floodplains of intermittent streams and channels. The Porterville series consists of deep, well drained soils that formed in fine textured alluvial material from basic and metabasic igneous rock on fans and foothills (Exhibit 4, *Soils*).

3.3 SURROUNDING LAND USES

The project site is located in the northwest portion of Rosamond Hills in a primarily undeveloped area in unincorporated Kern County, California. Minimal development occurs in proximity to the project site. Scattered residential plots occur to the north, and undeveloped, vacant land occurs to the east, south, and west. The nearest residence is 1,800 feet to the northeast. There is also a solar panel field 1.2 miles to the southwest of the project site adjacent to the opposite end of Rosamond Hills.



ELMT CONSULTING

0 250 500 1,000 Feet

Source: ESRI Aerial Imagery, Soil Survey Geographic Database, Kern County

GEM HILL
REVEGETATION PLAN

Soils

Exhibit 4

3.4 VEGETATION

The project site primarily consists of vacant, undeveloped land with several dirt access road that traverse the site. The steeper slopes of the project site are barren or support minimal vegetation (<5% cover) while the flatland areas at the bottom of the slopes support a denser (<30% cover) cover of vegetation. Refer to Appendix A, *Site Photographs,* for representative site photographs.

During the field investigations, one (1) plant community, Creosote Bush Scrub, was observed within the boundary of the project site (Exhibit 5, *Vegetation*).

3.4.1 Creosote Bush Scrub

Creosote bush scrub is an open scrub plant community characterized by sparse, evenly spaced plants and dominated by creosote (*Larrea tridentata*). It typically occurs below 3,500 feet above msl in the southeastern deserts of California. An abundance of open ground is common in creosote brush scrub, as an adaptation by the associated plants to prevent the spreading of wildfires. Plants found in this plant community are adapted to extreme seasonal shifts in temperature and high winds.

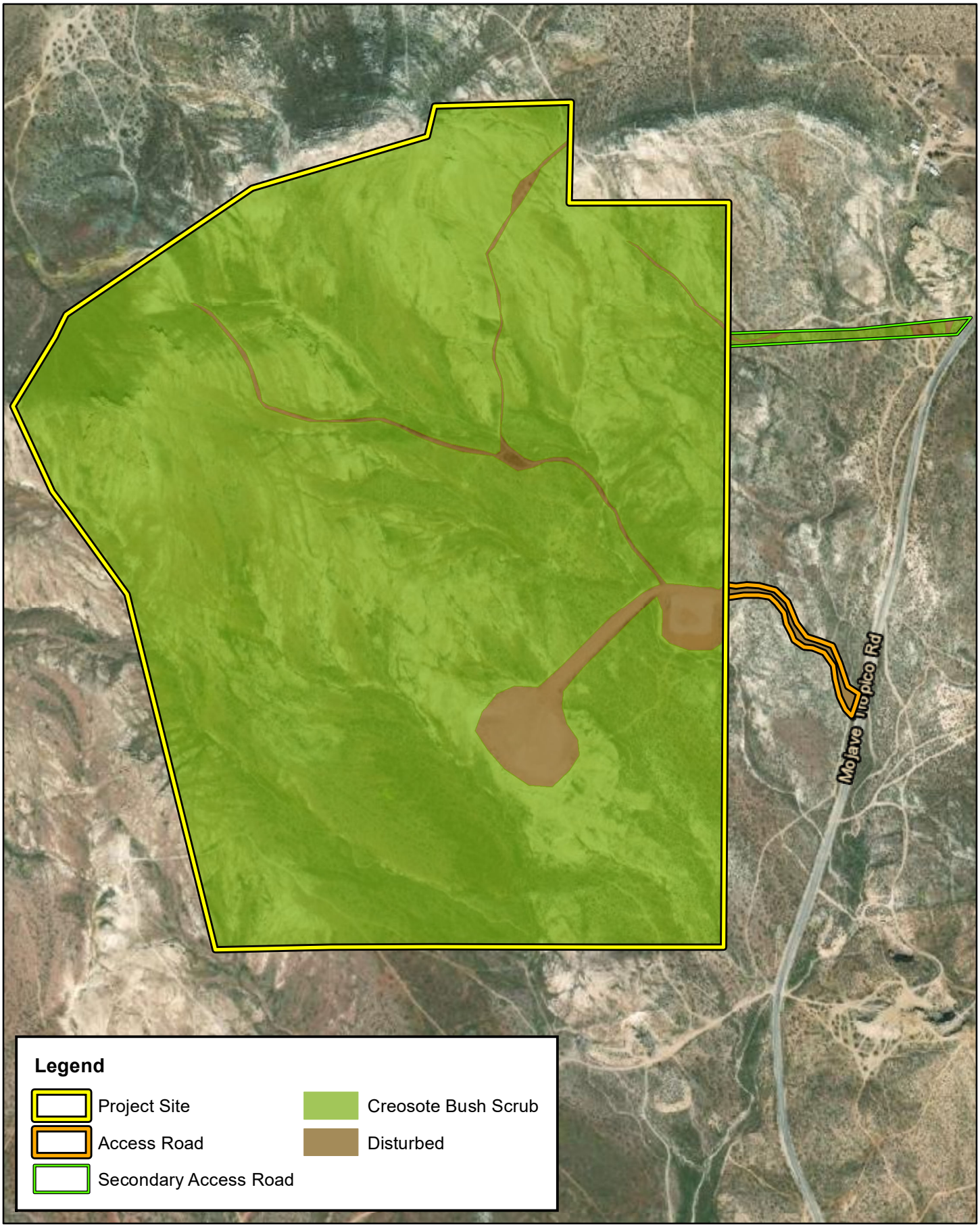
Plant species found on the project site within the creosote bush scrub community included creosote, burrobush (*Ambrosia dumosa*), California buckwheat (*Eriogonum fasciculatum*), beavertail (*Opuntia basilaris*), chia (*Salvia columbariae*), Mormon tea (*Ephedra nevadensis*), cheesebush (*Ambrosia salsola*), matchweed (*Gutierrezia californica*), cryptantha (*Cryptantha* sp.), blackbush (*Coleogyne ramosissima*), allscale (*Atriplex polycarpa*), red brome (*Bromus madritensis* ssp. *rubens*), and Mediterranean grass (*Schismus* sp.).

3.4.2 Disturbed

Disturbed areas refer to unpaved or dirt areas that have been exposed to anthropogenic disturbances and do not comprise a plant community. Surface soils within these areas are generally devoid of vegetation or support non-native and ruderal/weedy plant species and have been heavily disturbed/compacted from anthropogenic disturbances. Disturbed areas on-site encompass all dirt access roads and areas that have been subject to off-road vehicle use.

3.5 PLANT COMMUNITY COMPOSITION

The goal of most restoration and revegetation projects is to recreate the plant cover, distribution and species composition of the plant community found on a site prior to disturbance. Accurate data on the plant community composition is desirable in the initial planning and evaluation process for the project. Plant cover, species density and species diversity are important aspects of a plant community which can be measured by conducting sampling of a comparable reference site or, in this case, the largely undisturbed native plant community. As noted, there is only one native plant



ELMT CONSULTING

Source: ESRI Aerial Imagery, Kern County

GEM HILL
HABITAT ASSESSMENT

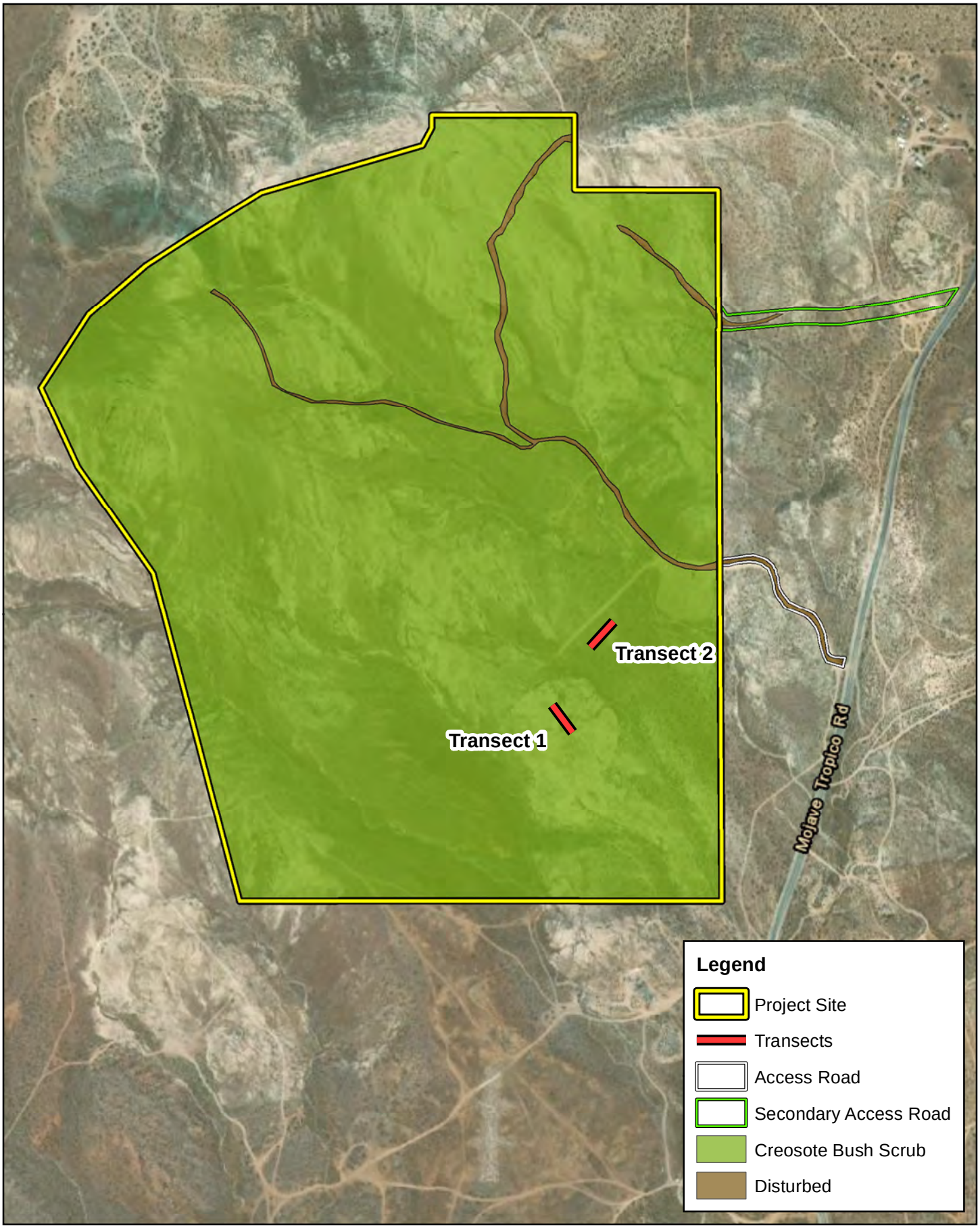
Vegetation

Exhibit 5

community found within the proposed project site, a creosote bush scrub plant community, which is primarily homogenous throughout the project site with only minor variations in composition associated with changes in landforms: level to gently sloping terrain and rocky slopes.

In order to accurately define the existing plant community composition and to be able to adequately measure the success of the revegetation over time, plant transects were conducted using the point intercept methodology to document baseline conditions. ELMT biologists used the Releve methodology to select representative transect locations. The Releve methodology allows a biologist to use their knowledge of an area and the habitat(s) found within that area to subjectively select transect lines or locations as representative of that habitat(s) rather using other methodologies that require a large number of randomly generated transects in order to ensure that sample size is sufficient to adequately represent habitat(s) in the area. For the proposed project, there is a single habitat, a creosote bush scrub plant community. The creosote plant community is homogenous across most of the project site, with some minor vegetative variation associated with areas of different landforms or topographic relief. On the project site, three landforms were identified: level to gently sloping terrain, steep slopes and ephemeral drainages/erosion channels that are commonly defined dry washes. ELMT lead biologist Thomas J. McGill, Ph.D. has worked extensively in Mojave Desert and within creosote bush scrub habitat for forty years. Based on his knowledge and years of experience in the creosote bush scrub habitat, he selected two transect locations as representative of the project site. The location of these transect lines were recorded with a GPS unit for future reference. The locations of the transect lines are shown in Exhibit 6, *Transect Locations*. The information collected was used to document the species present, percent vegetative cover, species density and species diversity as part of documenting baseline conditions within each landform. This characterization of baseline conditions provides a guide for future revegetation efforts.

Vegetation within in each line was sampled using the point-intercept method (California Native Plant Society 2014). Each transect was 50 meters long and 1 meter wide. All native and non-native plant species within a 50-meter square transect were recorded and are presented in Table 1, *Plants Identified Within Each Transect.* Additionally, a transect line was stretched down the center of each transect and plant species, native and non-native, that were intercepted by the line were noted and recorded at half-meter (1.6-foot) intervals. Note, that only those plant species intercepted the central transect line were recorded, not all plant species within a transect necessarily intercepted the central transect line. Datasheets for the point-intercept process are presented in Appendix A, *Transect Data Sheets* and were used to determine percent plant cover (refer to Table 2, *Percent Plant Cover*) and species density and species diversity (refer to Table 3, *Species Density and Species Diversity*).



ELMT CONSULTING

0 250 500 1,000 Feet

Source: ESRI Aerial Imagery, Kern County

GEM HILL
REVEGETATION PLAN

Transect Locations

Exhibit 6

Table 1: Plants Identified Within Each Transect

Plant Species	Transects	
	Rocky Slopes	Level Area
Native Perennials		
Ambrosia salsola	X	
Atriplex canescens	X	X
Ephedra nevadensis	X	X
Ericameria pinifolia	X	X
Eriogonum fasciculatum	X	
Larrea tridentata	X	X
Stipa speciosa	X	
Native Annuals		
Amsinckia tesselata	X	
Camissonia californica	X	
Chorizanthe brevicornu		X
Chorizanthe watsonii		X
Emmenanthe penduliflora		X
Mirabilis laevis	X	
Phacelia distans		X
Thysanocarpus laciniatus	X	
Non-Native Species		
Erodium cicutarium	X	X

This Area Intentionally Left Blank

Table 2: Percent Plant Cover (per 50 m^2)

Plant Species	Transects	
	Rocky Slopes	Level Area
Native Perennials		
Ambrosia salsola	1%	
Atriplex canescens	5%	15%
Ephedra nevadensis	1%	3%
Ericameria pinifolia	2%	1%
Eriogonum fasciculatum	5%	
Larrea tridentata	3%	5%
Stipia speciosa	2%	
Native Perennial Subtotal	**19%**	**24%**
Native Annuals		
Amsinckia tesselata	3%	
Camissonia californica	1%	
Chorizanthe brevicornu		1%
Chorizanthe watsonii		1%
Emmenanthe penduliflora		17%
Mirabilis laevis	1%	
Phacelia distans		4%
Thysanocarpus laciniatus	2%	
Native Annual Subtotal	**7%**	**23%**
TOTAL NATIVE COVER	**26%**	**47%**
Non-Native Species		
Erodium cicutarium	13%	49%
TOTAL NON-NATIVE COVER	**13%**	**49%**
Bare Ground Subtotal	**61%**	**4%**
GRAND TOTALS	**100%**	**100%**

Table 3: Species Density and Diversity (all native plants per 50 m^2)

	Transects	
	Rocky Slope	Level Area
Species Density*	26	47
Species Diversity (all natives)**	11	8
Species Diversity (perennials)	7	4

*Species density reflects the number of native plants recorded in a transect.

**Species Diversity was calculated for all native species and for native perennial species occurring in a transect.

As noted, Appendix A provides the raw data for all plant species observed within each transect area. Tables 1 through 3 summarize these data and provides an analysis of the data by landform. Appendix B, *Site Photographs* provides a series of representative site photographs.

3.6 SPECIAL-STATUS PLANT SPECIES

The CNDDB Rarefind 5, CNDDB Quickview Tool in BIOS and the California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California were queried for reported locations of special-status plant and wildlife species as well as special-status natural plant communities in the Soledad Mountain and Willow Springs USGS 7.5-minute quadrangle. The habitat assessment evaluated the conditions of the habitat(s) within the boundaries of the project site to determine if the existing plant communities, at the time of the survey, have the potential to provide suitable habitat(s) for special-status plant and wildlife species.

According to the CNDDB and CNPS, seven (7) special-status plant species have been recorded in the Soledad Mountain and Willow Springs quadrangles. The project site supports a creosote bush scrub plant community that has the potential to provide suitable habitat for alkali mariposa-lily (*Calochortus striatus*), Mojave spineflower (*Chorizanthe spinosa*), recurved larkspur (*Delphinium recurvatum*), and sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*).

Section 4 Revegetation Methodology

The goal of this revegetation plan, as part of the reclamation plan for the proposed mining activities is to restore the native creosote bush scrub plant community and increase its potential to support special-status species known to occur in the general vicinity of the project site. The achievement of a successful revegetation program involves a number of steps. The steps include controlling access, removing sources of on-site human disturbance, reducing/eliminating non-native plant species, and reseeding with native plant species as necessary.

The revegetation efforts for CalPortland's Gem Hill project that are being proposed are based on the summary analysis found in Table 4 below.

Table 4: Revegetation Goals, Objectives, and Implementation Program

GOAL	OBJECTIVE	ACTION	ASSUMPTIONS	MONITORING
Restore the native creosote bush scrub plant community.	Protect project site from direct and indirect impacts	Limit access by construction of fencing and barriers and placement of signage.	Unlimited access is one of the major issues adversely affecting native habitat values.	Install fencing and signage.
				Weekly inspections of site after revegetating an area to ensure fencing and gates are secure and signs are posted. Quarterly inspections when problem abated.
		Remove Trash	Trash needs to be removed prior to any revegetation activities and the Site needs to be kept free of trash.	Remove trash prior to revegetation.
				Monthly inspections of the site for trash piles to ensure their timely removal, then quarterly inspections when problem is abated.
		Feral Animals	It is assumed that feral animals are not a problem due to the presence of coyote and bobcat in mining area. However, this assumption should be validated through monitoring.	As part of monitoring process for each revegetated area habitat, these open areas will be surveyed for dog and cat sign/tracks. If a problem is observed, a program will be developed to abate the problem.

	Protect Desert Native Plant Species	Pre- construction plant surveys were completed to identify the presence of protected desert native plant species. None were observed	No protected desert plant native species. N/A	No protected desert plant native species. N/A
	Remove/control non-native plant species	Non-native plant species are to be maintained at less than 10% as part of the restoration effort.	The presence of non-native plants reduces the habitat values of the site. Removal/control can be accomplished through manual removal and/or the use of herbicides.	Document methods used for the removal of non-native species and their effectiveness prior to the implementation of replanting of native species. Monitor regrowth of native species and conduct maintenance activities quarterly to remove non-native plant species during vegetation monitoring (See Section 5.1.2 for more detail).
	Revegetate mined areas to support a native creosote bush scrub plant community.	Following implementation of the revegetation plan, monitor the revegetated areas to ensure successful re-establishment of a creosote bush scrub plant community.	Once re-established, the creosote bush scrub plant community will suitable habitat for desert tortoise and the other special status species that use the area.	Establish performance criteria/standards to meet this objective and to support the special status species. (See Section 5.1.2 for performance standards for the Site).

4.1 REDUCING HUMAN DISTURBANCES

The first step to successfully revegetate a quarry or mined area is to remove human disturbances following the completion of mining activities. Human disturbance can be a significant cause of the loss of natural habitat values on a site. This initial stage of the revegetation will be conducted in two steps: first, securing the site, and second, removing areas of human disturbance (i.e, trash and mine equipment).

4.1.1 Securing the Site

Before revegetation activities proceed within a given area, the area(s) proposed for revegetation will be secured, beyond the existing mine fencing if needed, from unauthorized human intrusion to reduce the risks of off-road vehicle travel, shooting, trash dumping, and vandalism to the restored site from surrounding areas.

Appropriate signage will be placed at regular intervals around the perimeter of the site to inform the public that these areas are part of a mining reclamation area and that trespass is prohibited. Signs will be placed on all gates and on posts strategically located along the boundary line and will be clearly marked and visible to people attempting to enter the site.

4.1.2 Removal of Human Impacts/Disturbance

All trash and existing mining equipment, if still present, will be removed from within and immediately adjacent to an area prior to any revegetation efforts following the completion of mining activities. All trash and mining equipment will be removed by hand and/or authorized use of vehicles and will be hauled offsite for proper disposal. Impacts to native plant species should be avoided as much as possible during removal activities. Removal should be done by hand, when feasible. However, some removal will be done by machine since some trash or debris items weigh over 50 pounds and cannot easily be carried off-site by one individual. The use of equipment will be limited, as much as feasible, to the existing dirt road system. A qualified Biologist will remain on-site during all trash removal to ensure that there are no adverse impacts to the native creosote bush scrub habitat that could otherwise affect the revegetation of a site needed to restore is conservation value.

4.2 REMOVAL OF NON-NATIVE SPECIES

Non-native populations should be controlled, as needed, prior to revegetation at the conclusion of mining activities. Manual clearing would be the suggested method. A second method would be the use of approved herbicides, depending on the species and the extent of the infestation. One or both of these methods could be used to accomplish this task. The selection of method(s) to be used will be site specific and made by the qualified Biologist in concert with CalPortland and Kern County. All efforts to remove non-native species will be overseen by a qualified Biologist to ensure the level effort addresses the issue.

If manual clearing is used, the Biologist will ensure all non-native, exotic, or invasive plant material is gathered into appropriate storage containers (drawstring plastic trash bags are acceptable), removed from the Site, and deposited at an approved disposal facility (a landfill is acceptable) to prevent the introduction and establishment of those species to new areas. If herbicides are used, the appropriate herbicide will be selected by the Biologist in consultation with

CalPortland and Kern County. At this time, it is anticipated the herbicide to be used will be Fusillade and Roundup (glyphosate). The Biologist would also oversee their application.

4.3 PROTECTION OF DESERT NATIVE PLANT SPECIES

The California Desert Native Plants Act (CDNPA) protects California desert native plants from unlawful harvesting on both public and privately owned lands within Imperial, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego Counties. The following native plants, or any part thereof, may not be harvested except under a permit issued by the commissioner or the sheriff of the county in which the native plants are growing: all species of the

- Agavaceae (century plants, nolinas, and yuccas);
- all species of the family Cactaceae;
- all species of the family Fouquieriaceae (ocotillo, candlewood);
- all species of the genus *Prosopis* (mesquites);
- all species of the genus *Cercidium* (palo verdes);
- catclaw acacia (*Acacia greggii*);
- desert holly (*Atriplex hymenelytra*);
- smoke tree (*Dalea spinosa*); and
- and desert ironwood (*Olneya tesota*).

The CDNPA was taken into consideration in this evaluation, however, none of the aforementioned California desert native plants are located on the project site.

4.4 SPECIAL-STATUS PLANT SURVEY

Focused special-status plant surveys were conducted in accordance with the USFWS 1996 *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants*; CDFW 2009 *Guidelines for Assessing the Effects of Proposed Developments on Rare and Endangered Plants and Plant Communities*; and the CNPS 2001 Botanical Survey. Surveys were conducted at the time of year when plant species are both evident and identifiable. Two (2) site visits were spaced throughout the growing season to accurately determine what plant species exist on-site and capture the floristic diversity at a level necessary to determine if special-status plants are present. The timing and number of surveys was determined based on geographic location, the natural communities present, and the weather patterns of the region. Based on the special-status plant species known to occur within the general vicinity and the suitability of the onsite habitat to support those species, ELMT biologists Thomas J. McGill, Ph.D., Travis J. McGill and Jacob H. Lloyd Davies conducted the surveys on May 5 and September

26, 2019. No special status plants were observed during either survey. As a result, no impacts to special-status species are expected to occur from project activities

4.5 REVEGETATION

Revegetation of native habitats will occur following the completion of mining activities in a specific area while mining activities are occurring elsewhere on the site, and after non-native species have been removed. The goals of: 1) restoring native habitat through revegetation in order to re-establish high-quality creosote bush scrub; and 2) to reestablish a structurally diversified native plant community within quarry and associated facilities will ensure long-term viability of the native creosote bush scrub plant community and the various species it previously supported. The following sections outline the steps necessary to achieve these goals.

4.5.1 Recontouring

The slopes of a mined area will be recontoured to conform to the surrounding topography and facilitate revegetation efforts. Reestablishing the creosote bush scrub plant community should be successful with recontouring and/or ripping the site, where needed, for erosion control and to eliminate compaction, followed by revegetation and the requisite five years of monitoring and managing the revegetation effort.

4.5.2 Revegetation

Revegetation will be accomplished once the quarry has been closed and will be initiated in consultation with Kern County.

Soil Preparation

Prior to any revegetation, the soils within quarry or associated facility scheduled for seeding will be prepared to receive seeds. If needed, soils will be de-compacted, following a pre-revegetation desert tortoise clearance survey that verifies that no desert tortoise are present. However, it is anticipated that most of the areas that will be scheduled for revegetation may be rock in the form of overburden or quarry benches. In this case, these areas will be covered with up to 6 to 12 inches of suitable soils to the extent possible.

Additionally, there will be an abundant of removed overburden from the proposed expansion areas that will be stored and available for providing the necessary fill or topsoil prior to revegetation. If needed, the overburden will be placed in an area that is being reclaimed to provide a soil base to help promote the growth of seeds.

If seeds are to be hand cast onto the soil surface, the soil will first be scarified. In areas where the seeds will be imprinted, the site will first be ripped. The ripper blades will be spaced 12 inches

apart and capable of ripping the soil to a depth of six to ten inches. The Biologist will be present during these activities.

Table 5: Proposed Native Plant Species

SPECIES		POUNDS PER ACRE
SCIENTIFIC NAME	**COMMON NAME**	
Ambrosia dumosa	Burrobush	2.50
Ambrosia salsola	Cheesebush	2.50
Amsinckia tessellata	Fiddleneck	0.25
Alyssum desertorum	Desert alyssum	0.25
Atriplex confertifolium	Shadscale	2.50
Cammisonia californica	Evening primrose	0.25
Chorizanthe rigida	Rigid spineflower	0.25
Chaenaetis fremontii	Desert pincushion	0.25
Ericameria nauseous	Rabbitbrush	3.00
Ephedra nevadensis	Mormon tea	1.50
Ericameria linearifolia	Narrow leaf goldenbush	0.75
Eriogonum fasciculatum	Flat-topped buckwheat	2.00
Eriogonum thurberi	Thurber's buckwheat	0.50
Gilia spp.	Gila	0.25
Larrea tridentata	Creosote bush	3.00
Pectocarya linearis	Slender combseed	0.25
Phacelia distans	Phacelia	0.25
Salvia columbariae	Chia	0.25
Stephanomeria exigua	Small wirelettuce	0.25
Tetradymia spinosa	Cotton thorn	2.00
Xylorhhiza tortifolia	Mojave aster	0.50
TOTAL pounds per acre		**25-30**

Seeding

Seeds will be distributed throughout an area scheduled for revegetation during the rainy season, generally between October 1 and January 30, or during a suitable period based on weather forecasts and rainfall. A certified weed free seed mix may be used in lieu of seed collected at the site. Certified weed free seed mixes are available and may be purchased from professional nurseries

The preferred method of seed installation is by imprinting. Imprinting is a method in which heavy steel drum rollers with imprinting teeth on them are dragged (rolled) across a site to leave troughs for seeds to be placed in. Seeds are placed into a hopper in front of the imprinter, and the hopper disperses the seed onto the rollers, which subsequently press the seeds into the ground while creating troughs. When properly implemented, the troughs trap seeds, collect moisture, reduce runoff, and reduce erosion, while also providing shelter from winds and intense sunlight. Imprinting should only occur after the soil has been sufficiently ripped to provide a rough surface

for catching the seeds, and only when there is sufficient moisture in the soil for it to be properly imprinted without the troughs losing their shapes.

The seed hopper must be thoroughly cleaned prior to the arrival of the imprinter at the site. Seed can be mixed with wheat bran or another approved substitute to aid in application and the prevention of seed segregation. In addition, mycorrhizal fungi can be applied to the seeds where necessary, particularly in highly disturbed areas where plants may otherwise have difficulty growing. The restoration contractor shall determine the appropriate mixing ratio of the seed to the binder and/or mycorrhizae, if used.

Where imprinting is not possible due to access issues or due to potential damage to surrounding habitat, broadcast seeding will be used. Broadcasting will be conducted by hand and therefore should not occur when there are detectable winds that might carry seed away from its intended location. Seed should be broadcast twice: first, half of the seed should be spread while moving in one direction, and then the other half of the seed should be spread while moving perpendicular to the original direction.

Test Plots

The use of test plots is recommended during the initial revegetation efforts. These test plots will provide valuable data for the ensuring revegetation efforts as all the slated quarries are mined and the revegetation program implement for those areas. Two general topographic aspects were identified within the creosote bush scrub plant community: rocky slopes and level to gently sloping. Two different seeding processes have been recommended for use in revegetating sites: mechanically imprinting seeds, as described in detail above, and broadcasting of seeds by hand on steep slopes, inaccessible areas or area that would otherwise be damaged by the use of an imprinter. The level to gently sloping areas are generally imprinted, while rocky slopes, due to steepness of the slopes and present of granite outcrops may need to be seeded by hand. If possible, the first revegetation site can be used to test the benefits of the two seeding methodologies on the two identified topographic aspects of the mining area. Further, test plots could also be employed to test for the effective of using mycorrhizal fungi as part of the imprinting process. Table 6, *Potential Test Plots*, is a suggested matrix of test plots that could be used at the initial revegetation site to test the methodologies of seeding on each topographic aspects of the site and the benefits of using mycorrhizal fungi during the seeding process.

Table 6: Potential Test Plots

Type of Seeding	Rocky Slopes	Level Area
Seeding by Hand		
Imprinting with Micorrhizal Fungi		
Imprinting without Micorrhizal Fungi		

Section 5 Performance Standards, Biological Monitoring and Reporting

Following the revegetation effort, the restored areas will be monitored for five years to ensure a successful revegetation process in support of overall reclamation of the area. Performance standards described in this section will be used to determine when a quarry or revegetation area will be considered a success. Biological monitoring will be conducted quarterly to track the success of the revegetation effort, ensuring that any corrective measures needed can be implemented in a timely manner and the established performance standards are met. Reporting will document all activities and their success and includes the following reports: 1) implementation reports, 2) monitoring reports, and 3) annual reports. The implementation report and monitoring reports will be prepared at the conclusion of each activity. The annual report will provide a yearly accounting of reclamation and revegetation activities, results of the biological monitoring, and the status of where the revegetation efforts are in relationship to meeting the performance standards. The annual report will also provide an accounting of all maintenance activities that occurred during the previous year.

5.1 PERFORMANCE STANDARDS

Composition of the native creosote bush scrub plant community was determined using vegetation transects conducted within of the existing, undisturbed native habitat and is summarized in Table 7, *Plant Community Composition* below. From this vegetation composition data, a series of performance standards or success criteria were derived and are presented in Table 8, *Performance Standards*. Performance criteria for native perennial shrub cover are identified as 45% of baseline values, while species density and species diversity performance standard is identified as 40% of baseline values for native perennial shrubs. Performance standards were developed for each landform encountered within the proposed expansion area. Fulfillment of the performance standards is expected to indicate that revegetated areas are progressing toward the long-term goal of becoming a functioning, self-sustaining creosote bush scrub plant community.

Performance standards are provided for controlling site access and illegal dumping of trash, as well as weed control and revegetation activities. These activities will be in place for a period of five (5) years following revegetation, or until performance standards are met. There must be a minimum of two monitoring visits each year over the five-year period, unless performance standards are met earlier. If all annual performance standards are met at the end of the five-year monitoring period or earlier, no additional revegetation activities or monitoring will be required.

Fencing, if needed beyond the exiting fence needed to secure the mine, and trash removal will occur as part of initial site preparation activities. The removal of non-native vegetation will also

commence in Year 1. These efforts will be followed by the revegetation activities in Year 2. It is expected that each revegetated area will meet the Performance Standards at a different time, likely in Years 4 or 5. A five-year monitoring period, see Table 9, *Revegetation Schedule*, will be conducted starting at Year 1. If the performance standards are not being met, corrective measures will be implemented after coordination with the Kern County Land Use Services Division of the Land Planning Department. A general revegetation schedule is shown in the table below.

Table 7: Plant Community Composition*

Transect	Perennial Cover (%)	Species Density	Species Diversity
Rocky Slope	19	26	11
Level Area	24	47	8

*Native perennial shrubs from the 2019 baseline surveys per 50 m^2.

Table 8: Performance Standards*

(45% of Baseline Cover, 40% of Baseline Species Density/Diversity)

Transect	Perennial Cover (%)	Species Density	Species Diversity
1	9	10	4
2	11	19	3

*Native perennial shrubs from the 2019 baseline surveys per 50 m^2.

Table 9: Revegetation Schedule

RESTORATION PHASE	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Phase 1	Fencing, site cleanup clearance surveys, removal of non-natives, and revegetation	Revegetation as needed and biological monitoring	Quantitative Monitoring and Maintence unitl Preformance Standards are met.		

5.1.1 Site Access/Illegal Dumping

Performance standards are needed to track site access as well as the maintenance activities needed to remove illegal uses of the project site for the dumping of trash and use by off-road vehicle activity that could threaten the success of the revegetation efforts. Controlling site access will be considered successful if the barriers and signs are not damaged beyond functioning and if the loss of habitat from human disturbance associated with site access and illegal uses results is less than 5%.

5.1.2 Revegetation and Weed Control

The success of revegetation efforts and attainment of performance standards will be assessed by Biological Monitoring (Qualitative and Quantitative Monitoring). Each quarry or revegetation

area will be evaluated separately to determine if the performance standards have been met for that area.

The species diversity goal and plant cover goal for revegetation are as follows:

- Vegetation composition should be structurally diversified and comparable to that found in the reference site. No single native shrub species will constitute more than 20% of the area or site, including California buckwheat. Species comprising greater than 20% composition of any area, will be selectively thinned by hand. Shrubby vegetation should remain patchy within each quarry or revegetated area such that there are open pathways between shrubs for wildlife to move through an area.

- Coverage of perennial shrub plant species, e.g. creosote bush scrub, should be between 10% and 40% as documented by the qualitative monitoring of the site. This cover should form a patchwork of areas varying from openings to areas with a high density of vegetation. If shrub cover in any area 0.5 acre or greater exceeds 65%, the shrubs should be selectively removed by hand, as determined by the Project Biologist, and/or a native plant botanist. Likewise, if shrub cover is under 10% in any area 0.25 acre or greater, the area will be revegetated via hand-casting of seed or by imprinting (see below) under the direction and supervision of a permitted desert tortoise biologist, the Project Biologist, or a native plant botanist.

The revegetation efforts will be considered successful when the following standards are met:

- Non-native vegetation cover will include areas of mine related disturbance areas as part of the loss of native habitat and shall constitute no more than 10% of the Site; with mine related disturbance constituting less than 5% of this total.
- The following standards will be applied to mature creosote bush scrub habitat:
    - Native perennial shrub cover is between 6% and 19%.
    - No single native perennial species constitutes more than 20% of the measured cover, including California buckwheat,.
    - At least 40% species diversity compared to the baseline data provided in Table 7 above (i.e., the frequency of dominant species are at least 50% of the frequency of those species recorded as part of the baseline data).
    - The native shrub cover should remain open in order to provide pathways for wildlife to move freely through the area.
    - Significant maintenance measures (i.e., reseeding, weed control, repairing significant areas of erosion) have not been required for the previous two years.

If the native perennial plant cover is less than 6% in any area 0.25-acre or greater, the biological monitor will evaluate the reasons for the low cover and make recommendations for remedial measures, if any. Similarly, if species diversity is less than 45% of baseline conditions, the need for other remedial measures will be evaluated.

5.2 MONITORING

Monitoring will include both site monitoring for assess control, trash dumping and other forms of human disturbances, as well as biological monitoring of each revegetated quarry or associated facility.

Site monitoring of human use (access, trash dumping and off-road vehicle use) will consist of:

- **Installation monitoring**: to observe and document the construction of fences/barriers, gates (including chains and locks) and signs, and to document the removal of trash and elimination of human disturbance.
- **Security monitoring**: to observe the status of the fences/barriers, gates, chains, locks, and signs.
- **Ongoing monitoring**: to observe and document the effectiveness of the access control measures and the efforts to eliminate dump sites and areas of human disturbance.

Monitoring of revegetation efforts will consist of:

- Baseline Data Gathering and Reference Site Botanical Assessment
- Implementation monitoring to ensure that the initial weed control (removal of non-native species) and subsequent reseeding with native seeds have been properly performed and documented.
- Biological monitoring to qualitatively and quantitatively evaluate overall conditions of a revegetated mine site.

5.2.1 Site Monitoring

Site monitoring will include both Security monitoring by CalPortland security personnel and by the observations by the biological monitor during qualitative monitoring to assess the security of each revegetated area, including breach is gates or fences, the presence of trash, and loss of habitat due to off-road vehicle activity. Security monitoring of the site is required because unimpeded access to the revegetated areas will result in impacts to an area and is a threat to the success of the revegetation efforts. Security monitoring will be on at least a weekly/monthly basis by security personnel and by the Biological Monitor during each quarterly monitoring visit. Any observed breach will be reported immediately to CalPortland and repaired within 5 working days. Readily

observable trash sites and impacts from off-road vehicle activities will also be reported immediately to CalPortland and corrective measures taken within 5 working days.

5.2.2 Vegetation Monitoring

Vegetation monitoring will be conducted for three purposes: 1) to ensure that the site preparation, seeding and weed eradication follows the Revegetation Plan (implementation monitoring), 2) to evaluate native plant establishment and vigor, and to identify and make recommendations for correcting problems (qualitative monitoring) and 3) to quantitatively measure development of the creosote scrub habitat (quantitative monitoring). The success of the revegetation effort will be measured primarily by the analysis of the quantitatively collected data.

Implementation monitoring will occur during the initial revegetation activities by the biological monitor. The biological monitor will ensure that the revegetation and weed control plans are followed and assist in making necessary modifications to the plan, if necessary. Monitoring records will be kept for all revegetation activities including weed control, soil preparation, and seeding activities. The monitoring records will include dates for each activity, location of each activity, the type of treatments or actions taken, any problems encountered, and modifications made to the Revegetation Plan. This information will be documented and used to develop an implementation (as-built) report that will be included in the first annual monitoring report.

Qualitative monitoring is necessary to evaluate the general health of reseeded areas and/or areas still being treated for removal of non-native species and to identify and correct any identified problems. This is a subjective process that relies on the expertise of the biological monitor. Under qualitative monitoring, revegetated areas will be visited by the monitor on a defined schedule (i.e., at least quarterly in Years 1 through 5) to evaluate the effectiveness of nonnative species control and to document the growth and vigor of seeded vegetation. The monitor will record and report observations on the qualitative monitoring form. A sample form is provided in Appendix D. If required, the monitor will make specific recommendations for correcting any identified problems, including issues with seed germination and growth, erosion concerns, increased treatment for weed control, and other requirements for site protection. A general 5-year schedule for qualitative monitoring is shown in Table 9. The schedule is meant to be flexible so that qualitative monitoring is performed when needed and results in modifications to the Revegetation as needed.

Quantitative monitoring will be used to periodically quantify specific attributes of the revegetated habitat. Revegetation in the desert can take several years to accomplish depending on climatic conditions, rain vs. drought, and other unpredictable variables. The quantitative monitoring is designed to determine whether or not the revegetated site demonstrates a trend toward development of a self-sustaining creosote bush scrub habitat. It will be conducted to measure the re-establishment of the native creosote bush scrub habitat and to assess when the revegetated areas achieve the prescribed performance standards. Quantitative monitoring will commence after

qualitative monitoring indicates that the vegetative cover within each of the revegetated areas is approaching the performance standards. This should occur between years 2 and 4 after the initial revegetation effort. This monitoring will occur annually during the spring, when the creosote bush scrub habitat is normally the most diverse with the addition of spring annuals.

Each revegetation site will be sampled by selecting transect locations using the RELEVE methodology and intercept methodology to measure vegetation along the transect method line. The methodology shall be the same methodology used during the initial evaluation prior to revegetation and used to document conditions at the reference site. Data will be collected on each area at the same time each year, in the spring, to ensure consistency between years. The monitoring data from each revegetation area will be analyzed for changes or trends in densities/cover of the most common perennial and annual species. Year-to-year changes in cover characteristics will be compared to determine if the characteristics are approaching the characteristics found in the reference site. The monitor will record and report observations on the quantitative monitoring form found in Appendix C.

Each revegetated area will be monitored for a maximum of 5 years or until performance standards are met. If restoration performance standards have been met prior to 5 years, then the project will be considered successful and no further quarterly monitoring will be conducted and closure procedures can be initiated with Kern County. If performance standards have not been met, CalPortland will meet with the Kern County to develop alternative corrective actions based on the revegetation efforts and results of the monitoring efforts. Monitoring will continue until standards are met.

5.3 REPORTING

The revegetation efforts will be documented in an initial implementation report, monitoring reports, and annual reports. The activities undertaken during the initial revegetation effort will be documented in an implementation report. The annual reports will be based on the monitoring reports and will document the monitoring efforts and continued revegetation activities undertaken each year until an area or site meets performance standards or for five years, whichever is longer. Appendix C provides a series of sample monitoring forms that are proposed for use to aid in the preparation of the implementation and annual reports. Information in these reports will be used to develop the work plan for the subsequent year.

5.3.1 Implementation Report

The results of the initial revegetation effort will be documented in an implementation report. This report will document the access control, trash removal, and habitat revegetation measures undertaken. The implementation report will also include the results of the qualitative and quantitative monitoring conducted at each revegetation site and the results of the reference site

study. The report will be submitted to CalPortland for review within 30 days of completion of trash removal, installation of a fence/barrier and initial revegetation activities (i.e., removal of non-native vegetation and seeding). The implementation report will include the following information:

- Preliminary study results
- Locations and methods of trash removal
- Locations and types of fences/barriers installed
- Locations and methods of weed removal, including Biological monitoring effort
- Locations and methods of restoration, including Biological monitoring effort
    - Soil preparation
    - Seed mixes
    - Planting methods
- Erosion control measures
- Photo-documentation of the above implementation activities
- Issues/problems encountered

The implementation report will be submitted to Kern County following CalPortland's review. It will also be included in the Year 1 annual report.

5.3.2 Monitoring Forms

Following the installation of the site security (fences, barriers, gates, chains, and locks) and implementation of the revegetation program, site and biological monitoring activities will be conducted in accordance with the general schedule for ongoing monitoring shown on Table 9. Appendix C provides a sample of the standard monitoring forms that will be completed for each monitoring occurrence: Site Maintenance, Vegetation Monitoring, and Annual Inspection.

5.3.3 Annual Report

An annual report will be prepared and submitted to CalPortland for forwarding to Kern County the beginning of each year, documenting the previous year's efforts. These reports will include a general discussion of revegetation efforts to date, development of the creosote bush scrub plant communities, plus specific observations on the effectiveness of access control, trash removal, weed eradication and revegetation efforts. Aerial and ground photo-documentation of conditions and activities will be included. The annual reports will include copies of the monitoring forms prepared for each site visit during the previous year of monitoring. Annual reports will include the following information:

- Updated vegetation maps for each area of the reclamation and revegetation process.
- Discussion of qualitative monitoring data.
- Analysis of quantitative monitoring data.
- Photo-documentation of monitoring results.
- Analysis of effectiveness of access control and trash removal.
- Documentation of any significant storm events, fires, or anthropomorphic actions affecting the revegetated areas.
- Summary of any other maintenance activities conducted within revegetated areas.
- Recommendations for management actions or maintenance activities for the forthcoming year.

The various implementation and monitoring reports will be submitted to Kern County following CalPortland's review.

Section 6 References

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Appendix A Transect Data Sheets

	CalPortland's Gem Hill Mining Site		
Transect 1		Transect 2	
18	Ambrosia salsola	0	Atriplex canescens
2.5	Amsinkia tessellata	0.5	Atriplex canescens
3	Amsinkia tessellata	1	Atriplex canescens
4	Amsinkia tessellata	1.5	Atriplex canescens
11.5	Atriplex canescens	8.5	Atriplex canescens
23	Atriplex canescens	10.5	Atriplex canescens
	Atriplex canescens	11	Atriplex canescens
	Atriplex canescens	13	Atriplex canescens
5	Atriplex canescens	13.5	Atriplex canescens
8	Bare Ground	16.5	Atriplex canescens
12	Bare Ground	18	Atriplex canescens
12.5	Bare Ground	18.5	Atriplex canescens
13	Bare Ground	19	Atriplex canescens
13.5	Bare Ground	19.5	Atriplex canescens
14	Bare Ground	20	Atriplex canescens
15	Bare Ground	36	Bare Ground
15.5	Bare Ground		Bare Ground
16	Bare Ground		Bare Ground
16.5	Bare Ground	45	Bare Ground
17	Bare Ground	44	Chorizanthe brevicornu
19	Bare Ground		Chorizanthe watsonii
19.5	Bare Ground	9	Emmenanthe penduliflora
20	Bare Ground	12	Emmenanthe penduliflora
20.5	Bare Ground	12.5	Emmenanthe penduliflora
21	Bare Ground	14.5	Emmenanthe penduliflora
21.5	Bare Ground	15	Emmenanthe penduliflora
22	Bare Ground	15.5	Emmenanthe penduliflora
25	Bare Ground	16	Emmenanthe penduliflora
26	Bare Ground	21.5	Emmenanthe penduliflora
27	Bare Ground	22	Emmenanthe penduliflora
29	Bare Ground		Emmenanthe penduliflora
30	Bare Ground	23	Emmenanthe penduliflora
31	Bare Ground	24	Emmenanthe penduliflora
32	Bare Ground		Emmenanthe penduliflora
35	Bare Ground	26	Emmenanthe penduliflora
36	Bare Ground		Emmenanthe penduliflora
37	Bare Ground	35	Emmenanthe penduliflora
38	Bare Ground		Emmenanthe penduliflora
39	Bare Ground	41	Ephedra nevadensis
40	Bare Ground		Ephedra nevadensis
41	Bare Ground	42	Ephedra nevadensis
42	Bare Ground	10	Ericameria pinifolia
43	Bare Ground	2	Erodium cicutarium
44	Bare Ground	2.5	Erodium cicutarium
45	Bare Ground	3	Erodium cicutarium
46	Bare Ground	3.5	Erodium cicutarium
47	Bare Ground	4	Erodium cicutarium
48	Bare Ground	4.5	Erodium cicutarium

49	Bare Ground	6	Erodium cicutarium
50	Bare Ground	6.5	Erodium cicutarium
	Bare Ground	7	Erodium cicutarium
	Bare Ground	8	Erodium cicutarium
	Bare Ground	9.5	Erodium cicutarium
	Bare Ground	11.5	Erodium cicutarium
	Bare Ground	17	Erodium cicutarium
	Bare Ground	17.5	Erodium cicutarium
	Bare Ground	21	Erodium cicutarium
	Bare Ground		Erodium cicutarium
	Bare Ground		Erodium cicutarium
	Bare Ground	25	Erodium cicutarium
	Bare Ground		Erodium cicutarium
	Bare Ground	27	Erodium cicutarium
	Bare Ground	28	Erodium cicutarium
	Bare Ground		Erodium cicutarium
	Bare Ground	29	Erodium cicutarium
	Bare Ground		Erodium cicutarium
	Bare Ground	30	Erodium cicutarium
	Bare Ground		Erodium cicutarium
	Bare Ground	31	Erodium cicutarium
	Bare Ground		Erodium cicutarium
	Bare Ground	32	Erodium cicutarium
8.5	Camissonia californica		Erodium cicutarium
7.5	Ephedra nevadensis	33	Erodium cicutarium
24	Ericameria pinifolia		Erodium cicutarium
	Ericameria pinifolia	34	Erodium cicutarium
6	Eriogonum fasciculatum	38	Erodium cicutarium
6.5	Eriogonum fasciculatum		Erodium cicutarium
9	Eriogonum fasciculatum	40	Erodium cicutarium
14.5	Eriogonum fasciculatum		Erodium cicutarium
	Eriogonum fasciculatum	43	Erodium cicutarium
0	Erodium cicutarium		Erodium cicutarium
0.5	Erodium cicutarium		Erodium cicutarium
4.5	Erodium cicutarium		Erodium cicutarium
5.5	Erodium cicutarium	46	Erodium cicutarium
7	Erodium cicutarium		Erodium cicutarium
9.5	Erodium cicutarium	47	Erodium cicutarium
10	Erodium cicutarium		Erodium cicutarium
10.5	Erodium cicutarium	48	Erodium cicutarium
11	Erodium cicutarium		Erodium cicutarium
17.5	Erodium cicutarium	49	Erodium cicutarium
33	Erodium cicutarium		Erodium cicutarium
34	Erodium cicutarium	50	Erodium cicutarium
	Erodium cicutarium	7.5	Larrea tridentata
1	Larrea tridentata	37	Larrea tridentata
1.5	Larrea tridentata		Larrea tridentata
2	Larrea tridentata		Larrea tridentata
18.5	Mirabilis laevis	39	Larrea tridentata
3.5	Stipia speciosa	5	Phacelia distans
	Stipia speciosa	5.5	Phacelia distans
28	Thysanocarpus laciniatus	14	Phacelia distans
	Thysanocarpus laciniatus	20.5	Phacelia distans

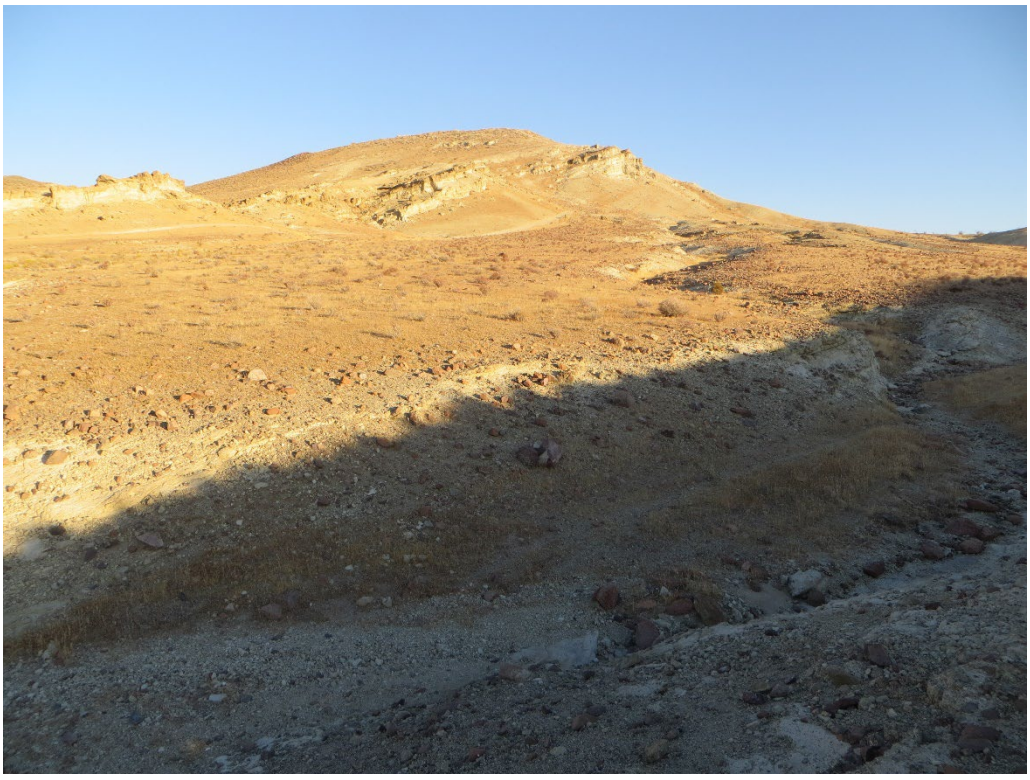
Appendix B Site Photographs



Photograph 1: Looking east towards the entrance to the property. This dirt road terminates at Mojave Tropico Road.



Photograph 2: Looking south towards one of the staging areas in the eastern portion of the project site.



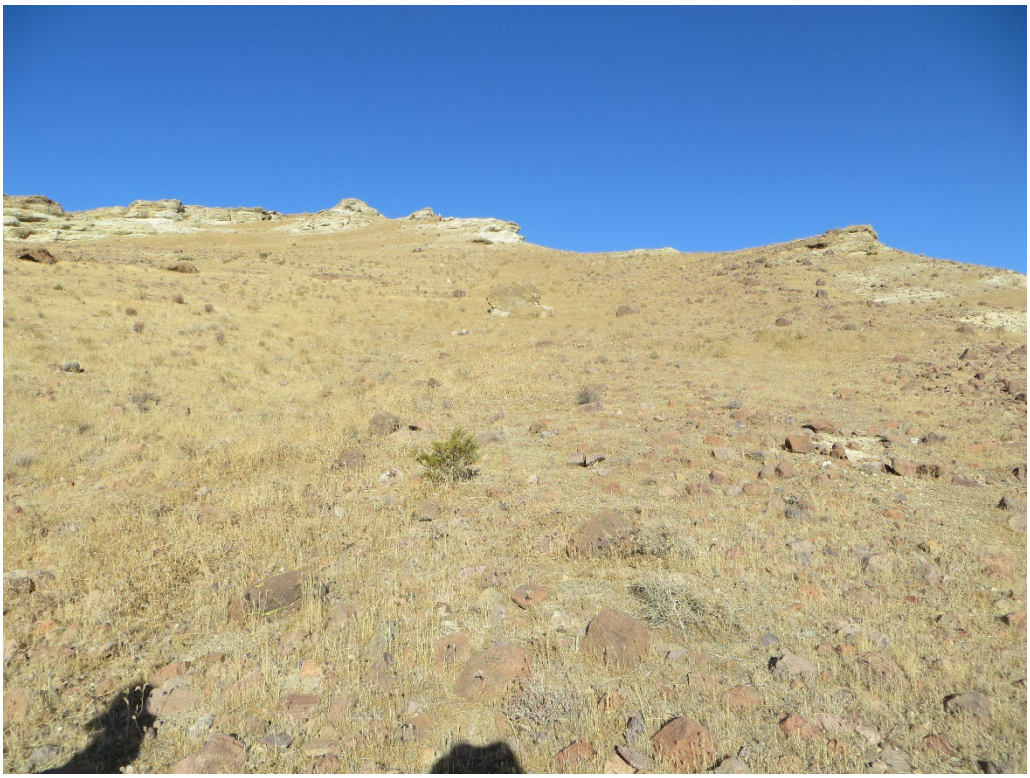
Photograph 3: Looking northwest from the eastern portion of the project site. The peak in the center of the photograph is located approximately at the middle of the northern boundary.



Photograph 4: Looking northeast from within the northern portion of the project site. The top of the rise in the middle of the right side of the photograph coincides with the northeast corner of the boundary.



Photograph 5: Looking northwest from within the northwest portion of the project site. The terminus of the dirt road coincides with the northwest boundary.



Photograph 6: Looking east from within the eastern portion of the project site. The rock outcrop on the left side of the photograph coincides with the eastern boundary of the project site.



Photograph 7: Looking east across the middle of the project site.



Photograph 8: Looking southeast at current staging areas and graded pad.



Photograph 9: Looking southeast near the western boundary of the project site.



Photograph 10: Looking northeast from the southwest corner of the project site.



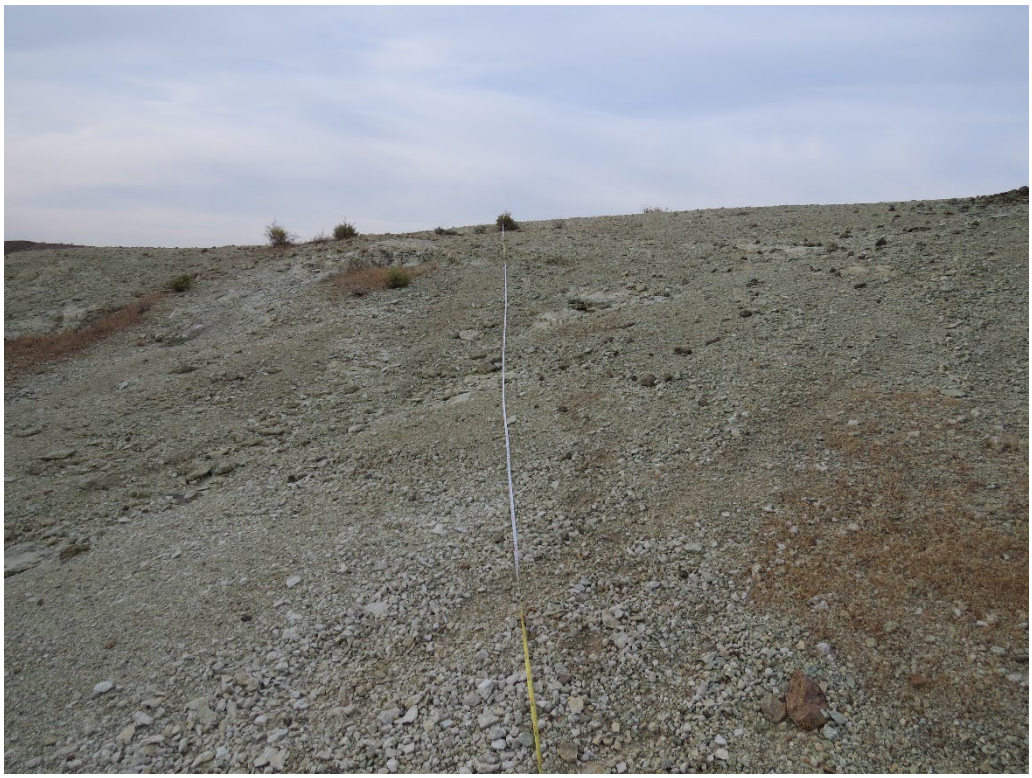
Photograph 11: Looking northwest from the southeast corner of the project site.



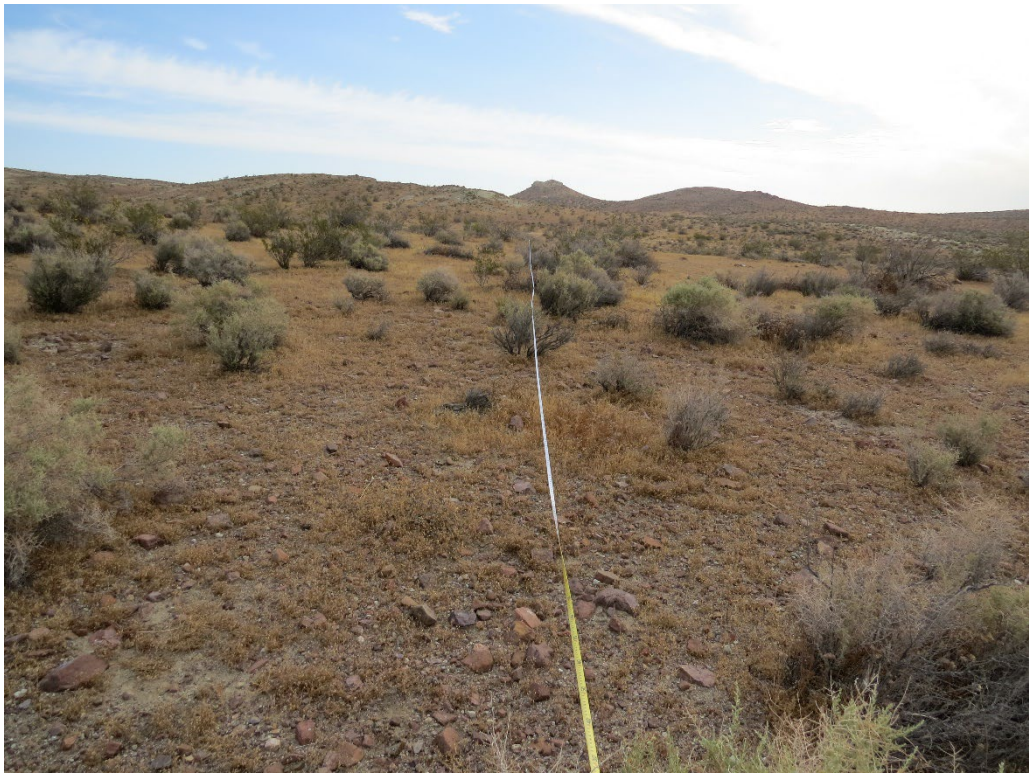
Photograph 12: Looking northeast from the southern half of the eastern boundary of the project site. The ridge on the right side of the photograph coinsides with the northern boundary.



Photograph 13: From the northern terminus of Transect 1 looking southeast along the transect.



Photograph 14: From the southern terminus of Transect 1 looking northwest along the transect.



Photograph 15: From the eastern terminus of Transect 2 looking southwest along the transect.



Photograph 16: From the western terminus of Transet 2 looking northeast along the transect.

Appendix C Monitoring Forms

Site Maintenance Form

Site Maintenance Form

Name of Monitor(s):_____

Today's Date: _____ **Date of Last Visit:** _____

Is this visit a follow-up to a previous visit (i.e. to complete maintenance)? Yes No

Points of Access

Is there any damage to the fence, barriers, signs, or berm? Yes No

If yes, describe the location(s) and extent:

Item	Location	No Action Needed	Repair Needed	Replacement Needed

Trash

Are there any new trash dumps present? Yes No

If yes, describe the number of new dumps and general location(s):_____
_____

Additional comments:_____
_____
_____

Will a follow-up visit be necessary? If so, when is this expected to occur and what additional work is necessary? _____

Vegetation Monitoring Form

Vegetation Monitoring Form

Name of Monitor(s):_____

Today's Date: _____ **Date of Last Visit:** _____

Photograph Numbers: _____

Non-Native Vegetation

Is the estimated total non-native coverage less than 20%? Yes No

Are there any new, established populations of weeds? If yes, which species and where is it/they generally located?_____

Can this population(s) be easily controlled or will a more intensive treatment regime be necessary?
_____

Can all weeds be removed/killed during this visit? Yes No

If no, explain why not:_____

Native Vegetation

Is the estimated total native coverage between 20% and 50%? Yes No

Is any vegetation removal necessary to stay within desired absolute and/or relative cover goals? If yes, explain:_____

Are there any species or specific areas that show unusual rates of die-off? If yes, which species or which areas?_____

If yes, is there an obvious source of the mortality that can be remedied? Explain:_____
_____

Was any watering conducted during this visit? Yes No
Was any replanting/reseeding required during this visit? If yes, which species and where?_____
_____

Additional comments or recommendations:_____
_____
_____

Will a follow-up visit be necessary? If so, when is this expected to occur and what additional work is necessary?_____

Annual Monitoring Form (Page 1)

Name of Monitor(s):_____

Today's Date: _____

Date of Last Site Maintenance Visit:_____ **Vegetation Monitoring Visit:**_____

Conservation/Restoration Area:_____ **Photograph Numbers:** _____

Non-Native Vegetation

Are there any notable populations of weeds that will require follow-up treatment? If yes, which species and where is it/they generally located? _____

Provide any details on eradication suggestions:_____

Riparian Vegetation

Is any vegetation removal necessary to stay within desired absolute and/or relative cover goals? If yes, explain:_____

Is any additional replanting/reseeding recommended? If yes, which species and where?_____
_____
_____

Is there sufficient space between plants for Special-status Species movement or is vegetation thinning required? Explain. _____
_____
_____

Incidental Observations of Sensitive Plant Species:_____
_____

Site Maintenance

Is any maintenance needed on the gates, chains, locks, signs, or berm? If yes, where? _____
_____

Are there any trash piles or new homeless encampments? If yes, where? _____
_____

Additional comments or recommendations:_____
_____
_____
_____

Annual Monitoring Form (Page 2)

Name of Monitor(s):_____

Today's Date: _____

Transect: _____

Non-Native Vegetation

Weed Species	Percent Cover	Plant Height Range	Comments
TOTAL		N/A	

Riparian Vegetation

Trees/Shrub Species	Percent Cover	Plant Height Range	Recommend for Thinning?	Comments
TOTAL		N/A		

% bare ground _____ % leaf litter _____ % rock _____

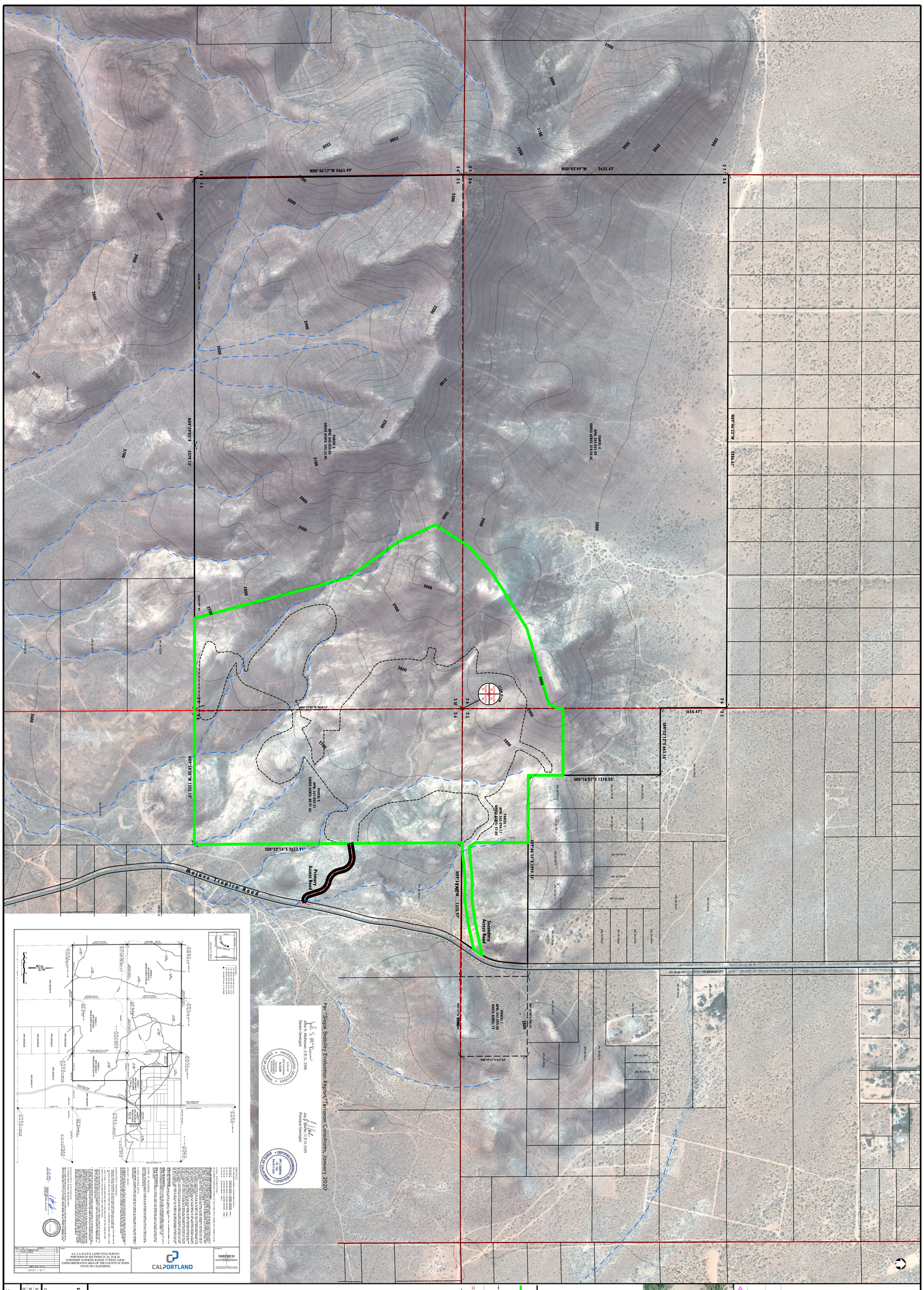
Additional comments:_____

_____

_____

Appendix B.4

Reclamation Plan Exhibit – Map Sheet 1 of 4 (Existing Conditions)



EXISTING CONDITIONS

CalPortland - Gem Hill Quarry

ROSAMOND, KERN COUNTY, CALFORNIA

LEGEND

- Property Boundary (778.14 Acres)
- Mine and Reclamation Boundary (710.0 Acres)
- Proposed Limits of Disturbance
- Existing Contour
- Existing Roads
- Existing Drainage

Scale: 1 inch = 400 feet

Projection: CA SPCS, Zone 5, NAD83 US Feet
Azimuth: 0.0°

200 0 200 400

N

Project Site

No.	Date	By	Revision Description
1			
2			
3			
4			
5			

Prepared By

LILBURN CORPORATION

1905 Business Center Drive San Bernardino, CA 92408
909.890.1818 Fax 909.890.1809

CALPORTLAND

SHEET INDEX

Sheet Description

1 — Existing Conditions
2 — Mine Plan
3 — Cross Sections and Details
4 — Reclamation Plan

STATUS

Conceptual Preliminary Draft Final

Scale: 1" = 400'
Date: 01-07-2020
DGN: 01-Lot CPGP- Title Sheet.dgn

Sheet 1 of 4

Appendix B.5

Reclamation Plan Exhibit – Map Sheet 2 of 4 (Mine Plan)

PARCEL 4
APN: 345-031-02
GROSS ACRES: 319.24 AC.

PARCEL 3
APN: 345-032-05
GROSS ACRES: 322.75 AC.

PARCEL 1
APN: 345-294-17
GROSS ACRES: 57.04

PARCEL 2
APN: 345-032-31
GROSS ACRES: 80.91 AC.

S00°16'07"E 1319.29'

S89°46'35"E 1992.13'

N89°43'47"W 1328.97'

N00°27'05"W 2658.14'

S00°22'14"E 2653.91'

N89°54'38"W 1325.15'

[2634.89'] R4

89°59'05"E 5279.12'

APN: 345-294-07
APN: 345-294-12
APN: 345-294-13
APN: 345-294-14
APN: 345-294-15
APN: 345-294-16
APN: 345-032-02
APN: 345-281-02
APN: 345-032-06

MOJAVE-TROPICO ROAD

Secondary Access Road

Primary Access Road
Widen State ROW from 12' Wide to 36' Wide (0.75 Acres and 845' long)

Locked Gate

Proposed Water Well Location and Holding Tank

GEM HILL QUARRY

Bottom Elevation 2450'

Bottom Elevation 2475'

West Quarry Stormwater Basin
Depth: 6'

East Quarry Stormwater Basin
Depth: 24'

Stand Pipe with Tank

Water Truck Loading

Low Water Crossing

Test Plot

Topsoil Stockpile

PARKING, SCALE and SECURITY
Pad Elevation=2675'

NORTH OVERBURDEN
Height: 100'

North OB Stormwater Basin
Depth: 28'

Stormwater Basin
Depth: 12'

EQUIPMENT STORAGE
Pad Elevation=2675'

SOUTH OVERBURDEN
Height: 75'

South OB Stormwater Basin
Depth: 28'
(CONCEPTUAL)

Haul Road

Per "Slope Stability Evaluation Report," Terracon Consultants, January 2020

John S. McKeown, C.E.G. 2396
Senior Geologist

Jay F. Martin, C.E.G.1529
Principal Geologist

PROFESSIONAL GEOLOGIST — 1/31/20 — JOHN S. McKEOWN — No. EG2396 — CERTIFIED ENGINEERING GEOLOGIST — STATE OF CALIFORNIA

CERTIFIED ENGINEERING GEOLOGIST — JAY F. MARTIN — No. 1529 — Exp 08-31-2020 — STATE OF CALIFORNIA

MINE NOTES

Mine: Gem Hill Quarry

CA MINE ID #: 91-15-xxxx

Mineral: Pozzolan materials

Mine Operator:

CalPortland Company
2025 E. Financial Way
Glendora, CA 91714
(626) 691-1966
Desirea Haggard
dhaggard@calportland.com

Land Owner:
CalPortland Company
2025 E. Financial Way
Glendora, CA 91714
(626) 691-1966

Applicant: Same as Operator

Owner of Mineral Rights: Same as Owner

Representative:

Desirea Haggard
CalPortland Company
2025 E. Financial Way
Glendora, CA 91714
((626) 691-1966
dhaggard@calportland.com

Civil Engineer: Not applicable

Map Preparer: CalPortland Company & Lilburn Corporation

Geologists: John S. McKeown, E.G. Senior Geologist
Terracon Consultants
1355 E. Cooley Drive
Colton, CA 92324
(909) 824-7311
Chad Warren-CalPortland

Date of Map: January 2021
Utilities
Water: Onsite Water Well
Sewage disposal: Portable toilets
Electric: Not proposed
Gas: Not proposed
Telephone: Mobile phones

General Plan / Zoning:
Project Site: 8.4 Mineral and Petroleum / 2.4 Steep Slopes; Zone: A — Exclusively Agriculture; Mining and mineral extraction allowed pursuant to Chapter 19.100 (Surface Mining Ordinance)

Surrounding Areas:
North: 4.3 — Ancient Valley; Estate (E 2 ½); Zone: A - Exclusively Agriculture; Vacant, desert lands
East: 8.4 — Mineral and Petroleum, 2.4 — Steep Slopes, and 1.1 State Land;
Zone A and pockets of PL - Platted Land, RS - Residential Suburban Combining, and MH — Mobile Homes; isolated residences to the northeast, mostly vacant, desert lands.
South: 8.3 — Exclusive Agriculture; Zone: A; Vacant, desert lands.
West: 8.4 and 8.5 — Resource Management and 2.4 Steep Slopes; Zone: A; Vacant, desert lands.

Legal Description
APNs: 0345-294-17, 0345-032-05, 0345-032-31 and 0345-031-02 (portion)
Parcels Area: 458.14 acres

Overall Mine/Reclamation Plan Area - 210 acres: Area to be Developed - 82 acres

Portions of Sections 25, 26, 35 and 36; Township 10 North, Range 13 West, San Bernardino Base and Meridian, in the County of Kern, State of California.

Signage: No public identification sign proposed. Safety, warning, and no trespassing signs will be located at any potential access points around the site and around quarry rims and other operations areas.

Parking: There will be no assigned parking areas within the mine site.
Plant and Tree Protection: Preconstruction surveys will determine the number and viability of each plant to survive removal and transplanting to an area ready for reclamation for rare plants: yucca and cacti.

PROJECT LOCATION
Not To Scale

PROJECT SITE
Lat: 4.4720915° N
Lon: 116.9811994° W

SAN BERNARDINO COUNTY

Tehachapi, Monolith, Cameron, Mojave, Fleta Sanborn, Actis, Ansel, Rosamond, Willow Springs, Antelope Acres, Oban, Fairmont, Del Sur, Lancaster, Quartz Hill, Lake Hughes, Leona Valley, Juniper Valley

No.	Date	By	Revision Descriptions
	01/2021	CPC	Realigned road drainages and water pipeline

Prepared by: LILBURN CORPORATION
1905 Business Center Drive San Bernardino, CA 92408
909.890.1818 Fax 909.890.1899

Scale: 1 inch = 200 feet
Map Prepared By: Lilburn Corporation (TAG)
Projection: CA SPCS, Zone 5, NAD83 US Feet
Existing Topo: 2019
Aerial: 2019

LEGEND

- Property Boundary (778.14 Acres)
- Mine and Reclamation Plan Boundary (210 Acres)
- Limits of Proposed Disturbance (82 Acres)
- Quarry Limits
- Existing Major Contour / Existing Minor Contour
- Existing Roads
- R11-190 Geologic Drill Hole Location
- Existing Drainages
- Proposed Drainages
- Rock Barrier with Warning Signs

PROFESSIONAL GEOLOGIST — No. 2591 — CERTIFIED ENGINEERING GEOLOGIST — STATE OF CALIFORNIA

MINE PLAN

CalPortland - Gem Hill Quarry
ROSAMOND, KERN COUNTY, CALIFORNIA

CALPORTLAND

SHEET INDEX

Sheet	Description
1	Index Sheet
2	Mine Plan
3	Reclamation Plan
4	Cross Sections and Details

STATUS
Conceptual Preliminary Draft **Final**

Scale: 1"=200'
Date: 01/2021 (TAG)
DGN: Sht1of2 CPCph- Mine Plan.dgn

Sheet 2 of 4

Appendix B.6

Reclamation Plan Exhibit – Map Sheet 3 of 4 (Reclamation Plan)

RECLAMATION NOTES

Mine: Gem Hill Quarry

CA Mine ID #: 91-15-xxxx

Mineral: Pozzolan materials

Mine Operator: CalPortland Company
2025 E. Financial Way
Glendora, CA 91714
(626) 691-1966
Desirea Haggard
dhaggard@calportland.com

Land Owner: CalPortland Company
2025 E. Financial Way
Glendora, CA 91714
(626) 691-1966

Applicant: Same as Operator

Owner of Mineral Rights: Same as Owner

Representative: Desirea Haggard
CalPortland Company
2025 E. Financial Way
Glendora, CA 91714
(626) 691-1966
dhaggard@calportland.com

Civil Engineer: Not applicable

Map Preparer: CalPortland Company & Lilburn Corporation

Geologists: John S. McKeown, E.G. Senior Geologist
Terracon Consultants
1205 E. Cooley Drive
Colton, CA 92324
(909) 824-7311
Chad Warren - CalPortland

Date of Map: October 2020

Utilities
Water: Onsite Water Well
Sewage disposal: Portable toilets
Electric: Not proposed
Gas: Not proposed
Telephone: Mobile phones

General Plan / Zoning:

Project Site: General Plan: 8.4 Mineral and Petroleum / 2.4 Steep Slopes; Zoning: A — Exclusively Agriculture; Mining and mineral extraction allowed pursuant to Chapter 19.100 (Surface Mining Ordinance)

Surrounding Areas:
North: 4.3 — Ancient Valley: Estate (E 2 ½); Zone: A - Exclusively Agriculture; Vacant, desert lands
East: 8.4 — Mineral and Petroleum; 2.4 — Steep Slopes; and 1.1 State Land; Zone: A and pockets of PL - Platted Land, RS - Residential Suburban Combining, and MH — Mobile Homes; isolated residences to the northeast, mostly vacant, desert lands.
South: 8.3 — Exclusive Agriculture; Zone: A; Vacant, desert lands.
West: 8.4 and 8.5 — Resource Management and 2.4 Steep Slopes; Zone: A; Vacant, desert lands.

Legal Description

APNs: 0345-294-17, 0345-032-05, 0345-032-31 and 0345-031-02
Parcels Area: 458.14 acres

Overall Mine/Reclamation Plan Area - 210 acres: Area to be Developed - 82.2 acres

Portions of Sections 25, 26, 35, and 36; Township 10 North, Range 13 West, San Bernardino Base and Meridian, in the County of Kern, State of California.

Area to be reclaimed: 82.2 acres

Reclaimed End Use: Open space/ desert habitat

Reclamation/Revegetation Plan

At the completion of mining activities, equipment will be removed from the project site and all debris will be removed and disposed at a permitted facility. Site gates, blocked roads, and the quarry safety rim will remain in place to prevent unauthorized access onto CalPortland's private property and to restrict the public from reclaimed mine features.

Quarry slopes will be contoured to their designed slope angles of 1H:1V as determined by the Slope Stability Evaluation Report to meet sufficient factors of safety. The finished benches will be ripped as feasible due to rock benches, covered with soil and alluvium, and revegetated. After revegetation, CalPortland will maintain erosion control and safety features; monitor revegetation progress; and conduct remediation as necessary until success criteria achieved. Ongoing maintenance of fencing, signs, and erosion control will be conducted.

Roads not needed for site and quarry access will have any road base material removed, surface ripped and covered with available soil or alluvium, and revegetated. Other onsite roads needed for quarry access will be reclaimed after reclamation of quarries and stockpiles to allow access to all reclamation areas.

Completed stockpile slopes will be reclaimed with 2H:1V slopes and 20-foot wide benches. benches ripped and covered with up to 1-foot of soil and alluvium and revegetated. The tops of stockpiles will be designed with inward drainage with a 5-foot deep depression to catch precipitation which will percolate and evaporate and avoid runoff down the stockpile slopes or haul roads and reduce potential erosion. The top of the stockpiles will be covered with soil and alluvium and revegetated.
Revegetation activities will generally commence in late fall to early winter to correspond with the rainy season of the area. Seeding will be undertaken by imprinting or broadcast seeding with the recommended seed mix below.

Revegetation is summarized below:

1. Ripping the surface to a depth of 0.5 to 1-foot for moisture and wind-blown and sown seed collection;
2. Placement of available surface material and alluvium materials on horizontal surfaces and overburden slopes up to 0.5 to 1-foot thick;
3. Seeding with locally native species and revegetation per methods described in Plan;
4. Flagging reclaimed areas to eliminate additional disturbance; and
5. Monitoring, maintenance, and application of remedial activities, if necessary, including but not limited to additional seeding and planting, plant protection and change of seed mix.

Recommended Native Plant Seed Mix

SPECIES		POUNDS PER ACRE
SCIENTIFIC NAME	COMMON NAME	
Ambrosia dumosa	Burrobrush	2.50
Ambrosia salsola	Cheesebush	2.50
Amsinckia tessellata	Fiddleneck	0.25
Alyssum desertorum	Desert alyssum	0.25
Atriplex canescens	Four wing saltbush	2.50
Camissonia californica	Faliw mustard; CA sun cup or evening primrose	0.25
Chrizanthe rigida	Rigid spineflower	0.25
Chaenactis fremontii	Desert pincushion	0.25
Ericameria nauseosa	Rabbitbrush	3.00
Ephedra nevadensis	Mormon tea	1.50
Ericameria linearifolia	Narrow leaf goldenbush	0.75
Eriogonum fasciculatum	Flat-topped buckwheat	2.00
Eriogonum thurberi	Thurber's buckwheat	0.50
Gilia spp.	Gila	0.25
Larrea tridentata	Creosote bush	3.00
Lycium cooperi	Peach thorn	2.00
Malacothrix glabrata	Desert dandelion	0.75
Mentzelia affinis	Blazingstar	0.50
Pectocarya linearis	Slender combseed	0.25
Phacelia distans	Phacelia	0.25
Salvia columbariae	Chia	0.25
Stephanomeria exigua	Small wirelettuce	0.25
Tetradymia spinosa	Cotton thorn	2.00
Xylorhiza tortifolia	Mojave aster	0.50
	TOTAL pounds per acre	**25-30**

Source: *Revegetation Plan* ELMT Consulting, Nov 2019. See Appendix E. (typical depending on seed availability)

Recommended Revegetation Success Criteria[1]

Landform	Perennial Cover (%) (45% of Baseline)[2]		Species Density (40% of Baseline)[3]		Species Diversity (40% of Baseline)[3]	
	Baseline	Success Criteria	Baseline	Success Criteria	Baseline	Success Criteria
Rocky Areas	19	9	26	10	11	4
Level Areas	24	11	47	19	8	3

1 - Native perennial shrubs from the 2019 baseline surveys per 50 m².
2 — As recommended by BMR.
Source: *Revegetation Plan* ELMT Consulting, November 2019. See Appendix E.

Roads: Note that the primary and secondary access roads, the quarry perimeter road, and the roads to the overburden stockpiles and the well to remain for the site access, revegetation monitoring, and long-term maintenance of site for safety and trash removal and are not proposed to be reclaimed. These roads comprise an approximate area of 8 acres.

PARCEL 4
APN: 345-031-02
GROSS ACRES: 319.24 AC.

PARCEL 1
APN: 345-294-17
GROSS ACRES: 57.04

PARCEL 2
APN: 345-032-31
GROSS ACRES: 80.91 AC.

PARCEL 3
APN: 345-032-05
GROSS ACRES: 322.75 AC.

GEM HILL QUARRY

Bottom Elevation 2450'

Bottom Elevation 2475'

West Quarry Stormwater Basin
Depth: 60'

East Quarry Stormwater Basin
Depth: 24'

North OB Stormwater Basin
Depth: 28'

South OB Stormwater Basin
Depth: 28'

Stormwater Basin
Depth: 12'

NORTH OVERBURDEN
Height: 100'

SOUTH OVERBURDEN
Height: 75'

Secondary Access Road

Primary Access Road

Locked Gate

PARKING
Pad Elevation=2675'

MOJAVE TROPICO ROAD

10' WIDE DIRT ROAD

S89°46'35"E 1992.13'

N89°43'47"W 1328.97'

S00°16'07"E 1311.

N00°27'08"W 2658.14'

S00°22'14"E 2653.91'

N89°54'38"W 1325.15'

[2634.89'] R4

S89°59'05"E 5279.12'

APN: 345-294-07
APN: 345-294-12
APN: 345-294-13
APN: 345-294-14
APN: 345-294-15
APN: 345-294-16
APN: 345-032-02
APN: 345-032-06
APN: 345-281-02

R15-250
R8-200
R8-350
R11-190
R12-370
R5-300
R10-210
R1-290
R14-230



PROJECT LOCATION
Not To Scale

Per "Slope Stability Evaluation Report, "Terracon Consultants, January 2020

John S. McKeown, C.E.G. 2396
Senior Geologist

John S. McKeown, C.E.G. 2396
Senior Geologist

No.	Date	By	Revision Description
1	01/2021	CPC	Realigned road drainages and water pipeline

Prepared by: LILBURN CORPORATION
1905 Business Center Drive San Bernardino, CA 92408
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N

100 0 100 200

Scale: 1 inch = 200 feet
Map Prepared By: Lilburn Corporation (TAG)
Projection: CA SPCS, Zone 5, NAD83 US Feet
Existing Topo: 2019
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RECLAMATION PLAN

CalPortland - Gem Hill Quarry

ROSAMOND, KERN COUNTY, CALIFORNIA

CALPORTLAND

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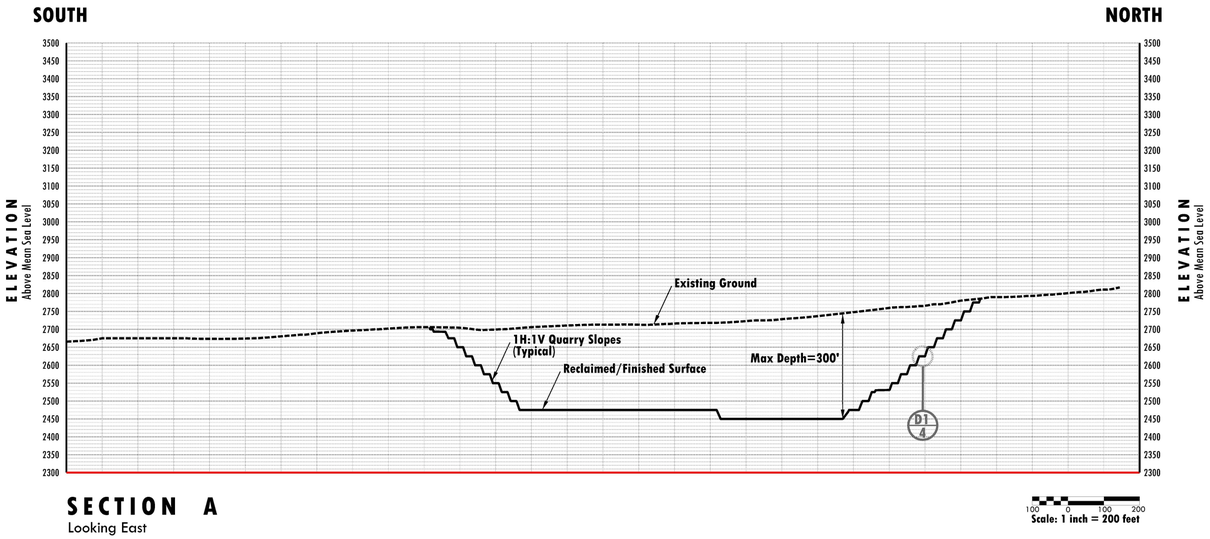
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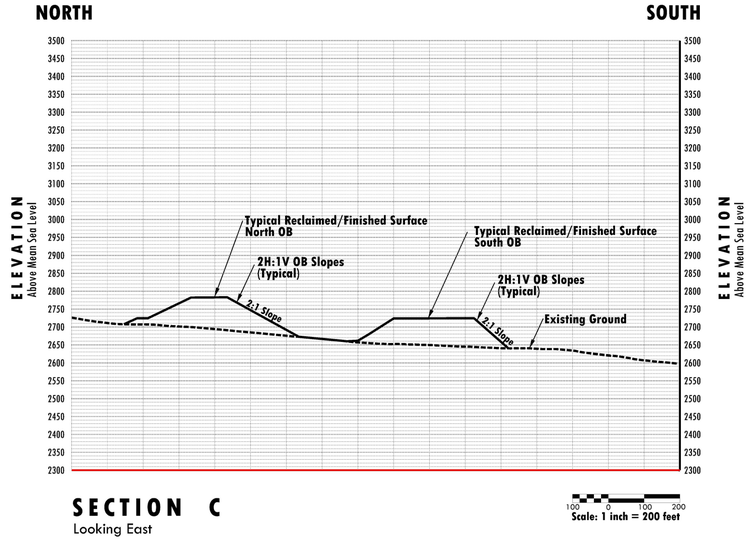
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Appendix B.7

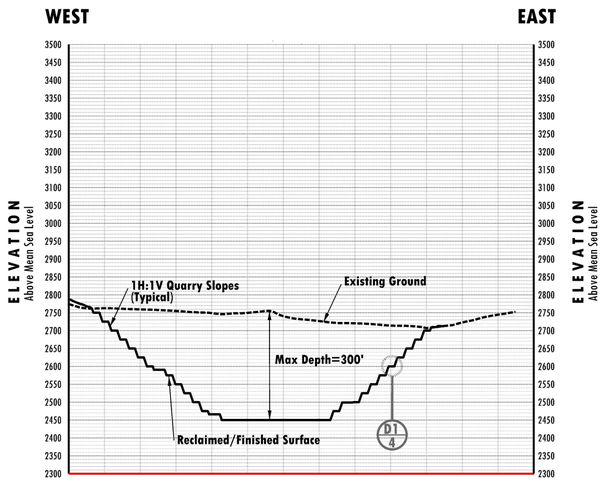
Reclamation Plan Exhibit – Map Sheet 4 of 4 (Reclamation Plan Cross Sections)



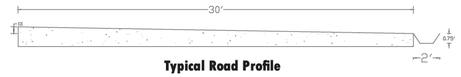
SECTION A
Looking East



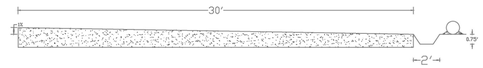
SECTION C
Looking East



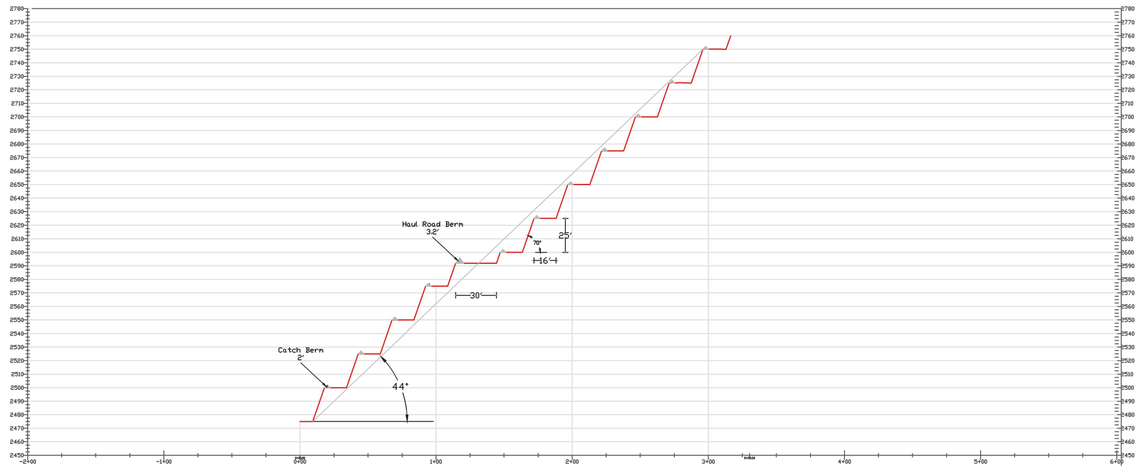
SECTION B
Looking North



Typical Road Profile



Typical Road Profile with Pipe



PROFILE VIEW of QUARRY

Per "Slope Stability Evaluation Report,"Terracon Consultants, January 2020

John S. McKeown, C.E.G. 2396
Senior Geologist

Jay J. Martin, C.E.G.1529
Principal Geologist

No.	Date	By	Revision Description
	01/2021	CPC	Added road cross sections and revised slope detail.

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Scale: 1 inch = 200 feet
Map Prepared By: Lilburn Corporation (TAG)
Projection: CA SPCS, Zone 5, NAD83 US Feet
Existing Topo: 2019
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LEGEND

CROSS SECTIONS and DETAILS

CalPortland - Gem Hill
ROSAMOND, KERN COUNTY, CALIFORNIA

CALPORTLAND

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STATUS
Conceptual Preliminary Draft **Draft** Final

Scale: 1"=200'
Date: 01/2021 (TAG)
DGN: Sht4of4 CPCgh- Xsec plan.dgn

Sheet **4** of **4**

Appendix C

Air Quality Impact Assessment

Appendix C.1

Air Quality and Greenhouse Gas Assessment

AIR QUALITY AND GREENHOUSE GAS ASSESSMENT
FOR
GEM HILL QUARRY
KERN COUNTY, CALIFORNIA

Prepared For:

CalPortland Company
2025 E. Financial Way
Glendora, CA 91741

Prepared By:

Lilburn Corporation
1905 Business Center Drive
San Bernardino, CA 92408

Updated January 2022
January 2021
November 2020

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APPENDIX

Appendix A Emission Model Results

1.0 INTRODUCTION

CalPortland Company (CalPortland) has submitted an application for the Gem Hill Quarry Mine Conditional Use Permit (CUP) and a Reclamation Plan to Kern County for the development of a 35-acre quarry within a 210-acre project area. The site is located in the western Antelope Valley, approximately five miles northwest of Rosamond, California and ten miles southwest of Mojave, California on the west end of the Rosamond Hills in southeastern Kern County (County) (portions of APNs 0345-294-17, 0345-032-05, 0345-032-31, and 0345-031-02). The Project Site is vacant and undeveloped (see Figures 1 and 2 for regional location and project vicinity maps).

This Mine and Reclamation Plan (Plan) for the Gem Hill Quarry describes the planned operations for a period of 30 years from approval. The planned operation includes a quarry, two overburden stockpiles, stormwater catchment basins, an equipment storage area, water well, scale, and access roads on a proposed disturbance area of approximately 82 acres. Production will be up to 500,000 tons per year (tpy) of volcanic tuff; approximately 1,670 tons/day on 300 operational days/year. Approximately 20,000 tpy of overburden are estimated.

This Air Quality Assessment (AQA) was prepared pursuant to the Eastern Kern Air Pollution Control District (EKAPCD's) Guidelines for Implementation of the California Environmental Quality Act (CEQA) of 1970, EKAPCD Policy, "Addendum to CEQA Guidelines Addressing GHG Emission Impacts for Stationary Source Projects When Serving As Lead CEQA Agency" (EKAPCD 2012), the Kern County Planning Department's Air Quality Preparation Guidelines (2006), the CEQA (Public Resources Code 21000 to 21177) and CEQA Guidelines (California Code of Regulations Title 14, Division 6, Chapter 3, Sections 15000 – 15387).

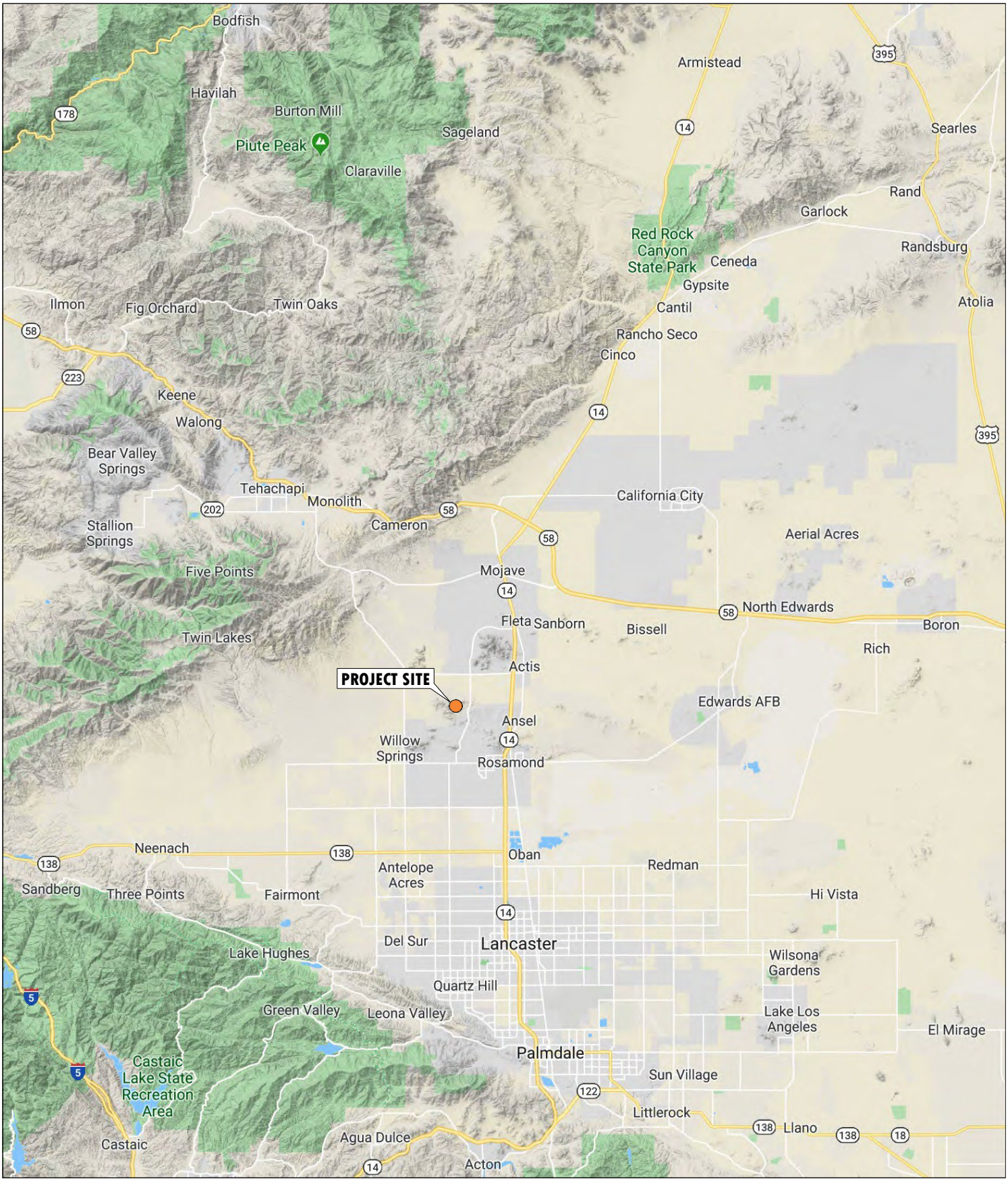
This AQA is a study of the potential impacts the Proposed Project may have on the local and regional air quality in the vicinity during operational use. This assessment discusses the existing air quality in the vicinity/region and the potential air quality impacts associated with the Proposed Project. Background material, including air quality emissions data output, is included in Appendix A.

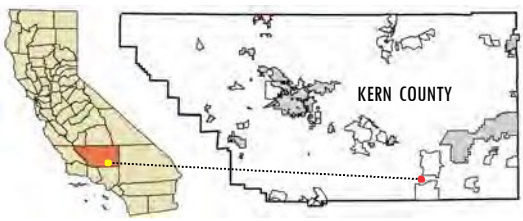
2.0 GENERAL SETTING

2.1 CLIMATE

The site is located in northwestern portion of the Mojave Desert Air Basin (MDAB). The MDAB encompasses the desert portion of San Bernardino County and Los Angeles County, the Palo Verde Valley in eastern Riverside County, and the southeastern portion of Kern County. The EKAPCD has jurisdiction over that portion of the MDAB east of the Tehachapi Mountains within Kern County.

The desert portion of the MDAB is commonly referred to as the High Desert because of its altitude at approximately 1,000 to 4,500 feet above mean sea level. The region is characterized by a series of low mountain ranges and broad alluvial valleys. The area north of the San Gabriel and San Bernardino mountains and generally within and Los Angeles County and San Bernardino County is under the jurisdiction of the Antelope Valley Air Quality Management





0 10
MILES
Source: Lilburn Corp., Feb. 2020.

LILBURN
CORPORATION

REGIONAL LOCATION

Gem Hill Quarry
Surface Mining Permit and Reclamation Plan
Kern County, CA

FIGURE 1

AGGREGATE MINE

GOLDEN QUEEN GOLD MINE

Soledad Mountain

HISTORIC MINE AREAS

BACKUS ROAD

SOLAR FACILITY

AGRICULTURAL FIELDS

MOJAVE TROPICO ROAD

26

25

PROJECT SITE

14

35

36

SOLAR FACILITY

T10N R13W T10N R12W

T09N R13W T09N R12W

Willow Springs Butte

WILLOW SPRINGS RACE TRACKS

TROPICO HILL MINE SITES

HISTORIC MINE WORKINGS

ROSAMOND

N

0 4,500'

FEET

Source: Lilburn Corp., Feb. 2020.

LILBURN CORPORATION

KERN COUNTY

PROJECT VICINITY

Gem Hill Quarry
Surface Mining Permit and Reclamation Plan
Kern County, CA
FIGURE 2

District (AVAQMD) and the Mojave Desert Air Quality Management District (MDAQMD). The San Joaquin Valley Air Basin (SJVAB) lies to the west of the Tehachapi Mountains in the Central Valley.

The desert climate type of the MDAB is characterized by hot, dry summers and cold, dry winters. The inland position of the MDAB lacks the cooling effects of the Pacific Ocean, while the presence of the mountains that separate the MDAB from the ocean remove much of the moisture before reaching the MDAB. Therefore, the region is relatively dry with little precipitation in the summer or winter. According to the Western Regional Climate Center Daily (WRCC, wrcc@dri.edu; 1981 - 2010) for Mojave, California (NCDC COOP Station Number 045756) summer high temperatures reach over 100 degrees Fahrenheit (ºF) and averages in the mid 90s with lows in the upper 60s. Extreme highs reach over 110º F. Winter highs average in the mid 50s to low 60s with lows in the 30s. A majority of the precipitation (55%) in the MDAB occurs as rainfall during the winter. The project area receives an average of approximately 6.67 inches of rain per year.

Three weather factors have significant impacts on air quality; wind, precipitation and inversion layers. Local air quality in the MDAB is affected mainly by the transport of pollutants from surrounding air basins to the west and south.

Wind

Although the High Desert is 80 miles from the ocean, the "sea breeze" pattern can be a dominant weather feature. The sea breeze is caused by differential heating of land and water. Land heats faster than the ocean, and because hot air rises, air warmed over land during the day rises, and cooler denser air from the ocean moves in to replace it. Normally limited to within a few miles of a coastline, the extreme differences in temperature between the desert and the Pacific Ocean make the sea breeze a regional phenomenon in southern California. The combination of extreme temperature differences and physical restraint on the air movements through mountain passes means there is a consistent source for strong wind blowing from the southwest and west across the High Desert bringing pollutants out of the coastal and central valleys into the desert.

Although local emissions can contribute to poor air quality, the MDAB is also impacted by emissions transported by the prevailing winds from the SJVAB and the SCAB. The southwestern portion of the Mojave Desert is heavily impacted by air pollutants from the South Coast. In addition, the area within the MDAB immediately downwind of Tehachapi Pass including the project area is impacted by pollutants from the southern San Joaquin Valley.

Precipitation

The High Desert receives precipitation from winter cold fronts and moist southerly air masses during the late summer. Summer thunderstorms bring highly variable amounts of localized rain. The rain from these storms falling into the dry air often evaporates before reaching the surface. However, if the storm lasts long enough, the area beneath the storm may get several inches of rain over a short time leading to flash floods and rapid erosion in washes and gullies.

Inversions

Inversions are layers in the atmosphere where the temperature increases with height instead of decreasing as is normal. Inversions trap pollutants by limiting the vertical mixing which normally disperses pollutants into the upper atmosphere. There are two types of inversions affecting the High Desert. The first is the regional inversions caused by subsiding air within the high-pressure systems that dominate the summer weather. These subsidence inversions can occur at varying altitudes, with corresponding variable effects on the pollution levels. The lower the inversion level, the greater the concentration of pollutants between it and the ground. The second type is the radiation inversion that forms when the ground cools rapidly after sunset, cooling the air immediately above it at the same time.

Inversion layers are less problematic in the MDAB than other areas, such as the SJVAB and SCAB. Subsidence inversions in the MDAB typically occur around 6,000 to 8,000 feet above ground, which allows for greater vertical mixing. Thus, MDAB is less conducive to buildout of pollutant concentrations near the surface where receptors are present.

2.2 APPLICABLE POLICES, PLANS, AND REGULATIONS

The Project area is located in the northwestern portion of the MDAB for which the EKAPCD has jurisdiction to regulate air pollutant emissions. The EKAPCD has responsibility for regulating stationary pollution sources and implements air quality programs required by State and federal mandates, and enforces rules and regulations based on air pollution laws. The EKAPCD is also responsible for managing and permitting existing, new, and modified sources of air emissions within their jurisdiction and has established the rules and regulations to ensure compliance with local, State, and federal air quality regulations.

Refer to Table 1 for the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS).

Federal Clean Air Act. The federal Clean Air Act was established in an effort to assure that acceptable levels of air quality are maintained in all areas of the United States. These levels are based upon health-related exposure limits and are referred to as NAAQS. The NAAQS establish maximum allowable concentrations of specific pollutants in the atmosphere and characterize the amount of exposure deemed safe of the public. The NAAQS set standards for the following pollutants:

Nitrogen dioxide (NO_2)
Sulfur dioxide (SO_2)
Particulate matter less than 10 microns, aerodynamic diameter (PM_{10})
Particulate matter less than 2.5 microns, aerodynamic diameter ($PM_{2.5}$)
Ozone (O_3)
Lead (Pb)
Carbon Monoxide (CO)

Primary and secondary NAAQS have been established and are shown in Table 1. Primary standards reflect levels of air quality deemed necessary by the EPA to provide an adequate margin of safety to protect public health. Areas found to be in violation of primary standards are termed "nonattainment areas". Secondary standards reflect levels of air quality necessary to protect public welfare from the known or anticipated adverse effects of a pollutant.

Table 1
State and Federal
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)[8]	1-Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	---	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM_{10})[9]	24-Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetic Analysis
	Annual Arithmetic Mean	20 µg/m^3		---		
Fine Particulate Matter ($PM_{2.5}$)[9]	24-Hour	---		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetic Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1-Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	---	Non-Dispersive Infrared Photometry (NDIR)
	8-Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–		
Nitrogen Dioxide (NO_2)[10]	1-Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	---	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppb (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1-Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppd (196 µg/m^3)	–	Ultraviolet Flourescence, Spectrophotometry (Pararosaniline Method)
	3-Hour	---		--	0.5 ppm (1300 µg/m^3)	
	24-Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[10]	---	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[10]	–	
Lead[12,13]	30-day average	1.5 µg/m^3	Atomic Absorption	–	–	High Volume Sampler and Atomic Absorption
	Calendar Quarter	--		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	–		0.15 µg/m^3		
Visibility-Reducing Particles[14]	8-Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	**No Federal Standards**		
Sulfates	24-Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24-Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Source: ARB, May 4, 2016.

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded.

All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m3 is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m3 to 12.0 µg/m3. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 µg/m3, as was the annual secondary standard of 15 µg/m3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm
11. On June 2, 2010, a new 1-hour SO2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

California Clean Air Act. Under the federal Clean Air Act, state and local authorities have primary responsibility for assuring that their respective regions are in attainment of or have a verifiable plan (State Implementation Plan (SIP) to attain the NAAQS. The federal Clean Air Act also provides state and local agencies authority to promulgate more stringent ambient air quality standards. The CAAQS for the following pollutants are also included in Table 1; hydrogen sulfide (H_2S), vinyl chloride, sulfates (SO_4), and visibility-reducing particles.

The California Air Resources Board (CARB) oversees air quality planning and control throughout the state by ensuring the implementation of the 1989 amendments to the California Clean Air Act of 1988 (CCAA), responding to the federal CAA requirements and regulating emissions from motor vehicles and setting fuel specifications to reduce vehicular emissions. CARB is also responsible for regulations pertaining to toxic air contaminants (TACs).

Under the provisions of the U.S. Clean Air Act, the Kern County portion of the MDAB has been classified as nonattainment, attainment, unclassified/attainment or unclassified under the established NAAQS and CAAQS for various criteria pollutants. Refer to Table 2 for EKAPCD's designation and classification based on the various criteria pollutants under both NAAQS and CAAQS.

Table 2
EKAPCD Attainment Status

Pollutant	Designations/Classification			
	National Ambient Air Quality Standards (NAAQS)			State Ambient Air Quality Standards
	EKAPCD	Kern River/ Cummings Valleys[1,2]	Indian Wells Valley[3,4,5]	
Ozone – 1 hour	Attainment[6,7] (revoked 2004)	Part of EKAPCD Area	Part of EKAPCD Area	Nonattainment
Ozone – 8 Hour[8] (0.08 ppm)	Serious Nonattainment	Part of EKAPCD Area	Unclassifiable/ Attainment	Nonattainment
PM_{10}	Unclassifiable/ Attainment	Serious Nonattainment	Attainment Maintenance	Nonattainment
$PM_{2.5}$	Unclassifiable/ Attainment	Part of EKAPCD Area	Part of EKAPCD Area	Unclassified
Carbon Monoxide	Unclassifiable/ Attainment	Part of EKAPCD Area	Part of EKAPCD Area	Unclassified
Nitrogen Dioxide	Unclassified	Part of EKAPCD Area	Part of EKAPCD Area	Attainment
Sulfur Dioxide	Unclassified	Part of EKAPCD Area	Part of EKAPCD Area	Attainment
Lead Particulates	Unclassifiable/ Attainment	Part of EKAPCD Area	Part of EKAPCD Area	Attainment

Source: http://www.kernair.org/Documents/Reports/EKAPCD%20Attainment%20Status%202018.pdf (accessed Dec. 14, 2021)
[1]Kern River Valley, Bear Valley and Cummings Valley were previously included in the federally designated San Joaquin Valley PM_{10} Serious Nonattainment Area, but was made a separate nonattainment area in 2008.
[2]Kern River Valley, Bear Valley and Cummings Valley are included with the EKAPCD for all NAAQS other than PM_{10}.
[3] Indian Wells Valley is a separate planning area for PM 10 NAAQS..
[4]Indian Wells Valley is a separate area for the 1997 and 2008 8-hour Ozone NAAQS (0.08 ppm and 0.075 ppm).
[5]Indian Wells Valley is included in the EKAPCD for all NAAQS other than PM 10 and 8-hour ozone.
[6]1-hour ozone NAAQS was revoked effective June 15, 2004.
[7]EKAPCD was attainment of 1-hour ozone NAAQS at time of revocation; the proposed Attainment Maintenance designation's effective date was June 21, 2004, therefore it did not become effective.
[8]Attainment for 1997 8-hour Ozone NAAQS (0.08 ppm), Serious Nonattainment for 2008 NAAQS (0.075ppm) expected to attain in 2020, and Nonattainment State 8-hour standard (0.070ppm).

As shown in Table 2, the EKAPCD has been designated as unclassifiable/attainment for the NAAQS for PM_{10}, $PM_{2.5}$, and lead, nonattainment for the O_3 eight-hour average standard, and unclassified for NO_X and SO_X. The EKAPCD has been designated as nonattainment for the state

one-hour and eight-hour standards for O_3, and PM_{10}, unclassified $PM_{2.5}$ and CO, and attainment for NO_X, SO_X and Lead.

The EKACPD along with CARB operates an air quality monitoring network that provides average concentrations of those pollutants for which state or federal agencies have established ambient air quality standards. EKACPD regulates emissions from stationary sources through the permitting process and requires permits to Construct/Operate for all stationary equipment with the potential to release air contaminants.

2.3 EXISTING AIR QUALITY

Air quality is determined primarily by the types and amounts of contaminants emitted into the atmosphere, the size and topography of the local air basin, and the pollutant-dispersing properties of local weather patterns. When airborne pollutants are produced in such volume that they are not dispersed by local meteorological conditions, air quality problems result. Dispersion of pollutants in the MDAB is influenced by periodic temperature inversions, persistent meteorological conditions and the local topography. As pollutants become more concentrated in the atmosphere, photochemical reactions occur, producing ozone and other oxidants.

The federal Clean Air Act was established in an effort to assure that acceptable levels of air quality are maintained in all areas of the United States. These levels are based upon health-related exposure limits and are referred to as NAAQS. The NAAQS establish maximum allowable concentrations of specific pollutants in the atmosphere and characterize the amount of exposure deemed safe for the public.

NAAQS have been set for a number of criteria pollutants. The following is a brief description of health effects and whether the EKAPCD portion of the MDAB is or is not in attainment for these pollutants:

Ozone (O_3) is a toxic gas that irritates the lungs and damages materials and vegetation. Ozone is a secondary pollutant; it is not directly emitted. Ozone is the result of chemical reactions between other pollutants, most importantly hydrocarbons and NO_2, which occur only in the presence of bright sunlight. Pollutants emitted from areas cities react during transport downwind to produce the oxidant concentrations experienced in the area. Pollutants emitted in the Los Angeles area contribute to the ozone levels experienced in the MDAB.

Data summarized in Table 3 shows that the 1-hour State ozone standard was exceeded between 0 and 8 days per year between 2016 and 2018 at the Mojave (923 Poole Street) air monitoring site, the closest monitoring station to the Project Site. The EKAPCD is designated as a nonattainment for 8-hour ozone. The 8-hour Ozone standard has been exceeded between 37 to 60 days per year between 2016 and 2018.

Table 3
Ozone Data: Mojave Air Monitoring Station
2016 – 2018

Year	Days Exceeding 1-Hour State Std (0.09 ppm)	Days Exceeding 8-Hour State Std (0.07 ppm)	Maximum 1-Hour Reading (ppm)	Maximum 8-Hour Reading (ppm)
2016	2	60	0.104	0.084
2017	1	37	0.097	0.093
2018	8	56	0.111	0.095

Source: CARB, 2019

Carbon Monoxide (CO) is a gas produced almost entirely from automobiles that interferes with the transfer of oxygen to the brain. Peak levels of CO occur in winter and are highest where there is very heavy and concentrated traffic (major cities and transportation congestion). CO levels are not a concern in the project area due to the low traffic volumes and are therefore not monitored.

Nitrogen dioxide (NO_2) is a gas that can cause breathing difficulties at high levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries and other industrial operations). AAQS for NO_2 have not been exceeded since 2006.

Particulate Matter (PM_{10}) consists of extremely small-suspended particles or droplets 10 microns or smaller in diameter that can lodge in lungs contributing to respiratory problems. PM_{10} arises from such sources as road dust, diesel soot, combustion products, abrasion of tires and brakes, construction operations and windstorms. PM_{10} scatters light and significantly reduces visibility. PM_{10} poses a health hazard, alone or in combination with other pollutants.

Data summarized in Table 4 shows that PM_{10} levels at the Mojave air monitoring site has been exceeded between 10 to 18 days per year between 2016 and 2018 for the State Standard and did not exceed the Federal Standard during the same time period.

Table 4
PM_{10} Data: Mojave Air Monitoring Station
2016 – 2018

Year	Days Exceeding 24-Hour State Std (50 µg/m^3)	Days Exceeding 24-Hour Federal Std (150 µg/m^3)	Maximum 24-Hour Reading (µg/m^3)
2016	18	0	139.2
2017	10	0	93.4
2018	19	0	93.1

Source: CARB, 2019
State Standard – 50 µg/m^3 based on 24-hour average
Federal Standard – 150 µg/m^3 based on 24-hour average
µg/m^3 = micrograms per cubic meter
Measurements usually taken every 6 days.

Fine Particulate Matter ($PM_{2.5}$) consists of extremely small suspended particles 2.5 microns in diameter and arise primarily from combustion sources. The data summarized in Table 5 shows

that $PM_{2.}$ levels at the Mojave air monitoring site has been exceeded between 0 to 2 days per year between 2016 and 2018.

Table 5
$PM_{2.5}$ Data: Mojave Air Monitoring Station
2016 – 2018

Year	Days Exceeding 24-Hour Federal Standard (35 µg/m³)	Maximum 24-Hour Reading (µg/m³)
2016	0	25.7
2017	0	26.9
2018	2	39.0

Source: CARB, 2019
Federal Standard – lowered to 35 µg/m³ in 2006; based on 24 hour average. There is no state std.
µg/m³ = micrograms per cubic meter

Sulfur dioxide (SO_2) is a gas produced when fossil fuels are burned. SO_2 is the main pollutant contributing to the formation of acid rain. No exceedances of this pollutant have occurred for decades and concentrations are well under Federal and State standards.

Lead (Pb) is a heavy metal used in industry and for years was a component in gasoline. Since the elimination of lead as a gasoline additive, lead in the atmosphere in southern California has been virtually eliminated.

Hydrogen Sulfide (H_2S) This pollutant is not commonly found in the ambient atmosphere but can originate from natural sources such as volcanoes, sulfur hot springs, or mineral brine associated with dry lakebeds. The CAAQS for H_2S is not health-based but rather an aesthetic one, because the compound smells like rotten eggs. This pollutant is not an issue in the project area and is not monitored at the Mojave Monitoring Station.

Sulfates are produced by the reaction in the air of sulfur dioxide (SO_2), which is a component of acid rain. Sources for sulfur dioxide include coal burning power plants and diesel engines. California does not have any coal burning power plants and all diesel fuels sold in the state are now lower in sulfur. Sulfates are not an issue in the area.

Visibility-reducing particles are common in the MDAB due to the vast open desert area, especially during windy conditions. Particles reduce visibility, obscuring the desert scenery, including views of the mountains. Dust control measures reduce particulates in the area.

Reactive Organic Gases (ROG) is also considered in the air quality analysis of projects in the State. Ozone is a secondary pollutant that is the result of chemical reactions between other pollutants, most importantly reactive hydrocarbons (also referred to as ROG), and NO_2, which occurs only in the presence of bright sunlight. The result is the formation of smog. There are no federal or state air quality standards for hydrocarbons or ROG as there are for other pollutants, however the EKAPCD does have thresholds for determining the severity of emissions of several criteria pollutants including ROG.

Climate Change and Greenhouse Gases

Gases that trap heat in the atmosphere are often called Greenhouse Gases (GHG); analogous to a greenhouse. GHGs are emitted by natural processes and human activities. The accumulation of GHGs in the atmosphere helps regulate the earth's temperature. Without these natural GHGs, the Earth's surface would be approximately 60°F cooler (EPA 2017). Emissions from human activities such as electricity production and vehicles have elevated the concentration of these gases in the atmosphere.

GHGs have varying global warming potential (GWP). A GWP is a "quantified measure of the globally averaged relative radiative forcing impacts of a particular greenhouse gas, defined as the accumulated radiative forcing within a specific time horizon caused by emitting one kilogram of the gas, relative to that of the reference gas" (EPA 2017). The reference gas for GWP is carbon dioxide; carbon dioxide has a GWP of one. For example, methane has a GWP of 28, which means that it has a greater global warming effect than carbon dioxide on a molecule per molecule basis. One teragram (Tg) of carbon dioxide equivalent (CO_2e) is the emissions of the gas multiplied by the GWP. One teragram is equal to one million metric tons. The carbon dioxide equivalent is a good way to assess emissions because it gives weight to the GWP of the gas. The lifetime and GWP of selected GHG are summarized in Table 6. As shown in the table, GWP for a 100-year time horizon ranges from one (carbon dioxide) to 23,500 (sulfur hexafluoride).

Table 6
Global Warming Potentials and Atmospheric Lifetimes of Select Greenhouse Gases

Gas	Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide	*	1
Methane	12.4†	28
Nitrous Oxide	121†	265
HFC-23	222	12,400
HFC-134a	13.4	1,300
HFC-152a	1.5	138
PFC-14: Tetrafluoromethane (CF4)	50,000	6,630
PFC-116: Hexafluoroethane (C2F6)	10,000	11,100
Sulfur Hexafluoride (SF6)	3,200	23,500

Source: IPCC 2013
* No single lifetime can be given.
† Perturbation lifetime is used in calculation of metrics, not the lifetime of the atmospheric burden.

Water vapor is the most abundant, important, and variable GHG in the atmosphere. It is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. The main source of water vapor is evaporation from the oceans (approximately 85 percent). Other sources

include evaporation from other water bodies, sublimation (change from solid to gas) from ice and snow, and transpiration from plant leaves.

Carbon dioxide (CO_2) is an odorless, colorless natural GHG. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Carbon dioxide is the primary greenhouse gas emitted through human activities and anthropogenic sources of carbon dioxide are from burning coal, oil, natural gas, and wood. Concentrations are currently around 400 ppm; some say that concentrations may increase to 540 ppm by 2100 as a direct result of anthropogenic sources (IPCC 2001). Some predict that this will result in an average global temperature rise of at least 2° Celsius (IPCC 2001).

Methane is a flammable gas and is the main component of natural gas. When one molecule of methane is burned in the presence of oxygen, one molecule of carbon dioxide and two molecules of water are released. There are no health effects from methane. A natural source of methane is from the anaerobic decay of organic matter. Geological deposits known as natural gas fields contain methane, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and cattle.

Nitrous oxide (N_2O), also known as laughing gas, is a colorless GHG. Higher concentrations can cause dizziness, euphoria, and sometimes slight hallucinations. Nitrous oxide is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used in rocket engines, as an aerosol spray propellant, and in race cars.

Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone; therefore, their production was stopped as required by the Montreal Protocol.

Hydrofluorocarbons (HFCs) are synthetic man-made chemicals that are used as a substitute for CFCs for automobile air conditioners and refrigerants.

Perfluorocarbons (PFCs) have stable molecular structures and do not break down though the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane and hexafluoroethane. Concentrations of tetrafluoromethane in the atmosphere are over 79 ppt (IPCC 2013). The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur hexafluoride (SF6) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP (23,500) of any gas evaluated. Concentrations in 2011 were about 7.3 ppt, while concentrations in 2005 were about 5.6 ppt (EPA 2013). Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Ozone found in the troposphere is considered a GHG; however, unlike the other GHG, ozone in the troposphere is relatively short-lived and therefore is not global in nature. Ozone is not directly emitted into the air but is formed through chemical reactions between precursor emissions of reactive organic gases (ROG) and nitrogen oxides (NO_X) in the presence of sunlight. It is difficult to make an accurate determination of the contribution of ozone precursors (nitrogen oxides and volatile organic compounds) to climate change (CARB 2004).

Aerosols are particles emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light. Cloud formation can also be affected by aerosols. Sulfate aerosols are emitted when fuel with sulfur in it is burned. Black carbon (or soot) is emitted during biomass burning incomplete combustion of fossil fuels. Particulate matter regulation has been lowering aerosol concentrations in the United States; however, global concentrations are likely increasing.

Assembly Bill 32

In 2006, the California State Legislature adopted Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006. AB 32 requires CARB, to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020 through an enforceable statewide emission cap which was phased in starting in 2012. On January 1, 2017 AB 32 was revised to include a statewide GHG emission reduction of 40 percent below the state GHG emissions limit no later than December 31, 2020.

Health and Other Effects

The potential health effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme events, and air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems (i.e., heat rash and heat stroke). In addition, climate-sensitive diseases may increase, such as those spread by mosquitoes and other disease carrying insects. Those diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture, which would have negative consequences. Drought in some areas may increase, which would decrease water and food availability. Global climate change may also contribute to air quality problems from increased frequency of smog and particulate air pollution (EPA 2006).

Kern County General Plan

The Land Use, Open Space, and Conservation Element (Chapter 1 of the Kern County General Plan) identifies General Provisions including the following policies to protect air quality in Kern County:

- Policy 18. The air quality implications of new discretionary land use proposals shall be considered in approval of major developments. Special emphasis will be placed on minimizing air quality degradation in the desert to enable effective military operations and in the valley region to meet attainment goals.

- Policy 19. In considering discretionary projects for which an Environmental Impact Report must be prepared pursuant to the California Environmental Quality Act, the appropriate decision making body, as part of its deliberations, will ensure that: (a) All feasible mitigation to reduce significant adverse air quality impacts have been adopted; and (b) The benefits of the Proposed Project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation. This finding shall be made in a statement of overriding considerations and shall be supported by factual evidence to the extent that such a statement is required pursuant to the California Environmental Quality Act.

- Policy 20. The County shall include fugitive dust control measures as a requirement for discretionary projects and as required by the adopted rules and regulations of the San Joaquin Valley Unified Air Pollution Control District and the Kern County Air Pollution Control District on ministerial permits.

- Policy 21. The County shall support air districts' efforts to reduce PM_{10} and $PM_{2.5}$ emissions

3.0 AIR QUALITY IMPACT EVALUATION

3.1 STANDARDS OF SIGNIFICANCE

EKAPCD Guidelines for Implementation of CEQA.

The following thresholds of significance were adopted by the Kern County Air Pollution Control District Board of Directors in 1999 and remain applicable within the EKAPCD (EKAPCD, 1999). A project would have a significant air quality impact on the environment if it would:

- Emit criteria air pollutants levels exceeding the trigger levels in EKAPCD Rule 210.1 of: 15 tons per year of PM_{10}; 27 tons per year of SO_x; or 25 tons per year of VOC or NO_x;
- Emit more than 137 pounds per day of NO_x or VOC from motor vehicle trips (indirect sources only);
- Cause or contribute to an exceedance of any California or National Ambient Air Quality Standard;
- Exceed the District health risk public notification thresholds; or
- Be inconsistent with adopted federal and state Air Quality Attainment Plans.

To determine if a proposed project has the potential to significantly impact the ambient air quality, the EKACPD utilizes the following net daily/annual emission increases as CEQA thresholds of significance. If the potential emissions exceed these thresholds, then the project may have a significant air quality impact and requires additional analysis.

- Nitrogen Dioxide (NO_2) 137 lbs./day (mobile); 25 tons/yr.
- Reactive Organic Gasses (ROG) 137 lbs./day (mobile); 25 tons/yr.
- Sulfur Dioxide (SO_2) --- lbs./day; 27 tons/yr.
- Particulate Matter (PM_{10}) --- lbs./day; 15 tons/yr.
- Particulate Matter ($PM_{2.5}$) --- lbs./day; 15 tons/yr.
- Greenhouse Gas Emissions 25,000 tons per year CO_2E
- Hazardous Air Pollutants 1 in one million

3.2 AIR QUALITY EVALUATION

This assessment depends on the project description, the estimated production rates, and on-site equipment and vehicles. In particular the "tier" level for the diesel engines and their related emission factors that are substantially lower with higher tier level. Currently, all new diesel engines must meet Tier 4 Final emission levels for diesel engines based on engine horsepower.

The proposed project is essentially a construction-type project as the material would be excavated by loaders and transported to markets by street-legal haul trucks. Approximately 82 acres will be disturbed by mining, overburden stockpiles, haul roads, work areas, and retention basins. In addition, the offsite access road located on State property per lease with the State Lands Commission, will be widened from 12 to 36 feet in width over a length of approximately 845 feet. Construction emissions related to this improvement are assessed separately below.

The construction emissions and the Proposed Project's operational emissions were screened using the latest emission factors from the following sources (see Appendix A):

- EKAPCD's Guidelines for Implementation of CEQA;
- CARB's EMFAC 2017 (v1.0.2) Emission Factors. https://arb.ca.gov/emfac/2017/;
- SCAQMD and the California Emissions Estimator Model (CalEEMOD) Off-Road Mobile Source Emissions Factors (information only);
- CalPortland's equipment that will meet CalPortland's fleet averaging requirements;
- EPA's AP-42 Section 13.2.2 unpaved roads (November 2006);
- EPA's AP-42 and SCAQMD Particulate Matter Emission Factors (July 2010); and
- CARB Carl Moyer Program Guidelines for In-Use Off-Road Diesel-Fueled Emissions (2017) and CARB Fleets Regulations.

Construction Emissions

The construction emissions related to the improvement of the primary access road located on State Lands Commission (SLC) lands are summarized in Table 7 below. CalPortland has

estimated two days of construction with the equipment listed below. Emission estimates are compiled in Appendix A, Table AQ4.

Table 7
Primary Access Road Construction Emissions Summary
(Pounds Per Day & Tons per Year)

Source/Phase	ROC/VOC	NO_X	CO	PM_{10}	$PM_{2.5}$
Backhoe	0.06	0.30	2.57	0.01	0.01
Soil Compactor	0.06	028	2.40	0.01	0.01
Grader	0.07	0.38	3.20	0.01	0.01
Dozer	0.10	0.51	4.31	0.02	0.02
Water Truck	0.07	0.34	2.89	0.01	0.01
Dump Truck	0.04	0.23	1.93	0.01	0.01
Fugitive Dust Emissions	---	---	---	8.76	1.8
Daily Emissions (lbs)	**0.39**	**2.05**	**17.31**	**8.83**	**2.5**
EKAPCD Threshold	137	137	None	None	None
Significant	**No**	**No**	**NA**	**NA**	**NA**
Annual Emissions (tons)	0.0004	0.0004	0.017	0.009	0.0025
EKAPCD Threshold	25	25	None	15	15
Significant	**No**	**No**	**NA**	**No**	**No**

Estimated 2 days of construction to grade and compact primary access road (CalPortland 2021).

The construction emissions related to the construction of the secondary access road and other onsite access roads and for the sediment basins to be constructed initially are summarized in Table 8 below. CalPortland and Lilburn has estimated approximately 40 days of construction with the equipment listed below. Emission estimates are compiled in Appendix A, Table AQ5. These two construction activities would not occur simultaneously as the same equipment would be used for both operations

Table 8
Onsite Road and Basins Construction Emissions Summary
(Pounds Per Day)

Source/Phase	ROC/VOC	NO_X	CO	PM_{10}	$PM_{2.5}$
On-Site					
Backhoe	0.06	0.30	2.57	0.01	0.01
Soil Compactor	0.06	028	2.40	0.01	0.01
Grader	0.07	0.38	3.20	0.01	0.01
Dozer	0.10	0.51	4.31	0.02	0.02
Water Truck	0.07	0.34	2.89	0.01	0.01
Dump Truck	0.04	0.23	1.93	0.01	0.01
Excavator	0.08	0.43	3.61	0.01	0.01
Fugitive Dust Emissions	---	---	---	13.14	2.7
Daily Emissions (lbs)	**0.48**	**2.47**	**20.91**	**8.83**	**2.5**
EKAPCD Threshold	137	137	None	None	None
Significant	**No**	**No**	**NA**	**NA**	**NA**
Annual Emissions (tons)	0.001	0.049	0.418	0.264	0.056
EKAPCD Threshold	25	25	None	15	15

Significant	**No**	**No**	**NA**	**No**	**No**

Est. 40 days of construction to excavate basins and grade and compact onsite access roads (CalPortland 2021).

As shown above, the anticipated primary access road and the onsite road and basin construction emissions are less than the EKAPCD thresholds and would be considered less than significant. However, compliance with EKAPCD rules for dust control and CARB's Off-Road Diesel Vehicle regulations would further reduce emissions. These measures are included below after the Operations Emissions discussion.

Operational Emissions

Exhaust Emissions

The Proposed Project will allow for the use of a local ore source to reduce transportation of material from more distant mineral sources. Typical mining operations include use of a loader, excavator, and a dozer to break, move, and load material directly into single trailer or double trailers trucks with capacities of up to approximately 25 tons (typical). The proposed annual production is estimated at 500,000 tpy; which equates to an average of approximately 1,670 tons/day on 300 operational days/year. Table 9 lists the typical equipment to be used on-site and the number of days of operations per year. Additionally, a water truck will be utilized for dust control on mining areas, haul roads, and stockpiles**.** Exhaust or criteria pollutants will be produced from the mobile equipment and portable generators. Dust will be produced from mining and truck travel on gravel/dirt haul and access roads. Operations will be required to comply with the existing EKAPCD regulations for mobile equipment and fugitive dust control. No crushing, screening or other processing is proposed onsite; therefore there are no stationary emission sources planned on-site.

Table 9
Typical Quarry Equipment
Gem Hill Quarry

Equipment	Typical Number	Typical Days/year	Purpose
Front-End Loader (CAT 980 typ.)	1	300	Loading of excavated materials into haul trucks at quarry.
Dozer (CAT D8 typ.)	1	150	Mining and stockpiling of pozzolan material. Removal of topsoil and waste rock. Construction and maintenance of roads and quarry benches.
Excavator (CAT 325 typ.)	1	60	Mining and stockpiling of pozzolan material and overburden.
Grader (CAT 140 typ.)	1	60	Removal of topsoil and waste rock. Construction and maintenance of roads.
Drill Rig (PowerROC T25 typ.)	1	130	Drill holes for placement of explosives.
On-Road Haul Trucks (25-ton trucks typ.)	10	300	Transportation of excavated material to various clients and overburden to stockpiles.

Water Truck (4,000 gallons)	1	300	Water spray haul roads, active quarry areas, overburden stockpiles, and general dust control onsite.
Tractor skid steer	1	60	Removal of topsoil and waste rock. Construction and maintenance of roads.
Generator Sets (50 hp typ) (CAT XQ 35 typ)	2	300	Power for water well pump and scale/office trailer.
Ancillary Equipment	Varies	Varies	Maintenance vehicles, bobcat, backhoe, pick-ups, SUVs, etc.

Source: CalPortland 2020
List above is typical equipment to be used on-site. Equipment types are not expected to vary. Specific equipment will change during the life of the project due to replacement of aging equipment and updated equipment and fleet averaging requirements. Hours per day varies with demand and ore/overburden quantities.

The operations, the production rates, and shipping plans are listed below for the planned future conditions from year 2021 and thereafter.

- Production – average of 1,670 tons/day, 500,000 tons/year (depending on market demand)
- Hours of Operation – Typical operations will be completed in one shift; approximately 10 hours/day, 6 days/week; 300 days/year; equipment hours vary (see Table 8 above and Appendix A, Table 1 (typical, depending on demand). Additional shifts or a change in hours may be required due to operational constraints.
- Material is transported by street-legal 25-ton capacity haul trucks directly from the quarry off-site to various clients and markets;– 25-ton trucks, 6 days/week averaging approximately 67 truck trips/day
- Overburden – approx. 4% of product mined that varies annually depending on quarry excavation location; same 25-ton capacity street-legal haul trucks move overburden directly to the overburden stockpile areas; 25-ton trucks, 6 days/week, average of three truck trips/day.

Operational emissions for the Proposed Project's mobile equipment and trucks were estimated utilizing the emission factors and methodology above. All equipment will meet current and future diesel emission regulations. Table 10 provides the estimated emissions for the planned operations in comparison to EKAPCD thresholds.

Table 10
Operational Emissions Summary
(Pounds Per Day)

Source/Phase	ROC/VOC	NO_X	CO	PM_{10}	$PM_{2.5}$
On-Site					
Loader	0.115	0.76	6.43	0.03	0.02
Excavator	0.03	014	1.20	<0.01	<0.01
Grader	0.02	0.13	1.07	<0.01	<0.01
Dozer	0.08	0.43	3.60	0.02	0.02
Water Truck	0.11	0.57	4.82	0.02	0.02
Skip Steer	0.05	0.08	1.14	<0.01	<0.01
Drill rig	0.06	0.23	3.28	0.01	0.01

Portable Generators	0.01	2.90	0.39	<0.01	<0.01
Backhoe/bobcat	0.06	0.30	2.57	0.01	0.01
Haul Trucks[1] On-Site	0.02	0.73	0.08	0.08	0.07
Fugitive Dust Emissions	---	---	---	42.4	8.0
On-Site Sub-Total	0.58	6.27	24.57	42.59	8.18
Off-Site					
Haul Trucks[1]	0.40	19.10	2.11	0.37	0.34
Employee Trips[1]	0.27	0.20	2.19	0.05	0.05
Maint. Vehicles[1]	0.01	0.48	0.05	0.01	0.01
Off-Site Sub-Total	0.68	19.78	4.35	0.43	0.40
Totals	**1.26**	**26.05**	**28.92**	**43.02**	**8.72**
EKAPCD Threshold	137	137	None	None	None
Significant	**No**	**No**	**NA**	**NA**	**NA**
Tons Per Year (300 Days/Year)					
On-Site	0.09	0.94	3.69	6.39	1.23
Off-Site	0.10	2.97	0.65	0.07	0.06
Total	0.19	3.91	4.34	6.46	1.29
EKAPCD Threshold	25	25	None	15	15
Significant	**No**	**No**	**NA**	**No**	**No**

Emission Sources: CARB Carl Moyer Program Guidelines 2017 Revisions;
[1] Source: See Appendix A; EMFAC2017 On-Road Heavy Heavy Duty Diesel Truck & On-Road Passenger Vehicles.
Note: SOx Threshold is 25 tons per year. Operational emissions from SOX is less than 0.01.

Fugitive Dust Emissions

Fugitive dust is generated by other mining, wind, and the transporting of material on unpaved haul roads. Activities onsite will include drilling, blasting, dozing, loading and dumping material, and wind erosion of overburden stockpiles and active quarry areas. Dust equations in EPA AP-42 and/or the SCAQMD guidelines were utilized to estimate dust emissions. Water spraying will be used at the active quarrying and loading areas, active overburden stockpiles, other operational areas, and roads.

Fugitive dust emissions from planned on-site activities and road dust are estimated and summarized in Table 10. See Appendix A for details on emissions estimates. Note that the material mined is volcanic pozzolan and not a sedimentary rock; therefore its silt content is minimal. As measured by CalPortland, the moisture content of pozzolan is relatively high – 10.4%.

As shown above, the anticipated operational emissions are less than the EKAPCD thresholds and would be considered less than significant. However, compliance with EKAPCD rules and CARB's Off-Road Diesel Vehicle regulations would further reduce emissions. These rules include but not limited to the following:

Rule 401. Rule 401 states that a person shall not discharge into the atmosphere, from any single source of emission, any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

a) As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines; or

b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Subsection A of the rule.

Rule 402. The purpose of Rule 402 is to reduce the amount of PM_{10} from significant manmade fugitive dust sources from large operations and in an amount sufficient to maintain National Ambient Air Quality Standards. A large operation is defined as "any active operation, including vehicle movement on unpaved roadways, on property involving in excess of 100 contiguous acres of disturbed surface area, or any earth-morning activity exceeding a daily volume of 7,700 cubic meters (10,000 cubic yards) three (3) times during the most recent 365-day period." This Rule shall apply to specified bulk storage, earthmoving, construction and demolition, and man-made conditions resulting in wind erosion. The following requirements of Rule 402 are provided below.

a) A person shall not cause or allow emissions of fugitive dust from any active operation to remain visible in the atmosphere beyond the property line of the emission source. This Subsection shall not apply to unpaved roadways.

b) A person shall utilize one (1) or more Reasonably Available Control Measures to minimize fugitive dust emissions from each fugitive dust source type which is part of any active operation subject to this Rule, including unpaved roadways.

c) For any large operation, except those satisfying Subsection V.D.3. (implementation of RACM's), a person shall not cause or allow downwind PM_{10} ambient concentrations to increase more than 50 micrograms per cubic meter above upwind concentrations as determined by simultaneous upwind and downwind sampling. High-volume particulate matter samplers, or other EPA-approved equivalent method(s) for PM_{10} monitoring shall be used.

d) No person shall conduct or authorize conducting a large operation subject to requirements of this Rule without either: (1) conducting on-site PM_{10} air quality monitoring and associated recordkeeping, or (2) filing for and obtaining an approved fugitive dust emissions control plan pursuant to Subsection V.D.3.

Dust control measures to be implemented on-site will be consistent with EKAPCD Regulation IV rules. The dust control measures are required to be in place and operative with an approved Fugitive Dust Emission Control Plan and periodic monitoring by EKAPCD and CalPortland personnel ensuring that the regulatory standards are met. The principal dust control measures to be implemented by the Operator will be the following:

- Water spraying of roads, operational quarry areas, and active overburden stockpiles with dedicated on-site water truck with on-site water well source as needed;
- Use of approved dust palliatives for roads as appropriate;
- Limiting on-site vehicle speed to 15 mph;

- Use a rumble grate with paved entrance apron to reduce track out;
- Remove any spilled or tracked out material on adjacent portion of Mojave Tropico Road as needed;
- Truck loads to be loaded in compliance with California Vehicle Code No. 23114;
- Production shall be scheduled to minimize daily equipment operations and idling equipment and trucks;
- Limit disturbed areas;
- Revegetate areas when complete;
- Trucks in loading queues will have their engines turned off when not in use for more than 5 minutes to reduce idling and vehicle emissions in compliance with Title 13, California Code of Regulations, Section 2485 (Anti-Idling Policy); and
- Surface mining operations, including excavating, shall be suspended during high winds or if dust plumes of 20% opacity impact off-site roads, occupied structures, or neighboring property.

Upon completion of mining, all disturbed slopes will be reclaimed and revegetated per SMARA standards as outlined in the Reclamation Plan. Reclamation activities would occur within a one-year period after the completion of mining. An estimated 80 days of grading and earthmoving similar to mining operations except for off-site truck hauling are expected. Reclamation emissions would be approximately 25% of operational emissions; and would not exceed EKAPCD thresholds.

Greenhouse Gas Emissions

Greenhouse gas (GHG) emissions are cumulative in nature, in that, no one single project can measurably contribute to climate change and its affects (global average change in temperature, rising sea levels etc.). The direct or indirect GHG impacts are therefore not evaluated on a local level, but whether or not the GHG emissions resulting from the project are cumulative; that is, they add considerably to an increase in GHGs as compared to the existing environmental setting based on: 1) an established significance threshold(s); or 2) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.

AB 32 defines seven (7) major GHGs that are emitted into the atmosphere, the first three are both biogenic (occur naturally in the environment) and anthropogenic (are man-made), through the burning of fossil fuels, the decay of organic waste in landfills etc. and they include carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O). The other four, known as Fluorinated gases (Hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride) are synthetic (made artificially by chemical processes). The Proposed Project would not generate Fluorinated gases as defined by AB 32, only the GHGs (CO_2 and CH_4; N_2O is negligible) that are emitted by equipment. Therefore, GHG emissions from CO_2 and CH_4 are modeled.

The EKAPCD has not formally adopted recommendations or official guidance to evaluate the significance of GHG emissions for projects within the MDAB in which the EKAPCD is not the

lead agency. The EKAPCD has adopted an addendum to their EKAPCD CEQA Guidelines, *Addressing GHG Emission Impacts for Stationary Source Projects When Serving as the Lead CEQA Agency*. The recommended threshold for GHG emissions is 25,000 tons per year of CO2e (EKAPCD March 2012). The project's contribution to cumulative impacts to global climate change would be considered cumulatively considerable if the project would generate greater than 25,000 metric tons of carbon dioxide equivalent ($MTCO_2e$) per year. CARB Carl Moyer Program Guidelines 2017 Revisions and EMFAC2017 On-Road Heavy Heavy Duty Diesel Truck and On-Road Passenger Vehicles emissions factors for onsite and offsite, respectively were used to estimate emissions. The site was evaluated for road construction and at operating for 300 working days/year. Annual operation GHG emissions are approximately 2,632 $MTCO_2e$ per year. Results for GHG emissions related to the Proposed Project are shown in Table 11.

In addition, reclamation activities would occur within a one-year period after the completion of mining. An estimated 80 days of grading and earthmoving similar to mining operations except for off-site truck hauling is expected. This would be equal to approximately 4 $MTCO_2e$ per day and 320 $MTCO_2e$ per year.

As demonstrated, construction, operations, and reclamation activities would not exceed the As demonstrated, operations would not exceed the EKAPCD GHG threshold. Therefore, the Proposed Project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on global warming/climate change. No significant adverse impacts are identified or are anticipated, and no mitigation measures are required. Note that air quality measures to reduce exhaust emissions and idling of vehicles above will also reduce CO_2 emissions.

In addition, the Gem Hill pozzolans will act as a carbon reduction operation, an important element to reduce GHG emissions. Pozzolanic materials can be utilized to replace a portion of clinker used in the manufacturing of portland cement as well as a portion of portland cement in ready-mix concrete. Pozzolan is defined as a cementitious material that increases the long-term strength and other material properties of portland cement concrete and reduces the air emissions of carbon dioxide (CO_2), a greenhouse gas (GHG) that contributes to global warming or climate change, in the production of cement. The utilization of Gem Hill pozzolan will reduce the carbon footprint (GHG) in concrete production.

Table 11
Greenhouse Gas Emissions

Equipment	CO_2	CH_4*
Loader	1,910	0.09
Excavator	350	0.02
Grader	350	0.02
Dozer	1,015	0.06
Water Truck	1,700	0.08
Skip Steer	160	0.01
Drill Rig	650	0.02
Generator Sets	1,469	0.14
Haul Trucks	10,215	0.02
Employee Trips	577	0.02

Maint. Vehicles	292	0.01
Total Pounds/Day	18,688	0.60
Total MTCO2e per day	8.5	0.0003
$MTCO_2e$ per Year (300 days/yr)	2,550	
Primary, Onsite Roads and Basins Construction (annual – one time)	123	
Total $MTCO_2e$ per Year	**2,673**	
EKAPCD GHG Threshold ($MTCO_2e$)	25,000	
Significant	**No**	

Emission Sources: See Appendix A; CARB Carl Moyer Program Guidelines 2017 Revisions;
[1] Source: EMFAC2017 On-Road Heavy Heavy Duty Diesel Truck and On-Road Passenger Vehicles.
Note: Assumes 300 working days/year.
*CH_4 has a Global Warming Potential of 28 as provided by IPCC's 2013 Working Group I

Impacts on Sensitive Receptors

Sensitive receptors include residential land uses, schools, day care centers, and other places where people reside, including prisons. The nearest sensitive receptor (rural residence) to the proposed project's operations is located approximately 1,800 feet to the east-northeast on the east side of a ridge with no line of sight to the project activities. As shown in Table 10, modeling results indicate that implementation of the Proposed Project is not anticipated to exceed EKAPCD emissions thresholds. Therefore, no significant adverse impacts are identified or are anticipated, and no mitigation measures are required.

Impacts from Carbon Monoxide

Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. Relatively high concentrations of CO would be expected along heavily traveled roads and near busy intersections. CO concentrations are also influenced by wind speed and atmospheric mixing. CO concentrations may be more uniformly distributed when inversion conditions are prevalent in the valley. Under certain meteorological conditions, CO concentrations along a congested roadway or intersection may reach unhealthful levels for sensitive receptors, e.g. children, the elderly, hospital patients, etc. This localized impact can result in elevated levels of CO, or "hotspots" even though concentrations at the closest air quality monitoring station maybe below NAAQS and CAAQS.

The localized project impacts depend on whether ambient CO levels in the Project vicinity would be above or below NAAQS. If ambient levels are below the standards, a project is considered to have significant impacts if a project's emissions would exceed of one or more of these standards. If ambient levels already exceed a state standard, a project's emissions are considered significant if they would increase one-hour CO concentrations by 10 ppm or more or eight-hour CO concentrations by 0.45 ppm or more.

A traffic trip generation assessment was prepared by Urban Crossroads. The project is anticipated to generate an average of 67 trips per day or 134 two-way trips (402 Passenger Car Equivalent, PCE) with an average of 42 PCE AM peak hour and 34 PCE PM peak hour trips.

Pursuant to the County of Kern Division 9 (Standards for Traffic Engineering, 902-1.02), a Project where the increase in project trip generation during any peak hour is expected to exceed 50 peak hour trips requires a traffic study unless waived by the Kern County Roads Department. Therefore, an additional traffic analysis is not necessary. Therefore, approval of the proposed project will not reduce any streets or intersections to a level of service (LOS) E or F and will not substantially worsen any existing LOS F streets or intersections. In addition, refer to Table 9 for CO modeled emissions. CO emissions are anticipated to be 28.6 lbs per day. Therefore, CO "Hotspot" Modeling was not conducted for this Project and no concentrated excessive CO emissions are anticipated.

Health Risk Impact

Projects are considered for potential health risks wherein a new or modified source of Hazardous Air Pollutants (HAPs) is proposed for a location near an existing residential area or other sensitive receptor when evaluating potential impacts related to HAPs. The proposed project would generate toxic air contaminant emissions from diesel truck emissions created by the on-going operations of the proposed project.

The nearest sensitive receptor (rural residence) to the proposed project is located approximately 1,800 feet to the east-northeast on the east side of a ridge with no line of sight to the project activities. As shown in Table 9, modeling results indicate that implementation of the Proposed Project is not anticipated to exceed EKAPCD emissions thresholds.

A site-specific health risk assessment was prepared (Ganddini, updated December 2021). According to EKAPCD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 30-year lifetime will contract cancer, based on the use of revised Office of Environmental Health Hazard Assessment (OEHHA) risk-assessment methodology.

A health risk assessment requires the completion and interaction of four general steps:

1. Quantify project-generated TAC emissions.
2. Identify nearby ground-level receptor locations that may be affected by the emissions (including any special sensitive receptor locations such as residences, schools, hospitals, convalescent homes, and daycare centers).
3. Perform air dispersion modeling analyses to estimate ambient pollutant concentrations at each receptor location using project TAC emissions and representative meteorological data to define the transport and dispersion of those emissions in the atmosphere.
4. Characterize and compare the calculated health risks with the applicable health risk significance thresholds.

The assessment determined that the existing sensitive receptors within the vicinity of the proposed project would not be exposed to a cancer risk in excess of the 10 in a million threshold and is considered less than significant. The health risk impacts to non-cancer related impacts are less than

the Hazard Index threshold of 1.0 and are also considered less than significant. Therefore, no significant adverse impacts are identified or are anticipated, and no mitigation measures are required.

Odor Impacts

The Proposed Project does not contain a land use typically associated with the emissions of objectionable odors. According to the *CEQA Air Quality Handbook*, land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies and fiberglass molding. Potential odor sources associated with the Proposed Project may result from equipment exhaust; however, standard requirements would minimize odor impacts resulting from operational activities. Furthermore, the modeling results (as shown in Table 9) indicate that development of the Proposed Project is not anticipated to exceed EKAPCD emissions thresholds. Temporary generation of objectionable oil and diesel fuel odors associated with the use of heavy equipment may occur during mining and reclamation activities however, impacts are anticipated to be negligible as demonstrated. Furthermore, the Proposed Project would not include any of the potential sources that would have a high potential to generate odor impacts. Therefore, the Proposed Project would result in a less-than-significant impact related to operation odors, and no mitigation measures are required.

Consistency with the Air Quality Attainment Plan

The EKAPCD is the primary agency responsible for managing local air quality and administering other California and federal air pollution control programs ensuring attainment and maintenance of the ambient air quality standards. The EKAPCD California Clean Air Act Ozone Air Quality Attainment Plan (AQAP) was originally approved by the California Air Resources Board (CARB) on February 18, 1993.

The following statements are from the 2017 Ozone Attainment Plan For 2008 Federal 75 ppb 8-Hour Ozone Standard; adopted – July 27, 2017: “In 2008, EPA adopted a more stringent 8-hour Ozone NAAQS of 0.075 ppm. Although the District attained the 1997 8-Hour Ozone NAAQS, and the Indian Wells Valley (IWV) planning area met the new (2008) standard, the District’s Design Value was higher than 0.075 ppm. In 2012, a portion of the District was classified “Marginal” non-attainment pursuant to the 2008, 8-hour Ozone NAAQS Air Quality Designations. However, the District failed to meet the 0.075 ppm standard by the applicable attainment date and was reclassified as “Moderate” nonattainment, effective June 3, 2016. As a result, the District was required to submit a SIP revision for the nonattainment area by January 1, 2017, which showed compliance with statutory and regulatory conditions applicable to the Moderate classification.

The District, in partnership with CARB, conducted photochemical modeling along with supplemental analyses to determine whether the District could attain the 2008 Ozone NAAQS by the Moderate deadline. Modeling indicated the District would not meet the 0.075 ppm standard by the Moderate deadline but could attain it by 2020, the attainment date for “Serious” nonattainment areas. Pursuant to Section 181(b)(3) of the CAA “Voluntary Reclassification”, the District requests CARB formally submit a request to EPA asking for voluntary

reclassification of the District from "Moderate" to "Serious" non-attainment for the 2008, 8-hour Ozone NAAQS, and revise the attainment date to December 31, 2020. The District expects EPA to approve the request to be reclassified as "Serious" non-attainment, therefore this Ozone attainment plan addresses all required elements, emissions reductions, and control measures necessary to demonstrate attainment with the 2008, 8-hour Ozone NAAQS by 2020."

The District's air quality is overwhelmingly impacted from O3 and its precursor emissions being transported from SJVAPCD and SCAQMD (both designated Extreme Non-attainment). Pursuant to CAA §182(a)(3)(B) 25 subsection (i), states must have an Emissions Statement program (i.e., rule) in place by 1993, that requires stationary sources to annually report and certify accuracy of their NOx and VOC emissions. Subsection (ii) has waiver provisions for stationary sources emitting less than 25 tpy of NOx or VOC. District Rule 108.2 (Emission Statement Requirements), was adopted July 13, 1992, last amended May 2, 1996, addresses Emissions Statement requirements. EPA promulgated Rule 108.2 into the SIP May 26, 2004.

District staff reviewed Rule 108.2 for adequacy, pursuant to CAA requirements and subsequent EPA guidance. Staff determines Rule 108.2 meets CAA § 182(a)(3)(B) requirements set forth in the implementation rule as shown in Table 10. The District certifies Rule 108.2 remains adequate for the purposes of implementing the 2008 8-hour Ozone NAAQS.

In summary, the Project is located within a federal nonattainment area for ozone. The EKAPCD has adopted a AQMP that addresses ozone and the ozone precursors. The AQMP specifies that regional air quality standards for ozone concentrations can be met through additional source controls and through trip reduction strategies. The AQMP also establishes emissions budgets for transportation and stationary sources. Those budgets, developed through air quality modeling, reveal how much air pollution can be in an area before this is a violation of the NAAQS.

Generally, a project is nonconforming if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming, however, if it complies with all applicable District rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan(s), and is consistent with the growth forecast in the applicable plan(s) (or is directly included in the applicable plan). In other words, a project may be inconsistent with the applicable air quality management plan or attainment plan if it could generate population, housing, or employment growth exceeding the forecasts used in the development of the SIP or AQMP. Growth profiles for point and area- wide sources are derived from surrogates such as economic activity, fuel usage, population, housing units, etc., that best reflect expected growth trends for each specific source category. Growth projections are normally obtained from government entities including Kern County and the Kern Council of Governments with expertise in developing forecasts for specific sectors, and in some cases, from econometric models.

Conformity with growth forecasts can be established by demonstrating that the project is consistent with the land use plan that was used to generate the forecast. Vehicle-related emissions estimates and projections are based on key socio-economic data including population, employment, and

vehicle miles traveled (VMT). In accordance with the Kern Council of Governments' Conformity Analysis For The 2021 Federal Transportation Improvement And The 2018 Regional Transportation Plan (June 2021) ("Conformity Analysis"), regional vehicle-related were analyzed for years 2021, 2022, 2023, 2024, 2025, 2026, 2029, 2031, 2037, and 2042 for applicable pollutants. All analyses were conducted using the latest planning assumptions and emissions models. The Conformity Analysis concluded, in relevant part, that for the Mojave Desert (Eastern Kern) ozone (2008 and 2015 standards), the total regional on-road vehicle-related emissions (ROG and NOX) associated with implementation of the 2021 FTIP and the 2018 RTP for all years assessed are projected to be less than the approved emissions budgets specified in the Eastern Kern 2017 Ozone Plan. (Conformity Analysis, p. 6.) Accordingly, any effect of the Project on population, employment, or VMT can be reasonably assumed to be accounted for in these projections. The Project is, therefore, consistent with the Conformity Analysis. (*Ibid.*)

The Proposed Project is located within the Resource 8.4 Mineral and Petroleum. Mining and mineral extraction allowed use, pursuant to County Ord.2, Chapter 19.100 (Surface Mining Ordinance). The project is consistent with this designation. Moreover, the Project, as a mineral recovery project that serves the needs of the existing regional population, will not result in population, housing, or employment growth in excess of the applicable forecasts used by the EKAPCD, which further supports the conclusion that the emissions associated from the proposed project have already been accounted for in the AQMP. Lastly, the Project's daily emissions are a fraction of the region's existing emissions based on the Eastern Kern County Emission Inventory (2020), as shown on the following chart:

2020 Eastern Kern County Emission Inventory NO_X Emissions		Project Emissions
Stationary and Area-Wide	19.5 tons per day, summer planning inventory	N/A
On-road Mobile	3.4 tons per day, summer planning inventory	0.013 tons per day
Off-road Mobile	4.6 tons per day, summer planning inventory	0.003 tons per day

Source: 2018 Updates to the California State Implementation Plan and Table 10, *supra*.

Therefore, the emissions associated with the Proposed Project have already been accounted for in the SIP/AQMP and approval of the Proposed Project would not conflict with the SIP/AQMP. No significant adverse impacts are identified or are anticipated, and no mitigation measures are required.

3.3 PROJECT CUMULATIVE IMPACT

Development of the Proposed Project will not exceed the EKAPCD CEQA emission thresholds and will be conditioned to comply with current EKAPCD rules and regulations to minimize impacts to air quality as discussed herein. Therefore, development of the Proposed Project is not

anticipated to generate significant impacts or generate significant criteria emissions. As such, cumulative air quality impacts are anticipated to be less than significant.

Global climate change (GCC) is inherently a cumulative p no single project would be expected to result in a measurable change in global climate. The cumulative nature of GCC is considered by agencies in adopting significance thresholds and adopted significance thresholds represent levels at which a project is considered cumulatively significant. As discussed above, the Plan's GHG emissions for operations would be below the EKAPCD GHG significance threshold, resulting in a less than significant impact. Therefore, the Plan would not significantly contribute to cumulative GHG impacts.

4.0 REPORT SUMMARY

This Air Quality Assessment determined that operational emissions from the Proposed Project will not exceed the EKAPCD CEQA thresholds of significance. Potential exhaust and dust emissions would be further reduced by implementation of standard exhaust and dust control measures as required by the CARB and EKAPCD's rules and regulations. Less than significant impacts to local or regional air quality are anticipated during project operations.

The Health Risk Assessment determined that the existing sensitive receptors within the vicinity of the proposed project would not be exposed to a cancer risk in excess of the 10 in a million threshold and is considered less than significant. The health risk impacts to non-cancer related impacts are less than the Hazard Index threshold of 1.0 and are also considered less than significant. Therefore, no significant adverse impacts are identified or are anticipated, and no mitigation measures are required.

The GHG assessment determined that the that the GHG emissions from proposed project will not exceed the EKAPCD CEQA GHG emission thresholds. GHG impacts will have a less than a cumulatively considerable impact with implementation of project design measures and CARB and EKAPCD rules and regulations.

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APPENDIX A
GEM HILL QUARRY
AIR POLLUTANT EMISSIONS
ASSUMPTIONS AND CALCULATIONS
December 2021

Table 1
Production and Blast Information

	Proposed Operations
Tuff or Pozzolan Material	500,000 tons/year
Overburden (4%)	20,000 tons/year (average)
Total	520,000 tons/year
Days/year	300
Hours/day	10; daylight only
# of Blasts/year	50
# of Drill Holes/year	4,143
ANFO (tons)	209

Source: CalPortland 2020

Silt content of tuff or pozzolan – 0% (volcanic rock that does not have any sedimentary rocks that could become silt)
Moisture Content of tuff or pozzolan – 10.4% (CPC)

Silt Content of basalt overburden – 0% (volcanic rock that does not have any sedimentary rocks that could become silt)
Moisture Content of basalt overburden – 1.5%

Source: CalPortland Central Laboratory Tests 3/23/2020

PM10 = 0.489 of Total Particulate Matter
PM2.5 = 0.208 of PM 10
Source: CEIDARS List SCAQMD 2006

Table 2
Typical Quarry Equipment
Gem Hill Quarry

Equipment	Typical Number	Typical Days/year	Purpose
Front-End Loader (CAT 980 typ.)	1	300	Loading of excavated materials into haul trucks at quarry.
Dozer (CAT D8 typ.)	1	150	Mining and stockpiling of pozzolan material. Removal of topsoil and waste rock. Construction and maintenance of roads and quarry benches.
Excavator (CAT 325 typ.)	1	60	Mining and stockpiling of pozzolan material and overburden.
Grader (CAT 140 typ.)	1	60	Removal of topsoil and waste rock. Construction and maintenance of roads.
Drill Rig (PowerROC T25 typ.)	1	125	Drill holes for placement of explosives.
On-Road Haul Trucks (25-ton trucks typ.)	10	300	Transportation of excavated material to various clients and overburden to stockpiles.
Water Truck (4,000 gallons)	1	300	Water spray haul roads, active quarry areas, overburden stockpiles, and general dust control onsite.
Tractor skid steer	1	60	Removal of topsoil and waste rock. Construction and maintenance of roads.
Generator Sets (50 hp typ) (CAT XQ 35 typ)	2	300	Power for water well pump and scale/office trailer
Ancillary Equipment	Varies	Varies	Maintenance vehicles, bobcat, backhoe, pick-ups, SUVs, etc.

Source: CalPortland 2020
List above is typical equipment to be used on-site. Equipment types are not expected to vary. Specific equipment will change during the life of the project due to replacement of aging equipment and updated equipment and fleet emission standards.

Table 3
Gem Hill Quarry
Fugitive Dust Emissions (PM10; PM2.5)

Source	Proposed Plan 2021	Controlled Emission Factors[1]	Proposed Plan 2021 TPY
Drilling	4,123 drill holes	0.64 lb/hole (PM_{10}) 0.13 lb/hole ($PM_{2.5}$)	1.32 PM_{10} 0.27 $PM_{2.5}$
Blasting	50 blasts	41 lbs/blast	1.03 PM_{10} 0.21 PM2.5
Dozing	5 hrs/day 1,500 hrs/yr	0.0035 lbs/hr (PM10) 0.0008 (PM2.5)	0.0026 PM10 0.0001 PM2.5
Loading	0.54 MT (load & dump OB on-site)	0.00015 lbs/ton (PM10) 0.00003 lbs/ton (PM2.5)	0.04 PM_{10} 0.008 PM2.5
Overburden Stockpiles	2 acres (active at any one time)	1.95 lbs/day/ac 0.78 lbs/day/ac	0.71 PM_{10} 0.28 PM2.5
Unpaved Roads	1.5 miles quarry to paved road & quarry to overburden stockpile	0.124 lbs/VMT (PM_{10}) 0.012 lbs/VMT (PM2.5)	2.2 TPY PM_{10} 0.22 TPY $PM_{2.5}$
TOTALS			5.3 (PM_{10}) 1.0 ($PM_{2.5}$)

Assumptions

Drilling and Blasting

Proposed Plan 0.52 MTPY (ore & overburden) 50 blasts/year

Drilling Emission Factors: 1.3 lb./hole (TPM); 0.64 lb/hole (PM_{10}); 0.13 lb/hole ($PM_{2.5}$)

Source: AP-42 (1998); Table 11.9-4 (1.3 lbs/hole of TPM) & SCAQMD Particulate Matter EF (December 2014).

Blasting Emission Factor (PM10):
*Source: AP-42 (1998); Table 11.9-4 (0.000014*Area^2 (TPM) & SCAQMD Particulate Matter EF (December 2014).*

DOZING

Dozing Emission Factor (PM10) = 0.0035 lbs/hour
Dozing Emission Factor (PM2.5) = 0.0008 lbs/hour

5 hours/day; 1,500 hrs/yr
Source: AP-42, Section 11.9, Table 11.9.1 Bulldozing Overburden Equation

$EF\ (PM10) = 1.0 * (s)^{1.5}/M^{1.4} * k$ lb/hr
$= 0.25^{1.5}/10.4^{1.4} * 0.75$ lb/hr

= 0.125 / 1 * 0.75
= 0.094 lbs/hr

k = 0.75 (PM10)
Silt content (s) = 0.25% (CalPortland)
Moisture content for tuff (M) = 10.4% (CalPortland)

PM2.5 = 0.208 of PM 10

LOADING

Loading Emission Factor = 0.00015 lbs/ton (PM10)
Loading Emission Factor = 0.00003 lbs/ton (PM2.5)

$EF\ (PM10) = k*0.0032 * \frac{(U/5)^{1.3}}{(M/2)^{1.4}}$ lbs/ton

Source: AP-42, Section 13.2.4 (1995)

k (PM_{10}) = 0.36 k (PM2.5) = 0.11
U = mean wind speed (7.7 mph (MDAQMD default))
Moisture content for tuff (M) = 10.4% (CalPortland)

$EF_{(PM_{10})} = 0.36* 0.0032* (7.7/5)^{1.3} / (10.4/2)^{1.4}$
= 0.00015 lbs/ton

OVERBURDEN STOCKPILES

Wind Erosion
Source: MDAQMD Mineral Guidance 2013 Section G

E=J*1.7*sl/1.5*(365-P)/235 * I/15 lb/day/ac
J = 0.5 for PM10
J = 0.2 for PM2.5
Sl = 0.5 for basalt overburden

E(PM10) =0.5*1.7*0.5/1.5 * 1.47 * 0.89 = 0.37 (uncontrolled)
At 50% control = 0.185 lbs/day/ac

For PM2.5 = 0.15 (uncontrolled) and 0.075 controlled

PM10 (CONTROLLED) = 1.95 lbs/day/ac
PM2.5 (CONTROLLED) = 0.78 lbs/day/ac

Estimated Stockpile areas (active): 2 acres

UNPAVED ROADS

ONSITE HAUL ROAD DUST
Haul Truck Data
For Haul Roads from Quarry to Paved Road
and to Overburden Stockpiles

Parameter	Proposed Project
Haul Trucks Capacity (tons)	25 ton
Truck Weight (tons) Empty Full Ave.	 23 48 37
Quarry Ore & OB Production	0.52 MTPY
Trips/Year	23,635
Distance in Miles (RT)	1.5 (ave.)
Miles/Year on Unpaved Roads	35,455

PM_{10} Emission Factor = 1.24 lbs/vehicle mile traveled (VMT)
PM_{10} Emission Factor (90% control) = 0.124 lbs/vehicle mile traveled (VMT)

Emission Factor (PM_{10}) = K (s/12)^a (W/3)^b
Source: AP-42, Section 13.2.2, Unpaved Roads (11-2006 & SCAQMD)

K = 1.5 for PM_{10} (lbs/VMT)
s (silt content) = 0-5% (used 2.5% (0% from material testing; 5% from aggregate or gravel roads; AP-42 and MDAQMD)
W (ave. wt.) = 37 tons
a = 0.9
b = 0.45

EF (PM_{10}) = $1.5(2.5/12)^{0.9}$ * $(37/3)^{0.45}$ = 1.24 lbs/VMT

Dust Control Estimates
Water spray up to 5 times/day – 61% (SCAQMD)
15 mph speed limit – 57% (SCAQMD)
Use of approved dust suppressant on unpaved roads and work areas – 84% (SCAQMD)
Used 90% for unpaved roads and areas.

1.24 lbs/VMT * (100-90% control) = 0.124 lbs/VMT (PM_{10})

35,455 VMT/yr * 0.124 lbs/VMT = 4,396 lbs or 2.2 tons/year (PM_{10})

DOZING/GRADING FOR PRIMARY ACCESS ROAD CONSTRUCTION

Dozing/grading Emission Factor (PM10) = 0.73 lbs/hour (controlled)
PM(10) emissions = 0.73 lbs/hr * 12 hrs/day (6 hrs/day for dozer and grader) = 8.76 lbs/day

Dozing/grading Emission Factor (PM2.5) = 0.15 lbs/hour (controlled)
PM(2.5) emissions = 0.15 lbs/hr * 12 hrs/day = 1.8 lbs/day

Estimated two days of construction; 8 hours/day; 16 hrs/yr

Equation Source: AP-42, Section 11.9, Table 11.9.1 Bulldozing Overburden Equation
k = 0.75 (PM10)
Silt content (s) = 10% stone quarry road
Moisture content with water spraying (M) = 12% (SCAQMD water spray default)

EF (PM10) = $1.0 * (s)^{1.5}/M^{1.4} * k$ lb/hr
= $10^{1.5}/12^{1.4} * 0.75$ lb/hr
=31.62 / 32.42 * 0.75
= 0.73 lbs/hr (controlled)

PM2.5 = 0.208 of PM 10
EF (PM2.5) = 0.73 lbs/hr. * 0.208 = 0.15 lbs/hr.

DOZING/GRADING FOR ONSITE ACCESS ROADS AND BASINS CONSTRUCTION

Dozing/grading/excavations Emission Factor (PM10) = 0.73 lbs/hour (controlled)
PM(10) emissions = 0.73 lbs/hr * 18 hrs/day (6 hrs/day for dozer, grader, and excavator) = 13.14 lbs/day

Dozing/grading/excavations Emission Factor (PM2.5) = 0.15 lbs/hour (controlled)
PM(2.5) emissions = 0.15 lbs/hr * 18 hrs/day = 2.7 lbs/day

Equation Source: AP-42, Section 11.9, Table 11.9.1 Bulldozing Overburden Equation
k = 0.75 (PM10)
Silt content (s) = 10% stone quarry road
Moisture content with water spraying (M) = 12% (SCAQMD water spray default)

EF (PM10) = $1.0 * (s)^{1.5}/M^{1.4} * k$ lb/hr
= $10^{1.5}/12^{1.4} * 0.75$ lb/hr
=31.62 / 32.42 * 0.75 = 0.73 lbs/hr (controlled)

PM2.5 = 0.208 of PM 10
EF (PM2.5) = 0.73 lbs/hr. * 0.208 = 0.15 lbs/hr.

Table AQ1
Gem Hill Quarry Future Conditions (0.5 mtpy)

Onsite Mobile Diesel Equipment Emissions (Typical) All will be Tier 4 Final.													
				Equation Variables		Emissions							
Operation		Emission Factor	Units	1	2	PM-10 lbs/day	PM-2.5 lbs/day	ROC lbs/day	CO lbs/day	NOx lbs/day	CO2 lbs/day	CH4 lbs/day
Equipment Exhaust Emissions				Equipment #	Operating Hrs							
PM-10	Loader 980; 369 hp	0.003	lbs/hr	1	10	0.03	0.02					
PM-2.5	Excavator CAT 325; 172 hp	0.002	lbs/hr	1	2	0.00	0.00					
	Grader 140M; 268 hp	0.002	lbs/hr	1	2	0.00	0.00					
	Dozer (D8); 347 hp	0.003	lbs/hr	1	5	0.02	0.01					
	Water Truck 260 hp	0.002	lbs/hr	1	10	0.02	0.02					
	Skid Steer CAT 279; 75 hp	0.001	lbs/hr	1	5	0.00	0.00					
	Hammer Drill T25; 160 hp	0.002	lbs/hr	1	5	0.01	0.01					
	Portable gen. sets	0.00002	lbs/hr	2	24	0.00	0.00					
	CAT XQ35 50 hp (Typ)		lbs/hr			0.00	0.00					
	Backhoe/bobcat (100 hp)	0.003	lbs/hr	2	2	0.01	0.01					
			lbs/hr			0.00	0.00					
ROG	Loader 980; 369 hp	0.015	lbs/hr	1	10			0.15				
	Excavator CAT 325; 172 hp	0.014	lbs/hr	1	2			0.03				
	Grader 140M; 268 hp	0.012	lbs/hr	1	2			0.02				
	Dozer (D8); 347 hp	0.016	lbs/hr	1	5			0.08				
	Water Truck 260 hp	0.011	lbs/hr	1	10			0.11				
	Skid Steer CAT 279; 75 hp	0.009	lbs/hr	1	5			0.05				
	Hammer Drill T25; 160 hp	0.011	lbs/hr	1	5			0.06				
	Portable gen. sets	0.0002	lbs/hr	2	24			0.01				
	CAT XQ35 50 hp (Typ)		lbs/hr					0.00				
	Backhoe/bobcat (100 hp)	0.015	lbs/hr	2	2			0.06				
			lbs/hr					0.00				
CO	Loader 980; 369 hp	0.643	lbs/hr	1	10				6.43			
	Excavator CAT 325; 172 hp	0.601	lbs/hr	1	2				1.20			
	Grader 140M; 268 hp	0.533	lbs/hr	1	2				1.07			
	Dozer (D8); 347 hp	0.719	lbs/hr	1	5				3.60			
	Water Truck 260 hp	0.482	lbs/hr	1	10				4.82			
	Skid Steer CAT 279; 75 hp	0.228	lbs/hr	1	5				1.14			
	Hammer Drill T25; 160 hp	0.655	lbs/hr	1	5				3.28			
	Portable gen. sets -	0.008	lbs/hr	2	24				0.39			
	CAT XQ35 50 hp (Typ)		lbs/hr						0.00			
	Backhoe/bobcat (100 hp)	0.643	lbs/hr	2	2				2.57			
			lbs/hr						0.00			
NOX	Loader 980; 369 hp	0.076	lbs/hr	1	10					0.76		
	Excavator CAT 325; 172 hp	0.071	lbs/hr	1	2					0.14		
	Grader 140M; 268 hp	0.063	lbs/hr	1	2					0.13		
	Dozer (D8); 347 hp	0.085	lbs/hr	1	5					0.43		
	Water Truck 260 hp	0.057	lbs/hr	1	10					0.57		
	Skid Steer CAT 279; 75 hp	0.016	lbs/hr	1	5					0.08		
	Hammer Drill T25; 160 hp	0.046	lbs/hr	1	5					0.23		
	Portable gen. sets	0.061	lbs/hr	2	24					2.90		
	CAT XQ35 50 hp (Typ)		lbs/hr							0.00		
	Backhoe/bobcat (100 hp)	0.076	lbs/hr	2	2					0.30		
			lbs/hr							0.00		
CO2	Loader 980; 369 hp	191	lbs/hr	1	10						1910	
	Excavator CAT 325; 172 hp	175	lbs/hr	1	2						350	
	Grader 140M; 268 hp	175	lbs/hr	1	2						350	
	Dozer (D8); 347 hp	203	lbs/hr	1	5						1015	
	Water Truck 260 hp	170	lbs/hr	1	10						1700	
	Skid Steer CAT 279; 75 hp	32	lbs/hr	1	5						160	
	Hammer Drill T25; 160 hp	130	lbs/hr	1	5						650	
	Portable gen. sets	31	lbs/hr	2	24						1469	
	CAT XQ35 50 hp (Typ)		lbs/hr								0	
	Backhoe/bobcat (100 hp)	191	lbs/hr	2	2						764	
			lbs/hr								0	
CH4	Loader 980; 369 hp	0.009	lbs/hr	1	10							0.092
	Excavator CAT 325; 172 hp	0.008	lbs/hr	1	2							0.017
	Grader 140M; 268 hp	0.009	lbs/hr	1	2							0.017
	Dozer (D8); 347 hp	0.012	lbs/hr	1	5							0.061
	Water Truck 260 hp	0.008	lbs/hr	1	10							0.082
	Skid Steer CAT 279; 75 hp	0.002	lbs/hr	1	5							0.010
	Hammer Drill T25; 160 hp	0.003	lbs/hr	1	5							0.016
	Portable gen. sets	0.003	lbs/hr	2	24							0.144
	CAT XQ35 50 hp (Typ)		lbs/hr									0.000
	Backhoe/bobcat (100 hp)	0.009	lbs/hr	2	2							0.036
			lbs/hr									0.000
			lbs/hr									
					Total Daily	0.09	0.09	0.56	24.49	5.54	8,368	0.474
					Annual (tons)	0.01	0.01	0.08	3.67	0.83	1,141	1.81

up to 300 days/year; 6 days/week; 1 shift/day. 0.5 millon tons of ore /year; 1,670 tpd MTCO2e MTCO2e
Equipment information & operatonal hours based on future max. production rates to supply the cement plant (CPC 2020)
PM2.5 fraction of PM10 Exhaust is 0.92 (CEIDARS List)
Emission Source and Load Factors: CARB Carl Moyer Program Guidelines 2017 Revisions
MTCO2e = metric tons of CO2 equivalent

Table A2
Gem Hill Quarry
On-Road Truck Exhaust Emissions On-Site

Operation		Emission Factor	Units	Equation Variables 1	Equation Variables 2	PM-10 lbs/day	PM-2.5 lbs/day	ROC lbs/day	CO lbs/day	NOX lbs/day	SOX lbs/day	CO2 lbs/day	CH4 lbs/day
Truck Emissions Onsite				# of trips per day	vmt						Negl		
PM-10	Haul Trucks & 5 water trk trips	0.0006	lbs/mile	75	1.5	0.066	0.061						
PM-2.5	Service Vehicles	0.0006	lbs/mile	15	1	0.009	0.008						
			lbs/mile			0.000	0.000						
			lbs/mile										
ROG	Haul Trucks & 5 water trk trips	0.0001	lbs/mile	75	1.5			0.0					
	Service Vehicles	0.0001	lbs/mile	15	1			0.00					
			lbs/mile					0.00					
			lbs/mile					0.00					
CO	Haul Trucks & 5 water trk trips	0.0006	lbs/mile	75	1.5				0.07				
	Service Vehicles	0.0006	lbs/mile	15	1				0.01				
			lbs/mile						0.00				
			lbs/mile						0.00				
NOX	Haul Trucks & 5 water trk trips	0.0057	lbs/mile	75	1.5					0.64			
	Service Vehicles	0.0057	lbs/mile	15	1					0.09			
			lbs/mile							0.00			
			lbs/mile							0.00			
CO2	Haul Trucks & 5 water trk trips	2.9500	lbs/mile	75	1.5							332	
	Service Vehicles	2.9500	lbs/mile	15	1							44	
			lbs/mile									0	
			lbs/mile									0	
CH4	Haul Trucks & 5 water trk trips	0.00001	lbs/mile	75	1.5								0.0007
	Service Vehicles	0.00001	lbs/mile	15	1								0.0001
			lbs/mile										
			lbs/mile										
					Total (lbs/day)	0.08	0.07	0.02	0.08	0.73	Negl	376	0.0008
				Total Tons/Year (2021)		0.01	0.01	0.00	0.01	0.11	Negl	51	0.00
												mtCO2e	mtCO2e

Emission Factors Source: EMFAC2017 On-Road Heavy Heavy Duty Diesel Trucks
Scenario Year 2021
PM2.5 fraction of PM10 Exhaust is 0.92 (CEIDARS List)
vmt = miles driven on-site for pick-up of material
1,670 tons/day for 300 days/year; 500,000 tons/year of pozzolan
67 ore trucks/day; 3 overburden trucks/day plus 5 water truck trips/day for 300 days/year
Service vehicles - On-site maint., fuel, pickups and SUVs estimated
Annual CO2 and CH4 in metric tons CO2 equivalent (mtCO2e)
Water truck - assumed same distance as haul trucks

Table A3
Gem Hill Quarry
On-Road Haul Truck & Vehicle Exhaust Emissions Off-Site

Operation		Emission Factor	Units	Equation Variables 1	Equation Variables 2	Emissions PM-10 lbs/day	PM-2.5 lbs/day	ROC lbs/day	CO lbs/day	NOX lbs/day	SOX lbs/day	CO2 lbs/day	CH4 lbs/day
Truck Emissions Onsite				# of trips per day	vmt						Negl		
PM-10	Haul Trucks	0.0001	lbs/mile	67	50	0.369	0.339						
PM-2.5	Employee trips	0.0001	lbs/mile	10	52	0.052	0.048						
	Maint. Vehicles	0.0001	lbs/mile	2	42	0.009	0.009						
			lbs/mile										
ROG	Haul Trucks	0.0001	lbs/mile	67	50			0.4					
	Employee trips	0.0005	lbs/mile	10	52			0.27					
	Maint. Vehicles	0.0001	lbs/mile	2	42			0.01					
			lbs/mile					0.00					
CO	Haul Trucks	0.0006	lbs/mile	67	50				2.11				
	Employee trips	0.0042	lbs/mile	10	52				2.19				
	Maint. Vehicles	0.0006	lbs/mile	2	42				0.05				
			lbs/mile						0.00				
NOX	Haul Trucks	0.0057	lbs/mile	67	50					19.10			
	Employee trips	0.0004	lbs/mile	10	52					0.20			
	Maint. Vehicles	0.0057	lbs/mile	2	42					0.48			
			lbs/mile							0.00			
CO2	Haul Trucks	2.9500	lbs/mile	67	50							9,883	
	Employee trips	1.1100	lbs/mile	10	52							577	
	Maint. Vehicles	2.9500	lbs/mile	2	42							248	
			lbs/mile									0	
CH4	Haul Trucks	0.00001	lbs/mile	67	50								0.0201
	Employee trips	0.00004	lbs/mile	10	52								0.0224
	Maint. Vehicles	0.00001	lbs/mile	2	42								0.0005
			lbs/mile										
					Total	0.43	0.40	0.71	4.35	19.77	Negl	10,708	0.0430
				Total Tons/Year (2021)		0.06	0.06	0.11	0.65	2.97	Negl	1,460	0.16
												mtCO2e	mtCO2e

Emission Factors Source: EMFAC2017 On-Road Heavy Heavy Duty Diesel Trucks and On-Road Passenger Vehicles & Delivery Truck
Scenario Year 2021
PM2.5 fraction of PM10 Exhaust is 0.92 (CEIDARS List)
vmt = miles driven off-site
1,670 tons/day for 300 days/year; 500,000 tons/year of pozzolan
67 ore truck trips/day for 300 days/year = 1,670 tpd transported off-site
50 miles round trip (average)
Maint. Vehicles 2 per day at 42 miles RT to Mojave Plant
Annual CO2 and CH4 in metric tons CO2 equivalent (mtCO2e)
Employee vehicles est at 2 trips (one way) at average distance of 26 miles

Table AQ4
Gem Hill Quarry Road Construction for Primary Access Road on SLC Lands

Mobile Diesel Equipment Emissions (Typical)													
				Equation Variables		Emissions							
Operation		Emission Factor	Units	1	2	PM-10 lbs/day	PM-2.5 lbs/day	ROC lbs/day	CO lbs/day	NOx lbs/day	CO2 lbs/day	CH4 lbs/day
Equipment (Typical HP)				Equipment #	Operating Hrs							
PM-10	Backhoe (100 hp)	0.003	lbs/hr	1	4	0.01	0.01					
PM-2.5	Soil Compactor (172 hp)	0.002	lbs/hr	1	4	0.01	0.01					
	Grader (268 hp)	0.002	lbs/hr	1	6	0.01	0.01					
	Dozer (D8) (369 hp)	0.003	lbs/hr	1	6	0.02	0.02					
	Water Truck (260 hp)	0.002	lbs/hr	1	6	0.01	0.01					
	Dump Truck (260 hp)	0.002	lbs/hr	1	4	0.01	0.01					
			lbs/hr			0.00	0.00					
			lbs/hr			0.00	0.00					
			lbs/hr			0.00	0.00					
			lbs/hr			0.00	0.00					
			lbs/hr			0.00	0.00					
ROG	Backhoe (100 hp)	0.015	lbs/hr	1	4			0.06				
	Soil Compactor (172 hp)	0.014	lbs/hr	1	4			0.06				
	Grader (268 hp)	0.012	lbs/hr	1	6			0.07				
	Dozer (D8) (369 hp)	0.016	lbs/hr	1	6			0.10				
	Water Truck (260 hp)	0.011	lbs/hr	1	6			0.07				
	Dump Truck (260 hp)	0.011	lbs/hr	1	4			0.04				
			lbs/hr					0.00				
			lbs/hr					0.00				
			lbs/hr					0.00				
			lbs/hr					0.00				
			lbs/hr					0.00				
CO	Backhoe (100 hp)	0.643	lbs/hr	1	4				2.57			
	Soil Compactor (172 hp)	0.601	lbs/hr	1	4				2.40			
	Grader (268 hp)	0.533	lbs/hr	1	6				3.20			
	Dozer (D8) (369 hp)	0.719	lbs/hr	1	6				4.31			
	Water Truck (260 hp)	0.482	lbs/hr	1	6				2.89			
	Dump Truck (260 hp)	0.482	lbs/hr	1	4				1.93			
			lbs/hr						0.00			
			lbs/hr						0.00			
			lbs/hr						0.00			
			lbs/hr						0.00			
			lbs/hr						0.00			
NOX	Backhoe (100 hp)	0.076	lbs/hr	1	4					0.30		
	Soil Compactor (172 hp)	0.071	lbs/hr	1	4					0.28		
	Grader (268 hp)	0.063	lbs/hr	1	6					0.38		
	Dozer (D8) (369 hp)	0.085	lbs/hr	1	6					0.51		
	Water Truck (260 hp)	0.057	lbs/hr	1	6					0.34		
	Dump Truck (260 hp)	0.057	lbs/hr	1	4					0.23		
			lbs/hr							0.00		
			lbs/hr							0.00		
			lbs/hr							0.00		
			lbs/hr							0.00		
			lbs/hr							0.00		
CO2	Backhoe (100 hp)	191	lbs/hr	1	4						764	
	Soil Compactor (172 hp)	175	lbs/hr	1	4						700	
	Grader (268 hp)	175	lbs/hr	1	6						1050	
	Dozer (D8) (369 hp)	203	lbs/hr	1	6						1218	
	Water Truck (260 hp)	170	lbs/hr	1	6						1020	
	Dump Truck (260 hp)	170	lbs/hr	1	4						680	
			lbs/hr								0	
			lbs/hr								0	
			lbs/hr								0	
			lbs/hr								0	
			lbs/hr								0	
			lbs/hr								0	
CH4	Backhoe (100 hp)	0.009	lbs/hr	1	4							0.037
	Soil Compactor (172 hp)	0.008	lbs/hr	1	4							0.034
	Grader (268 hp)	0.009	lbs/hr	1	6							0.052
	Dozer (D8) (369 hp)	0.012	lbs/hr	1	6							0.073
	Water Truck (260 hp)	0.008	lbs/hr	1	6							0.049
	Dump Truck (260 hp)	0.008	lbs/hr	1	4							0.032
			lbs/hr									0.000
			lbs/hr									0.000
			lbs/hr									0.000
			lbs/hr									0.000
			lbs/hr									0.000
			lbs/hr									
					Total Daily	0.07	0.07	0.39	17.31	2.05	5,432	0.276
					Annual (tons) (2 days only)	0.0001	0.0001	0.0004	0.0173	0.0020	4.9382	0.0070

Est. 2 days of construction to rip; blade; grade; and compact unpaved road. 8 hrs/day MTCO2e MTCO2e
Equipment information & operatonal hours based on CPC estimate
PM2.5 fraction of PM10 Exhaust is 0.92 (CEIDARS List)
Emission Source and Load Factors: CARB Carl Moyer Program Guidelines 2017 Revisions
MTCO2e = metric tons of CO2 equivalent

Table AQ5
Gem Hill Quarry Mine Roads & Basins' Construction

Onsite Mobile Diesel Equipment Emissions (Typical)

Operation		Emission Factor	Units	Equation Variables 1	Equation Variables 2	Emissions PM-10 lbs/day	Emissions PM-2.5 lbs/day	Emissions ROC lbs/day	Emissions CO lbs/day	Emissions NOx lbs/day	Emissions CO2 lbs/day	Emissions CH4 lbs/day
Equipment (Typical HP)				Equipment #	Operating Hrs							
PM-10	Backhoe (100 hp)	0.003	lbs/hr	1	4	0.01	0.01					
PM-2.5	Soil Compactor (172 hp)	0.002	lbs/hr	1	4	0.01	0.01					
	Grader (268 hp)	0.002	lbs/hr	1	6	0.01	0.01					
	Dozer (D8) (369 hp)	0.003	lbs/hr	1	6	0.02	0.02					
	Water Truck (260 hp)	0.002	lbs/hr	1	6	0.01	0.01					
	Dump Truck (260 hp)	0.002	lbs/hr	1	4	0.01	0.01					
	Excavator CAT 325; 172 hp	0.002	lbs/hr	1	6	0.01	0.01					
			lbs/hr			0.00	0.00					
			lbs/hr			0.00	0.00					
			lbs/hr			0.00	0.00					
			lbs/hr			0.00	0.00					
ROG	Backhoe (100 hp)	0.015	lbs/hr	1	4			0.06				
	Soil Compactor (172 hp)	0.014	lbs/hr	1	4			0.06				
	Grader (268 hp)	0.012	lbs/hr	1	6			0.07				
	Dozer (D8) (369 hp)	0.016	lbs/hr	1	6			0.10				
	Water Truck (260 hp)	0.011	lbs/hr	1	4			0.04				
	Dump Truck (260 hp)	0.011	lbs/hr	1	6			0.07				
	Excavator CAT 325; 172 hp	0.014	lbs/hr	1	6			0.08				
			lbs/hr					0.00				
			lbs/hr					0.00				
			lbs/hr					0.00				
			lbs/hr					0.00				
CO	Backhoe (100 hp)	0.643	lbs/hr	1	4				2.57			
	Soil Compactor (172 hp)	0.601	lbs/hr	1	4				2.40			
	Grader (268 hp)	0.533	lbs/hr	1	6				3.20			
	Dozer (D8) (369 hp)	0.719	lbs/hr	1	6				4.31			
	Water Truck (260 hp)	0.482	lbs/hr	1	4				1.93			
	Dump Truck (260 hp)	0.482	lbs/hr	1	6				2.89			
	Excavator CAT 325; 172 hp	0.601	lbs/hr	1	6				3.61			
			lbs/hr						0.00			
			lbs/hr						0.00			
			lbs/hr						0.00			
			lbs/hr						0.00			
NOX	Backhoe (100 hp)	0.076	lbs/hr	1	4					0.30		
	Soil Compactor (172 hp)	0.071	lbs/hr	1	4					0.28		
	Grader (268 hp)	0.063	lbs/hr	1	6					0.38		
	Dozer (D8) (369 hp)	0.085	lbs/hr	1	6					0.51		
	Water Truck (260 hp)	0.057	lbs/hr	1	4					0.23		
	Dump Truck (260 hp)	0.057	lbs/hr	1	6					0.34		
	Excavator CAT 325; 172 hp	0.071	lbs/hr	1	6					0.43		
			lbs/hr							0.00		
			lbs/hr							0.00		
			lbs/hr							0.00		
			lbs/hr							0.00		
CO2	Backhoe (100 hp)	191	lbs/hr	1	4						764	
	Soil Compactor (172 hp)	175	lbs/hr	1	4						700	
	Grader (268 hp)	175	lbs/hr	1	6						1050	
	Dozer (D8) (369 hp)	203	lbs/hr	1	6						1218	
	Water Truck (260 hp)	170	lbs/hr	1	4						680	
	Dump Truck (260 hp)	170	lbs/hr	1	6						1020	
	Excavator CAT 325; 172 hp	175	lbs/hr	1	6						1050	
			lbs/hr								0	
			lbs/hr								0	
			lbs/hr								0	
			lbs/hr								0	
			lbs/hr								0	
CH4	Backhoe (100 hp)	0.009	lbs/hr	1	4							0.037
	Soil Compactor (172 hp)	0.008	lbs/hr	1	4							0.034
	Grader (268 hp)	0.009	lbs/hr	1	6							0.052
	Dozer (D8) (369 hp)	0.012	lbs/hr	1	6							0.073
	Water Truck (260 hp)	0.008	lbs/hr	1	4							0.033
	Dump Truck (260 hp)	0.008	lbs/hr	1	6							0.048
	Excavator CAT 325; 172 hp	0.008	lbs/hr	1	6							0.050
			lbs/hr									0.000
			lbs/hr									0.000
			lbs/hr									0.000
			lbs/hr									0.000
			lbs/hr									
					Total Daily	0.09	0.08	0.48	20.91	2.47	6,482	0.326
					Annual (tons) (40 days)	0.002	0.002	0.010	0.418	0.049	117.855	0.166

Est. 40 days of construction to excavate basins; rip; blade; grade; and compact unpaved roads. 8 hrs/day MTCO2e MTCO2e
Equipment information & operatonal hours based on CPC estimate
PM2.5 fraction of PM10 Exhaust is 0.92 (CEIDARS List)
Emission Source and Load Factors: CARB Carl Moyer Program Guidelines 2017 Revisions
MTCO2e = metric tons of CO2 equivalent

Appendix C.2

Gem Hill Quarry Project Health Risk Assessment Analysis

GEM HILL QUARRY PROJECT
HEALTH RISK ASSESSMENT ANALYSIS

County of Kern
November 5, 2020
(Revised January 6, 2022)



Traffic Engineering ● Transportation Planning ● Parking ● Noise & Vibration
Air Quality ● Global Climate Change ● Health Risk Assessment

GEM HILL QUARRY PROJECT
HEALTH RISK ASSESSMENT ANALYSIS

County of Kern

November 5, 2020
(Revised January 6, 2022)

prepared by
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Project No. 19294

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EXECUTIVE SUMMARY

The purpose of this health risk assessment analysis is to provide an assessment of the potential impacts resulting from the operation of the proposed Gem Hill Quarry project and to identify measures that may be necessary to reduce potentially significant impacts.

Cancer and Non-Cancer-Related Health Risk Impacts

The analysis contained in this report shows that the existing sensitive receptors within the vicinity of the proposed Gem Hill Quarry project would not be exposed to a cancer risk in excess of 10 in million from operation of the project. Impacts are considered to be less than significant.

The operational health risk impacts for non-cancer related impacts are less than 1.0; therefore, they are also considered to be less significant. No mitigation is required.

1. INTRODUCTION AND SETTING

PURPOSE AND OBJECTIVES

This study was performed to address the possibility of cancer and non-cancer risk from project related diesel emissions. The objectives of the study include:

- discussion of the cancer risk thresholds of significance
- analysis of the operations related cancer risk from diesel emissions
- recommendations for mitigation measures

The County of Kern is the lead agency for this health risk assessment, in accordance with the California Environmental Quality Act authorizing legislation. Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with terms unique to air quality, a definition of terms has been provided in Appendix A.

PROJECT LOCATION

The project is located in the western Antelope Valley, approximately five miles northwest of Rosamond, California and ten miles southwest of Mojave, California on the west end of the Rosamond Hills in southeastern Kern County (County) (APN 0345-294-17, 0345-032-05, 0345-032-31, 0345-031-02, 0345-293-28). The Project Site is vacant and undeveloped. A vicinity map showing the project location is provided on Figure 1.

PROJECT DESCRIPTION

Mining of the site typically occurs with blasting, a loader, excavator, and a dozer to break, move, and load material directly into single trailer or double trailers trucks with capacities of up to approximately 25 tons (typical). The proposed annual production is estimated at 500,000 tons per year (tpy); approximately 1,670 tons/day on 300 operational days/year. Table 1 lists the typical equipment to be used on-site and the number of days of operations per year. Additionally, a water truck will be utilized for dust control on mining areas, haul roads, and stockpiles. Exhaust or criteria pollutants will be produced from the mobile equipment and portable generators. Dust will be produced from mining and truck travel on gravel/dirt haul and access roads. Offsite haul routes will travel north from the site along Mojave Tropico Road to Backus Road where 25 percent of the truck traffic (two trucks per hour) will travel east to the 14 freeway and 75 percent of the trucks (five trucks per hour) will travel west along Backus Road to Tehachapi-Willow Springs Road to the Mojave Cement Plant, then along Oak Creek Road to the 14 freeway. Operations will be required to comply with the existing Eastern Kern Air Pollution Control District (EKAPCD) regulations for mobile equipment and fugitive dust control. No processing is proposed onsite; therefore, there are no stationary emission sources planned on-site. Figure 2 illustrates the proposed site plan.

Table 1
Typical Quarry Equipment Gem Hill Quarry

Equipment	Typical Number	Typical Days/year	Purpose
Front-End Loader (CAT 980 typ.)	1	300	Loading of excavated materials into haul trucks at quarry.
Dozer (CAT D8 typ.)	1	150	Mining and stockpiling of pozzolan material. Removal of topsoil and waste rock. Construction and maintenance of roads and quarry benches.
Excavator (CAT 325 typ.)	1	60	Mining and stockpiling of pozzolan material and overburden.
Grader (CAT 140 typ.)	1	60	Removal of topsoil and waste rock. Construction and maintenance of roads.
Drill Rig (PowerROC T25 typ.)	1	130	Drill holes for placement of explosives.
On-Road Haul Trucks (25-ton trucks typ.)	10	300	Transportation of excavated material to various clients and overburden to stockpiles.
Water Truck (4,000 gallons)	1	300	Water spray haul roads, active quarry areas, overburden stockpiles, and general dust control onsite.
Tractor skid steer	1	60	Removal of topsoil and waste rock. Construction and maintenance of roads.
Generator Sets (50 hp typ.) (CAT XQ 35 typ.)	2	300	Power for water well pump and scale/office trailer.
Ancillary Equipment	Varies	Varies	maintenance vehicles, bobcat, backhoe, pick-ups, SUVs, etc. (see Appendix B for details).

Source: CalPortland 2020. List above is typical equipment to be used on-site. Equipment types are not expected to vary. Specific equipment will change during the life of the project due to replacement of aging equipment and updated equipment and fleet emission standards.

PHASING AND TIMING

The proposed project is anticipated to be operational in 2021.

SENSITIVE RECEPTORS IN PROJECT VICINITY

Sensitive receptors include residential land uses, schools, day care centers, and other places where people reside, including prisons. The nearest sensitive receptor (rural residence) to the proposed project is located approximately 884 feet to the northeast on the east side of a ridge with no line of sight to the project activities.

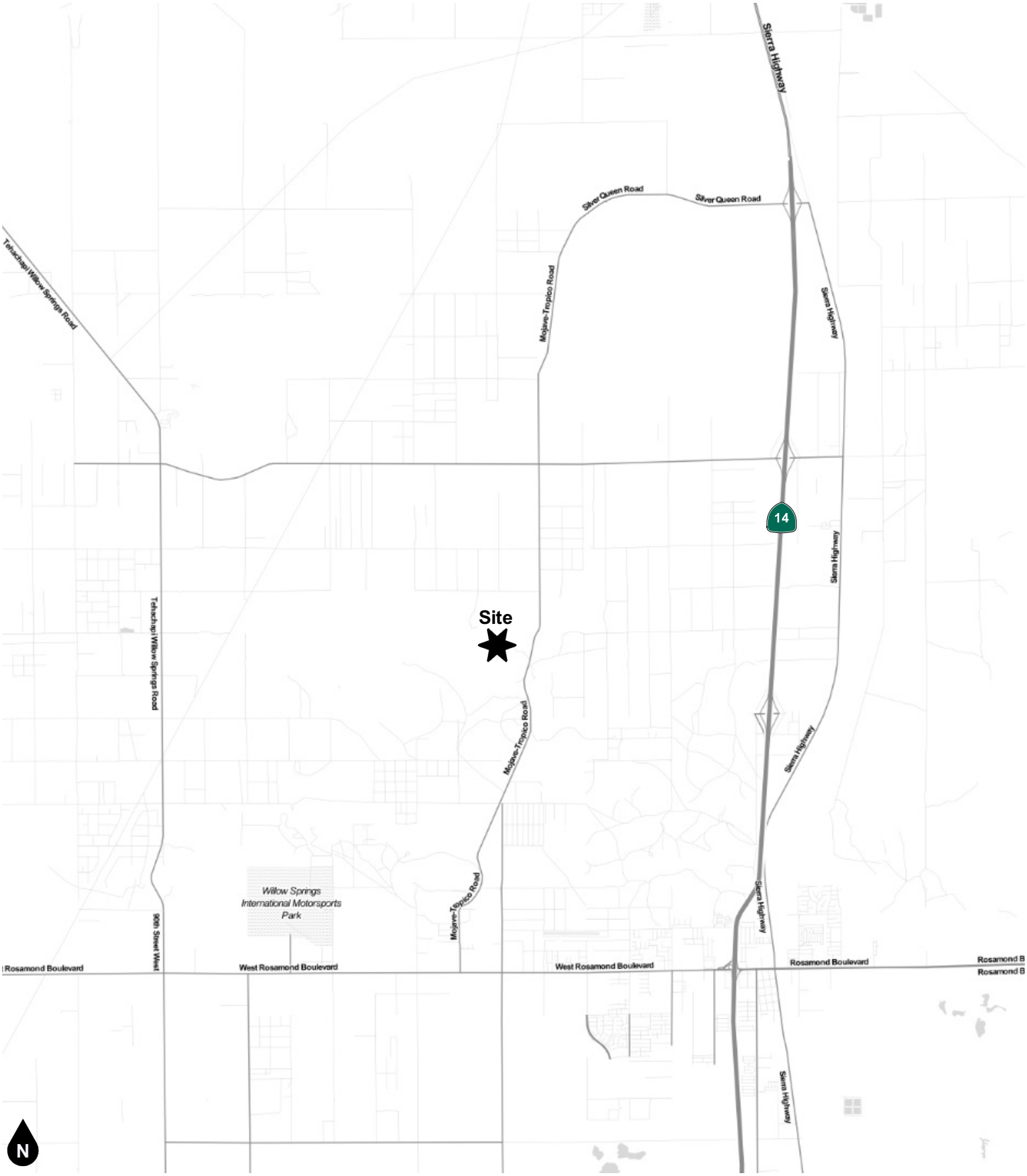


Figure 1
Project Location Map

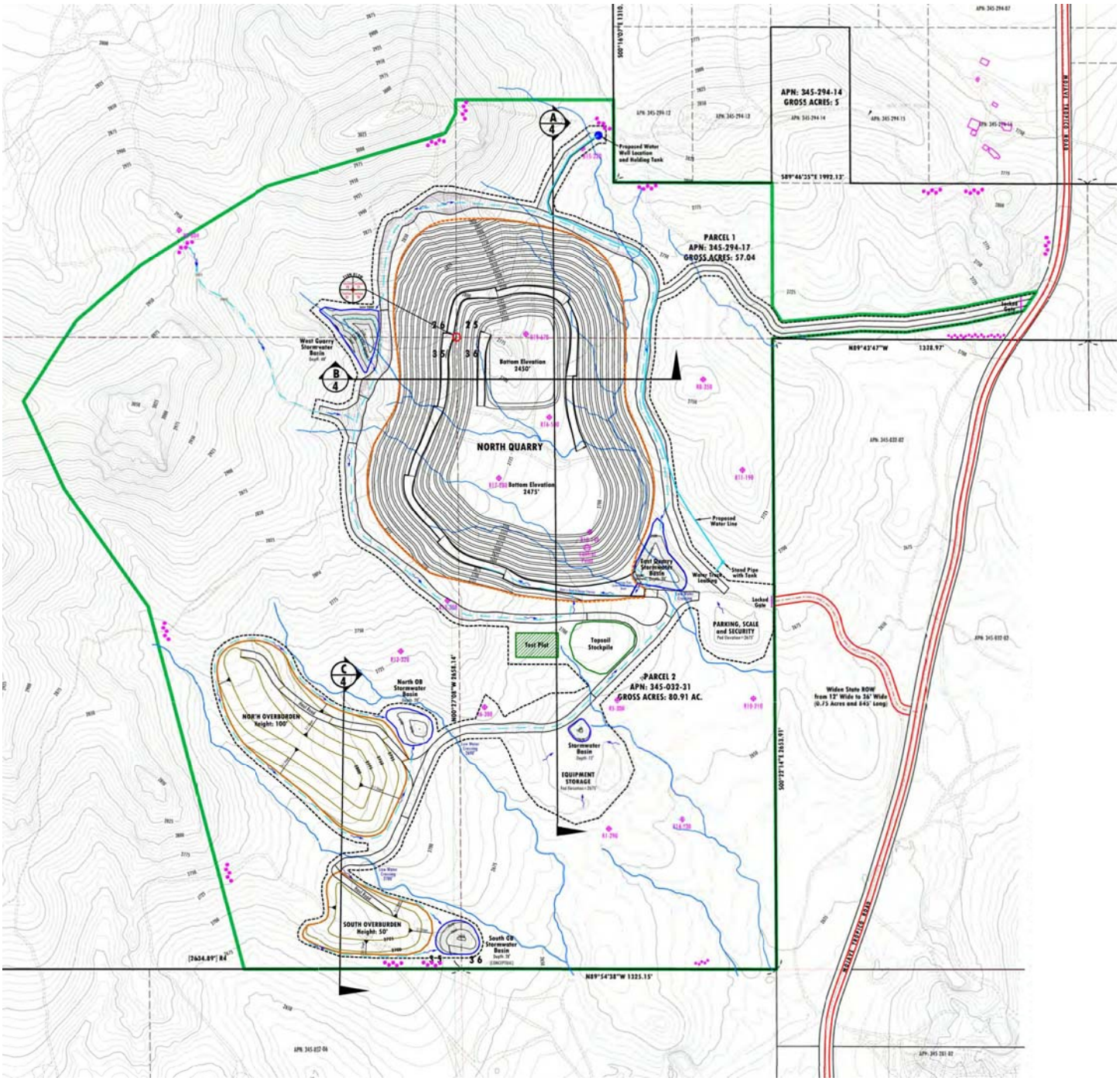


Figure 2
Site Plan

2. POLLUTANTS AND REGULATORY SETTING

POLLUTANTS

Pollutants are generally classified as either criteria pollutants or non-criteria pollutants. Federal ambient air quality standards have been established for criteria pollutants, whereas no ambient standards have been established for non-criteria pollutants. For some criteria pollutants, separate standards have been set for different periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values (such as protection of crops, protection of materials, or avoidance of nuisance conditions). A summary of federal and state ambient air quality standards is provided in the Regulatory Framework section.

Toxic Air Contaminants

In addition to the above-listed criteria pollutants, toxic air contaminants (TACs) are another group of pollutants of concern. Sources of toxic air contaminants include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least forty different toxic air contaminants. The most important of these toxic air contaminants, in terms of health risk, are diesel particulates, benzene, formaldehyde, 1,3-butadiene, and acetaldehyde. Public exposure to toxic air contaminants can result from emissions from normal operations as well as from accidental releases. Health effects of toxic air contaminants include cancer, birth defects, neurological damage, and death.

Toxic air contaminants are less pervasive in the urban atmosphere than criteria air pollutants, however they are linked to short-term (acute) or long-term (chronic or carcinogenic) adverse human health effects. There are hundreds of different types of toxic air contaminants with varying degrees of toxicity. Sources of toxic air contaminants include industrial processes, commercial operations (e.g., gasoline stations and dry cleaners), and motor vehicle exhaust.

According to the 2013 California Almanac of Emissions and Air Quality, the majority of the estimated health risk from toxic air contaminants can be attributed to relatively few compounds, the most important of which is diesel particulate matter (DPM). Diesel particulate matter is a subset of PM2.5 because the size of diesel particles are typically 2.5 microns and smaller. The identification of diesel particulate matter as a toxic air contaminant in 1998 led the California Air Resources Board (CARB) to adopt the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-fueled Engines and Vehicles in September 2000. The plan's goals are a 75-percent reduction in diesel particulate matter by 2010 and an 85-percent reduction by 2020 from the 2000 baseline. Diesel engines emit a complex mixture of air pollutants, composed of gaseous and solid material. The visible emissions in diesel exhaust are known as particulate matter or PM, which includes carbon particles or "soot". Diesel exhaust also contains a variety of harmful gases and over 40 other cancer-causing substances. California's identification of diesel particulate matter as a toxic air contaminant was based on its potential to cause cancer, premature deaths, and other health problems. Exposure to diesel particulate matter is a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. Overall, diesel engine emissions are responsible for the majority of California's potential airborne cancer risk from combustion sources.

The California Air Resources Board (CARB) have monitoring networks that measure ambient concentrations of certain TACs that are associated with important health-related effects, and are present in appreciable concentrations in the area. The CARB publishes annual Statewide, air basin, and location-specific summaries of the concentration levels of several TACs and their resulting cancer risks[1]. The most recent summary is the CARB Air Quality Almanac for 2013 (CARB 2013). The Almanac presents the relevant concentration and

[1] Cancer risk is expressed as a probability of an individual out of a population of one million contracting cancer via a continuous exposure to TACs over a 30-year lifetime.

cancer risk data for the ten TACs that pose the most substantial health risk in California based on available data. These TACs are: acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene. DPM is not directly measured but is indirectly estimated based on fine particulate matter measurements and special studies on the chemical speciation of ambient fine particulate data along with receptor modeling techniques. CARB showed that Diesel PM emissions decreased 37 percent from 2000 to 2010 primarily as a result of more stringent emissions standards and the introduction of cleaner burning diesel fuel. Emissions from diesel mobile sources are projected to continue to decrease after 2010. Overall, statewide emissions are forecasted to decline by 71 per cent between 2000 and 2035. CARB estimates that 78 percent of the known statewide cancer risks are from the top 10 outdoor air toxics in addition to DPM.

Estimates of total cancer risk Statewide have shown a steady decline from the early 1990s when the cancer risk from DPM was estimated to be 1,696 in one million. By the year 2000, the cancer risk was estimated to be 1,005 in one million or a reduction of 41 percent. Reductions in cancer risk are expected to continue into the future as new emission controls are implemented that further reduce DPM emissions, the major component of the total airborne cancer risk. Table 2 provides this summary of TACs and health risk information from the ARB Annual Toxic Summary for the most recent three-year period, 2018-2020 for the Bakersfield air monitoring station located approximately 55 miles northwest of the project site. The cancer risk attributable to the non-DPM chemicals (i.e., the 10 TACs measured by the ARB described above) have also shown significant reductions at the Bakersfield location declining from an estimated cancer risk of 262 in one million in 2018, to 209 in one million in 2019, a reduction of approximately 20 percent.

REGULATORY SETTING

Federal – United States Environmental Protection Agency (EPA)

The EPA is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The National Ambient Air Quality Standards (NAAQS) pollutants were identified using medical evidence.

As part of its enforcement responsibilities, the EPA requires each state with federal nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the national standards. The State Implementation Plan (SIP) must integrate federal, state, and local components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the State Implementation Plan (SIP).

State – California Air Resources Board

The CARB, which is a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the CARB conducts research, sets the California Ambient Air Quality Standards (CAAQS), compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the State Implementation Plan (SIP). In addition, the CARB establishes emission standards for motor vehicles sold in California, consumer products (e.g., hairspray, aerosol paints, and barbeque lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

CARB Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling adopts new section 2485 within Chapter 10, Article 1, Division 3, title 13 in the California Code of Regulations. The measure limits the idling of diesel vehicles (i.e., commercial trucks over 10,000 pounds) to reduce emissions of toxics and criteria pollutants. The driver of any vehicle subject to this section: (1) shall not idle the vehicle's primary diesel engine for greater than five minutes at any location; and (2) shall not idle a diesel-fueled auxiliary

power system for more than five minutes to power a heater, air conditioner, or any ancillary equipment on the vehicle if it has a sleeper berth and the truck is located within 100 feet of a restricted area (homes and schools).

CARB Requirements to Reduce Idling Emissions from New and In-Use Trucks. Amendments were made to Title 13 in California Code of Regulations in Sections 1956.8, 2404, 2424, 2425, and 2485. The amendment states: "all new 2008 and subsequent model-year heavy-duty diesel engines shall be equipped with an engine shutdown system that automatically shuts down the engine after 300 seconds of continuous idling operation once the vehicle is stopped, the transmission is set to 'neutral' or 'park,' and the parking brake is engaged. If the parking brake is not engaged, then the engine shutdown system shall shut down the engine after 900 seconds of continuous idling operation once the vehicle is stopped and the transmission is set to 'neutral' or 'park.'" There are a few conditions where the engine shutdown system can be overridden to prevent engine damage. Any project trucks manufactured after 2008 would be consistent with this rule, which would ultimately reduce air emissions.

Statewide Truck and Bus Regulation (Regulation to Reduce Emissions of DPM, Oxides of Nitrogen and Other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles, Title 13, California Code of Regulations, Section 2025). On December 12, 2008, the ARB approved this regulation to reduce emissions from existing on-road diesel trucks and buses operating in California. This regulation applies to all on-road heavy-duty diesel-fueled vehicles with a gross vehicle weight rating greater than 14,000 pounds, agricultural yard trucks with off-road certified engines, and certain diesel fueled shuttle vehicles of any gross vehicle weight rating. Out-of-state trucks and buses that operate in California are also subject. Under the regulation, older, heavier trucks (i.e., those with pre-2000-year engines and a gross vehicle weight rating greater than 26,000 pounds), are required to have installed a particulate matter filter and must be replaced with a 2010 engine between 2015 and 2020, depending on the model year. By 2015, all heavier pre-1994 trucks must be upgraded to 2010 engines and newer trucks are thereafter required to be replaced over the next eight years. Older, more polluting trucks are required to be replaced first, while trucks that already have relatively clean 2007-2009 engines are not required to be replaced until 2023. Lighter trucks (14,001-26,000 pounds) must adhere to a similar schedule. Furthermore, nearly all trucks that are not required under the Truck and Bus Regulation to be replaced by 2015 are required to be upgraded with a particulate matter filter by that date.

The CARB is also responsible for regulations pertaining to toxic air contaminants. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly) was enacted in 1987 as a means to establish a formal air toxics emission inventory risk quantification program. AB 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely release into the air basin. The data is ranked by high, intermediate, and low categories, which are determined by: the potency, toxicity, quantity, volume, and proximity of the facility to nearby receptors.

Regional

The Eastern Kern Air Pollution Control District (EKAPCD) is located in the western edge of the Mojave Desert and includes approximately 3,707 square miles of the eastern half of Kern County. This region contains a unique mix of geography, topography, and meteorology separated from heavily populated valleys and coastal areas to the west and by several mountain ranges to the south. The climate is very dry and arid with little rainfall. Temperatures can exceed 100° Fahrenheit sixty to seventy days per year. Although the District is primarily rural with a relatively low population of 132,000 compared to its size, it is classified as a medium district due to its vast industry and number of large area sources.

EKAPCD

In addition to attaining and maintaining air quality standards set by State and Federal Governments, the District is also responsible for ensuring that toxic air pollutants do not pose a nuisance or significant health threat to the surrounding community. Every year, the State's Air Toxics Hot Spots program (AB 2588) requires the

District to quantify and assess health risks from subject facilities to nearby residents, notify affected residents of significant risks, and to reduce those significant health risks to acceptable levels.

The State also implements Airborne Toxic Control Measures (ATCMs) regulations to reduce toxic emissions by requiring prescribed control measures for various source categories that cause significant health risks to nearby communities. Additionally, District requirements for installing Best Available Control Technology for new permits or modifications to existing facilities also ensure that there will not be a significant increase in health risk to the public. Air toxics programs from the State and District has resulted in cleaner air for residents in the District.

Health Risk Significant Thresholds

Cancer risk represents the probability (in terms of risk per million individuals) that an individual would contract cancer resulting from exposure to TACs continuously over a lifetime exposure period of 30 years for sensitive receptors. Thus, an individual located in an area with a cancer risk of one would experience a one chance out of a population of one million of contracting cancer over a 30-year time period, assuming that individual lives in that area continuously for the entire 30-year time period.

TACs can also cause chronic (long-term) and acute (short-term) related non-cancer illnesses such as reproductive effects, respiratory effects, eye sensitivity, immune effects, kidney effects, blood effects, central nervous system effects, birth defects, or other adverse environmental effects. Risk characterization for non-cancer health hazards from TACs is expressed as a hazard index (HI). The HI is a ratio of the predicted concentration of the project's emissions to a concentration considered acceptable to public health professionals, termed the Reference Exposure Level (REL). The 2019 EKAPCD Annual AB 2588 Air Toxics Report has established the following health risk thresholds.

- Maximum Incremental Cancer Risk: 10 in 1 million at the nearest sensitive receptor; and
- Hazard Index (project increment) 1.0 or greater.

Table 2
TAC Concentration Levels and Associated Risks - Bakersfield

TAC	Concentration[1] / Risk[2]	Year		
		2018	2019	2020
Acetaldehyde	Annual Average	1.380	1.170	ND
	Health Risk	20	17	ND
Benzene	Annual Average	0.249	0.168	ID
	Health Risk	65	44	ID
1,3-Butadiene	Annual Average	0.035	0.029	ND
	Health Risk	37	31	ND
Carbon Tetrachloride	Annual Average	0.072	0.071	ID
	Health Risk	55	55	ID
Chromium, Hex	Annual Average	ND	0.027	ND
	Health Risk	ND	11	ND
Para-Dichlorobenzene	Annual Average	ID	ID	ID
	Health Risk	ID	ID	ID
Formaldehyde	Annual Average	3.970	3.150	ND
	Health Risk	83	66	ND
Methylene Chloride	Annual Average	0.074	0.058	ND
	Health Risk	0.7	0.6	ND
Perchloroethylene	Annual Average	0.007	0.009	ID
	Health Risk	0.9	1	ID
Diesel PM	Annual Average	No monitoring data available		
	Health Risk			
Total Health Risk (without DPM)		**262**	**209**	**ND**

Notes:

ND = no data reported; ID = insufficient data

Source: http://www.arb.ca.gov/adam/toxics/toxics.html (for Bakersfield - 5558 California Avenue Air Monitoring Station)

1. Concentrations for Hexavalent Chromium are expressed as ng/m3, and concentrations for Diesel PM are expressed as µg/m3. Concentrations for all other TACs are expressed as ppb

2. Health Risk represents the number of excess cancer cases per million people based on a lifetime (30-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information is not available.

3. DIESEL EMISSIONS HEALTH RISK ASSESSMENT

The proposed project would generate toxic air contaminant emissions from diesel truck emissions created by the on-going operations of the proposed project. According to EKAPCD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 30-year lifetime will contract cancer, based on the use of revised Office of Environmental Health Hazard Assessment (OEHHA) risk-assessment methodology.

A health risk assessment requires the completion and interaction of four general steps:

1. Quantify project-generated TAC emissions.
2. Identify nearby ground-level receptor locations that may be affected by the emissions (including any special sensitive receptor locations such as residences, schools, hospitals, convalescent homes, and daycare centers).
3. Perform air dispersion modeling analyses to estimate ambient pollutant concentrations at each receptor location using project TAC emissions and representative meteorological data to define the transport and dispersion of those emissions in the atmosphere.
4. Characterize and compare the calculated health risks with the applicable health risk significance thresholds.

EMISSIONS

Emission Inventory Development

Important issues that affect the dispersion modeling include the following: (1) Model Selection, (2) Source Treatment, (3) Meteorological Data, and (4) Receptor Grid. Each of these issues is addressed below.

Emission Source Estimates – DPM from On-Site Equipment and On-Site/Off-Site Vehicles

DPM emissions from the various sources were obtained from the, project-specific Air Quality and Greenhouse Gas Assessment (AQR) for Gem Hill Quarry, Kern County California (Lilburn, 2021).

Four pieces of information are required to generate the mobile source emissions from the proposed project:

- Number of vehicle trips for each component of the proposed project;
- Types of vehicles that access the proposed project (passenger car vs. heavy-duty truck and gasoline vs. diesel);
- The distribution of vehicle trips on and around the project site; and
- Estimate of the vehicle emission factors for estimating exhaust emissions.

Estimate of Vehicle Trips and Vehicle Types

The traffic study for the project (Urban Crossroads, 2020), showed the project is expected to have approximately 67 haul trucks per day. However, the number of trucks could range up to 80 per day at the site. Therefore, 160 trucks per day were modeled to reflect round trip traffic from the anticipated maximum rate of 8 trucks per hour over the duration of the 10-hour work day.

Estimate of Emission Factors

The DPM exhaust emission factors for the various vehicle types were obtained from emissions factors used in the AQR[2]. PM10 is used as a surrogate for DPM. The AQR showed that PM10 exhaust emissions would be emitted by on-site, heavy-duty equipment, on-site haul vehicles and water trucks, and by off-site haul trucks. The off-site haul truck emissions were calculated using the latest version of CARB's EMission FACtor (EMFAC) model, EMFAC 2021.

Table A2 in Appendix A of the AQR showed that on-site (on-road) truck PM10 exhaust emissions would be 0.01 tons/year in 2021. Table AQ1 in in Appendix A of the AQR showed that on-site equipment PM10 exhaust would be 0.01 tons per year, for an on-site total of 0.02 tons per year of PM10 exhaust emissions. The traffic study (Urban Crossroads, 2020) showed that the project would have 80 on-road haul trucks per day (160 trucks per day round trip). Using EMFAC 2021 and an average off-site truck speed of 40 miles per hour, the average truck emissions were 0.009176 grams/mile. Please see Table 3 for details.

It should be noted that the DPM emissions on both the gram per mile and gram per idle hour bases decline beyond 2021 for all vehicle classes and in particular the heavy-heavy-duty truck class (the 4+ axle "big rig" trucks). This is due to the CARB emissions' requirements on heavy-duty trucks that call for either the replacement of older trucks with cleaner trucks or the installation of diesel particulate matter filters on the truck fleet.

Emission Source Characterization

Each of the emission source types described above also requires geometrical and emission release specifications for use in the air dispersion model. Table 4 provides a summary of the assumptions used to configure the various emission sources. The following definitions are used to characterize the emission source geometrical configurations referred to in Table 4:

- Area Source: Air pollutant emissions sources which operate within a certain local; it is approximated in the AERMOD air dispersion model as a distinct area in the modeling region with a location and emission characteristics such as height of release, emission rate, etc., for example, an area within the boundary of a project site where construction activity occurs, or where locomotives would operate within a railyard, etc.

- Line source: A series of volume sources along a path, for example, vehicular traffic volumes along a roadway.

Figure 3 provides the location of the emission source locations, and the locations of the nearest sensitive receptors. All of the closest sensitive receptors are residential land uses. As stated previously, the nearest receptor is a rural residence located approximately 884 feet to the east-northeast on the east side of a ridge with no line of sight to the project activities. Receptors are shown as orange triangles labeled 1 through 10 and are located along the haul truck travel route on Mojave Tropico Road and Backus Road. The percentage and direction of off-site truck travel was based on a figure provided by Lilburn (see Appendix B).

RECEPTOR NETWORK

The assessment requires that a network of receptors be specified where the impacts can be computed at the various locations surrounding the project. Receptors were located at existing sensitive receptors closest to the proposed project (as detailed above). In addition, the identified sensitive receptor locations were supplemented by the specification of a Cartesian Receptor modeling grid (shown in grey on Figure 3) that

[2] Please see the AQR, Appendix A, Gem Hill Quarry Air Pollutant Emissions Assumptions and Calculations.

extended around the proposed project to identify other potential locations of impact. The locations of the receptors are shown as orange triangles on Figure 3.

Dispersion Modeling

The next step in the assessment process utilizes the emissions inventory along with a mathematical air dispersion model and representative meteorological data to calculate impacts at the various receptor locations. The dispersion model used in this assessment is described below.

Model Selection

The assessment of air quality and health risk impacts from pollutant emissions from this project applied the USEPA AERMOD Model, which is the air dispersion model accepted by the EKAPCD or performing air quality impact analyses. AERMOD predicts pollutant concentrations from point, area, volume, line, and flare sources with variable emissions in terrain from flat to complex with the inclusion of building downwash effects from buildings on pollutant dispersion. It captures the essential atmospheric physical processes and provides reasonable estimates over a wide range of meteorological conditions and modeling scenarios.

General Model Assumptions

A Summary of Emission Configurations is shown in Table 4. The basic options used in the dispersion modeling are summarized in Table 5.

As indicated in Table 5 the analysis did not take into account the effects of building downwash on the dispersion of emissions from the emissions sources located on the project's property as no buildings are proposed on-site.

Meteorological Data

Meteorological data from the CARB Mojave Airport monitoring site was selected for this modeling application, as it was the closest station with data available in the format required by AERMOD. Five full years of sequential meteorological data was collected at the site from January 1, 2009 to January 1, 2014 by CARB. The CARB processed the data for input into the model. The data was obtained at CARB's HARP AERMOD Meteorological Files webpage https://ww2.arb.ca.gov/resources/documents/harp-aermod-meteorological-files (see Figure 4).

Estimation of Health Risks

Health risks from diesel particulate matter are twofold. First, diesel particulate matter is a carcinogen according to the State of California. Second, long-term chronic exposure to diesel particulate matter can cause health effects to the respiratory system. Each of these health risks is discussed below.

Cancer Risks

According to the *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments*, released by the Office of Environmental Health Hazard Assessment (OEHHA) in February 2015 and formally adopted in March 2015, the residential inhalation dose for cancer risk assessment should be calculated using the following formula:

[Dose-air (mg/(Kg-day)]*Cancer Potency*[1x10^{-6}] = Potential Cancer Risk

Where:
Cancer Potency Factor = 1.1
Dose-inh = (C¬air * DBR * A * EF * ED *ASF*FAH* 10-6) / AT

Where:
Cair [Concentration in air (µg/m3)] = (Calculated by AERMOD Model)
DBR [Daily breathing rate (L/kg body weight – day)] = 350 for adults, 745 for children, and 1,090 for infants, and 361 for 3rd trimester per OEHHA 95th percentile guidance.

A [Inhalation absorption factor] = 1
EF [Exposure frequency (days/year)] = 350
ED [Exposure duration (years)] = 30 for adults (for an individual who is an adult at opening year), 14 for children (from 2-16 years), 14 for adults (from 16-30 years), 2 for infants, and 1 for 3rd Trimester
ASF [Age sensitivity factor) = 10 for 3rd trimester to 2 years of age, 3 for 2 to 16 years of age, and 1 for 16 to 30 years of age
FAH [Fraction of time spent at home] = 0.85 for 3rd trimester to 2 years of age, 0.72 for 2 to 16 years of age, and 0.73 for 16 to 30 years of age
10^6 [Micrograms to milligrams conversion]
AT [Average time period over which exposure is averaged in days] = 25,550

The AERMOD model run results are shown in Appendix C. Figure 5 illustrates the 30-year cancer risk.

Table 6 shows the cancer risk for the unborn child during the 3rd trimester, Table 7 shows the cancer risk to infants (0-2 years), Table 8 shows the cancer risk to children ages 2 to 16 years and Table 9 shows the cancer risk as that child becomes an adult (years 16-30). The 3rd trimester cancer risk is less than 0.04 in a million for any receptor. The highest infant cancer risk is at receptor 5; with a maximum risk of 0.77 in one million. The highest child (2-16 years) cancer risk is also at receptor 5; with a maximum risk of 0.93 in one million, and adult (16-30 years) cancer risk for all receptors is less than 0.15 in a million. Therefore, no infants, children or adults are exposed to cancer risks in excess of 10 in a million.

The assessment of cancer-related health risk to sensitive receptors within the project vicinity is based on the following most-conservative scenario:

- an unborn child in its 3rd trimester is potentially exposed to DPM emissions (via exposure of the mother) during the opening year;
- that child is born opening year and then remains at home for 85 percent of the first two years of life;
- from age 2 to 16, the child remains at home 72 percent of the time;
- from age 16 to 30, the child continues to live at home, growing into an adult that spends 73 percent of its time at home and lives there until age 30.

Based on the above, ultra-conservative assumptions, the 30.25-year, cumulative carcinogenic health risk (calculated via HARP per EKAPCD requirements) to an individual born during the opening year of the project, and located in the project vicinity for the entire 30-year duration, is a maximum of 2.43 in a million, as shown in Table 10. Please see Appendix C for HARP output.

Therefore, the proposed project would result in a less than significant impact due to the cancer risk from diesel emissions.

The closest commercial use to the project site is the solar farm located north of Favorito Avenue and west of 60th Street West, approximately 5,500 feet southwest of the project site. As the closest residential receptor is located approximately 884 feet northwest of the site and the residential cancer risk does not exceed 10 in a million, it is anticipated that any offsite worker risk (where the distance is greater between the sources and

the receptor and the potential for exposure is only 8 hours instead of 24 hours per day) would also not exceed 10 in a million.

Non-Cancer Risks

The relationship for non-cancer health effects is given by the equation:

HIDPM = CDPM/RELDPM

Where,
HIDPM = Hazard Index; an expression of the potential for non-cancer health effects.
CDPM = Annual average diesel particulate matter concentration in µg/m3.
RELDPM = Reference Exposure Level (REL) for diesel particulate matter; the diesel particulate matter concentration at which no adverse health effects are anticipated.

The non-carcinogenic hazards to residential adult, 3rd trimester, child and infant receptors are also detailed in Tables 6 through 9 column (j). The RELDPM is 5 µg/m3. The Office of Environmental Health Hazard Assessment as protective for the respiratory system has established this concentration. Using the maximum DPM concentration for the opening year (2021), the resulting Hazard Index is

HIDPM = 0.00275/5 = 0.0006

The criterion for significance is a Hazard Index increase of 1.0 or greater. Therefore, the proposed project would have a less than significant impact due to the non-cancer risk from diesel emissions.

Table 3
DPM Emissions Factors for the Proposed Project

Emissions Source	Emissions Factor
Onsite heavy duty equipment and On-road Truck PM10 Exhaust Emissions	0.02 tons/year
Offsite Trucks	0.009176 grams/mile[1]

Notes:

Source: Air Quality and Greenhouse Gas Assesment for Gem Hill Quarry, Appendix A. Lilburn. January 2021

Table 4
Summary of Emission Configurations

Emission Source Type	Geometric Configuration	Relevant Assumptions
Off-Site Diesel Truck Traffic	Line Volume Sources	Stack release height: 12 feet
		Access road included haul road calculations from AERMOD
		Length of the line source (Access road,, Mojave Tropico Road,, Backus Road w/o Mojave Tropico Road, Backus Road e/o Mojave Tropico Road)
		Vehicle types: heavy-heavy-duty trucks
		Emission factor: EMFAC2021
On-Site Heavy Duty Equipment	Area Source	Release height: 12 feet
		Area: 996,757.3 m^2 (from AERMOD)
		Average emissions: 0.00057585 grams/sec
		Average aresa source emissions: 5.77723E-10 grams/m2-sec
		Emission factor: from AQ report Appendix A (see Table 3)

Table 5
General Modeling Assumptions - AERMOD Model

Feature	Option Selected
Terrain processing	AERMAP - NED GEOTIFF 30 min
Emission source configuration	See Table 3
Regulatory dispersion options	Default
Land use	Rural
Coordinate system	UTM, Zone 11 north
Building downwash	N/A (no buildings on-site)
Receptor height	0 meters above ground (per OEHHA methodology)
Meteorological data	CARB Mojave Airport Meteorological Data

Table 6
Carcinogenic Risks and Non-Carcinogenic 3rd Trimester Exposure Scenario (0.25-Year)

Receptor ID (a)	Maximum Concentration (ug/m3) (b)	Maximum Concentration (mg/m3) (c)	Weight Fraction (d)	Contaminant (e)	Carcinogenic Hazards CPF (mg/kg/day) (f)	Carcinogenic Hazards RISK (per million) (g)	Noncarcinogenic Hazards REL (ug/m3) (h)	Noncarcinogenic Hazards RfD (mg/kg/day) (i)	Noncarcinogenic Hazards Index (j)
1	0.0009	9.0E-07	1.00E+00	DPM	1.1E+00	0.01	5.0E+00	1.4E-03	0.0002
2	0.00127	1.3E-06	1.00E+00	DPM	1.1E+00	0.01	5.0E+00	1.4E-03	0.0003
3	0.00156	1.6E-06	1.00E+00	DPM	1.1E+00	0.02	5.0E+00	1.4E-03	0.0003
4	0.00268	2.7E-06	1.00E+00	DPM	1.1E+00	0.03	5.0E+00	1.4E-03	0.0005
5	0.00275	2.8E-06	1.00E+00	DPM	1.1E+00	0.03	5.0E+00	1.4E-03	0.0006
6	0.00079	7.9E-07	1.00E+00	DPM	1.1E+00	0.01	5.0E+00	1.4E-03	0.0002
7	0.00038	3.8E-07	1.00E+00	DPM	1.1E+00	0.00	5.0E+00	1.4E-03	0.0001
8	0.00139	1.4E-06	1.00E+00	DPM	1.1E+00	0.02	5.0E+00	1.4E-03	0.0003
9	0.00023	2.3E-07	1.00E+00	DPM	1.1E+00	0.00	5.0E+00	1.4E-03	0.0000
10	0.00094	9.4E-07	1.00E+00	DPM	1.1E+00	0.01	5.0E+00	1.4E-03	0.0002

Notes:

OEHHA 95th percentile Exposure factors used to calculate TAC intake

Exposure Frequency (days/year)	350
Exposure Duration (years)	0.25
Daily Breathing Rate	361
Age Sensitivity Factor	10
Fraction of Time At Home (FAH)	0.85
Averaging Time $_{(cancer)}$ (days)	25550
Averaging Time $_{(non\text{-}cancer)}$ (days)	91.25

E= 10^{X}, i.e. E-02 = 10^{-2}

Table 7
Carcinogenic Risks and Non-Carcinogenic Infant Exposure Scenario (2-Year)

Receptor ID (a)	Maximum Concentration (ug/m3) (b)	Maximum Concentration (mg/m3) (c)	Weight Fraction (d)	Contaminant (e)	Carcinogenic Hazards CPF (mg/kg/day) (f)	Carcinogenic Hazards RISK (per million) (g)	Noncarcinogenic Hazards REL (ug/m3) (h)	Noncarcinogenic Hazards RfD (mg/kg/day) (i)	Noncarcinogenic Hazards Index (j)
1	0.0009	9.0E-07	1.00E+00	DPM	1.1E+00	0.25	5.0E+00	1.4E-03	0.0002
2	0.00127	1.3E-06	1.00E+00	DPM	1.1E+00	0.35	5.0E+00	1.4E-03	0.0003
3	0.00156	1.6E-06	1.00E+00	DPM	1.1E+00	0.44	5.0E+00	1.4E-03	0.0003
4	0.00268	2.7E-06	1.00E+00	DPM	1.1E+00	0.75	5.0E+00	1.4E-03	0.0005
5	0.00275	2.8E-06	1.00E+00	DPM	1.1E+00	0.77	5.0E+00	1.4E-03	0.0006
6	0.00079	7.9E-07	1.00E+00	DPM	1.1E+00	0.22	5.0E+00	1.4E-03	0.0002
7	0.00038	3.8E-07	1.00E+00	DPM	1.1E+00	0.11	5.0E+00	1.4E-03	0.0001
8	0.00139	1.4E-06	1.00E+00	DPM	1.1E+00	0.39	5.0E+00	1.4E-03	0.0003
9	0.00023	2.3E-07	1.00E+00	DPM	1.1E+00	0.06	5.0E+00	1.4E-03	0.0000
10	0.00094	9.4E-07	1.00E+00	DPM	1.1E+00	0.26	5.0E+00	1.4E-03	0.0002

Notes:

OEHHA 95th percentile Exposure factors used to calculate TAC intake

Exposure Frequency (days/year)	350
Exposure Duration (years)	2
Daily Breathing Rate	1090
Age Sensitivity Factor	10
Fraction of Time At Home (FAH)	0.85
Averaging Time $_{(cancer)}$ (days)	25550
Averaging Time $_{(non\text{-}cancer)}$ (days)	730

E= 10^{X}, i.e. E-02 = 10^{-2}

Table 8
Carcinogenic Risks and Non-Carcinogenic Child Exposure Scenario (2-16 Years)

Receptor ID (a)	Maximum Concentration (ug/m3) (b)	Maximum Concentration (mg/m3) (c)	Weight Fraction (d)	Contaminant (e)	Carcinogenic Hazards CPF (mg/kg/day) (f)	Carcinogenic Hazards RISK (per million) (g)	Noncarcinogenic Hazards REL (ug/m3) (h)	Noncarcinogenic Hazards RfD (mg/kg/day) (i)	Noncarcinogenic Hazards Index (j)
1	0.0009	9.0E-07	1.00E+00	DPM	1.1E+00	0.31	5.0E+00	1.4E-03	0.0002
2	0.00127	1.3E-06	1.00E+00	DPM	1.1E+00	0.43	5.0E+00	1.4E-03	0.0003
3	0.00156	1.6E-06	1.00E+00	DPM	1.1E+00	0.53	5.0E+00	1.4E-03	0.0003
4	0.00268	2.7E-06	1.00E+00	DPM	1.1E+00	0.91	5.0E+00	1.4E-03	0.0005
5	0.00275	2.8E-06	1.00E+00	DPM	1.1E+00	0.93	5.0E+00	1.4E-03	0.0006
6	0.00079	7.9E-07	1.00E+00	DPM	1.1E+00	0.27	5.0E+00	1.4E-03	0.0002
7	0.00038	3.8E-07	1.00E+00	DPM	1.1E+00	0.13	5.0E+00	1.4E-03	0.0001
8	0.00139	1.4E-06	1.00E+00	DPM	1.1E+00	0.47	5.0E+00	1.4E-03	0.0003
9	0.00023	2.3E-07	1.00E+00	DPM	1.1E+00	0.08	5.0E+00	1.4E-03	0.0000
10	0.00094	9.4E-07	1.00E+00	DPM	1.1E+00	0.32	5.0E+00	1.4E-03	0.0002

Notes:

OEHHA 95th percentile Exposure factors used to calculate TAC intake

Exposure Frequency (days/year)	350
Exposure Duration (years)	14
Daily Breathing Rate	745
Age Sensitivity Factor	3
Fraction of Time At Home (FAH)	0.72
Averaging Time $_{(cancer)}$ (days)	25550
Averaging Time $_{(non\text{-}cancer)}$ (days)	5110

E= 10^{X}, i.e. E-02 = 10^{-2}

Table 9
Carcinogenic Risks and Non-Carcinogenic Hazards Adult Exposure Scenario (16-30 Years)

Receptor ID (a)	Maximum Concentration (ug/m3) (b)	Maximum Concentration (mg/m3) (c)	Weight Fraction (d)	Contaminant (e)	Carcinogenic Hazards CPF (mg/kg/day) (f)	Carcinogenic Hazards RISK (per million) (g)	Noncarcinogenic Hazards REL (ug/m3) (h)	Noncarcinogenic Hazards RfD (mg/kg/day) (i)	Noncarcinogenic Hazards Index (j)
1	0.0009	9.0E-07	1.00E+00	DPM	1.1E+00	0.05	5.0E+00	1.4E-03	0.0002
2	0.00127	1.3E-06	1.00E+00	DPM	1.1E+00	0.07	5.0E+00	1.4E-03	0.0003
3	0.00156	1.6E-06	1.00E+00	DPM	1.1E+00	0.08	5.0E+00	1.4E-03	0.0003
4	0.00268	2.7E-06	1.00E+00	DPM	1.1E+00	0.14	5.0E+00	1.4E-03	0.0005
5	0.00275	2.8E-06	1.00E+00	DPM	1.1E+00	0.14	5.0E+00	1.4E-03	0.0006
6	0.00079	7.9E-07	1.00E+00	DPM	1.1E+00	0.04	5.0E+00	1.4E-03	0.0002
7	0.00038	3.8E-07	1.00E+00	DPM	1.1E+00	0.02	5.0E+00	1.4E-03	0.0001
8	0.00139	1.4E-06	1.00E+00	DPM	1.1E+00	0.07	5.0E+00	1.4E-03	0.0003
9	0.00023	2.3E-07	1.00E+00	DPM	1.1E+00	0.01	5.0E+00	1.4E-03	0.0000
10	0.00094	9.4E-07	1.00E+00	DPM	1.1E+00	0.05	5.0E+00	1.4E-03	0.0002

Notes:

OEHHA 95th percentile Exposure factors used to calculate TAC intake

Exposure Frequency (days/year)	350
Exposure Duration (years)	14
Daily Breathing Rate	335
Age Sensitivity Factor	1
Fraction of Time At Home (FAH)	0.73
Averaging Time $_{(cancer)}$ (days)	25550
Averaging Time $_{(non\text{-}cancer)}$ (days)	5110

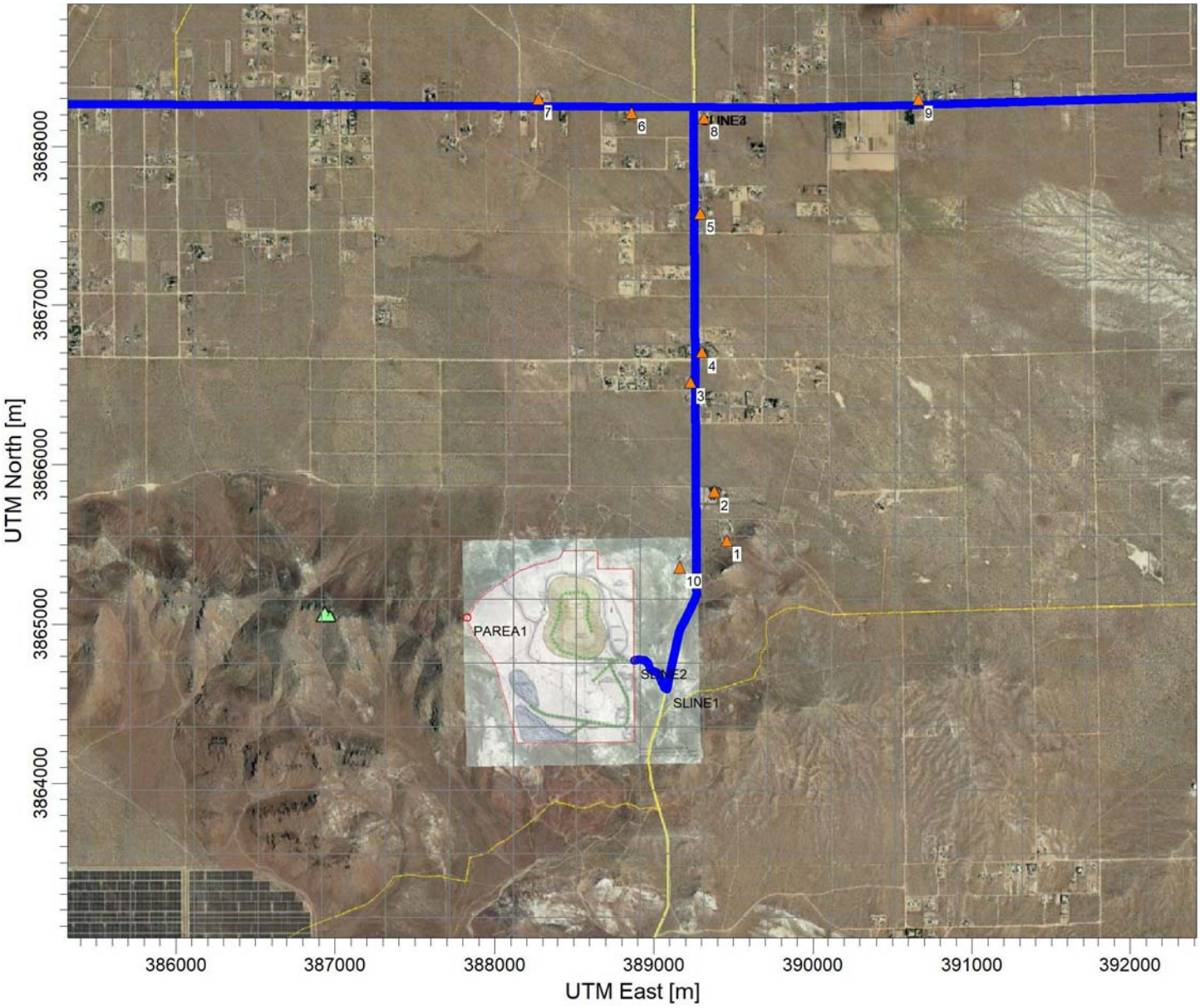
E= 10^{X}, i.e. E-02 = 10^{-2}

Table 10
Cumulative Carcinogenic Risk 30.25-Year Exposure Scenario

Receptor ID	Cumulative RISK (per million)
1	0.80
2	1.12
3	1.38
4	2.37
5	2.43
6	0.70
7	0.34
8	1.23
9	0.20
10	0.83

Notes:

Source: HARP output (see Appendix C).



N

Legend

On-Site Area Source

Off-Site Truck Travel

Discrete Receptors

Cartesian Receptor Grid

Figure 3
AERMOD Model Source and Receptor Placement

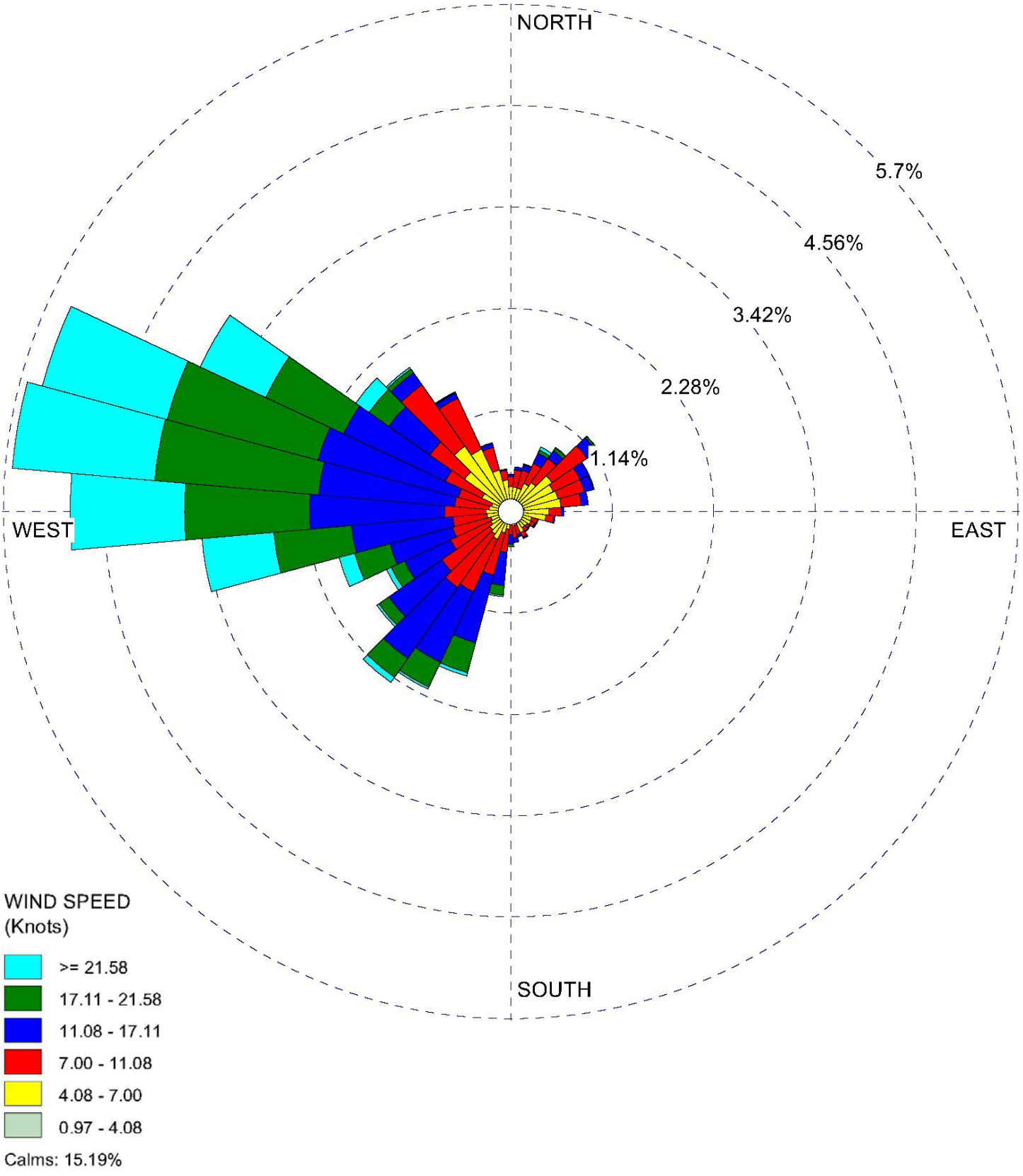
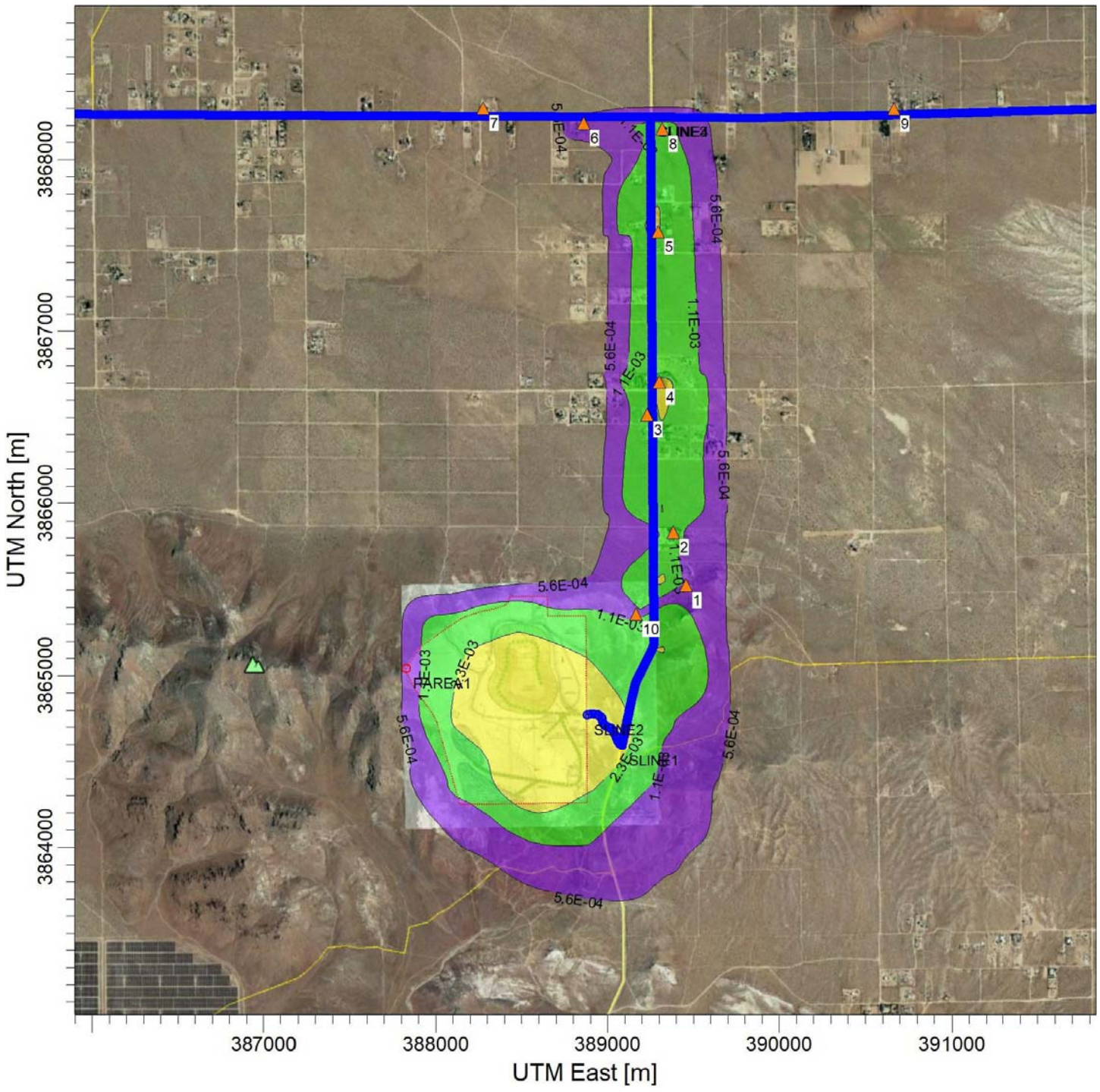


Figure 4
Wind Rose: Mojave Airport



N

Legend

30-Year Cancer Risk

- 5 in a million
- 2 in a million
- 1 in a million
- 0.5 in a million

Figure 5
Modeled Study Area Highest Cancer Risk from Annual DPM Emissions

4. MITIGATION MEASURES

OPERATIONAL MEASURES

Health risk impacts are less than significant. No operational mitigation is required.

5. REFERENCES

California Air Pollution Control Officers Association

2009 Health Risk Assessments for Proposed Land Use Projects

California Air Resources Board

2008 Resolution 08-43

2008 Airborne Toxic Control Measure for in-use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, Section 2477 of Division 3, Chapter 9, Title 13, California Code of Regulations

2008 ARB Recommended Interim Risk Management Policy for Inhalation-Based Residential Cancer Risk – Frequently Asked Questions

2013 Almanac of Emissions and Air Quality.
Source: https://www.arb.ca.gov/aqd/almanac/almanac13/almanac13.htm

County of Kern

2006 Guidelines for Preparing and Air Quality Assessment for Use in Environmental Impact Reports

2009 General Plan.

East Kern Air Pollution Control District (EKAPCD)

1970 EKAPCD's Guidelines for Implementation of the California Environmental Quality Act of 1970

2020 EKAPCD 2019 Annual AB 2588 Air Toxics Report. September 3.

Lilburn Corporation

2021 Air Quality and Greenhouse Gas Assessment for Gem Hill Quarry, Kern County, California. January.

Office of Environmental Health Hazard Assessment

2015 Air Toxics Hot Spots Program Risk Assessment Guidelines

Urban Crossroads

2020 Gem Hill Quarry Trip Generation Assessment Memorandum. August 2

U.S. Geological Survey

2011 Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California

APPENDICES

Appendix A Glossary

Appendix B Modeling Input Assumptions and Data

Appendix C AERMOD and HARP Model Outputs

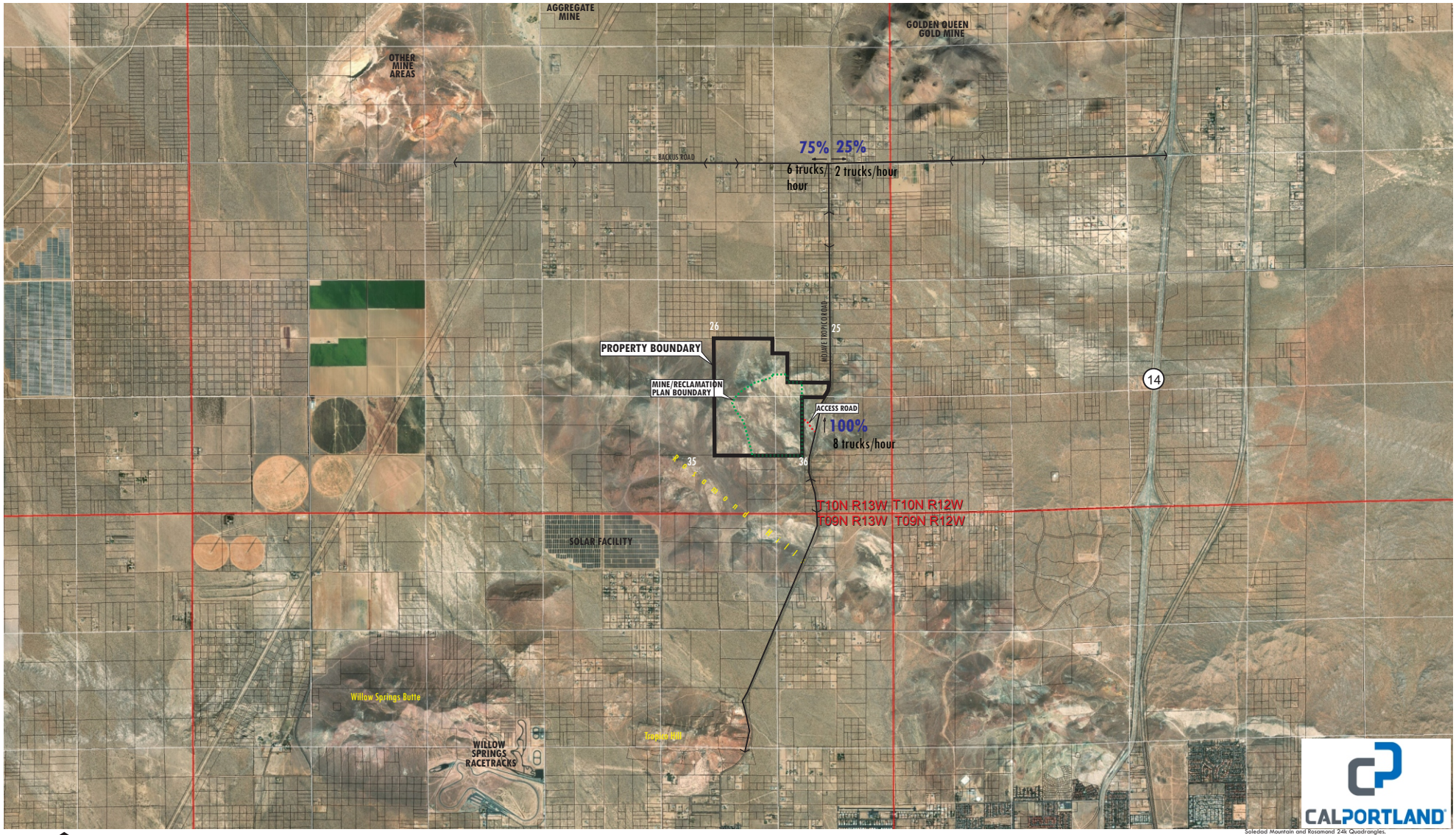
APPENDIX A

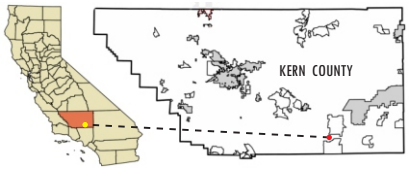
GLOSSARY

AQMP	Air Quality Management Plan
BACT	Best Available Control Technologies
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CEQA	California Environmental Quality Act
CFCs	Chlorofluorocarbons
CH_4	Methane
CNG	Compressed natural gas
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
DPM	East Kern Air Pollution Control District
EKAPCD	Diesel particulate matter
EPA	U.S. Environmental Protection Agency
GHG	Greenhouse gas
GWP	Global warming potential
HIDPM	Hazard Index Diesel Particulate Matter
HFCs	Hydrofluorocarbons
IPCC	International Panel on Climate Change
LCFS	Low Carbon Fuel Standard
LST	Localized Significant Thresholds
$MTCO_2e$	Metric tons of carbon dioxide equivalent
$MMTCO_2e$	Million metric tons of carbon dioxide equivalent
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NOx	Nitrogen Oxides
NO_2	Nitrogen dioxide
N_2O	Nitrous oxide
OEHHA	Office of Environmental Health Hazard Assessment
O_3	Ozone
OPR	Governor's Office of Planning and Research
PFCs	Perfluorocarbons
PM	Particle matter
PM10	Particles that are less than 10 micrometers in diameter
PM2.5	Particles that are less than 2.5 micrometers in diameter
PMI	Point of maximum impact
PPM	Parts per million
PPB	Parts per billion
SF_6	Sulfur hexafluoride
SIP	State Implementation Plan
SJVAPCD	San Joaquin Valley Air Pollution Control District
SOx	Sulfur Oxides
TAC	Toxic air contaminants
VOC	Volatile organic compounds

APPENDIX B

MODELING INPUT ASSUMPTIONS AND DATA





0 4,500'
FEET
Source: Lilburn Corp., Feb. 2020.
LILBURN CORPORATION

LEGEND

- Mine and Reclamation Plan Boundary
- Access Road

PROJECT VICINITY

Gem Hill Quarry
Surface Mining Permit and Reclamation Plan
CalPortland Company
Kern County, CA

FIGURE 2

APPENDIX A
GEM HILL QUARRY
AIR POLLUTANT EMISSIONS
ASSUMPTIONS AND CALCULATIONS
January 2021

Table 1
Production and Blast Information

	Proposed Operations
Tuff or Pozzolan Material	500,000 tons/year
Overburden (4%)	20,000 tons/year (average)
Total	520,000 tons/year
Days/year	300
Hours/day	10; daylight only
# of Blasts/year	50
# of Drill Holes/year	4,143
ANFO (tons)	209

Source: CalPortland 2020

Silt content of tuff or pozzolan – 0% (volcanic rock that does not have any sedimentary rocks that could become silt)
Moisture Content of tuff or pozzolan – 10.4%

Silt Content of basalt overburden – 0% (volcanic rock that does not have any sedimentary rocks that could become silt)
Moisture Content of basalt overburden – 1.5%

Source: CalPortland Central Laboratory Test 3/23/2020

PM10 = 0.489 of Total Particulate Matter
PM2.5 = 0.208 of PM 10
Source: CEIDARS List SCAQMD 2006

Table 2
Typical Quarry Equipment
Gem Hill Quarry

Equipment	Typical Number	Typical Days/year	Purpose
Front-End Loader (CAT 980 typ.)	1	300	Loading of excavated materials into haul trucks at quarry.
Dozer (CAT D8 typ.)	1	150	Mining and stockpiling of pozzolan material. Removal of topsoil and waste rock. Construction and maintenance of roads and quarry benches.
Excavator (CAT 325 typ.)	1	60	Mining and stockpiling of pozzolan material and overburden.
Grader (CAT 140 typ.)	1	60	Removal of topsoil and waste rock. Construction and maintenance of roads.
Drill Rig (PowerROC T25 typ.)	1	125	Drill holes for placement of explosives.
On-Road Haul Trucks (25-ton trucks typ.)	10	300	Transportation of excavated material to various clients and overburden to stockpiles.
Water Truck (4,000 gallons)	1	300	Water spray haul roads, active quarry areas, overburden stockpiles, and general dust control onsite.
Tractor skid steer	1	60	Removal of topsoil and waste rock. Construction and maintenance of roads.
Generator Sets (50 hp typ) (CAT XQ 35 typ)	2	300	Power for water well pump and scale/office trailer
Ancillary Equipment	Varies	Varies	Maintenance vehicles, bobcat, backhoe, pick-ups, SUVs, etc.

Source: CalPortland 2020
List above is typical equipment to be used on-site. Equipment types are not expected to vary. Specific equipment will change during the life of the project due to replacement of aging equipment and updated equipment and fleet emission standards.

Table 3
Gem Hill Quarry
Fugitive Dust Emissions (PM10; PM2.5)

Source	Proposed Plan 2021	Controlled Emission Factors[1]	Proposed Plan 2021 TPY
Drilling	4,123 drill holes	0.64 lb/hole (PM_{10}) 0.13 lb/hole ($PM_{2.5}$)	1.32 PM_{10} 0.27 $PM_{2.5}$
Blasting	50 blasts	41 lbs/blast	1.03 PM_{10} 0.21 PM2.5
Dozing	5 hrs/day 1,500 hrs/yr	0.0035 lbs/hr (PM10) 0.0008 (PM2.5)	0.0026 PM10 0.0001 PM2.5
Loading	0.54 MT (load & dump OB on-site)	0.00015 lbs/ton (PM10) 0.00003 lbs/ton (PM2.5)	0.04 PM_{10} 0.008 PM2.5
Overburden Stockpiles	2 acres (active at any one time)	1.95 lbs/day/ac 0.78 lbs/day/ac	0.71 PM_{10} 0.28 PM2.5
Unpaved Roads	1.5 miles quarry to paved road & quarry to overburden stockpile	0.124 lbs/VMT (PM_{10}) 0.012 lbs/VMT (PM2.5)	2.2 TPY PM_{10} 0.22 TPY $PM_{2.5}$
TOTALS			5.3 (PM_{10}) 1.0 ($PM_{2.5}$)

Assumptions

Drilling and Blasting

Proposed Plan 0.52 MTPY (ore & overburden) 50 blasts/year

Drilling Emission Factors: 1.3 lb./hole (TPM); 0.64 lb/hole (PM_{10}); 0.13 lb/hole ($PM_{2.5}$)

Source: AP-42 (1998); Table 11.9-4 (1.3 lbs/hole of TPM) & SCAQMD Particulate Matter EF (December 2014).

Blasting Emission Factor (PM10):
*Source: AP-42 (1998); Table 11.9-4 (0.000014*Area^2 (TPM) & SCAQMD Particulate Matter EF (December 2014).*

DOZING

Dozing Emission Factor (PM10) = 0.0035 lbs/hour
Dozing Emission Factor (PM2.5) = 0.0008 lbs/hour

5 hours/day; 1,500 hrs/yr
Source: AP-42, Section 11.9, Table 11.9.1 Bulldozing Overburden Equation

$EF\ (PM10) = 1.0 * (s)^{1.5}/M^{1.4} * k$ lb/hr
$= 0.25^{1.5}/10.4^{1.4} * 0.75$ lb/hr

= 0.125 / 1 * 0.75
= 0.094 lbs/hr

k = 0.75 (PM10)
Silt content (s) = 0.25% (CalPortland)
Moisture content for tuff (M) = 10.4% (CalPortland)

PM2.5 = 0.208 of PM 10

LOADING

Loading Emission Factor = 0.00015 lbs/ton (PM10)
Loading Emission Factor = 0.00003 lbs/ton (PM2.5)

$EF\ (PM10) = k*0.0032 * \frac{(U/5)^{1.3}}{(M/2)^{1.4}}$ lbs/ton

Source: AP-42, Section 13.2.4 (1995)

k (PM_{10}) = 0.36 k (PM2.5) = 0.11
U = mean wind speed (7.7 mph (MDAQMD default))
Moisture content for tuff (M) = 10.4% (CalPortland)

$EF_{(PM_{10})} = 0.36* 0.0032* (7.7/5)^{1.3} / (10.4/2)^{1.4}$
= 0.00015 lbs/ton

OVERBURDEN STOCKPILES

Wind Erosion
Source: MDAQMD Mineral Guidance 2013 Section G

E=J*1.7*sl/1.5*(365-P)/235 * I/15 lb/day/ac
J = 0.5 for PM10
J = 0.2 for PM2.5
Sl = 0.5 for basalt overburden

E(PM10) =0.5*1.7*0.5/1.5 * 1.47 * 0.89 = 0.37 (uncontrolled)
At 50% control = 0.185 lbs/day/ac

For PM2.5 = 0.15 (uncontrolled) and 0.075 controlled

PM10 (CONTROLLED) = 1.95 lbs/day/ac
PM2.5 (CONTROLLED) = 0.78 lbs/day/ac

Estimated Stockpile areas (active): 2 acres

UNPAVED ROADS

ONSITE HAUL ROAD DUST
Haul Truck Data
For Haul Roads from Quarry to Paved Road
and to Overburden Stockpiles

Parameter	Proposed Project
Haul Trucks Capacity (tons)	25 ton
Truck Weight (tons) Empty Full Ave.	 23 48 37
Quarry Ore & OB Production	0.52 MTPY
Trips/Year	23,635
Distance in Miles (RT)	1.5 (ave.)
Miles/Year on Unpaved Roads	35,455

PM_{10} Emission Factor = 1.24 lbs/vehicle mile traveled (VMT)
PM_{10} Emission Factor (90% control) = 0.124 lbs/vehicle mile traveled (VMT)

Emission Factor (PM_{10}) = K $(s/12)^a$ $(W/3)^b$
Source: AP-42, Section 13.2.2, Unpaved Roads (11-2006 & SCAQMD)

K = 1.5 for PM_{10} (lbs/VMT)
s (silt content) = 0-5% (used 2.5% (0% from material testing; 5% from aggregate or gravel roads; AP-42 and MDAQMD)
W (ave. wt.) = 37 tons
a = 0.9
b = 0.45

EF (PM_{10}) = $1.5(2.5/12)^{0.9}$ * $(37/3)^{0.45}$ = 1.24 lbs/VMT

Dust Control Estimates
Water spray up to 5 times/day – 61% (SCAQMD)
15 mph speed limit – 57% (SCAQMD)
Use of approved dust suppressant on unpaved roads and work areas – 84% (SCAQMD)
Used 90% for unpaved roads and areas.

1.24 lbs/VMT * (100-90% control) = 0.124 lbs/VMT (PM_{10})

35,455 VMT/yr * 0.124 lbs/VMT = 4,396 lbs or 2.2 tons/year (PM_{10})

DOZING/GRADING FOR ACCESS ROAD CONSTRUCTION

Dozing/grading Emission Factor (PM10) = 0.73 lbs/hour (controlled)
PM(10) emissions = 0.73 lbs/hr * 12 hrs/day (6 hrs/day for dozer and grader) = 8.76 lbs/day

Dozing/grading Emission Factor (PM2.5) = 0.15 lbs/hour (controlled)
PM(2.5) emissions = 0.15 lbs/hr * 12 hrs/day = 1.8 lbs/day

Estimated two days of construction.
8 hours/day; 16 hrs/yr

Equation Source: AP-42, Section 11.9, Table 11.9.1 Bulldozing Overburden Equation
k = 0.75 (PM10)
Silt content (s) = 10% stone quarry road
Moisture content with ongoing water spraying (M) = 12% (SCAQMD water spray default)

EF (PM10) = $1.0 * (s)^{1.5}/M^{1.4} * k$ lb/hr
= $10^{1.5}/12^{1.4} * 0.75$ lb/hr
=31.62 / 32.42 * 0.75
= 0.73 lbs/hr (controlled)

PM2.5 = 0.208 of PM 10
EF (PM2.5) = 0.73 lbs/hr. * 0.208 = 0.15 lbs/hr.

Table AQ1
Gem Hill Quarry Future Conditions (0.5 mtpy)

Onsite Mobile Diesel Equipment Emissions (Typical) All will be Tier 4 Final.												
				Equation Variables		Emissions						
	Operation	Emission Factor	Units	1	2	PM-10 lbs/day	PM-2.5 lbs/day	ROC lbs/day	CO lbs/day	NOx lbs/day	CO2 lbs/day	CH4 lbs/day
Equipment Exhaust Emissions				Equipment #	Operating Hrs							
PM-10	Loader 980; 369 hp	0.003	lbs/hr	1	10	0.03	0.02					
PM-2.5	Excavator CAT 325; 172 hp	0.002	lbs/hr	1	2	0.00	0.00					
	Grader 140M; 268 hp	0.002	lbs/hr	1	2	0.00	0.00					
	Dozer (D8); 347 hp	0.003	lbs/hr	1	5	0.02	0.01					
	Water Truck 260 hp	0.002	lbs/hr	1	10	0.02	0.02					
	Skid Steer CAT 279; 75 hp	0.001	lbs/hr	1	5	0.00	0.00					
	Hammer Drill T25; 160 hp	0.002	lbs/hr	1	5	0.01	0.01					
	Portable gen. sets	0.00002	lbs/hr	2	24	0.00	0.00					
	CAT XQ35 50 hp (Typ)		lbs/hr			0.00	0.00					
			lbs/hr			0.00	0.00					
			lbs/hr			0.00	0.00					
ROG	Loader 980; 369 hp	0.015	lbs/hr	1	10			0.15				
	Excavator CAT 325; 172 hp	0.014	lbs/hr	1	2			0.03				
	Grader 140M; 268 hp	0.012	lbs/hr	1	2			0.02				
	Dozer (D8); 347 hp	0.016	lbs/hr	1	5			0.08				
	Water Truck 260 hp	0.011	lbs/hr	1	10			0.11				
	Skid Steer CAT 279; 75 hp	0.009	lbs/hr	1	5			0.05				
	Hammer Drill T25; 160 hp	0.011	lbs/hr	1	5			0.06				
	Portable gen. sets	0.0002	lbs/hr	2	24			0.01				
	CAT XQ35 50 hp (Typ)		lbs/hr					0.00				
			lbs/hr					0.00				
			lbs/hr					0.00				
CO	Loader 980; 369 hp	0.643	lbs/hr	1	10				6.43			
	Excavator CAT 325; 172 hp	0.601	lbs/hr	1	2				1.20			
	Grader 140M; 268 hp	0.533	lbs/hr	1	2				1.07			
	Dozer (D8); 347 hp	0.719	lbs/hr	1	5				3.60			
	Water Truck 260 hp	0.482	lbs/hr	1	10				4.82			
	Skid Steer CAT 279; 75 hp	0.228	lbs/hr	1	5				1.14			
	Hammer Drill T25; 160 hp	0.655	lbs/hr	1	5				3.28			
	Portable gen. sets -	0.008	lbs/hr	2	24				0.39			
	CAT XQ35 50 hp (Typ)		lbs/hr						0.00			
			lbs/hr						0.00			
			lbs/hr						0.00			
NOX	Loader 980; 369 hp	0.076	lbs/hr	1	10					0.76		
	Excavator CAT 325; 172 hp	0.071	lbs/hr	1	2					0.14		
	Grader 140M; 268 hp	0.063	lbs/hr	1	2					0.13		
	Dozer (D8); 347 hp	0.085	lbs/hr	1	5					0.43		
	Water Truck 260 hp	0.057	lbs/hr	1	10					0.57		
	Skid Steer CAT 279; 75 hp	0.016	lbs/hr	1	5					0.08		
	Hammer Drill T25; 160 hp	0.046	lbs/hr	1	5					0.23		
	Portable gen. sets	0.061	lbs/hr	2	24					2.90		
	CAT XQ35 50 hp (Typ)		lbs/hr							0.00		
			lbs/hr							0.00		
			lbs/hr							0.00		
CO2	Loader 980; 369 hp	191	lbs/hr	1	10						1910	
	Excavator CAT 325; 172 hp	175	lbs/hr	1	2						350	
	Grader 140M; 268 hp	175	lbs/hr	1	2						350	
	Dozer (D8); 347 hp	203	lbs/hr	1	5						1015	
	Water Truck 260 hp	170	lbs/hr	1	10						1700	
	Skid Steer CAT 279; 75 hp	32	lbs/hr	1	5						160	
	Hammer Drill T25; 160 hp	130	lbs/hr	1	5						650	
	Portable gen. sets	31	lbs/hr	2	24						1469	
	CAT XQ35 50 hp (Typ)		lbs/hr								0	
			lbs/hr								0	
			lbs/hr								0	
CH4	Loader 980; 369 hp	0.009	lbs/hr	1	10							0.092
	Excavator CAT 325; 172 hp	0.008	lbs/hr	1	2							0.017
	Grader 140M; 268 hp	0.009	lbs/hr	1	2							0.017
	Dozer (D8); 347 hp	0.012	lbs/hr	1	5							0.061
	Water Truck 260 hp	0.008	lbs/hr	1	10							0.082
	Skid Steer CAT 279; 75 hp	0.002	lbs/hr	1	5							0.010
	Hammer Drill T25; 160 hp	0.003	lbs/hr	1	5							0.016
	Portable gen. sets	0.003	lbs/hr	2	24							0.144
	CAT XQ35 50 hp (Typ)		lbs/hr									0.000
			lbs/hr									0.000
			lbs/hr									0.000
			lbs/hr									
					Total Daily	0.08	0.08	0.50	21.92	5.24	7,604	0.438
					Annual (tons)	0.01	0.01	0.08	3.29	0.79	1,037	1.67

up to 300 days/year; 6 days/week; 1 shift/day. 0.5 millon tons of ore /year; 1,670 tpd MTCO2e MTCO2e

Equipment information & operatonal hours based on future max. production rates to supply the cement plant (CPC 2020)

PM2.5 fraction of PM10 Exhaust is 0.92 (CEIDARS List)

Emission Source and Load Factors: CARB Carl Moyer Program Guidelines 2017 Revisions

MTCO2e = metric tons of CO2 equivalent

Table A2
Gem Hill Quarry
On-Road Truck Exhaust Emissions On-Site

Operation		Emission Factor	Units	Equation Variables 1	Equation Variables 2	Emissions PM-10 lbs/day	PM-2.5 lbs/day	ROC lbs/day	CO lbs/day	NOX lbs/day	SOX lbs/day	CO2 lbs/day	CH4 lbs/day
Truck Emissions Onsite				# of trips per day	vmt						Negl		
PM-10	Haul Trucks & 5 water trk trips	0.0006	lbs/mile	75	1.5	0.066	0.061						
PM-2.5	Service Vehicles	0.0006	lbs/mile	15	1	0.009	0.008						
			lbs/mile			0.000	0.000						
			lbs/mile										
ROG	Haul Trucks & 5 water trk trips	0.0001	lbs/mile	75	1.5			0.0					
	Service Vehicles	0.0001	lbs/mile	15	1			0.00					
			lbs/mile					0.00					
			lbs/mile					0.00					
CO	Haul Trucks & 5 water trk trips	0.0006	lbs/mile	75	1.5				0.07				
	Service Vehicles	0.0006	lbs/mile	15	1				0.01				
			lbs/mile						0.00				
			lbs/mile						0.00				
NOX	Haul Trucks & 5 water trk trips	0.0057	lbs/mile	75	1.5					0.64			
	Service Vehicles	0.0057	lbs/mile	15	1					0.09			
			lbs/mile							0.00			
			lbs/mile							0.00			
CO2	Haul Trucks & 5 water trk trips	2.9500	lbs/mile	75	1.5							332	
	Service Vehicles	2.9500	lbs/mile	15	1							44	
			lbs/mile									0	
			lbs/mile									0	
CH4	Haul Trucks & 5 water trk trips	0.00001	lbs/mile	75	1.5								0.0007
	Service Vehicles	0.00001	lbs/mile	15	1								0.0001
			lbs/mile										
			lbs/mile										
					Total (lbs/day)	0.08	0.07	0.02	0.08	0.73	Negl	376	0.0008
				Total Tons/Year (2021)		0.01	0.01	0.00	0.01	0.11	Negl	51	0.00
												mtCO2e	mtCO2e

Emission Factors Source: EMFAC2017 On-Road Heavy Heavy Duty Diesel Trucks
Scenario Year 2021
PM2.5 fraction of PM10 Exhaust is 0.92 (CEIDARS List)
vmt = miles driven on-site for pick-up of material
1,670 tons/day for 300 days/year; 500,000 tons/year of pozzolan
67 ore trucks/day; 3 overburden trucks/day plus 5 water truck trips/day for 300 days/year
Service vehicles - On-site maint., fuel, pickups and SUVs estimated
Annual CO2 and CH4 in metric tons CO2 equivalent (mtCO2e)
Water truck - assumed same distance as haul trucks

Gem Hill Quarry - Annual Average Emissions 2021

Estimate of Annual Construction DPM Emissions (as PM10 exhaust)

Total Annual PM10 Exhaust Emissions Onsite as provided in the air quality report appendix A.	0.02	tons/year
Average Emissions	0.00057585	grams/sec
Total size of the emission source from AERMOD	996757.3	meters squared
Average area source emission	5.77723E-10	grams/m2-sec

19294 Gem Hill Quarry		**Emission:**	**DPM**									
Processes Modeled		**Build-out:**	**2021**									
Offsite haul/maintenance traffic												
Facilities in Operation												
Location	**Truck type**	**Daily trucks**										
Project Site	HHDT (Haul)	67										
	HHDT (Maintenance)	2										
Total		**69**	**Up to 160 round trips per day**									
Total (Round Trip)		**138**										
Haul Schedule:												
	10	**hrs/day, 52 weeks/year**										
Emission Factors		**Offsite**										
		Exhaust										
Vehicle Class		**(g/mi)**										
HHDT		0.00918	Average (2021-2050) for PM10 from EMFAC 2021 at 40 mph									
Offsite Roadway Links Modeled												
Link	**Truck Type**	**Emission Factor (g/mi)**	**Trips per day**	**Length (m)**	**Length (mi)**	**Daily Emissions Over the Link (g/day)**	**Emissions Over the Link (g/sec)**	**Max Hourly Emissions Over Link (lb/hr)**	**Daily Emissions (lbs/day)**	**Annual Avg Emissions Over Link (tons/yr)**		
Mojave Tropico Road	HHDT	0.00918	160	3681.5	2.29	3.36E+00	9.33E-05	2.66E+01	7.40E-03	1.35E-03	100% of trucks	**9.33E-05**
Access Road	HHDT	0.00918	160	296.2	0.18	2.70E-01	7.50E-06	2.14E+00	5.95E-04	1.09E-04	100% of trucks	**7.50E-06**
Backus Road w/o Mojave Tropico Road	HHDT	0.00918	160	5727.6	3.56	5.22E+00	1.45E-04	4.14E+01	1.15E-02	2.10E-03	75% of trucks	**1.09E-04**
Backus Road e/o Mojave Tropico Road	HHDT	0.00918	160	4563.6	2.83	4.16E+00	1.16E-04	3.30E+01	9.17E-03	1.67E-03	25% of trucks	**2.89E-05**

Source: EMFAC2021 (v1.0.1) Emission Rates																						
Region Type: County																						
Region: Kern																						
Calendar Year: 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 205(																						
Season: Annual																						
Vehicle Classification: EMFAC2007 Categories																						
Units: miles/day for CVMT and EVMT, g/mile for RUNEX, PMBW and PMTW, mph for Speed, kWh/mile for Energy Consumption, gallon/mile for Fuel Consumption																						
Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Total VMT	CVMT	EVMT	NOx_RUNE	PM2.5_RU	PM10_RUNEX	CO2_RUNE	CH4_RUNE	N2O_RUNE	ROG_RUNE	TOG_RUNE	CO_RUNEX	SOx_RUNE	NH3_RUNE	PM10_PMB	PM2.5_PMI	Fuel Consu	Energy Cor
Kern	2021	HHDT	Aggregate	40	Diesel	108007.6	108007.6	0	2.345364	0.019916	0.020816725	1565.218	0.00225	0.246601	0.048431	0.055135	0.211343	0.014822	0.198053	0.098352	0.0344232	0.154125	0
Kern	2022	HHDT	Aggregate	40	Diesel	110525	110525	0	1.961488	0.012314	0.012870903	1542.472	0.001349	0.243017	0.029046	0.033066	0.148088	0.014606	0.204979	0.0972496	0.0340374	0.151886	0
Kern	2023	HHDT	Aggregate	40	Diesel	113113.6	113113.6	0	1.435544	0.010137	0.010594907	1512.305	0.000525	0.238264	0.011296	0.012859	0.101008	0.014321	0.216806	0.0957289	0.0335051	0.148915	0
Kern	2024	HHDT	Aggregate	40	Diesel	115528.9	115528.9	0	1.382736	0.009808	0.010251176	1490.84	0.000497	0.234883	0.010699	0.01218	0.096597	0.014117	0.217149	0.0956254	0.0334689	0.146802	0
Kern	2025	HHDT	Aggregate	40	Diesel	117850.2	117850.2	0	1.338272	0.009493	0.00992242	1467.027	0.000474	0.231131	0.010204	0.011616	0.092793	0.013892	0.21743	0.0956923	0.0334923	0.144457	0
Kern	2026	HHDT	Aggregate	40	Diesel	120102.5	120102.5	0	1.298404	0.009269	0.009687866	1443.218	0.000454	0.22738	0.00977	0.011122	0.089443	0.013666	0.21769	0.0962072	0.0336725	0.142112	0
Kern	2027	HHDT	Aggregate	40	Diesel	122212.6	122212.6	0	1.26361	0.009076	0.009486418	1418.222	0.000436	0.223441	0.009394	0.010695	0.086607	0.01343	0.217918	0.096934	0.0339269	0.139651	0
Kern	2028	HHDT	Aggregate	40	Diesel	124153.5	124153.5	0	1.230772	0.008903	0.009305306	1392.614	0.000421	0.219407	0.009065	0.01032	0.084163	0.013187	0.21813	0.0976328	0.0341715	0.137129	0
Kern	2029	HHDT	Aggregate	40	Diesel	125935.1	125935.1	0	1.201049	0.008743	0.009138352	1368.284	0.000408	0.215574	0.008782	0.009998	0.08205	0.012957	0.218331	0.0983164	0.0344107	0.134734	0
Kern	2030	HHDT	Aggregate	40	Diesel	127563.3	127563.3	0	1.174904	0.008584	0.0089725	1345.388	0.000396	0.211966	0.008525	0.009705	0.080176	0.01274	0.21853	0.0989807	0.0346433	0.132479	0
Kern	2031	HHDT	Aggregate	40	Diesel	130333.5	130333.5	0	1.152972	0.008448	0.008829662	1323.74	0.000386	0.208556	0.008301	0.00945	0.078619	0.012535	0.218714	0.0996036	0.0348612	0.130347	0
Kern	2032	HHDT	Aggregate	40	Diesel	133112.4	133112.4	0	1.134203	0.008332	0.008708802	1304.103	0.000377	0.205462	0.008118	0.009242	0.077348	0.012349	0.21887	0.1002012	0.0350704	0.128414	0
Kern	2033	HHDT	Aggregate	40	Diesel	136032.4	136032.4	0	1.117207	0.008231	0.008603089	1286.431	0.00037	0.202678	0.007957	0.009059	0.076259	0.012182	0.219005	0.1007763	0.0352717	0.126674	0
Kern	2034	HHDT	Aggregate	40	Diesel	139151.6	139151.6	0	1.102041	0.008139	0.008506993	1270.711	0.000363	0.200201	0.007819	0.008901	0.075316	0.012033	0.219121	0.1013001	0.035455	0.125126	0
Kern	2035	HHDT	Aggregate	40	Diesel	142475.6	142475.6	0	1.088172	0.008052	0.008416008	1256.94	0.000357	0.198031	0.007694	0.008759	0.074474	0.011902	0.219228	0.1017536	0.0356138	0.12377	0
Kern	2036	HHDT	Aggregate	40	Diesel	145694.3	145694.3	0	1.075717	0.007984	0.008345498	1244.808	0.000353	0.19612	0.007596	0.008648	0.073796	0.011788	0.219322	0.1021375	0.0357481	0.122575	0
Kern	2037	HHDT	Aggregate	40	Diesel	149143	149143	0	1.065872	0.007925	0.008283645	1234.145	0.000349	0.19444	0.007517	0.008557	0.073225	0.011687	0.219393	0.1024544	0.035859	0.121525	0
Kern	2038	HHDT	Aggregate	40	Diesel	152799.5	152799.5	0	1.056865	0.007872	0.008227432	1225.033	0.000346	0.193004	0.007449	0.00848	0.072734	0.0116	0.21946	0.1027112	0.0359489	0.120628	0
Kern	2039	HHDT	Aggregate	40	Diesel	156663.7	156663.7	0	1.049051	0.007824	0.008178079	1217.261	0.000343	0.19178	0.00739	0.008413	0.072326	0.011527	0.219519	0.1029201	0.036022	0.119863	0
Kern	2040	HHDT	Aggregate	40	Diesel	160739.4	160739.4	0	1.041458	0.007782	0.008133546	1210.557	0.000341	0.190724	0.007338	0.008353	0.071974	0.011463	0.21958	0.1030841	0.0360794	0.119202	0
Kern	2041	HHDT	Aggregate	40	Diesel	165047.3	165047.3	0	1.03464	0.007743	0.008093582	1204.879	0.000339	0.189829	0.007292	0.008301	0.071671	0.011409	0.219634	0.103214	0.0361249	0.118643	0
Kern	2042	HHDT	Aggregate	40	Diesel	169606.3	169606.3	0	1.028929	0.007711	0.008059565	1200.09	0.000337	0.189075	0.007253	0.008257	0.071418	0.011364	0.219679	0.1033144	0.0361601	0.118172	0
Kern	2043	HHDT	Aggregate	40	Diesel	174409.8	174409.8	0	1.022682	0.007682	0.00802888	1195.98	0.000335	0.188427	0.007213	0.008211	0.071179	0.011325	0.219737	0.1033863	0.0361852	0.117767	0
Kern	2044	HHDT	Aggregate	40	Diesel	179476	179476	0	1.017726	0.007659	0.008005755	1192.482	0.000334	0.187876	0.007183	0.008177	0.071005	0.011292	0.219781	0.1034408	0.0362043	0.117423	0
Kern	2045	HHDT	Aggregate	40	Diesel	184804.8	184804.8	0	1.013709	0.007643	0.00798878	1189.459	0.000333	0.1874	0.00716	0.008151	0.070875	0.011263	0.219821	0.1034822	0.0362188	0.117125	0
Kern	2046	HHDT	Aggregate	40	Diesel	190396.3	190396.3	0	1.010722	0.007632	0.007976651	1186.871	0.000332	0.186992	0.007141	0.00813	0.070776	0.011239	0.219853	0.1035136	0.0362298	0.11687	0
Kern	2047	HHDT	Aggregate	40	Diesel	196247.6	196247.6	0	1.008539	0.007624	0.007968413	1184.638	0.000331	0.18664	0.007127	0.008113	0.070703	0.011218	0.219879	0.1035373	0.0362381	0.11665	0
Kern	2048	HHDT	Aggregate	40	Diesel	202358.2	202358.2	0	1.007265	0.007618	0.007962679	1182.713	0.00033	0.186337	0.007115	0.0081	0.070649	0.0112	0.219901	0.1035542	0.036244	0.116461	0
Kern	2049	HHDT	Aggregate	40	Diesel	208727.4	208727.4	0	1.006455	0.007614	0.007958277	1181.09	0.00033	0.186081	0.007104	0.008088	0.070605	0.011184	0.219918	0.1035672	0.0362485	0.116301	0
Kern	2050	HHDT	Aggregate	40	Diesel	215351.1	215351.1	0	1.005626	0.00761	0.007954176	1179.663	0.000329	0.185856	0.007093	0.008075	0.070567	0.011171	0.219937	0.1035757	0.0362515	0.11616	0
										Avg=	**0.00917587**											

APPENDIX C

AERMOD AND HARP MODEL OUTPUTS

```
** Lakes Environmental AERMOD MPI
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 10.2.1
** Lakes Environmental Software Inc.
** Date: 1/6/2022
** File: C:\Lakes\AERMOD View\Gem Hill Quarry OY rev\Gem Hill Quarry OY rev.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE 19294 Gem Hill Quarry - rev
   TITLETWO Opening Year 2021
   MODELOPT DFAULT CONC VECTORWS
   AVERTIME PERIOD
   POLLUTID DPM
   RUNORNOT RUN
   ERRORFIL "Gem Hill Quarry OY rev.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION PAREA1       AREAPOLY   387827.404  3865044.655      914.990
** DESCRSRC Project Boundary
** ------------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE2
** DESCRSRC Access Road
** PREFIX
** Length of Side = 9.66
** Configuration = Adjacent
** Emission Rate = 0.0000185
** Elevated
** Vertical Dimension = 6.22
** SZINIT = 1.45
** Nodes = 14
** 388880.684, 3864773.684, 823.58, 3.11, 4.49
```

```
** 388909.662, 3864778.372, 822.98, 3.11, 4.49
** 388939.491, 3864775.815, 820.80, 3.11, 4.49
** 388964.207, 3864759.196, 817.80, 3.11, 4.49
** 388972.304, 3864732.349, 815.20, 3.11, 4.49
** 388980.401, 3864711.894, 813.34, 3.11, 4.49
** 388994.889, 3864703.798, 811.82, 3.11, 4.49
** 389012.361, 3864699.962, 810.67, 3.11, 4.49
** 389028.554, 3864690.161, 808.61, 3.11, 4.49
** 389035.373, 3864673.968, 808.13, 3.11, 4.49
** 389046.452, 3864648.826, 806.58, 3.11, 4.49
** 389060.515, 3864619.422, 805.47, 3.11, 4.49
** 389067.333, 3864604.507, 805.32, 3.11, 4.49
** 389074.577, 3864598.115, 804.59, 3.11, 4.49
** ----------------------------------------------------------------------
   LOCATION L0017684     VOLUME   388885.451 3864774.455 824.17
   LOCATION L0017685     VOLUME   388894.985 3864775.998 823.89
   LOCATION L0017686     VOLUME   388904.518 3864777.540 823.50
   LOCATION L0017687     VOLUME   388914.093 3864777.992 822.67
   LOCATION L0017688     VOLUME   388923.715 3864777.167 821.71
   LOCATION L0017689     VOLUME   388933.337 3864776.342 820.78
   LOCATION L0017690     VOLUME   388942.380 3864773.873 819.81
   LOCATION L0017691     VOLUME   388950.394 3864768.484 818.79
   LOCATION L0017692     VOLUME   388958.409 3864763.095 817.83
   LOCATION L0017693     VOLUME   388964.978 3864756.639 816.97
   LOCATION L0017694     VOLUME   388967.767 3864747.393 816.20
   LOCATION L0017695     VOLUME   388970.555 3864738.147 815.43
   LOCATION L0017696     VOLUME   388973.630 3864729.000 814.79
   LOCATION L0017697     VOLUME   388977.184 3864720.020 814.13
   LOCATION L0017698     VOLUME   388981.202 3864711.446 813.40
   LOCATION L0017699     VOLUME   388989.633 3864706.735 812.42
   LOCATION L0017700     VOLUME   388998.440 3864703.018 811.46
   LOCATION L0017701     VOLUME   389007.873 3864700.947 810.58
   LOCATION L0017702     VOLUME   389016.693 3864697.341 809.76
   LOCATION L0017703     VOLUME   389024.955 3864692.340 808.97
   LOCATION L0017704     VOLUME   389030.669 3864685.138 808.41
   LOCATION L0017705     VOLUME   389034.417 3864676.237 808.06
   LOCATION L0017706     VOLUME   389038.274 3864667.384 807.64
   LOCATION L0017707     VOLUME   389042.169 3864658.546 807.21
   LOCATION L0017708     VOLUME   389046.063 3864649.709 806.78
   LOCATION L0017709     VOLUME   389050.203 3864640.984 806.39
   LOCATION L0017710     VOLUME   389054.369 3864632.271 806.01
   LOCATION L0017711     VOLUME   389058.536 3864623.559 805.70
   LOCATION L0017712     VOLUME   389062.624 3864614.809 805.37
   LOCATION L0017713     VOLUME   389066.639 3864606.026 805.09
   LOCATION L0017714     VOLUME   389073.323 3864599.222 804.78
** End of LINE VOLUME Source ID = SLINE2
** ----------------------------------------------------------------------
** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE1
** DESCRSRC Mojave Tropico Road
** PREFIX
```

```
** Length of Side = 3.66
** Configuration = Adjacent
** Emission Rate = 0.000231
** Elevated
** Vertical Dimension = 3.66
** SZINIT = 0.85
** Nodes = 7
** 389083.037, 3864592.044, 804.20, 0.00, 1.70
** 389140.982, 3864866.535, 817.91, 0.00, 1.70
** 389162.595, 3864958.809, 821.00, 0.00, 1.70
** 389214.134, 3865064.506, 827.93, 0.00, 1.70
** 389257.361, 3865150.069, 834.50, 0.00, 1.70
** 389270.661, 3865190.334, 838.03, 0.00, 1.70
** 389251.090, 3868240.557, 846.49, 0.00, 1.70
** ------------------------------------------------------------------
   LOCATION L0034988     VOLUME   389083.415 3864593.833 804.53
   LOCATION L0034989     VOLUME   389084.171 3864597.412 804.65
   LOCATION L0034990     VOLUME   389084.926 3864600.990 804.77
   LOCATION L0034991     VOLUME   389085.681 3864604.569 804.89
   LOCATION L0034992     VOLUME   389086.437 3864608.148 805.01
   LOCATION L0034993     VOLUME   389087.192 3864611.727 805.13
   LOCATION L0034994     VOLUME   389087.948 3864615.305 805.26
   LOCATION L0034995     VOLUME   389088.703 3864618.884 805.39
   LOCATION L0034996     VOLUME   389089.459 3864622.463 805.52
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** Line Source Represented by Adjacent Volume Sources
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** DESCRSRC Backus Road w/o Mojave Tropico Road
** PREFIX
** Length of Side = 3.66
** Configuration = Adjacent
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** End of LINE VOLUME Source ID = SLINE3
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** Line Source Represented by Adjacent Volume Sources
** LINE VOLUME Source ID = SLINE4
** DESCRSRC Backus Road e/o Mojave Tropico Road
** PREFIX
** Length of Side = 3.66
** Configuration = Adjacent
** Emission Rate = 0.0000289
** Elevated
** Vertical Dimension = 3.66
** SZINIT = 0.85
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LOCATION L0053014     VOLUME   393308.412 3868338.822 797.82
LOCATION L0053015     VOLUME   393312.068 3868338.927 797.77
LOCATION L0053016     VOLUME   393315.724 3868339.032 797.72
LOCATION L0053017     VOLUME   393319.380 3868339.137 797.67
LOCATION L0053018     VOLUME   393323.036 3868339.242 797.62
LOCATION L0053019     VOLUME   393326.692 3868339.347 797.56
LOCATION L0053020     VOLUME   393330.348 3868339.451 797.51
LOCATION L0053021     VOLUME   393334.004 3868339.556 797.46
LOCATION L0053022     VOLUME   393337.661 3868339.661 797.41
LOCATION L0053023     VOLUME   393341.317 3868339.766 797.36
LOCATION L0053024     VOLUME   393344.973 3868339.871 797.31
LOCATION L0053025     VOLUME   393348.629 3868339.975 797.26
LOCATION L0053026     VOLUME   393352.285 3868340.080 797.21
LOCATION L0053027     VOLUME   393355.941 3868340.185 797.16
LOCATION L0053028     VOLUME   393359.597 3868340.290 797.11
LOCATION L0053029     VOLUME   393363.253 3868340.395 797.06
LOCATION L0053030     VOLUME   393366.909 3868340.500 797.01
LOCATION L0053031     VOLUME   393370.565 3868340.604 796.96
LOCATION L0053032     VOLUME   393374.222 3868340.709 796.91
LOCATION L0053033     VOLUME   393377.878 3868340.814 796.86
LOCATION L0053034     VOLUME   393381.534 3868340.919 796.81
LOCATION L0053035     VOLUME   393385.190 3868341.024 796.76
LOCATION L0053036     VOLUME   393388.846 3868341.128 796.71
LOCATION L0053037     VOLUME   393392.502 3868341.233 796.67
LOCATION L0053038     VOLUME   393396.158 3868341.338 796.62
LOCATION L0053039     VOLUME   393399.814 3868341.443 796.58
LOCATION L0053040     VOLUME   393403.470 3868341.548 796.53
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LOCATION L0053042     VOLUME   393410.782 3868341.757 796.44
LOCATION L0053043     VOLUME   393414.439 3868341.862 796.40
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LOCATION L0053046     VOLUME   393425.407 3868342.177 796.27
LOCATION L0053047     VOLUME   393429.063 3868342.281 796.23
LOCATION L0053048     VOLUME   393432.719 3868342.386 796.18
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LOCATION L0053051     VOLUME   393443.687 3868342.701 796.05
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LOCATION L0053053     VOLUME   393451.000 3868342.910 795.97
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LOCATION L0053056     VOLUME   393461.968 3868343.225 795.85
LOCATION L0053057     VOLUME   393465.624 3868343.330 795.80
LOCATION L0053058     VOLUME   393469.280 3868343.434 795.76
LOCATION L0053059     VOLUME   393472.936 3868343.539 795.71
LOCATION L0053060     VOLUME   393476.592 3868343.644 795.66
LOCATION L0053061     VOLUME   393480.248 3868343.749 795.62
LOCATION L0053062     VOLUME   393483.904 3868343.854 795.57
LOCATION L0053063     VOLUME   393487.561 3868343.959 795.53
LOCATION L0053064     VOLUME   393491.217 3868344.063 795.49
LOCATION L0053065     VOLUME   393494.873 3868344.168 795.46
LOCATION L0053066     VOLUME   393498.529 3868344.273 795.42
LOCATION L0053067     VOLUME   393502.185 3868344.378 795.39
LOCATION L0053068     VOLUME   393505.841 3868344.483 795.35
LOCATION L0053069     VOLUME   393509.497 3868344.587 795.31
LOCATION L0053070     VOLUME   393513.153 3868344.692 795.28
LOCATION L0053071     VOLUME   393516.809 3868344.797 795.25
LOCATION L0053072     VOLUME   393520.465 3868344.902 795.21
LOCATION L0053073     VOLUME   393524.122 3868345.007 795.18
LOCATION L0053074     VOLUME   393527.778 3868345.112 795.15
LOCATION L0053075     VOLUME   393531.434 3868345.216 795.12
LOCATION L0053076     VOLUME   393535.090 3868345.321 795.09
LOCATION L0053077     VOLUME   393538.746 3868345.426 795.05
LOCATION L0053078     VOLUME   393542.402 3868345.531 795.01
LOCATION L0053079     VOLUME   393546.058 3868345.636 794.96
LOCATION L0053080     VOLUME   393549.714 3868345.740 794.91
LOCATION L0053081     VOLUME   393553.370 3868345.845 794.86
LOCATION L0053082     VOLUME   393557.026 3868345.950 794.81
LOCATION L0053083     VOLUME   393560.683 3868346.055 794.76
LOCATION L0053084     VOLUME   393564.339 3868346.160 794.71
LOCATION L0053085     VOLUME   393567.995 3868346.265 794.66
LOCATION L0053086     VOLUME   393571.651 3868346.369 794.61
LOCATION L0053087     VOLUME   393575.307 3868346.474 794.56
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LOCATION L0053092     VOLUME   393593.587 3868346.998 794.32
LOCATION L0053093     VOLUME   393597.243 3868347.103 794.28
LOCATION L0053094     VOLUME   393600.900 3868347.208 794.24
LOCATION L0053095     VOLUME   393604.556 3868347.313 794.20
LOCATION L0053096     VOLUME   393608.212 3868347.418 794.15
LOCATION L0053097     VOLUME   393611.868 3868347.522 794.11
LOCATION L0053098     VOLUME   393615.524 3868347.627 794.07
LOCATION L0053099     VOLUME   393619.180 3868347.732 794.02
LOCATION L0053100     VOLUME   393622.836 3868347.837 793.97
LOCATION L0053101     VOLUME   393626.492 3868347.942 793.92
LOCATION L0053102     VOLUME   393630.148 3868348.046 793.87
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LOCATION L0053104     VOLUME   393637.461 3868348.256 793.77
LOCATION L0053105     VOLUME   393641.117 3868348.361 793.72
LOCATION L0053106     VOLUME   393644.773 3868348.466 793.68
LOCATION L0053107     VOLUME   393648.429 3868348.571 793.63
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LOCATION L0053111     VOLUME   393663.053 3868348.990 793.47
LOCATION L0053112     VOLUME   393666.709 3868349.095 793.43
LOCATION L0053113     VOLUME   393670.365 3868349.199 793.39
LOCATION L0053114     VOLUME   393674.022 3868349.304 793.35
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LOCATION L0053117     VOLUME   393684.990 3868349.619 793.23
LOCATION L0053118     VOLUME   393688.646 3868349.724 793.19
LOCATION L0053119     VOLUME   393692.302 3868349.828 793.15
LOCATION L0053120     VOLUME   393695.958 3868349.933 793.11
LOCATION L0053121     VOLUME   393699.614 3868350.038 793.07
LOCATION L0053122     VOLUME   393703.270 3868350.143 793.04
LOCATION L0053123     VOLUME   393706.926 3868350.248 793.00
LOCATION L0053124     VOLUME   393710.583 3868350.352 792.96
LOCATION L0053125     VOLUME   393714.239 3868350.457 792.92
LOCATION L0053126     VOLUME   393717.895 3868350.562 792.89
LOCATION L0053127     VOLUME   393721.551 3868350.667 792.87
LOCATION L0053128     VOLUME   393725.207 3868350.772 792.84
LOCATION L0053129     VOLUME   393728.863 3868350.877 792.81
LOCATION L0053130     VOLUME   393732.519 3868350.981 792.79
LOCATION L0053131     VOLUME   393736.175 3868351.086 792.76
LOCATION L0053132     VOLUME   393739.831 3868351.191 792.73
LOCATION L0053133     VOLUME   393743.487 3868351.296 792.71
LOCATION L0053134     VOLUME   393747.143 3868351.401 792.70
LOCATION L0053135     VOLUME   393750.800 3868351.505 792.69
LOCATION L0053136     VOLUME   393754.456 3868351.610 792.68
LOCATION L0053137     VOLUME   393758.112 3868351.715 792.66
LOCATION L0053138     VOLUME   393761.768 3868351.820 792.65
LOCATION L0053139     VOLUME   393765.424 3868351.925 792.64
LOCATION L0053140     VOLUME   393769.080 3868352.030 792.67
LOCATION L0053141     VOLUME   393772.736 3868352.134 792.74
LOCATION L0053142     VOLUME   393776.392 3868352.239 792.80
LOCATION L0053143     VOLUME   393780.048 3868352.344 792.87
LOCATION L0053144     VOLUME   393783.704 3868352.449 792.93
LOCATION L0053145     VOLUME   393787.361 3868352.554 793.00
LOCATION L0053146     VOLUME   393791.017 3868352.658 793.06
LOCATION L0053147     VOLUME   393794.673 3868352.763 793.28
LOCATION L0053148     VOLUME   393798.329 3868352.868 793.59
LOCATION L0053149     VOLUME   393801.985 3868352.973 793.90
LOCATION L0053150     VOLUME   393805.641 3868353.078 794.21
LOCATION L0053151     VOLUME   393809.297 3868353.183 794.52
LOCATION L0053152     VOLUME   393812.953 3868353.287 794.83
LOCATION L0053153     VOLUME   393816.609 3868353.392 795.13
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** End of LINE VOLUME Source ID = SLINE4
** Source Parameters **
   SRCPARAM PAREA1       5.7772E-10     3.658        18
   AREAVERT PAREA1       387827.404 3865044.655 387909.842 3865165.368
   AREAVERT PAREA1       388024.667 3865250.750 388157.157 3865336.133
   AREAVERT PAREA1       388254.316 3865371.463 388339.699 3865389.129
   AREAVERT PAREA1       388397.207 3865410.204 388411.365 3865413.980
   AREAVERT PAREA1       388432.130 3865460.230 388649.220 3865459.286
   AREAVERT PAREA1       388652.052 3865347.909 388873.861 3865347.909
   AREAVERT PAREA1       388882.356 3864260.570 388140.474 3864249.243
   AREAVERT PAREA1       388007.388 3864725.898 387980.960 3864780.643
   AREAVERT PAREA1       387879.022 3864920.336 387822.389 3865037.375
** LINE VOLUME Source ID = SLINE2
   SRCPARAM L0017684     0.0000005968      3.11      4.49      1.45
   SRCPARAM L0017685     0.0000005968      3.11      4.49      1.45
   SRCPARAM L0017686     0.0000005968      3.11      4.49      1.45
   SRCPARAM L0017687     0.0000005968      3.11      4.49      1.45
   SRCPARAM L0017688     0.0000005968      3.11      4.49      1.45
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   SRCPARAM L0017698     0.0000005968      3.11      4.49      1.45
   SRCPARAM L0017699     0.0000005968      3.11      4.49      1.45
   SRCPARAM L0017700     0.0000005968      3.11      4.49      1.45
   SRCPARAM L0017701     0.0000005968      3.11      4.49      1.45
   SRCPARAM L0017702     0.0000005968      3.11      4.49      1.45
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   SRCPARAM L0017704     0.0000005968      3.11      4.49      1.45
   SRCPARAM L0017705     0.0000005968      3.11      4.49      1.45
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   SRCPARAM L0017713     0.0000005968      3.11      4.49      1.45
   SRCPARAM L0017714     0.0000005968      3.11      4.49      1.45
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** LINE VOLUME Source ID = SLINE1
   SRCPARAM L0034988     0.0000002294      0.00      1.70      0.85
   SRCPARAM L0034989     0.0000002294      0.00      1.70      0.85
   SRCPARAM L0034990     0.0000002294      0.00      1.70      0.85
   SRCPARAM L0034991     0.0000002294      0.00      1.70      0.85
   SRCPARAM L0034992     0.0000002294      0.00      1.70      0.85
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SRCPARAM L0053018     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053019     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053020     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053021     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053022     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053023     0.00000002316      0.00      1.70      0.85
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SRCPARAM L0053028     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053029     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053030     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053031     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053032     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053033     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053034     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053035     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053036     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053037     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053038     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053039     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053040     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053041     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053042     0.00000002316      0.00      1.70      0.85
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SRCPARAM L0053044     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053045     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053046     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053047     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053048     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053049     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053050     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053051     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053052     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053053     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053054     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053055     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053056     0.00000002316      0.00      1.70      0.85
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SRCPARAM L0053057     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053058     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053059     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053060     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053061     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053062     0.00000002316      0.00      1.70      0.85
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SRCPARAM L0053064     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053065     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053066     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053067     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053068     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053069     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053070     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053071     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053072     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053073     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053074     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053075     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053076     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053077     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053078     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053079     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053080     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053081     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053082     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053083     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053084     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053085     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053086     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053087     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053088     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053089     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053090     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053091     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053092     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053093     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053094     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053095     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053096     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053097     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053098     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053099     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053100     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053101     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053102     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053103     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053104     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053105     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053106     0.00000002316      0.00      1.70      0.85
SRCPARAM L0053107     0.00000002316      0.00      1.70      0.85
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   SRCPARAM L0053108     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053109     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053110     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053111     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053112     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053113     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053114     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053115     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053116     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053117     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053118     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053119     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053120     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053121     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053122     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053123     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053124     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053125     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053126     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053127     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053128     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053129     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053130     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053131     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053132     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053133     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053134     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053135     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053136     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053137     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053138     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053139     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053140     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053141     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053142     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053143     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053144     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053145     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053146     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053147     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053148     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053149     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053150     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053151     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053152     0.00000002316      0.00      1.70      0.85
   SRCPARAM L0053153     0.00000002316      0.00      1.70      0.85
** ------------------------------------------------------------------------
   SRCGROUP ALL
SO FINISHED
**
**************************************
```

```
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "Gem Hill Quarry OY rev.rou"
RE FINISHED
**
**************************************
** AERMOD Meteorology Pathway
**************************************
**
**
ME STARTING
   SURFFILE "E:\New MET data\722953.SFC"
   PROFFILE "E:\New MET data\722953.PFL"
   SURFDATA 3183 2009
   UAIRDATA 93214 2009
   PROFBASE 849.5 METERS
ME FINISHED
**
**************************************
** AERMOD Output Pathway
**************************************
**
**
OU STARTING
** Auto-Generated Plotfiles
   PLOTFILE PERIOD ALL "GEM HILL QUARRY OY REV.AD\PE00GALL.PLT" 31
   SUMMFILE "Gem Hill Quarry OY rev.sum"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

  --------- Summary of Total Messages --------

 A Total of            0 Fatal Error Message(s)
 A Total of            1 Warning Message(s)
 A Total of            0 Informational Message(s)


    ******** FATAL ERROR MESSAGES ********
               ***  NONE  ***


    ********   WARNING MESSAGES   ********
 CO W116      21       MODOPT: Vector Wind Speeds specified on MODELOPT Keyword       VECTORWS

 ***********************************
 *** SETUP Finishes Successfully ***
```

```
**********************************


*** AERMOD - VERSION 21112  ***   *** 19294 Gem Hill Quarry - rev                                          ***        01/06/22
*** AERMET - VERSION  14134 ***   *** Opening Year 2021                                                    ***        11:52:36
                                                                                                                    PAGE   1
*** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  VectorWS

                                        ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Model Is Setup For Calculation of Average CONCentration Values.

  --  DEPOSITION LOGIC  --
**NO GAS DEPOSITION Data Provided.
**NO PARTICLE DEPOSITION Data Provided.
**Model Uses NO DRY DEPLETION.  DRYDPLT  =  F
**Model Uses NO WET DEPLETION.  WETDPLT  =  F

**Model Uses RURAL Dispersion Only.

**Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.

**Other Options Specified:
        VECTORWS - User specifies that input wind speeds are VECTOR means
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

**Model Assumes No FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of:  DPM

**Model Calculates PERIOD Averages Only

**This Run Includes:   3853 Source(s);       1 Source Group(s); and     451 Receptor(s)

               with:      0 POINT(s), including
                          0 POINTCAP(s) and      0 POINTHOR(s)
                and:   3852 VOLUME source(s)
                and:      1 AREA type source(s)
                and:      0 LINE source(s)
                and:      0 RLINE/RLINEXT source(s)
                and:      0 OPENPIT source(s)
                and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
```

```
**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date:  14134

**Output Options Selected:
        Model Outputs Tables of PERIOD Averages by Receptor
        Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
        Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and Missing Hours

**Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =   849.50 ;  Decay Coef. =    0.000     ;  Rot. Angle =     0.0
                 Emission Units = GRAMS/SEC                            ;  Emission Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3

**Approximate Storage Requirements of Model =      6.9 MB of RAM.

**Input Runstream File:          aermod.inp
**Output Print File:             aermod.out

**Detailed Error/Message File:   Gem Hill Quarry OY rev.err
**File for Summary of Results:   Gem Hill Quarry OY rev.sum

*** AERMOD - VERSION 21112  ***   *** 19294 Gem Hill Quarry - rev                                    ***        01/06/22
*** AERMET - VERSION  14134 ***   *** Opening Year 2021                                             ***        11:52:36
                                                                                                               PAGE   2
*** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  VectorWS


                                          *** VOLUME SOURCE DATA ***

             NUMBER EMISSION RATE                    BASE    RELEASE    INIT.    INIT.   URBAN  EMISSION RATE
  SOURCE      PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ     SOURCE  SCALAR VARY
    ID        CATS.               (METERS) (METERS) (METERS) (METERS) (METERS) (METERS)             BY
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

L0017684        0   0.59680E-06  388885.5 3864774.5   824.2     3.11     4.49     1.45     NO
L0017685        0   0.59680E-06  388895.0 3864776.0   823.9     3.11     4.49     1.45     NO
L0017686        0   0.59680E-06  388904.5 3864777.5   823.5     3.11     4.49     1.45     NO
L0017687        0   0.59680E-06  388914.1 3864778.0   822.7     3.11     4.49     1.45     NO
L0017688        0   0.59680E-06  388923.7 3864777.2   821.7     3.11     4.49     1.45     NO
L0017689        0   0.59680E-06  388933.3 3864776.3   820.8     3.11     4.49     1.45     NO
L0017690        0   0.59680E-06  388942.4 3864773.9   819.8     3.11     4.49     1.45     NO
L0017691        0   0.59680E-06  388950.4 3864768.5   818.8     3.11     4.49     1.45     NO
L0017692        0   0.59680E-06  388958.4 3864763.1   817.8     3.11     4.49     1.45     NO
L0017693        0   0.59680E-06  388965.0 3864756.6   817.0     3.11     4.49     1.45     NO
L0017694        0   0.59680E-06  388967.8 3864747.4   816.2     3.11     4.49     1.45     NO
L0017695        0   0.59680E-06  388970.6 3864738.1   815.4     3.11     4.49     1.45     NO
L0017696        0   0.59680E-06  388973.6 3864729.0   814.8     3.11     4.49     1.45     NO
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L0017697	0	0.59680E-06	388977.2	3864720.0	814.1	3.11	4.49	1.45	NO
L0017698	0	0.59680E-06	388981.2	3864711.4	813.4	3.11	4.49	1.45	NO
L0017699	0	0.59680E-06	388989.6	3864706.7	812.4	3.11	4.49	1.45	NO
L0017700	0	0.59680E-06	388998.4	3864703.0	811.5	3.11	4.49	1.45	NO
L0017701	0	0.59680E-06	389007.9	3864700.9	810.6	3.11	4.49	1.45	NO
L0017702	0	0.59680E-06	389016.7	3864697.3	809.8	3.11	4.49	1.45	NO
L0017703	0	0.59680E-06	389025.0	3864692.3	809.0	3.11	4.49	1.45	NO
L0017704	0	0.59680E-06	389030.7	3864685.1	808.4	3.11	4.49	1.45	NO
L0017705	0	0.59680E-06	389034.4	3864676.2	808.1	3.11	4.49	1.45	NO
L0017706	0	0.59680E-06	389038.3	3864667.4	807.6	3.11	4.49	1.45	NO
L0017707	0	0.59680E-06	389042.2	3864658.5	807.2	3.11	4.49	1.45	NO
L0017708	0	0.59680E-06	389046.1	3864649.7	806.8	3.11	4.49	1.45	NO
L0017709	0	0.59680E-06	389050.2	3864641.0	806.4	3.11	4.49	1.45	NO
L0017710	0	0.59680E-06	389054.4	3864632.3	806.0	3.11	4.49	1.45	NO
L0017711	0	0.59680E-06	389058.5	3864623.6	805.7	3.11	4.49	1.45	NO
L0017712	0	0.59680E-06	389062.6	3864614.8	805.4	3.11	4.49	1.45	NO
L0017713	0	0.59680E-06	389066.6	3864606.0	805.1	3.11	4.49	1.45	NO
L0017714	0	0.59680E-06	389073.3	3864599.2	804.8	3.11	4.49	1.45	NO
L0034988	0	0.22940E-06	389083.4	3864593.8	804.5	0.00	1.70	0.85	NO
L0034989	0	0.22940E-06	389084.2	3864597.4	804.6	0.00	1.70	0.85	NO
L0034990	0	0.22940E-06	389084.9	3864601.0	804.8	0.00	1.70	0.85	NO
L0034991	0	0.22940E-06	389085.7	3864604.6	804.9	0.00	1.70	0.85	NO
L0034992	0	0.22940E-06	389086.4	3864608.1	805.0	0.00	1.70	0.85	NO
L0034993	0	0.22940E-06	389087.2	3864611.7	805.1	0.00	1.70	0.85	NO
L0034994	0	0.22940E-06	389087.9	3864615.3	805.3	0.00	1.70	0.85	NO
L0034995	0	0.22940E-06	389088.7	3864618.9	805.4	0.00	1.70	0.85	NO
L0034996	0	0.22940E-06	389089.5	3864622.5	805.5	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0034997	0	0.22940E-06	389090.2	3864626.0	805.6	0.00	1.70	0.85	NO	
L0034998	0	0.22940E-06	389091.0	3864629.6	805.8	0.00	1.70	0.85	NO	
L0034999	0	0.22940E-06	389091.7	3864633.2	805.9	0.00	1.70	0.85	NO	
L0035000	0	0.22940E-06	389092.5	3864636.8	806.0	0.00	1.70	0.85	NO	
L0035001	0	0.22940E-06	389093.2	3864640.4	806.2	0.00	1.70	0.85	NO	
L0035002	0	0.22940E-06	389094.0	3864643.9	806.3	0.00	1.70	0.85	NO	
L0035003	0	0.22940E-06	389094.7	3864647.5	806.4	0.00	1.70	0.85	NO	
L0035004	0	0.22940E-06	389095.5	3864651.1	806.6	0.00	1.70	0.85	NO	
L0035005	0	0.22940E-06	389096.3	3864654.7	806.8	0.00	1.70	0.85	NO	
L0035006	0	0.22940E-06	389097.0	3864658.2	806.9	0.00	1.70	0.85	NO	

L0035007	0	0.22940E-06	389097.8	3864661.8	807.1	0.00	1.70	0.85	NO
L0035008	0	0.22940E-06	389098.5	3864665.4	807.2	0.00	1.70	0.85	NO
L0035009	0	0.22940E-06	389099.3	3864669.0	807.4	0.00	1.70	0.85	NO
L0035010	0	0.22940E-06	389100.0	3864672.6	807.5	0.00	1.70	0.85	NO
L0035011	0	0.22940E-06	389100.8	3864676.1	807.7	0.00	1.70	0.85	NO
L0035012	0	0.22940E-06	389101.5	3864679.7	807.9	0.00	1.70	0.85	NO
L0035013	0	0.22940E-06	389102.3	3864683.3	808.0	0.00	1.70	0.85	NO
L0035014	0	0.22940E-06	389103.1	3864686.9	808.2	0.00	1.70	0.85	NO
L0035015	0	0.22940E-06	389103.8	3864690.5	808.4	0.00	1.70	0.85	NO
L0035016	0	0.22940E-06	389104.6	3864694.0	808.6	0.00	1.70	0.85	NO
L0035017	0	0.22940E-06	389105.3	3864697.6	808.8	0.00	1.70	0.85	NO
L0035018	0	0.22940E-06	389106.1	3864701.2	808.9	0.00	1.70	0.85	NO
L0035019	0	0.22940E-06	389106.8	3864704.8	809.1	0.00	1.70	0.85	NO
L0035020	0	0.22940E-06	389107.6	3864708.4	809.4	0.00	1.70	0.85	NO
L0035021	0	0.22940E-06	389108.3	3864711.9	809.7	0.00	1.70	0.85	NO
L0035022	0	0.22940E-06	389109.1	3864715.5	809.9	0.00	1.70	0.85	NO
L0035023	0	0.22940E-06	389109.9	3864719.1	810.2	0.00	1.70	0.85	NO
L0035024	0	0.22940E-06	389110.6	3864722.7	810.4	0.00	1.70	0.85	NO
L0035025	0	0.22940E-06	389111.4	3864726.2	810.7	0.00	1.70	0.85	NO
L0035026	0	0.22940E-06	389112.1	3864729.8	810.9	0.00	1.70	0.85	NO
L0035027	0	0.22940E-06	389112.9	3864733.4	811.2	0.00	1.70	0.85	NO
L0035028	0	0.22940E-06	389113.6	3864737.0	811.5	0.00	1.70	0.85	NO
L0035029	0	0.22940E-06	389114.4	3864740.6	811.7	0.00	1.70	0.85	NO
L0035030	0	0.22940E-06	389115.1	3864744.1	812.0	0.00	1.70	0.85	NO
L0035031	0	0.22940E-06	389115.9	3864747.7	812.3	0.00	1.70	0.85	NO
L0035032	0	0.22940E-06	389116.7	3864751.3	812.6	0.00	1.70	0.85	NO
L0035033	0	0.22940E-06	389117.4	3864754.9	812.9	0.00	1.70	0.85	NO
L0035034	0	0.22940E-06	389118.2	3864758.5	813.2	0.00	1.70	0.85	NO
L0035035	0	0.22940E-06	389118.9	3864762.0	813.5	0.00	1.70	0.85	NO
L0035036	0	0.22940E-06	389119.7	3864765.6	813.8	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035037	0	0.22940E-06	389120.4	3864769.2	814.1	0.00	1.70	0.85	NO	
L0035038	0	0.22940E-06	389121.2	3864772.8	814.4	0.00	1.70	0.85	NO	
L0035039	0	0.22940E-06	389121.9	3864776.3	814.7	0.00	1.70	0.85	NO	
L0035040	0	0.22940E-06	389122.7	3864779.9	814.9	0.00	1.70	0.85	NO	
L0035041	0	0.22940E-06	389123.5	3864783.5	815.2	0.00	1.70	0.85	NO	
L0035042	0	0.22940E-06	389124.2	3864787.1	815.4	0.00	1.70	0.85	NO	
L0035043	0	0.22940E-06	389125.0	3864790.7	815.7	0.00	1.70	0.85	NO	

L0035044	0	0.22940E-06	389125.7	3864794.2	816.0	0.00	1.70	0.85	NO
L0035045	0	0.22940E-06	389126.5	3864797.8	816.2	0.00	1.70	0.85	NO
L0035046	0	0.22940E-06	389127.2	3864801.4	816.4	0.00	1.70	0.85	NO
L0035047	0	0.22940E-06	389128.0	3864805.0	816.5	0.00	1.70	0.85	NO
L0035048	0	0.22940E-06	389128.7	3864808.6	816.7	0.00	1.70	0.85	NO
L0035049	0	0.22940E-06	389129.5	3864812.1	816.8	0.00	1.70	0.85	NO
L0035050	0	0.22940E-06	389130.3	3864815.7	817.0	0.00	1.70	0.85	NO
L0035051	0	0.22940E-06	389131.0	3864819.3	817.1	0.00	1.70	0.85	NO
L0035052	0	0.22940E-06	389131.8	3864822.9	817.2	0.00	1.70	0.85	NO
L0035053	0	0.22940E-06	389132.5	3864826.4	817.4	0.00	1.70	0.85	NO
L0035054	0	0.22940E-06	389133.3	3864830.0	817.4	0.00	1.70	0.85	NO
L0035055	0	0.22940E-06	389134.0	3864833.6	817.5	0.00	1.70	0.85	NO
L0035056	0	0.22940E-06	389134.8	3864837.2	817.6	0.00	1.70	0.85	NO
L0035057	0	0.22940E-06	389135.5	3864840.8	817.6	0.00	1.70	0.85	NO
L0035058	0	0.22940E-06	389136.3	3864844.3	817.7	0.00	1.70	0.85	NO
L0035059	0	0.22940E-06	389137.1	3864847.9	817.7	0.00	1.70	0.85	NO
L0035060	0	0.22940E-06	389137.8	3864851.5	817.8	0.00	1.70	0.85	NO
L0035061	0	0.22940E-06	389138.6	3864855.1	817.8	0.00	1.70	0.85	NO
L0035062	0	0.22940E-06	389139.3	3864858.7	817.9	0.00	1.70	0.85	NO
L0035063	0	0.22940E-06	389140.1	3864862.2	818.0	0.00	1.70	0.85	NO
L0035064	0	0.22940E-06	389140.8	3864865.8	818.1	0.00	1.70	0.85	NO
L0035065	0	0.22940E-06	389141.6	3864869.4	818.2	0.00	1.70	0.85	NO
L0035066	0	0.22940E-06	389142.5	3864872.9	818.3	0.00	1.70	0.85	NO
L0035067	0	0.22940E-06	389143.3	3864876.5	818.4	0.00	1.70	0.85	NO
L0035068	0	0.22940E-06	389144.2	3864880.1	818.5	0.00	1.70	0.85	NO
L0035069	0	0.22940E-06	389145.0	3864883.6	818.6	0.00	1.70	0.85	NO
L0035070	0	0.22940E-06	389145.8	3864887.2	818.7	0.00	1.70	0.85	NO
L0035071	0	0.22940E-06	389146.7	3864890.7	818.8	0.00	1.70	0.85	NO
L0035072	0	0.22940E-06	389147.5	3864894.3	819.0	0.00	1.70	0.85	NO
L0035073	0	0.22940E-06	389148.3	3864897.9	819.1	0.00	1.70	0.85	NO
L0035074	0	0.22940E-06	389149.2	3864901.4	819.2	0.00	1.70	0.85	NO
L0035075	0	0.22940E-06	389150.0	3864905.0	819.3	0.00	1.70	0.85	NO
L0035076	0	0.22940E-06	389150.8	3864908.6	819.4	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

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L0035077	0	0.22940E-06	389151.7	3864912.1	819.5	0.00	1.70	0.85	NO	
L0035078	0	0.22940E-06	389152.5	3864915.7	819.6	0.00	1.70	0.85	NO	
L0035079	0	0.22940E-06	389153.3	3864919.2	819.8	0.00	1.70	0.85	NO	
L0035080	0	0.22940E-06	389154.2	3864922.8	819.9	0.00	1.70	0.85	NO	

L0035081	0	0.22940E-06	389155.0	3864926.4	820.0	0.00	1.70	0.85	NO
L0035082	0	0.22940E-06	389155.8	3864929.9	820.1	0.00	1.70	0.85	NO
L0035083	0	0.22940E-06	389156.7	3864933.5	820.3	0.00	1.70	0.85	NO
L0035084	0	0.22940E-06	389157.5	3864937.0	820.4	0.00	1.70	0.85	NO
L0035085	0	0.22940E-06	389158.3	3864940.6	820.5	0.00	1.70	0.85	NO
L0035086	0	0.22940E-06	389159.2	3864944.2	820.6	0.00	1.70	0.85	NO
L0035087	0	0.22940E-06	389160.0	3864947.7	820.8	0.00	1.70	0.85	NO
L0035088	0	0.22940E-06	389160.8	3864951.3	820.9	0.00	1.70	0.85	NO
L0035089	0	0.22940E-06	389161.7	3864954.8	821.0	0.00	1.70	0.85	NO
L0035090	0	0.22940E-06	389162.5	3864958.4	821.2	0.00	1.70	0.85	NO
L0035091	0	0.22940E-06	389164.0	3864961.7	821.3	0.00	1.70	0.85	NO
L0035092	0	0.22940E-06	389165.6	3864965.0	821.4	0.00	1.70	0.85	NO
L0035093	0	0.22940E-06	389167.2	3864968.3	821.5	0.00	1.70	0.85	NO
L0035094	0	0.22940E-06	389168.8	3864971.6	821.6	0.00	1.70	0.85	NO
L0035095	0	0.22940E-06	389170.4	3864974.9	821.7	0.00	1.70	0.85	NO
L0035096	0	0.22940E-06	389172.0	3864978.2	821.8	0.00	1.70	0.85	NO
L0035097	0	0.22940E-06	389173.6	3864981.5	821.9	0.00	1.70	0.85	NO
L0035098	0	0.22940E-06	389175.2	3864984.7	822.1	0.00	1.70	0.85	NO
L0035099	0	0.22940E-06	389176.8	3864988.0	822.2	0.00	1.70	0.85	NO
L0035100	0	0.22940E-06	389178.4	3864991.3	822.4	0.00	1.70	0.85	NO
L0035101	0	0.22940E-06	389180.0	3864994.6	822.5	0.00	1.70	0.85	NO
L0035102	0	0.22940E-06	389181.7	3864997.9	822.7	0.00	1.70	0.85	NO
L0035103	0	0.22940E-06	389183.3	3865001.2	822.8	0.00	1.70	0.85	NO
L0035104	0	0.22940E-06	389184.9	3865004.5	823.0	0.00	1.70	0.85	NO
L0035105	0	0.22940E-06	389186.5	3865007.8	823.1	0.00	1.70	0.85	NO
L0035106	0	0.22940E-06	389188.1	3865011.0	823.3	0.00	1.70	0.85	NO
L0035107	0	0.22940E-06	389189.7	3865014.3	823.5	0.00	1.70	0.85	NO
L0035108	0	0.22940E-06	389191.3	3865017.6	823.7	0.00	1.70	0.85	NO
L0035109	0	0.22940E-06	389192.9	3865020.9	823.9	0.00	1.70	0.85	NO
L0035110	0	0.22940E-06	389194.5	3865024.2	824.0	0.00	1.70	0.85	NO
L0035111	0	0.22940E-06	389196.1	3865027.5	824.2	0.00	1.70	0.85	NO
L0035112	0	0.22940E-06	389197.7	3865030.8	824.4	0.00	1.70	0.85	NO
L0035113	0	0.22940E-06	389199.3	3865034.1	824.6	0.00	1.70	0.85	NO
L0035114	0	0.22940E-06	389200.9	3865037.3	824.8	0.00	1.70	0.85	NO
L0035115	0	0.22940E-06	389202.5	3865040.6	824.9	0.00	1.70	0.85	NO
L0035116	0	0.22940E-06	389204.1	3865043.9	825.2	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

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L0035117	0	0.22940E-06	389205.7	3865047.2	825.5	0.00	1.70	0.85	NO	

L0035118	0	0.22940E-06	389207.3	3865050.5	825.9	0.00	1.70	0.85	NO
L0035119	0	0.22940E-06	389208.9	3865053.8	826.3	0.00	1.70	0.85	NO
L0035120	0	0.22940E-06	389210.5	3865057.1	826.6	0.00	1.70	0.85	NO
L0035121	0	0.22940E-06	389212.1	3865060.4	827.0	0.00	1.70	0.85	NO
L0035122	0	0.22940E-06	389213.7	3865063.6	827.3	0.00	1.70	0.85	NO
L0035123	0	0.22940E-06	389215.4	3865066.9	827.6	0.00	1.70	0.85	NO
L0035124	0	0.22940E-06	389217.0	3865070.2	827.9	0.00	1.70	0.85	NO
L0035125	0	0.22940E-06	389218.6	3865073.4	828.2	0.00	1.70	0.85	NO
L0035126	0	0.22940E-06	389220.3	3865076.7	828.7	0.00	1.70	0.85	NO
L0035127	0	0.22940E-06	389221.9	3865080.0	829.1	0.00	1.70	0.85	NO
L0035128	0	0.22940E-06	389223.6	3865083.2	829.5	0.00	1.70	0.85	NO
L0035129	0	0.22940E-06	389225.2	3865086.5	829.8	0.00	1.70	0.85	NO
L0035130	0	0.22940E-06	389226.9	3865089.8	830.2	0.00	1.70	0.85	NO
L0035131	0	0.22940E-06	389228.5	3865093.0	830.4	0.00	1.70	0.85	NO
L0035132	0	0.22940E-06	389230.2	3865096.3	830.7	0.00	1.70	0.85	NO
L0035133	0	0.22940E-06	389231.8	3865099.6	830.9	0.00	1.70	0.85	NO
L0035134	0	0.22940E-06	389233.5	3865102.8	831.1	0.00	1.70	0.85	NO
L0035135	0	0.22940E-06	389235.1	3865106.1	831.2	0.00	1.70	0.85	NO
L0035136	0	0.22940E-06	389236.8	3865109.4	831.3	0.00	1.70	0.85	NO
L0035137	0	0.22940E-06	389238.4	3865112.6	831.6	0.00	1.70	0.85	NO
L0035138	0	0.22940E-06	389240.1	3865115.9	831.9	0.00	1.70	0.85	NO
L0035139	0	0.22940E-06	389241.7	3865119.1	832.2	0.00	1.70	0.85	NO
L0035140	0	0.22940E-06	389243.4	3865122.4	832.4	0.00	1.70	0.85	NO
L0035141	0	0.22940E-06	389245.0	3865125.7	832.7	0.00	1.70	0.85	NO
L0035142	0	0.22940E-06	389246.7	3865128.9	833.0	0.00	1.70	0.85	NO
L0035143	0	0.22940E-06	389248.3	3865132.2	833.2	0.00	1.70	0.85	NO
L0035144	0	0.22940E-06	389250.0	3865135.5	833.4	0.00	1.70	0.85	NO
L0035145	0	0.22940E-06	389251.6	3865138.7	833.6	0.00	1.70	0.85	NO
L0035146	0	0.22940E-06	389253.3	3865142.0	833.8	0.00	1.70	0.85	NO
L0035147	0	0.22940E-06	389254.9	3865145.3	834.0	0.00	1.70	0.85	NO
L0035148	0	0.22940E-06	389256.6	3865148.5	834.1	0.00	1.70	0.85	NO
L0035149	0	0.22940E-06	389258.0	3865151.9	834.3	0.00	1.70	0.85	NO
L0035150	0	0.22940E-06	389259.1	3865155.4	834.6	0.00	1.70	0.85	NO
L0035151	0	0.22940E-06	389260.3	3865158.9	834.8	0.00	1.70	0.85	NO
L0035152	0	0.22940E-06	389261.4	3865162.3	835.0	0.00	1.70	0.85	NO
L0035153	0	0.22940E-06	389262.6	3865165.8	835.2	0.00	1.70	0.85	NO
L0035154	0	0.22940E-06	389263.7	3865169.3	835.5	0.00	1.70	0.85	NO
L0035155	0	0.22940E-06	389264.9	3865172.7	835.8	0.00	1.70	0.85	NO
L0035156	0	0.22940E-06	389266.0	3865176.2	836.2	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY

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SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035197	0	0.22940E-06	389269.8	3865325.4	837.9	0.00	1.70	0.85	NO	
L0035198	0	0.22940E-06	389269.8	3865329.1	837.8	0.00	1.70	0.85	NO	
L0035199	0	0.22940E-06	389269.7	3865332.7	837.6	0.00	1.70	0.85	NO	
L0035200	0	0.22940E-06	389269.7	3865336.4	837.4	0.00	1.70	0.85	NO	
L0035201	0	0.22940E-06	389269.7	3865340.1	837.3	0.00	1.70	0.85	NO	
L0035202	0	0.22940E-06	389269.7	3865343.7	837.1	0.00	1.70	0.85	NO	
L0035203	0	0.22940E-06	389269.7	3865347.4	837.0	0.00	1.70	0.85	NO	
L0035204	0	0.22940E-06	389269.6	3865351.0	836.8	0.00	1.70	0.85	NO	
L0035205	0	0.22940E-06	389269.6	3865354.7	836.6	0.00	1.70	0.85	NO	
L0035206	0	0.22940E-06	389269.6	3865358.3	836.5	0.00	1.70	0.85	NO	
L0035207	0	0.22940E-06	389269.6	3865362.0	836.3	0.00	1.70	0.85	NO	
L0035208	0	0.22940E-06	389269.5	3865365.7	836.1	0.00	1.70	0.85	NO	
L0035209	0	0.22940E-06	389269.5	3865369.3	836.0	0.00	1.70	0.85	NO	
L0035210	0	0.22940E-06	389269.5	3865373.0	835.8	0.00	1.70	0.85	NO	
L0035211	0	0.22940E-06	389269.5	3865376.6	835.6	0.00	1.70	0.85	NO	
L0035212	0	0.22940E-06	389269.4	3865380.3	835.4	0.00	1.70	0.85	NO	
L0035213	0	0.22940E-06	389269.4	3865383.9	835.3	0.00	1.70	0.85	NO	
L0035214	0	0.22940E-06	389269.4	3865387.6	835.2	0.00	1.70	0.85	NO	
L0035215	0	0.22940E-06	389269.4	3865391.3	835.0	0.00	1.70	0.85	NO	
L0035216	0	0.22940E-06	389269.3	3865394.9	834.9	0.00	1.70	0.85	NO	
L0035217	0	0.22940E-06	389269.3	3865398.6	834.8	0.00	1.70	0.85	NO	
L0035218	0	0.22940E-06	389269.3	3865402.2	834.6	0.00	1.70	0.85	NO	
L0035219	0	0.22940E-06	389269.3	3865405.9	834.5	0.00	1.70	0.85	NO	
L0035220	0	0.22940E-06	389269.3	3865409.5	834.4	0.00	1.70	0.85	NO	
L0035221	0	0.22940E-06	389269.2	3865413.2	834.2	0.00	1.70	0.85	NO	
L0035222	0	0.22940E-06	389269.2	3865416.9	834.1	0.00	1.70	0.85	NO	
L0035223	0	0.22940E-06	389269.2	3865420.5	834.0	0.00	1.70	0.85	NO	
L0035224	0	0.22940E-06	389269.2	3865424.2	833.8	0.00	1.70	0.85	NO	
L0035225	0	0.22940E-06	389269.1	3865427.8	833.7	0.00	1.70	0.85	NO	
L0035226	0	0.22940E-06	389269.1	3865431.5	833.6	0.00	1.70	0.85	NO	
L0035227	0	0.22940E-06	389269.1	3865435.2	833.5	0.00	1.70	0.85	NO	
L0035228	0	0.22940E-06	389269.1	3865438.8	833.3	0.00	1.70	0.85	NO	
L0035229	0	0.22940E-06	389269.0	3865442.5	833.2	0.00	1.70	0.85	NO	
L0035230	0	0.22940E-06	389269.0	3865446.1	833.1	0.00	1.70	0.85	NO	
L0035231	0	0.22940E-06	389269.0	3865449.8	832.9	0.00	1.70	0.85	NO	
L0035232	0	0.22940E-06	389269.0	3865453.4	832.8	0.00	1.70	0.85	NO	
L0035233	0	0.22940E-06	389268.9	3865457.1	832.7	0.00	1.70	0.85	NO	
L0035234	0	0.22940E-06	389268.9	3865460.8	832.5	0.00	1.70	0.85	NO	
L0035235	0	0.22940E-06	389268.9	3865464.4	832.4	0.00	1.70	0.85	NO	
L0035236	0	0.22940E-06	389268.9	3865468.1	832.3	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035237	0	0.22940E-06	389268.9	3865471.7	832.1	0.00	1.70	0.85	NO	
L0035238	0	0.22940E-06	389268.8	3865475.4	832.0	0.00	1.70	0.85	NO	
L0035239	0	0.22940E-06	389268.8	3865479.0	831.9	0.00	1.70	0.85	NO	
L0035240	0	0.22940E-06	389268.8	3865482.7	831.8	0.00	1.70	0.85	NO	
L0035241	0	0.22940E-06	389268.8	3865486.4	831.7	0.00	1.70	0.85	NO	
L0035242	0	0.22940E-06	389268.7	3865490.0	831.6	0.00	1.70	0.85	NO	
L0035243	0	0.22940E-06	389268.7	3865493.7	831.4	0.00	1.70	0.85	NO	
L0035244	0	0.22940E-06	389268.7	3865497.3	831.3	0.00	1.70	0.85	NO	
L0035245	0	0.22940E-06	389268.7	3865501.0	831.2	0.00	1.70	0.85	NO	
L0035246	0	0.22940E-06	389268.6	3865504.6	831.1	0.00	1.70	0.85	NO	
L0035247	0	0.22940E-06	389268.6	3865508.3	831.0	0.00	1.70	0.85	NO	
L0035248	0	0.22940E-06	389268.6	3865512.0	830.9	0.00	1.70	0.85	NO	
L0035249	0	0.22940E-06	389268.6	3865515.6	830.8	0.00	1.70	0.85	NO	
L0035250	0	0.22940E-06	389268.6	3865519.3	830.8	0.00	1.70	0.85	NO	
L0035251	0	0.22940E-06	389268.5	3865522.9	830.7	0.00	1.70	0.85	NO	
L0035252	0	0.22940E-06	389268.5	3865526.6	830.6	0.00	1.70	0.85	NO	
L0035253	0	0.22940E-06	389268.5	3865530.2	830.5	0.00	1.70	0.85	NO	
L0035254	0	0.22940E-06	389268.5	3865533.9	830.4	0.00	1.70	0.85	NO	
L0035255	0	0.22940E-06	389268.4	3865537.6	830.4	0.00	1.70	0.85	NO	
L0035256	0	0.22940E-06	389268.4	3865541.2	830.3	0.00	1.70	0.85	NO	
L0035257	0	0.22940E-06	389268.4	3865544.9	830.2	0.00	1.70	0.85	NO	
L0035258	0	0.22940E-06	389268.4	3865548.5	830.2	0.00	1.70	0.85	NO	
L0035259	0	0.22940E-06	389268.3	3865552.2	830.1	0.00	1.70	0.85	NO	
L0035260	0	0.22940E-06	389268.3	3865555.8	830.1	0.00	1.70	0.85	NO	
L0035261	0	0.22940E-06	389268.3	3865559.5	830.0	0.00	1.70	0.85	NO	
L0035262	0	0.22940E-06	389268.3	3865563.2	829.9	0.00	1.70	0.85	NO	
L0035263	0	0.22940E-06	389268.2	3865566.8	829.9	0.00	1.70	0.85	NO	
L0035264	0	0.22940E-06	389268.2	3865570.5	829.9	0.00	1.70	0.85	NO	
L0035265	0	0.22940E-06	389268.2	3865574.1	829.8	0.00	1.70	0.85	NO	
L0035266	0	0.22940E-06	389268.2	3865577.8	829.8	0.00	1.70	0.85	NO	
L0035267	0	0.22940E-06	389268.2	3865581.5	829.8	0.00	1.70	0.85	NO	
L0035268	0	0.22940E-06	389268.1	3865585.1	829.8	0.00	1.70	0.85	NO	
L0035269	0	0.22940E-06	389268.1	3865588.8	829.8	0.00	1.70	0.85	NO	
L0035270	0	0.22940E-06	389268.1	3865592.4	829.7	0.00	1.70	0.85	NO	
L0035271	0	0.22940E-06	389268.1	3865596.1	829.7	0.00	1.70	0.85	NO	
L0035272	0	0.22940E-06	389268.0	3865599.7	829.7	0.00	1.70	0.85	NO	
L0035273	0	0.22940E-06	389268.0	3865603.4	829.7	0.00	1.70	0.85	NO	
L0035274	0	0.22940E-06	389268.0	3865607.1	829.7	0.00	1.70	0.85	NO	
L0035275	0	0.22940E-06	389268.0	3865610.7	829.7	0.00	1.70	0.85	NO	
L0035276	0	0.22940E-06	389267.9	3865614.4	829.6	0.00	1.70	0.85	NO	

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*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035277	0	0.22940E-06	389267.9	3865618.0	829.6	0.00	1.70	0.85	NO	
L0035278	0	0.22940E-06	389267.9	3865621.7	829.6	0.00	1.70	0.85	NO	
L0035279	0	0.22940E-06	389267.9	3865625.3	829.6	0.00	1.70	0.85	NO	
L0035280	0	0.22940E-06	389267.8	3865629.0	829.6	0.00	1.70	0.85	NO	
L0035281	0	0.22940E-06	389267.8	3865632.7	829.5	0.00	1.70	0.85	NO	
L0035282	0	0.22940E-06	389267.8	3865636.3	829.5	0.00	1.70	0.85	NO	
L0035283	0	0.22940E-06	389267.8	3865640.0	829.5	0.00	1.70	0.85	NO	
L0035284	0	0.22940E-06	389267.8	3865643.6	829.5	0.00	1.70	0.85	NO	
L0035285	0	0.22940E-06	389267.7	3865647.3	829.4	0.00	1.70	0.85	NO	
L0035286	0	0.22940E-06	389267.7	3865650.9	829.4	0.00	1.70	0.85	NO	
L0035287	0	0.22940E-06	389267.7	3865654.6	829.4	0.00	1.70	0.85	NO	
L0035288	0	0.22940E-06	389267.7	3865658.3	829.3	0.00	1.70	0.85	NO	
L0035289	0	0.22940E-06	389267.6	3865661.9	829.3	0.00	1.70	0.85	NO	
L0035290	0	0.22940E-06	389267.6	3865665.6	829.2	0.00	1.70	0.85	NO	
L0035291	0	0.22940E-06	389267.6	3865669.2	829.2	0.00	1.70	0.85	NO	
L0035292	0	0.22940E-06	389267.6	3865672.9	829.2	0.00	1.70	0.85	NO	
L0035293	0	0.22940E-06	389267.5	3865676.5	829.1	0.00	1.70	0.85	NO	
L0035294	0	0.22940E-06	389267.5	3865680.2	829.1	0.00	1.70	0.85	NO	
L0035295	0	0.22940E-06	389267.5	3865683.9	829.1	0.00	1.70	0.85	NO	
L0035296	0	0.22940E-06	389267.5	3865687.5	829.0	0.00	1.70	0.85	NO	
L0035297	0	0.22940E-06	389267.4	3865691.2	829.0	0.00	1.70	0.85	NO	
L0035298	0	0.22940E-06	389267.4	3865694.8	828.9	0.00	1.70	0.85	NO	
L0035299	0	0.22940E-06	389267.4	3865698.5	828.9	0.00	1.70	0.85	NO	
L0035300	0	0.22940E-06	389267.4	3865702.2	828.9	0.00	1.70	0.85	NO	
L0035301	0	0.22940E-06	389267.4	3865705.8	828.8	0.00	1.70	0.85	NO	
L0035302	0	0.22940E-06	389267.3	3865709.5	828.8	0.00	1.70	0.85	NO	
L0035303	0	0.22940E-06	389267.3	3865713.1	828.8	0.00	1.70	0.85	NO	
L0035304	0	0.22940E-06	389267.3	3865716.8	828.7	0.00	1.70	0.85	NO	
L0035305	0	0.22940E-06	389267.3	3865720.4	828.7	0.00	1.70	0.85	NO	
L0035306	0	0.22940E-06	389267.2	3865724.1	828.7	0.00	1.70	0.85	NO	
L0035307	0	0.22940E-06	389267.2	3865727.8	828.7	0.00	1.70	0.85	NO	
L0035308	0	0.22940E-06	389267.2	3865731.4	828.7	0.00	1.70	0.85	NO	
L0035309	0	0.22940E-06	389267.2	3865735.1	828.7	0.00	1.70	0.85	NO	
L0035310	0	0.22940E-06	389267.1	3865738.7	828.7	0.00	1.70	0.85	NO	
L0035311	0	0.22940E-06	389267.1	3865742.4	828.7	0.00	1.70	0.85	NO	
L0035312	0	0.22940E-06	389267.1	3865746.0	828.7	0.00	1.70	0.85	NO	
L0035313	0	0.22940E-06	389267.1	3865749.7	828.7	0.00	1.70	0.85	NO	
L0035314	0	0.22940E-06	389267.0	3865753.4	828.7	0.00	1.70	0.85	NO	
L0035315	0	0.22940E-06	389267.0	3865757.0	828.7	0.00	1.70	0.85	NO	
L0035316	0	0.22940E-06	389267.0	3865760.7	828.7	0.00	1.70	0.85	NO	

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*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035317	0	0.22940E-06	389267.0	3865764.3	828.8	0.00	1.70	0.85	NO	
L0035318	0	0.22940E-06	389267.0	3865768.0	828.8	0.00	1.70	0.85	NO	
L0035319	0	0.22940E-06	389266.9	3865771.6	828.8	0.00	1.70	0.85	NO	
L0035320	0	0.22940E-06	389266.9	3865775.3	828.8	0.00	1.70	0.85	NO	
L0035321	0	0.22940E-06	389266.9	3865779.0	828.8	0.00	1.70	0.85	NO	
L0035322	0	0.22940E-06	389266.9	3865782.6	828.8	0.00	1.70	0.85	NO	
L0035323	0	0.22940E-06	389266.8	3865786.3	828.8	0.00	1.70	0.85	NO	
L0035324	0	0.22940E-06	389266.8	3865789.9	828.9	0.00	1.70	0.85	NO	
L0035325	0	0.22940E-06	389266.8	3865793.6	828.9	0.00	1.70	0.85	NO	
L0035326	0	0.22940E-06	389266.8	3865797.2	828.9	0.00	1.70	0.85	NO	
L0035327	0	0.22940E-06	389266.7	3865800.9	828.9	0.00	1.70	0.85	NO	
L0035328	0	0.22940E-06	389266.7	3865804.6	828.9	0.00	1.70	0.85	NO	
L0035329	0	0.22940E-06	389266.7	3865808.2	828.9	0.00	1.70	0.85	NO	
L0035330	0	0.22940E-06	389266.7	3865811.9	828.9	0.00	1.70	0.85	NO	
L0035331	0	0.22940E-06	389266.6	3865815.5	829.0	0.00	1.70	0.85	NO	
L0035332	0	0.22940E-06	389266.6	3865819.2	829.0	0.00	1.70	0.85	NO	
L0035333	0	0.22940E-06	389266.6	3865822.8	829.0	0.00	1.70	0.85	NO	
L0035334	0	0.22940E-06	389266.6	3865826.5	829.0	0.00	1.70	0.85	NO	
L0035335	0	0.22940E-06	389266.6	3865830.2	829.0	0.00	1.70	0.85	NO	
L0035336	0	0.22940E-06	389266.5	3865833.8	829.0	0.00	1.70	0.85	NO	
L0035337	0	0.22940E-06	389266.5	3865837.5	829.0	0.00	1.70	0.85	NO	
L0035338	0	0.22940E-06	389266.5	3865841.1	829.0	0.00	1.70	0.85	NO	
L0035339	0	0.22940E-06	389266.5	3865844.8	829.0	0.00	1.70	0.85	NO	
L0035340	0	0.22940E-06	389266.4	3865848.5	829.0	0.00	1.70	0.85	NO	
L0035341	0	0.22940E-06	389266.4	3865852.1	829.1	0.00	1.70	0.85	NO	
L0035342	0	0.22940E-06	389266.4	3865855.8	829.1	0.00	1.70	0.85	NO	
L0035343	0	0.22940E-06	389266.4	3865859.4	829.1	0.00	1.70	0.85	NO	
L0035344	0	0.22940E-06	389266.3	3865863.1	829.1	0.00	1.70	0.85	NO	
L0035345	0	0.22940E-06	389266.3	3865866.7	829.1	0.00	1.70	0.85	NO	
L0035346	0	0.22940E-06	389266.3	3865870.4	829.1	0.00	1.70	0.85	NO	
L0035347	0	0.22940E-06	389266.3	3865874.1	829.1	0.00	1.70	0.85	NO	
L0035348	0	0.22940E-06	389266.3	3865877.7	829.1	0.00	1.70	0.85	NO	
L0035349	0	0.22940E-06	389266.2	3865881.4	829.2	0.00	1.70	0.85	NO	
L0035350	0	0.22940E-06	389266.2	3865885.0	829.2	0.00	1.70	0.85	NO	
L0035351	0	0.22940E-06	389266.2	3865888.7	829.2	0.00	1.70	0.85	NO	
L0035352	0	0.22940E-06	389266.2	3865892.3	829.2	0.00	1.70	0.85	NO	
L0035353	0	0.22940E-06	389266.1	3865896.0	829.2	0.00	1.70	0.85	NO	

L0035354	0	0.22940E-06	389266.1	3865899.7	829.3	0.00	1.70	0.85	NO
L0035355	0	0.22940E-06	389266.1	3865903.3	829.3	0.00	1.70	0.85	NO
L0035356	0	0.22940E-06	389266.1	3865907.0	829.3	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035357	0	0.22940E-06	389266.0	3865910.6	829.3	0.00	1.70	0.85	NO	
L0035358	0	0.22940E-06	389266.0	3865914.3	829.4	0.00	1.70	0.85	NO	
L0035359	0	0.22940E-06	389266.0	3865917.9	829.4	0.00	1.70	0.85	NO	
L0035360	0	0.22940E-06	389266.0	3865921.6	829.4	0.00	1.70	0.85	NO	
L0035361	0	0.22940E-06	389265.9	3865925.3	829.4	0.00	1.70	0.85	NO	
L0035362	0	0.22940E-06	389265.9	3865928.9	829.5	0.00	1.70	0.85	NO	
L0035363	0	0.22940E-06	389265.9	3865932.6	829.5	0.00	1.70	0.85	NO	
L0035364	0	0.22940E-06	389265.9	3865936.2	829.5	0.00	1.70	0.85	NO	
L0035365	0	0.22940E-06	389265.9	3865939.9	829.6	0.00	1.70	0.85	NO	
L0035366	0	0.22940E-06	389265.8	3865943.5	829.6	0.00	1.70	0.85	NO	
L0035367	0	0.22940E-06	389265.8	3865947.2	829.6	0.00	1.70	0.85	NO	
L0035368	0	0.22940E-06	389265.8	3865950.9	829.7	0.00	1.70	0.85	NO	
L0035369	0	0.22940E-06	389265.8	3865954.5	829.7	0.00	1.70	0.85	NO	
L0035370	0	0.22940E-06	389265.7	3865958.2	829.8	0.00	1.70	0.85	NO	
L0035371	0	0.22940E-06	389265.7	3865961.8	829.8	0.00	1.70	0.85	NO	
L0035372	0	0.22940E-06	389265.7	3865965.5	829.8	0.00	1.70	0.85	NO	
L0035373	0	0.22940E-06	389265.7	3865969.1	829.9	0.00	1.70	0.85	NO	
L0035374	0	0.22940E-06	389265.6	3865972.8	829.9	0.00	1.70	0.85	NO	
L0035375	0	0.22940E-06	389265.6	3865976.5	830.0	0.00	1.70	0.85	NO	
L0035376	0	0.22940E-06	389265.6	3865980.1	830.0	0.00	1.70	0.85	NO	
L0035377	0	0.22940E-06	389265.6	3865983.8	830.1	0.00	1.70	0.85	NO	
L0035378	0	0.22940E-06	389265.5	3865987.4	830.1	0.00	1.70	0.85	NO	
L0035379	0	0.22940E-06	389265.5	3865991.1	830.2	0.00	1.70	0.85	NO	
L0035380	0	0.22940E-06	389265.5	3865994.8	830.2	0.00	1.70	0.85	NO	
L0035381	0	0.22940E-06	389265.5	3865998.4	830.3	0.00	1.70	0.85	NO	
L0035382	0	0.22940E-06	389265.5	3866002.1	830.3	0.00	1.70	0.85	NO	
L0035383	0	0.22940E-06	389265.4	3866005.7	830.3	0.00	1.70	0.85	NO	
L0035384	0	0.22940E-06	389265.4	3866009.4	830.4	0.00	1.70	0.85	NO	
L0035385	0	0.22940E-06	389265.4	3866013.0	830.4	0.00	1.70	0.85	NO	
L0035386	0	0.22940E-06	389265.4	3866016.7	830.5	0.00	1.70	0.85	NO	
L0035387	0	0.22940E-06	389265.3	3866020.4	830.5	0.00	1.70	0.85	NO	
L0035388	0	0.22940E-06	389265.3	3866024.0	830.6	0.00	1.70	0.85	NO	
L0035389	0	0.22940E-06	389265.3	3866027.7	830.6	0.00	1.70	0.85	NO	
L0035390	0	0.22940E-06	389265.3	3866031.3	830.6	0.00	1.70	0.85	NO	

L0035391	0	0.22940E-06	389265.2	3866035.0	830.7	0.00	1.70	0.85	NO	
L0035392	0	0.22940E-06	389265.2	3866038.6	830.7	0.00	1.70	0.85	NO	
L0035393	0	0.22940E-06	389265.2	3866042.3	830.7	0.00	1.70	0.85	NO	
L0035394	0	0.22940E-06	389265.2	3866046.0	830.8	0.00	1.70	0.85	NO	
L0035395	0	0.22940E-06	389265.1	3866049.6	830.8	0.00	1.70	0.85	NO	
L0035396	0	0.22940E-06	389265.1	3866053.3	830.8	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035397	0	0.22940E-06	389265.1	3866056.9	830.9	0.00	1.70	0.85	NO	
L0035398	0	0.22940E-06	389265.1	3866060.6	830.9	0.00	1.70	0.85	NO	
L0035399	0	0.22940E-06	389265.1	3866064.2	830.9	0.00	1.70	0.85	NO	
L0035400	0	0.22940E-06	389265.0	3866067.9	830.9	0.00	1.70	0.85	NO	
L0035401	0	0.22940E-06	389265.0	3866071.6	831.0	0.00	1.70	0.85	NO	
L0035402	0	0.22940E-06	389265.0	3866075.2	831.0	0.00	1.70	0.85	NO	
L0035403	0	0.22940E-06	389265.0	3866078.9	831.0	0.00	1.70	0.85	NO	
L0035404	0	0.22940E-06	389264.9	3866082.5	831.0	0.00	1.70	0.85	NO	
L0035405	0	0.22940E-06	389264.9	3866086.2	831.1	0.00	1.70	0.85	NO	
L0035406	0	0.22940E-06	389264.9	3866089.8	831.1	0.00	1.70	0.85	NO	
L0035407	0	0.22940E-06	389264.9	3866093.5	831.1	0.00	1.70	0.85	NO	
L0035408	0	0.22940E-06	389264.8	3866097.2	831.2	0.00	1.70	0.85	NO	
L0035409	0	0.22940E-06	389264.8	3866100.8	831.2	0.00	1.70	0.85	NO	
L0035410	0	0.22940E-06	389264.8	3866104.5	831.2	0.00	1.70	0.85	NO	
L0035411	0	0.22940E-06	389264.8	3866108.1	831.3	0.00	1.70	0.85	NO	
L0035412	0	0.22940E-06	389264.7	3866111.8	831.3	0.00	1.70	0.85	NO	
L0035413	0	0.22940E-06	389264.7	3866115.5	831.4	0.00	1.70	0.85	NO	
L0035414	0	0.22940E-06	389264.7	3866119.1	831.4	0.00	1.70	0.85	NO	
L0035415	0	0.22940E-06	389264.7	3866122.8	831.4	0.00	1.70	0.85	NO	
L0035416	0	0.22940E-06	389264.7	3866126.4	831.5	0.00	1.70	0.85	NO	
L0035417	0	0.22940E-06	389264.6	3866130.1	831.5	0.00	1.70	0.85	NO	
L0035418	0	0.22940E-06	389264.6	3866133.7	831.5	0.00	1.70	0.85	NO	
L0035419	0	0.22940E-06	389264.6	3866137.4	831.6	0.00	1.70	0.85	NO	
L0035420	0	0.22940E-06	389264.6	3866141.1	831.6	0.00	1.70	0.85	NO	
L0035421	0	0.22940E-06	389264.5	3866144.7	831.7	0.00	1.70	0.85	NO	
L0035422	0	0.22940E-06	389264.5	3866148.4	831.7	0.00	1.70	0.85	NO	
L0035423	0	0.22940E-06	389264.5	3866152.0	831.8	0.00	1.70	0.85	NO	
L0035424	0	0.22940E-06	389264.5	3866155.7	831.8	0.00	1.70	0.85	NO	
L0035425	0	0.22940E-06	389264.4	3866159.3	831.8	0.00	1.70	0.85	NO	
L0035426	0	0.22940E-06	389264.4	3866163.0	831.9	0.00	1.70	0.85	NO	
L0035427	0	0.22940E-06	389264.4	3866166.7	831.9	0.00	1.70	0.85	NO	

L0035428	0	0.22940E-06	389264.4	3866170.3	831.9	0.00	1.70	0.85	NO
L0035429	0	0.22940E-06	389264.3	3866174.0	832.0	0.00	1.70	0.85	NO
L0035430	0	0.22940E-06	389264.3	3866177.6	832.0	0.00	1.70	0.85	NO
L0035431	0	0.22940E-06	389264.3	3866181.3	832.1	0.00	1.70	0.85	NO
L0035432	0	0.22940E-06	389264.3	3866184.9	832.1	0.00	1.70	0.85	NO
L0035433	0	0.22940E-06	389264.3	3866188.6	832.1	0.00	1.70	0.85	NO
L0035434	0	0.22940E-06	389264.2	3866192.3	832.1	0.00	1.70	0.85	NO
L0035435	0	0.22940E-06	389264.2	3866195.9	832.2	0.00	1.70	0.85	NO
L0035436	0	0.22940E-06	389264.2	3866199.6	832.2	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035437	0	0.22940E-06	389264.2	3866203.2	832.2	0.00	1.70	0.85	NO	
L0035438	0	0.22940E-06	389264.1	3866206.9	832.2	0.00	1.70	0.85	NO	
L0035439	0	0.22940E-06	389264.1	3866210.5	832.3	0.00	1.70	0.85	NO	
L0035440	0	0.22940E-06	389264.1	3866214.2	832.3	0.00	1.70	0.85	NO	
L0035441	0	0.22940E-06	389264.1	3866217.9	832.3	0.00	1.70	0.85	NO	
L0035442	0	0.22940E-06	389264.0	3866221.5	832.3	0.00	1.70	0.85	NO	
L0035443	0	0.22940E-06	389264.0	3866225.2	832.3	0.00	1.70	0.85	NO	
L0035444	0	0.22940E-06	389264.0	3866228.8	832.4	0.00	1.70	0.85	NO	
L0035445	0	0.22940E-06	389264.0	3866232.5	832.4	0.00	1.70	0.85	NO	
L0035446	0	0.22940E-06	389264.0	3866236.1	832.4	0.00	1.70	0.85	NO	
L0035447	0	0.22940E-06	389263.9	3866239.8	832.4	0.00	1.70	0.85	NO	
L0035448	0	0.22940E-06	389263.9	3866243.5	832.4	0.00	1.70	0.85	NO	
L0035449	0	0.22940E-06	389263.9	3866247.1	832.4	0.00	1.70	0.85	NO	
L0035450	0	0.22940E-06	389263.9	3866250.8	832.4	0.00	1.70	0.85	NO	
L0035451	0	0.22940E-06	389263.8	3866254.4	832.5	0.00	1.70	0.85	NO	
L0035452	0	0.22940E-06	389263.8	3866258.1	832.5	0.00	1.70	0.85	NO	
L0035453	0	0.22940E-06	389263.8	3866261.8	832.5	0.00	1.70	0.85	NO	
L0035454	0	0.22940E-06	389263.8	3866265.4	832.5	0.00	1.70	0.85	NO	
L0035455	0	0.22940E-06	389263.7	3866269.1	832.5	0.00	1.70	0.85	NO	
L0035456	0	0.22940E-06	389263.7	3866272.7	832.5	0.00	1.70	0.85	NO	
L0035457	0	0.22940E-06	389263.7	3866276.4	832.5	0.00	1.70	0.85	NO	
L0035458	0	0.22940E-06	389263.7	3866280.0	832.5	0.00	1.70	0.85	NO	
L0035459	0	0.22940E-06	389263.6	3866283.7	832.5	0.00	1.70	0.85	NO	
L0035460	0	0.22940E-06	389263.6	3866287.4	832.5	0.00	1.70	0.85	NO	
L0035461	0	0.22940E-06	389263.6	3866291.0	832.5	0.00	1.70	0.85	NO	
L0035462	0	0.22940E-06	389263.6	3866294.7	832.5	0.00	1.70	0.85	NO	
L0035463	0	0.22940E-06	389263.6	3866298.3	832.5	0.00	1.70	0.85	NO	
L0035464	0	0.22940E-06	389263.5	3866302.0	832.5	0.00	1.70	0.85	NO	

L0035465	0	0.22940E-06	389263.5	3866305.6	832.5	0.00	1.70	0.85	NO
L0035466	0	0.22940E-06	389263.5	3866309.3	832.5	0.00	1.70	0.85	NO
L0035467	0	0.22940E-06	389263.5	3866313.0	832.5	0.00	1.70	0.85	NO
L0035468	0	0.22940E-06	389263.4	3866316.6	832.5	0.00	1.70	0.85	NO
L0035469	0	0.22940E-06	389263.4	3866320.3	832.5	0.00	1.70	0.85	NO
L0035470	0	0.22940E-06	389263.4	3866323.9	832.5	0.00	1.70	0.85	NO
L0035471	0	0.22940E-06	389263.4	3866327.6	832.5	0.00	1.70	0.85	NO
L0035472	0	0.22940E-06	389263.3	3866331.2	832.5	0.00	1.70	0.85	NO
L0035473	0	0.22940E-06	389263.3	3866334.9	832.5	0.00	1.70	0.85	NO
L0035474	0	0.22940E-06	389263.3	3866338.6	832.5	0.00	1.70	0.85	NO
L0035475	0	0.22940E-06	389263.3	3866342.2	832.5	0.00	1.70	0.85	NO
L0035476	0	0.22940E-06	389263.2	3866345.9	832.6	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035477	0	0.22940E-06	389263.2	3866349.5	832.6	0.00	1.70	0.85	NO	
L0035478	0	0.22940E-06	389263.2	3866353.2	832.6	0.00	1.70	0.85	NO	
L0035479	0	0.22940E-06	389263.2	3866356.8	832.6	0.00	1.70	0.85	NO	
L0035480	0	0.22940E-06	389263.2	3866360.5	832.6	0.00	1.70	0.85	NO	
L0035481	0	0.22940E-06	389263.1	3866364.2	832.7	0.00	1.70	0.85	NO	
L0035482	0	0.22940E-06	389263.1	3866367.8	832.7	0.00	1.70	0.85	NO	
L0035483	0	0.22940E-06	389263.1	3866371.5	832.7	0.00	1.70	0.85	NO	
L0035484	0	0.22940E-06	389263.1	3866375.1	832.8	0.00	1.70	0.85	NO	
L0035485	0	0.22940E-06	389263.0	3866378.8	832.8	0.00	1.70	0.85	NO	
L0035486	0	0.22940E-06	389263.0	3866382.5	832.8	0.00	1.70	0.85	NO	
L0035487	0	0.22940E-06	389263.0	3866386.1	832.8	0.00	1.70	0.85	NO	
L0035488	0	0.22940E-06	389263.0	3866389.8	832.9	0.00	1.70	0.85	NO	
L0035489	0	0.22940E-06	389262.9	3866393.4	832.9	0.00	1.70	0.85	NO	
L0035490	0	0.22940E-06	389262.9	3866397.1	832.9	0.00	1.70	0.85	NO	
L0035491	0	0.22940E-06	389262.9	3866400.7	833.0	0.00	1.70	0.85	NO	
L0035492	0	0.22940E-06	389262.9	3866404.4	833.0	0.00	1.70	0.85	NO	
L0035493	0	0.22940E-06	389262.8	3866408.1	833.0	0.00	1.70	0.85	NO	
L0035494	0	0.22940E-06	389262.8	3866411.7	833.0	0.00	1.70	0.85	NO	
L0035495	0	0.22940E-06	389262.8	3866415.4	833.1	0.00	1.70	0.85	NO	
L0035496	0	0.22940E-06	389262.8	3866419.0	833.1	0.00	1.70	0.85	NO	
L0035497	0	0.22940E-06	389262.8	3866422.7	833.1	0.00	1.70	0.85	NO	
L0035498	0	0.22940E-06	389262.7	3866426.3	833.1	0.00	1.70	0.85	NO	
L0035499	0	0.22940E-06	389262.7	3866430.0	833.2	0.00	1.70	0.85	NO	
L0035500	0	0.22940E-06	389262.7	3866433.7	833.2	0.00	1.70	0.85	NO	
L0035501	0	0.22940E-06	389262.7	3866437.3	833.2	0.00	1.70	0.85	NO	

L0035502	0	0.22940E-06	389262.6	3866441.0	833.3	0.00	1.70	0.85	NO
L0035503	0	0.22940E-06	389262.6	3866444.6	833.3	0.00	1.70	0.85	NO
L0035504	0	0.22940E-06	389262.6	3866448.3	833.3	0.00	1.70	0.85	NO
L0035505	0	0.22940E-06	389262.6	3866451.9	833.4	0.00	1.70	0.85	NO
L0035506	0	0.22940E-06	389262.5	3866455.6	833.4	0.00	1.70	0.85	NO
L0035507	0	0.22940E-06	389262.5	3866459.3	833.4	0.00	1.70	0.85	NO
L0035508	0	0.22940E-06	389262.5	3866462.9	833.5	0.00	1.70	0.85	NO
L0035509	0	0.22940E-06	389262.5	3866466.6	833.5	0.00	1.70	0.85	NO
L0035510	0	0.22940E-06	389262.4	3866470.2	833.6	0.00	1.70	0.85	NO
L0035511	0	0.22940E-06	389262.4	3866473.9	833.6	0.00	1.70	0.85	NO
L0035512	0	0.22940E-06	389262.4	3866477.5	833.6	0.00	1.70	0.85	NO
L0035513	0	0.22940E-06	389262.4	3866481.2	833.7	0.00	1.70	0.85	NO
L0035514	0	0.22940E-06	389262.4	3866484.9	833.7	0.00	1.70	0.85	NO
L0035515	0	0.22940E-06	389262.3	3866488.5	833.8	0.00	1.70	0.85	NO
L0035516	0	0.22940E-06	389262.3	3866492.2	833.8	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035517	0	0.22940E-06	389262.3	3866495.8	833.8	0.00	1.70	0.85	NO	
L0035518	0	0.22940E-06	389262.3	3866499.5	833.9	0.00	1.70	0.85	NO	
L0035519	0	0.22940E-06	389262.2	3866503.1	833.9	0.00	1.70	0.85	NO	
L0035520	0	0.22940E-06	389262.2	3866506.8	833.9	0.00	1.70	0.85	NO	
L0035521	0	0.22940E-06	389262.2	3866510.5	834.0	0.00	1.70	0.85	NO	
L0035522	0	0.22940E-06	389262.2	3866514.1	834.0	0.00	1.70	0.85	NO	
L0035523	0	0.22940E-06	389262.1	3866517.8	834.1	0.00	1.70	0.85	NO	
L0035524	0	0.22940E-06	389262.1	3866521.4	834.1	0.00	1.70	0.85	NO	
L0035525	0	0.22940E-06	389262.1	3866525.1	834.1	0.00	1.70	0.85	NO	
L0035526	0	0.22940E-06	389262.1	3866528.8	834.2	0.00	1.70	0.85	NO	
L0035527	0	0.22940E-06	389262.0	3866532.4	834.2	0.00	1.70	0.85	NO	
L0035528	0	0.22940E-06	389262.0	3866536.1	834.2	0.00	1.70	0.85	NO	
L0035529	0	0.22940E-06	389262.0	3866539.7	834.3	0.00	1.70	0.85	NO	
L0035530	0	0.22940E-06	389262.0	3866543.4	834.3	0.00	1.70	0.85	NO	
L0035531	0	0.22940E-06	389262.0	3866547.0	834.3	0.00	1.70	0.85	NO	
L0035532	0	0.22940E-06	389261.9	3866550.7	834.4	0.00	1.70	0.85	NO	
L0035533	0	0.22940E-06	389261.9	3866554.4	834.4	0.00	1.70	0.85	NO	
L0035534	0	0.22940E-06	389261.9	3866558.0	834.4	0.00	1.70	0.85	NO	
L0035535	0	0.22940E-06	389261.9	3866561.7	834.4	0.00	1.70	0.85	NO	
L0035536	0	0.22940E-06	389261.8	3866565.3	834.4	0.00	1.70	0.85	NO	
L0035537	0	0.22940E-06	389261.8	3866569.0	834.4	0.00	1.70	0.85	NO	
L0035538	0	0.22940E-06	389261.8	3866572.6	834.4	0.00	1.70	0.85	NO	

L0035539	0	0.22940E-06	389261.8	3866576.3	834.4	0.00	1.70	0.85	NO
L0035540	0	0.22940E-06	389261.7	3866580.0	834.4	0.00	1.70	0.85	NO
L0035541	0	0.22940E-06	389261.7	3866583.6	834.4	0.00	1.70	0.85	NO
L0035542	0	0.22940E-06	389261.7	3866587.3	834.4	0.00	1.70	0.85	NO
L0035543	0	0.22940E-06	389261.7	3866590.9	834.4	0.00	1.70	0.85	NO
L0035544	0	0.22940E-06	389261.7	3866594.6	834.5	0.00	1.70	0.85	NO
L0035545	0	0.22940E-06	389261.6	3866598.2	834.5	0.00	1.70	0.85	NO
L0035546	0	0.22940E-06	389261.6	3866601.9	834.5	0.00	1.70	0.85	NO
L0035547	0	0.22940E-06	389261.6	3866605.6	834.5	0.00	1.70	0.85	NO
L0035548	0	0.22940E-06	389261.6	3866609.2	834.5	0.00	1.70	0.85	NO
L0035549	0	0.22940E-06	389261.5	3866612.9	834.5	0.00	1.70	0.85	NO
L0035550	0	0.22940E-06	389261.5	3866616.5	834.5	0.00	1.70	0.85	NO
L0035551	0	0.22940E-06	389261.5	3866620.2	834.5	0.00	1.70	0.85	NO
L0035552	0	0.22940E-06	389261.5	3866623.8	834.5	0.00	1.70	0.85	NO
L0035553	0	0.22940E-06	389261.4	3866627.5	834.6	0.00	1.70	0.85	NO
L0035554	0	0.22940E-06	389261.4	3866631.2	834.6	0.00	1.70	0.85	NO
L0035555	0	0.22940E-06	389261.4	3866634.8	834.6	0.00	1.70	0.85	NO
L0035556	0	0.22940E-06	389261.4	3866638.5	834.6	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035557	0	0.22940E-06	389261.3	3866642.1	834.6	0.00	1.70	0.85	NO	
L0035558	0	0.22940E-06	389261.3	3866645.8	834.6	0.00	1.70	0.85	NO	
L0035559	0	0.22940E-06	389261.3	3866649.4	834.7	0.00	1.70	0.85	NO	
L0035560	0	0.22940E-06	389261.3	3866653.1	834.7	0.00	1.70	0.85	NO	
L0035561	0	0.22940E-06	389261.3	3866656.8	834.7	0.00	1.70	0.85	NO	
L0035562	0	0.22940E-06	389261.2	3866660.4	834.8	0.00	1.70	0.85	NO	
L0035563	0	0.22940E-06	389261.2	3866664.1	834.8	0.00	1.70	0.85	NO	
L0035564	0	0.22940E-06	389261.2	3866667.7	834.8	0.00	1.70	0.85	NO	
L0035565	0	0.22940E-06	389261.2	3866671.4	834.8	0.00	1.70	0.85	NO	
L0035566	0	0.22940E-06	389261.1	3866675.1	834.9	0.00	1.70	0.85	NO	
L0035567	0	0.22940E-06	389261.1	3866678.7	834.8	0.00	1.70	0.85	NO	
L0035568	0	0.22940E-06	389261.1	3866682.4	834.8	0.00	1.70	0.85	NO	
L0035569	0	0.22940E-06	389261.1	3866686.0	834.7	0.00	1.70	0.85	NO	
L0035570	0	0.22940E-06	389261.0	3866689.7	834.6	0.00	1.70	0.85	NO	
L0035571	0	0.22940E-06	389261.0	3866693.3	834.6	0.00	1.70	0.85	NO	
L0035572	0	0.22940E-06	389261.0	3866697.0	834.5	0.00	1.70	0.85	NO	
L0035573	0	0.22940E-06	389261.0	3866700.7	834.5	0.00	1.70	0.85	NO	
L0035574	0	0.22940E-06	389260.9	3866704.3	834.4	0.00	1.70	0.85	NO	
L0035575	0	0.22940E-06	389260.9	3866708.0	834.3	0.00	1.70	0.85	NO	

L0035576	0	0.22940E-06	389260.9	3866711.6	834.3	0.00	1.70	0.85	NO
L0035577	0	0.22940E-06	389260.9	3866715.3	834.3	0.00	1.70	0.85	NO
L0035578	0	0.22940E-06	389260.9	3866718.9	834.2	0.00	1.70	0.85	NO
L0035579	0	0.22940E-06	389260.8	3866722.6	834.2	0.00	1.70	0.85	NO
L0035580	0	0.22940E-06	389260.8	3866726.3	834.1	0.00	1.70	0.85	NO
L0035581	0	0.22940E-06	389260.8	3866729.9	834.1	0.00	1.70	0.85	NO
L0035582	0	0.22940E-06	389260.8	3866733.6	834.1	0.00	1.70	0.85	NO
L0035583	0	0.22940E-06	389260.7	3866737.2	834.0	0.00	1.70	0.85	NO
L0035584	0	0.22940E-06	389260.7	3866740.9	834.0	0.00	1.70	0.85	NO
L0035585	0	0.22940E-06	389260.7	3866744.5	834.1	0.00	1.70	0.85	NO
L0035586	0	0.22940E-06	389260.7	3866748.2	834.1	0.00	1.70	0.85	NO
L0035587	0	0.22940E-06	389260.6	3866751.9	834.1	0.00	1.70	0.85	NO
L0035588	0	0.22940E-06	389260.6	3866755.5	834.1	0.00	1.70	0.85	NO
L0035589	0	0.22940E-06	389260.6	3866759.2	834.2	0.00	1.70	0.85	NO
L0035590	0	0.22940E-06	389260.6	3866762.8	834.2	0.00	1.70	0.85	NO
L0035591	0	0.22940E-06	389260.5	3866766.5	834.2	0.00	1.70	0.85	NO
L0035592	0	0.22940E-06	389260.5	3866770.1	834.2	0.00	1.70	0.85	NO
L0035593	0	0.22940E-06	389260.5	3866773.8	834.2	0.00	1.70	0.85	NO
L0035594	0	0.22940E-06	389260.5	3866777.5	834.2	0.00	1.70	0.85	NO
L0035595	0	0.22940E-06	389260.5	3866781.1	834.1	0.00	1.70	0.85	NO
L0035596	0	0.22940E-06	389260.4	3866784.8	834.1	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035597	0	0.22940E-06	389260.4	3866788.4	834.1	0.00	1.70	0.85	NO	
L0035598	0	0.22940E-06	389260.4	3866792.1	834.1	0.00	1.70	0.85	NO	
L0035599	0	0.22940E-06	389260.4	3866795.8	834.1	0.00	1.70	0.85	NO	
L0035600	0	0.22940E-06	389260.3	3866799.4	834.1	0.00	1.70	0.85	NO	
L0035601	0	0.22940E-06	389260.3	3866803.1	834.1	0.00	1.70	0.85	NO	
L0035602	0	0.22940E-06	389260.3	3866806.7	834.0	0.00	1.70	0.85	NO	
L0035603	0	0.22940E-06	389260.3	3866810.4	834.0	0.00	1.70	0.85	NO	
L0035604	0	0.22940E-06	389260.2	3866814.0	834.0	0.00	1.70	0.85	NO	
L0035605	0	0.22940E-06	389260.2	3866817.7	834.0	0.00	1.70	0.85	NO	
L0035606	0	0.22940E-06	389260.2	3866821.4	834.0	0.00	1.70	0.85	NO	
L0035607	0	0.22940E-06	389260.2	3866825.0	833.9	0.00	1.70	0.85	NO	
L0035608	0	0.22940E-06	389260.1	3866828.7	833.9	0.00	1.70	0.85	NO	
L0035609	0	0.22940E-06	389260.1	3866832.3	834.0	0.00	1.70	0.85	NO	
L0035610	0	0.22940E-06	389260.1	3866836.0	834.0	0.00	1.70	0.85	NO	
L0035611	0	0.22940E-06	389260.1	3866839.6	834.1	0.00	1.70	0.85	NO	
L0035612	0	0.22940E-06	389260.1	3866843.3	834.1	0.00	1.70	0.85	NO	

L0035613	0	0.22940E-06	389260.0	3866847.0	834.2	0.00	1.70	0.85	NO
L0035614	0	0.22940E-06	389260.0	3866850.6	834.2	0.00	1.70	0.85	NO
L0035615	0	0.22940E-06	389260.0	3866854.3	834.3	0.00	1.70	0.85	NO
L0035616	0	0.22940E-06	389260.0	3866857.9	834.4	0.00	1.70	0.85	NO
L0035617	0	0.22940E-06	389259.9	3866861.6	834.4	0.00	1.70	0.85	NO
L0035618	0	0.22940E-06	389259.9	3866865.2	834.5	0.00	1.70	0.85	NO
L0035619	0	0.22940E-06	389259.9	3866868.9	834.6	0.00	1.70	0.85	NO
L0035620	0	0.22940E-06	389259.9	3866872.6	834.6	0.00	1.70	0.85	NO
L0035621	0	0.22940E-06	389259.8	3866876.2	834.7	0.00	1.70	0.85	NO
L0035622	0	0.22940E-06	389259.8	3866879.9	834.8	0.00	1.70	0.85	NO
L0035623	0	0.22940E-06	389259.8	3866883.5	834.9	0.00	1.70	0.85	NO
L0035624	0	0.22940E-06	389259.8	3866887.2	834.9	0.00	1.70	0.85	NO
L0035625	0	0.22940E-06	389259.8	3866890.8	835.0	0.00	1.70	0.85	NO
L0035626	0	0.22940E-06	389259.7	3866894.5	835.2	0.00	1.70	0.85	NO
L0035627	0	0.22940E-06	389259.7	3866898.2	835.3	0.00	1.70	0.85	NO
L0035628	0	0.22940E-06	389259.7	3866901.8	835.5	0.00	1.70	0.85	NO
L0035629	0	0.22940E-06	389259.7	3866905.5	835.6	0.00	1.70	0.85	NO
L0035630	0	0.22940E-06	389259.6	3866909.1	835.8	0.00	1.70	0.85	NO
L0035631	0	0.22940E-06	389259.6	3866912.8	835.9	0.00	1.70	0.85	NO
L0035632	0	0.22940E-06	389259.6	3866916.4	836.1	0.00	1.70	0.85	NO
L0035633	0	0.22940E-06	389259.6	3866920.1	836.2	0.00	1.70	0.85	NO
L0035634	0	0.22940E-06	389259.5	3866923.8	836.3	0.00	1.70	0.85	NO
L0035635	0	0.22940E-06	389259.5	3866927.4	836.4	0.00	1.70	0.85	NO
L0035636	0	0.22940E-06	389259.5	3866931.1	836.5	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035637	0	0.22940E-06	389259.5	3866934.7	836.6	0.00	1.70	0.85	NO	
L0035638	0	0.22940E-06	389259.4	3866938.4	836.7	0.00	1.70	0.85	NO	
L0035639	0	0.22940E-06	389259.4	3866942.1	836.8	0.00	1.70	0.85	NO	
L0035640	0	0.22940E-06	389259.4	3866945.7	836.9	0.00	1.70	0.85	NO	
L0035641	0	0.22940E-06	389259.4	3866949.4	837.0	0.00	1.70	0.85	NO	
L0035642	0	0.22940E-06	389259.4	3866953.0	837.1	0.00	1.70	0.85	NO	
L0035643	0	0.22940E-06	389259.3	3866956.7	837.0	0.00	1.70	0.85	NO	
L0035644	0	0.22940E-06	389259.3	3866960.3	836.8	0.00	1.70	0.85	NO	
L0035645	0	0.22940E-06	389259.3	3866964.0	836.7	0.00	1.70	0.85	NO	
L0035646	0	0.22940E-06	389259.3	3866967.7	836.6	0.00	1.70	0.85	NO	
L0035647	0	0.22940E-06	389259.2	3866971.3	836.5	0.00	1.70	0.85	NO	
L0035648	0	0.22940E-06	389259.2	3866975.0	836.4	0.00	1.70	0.85	NO	
L0035649	0	0.22940E-06	389259.2	3866978.6	836.3	0.00	1.70	0.85	NO	

L0035650	0	0.22940E-06	389259.2	3866982.3	836.2	0.00	1.70	0.85	NO	
L0035651	0	0.22940E-06	389259.1	3866985.9	836.0	0.00	1.70	0.85	NO	
L0035652	0	0.22940E-06	389259.1	3866989.6	835.9	0.00	1.70	0.85	NO	
L0035653	0	0.22940E-06	389259.1	3866993.3	835.8	0.00	1.70	0.85	NO	
L0035654	0	0.22940E-06	389259.1	3866996.9	835.7	0.00	1.70	0.85	NO	
L0035655	0	0.22940E-06	389259.0	3867000.6	835.6	0.00	1.70	0.85	NO	
L0035656	0	0.22940E-06	389259.0	3867004.2	835.5	0.00	1.70	0.85	NO	
L0035657	0	0.22940E-06	389259.0	3867007.9	835.4	0.00	1.70	0.85	NO	
L0035658	0	0.22940E-06	389259.0	3867011.5	835.2	0.00	1.70	0.85	NO	
L0035659	0	0.22940E-06	389259.0	3867015.2	835.2	0.00	1.70	0.85	NO	
L0035660	0	0.22940E-06	389258.9	3867018.9	835.2	0.00	1.70	0.85	NO	
L0035661	0	0.22940E-06	389258.9	3867022.5	835.2	0.00	1.70	0.85	NO	
L0035662	0	0.22940E-06	389258.9	3867026.2	835.2	0.00	1.70	0.85	NO	
L0035663	0	0.22940E-06	389258.9	3867029.8	835.2	0.00	1.70	0.85	NO	
L0035664	0	0.22940E-06	389258.8	3867033.5	835.2	0.00	1.70	0.85	NO	
L0035665	0	0.22940E-06	389258.8	3867037.1	835.3	0.00	1.70	0.85	NO	
L0035666	0	0.22940E-06	389258.8	3867040.8	835.3	0.00	1.70	0.85	NO	
L0035667	0	0.22940E-06	389258.8	3867044.5	835.3	0.00	1.70	0.85	NO	
L0035668	0	0.22940E-06	389258.7	3867048.1	835.4	0.00	1.70	0.85	NO	
L0035669	0	0.22940E-06	389258.7	3867051.8	835.4	0.00	1.70	0.85	NO	
L0035670	0	0.22940E-06	389258.7	3867055.4	835.5	0.00	1.70	0.85	NO	
L0035671	0	0.22940E-06	389258.7	3867059.1	835.6	0.00	1.70	0.85	NO	
L0035672	0	0.22940E-06	389258.6	3867062.8	835.7	0.00	1.70	0.85	NO	
L0035673	0	0.22940E-06	389258.6	3867066.4	835.8	0.00	1.70	0.85	NO	
L0035674	0	0.22940E-06	389258.6	3867070.1	835.8	0.00	1.70	0.85	NO	
L0035675	0	0.22940E-06	389258.6	3867073.7	835.9	0.00	1.70	0.85	NO	
L0035676	0	0.22940E-06	389258.6	3867077.4	836.0	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035677	0	0.22940E-06	389258.5	3867081.0	836.0	0.00	1.70	0.85	NO	
L0035678	0	0.22940E-06	389258.5	3867084.7	836.1	0.00	1.70	0.85	NO	
L0035679	0	0.22940E-06	389258.5	3867088.4	836.2	0.00	1.70	0.85	NO	
L0035680	0	0.22940E-06	389258.5	3867092.0	836.3	0.00	1.70	0.85	NO	
L0035681	0	0.22940E-06	389258.4	3867095.7	836.3	0.00	1.70	0.85	NO	
L0035682	0	0.22940E-06	389258.4	3867099.3	836.4	0.00	1.70	0.85	NO	
L0035683	0	0.22940E-06	389258.4	3867103.0	836.5	0.00	1.70	0.85	NO	
L0035684	0	0.22940E-06	389258.4	3867106.6	836.5	0.00	1.70	0.85	NO	
L0035685	0	0.22940E-06	389258.3	3867110.3	836.6	0.00	1.70	0.85	NO	
L0035686	0	0.22940E-06	389258.3	3867114.0	836.7	0.00	1.70	0.85	NO	

L0035687	0	0.22940E-06	389258.3	3867117.6	836.8	0.00	1.70	0.85	NO
L0035688	0	0.22940E-06	389258.3	3867121.3	836.9	0.00	1.70	0.85	NO
L0035689	0	0.22940E-06	389258.2	3867124.9	837.0	0.00	1.70	0.85	NO
L0035690	0	0.22940E-06	389258.2	3867128.6	837.1	0.00	1.70	0.85	NO
L0035691	0	0.22940E-06	389258.2	3867132.2	837.2	0.00	1.70	0.85	NO
L0035692	0	0.22940E-06	389258.2	3867135.9	837.3	0.00	1.70	0.85	NO
L0035693	0	0.22940E-06	389258.2	3867139.6	837.4	0.00	1.70	0.85	NO
L0035694	0	0.22940E-06	389258.1	3867143.2	837.5	0.00	1.70	0.85	NO
L0035695	0	0.22940E-06	389258.1	3867146.9	837.6	0.00	1.70	0.85	NO
L0035696	0	0.22940E-06	389258.1	3867150.5	837.7	0.00	1.70	0.85	NO
L0035697	0	0.22940E-06	389258.1	3867154.2	837.7	0.00	1.70	0.85	NO
L0035698	0	0.22940E-06	389258.0	3867157.8	837.8	0.00	1.70	0.85	NO
L0035699	0	0.22940E-06	389258.0	3867161.5	837.9	0.00	1.70	0.85	NO
L0035700	0	0.22940E-06	389258.0	3867165.2	838.0	0.00	1.70	0.85	NO
L0035701	0	0.22940E-06	389258.0	3867168.8	838.0	0.00	1.70	0.85	NO
L0035702	0	0.22940E-06	389257.9	3867172.5	838.1	0.00	1.70	0.85	NO
L0035703	0	0.22940E-06	389257.9	3867176.1	838.2	0.00	1.70	0.85	NO
L0035704	0	0.22940E-06	389257.9	3867179.8	838.2	0.00	1.70	0.85	NO
L0035705	0	0.22940E-06	389257.9	3867183.4	838.3	0.00	1.70	0.85	NO
L0035706	0	0.22940E-06	389257.8	3867187.1	838.3	0.00	1.70	0.85	NO
L0035707	0	0.22940E-06	389257.8	3867190.8	838.4	0.00	1.70	0.85	NO
L0035708	0	0.22940E-06	389257.8	3867194.4	838.4	0.00	1.70	0.85	NO
L0035709	0	0.22940E-06	389257.8	3867198.1	838.5	0.00	1.70	0.85	NO
L0035710	0	0.22940E-06	389257.8	3867201.7	838.5	0.00	1.70	0.85	NO
L0035711	0	0.22940E-06	389257.7	3867205.4	838.6	0.00	1.70	0.85	NO
L0035712	0	0.22940E-06	389257.7	3867209.1	838.6	0.00	1.70	0.85	NO
L0035713	0	0.22940E-06	389257.7	3867212.7	838.7	0.00	1.70	0.85	NO
L0035714	0	0.22940E-06	389257.7	3867216.4	838.7	0.00	1.70	0.85	NO
L0035715	0	0.22940E-06	389257.6	3867220.0	838.8	0.00	1.70	0.85	NO
L0035716	0	0.22940E-06	389257.6	3867223.7	838.8	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035717	0	0.22940E-06	389257.6	3867227.3	838.8	0.00	1.70	0.85	NO	
L0035718	0	0.22940E-06	389257.6	3867231.0	838.9	0.00	1.70	0.85	NO	
L0035719	0	0.22940E-06	389257.5	3867234.7	838.9	0.00	1.70	0.85	NO	
L0035720	0	0.22940E-06	389257.5	3867238.3	839.0	0.00	1.70	0.85	NO	
L0035721	0	0.22940E-06	389257.5	3867242.0	839.1	0.00	1.70	0.85	NO	
L0035722	0	0.22940E-06	389257.5	3867245.6	839.2	0.00	1.70	0.85	NO	
L0035723	0	0.22940E-06	389257.5	3867249.3	839.2	0.00	1.70	0.85	NO	

L0035724	0	0.22940E-06	389257.4	3867252.9	839.3	0.00	1.70	0.85	NO
L0035725	0	0.22940E-06	389257.4	3867256.6	839.4	0.00	1.70	0.85	NO
L0035726	0	0.22940E-06	389257.4	3867260.3	839.4	0.00	1.70	0.85	NO
L0035727	0	0.22940E-06	389257.4	3867263.9	839.5	0.00	1.70	0.85	NO
L0035728	0	0.22940E-06	389257.3	3867267.6	839.6	0.00	1.70	0.85	NO
L0035729	0	0.22940E-06	389257.3	3867271.2	839.7	0.00	1.70	0.85	NO
L0035730	0	0.22940E-06	389257.3	3867274.9	839.8	0.00	1.70	0.85	NO
L0035731	0	0.22940E-06	389257.3	3867278.5	839.8	0.00	1.70	0.85	NO
L0035732	0	0.22940E-06	389257.2	3867282.2	839.9	0.00	1.70	0.85	NO
L0035733	0	0.22940E-06	389257.2	3867285.9	840.0	0.00	1.70	0.85	NO
L0035734	0	0.22940E-06	389257.2	3867289.5	840.1	0.00	1.70	0.85	NO
L0035735	0	0.22940E-06	389257.2	3867293.2	840.1	0.00	1.70	0.85	NO
L0035736	0	0.22940E-06	389257.1	3867296.8	840.1	0.00	1.70	0.85	NO
L0035737	0	0.22940E-06	389257.1	3867300.5	840.2	0.00	1.70	0.85	NO
L0035738	0	0.22940E-06	389257.1	3867304.1	840.2	0.00	1.70	0.85	NO
L0035739	0	0.22940E-06	389257.1	3867307.8	840.3	0.00	1.70	0.85	NO
L0035740	0	0.22940E-06	389257.1	3867311.5	840.3	0.00	1.70	0.85	NO
L0035741	0	0.22940E-06	389257.0	3867315.1	840.3	0.00	1.70	0.85	NO
L0035742	0	0.22940E-06	389257.0	3867318.8	840.4	0.00	1.70	0.85	NO
L0035743	0	0.22940E-06	389257.0	3867322.4	840.4	0.00	1.70	0.85	NO
L0035744	0	0.22940E-06	389257.0	3867326.1	840.4	0.00	1.70	0.85	NO
L0035745	0	0.22940E-06	389256.9	3867329.8	840.4	0.00	1.70	0.85	NO
L0035746	0	0.22940E-06	389256.9	3867333.4	840.5	0.00	1.70	0.85	NO
L0035747	0	0.22940E-06	389256.9	3867337.1	840.5	0.00	1.70	0.85	NO
L0035748	0	0.22940E-06	389256.9	3867340.7	840.5	0.00	1.70	0.85	NO
L0035749	0	0.22940E-06	389256.8	3867344.4	840.5	0.00	1.70	0.85	NO
L0035750	0	0.22940E-06	389256.8	3867348.0	840.6	0.00	1.70	0.85	NO
L0035751	0	0.22940E-06	389256.8	3867351.7	840.6	0.00	1.70	0.85	NO
L0035752	0	0.22940E-06	389256.8	3867355.4	840.6	0.00	1.70	0.85	NO
L0035753	0	0.22940E-06	389256.7	3867359.0	840.6	0.00	1.70	0.85	NO
L0035754	0	0.22940E-06	389256.7	3867362.7	840.6	0.00	1.70	0.85	NO
L0035755	0	0.22940E-06	389256.7	3867366.3	840.6	0.00	1.70	0.85	NO
L0035756	0	0.22940E-06	389256.7	3867370.0	840.6	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035757	0	0.22940E-06	389256.7	3867373.6	840.6	0.00	1.70	0.85	NO	
L0035758	0	0.22940E-06	389256.6	3867377.3	840.6	0.00	1.70	0.85	NO	
L0035759	0	0.22940E-06	389256.6	3867381.0	840.6	0.00	1.70	0.85	NO	
L0035760	0	0.22940E-06	389256.6	3867384.6	840.6	0.00	1.70	0.85	NO	

L0035761	0	0.22940E-06	389256.6	3867388.3	840.6	0.00	1.70	0.85	NO
L0035762	0	0.22940E-06	389256.5	3867391.9	840.6	0.00	1.70	0.85	NO
L0035763	0	0.22940E-06	389256.5	3867395.6	840.6	0.00	1.70	0.85	NO
L0035764	0	0.22940E-06	389256.5	3867399.2	840.6	0.00	1.70	0.85	NO
L0035765	0	0.22940E-06	389256.5	3867402.9	840.6	0.00	1.70	0.85	NO
L0035766	0	0.22940E-06	389256.4	3867406.6	840.5	0.00	1.70	0.85	NO
L0035767	0	0.22940E-06	389256.4	3867410.2	840.5	0.00	1.70	0.85	NO
L0035768	0	0.22940E-06	389256.4	3867413.9	840.5	0.00	1.70	0.85	NO
L0035769	0	0.22940E-06	389256.4	3867417.5	840.5	0.00	1.70	0.85	NO
L0035770	0	0.22940E-06	389256.3	3867421.2	840.5	0.00	1.70	0.85	NO
L0035771	0	0.22940E-06	389256.3	3867424.8	840.5	0.00	1.70	0.85	NO
L0035772	0	0.22940E-06	389256.3	3867428.5	840.6	0.00	1.70	0.85	NO
L0035773	0	0.22940E-06	389256.3	3867432.2	840.6	0.00	1.70	0.85	NO
L0035774	0	0.22940E-06	389256.3	3867435.8	840.6	0.00	1.70	0.85	NO
L0035775	0	0.22940E-06	389256.2	3867439.5	840.6	0.00	1.70	0.85	NO
L0035776	0	0.22940E-06	389256.2	3867443.1	840.6	0.00	1.70	0.85	NO
L0035777	0	0.22940E-06	389256.2	3867446.8	840.7	0.00	1.70	0.85	NO
L0035778	0	0.22940E-06	389256.2	3867450.4	840.7	0.00	1.70	0.85	NO
L0035779	0	0.22940E-06	389256.1	3867454.1	840.8	0.00	1.70	0.85	NO
L0035780	0	0.22940E-06	389256.1	3867457.8	840.8	0.00	1.70	0.85	NO
L0035781	0	0.22940E-06	389256.1	3867461.4	840.8	0.00	1.70	0.85	NO
L0035782	0	0.22940E-06	389256.1	3867465.1	840.9	0.00	1.70	0.85	NO
L0035783	0	0.22940E-06	389256.0	3867468.7	840.9	0.00	1.70	0.85	NO
L0035784	0	0.22940E-06	389256.0	3867472.4	841.0	0.00	1.70	0.85	NO
L0035785	0	0.22940E-06	389256.0	3867476.1	841.0	0.00	1.70	0.85	NO
L0035786	0	0.22940E-06	389256.0	3867479.7	841.0	0.00	1.70	0.85	NO
L0035787	0	0.22940E-06	389255.9	3867483.4	841.0	0.00	1.70	0.85	NO
L0035788	0	0.22940E-06	389255.9	3867487.0	841.0	0.00	1.70	0.85	NO
L0035789	0	0.22940E-06	389255.9	3867490.7	841.1	0.00	1.70	0.85	NO
L0035790	0	0.22940E-06	389255.9	3867494.3	841.1	0.00	1.70	0.85	NO
L0035791	0	0.22940E-06	389255.9	3867498.0	841.1	0.00	1.70	0.85	NO
L0035792	0	0.22940E-06	389255.8	3867501.7	841.1	0.00	1.70	0.85	NO
L0035793	0	0.22940E-06	389255.8	3867505.3	841.1	0.00	1.70	0.85	NO
L0035794	0	0.22940E-06	389255.8	3867509.0	841.1	0.00	1.70	0.85	NO
L0035795	0	0.22940E-06	389255.8	3867512.6	841.1	0.00	1.70	0.85	NO
L0035796	0	0.22940E-06	389255.7	3867516.3	841.2	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035797	0	0.22940E-06	389255.7	3867519.9	841.2	0.00	1.70	0.85	NO	

L0035798	0	0.22940E-06	389255.7	3867523.6	841.2	0.00	1.70	0.85	NO
L0035799	0	0.22940E-06	389255.7	3867527.3	841.2	0.00	1.70	0.85	NO
L0035800	0	0.22940E-06	389255.6	3867530.9	841.3	0.00	1.70	0.85	NO
L0035801	0	0.22940E-06	389255.6	3867534.6	841.3	0.00	1.70	0.85	NO
L0035802	0	0.22940E-06	389255.6	3867538.2	841.3	0.00	1.70	0.85	NO
L0035803	0	0.22940E-06	389255.6	3867541.9	841.3	0.00	1.70	0.85	NO
L0035804	0	0.22940E-06	389255.5	3867545.5	841.3	0.00	1.70	0.85	NO
L0035805	0	0.22940E-06	389255.5	3867549.2	841.3	0.00	1.70	0.85	NO
L0035806	0	0.22940E-06	389255.5	3867552.9	841.3	0.00	1.70	0.85	NO
L0035807	0	0.22940E-06	389255.5	3867556.5	841.3	0.00	1.70	0.85	NO
L0035808	0	0.22940E-06	389255.5	3867560.2	841.3	0.00	1.70	0.85	NO
L0035809	0	0.22940E-06	389255.4	3867563.8	841.3	0.00	1.70	0.85	NO
L0035810	0	0.22940E-06	389255.4	3867567.5	841.3	0.00	1.70	0.85	NO
L0035811	0	0.22940E-06	389255.4	3867571.1	841.3	0.00	1.70	0.85	NO
L0035812	0	0.22940E-06	389255.4	3867574.8	841.2	0.00	1.70	0.85	NO
L0035813	0	0.22940E-06	389255.3	3867578.5	841.2	0.00	1.70	0.85	NO
L0035814	0	0.22940E-06	389255.3	3867582.1	841.1	0.00	1.70	0.85	NO
L0035815	0	0.22940E-06	389255.3	3867585.8	841.1	0.00	1.70	0.85	NO
L0035816	0	0.22940E-06	389255.3	3867589.4	841.0	0.00	1.70	0.85	NO
L0035817	0	0.22940E-06	389255.2	3867593.1	841.0	0.00	1.70	0.85	NO
L0035818	0	0.22940E-06	389255.2	3867596.7	840.9	0.00	1.70	0.85	NO
L0035819	0	0.22940E-06	389255.2	3867600.4	840.9	0.00	1.70	0.85	NO
L0035820	0	0.22940E-06	389255.2	3867604.1	840.9	0.00	1.70	0.85	NO
L0035821	0	0.22940E-06	389255.1	3867607.7	840.9	0.00	1.70	0.85	NO
L0035822	0	0.22940E-06	389255.1	3867611.4	840.8	0.00	1.70	0.85	NO
L0035823	0	0.22940E-06	389255.1	3867615.0	840.8	0.00	1.70	0.85	NO
L0035824	0	0.22940E-06	389255.1	3867618.7	840.8	0.00	1.70	0.85	NO
L0035825	0	0.22940E-06	389255.1	3867622.4	840.8	0.00	1.70	0.85	NO
L0035826	0	0.22940E-06	389255.0	3867626.0	840.8	0.00	1.70	0.85	NO
L0035827	0	0.22940E-06	389255.0	3867629.7	840.7	0.00	1.70	0.85	NO
L0035828	0	0.22940E-06	389255.0	3867633.3	840.8	0.00	1.70	0.85	NO
L0035829	0	0.22940E-06	389255.0	3867637.0	840.8	0.00	1.70	0.85	NO
L0035830	0	0.22940E-06	389254.9	3867640.6	840.9	0.00	1.70	0.85	NO
L0035831	0	0.22940E-06	389254.9	3867644.3	840.9	0.00	1.70	0.85	NO
L0035832	0	0.22940E-06	389254.9	3867648.0	841.0	0.00	1.70	0.85	NO
L0035833	0	0.22940E-06	389254.9	3867651.6	841.1	0.00	1.70	0.85	NO
L0035834	0	0.22940E-06	389254.8	3867655.3	841.1	0.00	1.70	0.85	NO
L0035835	0	0.22940E-06	389254.8	3867658.9	841.2	0.00	1.70	0.85	NO
L0035836	0	0.22940E-06	389254.8	3867662.6	841.2	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY

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SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035877	0	0.22940E-06	389253.8	3867812.5	842.9	0.00	1.70	0.85	NO	
L0035878	0	0.22940E-06	389253.8	3867816.2	843.0	0.00	1.70	0.85	NO	
L0035879	0	0.22940E-06	389253.8	3867819.9	843.0	0.00	1.70	0.85	NO	
L0035880	0	0.22940E-06	389253.8	3867823.5	843.1	0.00	1.70	0.85	NO	
L0035881	0	0.22940E-06	389253.7	3867827.2	843.1	0.00	1.70	0.85	NO	
L0035882	0	0.22940E-06	389253.7	3867830.8	843.2	0.00	1.70	0.85	NO	
L0035883	0	0.22940E-06	389253.7	3867834.5	843.2	0.00	1.70	0.85	NO	
L0035884	0	0.22940E-06	389253.7	3867838.1	843.3	0.00	1.70	0.85	NO	
L0035885	0	0.22940E-06	389253.6	3867841.8	843.3	0.00	1.70	0.85	NO	
L0035886	0	0.22940E-06	389253.6	3867845.5	843.4	0.00	1.70	0.85	NO	
L0035887	0	0.22940E-06	389253.6	3867849.1	843.4	0.00	1.70	0.85	NO	
L0035888	0	0.22940E-06	389253.6	3867852.8	843.4	0.00	1.70	0.85	NO	
L0035889	0	0.22940E-06	389253.6	3867856.4	843.5	0.00	1.70	0.85	NO	
L0035890	0	0.22940E-06	389253.5	3867860.1	843.5	0.00	1.70	0.85	NO	
L0035891	0	0.22940E-06	389253.5	3867863.7	843.5	0.00	1.70	0.85	NO	
L0035892	0	0.22940E-06	389253.5	3867867.4	843.6	0.00	1.70	0.85	NO	
L0035893	0	0.22940E-06	389253.5	3867871.1	843.6	0.00	1.70	0.85	NO	
L0035894	0	0.22940E-06	389253.4	3867874.7	843.6	0.00	1.70	0.85	NO	
L0035895	0	0.22940E-06	389253.4	3867878.4	843.6	0.00	1.70	0.85	NO	
L0035896	0	0.22940E-06	389253.4	3867882.0	843.7	0.00	1.70	0.85	NO	
L0035897	0	0.22940E-06	389253.4	3867885.7	843.7	0.00	1.70	0.85	NO	
L0035898	0	0.22940E-06	389253.3	3867889.4	843.7	0.00	1.70	0.85	NO	
L0035899	0	0.22940E-06	389253.3	3867893.0	843.7	0.00	1.70	0.85	NO	
L0035900	0	0.22940E-06	389253.3	3867896.7	843.8	0.00	1.70	0.85	NO	
L0035901	0	0.22940E-06	389253.3	3867900.3	843.8	0.00	1.70	0.85	NO	
L0035902	0	0.22940E-06	389253.2	3867904.0	843.8	0.00	1.70	0.85	NO	
L0035903	0	0.22940E-06	389253.2	3867907.6	843.8	0.00	1.70	0.85	NO	
L0035904	0	0.22940E-06	389253.2	3867911.3	843.9	0.00	1.70	0.85	NO	
L0035905	0	0.22940E-06	389253.2	3867915.0	843.9	0.00	1.70	0.85	NO	
L0035906	0	0.22940E-06	389253.2	3867918.6	843.9	0.00	1.70	0.85	NO	
L0035907	0	0.22940E-06	389253.1	3867922.3	844.0	0.00	1.70	0.85	NO	
L0035908	0	0.22940E-06	389253.1	3867925.9	844.0	0.00	1.70	0.85	NO	
L0035909	0	0.22940E-06	389253.1	3867929.6	844.0	0.00	1.70	0.85	NO	
L0035910	0	0.22940E-06	389253.1	3867933.2	844.0	0.00	1.70	0.85	NO	
L0035911	0	0.22940E-06	389253.0	3867936.9	844.1	0.00	1.70	0.85	NO	
L0035912	0	0.22940E-06	389253.0	3867940.6	844.1	0.00	1.70	0.85	NO	
L0035913	0	0.22940E-06	389253.0	3867944.2	844.1	0.00	1.70	0.85	NO	
L0035914	0	0.22940E-06	389253.0	3867947.9	844.1	0.00	1.70	0.85	NO	
L0035915	0	0.22940E-06	389252.9	3867951.5	844.2	0.00	1.70	0.85	NO	
L0035916	0	0.22940E-06	389252.9	3867955.2	844.2	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035917	0	0.22940E-06	389252.9	3867958.8	844.2	0.00	1.70	0.85	NO	
L0035918	0	0.22940E-06	389252.9	3867962.5	844.2	0.00	1.70	0.85	NO	
L0035919	0	0.22940E-06	389252.8	3867966.2	844.2	0.00	1.70	0.85	NO	
L0035920	0	0.22940E-06	389252.8	3867969.8	844.2	0.00	1.70	0.85	NO	
L0035921	0	0.22940E-06	389252.8	3867973.5	844.2	0.00	1.70	0.85	NO	
L0035922	0	0.22940E-06	389252.8	3867977.1	844.2	0.00	1.70	0.85	NO	
L0035923	0	0.22940E-06	389252.8	3867980.8	844.2	0.00	1.70	0.85	NO	
L0035924	0	0.22940E-06	389252.7	3867984.4	844.2	0.00	1.70	0.85	NO	
L0035925	0	0.22940E-06	389252.7	3867988.1	844.2	0.00	1.70	0.85	NO	
L0035926	0	0.22940E-06	389252.7	3867991.8	844.2	0.00	1.70	0.85	NO	
L0035927	0	0.22940E-06	389252.7	3867995.4	844.2	0.00	1.70	0.85	NO	
L0035928	0	0.22940E-06	389252.6	3867999.1	844.2	0.00	1.70	0.85	NO	
L0035929	0	0.22940E-06	389252.6	3868002.7	844.2	0.00	1.70	0.85	NO	
L0035930	0	0.22940E-06	389252.6	3868006.4	844.2	0.00	1.70	0.85	NO	
L0035931	0	0.22940E-06	389252.6	3868010.0	844.3	0.00	1.70	0.85	NO	
L0035932	0	0.22940E-06	389252.5	3868013.7	844.3	0.00	1.70	0.85	NO	
L0035933	0	0.22940E-06	389252.5	3868017.4	844.3	0.00	1.70	0.85	NO	
L0035934	0	0.22940E-06	389252.5	3868021.0	844.3	0.00	1.70	0.85	NO	
L0035935	0	0.22940E-06	389252.5	3868024.7	844.3	0.00	1.70	0.85	NO	
L0035936	0	0.22940E-06	389252.5	3868028.3	844.4	0.00	1.70	0.85	NO	
L0035937	0	0.22940E-06	389252.4	3868032.0	844.4	0.00	1.70	0.85	NO	
L0035938	0	0.22940E-06	389252.4	3868035.7	844.4	0.00	1.70	0.85	NO	
L0035939	0	0.22940E-06	389252.4	3868039.3	844.4	0.00	1.70	0.85	NO	
L0035940	0	0.22940E-06	389252.4	3868043.0	844.4	0.00	1.70	0.85	NO	
L0035941	0	0.22940E-06	389252.3	3868046.6	844.4	0.00	1.70	0.85	NO	
L0035942	0	0.22940E-06	389252.3	3868050.3	844.4	0.00	1.70	0.85	NO	
L0035943	0	0.22940E-06	389252.3	3868053.9	844.4	0.00	1.70	0.85	NO	
L0035944	0	0.22940E-06	389252.3	3868057.6	844.4	0.00	1.70	0.85	NO	
L0035945	0	0.22940E-06	389252.2	3868061.3	844.4	0.00	1.70	0.85	NO	
L0035946	0	0.22940E-06	389252.2	3868064.9	844.4	0.00	1.70	0.85	NO	
L0035947	0	0.22940E-06	389252.2	3868068.6	844.4	0.00	1.70	0.85	NO	
L0035948	0	0.22940E-06	389252.2	3868072.2	844.4	0.00	1.70	0.85	NO	
L0035949	0	0.22940E-06	389252.1	3868075.9	844.4	0.00	1.70	0.85	NO	
L0035950	0	0.22940E-06	389252.1	3868079.5	844.4	0.00	1.70	0.85	NO	
L0035951	0	0.22940E-06	389252.1	3868083.2	844.4	0.00	1.70	0.85	NO	
L0035952	0	0.22940E-06	389252.1	3868086.9	844.3	0.00	1.70	0.85	NO	
L0035953	0	0.22940E-06	389252.1	3868090.5	844.3	0.00	1.70	0.85	NO	
L0035954	0	0.22940E-06	389252.0	3868094.2	844.3	0.00	1.70	0.85	NO	
L0035955	0	0.22940E-06	389252.0	3868097.8	844.4	0.00	1.70	0.85	NO	
L0035956	0	0.22940E-06	389252.0	3868101.5	844.4	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035957	0	0.22940E-06	389252.0	3868105.1	844.4	0.00	1.70	0.85	NO	
L0035958	0	0.22940E-06	389251.9	3868108.8	844.4	0.00	1.70	0.85	NO	
L0035959	0	0.22940E-06	389251.9	3868112.5	844.5	0.00	1.70	0.85	NO	
L0035960	0	0.22940E-06	389251.9	3868116.1	844.5	0.00	1.70	0.85	NO	
L0035961	0	0.22940E-06	389251.9	3868119.8	844.5	0.00	1.70	0.85	NO	
L0035962	0	0.22940E-06	389251.8	3868123.4	844.5	0.00	1.70	0.85	NO	
L0035963	0	0.22940E-06	389251.8	3868127.1	844.6	0.00	1.70	0.85	NO	
L0035964	0	0.22940E-06	389251.8	3868130.7	844.7	0.00	1.70	0.85	NO	
L0035965	0	0.22940E-06	389251.8	3868134.4	844.7	0.00	1.70	0.85	NO	
L0035966	0	0.22940E-06	389251.7	3868138.1	844.8	0.00	1.70	0.85	NO	
L0035967	0	0.22940E-06	389251.7	3868141.7	844.8	0.00	1.70	0.85	NO	
L0035968	0	0.22940E-06	389251.7	3868145.4	844.9	0.00	1.70	0.85	NO	
L0035969	0	0.22940E-06	389251.7	3868149.0	845.0	0.00	1.70	0.85	NO	
L0035970	0	0.22940E-06	389251.7	3868152.7	845.0	0.00	1.70	0.85	NO	
L0035971	0	0.22940E-06	389251.6	3868156.3	845.1	0.00	1.70	0.85	NO	
L0035972	0	0.22940E-06	389251.6	3868160.0	845.2	0.00	1.70	0.85	NO	
L0035973	0	0.22940E-06	389251.6	3868163.7	845.2	0.00	1.70	0.85	NO	
L0035974	0	0.22940E-06	389251.6	3868167.3	845.3	0.00	1.70	0.85	NO	
L0035975	0	0.22940E-06	389251.5	3868171.0	845.3	0.00	1.70	0.85	NO	
L0035976	0	0.22940E-06	389251.5	3868174.6	845.4	0.00	1.70	0.85	NO	
L0035977	0	0.22940E-06	389251.5	3868178.3	845.4	0.00	1.70	0.85	NO	
L0035978	0	0.22940E-06	389251.5	3868182.0	845.5	0.00	1.70	0.85	NO	
L0035979	0	0.22940E-06	389251.4	3868185.6	845.6	0.00	1.70	0.85	NO	
L0035980	0	0.22940E-06	389251.4	3868189.3	845.6	0.00	1.70	0.85	NO	
L0035981	0	0.22940E-06	389251.4	3868192.9	845.7	0.00	1.70	0.85	NO	
L0035982	0	0.22940E-06	389251.4	3868196.6	845.7	0.00	1.70	0.85	NO	
L0035983	0	0.22940E-06	389251.3	3868200.2	845.8	0.00	1.70	0.85	NO	
L0035984	0	0.22940E-06	389251.3	3868203.9	845.9	0.00	1.70	0.85	NO	
L0035985	0	0.22940E-06	389251.3	3868207.6	845.9	0.00	1.70	0.85	NO	
L0035986	0	0.22940E-06	389251.3	3868211.2	846.0	0.00	1.70	0.85	NO	
L0035987	0	0.22940E-06	389251.3	3868214.9	846.0	0.00	1.70	0.85	NO	
L0035988	0	0.22940E-06	389251.2	3868218.5	846.1	0.00	1.70	0.85	NO	
L0035989	0	0.22940E-06	389251.2	3868222.2	846.1	0.00	1.70	0.85	NO	
L0035990	0	0.22940E-06	389251.2	3868225.8	846.2	0.00	1.70	0.85	NO	
L0035991	0	0.22940E-06	389251.2	3868229.5	846.2	0.00	1.70	0.85	NO	
L0035992	0	0.22940E-06	389251.1	3868233.2	846.3	0.00	1.70	0.85	NO	
L0035993	0	0.22940E-06	389251.1	3868236.8	846.4	0.00	1.70	0.85	NO	
L0035994	0	0.22940E-06	389251.1	3868240.5	846.4	0.00	1.70	0.85	NO	
L0035995	0	0.69600E-07	389248.2	3868249.1	846.6	0.00	1.70	0.85	NO	
L0035996	0	0.69600E-07	389244.5	3868249.2	846.6	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0035997	0	0.69600E-07	389240.9	3868249.2	846.6	0.00	1.70	0.85	NO	
L0035998	0	0.69600E-07	389237.2	3868249.2	846.6	0.00	1.70	0.85	NO	
L0035999	0	0.69600E-07	389233.5	3868249.2	846.7	0.00	1.70	0.85	NO	
L0036000	0	0.69600E-07	389229.9	3868249.2	846.7	0.00	1.70	0.85	NO	
L0036001	0	0.69600E-07	389226.2	3868249.2	846.7	0.00	1.70	0.85	NO	
L0036002	0	0.69600E-07	389222.6	3868249.3	846.8	0.00	1.70	0.85	NO	
L0036003	0	0.69600E-07	389218.9	3868249.3	846.8	0.00	1.70	0.85	NO	
L0036004	0	0.69600E-07	389215.3	3868249.3	846.8	0.00	1.70	0.85	NO	
L0036005	0	0.69600E-07	389211.6	3868249.3	846.9	0.00	1.70	0.85	NO	
L0036006	0	0.69600E-07	389207.9	3868249.3	846.9	0.00	1.70	0.85	NO	
L0036007	0	0.69600E-07	389204.3	3868249.4	846.9	0.00	1.70	0.85	NO	
L0036008	0	0.69600E-07	389200.6	3868249.4	847.0	0.00	1.70	0.85	NO	
L0036009	0	0.69600E-07	389197.0	3868249.4	847.0	0.00	1.70	0.85	NO	
L0036010	0	0.69600E-07	389193.3	3868249.4	847.1	0.00	1.70	0.85	NO	
L0036011	0	0.69600E-07	389189.7	3868249.4	847.1	0.00	1.70	0.85	NO	
L0036012	0	0.69600E-07	389186.0	3868249.4	847.2	0.00	1.70	0.85	NO	
L0036013	0	0.69600E-07	389182.3	3868249.5	847.2	0.00	1.70	0.85	NO	
L0036014	0	0.69600E-07	389178.7	3868249.5	847.3	0.00	1.70	0.85	NO	
L0036015	0	0.69600E-07	389175.0	3868249.5	847.3	0.00	1.70	0.85	NO	
L0036016	0	0.69600E-07	389171.4	3868249.5	847.3	0.00	1.70	0.85	NO	
L0036017	0	0.69600E-07	389167.7	3868249.5	847.4	0.00	1.70	0.85	NO	
L0036018	0	0.69600E-07	389164.1	3868249.6	847.4	0.00	1.70	0.85	NO	
L0036019	0	0.69600E-07	389160.4	3868249.6	847.5	0.00	1.70	0.85	NO	
L0036020	0	0.69600E-07	389156.7	3868249.6	847.5	0.00	1.70	0.85	NO	
L0036021	0	0.69600E-07	389153.1	3868249.6	847.6	0.00	1.70	0.85	NO	
L0036022	0	0.69600E-07	389149.4	3868249.6	847.6	0.00	1.70	0.85	NO	
L0036023	0	0.69600E-07	389145.8	3868249.7	847.7	0.00	1.70	0.85	NO	
L0036024	0	0.69600E-07	389142.1	3868249.7	847.7	0.00	1.70	0.85	NO	
L0036025	0	0.69600E-07	389138.5	3868249.7	847.8	0.00	1.70	0.85	NO	
L0036026	0	0.69600E-07	389134.8	3868249.7	847.8	0.00	1.70	0.85	NO	
L0036027	0	0.69600E-07	389131.1	3868249.7	847.8	0.00	1.70	0.85	NO	
L0036028	0	0.69600E-07	389127.5	3868249.7	847.9	0.00	1.70	0.85	NO	
L0036029	0	0.69600E-07	389123.8	3868249.8	847.9	0.00	1.70	0.85	NO	
L0036030	0	0.69600E-07	389120.2	3868249.8	848.0	0.00	1.70	0.85	NO	
L0036031	0	0.69600E-07	389116.5	3868249.8	848.0	0.00	1.70	0.85	NO	
L0036032	0	0.69600E-07	389112.8	3868249.8	848.0	0.00	1.70	0.85	NO	
L0036033	0	0.69600E-07	389109.2	3868249.8	848.1	0.00	1.70	0.85	NO	

L0036034	0	0.69600E-07	389105.5	3868249.9	848.1	0.00	1.70	0.85	NO	
L0036035	0	0.69600E-07	389101.9	3868249.9	848.2	0.00	1.70	0.85	NO	
L0036036	0	0.69600E-07	389098.2	3868249.9	848.2	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0036037	0	0.69600E-07	389094.6	3868249.9	848.2	0.00	1.70	0.85	NO	
L0036038	0	0.69600E-07	389090.9	3868249.9	848.3	0.00	1.70	0.85	NO	
L0036039	0	0.69600E-07	389087.2	3868249.9	848.3	0.00	1.70	0.85	NO	
L0036040	0	0.69600E-07	389083.6	3868250.0	848.4	0.00	1.70	0.85	NO	
L0036041	0	0.69600E-07	389079.9	3868250.0	848.4	0.00	1.70	0.85	NO	
L0036042	0	0.69600E-07	389076.3	3868250.0	848.4	0.00	1.70	0.85	NO	
L0036043	0	0.69600E-07	389072.6	3868250.0	848.5	0.00	1.70	0.85	NO	
L0036044	0	0.69600E-07	389069.0	3868250.0	848.5	0.00	1.70	0.85	NO	
L0036045	0	0.69600E-07	389065.3	3868250.1	848.6	0.00	1.70	0.85	NO	
L0036046	0	0.69600E-07	389061.6	3868250.1	848.6	0.00	1.70	0.85	NO	
L0036047	0	0.69600E-07	389058.0	3868250.1	848.6	0.00	1.70	0.85	NO	
L0036048	0	0.69600E-07	389054.3	3868250.1	848.7	0.00	1.70	0.85	NO	
L0036049	0	0.69600E-07	389050.7	3868250.1	848.7	0.00	1.70	0.85	NO	
L0036050	0	0.69600E-07	389047.0	3868250.1	848.8	0.00	1.70	0.85	NO	
L0036051	0	0.69600E-07	389043.4	3868250.2	848.8	0.00	1.70	0.85	NO	
L0036052	0	0.69600E-07	389039.7	3868250.2	848.9	0.00	1.70	0.85	NO	
L0036053	0	0.69600E-07	389036.0	3868250.2	848.9	0.00	1.70	0.85	NO	
L0036054	0	0.69600E-07	389032.4	3868250.2	848.9	0.00	1.70	0.85	NO	
L0036055	0	0.69600E-07	389028.7	3868250.2	849.0	0.00	1.70	0.85	NO	
L0036056	0	0.69600E-07	389025.1	3868250.3	849.0	0.00	1.70	0.85	NO	
L0036057	0	0.69600E-07	389021.4	3868250.3	849.1	0.00	1.70	0.85	NO	
L0036058	0	0.69600E-07	389017.8	3868250.3	849.1	0.00	1.70	0.85	NO	
L0036059	0	0.69600E-07	389014.1	3868250.3	849.2	0.00	1.70	0.85	NO	
L0036060	0	0.69600E-07	389010.4	3868250.3	849.2	0.00	1.70	0.85	NO	
L0036061	0	0.69600E-07	389006.8	3868250.3	849.2	0.00	1.70	0.85	NO	
L0036062	0	0.69600E-07	389003.1	3868250.4	849.3	0.00	1.70	0.85	NO	
L0036063	0	0.69600E-07	388999.5	3868250.4	849.3	0.00	1.70	0.85	NO	
L0036064	0	0.69600E-07	388995.8	3868250.4	849.4	0.00	1.70	0.85	NO	
L0036065	0	0.69600E-07	388992.1	3868250.4	849.4	0.00	1.70	0.85	NO	
L0036066	0	0.69600E-07	388988.5	3868250.4	849.5	0.00	1.70	0.85	NO	
L0036067	0	0.69600E-07	388984.8	3868250.5	849.5	0.00	1.70	0.85	NO	
L0036068	0	0.69600E-07	388981.2	3868250.5	849.6	0.00	1.70	0.85	NO	
L0036069	0	0.69600E-07	388977.5	3868250.5	849.6	0.00	1.70	0.85	NO	
L0036070	0	0.69600E-07	388973.9	3868250.5	849.7	0.00	1.70	0.85	NO	

L0036071	0	0.69600E-07	388970.2	3868250.5	849.7	0.00	1.70	0.85	NO
L0036072	0	0.69600E-07	388966.5	3868250.5	849.8	0.00	1.70	0.85	NO
L0036073	0	0.69600E-07	388962.9	3868250.6	849.8	0.00	1.70	0.85	NO
L0036074	0	0.69600E-07	388959.2	3868250.6	849.9	0.00	1.70	0.85	NO
L0036075	0	0.69600E-07	388955.6	3868250.6	849.9	0.00	1.70	0.85	NO
L0036076	0	0.69600E-07	388951.9	3868250.6	850.0	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0036077	0	0.69600E-07	388948.3	3868250.6	850.0	0.00	1.70	0.85	NO	
L0036078	0	0.69600E-07	388944.6	3868250.7	850.1	0.00	1.70	0.85	NO	
L0036079	0	0.69600E-07	388940.9	3868250.7	850.1	0.00	1.70	0.85	NO	
L0036080	0	0.69600E-07	388937.3	3868250.7	850.1	0.00	1.70	0.85	NO	
L0036081	0	0.69600E-07	388933.6	3868250.7	850.2	0.00	1.70	0.85	NO	
L0036082	0	0.69600E-07	388930.0	3868250.7	850.2	0.00	1.70	0.85	NO	
L0036083	0	0.69600E-07	388926.3	3868250.8	850.3	0.00	1.70	0.85	NO	
L0036084	0	0.69600E-07	388922.7	3868250.8	850.3	0.00	1.70	0.85	NO	
L0036085	0	0.69600E-07	388919.0	3868250.8	850.4	0.00	1.70	0.85	NO	
L0036086	0	0.69600E-07	388915.3	3868250.8	850.4	0.00	1.70	0.85	NO	
L0036087	0	0.69600E-07	388911.7	3868250.8	850.4	0.00	1.70	0.85	NO	
L0036088	0	0.69600E-07	388908.0	3868250.8	850.5	0.00	1.70	0.85	NO	
L0036089	0	0.69600E-07	388904.4	3868250.9	850.5	0.00	1.70	0.85	NO	
L0036090	0	0.69600E-07	388900.7	3868250.9	850.5	0.00	1.70	0.85	NO	
L0036091	0	0.69600E-07	388897.1	3868250.9	850.6	0.00	1.70	0.85	NO	
L0036092	0	0.69600E-07	388893.4	3868250.9	850.6	0.00	1.70	0.85	NO	
L0036093	0	0.69600E-07	388889.7	3868250.9	850.6	0.00	1.70	0.85	NO	
L0036094	0	0.69600E-07	388886.1	3868251.0	850.7	0.00	1.70	0.85	NO	
L0036095	0	0.69600E-07	388882.4	3868251.0	850.7	0.00	1.70	0.85	NO	
L0036096	0	0.69600E-07	388878.8	3868251.0	850.7	0.00	1.70	0.85	NO	
L0036097	0	0.69600E-07	388875.1	3868251.0	850.8	0.00	1.70	0.85	NO	
L0036098	0	0.69600E-07	388871.5	3868251.0	850.8	0.00	1.70	0.85	NO	
L0036099	0	0.69600E-07	388867.8	3868251.0	850.8	0.00	1.70	0.85	NO	
L0036100	0	0.69600E-07	388864.1	3868251.1	850.9	0.00	1.70	0.85	NO	
L0036101	0	0.69600E-07	388860.5	3868251.1	850.9	0.00	1.70	0.85	NO	
L0036102	0	0.69600E-07	388856.8	3868251.1	850.9	0.00	1.70	0.85	NO	
L0036103	0	0.69600E-07	388853.2	3868251.1	851.0	0.00	1.70	0.85	NO	
L0036104	0	0.69600E-07	388849.5	3868251.1	851.0	0.00	1.70	0.85	NO	
L0036105	0	0.69600E-07	388845.8	3868251.2	851.1	0.00	1.70	0.85	NO	
L0036106	0	0.69600E-07	388842.2	3868251.2	851.1	0.00	1.70	0.85	NO	
L0036107	0	0.69600E-07	388838.5	3868251.2	851.1	0.00	1.70	0.85	NO	

L0036108	0	0.69600E-07	388834.9	3868251.2	851.2	0.00	1.70	0.85	NO
L0036109	0	0.69600E-07	388831.2	3868251.2	851.2	0.00	1.70	0.85	NO
L0036110	0	0.69600E-07	388827.6	3868251.2	851.2	0.00	1.70	0.85	NO
L0036111	0	0.69600E-07	388823.9	3868251.3	851.2	0.00	1.70	0.85	NO
L0036112	0	0.69600E-07	388820.2	3868251.3	851.3	0.00	1.70	0.85	NO
L0036113	0	0.69600E-07	388816.6	3868251.3	851.3	0.00	1.70	0.85	NO
L0036114	0	0.69600E-07	388812.9	3868251.3	851.3	0.00	1.70	0.85	NO
L0036115	0	0.69600E-07	388809.3	3868251.3	851.3	0.00	1.70	0.85	NO
L0036116	0	0.69600E-07	388805.6	3868251.4	851.4	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0036117	0	0.69600E-07	388802.0	3868251.4	851.4	0.00	1.70	0.85	NO	
L0036118	0	0.69600E-07	388798.3	3868251.4	851.4	0.00	1.70	0.85	NO	
L0036119	0	0.69600E-07	388794.6	3868251.4	851.4	0.00	1.70	0.85	NO	
L0036120	0	0.69600E-07	388791.0	3868251.4	851.4	0.00	1.70	0.85	NO	
L0036121	0	0.69600E-07	388787.3	3868251.4	851.4	0.00	1.70	0.85	NO	
L0036122	0	0.69600E-07	388783.7	3868251.5	851.5	0.00	1.70	0.85	NO	
L0036123	0	0.69600E-07	388780.0	3868251.5	851.5	0.00	1.70	0.85	NO	
L0036124	0	0.69600E-07	388776.4	3868251.5	851.5	0.00	1.70	0.85	NO	
L0036125	0	0.69600E-07	388772.7	3868251.5	851.5	0.00	1.70	0.85	NO	
L0036126	0	0.69600E-07	388769.0	3868251.5	851.5	0.00	1.70	0.85	NO	
L0036127	0	0.69600E-07	388765.4	3868251.6	851.5	0.00	1.70	0.85	NO	
L0036128	0	0.69600E-07	388761.7	3868251.6	851.6	0.00	1.70	0.85	NO	
L0036129	0	0.69600E-07	388758.1	3868251.6	851.6	0.00	1.70	0.85	NO	
L0036130	0	0.69600E-07	388754.4	3868251.6	851.6	0.00	1.70	0.85	NO	
L0036131	0	0.69600E-07	388750.8	3868251.6	851.7	0.00	1.70	0.85	NO	
L0036132	0	0.69600E-07	388747.1	3868251.6	851.7	0.00	1.70	0.85	NO	
L0036133	0	0.69600E-07	388743.4	3868251.7	851.7	0.00	1.70	0.85	NO	
L0036134	0	0.69600E-07	388739.8	3868251.7	851.8	0.00	1.70	0.85	NO	
L0036135	0	0.69600E-07	388736.1	3868251.7	851.9	0.00	1.70	0.85	NO	
L0036136	0	0.69600E-07	388732.5	3868251.7	851.9	0.00	1.70	0.85	NO	
L0036137	0	0.69600E-07	388728.8	3868251.7	852.0	0.00	1.70	0.85	NO	
L0036138	0	0.69600E-07	388725.1	3868251.8	852.1	0.00	1.70	0.85	NO	
L0036139	0	0.69600E-07	388721.5	3868251.8	852.1	0.00	1.70	0.85	NO	
L0036140	0	0.69600E-07	388717.8	3868251.8	852.2	0.00	1.70	0.85	NO	
L0036141	0	0.69600E-07	388714.2	3868251.8	852.3	0.00	1.70	0.85	NO	
L0036142	0	0.69600E-07	388710.5	3868251.8	852.4	0.00	1.70	0.85	NO	
L0036143	0	0.69600E-07	388706.9	3868251.8	852.5	0.00	1.70	0.85	NO	
L0036144	0	0.69600E-07	388703.2	3868251.9	852.6	0.00	1.70	0.85	NO	

L0036145	0	0.69600E-07	388699.5	3868251.9	852.8	0.00	1.70	0.85	NO
L0036146	0	0.69600E-07	388695.9	3868251.9	852.9	0.00	1.70	0.85	NO
L0036147	0	0.69600E-07	388692.2	3868251.9	853.0	0.00	1.70	0.85	NO
L0036148	0	0.69600E-07	388688.6	3868251.9	853.1	0.00	1.70	0.85	NO
L0036149	0	0.69600E-07	388684.9	3868252.0	853.2	0.00	1.70	0.85	NO
L0036150	0	0.69600E-07	388681.3	3868252.0	853.2	0.00	1.70	0.85	NO
L0036151	0	0.69600E-07	388677.6	3868252.0	853.3	0.00	1.70	0.85	NO
L0036152	0	0.69600E-07	388673.9	3868252.0	853.4	0.00	1.70	0.85	NO
L0036153	0	0.69600E-07	388670.3	3868252.0	853.5	0.00	1.70	0.85	NO
L0036154	0	0.69600E-07	388666.6	3868252.1	853.6	0.00	1.70	0.85	NO
L0036155	0	0.69600E-07	388663.0	3868252.1	853.7	0.00	1.70	0.85	NO
L0036156	0	0.69600E-07	388659.3	3868252.1	853.7	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0036157	0	0.69600E-07	388655.7	3868252.1	853.8	0.00	1.70	0.85	NO	
L0036158	0	0.69600E-07	388652.0	3868252.1	853.8	0.00	1.70	0.85	NO	
L0036159	0	0.69600E-07	388648.3	3868252.1	853.9	0.00	1.70	0.85	NO	
L0036160	0	0.69600E-07	388644.7	3868252.2	853.9	0.00	1.70	0.85	NO	
L0036161	0	0.69600E-07	388641.0	3868252.2	854.0	0.00	1.70	0.85	NO	
L0036162	0	0.69600E-07	388637.4	3868252.2	854.0	0.00	1.70	0.85	NO	
L0036163	0	0.69600E-07	388633.7	3868252.2	854.0	0.00	1.70	0.85	NO	
L0036164	0	0.69600E-07	388630.1	3868252.2	854.0	0.00	1.70	0.85	NO	
L0036165	0	0.69600E-07	388626.4	3868252.3	854.1	0.00	1.70	0.85	NO	
L0036166	0	0.69600E-07	388622.7	3868252.3	854.1	0.00	1.70	0.85	NO	
L0036167	0	0.69600E-07	388619.1	3868252.3	854.1	0.00	1.70	0.85	NO	
L0036168	0	0.69600E-07	388615.4	3868252.3	854.1	0.00	1.70	0.85	NO	
L0036169	0	0.69600E-07	388611.8	3868252.3	854.2	0.00	1.70	0.85	NO	
L0036170	0	0.69600E-07	388608.1	3868252.3	854.2	0.00	1.70	0.85	NO	
L0036171	0	0.69600E-07	388604.4	3868252.4	854.2	0.00	1.70	0.85	NO	
L0036172	0	0.69600E-07	388600.8	3868252.4	854.3	0.00	1.70	0.85	NO	
L0036173	0	0.69600E-07	388597.1	3868252.4	854.3	0.00	1.70	0.85	NO	
L0036174	0	0.69600E-07	388593.5	3868252.4	854.3	0.00	1.70	0.85	NO	
L0036175	0	0.69600E-07	388589.8	3868252.4	854.4	0.00	1.70	0.85	NO	
L0036176	0	0.69600E-07	388586.2	3868252.5	854.4	0.00	1.70	0.85	NO	
L0036177	0	0.69600E-07	388582.5	3868252.5	854.5	0.00	1.70	0.85	NO	
L0036178	0	0.69600E-07	388578.8	3868252.5	854.5	0.00	1.70	0.85	NO	
L0036179	0	0.69600E-07	388575.2	3868252.5	854.6	0.00	1.70	0.85	NO	
L0036180	0	0.69600E-07	388571.5	3868252.5	854.6	0.00	1.70	0.85	NO	
L0036181	0	0.69600E-07	388567.9	3868252.5	854.7	0.00	1.70	0.85	NO	

L0036182	0	0.69600E-07	388564.2	3868252.6	854.8	0.00	1.70	0.85	NO
L0036183	0	0.69600E-07	388560.6	3868252.6	854.8	0.00	1.70	0.85	NO
L0036184	0	0.69600E-07	388556.9	3868252.6	854.9	0.00	1.70	0.85	NO
L0036185	0	0.69600E-07	388553.2	3868252.6	855.0	0.00	1.70	0.85	NO
L0036186	0	0.69600E-07	388549.6	3868252.6	855.0	0.00	1.70	0.85	NO
L0036187	0	0.69600E-07	388545.9	3868252.7	855.1	0.00	1.70	0.85	NO
L0036188	0	0.69600E-07	388542.3	3868252.7	855.2	0.00	1.70	0.85	NO
L0036189	0	0.69600E-07	388538.6	3868252.7	855.2	0.00	1.70	0.85	NO
L0036190	0	0.69600E-07	388535.0	3868252.7	855.3	0.00	1.70	0.85	NO
L0036191	0	0.69600E-07	388531.3	3868252.7	855.4	0.00	1.70	0.85	NO
L0036192	0	0.69600E-07	388527.6	3868252.7	855.4	0.00	1.70	0.85	NO
L0036193	0	0.69600E-07	388524.0	3868252.8	855.5	0.00	1.70	0.85	NO
L0036194	0	0.69600E-07	388520.3	3868252.8	855.5	0.00	1.70	0.85	NO
L0036195	0	0.69600E-07	388516.7	3868252.8	855.6	0.00	1.70	0.85	NO
L0036196	0	0.69600E-07	388513.0	3868252.8	855.6	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0036197	0	0.69600E-07	388509.4	3868252.8	855.7	0.00	1.70	0.85	NO	
L0036198	0	0.69600E-07	388505.7	3868252.9	855.7	0.00	1.70	0.85	NO	
L0036199	0	0.69600E-07	388502.0	3868252.9	855.8	0.00	1.70	0.85	NO	
L0036200	0	0.69600E-07	388498.4	3868252.9	855.8	0.00	1.70	0.85	NO	
L0036201	0	0.69600E-07	388494.7	3868252.9	855.9	0.00	1.70	0.85	NO	
L0036202	0	0.69600E-07	388491.1	3868252.9	855.9	0.00	1.70	0.85	NO	
L0036203	0	0.69600E-07	388487.4	3868252.9	856.0	0.00	1.70	0.85	NO	
L0036204	0	0.69600E-07	388483.8	3868253.0	856.0	0.00	1.70	0.85	NO	
L0036205	0	0.69600E-07	388480.1	3868253.0	856.0	0.00	1.70	0.85	NO	
L0036206	0	0.69600E-07	388476.4	3868253.0	856.1	0.00	1.70	0.85	NO	
L0036207	0	0.69600E-07	388472.8	3868253.0	856.1	0.00	1.70	0.85	NO	
L0036208	0	0.69600E-07	388469.1	3868253.0	856.1	0.00	1.70	0.85	NO	
L0036209	0	0.69600E-07	388465.5	3868253.1	856.2	0.00	1.70	0.85	NO	
L0036210	0	0.69600E-07	388461.8	3868253.1	856.2	0.00	1.70	0.85	NO	
L0036211	0	0.69600E-07	388458.1	3868253.1	856.2	0.00	1.70	0.85	NO	
L0036212	0	0.69600E-07	388454.5	3868253.1	856.3	0.00	1.70	0.85	NO	
L0036213	0	0.69600E-07	388450.8	3868253.1	856.3	0.00	1.70	0.85	NO	
L0036214	0	0.69600E-07	388447.2	3868253.1	856.4	0.00	1.70	0.85	NO	
L0036215	0	0.69600E-07	388443.5	3868253.2	856.4	0.00	1.70	0.85	NO	
L0036216	0	0.69600E-07	388439.9	3868253.2	856.5	0.00	1.70	0.85	NO	
L0036217	0	0.69600E-07	388436.2	3868253.2	856.5	0.00	1.70	0.85	NO	
L0036218	0	0.69600E-07	388432.5	3868253.2	856.6	0.00	1.70	0.85	NO	

L0036219	0	0.69600E-07	388428.9	3868253.2	856.6	0.00	1.70	0.85	NO
L0036220	0	0.69600E-07	388425.2	3868253.3	856.7	0.00	1.70	0.85	NO
L0036221	0	0.69600E-07	388421.6	3868253.3	856.7	0.00	1.70	0.85	NO
L0036222	0	0.69600E-07	388417.9	3868253.3	856.8	0.00	1.70	0.85	NO
L0036223	0	0.69600E-07	388414.3	3868253.3	856.8	0.00	1.70	0.85	NO
L0036224	0	0.69600E-07	388410.6	3868253.3	856.9	0.00	1.70	0.85	NO
L0036225	0	0.69600E-07	388406.9	3868253.4	856.9	0.00	1.70	0.85	NO
L0036226	0	0.69600E-07	388403.3	3868253.4	857.0	0.00	1.70	0.85	NO
L0036227	0	0.69600E-07	388399.6	3868253.4	857.1	0.00	1.70	0.85	NO
L0036228	0	0.69600E-07	388396.0	3868253.4	857.1	0.00	1.70	0.85	NO
L0036229	0	0.69600E-07	388392.3	3868253.4	857.2	0.00	1.70	0.85	NO
L0036230	0	0.69600E-07	388388.7	3868253.4	857.2	0.00	1.70	0.85	NO
L0036231	0	0.69600E-07	388385.0	3868253.5	857.3	0.00	1.70	0.85	NO
L0036232	0	0.69600E-07	388381.3	3868253.5	857.3	0.00	1.70	0.85	NO
L0036233	0	0.69600E-07	388377.7	3868253.5	857.4	0.00	1.70	0.85	NO
L0036234	0	0.69600E-07	388374.0	3868253.5	857.4	0.00	1.70	0.85	NO
L0036235	0	0.69600E-07	388370.4	3868253.5	857.5	0.00	1.70	0.85	NO
L0036236	0	0.69600E-07	388366.7	3868253.6	857.6	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0036237	0	0.69600E-07	388363.0	3868253.6	857.6	0.00	1.70	0.85	NO	
L0036238	0	0.69600E-07	388359.4	3868253.6	857.7	0.00	1.70	0.85	NO	
L0036239	0	0.69600E-07	388355.7	3868253.6	857.7	0.00	1.70	0.85	NO	
L0036240	0	0.69600E-07	388352.1	3868253.6	857.8	0.00	1.70	0.85	NO	
L0036241	0	0.69600E-07	388348.4	3868253.6	857.8	0.00	1.70	0.85	NO	
L0036242	0	0.69600E-07	388344.8	3868253.7	857.9	0.00	1.70	0.85	NO	
L0036243	0	0.69600E-07	388341.1	3868253.7	857.9	0.00	1.70	0.85	NO	
L0036244	0	0.69600E-07	388337.4	3868253.7	858.0	0.00	1.70	0.85	NO	
L0036245	0	0.69600E-07	388333.8	3868253.7	858.0	0.00	1.70	0.85	NO	
L0036246	0	0.69600E-07	388330.1	3868253.7	858.1	0.00	1.70	0.85	NO	
L0036247	0	0.69600E-07	388326.5	3868253.8	858.1	0.00	1.70	0.85	NO	
L0036248	0	0.69600E-07	388322.8	3868253.8	858.2	0.00	1.70	0.85	NO	
L0036249	0	0.69600E-07	388319.2	3868253.8	858.3	0.00	1.70	0.85	NO	
L0036250	0	0.69600E-07	388315.5	3868253.8	858.3	0.00	1.70	0.85	NO	
L0036251	0	0.69600E-07	388311.8	3868253.8	858.4	0.00	1.70	0.85	NO	
L0036252	0	0.69600E-07	388308.2	3868253.8	858.5	0.00	1.70	0.85	NO	
L0036253	0	0.69600E-07	388304.5	3868253.9	858.5	0.00	1.70	0.85	NO	
L0036254	0	0.69600E-07	388300.9	3868253.9	858.6	0.00	1.70	0.85	NO	
L0036255	0	0.69600E-07	388297.2	3868253.9	858.7	0.00	1.70	0.85	NO	

L0036256	0	0.69600E-07	388293.6	3868253.9	858.8	0.00	1.70	0.85	NO
L0036257	0	0.69600E-07	388289.9	3868253.9	858.8	0.00	1.70	0.85	NO
L0036258	0	0.69600E-07	388286.2	3868254.0	858.9	0.00	1.70	0.85	NO
L0036259	0	0.69600E-07	388282.6	3868254.0	859.0	0.00	1.70	0.85	NO
L0036260	0	0.69600E-07	388278.9	3868254.0	859.0	0.00	1.70	0.85	NO
L0036261	0	0.69600E-07	388275.3	3868254.0	859.1	0.00	1.70	0.85	NO
L0036262	0	0.69600E-07	388271.6	3868254.0	859.2	0.00	1.70	0.85	NO
L0036263	0	0.69600E-07	388268.0	3868254.0	859.2	0.00	1.70	0.85	NO
L0036264	0	0.69600E-07	388264.3	3868254.1	859.3	0.00	1.70	0.85	NO
L0036265	0	0.69600E-07	388260.6	3868254.1	859.4	0.00	1.70	0.85	NO
L0036266	0	0.69600E-07	388257.0	3868254.1	859.4	0.00	1.70	0.85	NO
L0036267	0	0.69600E-07	388253.3	3868254.1	859.4	0.00	1.70	0.85	NO
L0036268	0	0.69600E-07	388249.7	3868254.1	859.5	0.00	1.70	0.85	NO
L0036269	0	0.69600E-07	388246.0	3868254.2	859.5	0.00	1.70	0.85	NO
L0036270	0	0.69600E-07	388242.4	3868254.2	859.6	0.00	1.70	0.85	NO
L0036271	0	0.69600E-07	388238.7	3868254.2	859.6	0.00	1.70	0.85	NO
L0036272	0	0.69600E-07	388235.0	3868254.2	859.6	0.00	1.70	0.85	NO
L0036273	0	0.69600E-07	388231.4	3868254.2	859.7	0.00	1.70	0.85	NO
L0036274	0	0.69600E-07	388227.7	3868254.2	859.7	0.00	1.70	0.85	NO
L0036275	0	0.69600E-07	388224.1	3868254.3	859.7	0.00	1.70	0.85	NO
L0036276	0	0.69600E-07	388220.4	3868254.3	859.8	0.00	1.70	0.85	NO

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*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0036277	0	0.69600E-07	388216.7	3868254.3	859.8	0.00	1.70	0.85	NO	
L0036278	0	0.69600E-07	388213.1	3868254.3	859.8	0.00	1.70	0.85	NO	
L0036279	0	0.69600E-07	388209.4	3868254.3	859.8	0.00	1.70	0.85	NO	
L0036280	0	0.69600E-07	388205.8	3868254.4	859.9	0.00	1.70	0.85	NO	
L0036281	0	0.69600E-07	388202.1	3868254.4	859.9	0.00	1.70	0.85	NO	
L0036282	0	0.69600E-07	388198.5	3868254.4	859.9	0.00	1.70	0.85	NO	
L0036283	0	0.69600E-07	388194.8	3868254.4	860.0	0.00	1.70	0.85	NO	
L0036284	0	0.69600E-07	388191.1	3868254.4	860.0	0.00	1.70	0.85	NO	
L0036285	0	0.69600E-07	388187.5	3868254.4	860.0	0.00	1.70	0.85	NO	
L0036286	0	0.69600E-07	388183.8	3868254.5	860.1	0.00	1.70	0.85	NO	
L0036287	0	0.69600E-07	388180.2	3868254.5	860.1	0.00	1.70	0.85	NO	
L0036288	0	0.69600E-07	388176.5	3868254.5	860.2	0.00	1.70	0.85	NO	
L0036289	0	0.69600E-07	388172.9	3868254.5	860.2	0.00	1.70	0.85	NO	
L0036290	0	0.69600E-07	388169.2	3868254.5	860.3	0.00	1.70	0.85	NO	
L0036291	0	0.69600E-07	388165.5	3868254.6	860.3	0.00	1.70	0.85	NO	
L0036292	0	0.69600E-07	388161.9	3868254.6	860.4	0.00	1.70	0.85	NO	

L0036293	0	0.69600E-07	388158.2	3868254.6	860.5	0.00	1.70	0.85	NO
L0036294	0	0.69600E-07	388154.6	3868254.6	860.5	0.00	1.70	0.85	NO
L0036295	0	0.69600E-07	388150.9	3868254.6	860.6	0.00	1.70	0.85	NO
L0036296	0	0.69600E-07	388147.3	3868254.7	860.6	0.00	1.70	0.85	NO
L0036297	0	0.69600E-07	388143.6	3868254.7	860.7	0.00	1.70	0.85	NO
L0036298	0	0.69600E-07	388139.9	3868254.7	860.8	0.00	1.70	0.85	NO
L0036299	0	0.69600E-07	388136.3	3868254.7	860.8	0.00	1.70	0.85	NO
L0036300	0	0.69600E-07	388132.6	3868254.7	860.9	0.00	1.70	0.85	NO
L0036301	0	0.69600E-07	388129.0	3868254.7	860.9	0.00	1.70	0.85	NO
L0036302	0	0.69600E-07	388125.3	3868254.8	861.0	0.00	1.70	0.85	NO
L0036303	0	0.69600E-07	388121.7	3868254.8	861.0	0.00	1.70	0.85	NO
L0036304	0	0.69600E-07	388118.0	3868254.8	861.1	0.00	1.70	0.85	NO
L0036305	0	0.69600E-07	388114.3	3868254.8	861.2	0.00	1.70	0.85	NO
L0036306	0	0.69600E-07	388110.7	3868254.8	861.2	0.00	1.70	0.85	NO
L0036307	0	0.69600E-07	388107.0	3868254.9	861.3	0.00	1.70	0.85	NO
L0036308	0	0.69600E-07	388103.4	3868254.9	861.3	0.00	1.70	0.85	NO
L0036309	0	0.69600E-07	388099.7	3868254.9	861.3	0.00	1.70	0.85	NO
L0036310	0	0.69600E-07	388096.0	3868254.9	861.4	0.00	1.70	0.85	NO
L0036311	0	0.69600E-07	388092.4	3868254.9	861.4	0.00	1.70	0.85	NO
L0036312	0	0.69600E-07	388088.7	3868254.9	861.4	0.00	1.70	0.85	NO
L0036313	0	0.69600E-07	388085.1	3868255.0	861.5	0.00	1.70	0.85	NO
L0036314	0	0.69600E-07	388081.4	3868255.0	861.5	0.00	1.70	0.85	NO
L0036315	0	0.69600E-07	388077.8	3868255.0	861.5	0.00	1.70	0.85	NO
L0036316	0	0.69600E-07	388074.1	3868255.0	861.6	0.00	1.70	0.85	NO

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*** VOLUME SOURCE DATA ***

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L0036317	0	0.69600E-07	388070.4	3868255.0	861.6	0.00	1.70	0.85	NO	
L0036318	0	0.69600E-07	388066.8	3868255.1	861.6	0.00	1.70	0.85	NO	
L0036319	0	0.69600E-07	388063.1	3868255.1	861.6	0.00	1.70	0.85	NO	
L0036320	0	0.69600E-07	388059.5	3868255.1	861.7	0.00	1.70	0.85	NO	
L0036321	0	0.69600E-07	388055.8	3868255.1	861.7	0.00	1.70	0.85	NO	
L0036322	0	0.69600E-07	388052.2	3868255.1	861.7	0.00	1.70	0.85	NO	
L0036323	0	0.69600E-07	388048.5	3868255.1	861.7	0.00	1.70	0.85	NO	
L0036324	0	0.69600E-07	388044.8	3868255.2	861.7	0.00	1.70	0.85	NO	
L0036325	0	0.69600E-07	388041.2	3868255.2	861.7	0.00	1.70	0.85	NO	
L0036326	0	0.69600E-07	388037.5	3868255.2	861.8	0.00	1.70	0.85	NO	
L0036327	0	0.69600E-07	388033.9	3868255.2	861.8	0.00	1.70	0.85	NO	
L0036328	0	0.69600E-07	388030.2	3868255.2	861.8	0.00	1.70	0.85	NO	
L0036329	0	0.69600E-07	388026.6	3868255.3	861.8	0.00	1.70	0.85	NO	

L0036330	0	0.69600E-07	388022.9	3868255.3	861.8	0.00	1.70	0.85	NO	
L0036331	0	0.69600E-07	388019.2	3868255.3	861.8	0.00	1.70	0.85	NO	
L0036332	0	0.69600E-07	388015.6	3868255.3	861.9	0.00	1.70	0.85	NO	
L0036333	0	0.69600E-07	388011.9	3868255.3	861.9	0.00	1.70	0.85	NO	
L0036334	0	0.69600E-07	388008.3	3868255.3	861.9	0.00	1.70	0.85	NO	
L0036335	0	0.69600E-07	388004.6	3868255.4	861.9	0.00	1.70	0.85	NO	
L0036336	0	0.69600E-07	388001.0	3868255.4	862.0	0.00	1.70	0.85	NO	
L0036337	0	0.69600E-07	387997.3	3868255.4	862.0	0.00	1.70	0.85	NO	
L0036338	0	0.69600E-07	387993.6	3868255.4	862.0	0.00	1.70	0.85	NO	
L0036339	0	0.69600E-07	387990.0	3868255.4	862.0	0.00	1.70	0.85	NO	
L0036340	0	0.69600E-07	387986.3	3868255.5	862.1	0.00	1.70	0.85	NO	
L0036341	0	0.69600E-07	387982.7	3868255.5	862.1	0.00	1.70	0.85	NO	
L0036342	0	0.69600E-07	387979.0	3868255.5	862.1	0.00	1.70	0.85	NO	
L0036343	0	0.69600E-07	387975.3	3868255.5	862.2	0.00	1.70	0.85	NO	
L0036344	0	0.69600E-07	387971.7	3868255.5	862.2	0.00	1.70	0.85	NO	
L0036345	0	0.69600E-07	387968.0	3868255.5	862.2	0.00	1.70	0.85	NO	
L0036346	0	0.69600E-07	387964.4	3868255.6	862.3	0.00	1.70	0.85	NO	
L0036347	0	0.69600E-07	387960.7	3868255.6	862.3	0.00	1.70	0.85	NO	
L0036348	0	0.69600E-07	387957.1	3868255.6	862.3	0.00	1.70	0.85	NO	
L0036349	0	0.69600E-07	387953.4	3868255.6	862.4	0.00	1.70	0.85	NO	
L0036350	0	0.69600E-07	387949.7	3868255.6	862.4	0.00	1.70	0.85	NO	
L0036351	0	0.69600E-07	387946.1	3868255.7	862.5	0.00	1.70	0.85	NO	
L0036352	0	0.69600E-07	387942.4	3868255.7	862.5	0.00	1.70	0.85	NO	
L0036353	0	0.69600E-07	387938.8	3868255.7	862.5	0.00	1.70	0.85	NO	
L0036354	0	0.69600E-07	387935.1	3868255.7	862.6	0.00	1.70	0.85	NO	
L0036355	0	0.69600E-07	387931.5	3868255.7	862.6	0.00	1.70	0.85	NO	
L0036356	0	0.69600E-07	387927.8	3868255.8	862.6	0.00	1.70	0.85	NO	

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L0036357	0	0.69600E-07	387924.1	3868255.8	862.7	0.00	1.70	0.85	NO	
L0036358	0	0.69600E-07	387920.5	3868255.8	862.7	0.00	1.70	0.85	NO	
L0036359	0	0.69600E-07	387916.8	3868255.8	862.8	0.00	1.70	0.85	NO	
L0036360	0	0.69600E-07	387913.2	3868255.8	862.8	0.00	1.70	0.85	NO	
L0036361	0	0.69600E-07	387909.5	3868255.8	862.8	0.00	1.70	0.85	NO	
L0036362	0	0.69600E-07	387905.9	3868255.9	862.9	0.00	1.70	0.85	NO	
L0036363	0	0.69600E-07	387902.2	3868255.9	862.9	0.00	1.70	0.85	NO	
L0036364	0	0.69600E-07	387898.5	3868255.9	862.9	0.00	1.70	0.85	NO	
L0036365	0	0.69600E-07	387894.9	3868255.9	863.0	0.00	1.70	0.85	NO	
L0036366	0	0.69600E-07	387891.2	3868255.9	863.0	0.00	1.70	0.85	NO	

L0036367	0	0.69600E-07	387887.6	3868256.0	863.0	0.00	1.70	0.85	NO
L0036368	0	0.69600E-07	387883.9	3868256.0	863.1	0.00	1.70	0.85	NO
L0036369	0	0.69600E-07	387880.3	3868256.0	863.1	0.00	1.70	0.85	NO
L0036370	0	0.69600E-07	387876.6	3868256.0	863.1	0.00	1.70	0.85	NO
L0036371	0	0.69600E-07	387872.9	3868256.0	863.2	0.00	1.70	0.85	NO
L0036372	0	0.69600E-07	387869.3	3868256.0	863.2	0.00	1.70	0.85	NO
L0036373	0	0.69600E-07	387865.6	3868256.1	863.2	0.00	1.70	0.85	NO
L0036374	0	0.69600E-07	387862.0	3868256.1	863.2	0.00	1.70	0.85	NO
L0036375	0	0.69600E-07	387858.3	3868256.1	863.3	0.00	1.70	0.85	NO
L0036376	0	0.69600E-07	387854.6	3868256.1	863.3	0.00	1.70	0.85	NO
L0036377	0	0.69600E-07	387851.0	3868256.1	863.3	0.00	1.70	0.85	NO
L0036378	0	0.69600E-07	387847.3	3868256.2	863.4	0.00	1.70	0.85	NO
L0036379	0	0.69600E-07	387843.7	3868256.2	863.4	0.00	1.70	0.85	NO
L0036380	0	0.69600E-07	387840.0	3868256.2	863.5	0.00	1.70	0.85	NO
L0036381	0	0.69600E-07	387836.4	3868256.2	863.5	0.00	1.70	0.85	NO
L0036382	0	0.69600E-07	387832.7	3868256.2	863.5	0.00	1.70	0.85	NO
L0036383	0	0.69600E-07	387829.0	3868256.2	863.6	0.00	1.70	0.85	NO
L0036384	0	0.69600E-07	387825.4	3868256.3	863.6	0.00	1.70	0.85	NO
L0036385	0	0.69600E-07	387821.7	3868256.3	863.7	0.00	1.70	0.85	NO
L0036386	0	0.69600E-07	387818.1	3868256.3	863.7	0.00	1.70	0.85	NO
L0036387	0	0.69600E-07	387814.4	3868256.3	863.8	0.00	1.70	0.85	NO
L0036388	0	0.69600E-07	387810.8	3868256.3	863.8	0.00	1.70	0.85	NO
L0036389	0	0.69600E-07	387807.1	3868256.4	863.8	0.00	1.70	0.85	NO
L0036390	0	0.69600E-07	387803.4	3868256.4	863.9	0.00	1.70	0.85	NO
L0036391	0	0.69600E-07	387799.8	3868256.4	863.9	0.00	1.70	0.85	NO
L0036392	0	0.69600E-07	387796.1	3868256.4	863.9	0.00	1.70	0.85	NO
L0036393	0	0.69600E-07	387792.5	3868256.4	864.0	0.00	1.70	0.85	NO
L0036394	0	0.69600E-07	387788.8	3868256.4	864.0	0.00	1.70	0.85	NO
L0036395	0	0.69600E-07	387785.2	3868256.5	864.1	0.00	1.70	0.85	NO
L0036396	0	0.69600E-07	387781.5	3868256.5	864.1	0.00	1.70	0.85	NO

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L0036397	0	0.69600E-07	387777.8	3868256.5	864.1	0.00	1.70	0.85	NO	
L0036398	0	0.69600E-07	387774.2	3868256.5	864.2	0.00	1.70	0.85	NO	
L0036399	0	0.69600E-07	387770.5	3868256.5	864.2	0.00	1.70	0.85	NO	
L0036400	0	0.69600E-07	387766.9	3868256.6	864.3	0.00	1.70	0.85	NO	
L0036401	0	0.69600E-07	387763.2	3868256.6	864.4	0.00	1.70	0.85	NO	
L0036402	0	0.69600E-07	387759.6	3868256.6	864.4	0.00	1.70	0.85	NO	
L0036403	0	0.69600E-07	387755.9	3868256.6	864.5	0.00	1.70	0.85	NO	

L0036404	0	0.69600E-07	387752.2	3868256.6	864.5	0.00	1.70	0.85	NO
L0036405	0	0.69600E-07	387748.6	3868256.6	864.6	0.00	1.70	0.85	NO
L0036406	0	0.69600E-07	387744.9	3868256.7	864.7	0.00	1.70	0.85	NO
L0036407	0	0.69600E-07	387741.3	3868256.7	864.7	0.00	1.70	0.85	NO
L0036408	0	0.69600E-07	387737.6	3868256.7	864.8	0.00	1.70	0.85	NO
L0036409	0	0.69600E-07	387734.0	3868256.7	864.9	0.00	1.70	0.85	NO
L0036410	0	0.69600E-07	387730.3	3868256.7	864.9	0.00	1.70	0.85	NO
L0036411	0	0.69600E-07	387726.6	3868256.8	865.0	0.00	1.70	0.85	NO
L0036412	0	0.69600E-07	387723.0	3868256.8	865.0	0.00	1.70	0.85	NO
L0036413	0	0.69600E-07	387719.3	3868256.8	865.1	0.00	1.70	0.85	NO
L0036414	0	0.69600E-07	387715.7	3868256.8	865.1	0.00	1.70	0.85	NO
L0036415	0	0.69600E-07	387712.0	3868256.8	865.2	0.00	1.70	0.85	NO
L0036416	0	0.69600E-07	387708.3	3868256.8	865.2	0.00	1.70	0.85	NO
L0036417	0	0.69600E-07	387704.7	3868256.9	865.3	0.00	1.70	0.85	NO
L0036418	0	0.69600E-07	387701.0	3868256.9	865.3	0.00	1.70	0.85	NO
L0036419	0	0.69600E-07	387697.4	3868256.9	865.4	0.00	1.70	0.85	NO
L0036420	0	0.69600E-07	387693.7	3868256.9	865.4	0.00	1.70	0.85	NO
L0036421	0	0.69600E-07	387690.1	3868256.9	865.4	0.00	1.70	0.85	NO
L0036422	0	0.69600E-07	387686.4	3868257.0	865.4	0.00	1.70	0.85	NO
L0036423	0	0.69600E-07	387682.7	3868257.0	865.5	0.00	1.70	0.85	NO
L0036424	0	0.69600E-07	387679.1	3868257.0	865.5	0.00	1.70	0.85	NO
L0036425	0	0.69600E-07	387675.4	3868257.0	865.5	0.00	1.70	0.85	NO
L0036426	0	0.69600E-07	387671.8	3868257.0	865.6	0.00	1.70	0.85	NO
L0036427	0	0.69600E-07	387668.1	3868257.1	865.6	0.00	1.70	0.85	NO
L0036428	0	0.69600E-07	387664.5	3868257.1	865.6	0.00	1.70	0.85	NO
L0036429	0	0.69600E-07	387660.8	3868257.1	865.6	0.00	1.70	0.85	NO
L0036430	0	0.69600E-07	387657.1	3868257.1	865.7	0.00	1.70	0.85	NO
L0036431	0	0.69600E-07	387653.5	3868257.1	865.7	0.00	1.70	0.85	NO
L0036432	0	0.69600E-07	387649.8	3868257.1	865.7	0.00	1.70	0.85	NO
L0036433	0	0.69600E-07	387646.2	3868257.2	865.7	0.00	1.70	0.85	NO
L0036434	0	0.69600E-07	387642.5	3868257.2	865.7	0.00	1.70	0.85	NO
L0036435	0	0.69600E-07	387638.9	3868257.2	865.7	0.00	1.70	0.85	NO
L0036436	0	0.69600E-07	387635.2	3868257.2	865.7	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0036437	0	0.69600E-07	387631.5	3868257.2	865.7	0.00	1.70	0.85	NO	
L0036438	0	0.69600E-07	387627.9	3868257.3	865.7	0.00	1.70	0.85	NO	
L0036439	0	0.69600E-07	387624.2	3868257.3	865.7	0.00	1.70	0.85	NO	
L0036440	0	0.69600E-07	387620.6	3868257.3	865.7	0.00	1.70	0.85	NO	

L0036441	0	0.69600E-07	387616.9	3868257.3	865.7	0.00	1.70	0.85	NO
L0036442	0	0.69600E-07	387613.3	3868257.3	865.7	0.00	1.70	0.85	NO
L0036443	0	0.69600E-07	387609.6	3868257.3	865.7	0.00	1.70	0.85	NO
L0036444	0	0.69600E-07	387605.9	3868257.4	865.7	0.00	1.70	0.85	NO
L0036445	0	0.69600E-07	387602.3	3868257.4	865.7	0.00	1.70	0.85	NO
L0036446	0	0.69600E-07	387598.6	3868257.4	865.7	0.00	1.70	0.85	NO
L0036447	0	0.69600E-07	387595.0	3868257.4	865.7	0.00	1.70	0.85	NO
L0036448	0	0.69600E-07	387591.3	3868257.4	865.7	0.00	1.70	0.85	NO
L0036449	0	0.69600E-07	387587.6	3868257.5	865.7	0.00	1.70	0.85	NO
L0036450	0	0.69600E-07	387584.0	3868257.5	865.8	0.00	1.70	0.85	NO
L0036451	0	0.69600E-07	387580.3	3868257.5	865.8	0.00	1.70	0.85	NO
L0036452	0	0.69600E-07	387576.7	3868257.5	865.8	0.00	1.70	0.85	NO
L0036453	0	0.69600E-07	387573.0	3868257.5	865.8	0.00	1.70	0.85	NO
L0036454	0	0.69600E-07	387569.4	3868257.5	865.8	0.00	1.70	0.85	NO
L0036455	0	0.69600E-07	387565.7	3868257.6	865.8	0.00	1.70	0.85	NO
L0036456	0	0.69600E-07	387562.0	3868257.6	865.9	0.00	1.70	0.85	NO
L0036457	0	0.69600E-07	387558.4	3868257.6	865.9	0.00	1.70	0.85	NO
L0036458	0	0.69600E-07	387554.7	3868257.6	865.9	0.00	1.70	0.85	NO
L0036459	0	0.69600E-07	387551.1	3868257.6	865.9	0.00	1.70	0.85	NO
L0036460	0	0.69600E-07	387547.4	3868257.7	866.0	0.00	1.70	0.85	NO
L0036461	0	0.69600E-07	387543.8	3868257.7	866.0	0.00	1.70	0.85	NO
L0036462	0	0.69600E-07	387540.1	3868257.7	866.1	0.00	1.70	0.85	NO
L0036463	0	0.69600E-07	387536.4	3868257.7	866.1	0.00	1.70	0.85	NO
L0036464	0	0.69600E-07	387532.8	3868257.7	866.2	0.00	1.70	0.85	NO
L0036465	0	0.69600E-07	387529.1	3868257.7	866.2	0.00	1.70	0.85	NO
L0036466	0	0.69600E-07	387525.5	3868257.8	866.3	0.00	1.70	0.85	NO
L0036467	0	0.69600E-07	387521.8	3868257.8	866.3	0.00	1.70	0.85	NO
L0036468	0	0.69600E-07	387518.2	3868257.8	866.4	0.00	1.70	0.85	NO
L0036469	0	0.69600E-07	387514.5	3868257.8	866.4	0.00	1.70	0.85	NO
L0036470	0	0.69600E-07	387510.8	3868257.8	866.5	0.00	1.70	0.85	NO
L0036471	0	0.69600E-07	387507.2	3868257.9	866.5	0.00	1.70	0.85	NO
L0036472	0	0.69600E-07	387503.5	3868257.9	866.6	0.00	1.70	0.85	NO
L0036473	0	0.69600E-07	387499.9	3868257.9	866.6	0.00	1.70	0.85	NO
L0036474	0	0.69600E-07	387496.2	3868257.9	866.7	0.00	1.70	0.85	NO
L0036475	0	0.69600E-07	387492.6	3868257.9	866.7	0.00	1.70	0.85	NO
L0036476	0	0.69600E-07	387488.9	3868257.9	866.7	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0036477	0	0.69600E-07	387485.2	3868258.0	866.7	0.00	1.70	0.85	NO	

L0036478	0	0.69600E-07	387481.6	3868258.0	866.7	0.00	1.70	0.85	NO
L0036479	0	0.69600E-07	387477.9	3868258.0	866.7	0.00	1.70	0.85	NO
L0036480	0	0.69600E-07	387474.3	3868258.0	866.8	0.00	1.70	0.85	NO
L0036481	0	0.69600E-07	387470.6	3868258.0	866.8	0.00	1.70	0.85	NO
L0036482	0	0.69600E-07	387467.0	3868258.1	866.8	0.00	1.70	0.85	NO
L0036483	0	0.69600E-07	387463.3	3868258.1	866.7	0.00	1.70	0.85	NO
L0036484	0	0.69600E-07	387459.6	3868258.1	866.7	0.00	1.70	0.85	NO
L0036485	0	0.69600E-07	387456.0	3868258.1	866.7	0.00	1.70	0.85	NO
L0036486	0	0.69600E-07	387452.3	3868258.1	866.7	0.00	1.70	0.85	NO
L0036487	0	0.69600E-07	387448.7	3868258.1	866.7	0.00	1.70	0.85	NO
L0036488	0	0.69600E-07	387445.0	3868258.2	866.7	0.00	1.70	0.85	NO
L0036489	0	0.69600E-07	387441.3	3868258.2	866.7	0.00	1.70	0.85	NO
L0036490	0	0.69600E-07	387437.7	3868258.2	866.7	0.00	1.70	0.85	NO
L0036491	0	0.69600E-07	387434.0	3868258.2	866.7	0.00	1.70	0.85	NO
L0036492	0	0.69600E-07	387430.4	3868258.2	866.7	0.00	1.70	0.85	NO
L0036493	0	0.69600E-07	387426.7	3868258.3	866.7	0.00	1.70	0.85	NO
L0036494	0	0.69600E-07	387423.1	3868258.3	866.7	0.00	1.70	0.85	NO
L0036495	0	0.69600E-07	387419.4	3868258.3	866.7	0.00	1.70	0.85	NO
L0036496	0	0.69600E-07	387415.7	3868258.3	866.8	0.00	1.70	0.85	NO
L0036497	0	0.69600E-07	387412.1	3868258.3	866.8	0.00	1.70	0.85	NO
L0036498	0	0.69600E-07	387408.4	3868258.4	866.8	0.00	1.70	0.85	NO
L0036499	0	0.69600E-07	387404.8	3868258.4	866.8	0.00	1.70	0.85	NO
L0036500	0	0.69600E-07	387401.1	3868258.4	866.8	0.00	1.70	0.85	NO
L0036501	0	0.69600E-07	387397.5	3868258.4	866.8	0.00	1.70	0.85	NO
L0036502	0	0.69600E-07	387393.8	3868258.4	866.8	0.00	1.70	0.85	NO
L0036503	0	0.69600E-07	387390.1	3868258.4	866.8	0.00	1.70	0.85	NO
L0036504	0	0.69600E-07	387386.5	3868258.5	866.8	0.00	1.70	0.85	NO
L0036505	0	0.69600E-07	387382.8	3868258.5	866.9	0.00	1.70	0.85	NO
L0036506	0	0.69600E-07	387379.2	3868258.5	866.9	0.00	1.70	0.85	NO
L0036507	0	0.69600E-07	387375.5	3868258.5	866.9	0.00	1.70	0.85	NO
L0036508	0	0.69600E-07	387371.9	3868258.5	866.9	0.00	1.70	0.85	NO
L0036509	0	0.69600E-07	387368.2	3868258.6	867.0	0.00	1.70	0.85	NO
L0036510	0	0.69600E-07	387364.5	3868258.6	867.0	0.00	1.70	0.85	NO
L0036511	0	0.69600E-07	387360.9	3868258.6	867.0	0.00	1.70	0.85	NO
L0036512	0	0.69600E-07	387357.2	3868258.6	867.1	0.00	1.70	0.85	NO
L0036513	0	0.69600E-07	387353.6	3868258.6	867.1	0.00	1.70	0.85	NO
L0036514	0	0.69600E-07	387349.9	3868258.6	867.2	0.00	1.70	0.85	NO
L0036515	0	0.69600E-07	387346.2	3868258.7	867.2	0.00	1.70	0.85	NO
L0036516	0	0.69600E-07	387342.6	3868258.7	867.2	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY

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SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0036557	0	0.69600E-07	387192.6	3868259.4	869.5	0.00	1.70	0.85	NO	
L0036558	0	0.69600E-07	387189.0	3868259.4	869.5	0.00	1.70	0.85	NO	
L0036559	0	0.69600E-07	387185.3	3868259.5	869.6	0.00	1.70	0.85	NO	
L0036560	0	0.69600E-07	387181.7	3868259.5	869.6	0.00	1.70	0.85	NO	
L0036561	0	0.69600E-07	387178.0	3868259.5	869.7	0.00	1.70	0.85	NO	
L0036562	0	0.69600E-07	387174.3	3868259.5	869.8	0.00	1.70	0.85	NO	
L0036563	0	0.69600E-07	387170.7	3868259.5	869.8	0.00	1.70	0.85	NO	
L0036564	0	0.69600E-07	387167.0	3868259.6	869.9	0.00	1.70	0.85	NO	
L0036565	0	0.69600E-07	387163.4	3868259.6	869.9	0.00	1.70	0.85	NO	
L0036566	0	0.69600E-07	387159.7	3868259.6	870.0	0.00	1.70	0.85	NO	
L0036567	0	0.69600E-07	387156.1	3868259.6	870.1	0.00	1.70	0.85	NO	
L0036568	0	0.69600E-07	387152.4	3868259.6	870.1	0.00	1.70	0.85	NO	
L0036569	0	0.69600E-07	387148.7	3868259.7	870.2	0.00	1.70	0.85	NO	
L0036570	0	0.69600E-07	387145.1	3868259.7	870.2	0.00	1.70	0.85	NO	
L0036571	0	0.69600E-07	387141.4	3868259.7	870.3	0.00	1.70	0.85	NO	
L0036572	0	0.69600E-07	387137.8	3868259.7	870.3	0.00	1.70	0.85	NO	
L0036573	0	0.69600E-07	387134.1	3868259.7	870.4	0.00	1.70	0.85	NO	
L0036574	0	0.69600E-07	387130.5	3868259.7	870.4	0.00	1.70	0.85	NO	
L0036575	0	0.69600E-07	387126.8	3868259.8	870.5	0.00	1.70	0.85	NO	
L0036576	0	0.69600E-07	387123.1	3868259.8	870.5	0.00	1.70	0.85	NO	
L0036577	0	0.69600E-07	387119.5	3868259.8	870.6	0.00	1.70	0.85	NO	
L0036578	0	0.69600E-07	387115.8	3868259.8	870.6	0.00	1.70	0.85	NO	
L0036579	0	0.69600E-07	387112.2	3868259.8	870.7	0.00	1.70	0.85	NO	
L0036580	0	0.69600E-07	387108.5	3868259.9	870.7	0.00	1.70	0.85	NO	
L0036581	0	0.69600E-07	387104.9	3868259.9	870.8	0.00	1.70	0.85	NO	
L0036582	0	0.69600E-07	387101.2	3868259.9	870.8	0.00	1.70	0.85	NO	
L0036583	0	0.69600E-07	387097.5	3868259.9	870.8	0.00	1.70	0.85	NO	
L0036584	0	0.69600E-07	387093.9	3868259.9	870.9	0.00	1.70	0.85	NO	
L0036585	0	0.69600E-07	387090.2	3868259.9	870.9	0.00	1.70	0.85	NO	
L0036586	0	0.69600E-07	387086.6	3868260.0	871.0	0.00	1.70	0.85	NO	
L0036587	0	0.69600E-07	387082.9	3868260.0	871.0	0.00	1.70	0.85	NO	
L0036588	0	0.69600E-07	387079.2	3868260.0	871.1	0.00	1.70	0.85	NO	
L0036589	0	0.69600E-07	387075.6	3868260.0	871.1	0.00	1.70	0.85	NO	
L0036590	0	0.69600E-07	387071.9	3868260.0	871.2	0.00	1.70	0.85	NO	
L0036591	0	0.69600E-07	387068.3	3868260.1	871.2	0.00	1.70	0.85	NO	
L0036592	0	0.69600E-07	387064.6	3868260.1	871.2	0.00	1.70	0.85	NO	
L0036593	0	0.69600E-07	387061.0	3868260.1	871.3	0.00	1.70	0.85	NO	
L0036594	0	0.69600E-07	387057.3	3868260.1	871.3	0.00	1.70	0.85	NO	
L0036595	0	0.69600E-07	387053.6	3868260.1	871.3	0.00	1.70	0.85	NO	
L0036596	0	0.69600E-07	387050.0	3868260.1	871.4	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0036597	0	0.69600E-07	387046.3	3868260.2	871.4	0.00	1.70	0.85	NO	
L0036598	0	0.69600E-07	387042.7	3868260.2	871.5	0.00	1.70	0.85	NO	
L0036599	0	0.69600E-07	387039.0	3868260.2	871.5	0.00	1.70	0.85	NO	
L0036600	0	0.69600E-07	387035.4	3868260.2	871.6	0.00	1.70	0.85	NO	
L0036601	0	0.69600E-07	387031.7	3868260.2	871.6	0.00	1.70	0.85	NO	
L0036602	0	0.69600E-07	387028.0	3868260.3	871.7	0.00	1.70	0.85	NO	
L0036603	0	0.69600E-07	387024.4	3868260.3	871.8	0.00	1.70	0.85	NO	
L0036604	0	0.69600E-07	387020.7	3868260.3	871.8	0.00	1.70	0.85	NO	
L0036605	0	0.69600E-07	387017.1	3868260.3	871.9	0.00	1.70	0.85	NO	
L0036606	0	0.69600E-07	387013.4	3868260.3	872.0	0.00	1.70	0.85	NO	
L0036607	0	0.69600E-07	387009.8	3868260.3	872.0	0.00	1.70	0.85	NO	
L0036608	0	0.69600E-07	387006.1	3868260.4	872.1	0.00	1.70	0.85	NO	
L0036609	0	0.69600E-07	387002.4	3868260.4	872.1	0.00	1.70	0.85	NO	
L0036610	0	0.69600E-07	386998.8	3868260.4	872.2	0.00	1.70	0.85	NO	
L0036611	0	0.69600E-07	386995.1	3868260.4	872.2	0.00	1.70	0.85	NO	
L0036612	0	0.69600E-07	386991.5	3868260.4	872.3	0.00	1.70	0.85	NO	
L0036613	0	0.69600E-07	386987.8	3868260.5	872.3	0.00	1.70	0.85	NO	
L0036614	0	0.69600E-07	386984.2	3868260.5	872.2	0.00	1.70	0.85	NO	
L0036615	0	0.69600E-07	386980.5	3868260.5	872.2	0.00	1.70	0.85	NO	
L0036616	0	0.69600E-07	386976.8	3868260.5	872.2	0.00	1.70	0.85	NO	
L0036617	0	0.69600E-07	386973.2	3868260.5	872.2	0.00	1.70	0.85	NO	
L0036618	0	0.69600E-07	386969.5	3868260.5	872.2	0.00	1.70	0.85	NO	
L0036619	0	0.69600E-07	386965.9	3868260.6	872.2	0.00	1.70	0.85	NO	
L0036620	0	0.69600E-07	386962.2	3868260.6	872.3	0.00	1.70	0.85	NO	
L0036621	0	0.69600E-07	386958.5	3868260.6	872.3	0.00	1.70	0.85	NO	
L0036622	0	0.69600E-07	386954.9	3868260.6	872.4	0.00	1.70	0.85	NO	
L0036623	0	0.69600E-07	386951.2	3868260.6	872.5	0.00	1.70	0.85	NO	
L0036624	0	0.69600E-07	386947.6	3868260.7	872.5	0.00	1.70	0.85	NO	
L0036625	0	0.69600E-07	386943.9	3868260.7	872.6	0.00	1.70	0.85	NO	
L0036626	0	0.69600E-07	386940.3	3868260.7	872.7	0.00	1.70	0.85	NO	
L0036627	0	0.69600E-07	386936.6	3868260.7	872.7	0.00	1.70	0.85	NO	
L0036628	0	0.69600E-07	386932.9	3868260.7	872.7	0.00	1.70	0.85	NO	
L0036629	0	0.69600E-07	386929.3	3868260.8	872.8	0.00	1.70	0.85	NO	
L0036630	0	0.69600E-07	386925.6	3868260.8	872.8	0.00	1.70	0.85	NO	
L0036631	0	0.69600E-07	386922.0	3868260.8	872.8	0.00	1.70	0.85	NO	
L0036632	0	0.69600E-07	386918.3	3868260.8	872.9	0.00	1.70	0.85	NO	
L0036633	0	0.69600E-07	386914.7	3868260.8	872.9	0.00	1.70	0.85	NO	
L0036634	0	0.69600E-07	386911.0	3868260.8	872.9	0.00	1.70	0.85	NO	
L0036635	0	0.69600E-07	386907.3	3868260.9	872.9	0.00	1.70	0.85	NO	
L0036636	0	0.69600E-07	386903.7	3868260.9	872.9	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0036637	0	0.69600E-07	386900.0	3868260.9	872.9	0.00	1.70	0.85	NO	
L0036638	0	0.69600E-07	386896.4	3868260.9	872.9	0.00	1.70	0.85	NO	
L0036639	0	0.69600E-07	386892.7	3868260.9	872.9	0.00	1.70	0.85	NO	
L0036640	0	0.69600E-07	386889.1	3868261.0	872.9	0.00	1.70	0.85	NO	
L0036641	0	0.69600E-07	386885.4	3868261.0	872.9	0.00	1.70	0.85	NO	
L0036642	0	0.69600E-07	386881.7	3868261.0	872.9	0.00	1.70	0.85	NO	
L0036643	0	0.69600E-07	386878.1	3868261.0	872.9	0.00	1.70	0.85	NO	
L0036644	0	0.69600E-07	386874.4	3868261.0	872.9	0.00	1.70	0.85	NO	
L0036645	0	0.69600E-07	386870.8	3868261.0	872.9	0.00	1.70	0.85	NO	
L0036646	0	0.69600E-07	386867.1	3868261.1	872.9	0.00	1.70	0.85	NO	
L0036647	0	0.69600E-07	386863.5	3868261.1	873.0	0.00	1.70	0.85	NO	
L0036648	0	0.69600E-07	386859.8	3868261.1	873.0	0.00	1.70	0.85	NO	
L0036649	0	0.69600E-07	386856.1	3868261.1	873.0	0.00	1.70	0.85	NO	
L0036650	0	0.69600E-07	386852.5	3868261.1	873.0	0.00	1.70	0.85	NO	
L0036651	0	0.69600E-07	386848.8	3868261.2	873.0	0.00	1.70	0.85	NO	
L0036652	0	0.69600E-07	386845.2	3868261.2	873.1	0.00	1.70	0.85	NO	
L0036653	0	0.69600E-07	386841.5	3868261.2	873.1	0.00	1.70	0.85	NO	
L0036654	0	0.69600E-07	386837.8	3868261.2	873.1	0.00	1.70	0.85	NO	
L0036655	0	0.69600E-07	386834.2	3868261.2	873.1	0.00	1.70	0.85	NO	
L0036656	0	0.69600E-07	386830.5	3868261.2	873.1	0.00	1.70	0.85	NO	
L0036657	0	0.69600E-07	386826.9	3868261.3	873.1	0.00	1.70	0.85	NO	
L0036658	0	0.69600E-07	386823.2	3868261.3	873.1	0.00	1.70	0.85	NO	
L0036659	0	0.69600E-07	386819.6	3868261.3	873.1	0.00	1.70	0.85	NO	
L0036660	0	0.69600E-07	386815.9	3868261.3	873.1	0.00	1.70	0.85	NO	
L0036661	0	0.69600E-07	386812.2	3868261.3	873.1	0.00	1.70	0.85	NO	
L0036662	0	0.69600E-07	386808.6	3868261.4	873.1	0.00	1.70	0.85	NO	
L0036663	0	0.69600E-07	386804.9	3868261.4	873.1	0.00	1.70	0.85	NO	
L0036664	0	0.69600E-07	386801.3	3868261.4	873.1	0.00	1.70	0.85	NO	
L0036665	0	0.69600E-07	386797.6	3868261.4	873.1	0.00	1.70	0.85	NO	
L0036666	0	0.69600E-07	386794.0	3868261.4	873.1	0.00	1.70	0.85	NO	
L0036667	0	0.69600E-07	386790.3	3868261.4	873.0	0.00	1.70	0.85	NO	
L0036668	0	0.69600E-07	386786.6	3868261.5	873.0	0.00	1.70	0.85	NO	
L0036669	0	0.69600E-07	386783.0	3868261.5	873.0	0.00	1.70	0.85	NO	
L0036670	0	0.69600E-07	386779.3	3868261.5	873.0	0.00	1.70	0.85	NO	
L0036671	0	0.69600E-07	386775.7	3868261.5	873.0	0.00	1.70	0.85	NO	
L0036672	0	0.69600E-07	386772.0	3868261.5	873.0	0.00	1.70	0.85	NO	
L0036673	0	0.69600E-07	386768.4	3868261.6	873.0	0.00	1.70	0.85	NO	
L0036674	0	0.69600E-07	386764.7	3868261.6	873.0	0.00	1.70	0.85	NO	
L0036675	0	0.69600E-07	386761.0	3868261.6	873.0	0.00	1.70	0.85	NO	
L0036676	0	0.69600E-07	386757.4	3868261.6	872.9	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0036677	0	0.69600E-07	386753.7	3868261.6	872.9	0.00	1.70	0.85	NO	
L0036678	0	0.69600E-07	386750.1	3868261.6	872.9	0.00	1.70	0.85	NO	
L0036679	0	0.69600E-07	386746.4	3868261.7	872.9	0.00	1.70	0.85	NO	
L0036680	0	0.69600E-07	386742.8	3868261.7	872.9	0.00	1.70	0.85	NO	
L0036681	0	0.69600E-07	386739.1	3868261.7	872.8	0.00	1.70	0.85	NO	
L0036682	0	0.69600E-07	386735.4	3868261.7	872.8	0.00	1.70	0.85	NO	
L0036683	0	0.69600E-07	386731.8	3868261.7	872.8	0.00	1.70	0.85	NO	
L0036684	0	0.69600E-07	386728.1	3868261.8	872.8	0.00	1.70	0.85	NO	
L0036685	0	0.69600E-07	386724.5	3868261.8	872.8	0.00	1.70	0.85	NO	
L0036686	0	0.69600E-07	386720.8	3868261.8	872.7	0.00	1.70	0.85	NO	
L0036687	0	0.69600E-07	386717.2	3868261.8	872.7	0.00	1.70	0.85	NO	
L0036688	0	0.69600E-07	386713.5	3868261.8	872.7	0.00	1.70	0.85	NO	
L0036689	0	0.69600E-07	386709.8	3868261.8	872.7	0.00	1.70	0.85	NO	
L0036690	0	0.69600E-07	386706.2	3868261.9	872.6	0.00	1.70	0.85	NO	
L0036691	0	0.69600E-07	386702.5	3868261.9	872.6	0.00	1.70	0.85	NO	
L0036692	0	0.69600E-07	386698.9	3868261.9	872.6	0.00	1.70	0.85	NO	
L0036693	0	0.69600E-07	386695.2	3868261.9	872.6	0.00	1.70	0.85	NO	
L0036694	0	0.69600E-07	386691.5	3868261.9	872.5	0.00	1.70	0.85	NO	
L0036695	0	0.69600E-07	386687.9	3868262.0	872.5	0.00	1.70	0.85	NO	
L0036696	0	0.69600E-07	386684.2	3868262.0	872.5	0.00	1.70	0.85	NO	
L0036697	0	0.69600E-07	386680.6	3868262.0	872.5	0.00	1.70	0.85	NO	
L0036698	0	0.69600E-07	386676.9	3868262.0	872.6	0.00	1.70	0.85	NO	
L0036699	0	0.69600E-07	386673.3	3868262.0	872.6	0.00	1.70	0.85	NO	
L0036700	0	0.69600E-07	386669.6	3868262.1	872.6	0.00	1.70	0.85	NO	
L0036701	0	0.69600E-07	386665.9	3868262.1	872.6	0.00	1.70	0.85	NO	
L0036702	0	0.69600E-07	386662.3	3868262.1	872.6	0.00	1.70	0.85	NO	
L0036703	0	0.69600E-07	386658.6	3868262.1	872.6	0.00	1.70	0.85	NO	
L0036704	0	0.69600E-07	386655.0	3868262.1	872.7	0.00	1.70	0.85	NO	
L0036705	0	0.69600E-07	386651.3	3868262.1	872.7	0.00	1.70	0.85	NO	
L0036706	0	0.69600E-07	386647.7	3868262.2	872.7	0.00	1.70	0.85	NO	
L0036707	0	0.69600E-07	386644.0	3868262.2	872.8	0.00	1.70	0.85	NO	
L0036708	0	0.69600E-07	386640.3	3868262.2	872.8	0.00	1.70	0.85	NO	
L0036709	0	0.69600E-07	386636.7	3868262.2	872.8	0.00	1.70	0.85	NO	
L0036710	0	0.69600E-07	386633.0	3868262.2	872.8	0.00	1.70	0.85	NO	
L0036711	0	0.69600E-07	386629.4	3868262.3	872.7	0.00	1.70	0.85	NO	
L0036712	0	0.69600E-07	386625.7	3868262.3	872.7	0.00	1.70	0.85	NO	
L0036713	0	0.69600E-07	386622.1	3868262.3	872.7	0.00	1.70	0.85	NO	

L0036714	0	0.69600E-07	386618.4	3868262.3	872.6	0.00	1.70	0.85	NO
L0036715	0	0.69600E-07	386614.7	3868262.3	872.6	0.00	1.70	0.85	NO
L0036716	0	0.69600E-07	386611.1	3868262.3	872.6	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0036717	0	0.69600E-07	386607.4	3868262.4	872.5	0.00	1.70	0.85	NO	
L0036718	0	0.69600E-07	386603.8	3868262.4	872.5	0.00	1.70	0.85	NO	
L0036719	0	0.69600E-07	386600.1	3868262.4	872.5	0.00	1.70	0.85	NO	
L0036720	0	0.69600E-07	386596.5	3868262.4	872.4	0.00	1.70	0.85	NO	
L0036721	0	0.69600E-07	386592.8	3868262.4	872.4	0.00	1.70	0.85	NO	
L0036722	0	0.69600E-07	386589.1	3868262.5	872.4	0.00	1.70	0.85	NO	
L0036723	0	0.69600E-07	386585.5	3868262.5	872.3	0.00	1.70	0.85	NO	
L0036724	0	0.69600E-07	386581.8	3868262.5	872.4	0.00	1.70	0.85	NO	
L0036725	0	0.69600E-07	386578.2	3868262.5	872.4	0.00	1.70	0.85	NO	
L0036726	0	0.69600E-07	386574.5	3868262.5	872.5	0.00	1.70	0.85	NO	
L0036727	0	0.69600E-07	386570.8	3868262.5	872.5	0.00	1.70	0.85	NO	
L0036728	0	0.69600E-07	386567.2	3868262.6	872.5	0.00	1.70	0.85	NO	
L0036729	0	0.69600E-07	386563.5	3868262.6	872.6	0.00	1.70	0.85	NO	
L0036730	0	0.69600E-07	386559.9	3868262.6	872.6	0.00	1.70	0.85	NO	
L0036731	0	0.69600E-07	386556.2	3868262.6	872.7	0.00	1.70	0.85	NO	
L0036732	0	0.69600E-07	386552.6	3868262.6	872.7	0.00	1.70	0.85	NO	
L0036733	0	0.69600E-07	386548.9	3868262.7	872.8	0.00	1.70	0.85	NO	
L0036734	0	0.69600E-07	386545.2	3868262.7	872.8	0.00	1.70	0.85	NO	
L0036735	0	0.69600E-07	386541.6	3868262.7	872.9	0.00	1.70	0.85	NO	
L0036736	0	0.69600E-07	386537.9	3868262.7	872.9	0.00	1.70	0.85	NO	
L0036737	0	0.69600E-07	386534.3	3868262.7	873.0	0.00	1.70	0.85	NO	
L0036738	0	0.69600E-07	386530.6	3868262.7	873.0	0.00	1.70	0.85	NO	
L0036739	0	0.69600E-07	386527.0	3868262.8	873.0	0.00	1.70	0.85	NO	
L0036740	0	0.69600E-07	386523.3	3868262.8	873.1	0.00	1.70	0.85	NO	
L0036741	0	0.69600E-07	386519.6	3868262.8	873.1	0.00	1.70	0.85	NO	
L0036742	0	0.69600E-07	386516.0	3868262.8	873.2	0.00	1.70	0.85	NO	
L0036743	0	0.69600E-07	386512.3	3868262.8	873.2	0.00	1.70	0.85	NO	
L0036744	0	0.69600E-07	386508.7	3868262.9	873.2	0.00	1.70	0.85	NO	
L0036745	0	0.69600E-07	386505.0	3868262.9	873.3	0.00	1.70	0.85	NO	
L0036746	0	0.69600E-07	386501.4	3868262.9	873.3	0.00	1.70	0.85	NO	
L0036747	0	0.69600E-07	386497.7	3868262.9	873.3	0.00	1.70	0.85	NO	
L0036748	0	0.69600E-07	386494.0	3868262.9	873.4	0.00	1.70	0.85	NO	
L0036749	0	0.69600E-07	386490.4	3868262.9	873.4	0.00	1.70	0.85	NO	
L0036750	0	0.69600E-07	386486.7	3868263.0	873.5	0.00	1.70	0.85	NO	

L0036751	0	0.69600E-07	386483.1	3868263.0	873.5	0.00	1.70	0.85	NO
L0036752	0	0.69600E-07	386479.4	3868263.0	873.5	0.00	1.70	0.85	NO
L0036753	0	0.69600E-07	386475.8	3868263.0	873.5	0.00	1.70	0.85	NO
L0036754	0	0.69600E-07	386472.1	3868263.0	873.6	0.00	1.70	0.85	NO
L0036755	0	0.69600E-07	386468.4	3868263.1	873.6	0.00	1.70	0.85	NO
L0036756	0	0.69600E-07	386464.8	3868263.1	873.6	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0036757	0	0.69600E-07	386461.1	3868263.1	873.7	0.00	1.70	0.85	NO	
L0036758	0	0.69600E-07	386457.5	3868263.1	873.7	0.00	1.70	0.85	NO	
L0036759	0	0.69600E-07	386453.8	3868263.1	873.7	0.00	1.70	0.85	NO	
L0036760	0	0.69600E-07	386450.1	3868263.1	873.7	0.00	1.70	0.85	NO	
L0036761	0	0.69600E-07	386446.5	3868263.2	873.7	0.00	1.70	0.85	NO	
L0036762	0	0.69600E-07	386442.8	3868263.2	873.7	0.00	1.70	0.85	NO	
L0036763	0	0.69600E-07	386439.2	3868263.2	873.7	0.00	1.70	0.85	NO	
L0036764	0	0.69600E-07	386435.5	3868263.2	873.7	0.00	1.70	0.85	NO	
L0036765	0	0.69600E-07	386431.9	3868263.2	873.8	0.00	1.70	0.85	NO	
L0036766	0	0.69600E-07	386428.2	3868263.3	873.8	0.00	1.70	0.85	NO	
L0036767	0	0.69600E-07	386424.5	3868263.3	873.8	0.00	1.70	0.85	NO	
L0036768	0	0.69600E-07	386420.9	3868263.3	873.8	0.00	1.70	0.85	NO	
L0036769	0	0.69600E-07	386417.2	3868263.3	873.8	0.00	1.70	0.85	NO	
L0036770	0	0.69600E-07	386413.6	3868263.3	873.9	0.00	1.70	0.85	NO	
L0036771	0	0.69600E-07	386409.9	3868263.4	873.9	0.00	1.70	0.85	NO	
L0036772	0	0.69600E-07	386406.3	3868263.4	873.9	0.00	1.70	0.85	NO	
L0036773	0	0.69600E-07	386402.6	3868263.4	874.0	0.00	1.70	0.85	NO	
L0036774	0	0.69600E-07	386398.9	3868263.4	874.0	0.00	1.70	0.85	NO	
L0036775	0	0.69600E-07	386395.3	3868263.4	874.0	0.00	1.70	0.85	NO	
L0036776	0	0.69600E-07	386391.6	3868263.4	874.1	0.00	1.70	0.85	NO	
L0036777	0	0.69600E-07	386388.0	3868263.5	874.1	0.00	1.70	0.85	NO	
L0036778	0	0.69600E-07	386384.3	3868263.5	874.2	0.00	1.70	0.85	NO	
L0036779	0	0.69600E-07	386380.7	3868263.5	874.2	0.00	1.70	0.85	NO	
L0036780	0	0.69600E-07	386377.0	3868263.5	874.2	0.00	1.70	0.85	NO	
L0036781	0	0.69600E-07	386373.3	3868263.5	874.2	0.00	1.70	0.85	NO	
L0036782	0	0.69600E-07	386369.7	3868263.6	874.3	0.00	1.70	0.85	NO	
L0036783	0	0.69600E-07	386366.0	3868263.6	874.3	0.00	1.70	0.85	NO	
L0036784	0	0.69600E-07	386362.4	3868263.6	874.3	0.00	1.70	0.85	NO	
L0036785	0	0.69600E-07	386358.7	3868263.6	874.3	0.00	1.70	0.85	NO	
L0036786	0	0.69600E-07	386355.1	3868263.6	874.4	0.00	1.70	0.85	NO	
L0036787	0	0.69600E-07	386351.4	3868263.6	874.4	0.00	1.70	0.85	NO	

L0036788	0	0.69600E-07	386347.7	3868263.7	874.4	0.00	1.70	0.85	NO
L0036789	0	0.69600E-07	386344.1	3868263.7	874.4	0.00	1.70	0.85	NO
L0036790	0	0.69600E-07	386340.4	3868263.7	874.4	0.00	1.70	0.85	NO
L0036791	0	0.69600E-07	386336.8	3868263.7	874.4	0.00	1.70	0.85	NO
L0036792	0	0.69600E-07	386333.1	3868263.7	874.4	0.00	1.70	0.85	NO
L0036793	0	0.69600E-07	386329.5	3868263.8	874.4	0.00	1.70	0.85	NO
L0036794	0	0.69600E-07	386325.8	3868263.8	874.4	0.00	1.70	0.85	NO
L0036795	0	0.69600E-07	386322.1	3868263.8	874.4	0.00	1.70	0.85	NO
L0036796	0	0.69600E-07	386318.5	3868263.8	874.3	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0036797	0	0.69600E-07	386314.8	3868263.8	874.3	0.00	1.70	0.85	NO	
L0036798	0	0.69600E-07	386311.2	3868263.8	874.3	0.00	1.70	0.85	NO	
L0036799	0	0.69600E-07	386307.5	3868263.9	874.3	0.00	1.70	0.85	NO	
L0036800	0	0.69600E-07	386303.8	3868263.9	874.2	0.00	1.70	0.85	NO	
L0036801	0	0.69600E-07	386300.2	3868263.9	874.2	0.00	1.70	0.85	NO	
L0036802	0	0.69600E-07	386296.5	3868263.9	874.2	0.00	1.70	0.85	NO	
L0036803	0	0.69600E-07	386292.9	3868263.9	874.1	0.00	1.70	0.85	NO	
L0036804	0	0.69600E-07	386289.2	3868264.0	874.1	0.00	1.70	0.85	NO	
L0036805	0	0.69600E-07	386285.6	3868264.0	874.1	0.00	1.70	0.85	NO	
L0036806	0	0.69600E-07	386281.9	3868264.0	874.0	0.00	1.70	0.85	NO	
L0036807	0	0.69600E-07	386278.2	3868264.0	874.0	0.00	1.70	0.85	NO	
L0036808	0	0.69600E-07	386274.6	3868264.0	874.0	0.00	1.70	0.85	NO	
L0036809	0	0.69600E-07	386270.9	3868264.0	873.9	0.00	1.70	0.85	NO	
L0036810	0	0.69600E-07	386267.3	3868264.1	873.9	0.00	1.70	0.85	NO	
L0036811	0	0.69600E-07	386263.6	3868264.1	873.8	0.00	1.70	0.85	NO	
L0036812	0	0.69600E-07	386260.0	3868264.1	873.8	0.00	1.70	0.85	NO	
L0036813	0	0.69600E-07	386256.3	3868264.1	873.7	0.00	1.70	0.85	NO	
L0036814	0	0.69600E-07	386252.6	3868264.1	873.7	0.00	1.70	0.85	NO	
L0036815	0	0.69600E-07	386249.0	3868264.2	873.6	0.00	1.70	0.85	NO	
L0036816	0	0.69600E-07	386245.3	3868264.2	873.6	0.00	1.70	0.85	NO	
L0036817	0	0.69600E-07	386241.7	3868264.2	873.5	0.00	1.70	0.85	NO	
L0036818	0	0.69600E-07	386238.0	3868264.2	873.5	0.00	1.70	0.85	NO	
L0036819	0	0.69600E-07	386234.4	3868264.2	873.5	0.00	1.70	0.85	NO	
L0036820	0	0.69600E-07	386230.7	3868264.2	873.4	0.00	1.70	0.85	NO	
L0036821	0	0.69600E-07	386227.0	3868264.3	873.4	0.00	1.70	0.85	NO	
L0036822	0	0.69600E-07	386223.4	3868264.3	873.4	0.00	1.70	0.85	NO	
L0036823	0	0.69600E-07	386219.7	3868264.3	873.4	0.00	1.70	0.85	NO	
L0036824	0	0.69600E-07	386216.1	3868264.3	873.4	0.00	1.70	0.85	NO	

L0036825	0	0.69600E-07	386212.4	3868264.3	873.4	0.00	1.70	0.85	NO
L0036826	0	0.69600E-07	386208.8	3868264.4	873.4	0.00	1.70	0.85	NO
L0036827	0	0.69600E-07	386205.1	3868264.4	873.4	0.00	1.70	0.85	NO
L0036828	0	0.69600E-07	386201.4	3868264.4	873.4	0.00	1.70	0.85	NO
L0036829	0	0.69600E-07	386197.8	3868264.4	873.3	0.00	1.70	0.85	NO
L0036830	0	0.69600E-07	386194.1	3868264.4	873.3	0.00	1.70	0.85	NO
L0036831	0	0.69600E-07	386190.5	3868264.4	873.3	0.00	1.70	0.85	NO
L0036832	0	0.69600E-07	386186.8	3868264.5	873.3	0.00	1.70	0.85	NO
L0036833	0	0.69600E-07	386183.1	3868264.5	873.2	0.00	1.70	0.85	NO
L0036834	0	0.69600E-07	386179.5	3868264.5	873.2	0.00	1.70	0.85	NO
L0036835	0	0.69600E-07	386175.8	3868264.5	873.3	0.00	1.70	0.85	NO
L0036836	0	0.69600E-07	386172.2	3868264.5	873.4	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

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L0036837	0	0.69600E-07	386168.5	3868264.6	873.4	0.00	1.70	0.85	NO	
L0036838	0	0.69600E-07	386164.9	3868264.6	873.5	0.00	1.70	0.85	NO	
L0036839	0	0.69600E-07	386161.2	3868264.6	873.5	0.00	1.70	0.85	NO	
L0036840	0	0.69600E-07	386157.5	3868264.6	873.6	0.00	1.70	0.85	NO	
L0036841	0	0.69600E-07	386153.9	3868264.6	873.7	0.00	1.70	0.85	NO	
L0036842	0	0.69600E-07	386150.2	3868264.7	873.8	0.00	1.70	0.85	NO	
L0036843	0	0.69600E-07	386146.6	3868264.7	873.8	0.00	1.70	0.85	NO	
L0036844	0	0.69600E-07	386142.9	3868264.7	873.9	0.00	1.70	0.85	NO	
L0036845	0	0.69600E-07	386139.3	3868264.7	874.0	0.00	1.70	0.85	NO	
L0036846	0	0.69600E-07	386135.6	3868264.7	874.1	0.00	1.70	0.85	NO	
L0036847	0	0.69600E-07	386131.9	3868264.7	874.2	0.00	1.70	0.85	NO	
L0036848	0	0.69600E-07	386128.3	3868264.8	874.2	0.00	1.70	0.85	NO	
L0036849	0	0.69600E-07	386124.6	3868264.8	874.3	0.00	1.70	0.85	NO	
L0036850	0	0.69600E-07	386121.0	3868264.8	874.3	0.00	1.70	0.85	NO	
L0036851	0	0.69600E-07	386117.3	3868264.8	874.4	0.00	1.70	0.85	NO	
L0036852	0	0.69600E-07	386113.7	3868264.8	874.4	0.00	1.70	0.85	NO	
L0036853	0	0.69600E-07	386110.0	3868264.9	874.4	0.00	1.70	0.85	NO	
L0036854	0	0.69600E-07	386106.3	3868264.9	874.5	0.00	1.70	0.85	NO	
L0036855	0	0.69600E-07	386102.7	3868264.9	874.5	0.00	1.70	0.85	NO	
L0036856	0	0.69600E-07	386099.0	3868264.9	874.5	0.00	1.70	0.85	NO	
L0036857	0	0.69600E-07	386095.4	3868264.9	874.6	0.00	1.70	0.85	NO	
L0036858	0	0.69600E-07	386091.7	3868264.9	874.6	0.00	1.70	0.85	NO	
L0036859	0	0.69600E-07	386088.1	3868265.0	874.6	0.00	1.70	0.85	NO	
L0036860	0	0.69600E-07	386084.4	3868265.0	874.7	0.00	1.70	0.85	NO	
L0036861	0	0.69600E-07	386080.7	3868265.0	874.7	0.00	1.70	0.85	NO	

L0036862	0	0.69600E-07	386077.1	3868265.0	874.7	0.00	1.70	0.85	NO
L0036863	0	0.69600E-07	386073.4	3868265.0	874.7	0.00	1.70	0.85	NO
L0036864	0	0.69600E-07	386069.8	3868265.1	874.7	0.00	1.70	0.85	NO
L0036865	0	0.69600E-07	386066.1	3868265.1	874.7	0.00	1.70	0.85	NO
L0036866	0	0.69600E-07	386062.4	3868265.1	874.8	0.00	1.70	0.85	NO
L0036867	0	0.69600E-07	386058.8	3868265.1	874.8	0.00	1.70	0.85	NO
L0036868	0	0.69600E-07	386055.1	3868265.1	874.8	0.00	1.70	0.85	NO
L0036869	0	0.69600E-07	386051.5	3868265.1	874.8	0.00	1.70	0.85	NO
L0036870	0	0.69600E-07	386047.8	3868265.2	874.8	0.00	1.70	0.85	NO
L0036871	0	0.69600E-07	386044.2	3868265.2	874.8	0.00	1.70	0.85	NO
L0036872	0	0.69600E-07	386040.5	3868265.2	874.8	0.00	1.70	0.85	NO
L0036873	0	0.69600E-07	386036.8	3868265.2	874.8	0.00	1.70	0.85	NO
L0036874	0	0.69600E-07	386033.2	3868265.2	874.8	0.00	1.70	0.85	NO
L0036875	0	0.69600E-07	386029.5	3868265.3	874.9	0.00	1.70	0.85	NO
L0036876	0	0.69600E-07	386025.9	3868265.3	874.9	0.00	1.70	0.85	NO

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L0036877	0	0.69600E-07	386022.2	3868265.3	874.9	0.00	1.70	0.85	NO	
L0036878	0	0.69600E-07	386018.6	3868265.3	874.9	0.00	1.70	0.85	NO	
L0036879	0	0.69600E-07	386014.9	3868265.3	874.9	0.00	1.70	0.85	NO	
L0036880	0	0.69600E-07	386011.2	3868265.3	874.9	0.00	1.70	0.85	NO	
L0036881	0	0.69600E-07	386007.6	3868265.4	874.9	0.00	1.70	0.85	NO	
L0036882	0	0.69600E-07	386003.9	3868265.4	875.0	0.00	1.70	0.85	NO	
L0036883	0	0.69600E-07	386000.3	3868265.4	875.0	0.00	1.70	0.85	NO	
L0036884	0	0.69600E-07	385996.6	3868265.4	875.0	0.00	1.70	0.85	NO	
L0036885	0	0.69600E-07	385993.0	3868265.4	875.0	0.00	1.70	0.85	NO	
L0036886	0	0.69600E-07	385989.3	3868265.5	875.0	0.00	1.70	0.85	NO	
L0036887	0	0.69600E-07	385985.6	3868265.5	875.0	0.00	1.70	0.85	NO	
L0036888	0	0.69600E-07	385982.0	3868265.5	875.0	0.00	1.70	0.85	NO	
L0036889	0	0.69600E-07	385978.3	3868265.5	875.0	0.00	1.70	0.85	NO	
L0036890	0	0.69600E-07	385974.7	3868265.5	875.0	0.00	1.70	0.85	NO	
L0036891	0	0.69600E-07	385971.0	3868265.5	875.0	0.00	1.70	0.85	NO	
L0036892	0	0.69600E-07	385967.4	3868265.6	874.9	0.00	1.70	0.85	NO	
L0036893	0	0.69600E-07	385963.7	3868265.6	874.9	0.00	1.70	0.85	NO	
L0036894	0	0.69600E-07	385960.0	3868265.6	874.9	0.00	1.70	0.85	NO	
L0036895	0	0.69600E-07	385956.4	3868265.6	874.9	0.00	1.70	0.85	NO	
L0036896	0	0.69600E-07	385952.7	3868265.6	874.9	0.00	1.70	0.85	NO	
L0036897	0	0.69600E-07	385949.1	3868265.7	874.9	0.00	1.70	0.85	NO	
L0036898	0	0.69600E-07	385945.4	3868265.7	874.8	0.00	1.70	0.85	NO	

L0036899	0	0.69600E-07	385941.7	3868265.7	874.8	0.00	1.70	0.85	NO
L0036900	0	0.69600E-07	385938.1	3868265.7	874.8	0.00	1.70	0.85	NO
L0036901	0	0.69600E-07	385934.4	3868265.7	874.8	0.00	1.70	0.85	NO
L0036902	0	0.69600E-07	385930.8	3868265.8	874.8	0.00	1.70	0.85	NO
L0036903	0	0.69600E-07	385927.1	3868265.8	874.7	0.00	1.70	0.85	NO
L0036904	0	0.69600E-07	385923.5	3868265.8	874.7	0.00	1.70	0.85	NO
L0036905	0	0.69600E-07	385919.8	3868265.8	874.7	0.00	1.70	0.85	NO
L0036906	0	0.69600E-07	385916.1	3868265.8	874.7	0.00	1.70	0.85	NO
L0036907	0	0.69600E-07	385912.5	3868265.8	874.7	0.00	1.70	0.85	NO
L0036908	0	0.69600E-07	385908.8	3868265.9	874.7	0.00	1.70	0.85	NO
L0036909	0	0.69600E-07	385905.2	3868265.9	874.7	0.00	1.70	0.85	NO
L0036910	0	0.69600E-07	385901.5	3868265.9	874.7	0.00	1.70	0.85	NO
L0036911	0	0.69600E-07	385897.9	3868265.9	874.7	0.00	1.70	0.85	NO
L0036912	0	0.69600E-07	385894.2	3868265.9	874.7	0.00	1.70	0.85	NO
L0036913	0	0.69600E-07	385890.5	3868266.0	874.7	0.00	1.70	0.85	NO
L0036914	0	0.69600E-07	385886.9	3868266.0	874.7	0.00	1.70	0.85	NO
L0036915	0	0.69600E-07	385883.2	3868266.0	874.7	0.00	1.70	0.85	NO
L0036916	0	0.69600E-07	385879.6	3868266.0	874.7	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

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L0036917	0	0.69600E-07	385875.9	3868266.0	874.7	0.00	1.70	0.85	NO	
L0036918	0	0.69600E-07	385872.3	3868266.0	874.8	0.00	1.70	0.85	NO	
L0036919	0	0.69600E-07	385868.6	3868266.1	874.8	0.00	1.70	0.85	NO	
L0036920	0	0.69600E-07	385864.9	3868266.1	874.8	0.00	1.70	0.85	NO	
L0036921	0	0.69600E-07	385861.3	3868266.1	874.8	0.00	1.70	0.85	NO	
L0036922	0	0.69600E-07	385857.6	3868266.1	874.8	0.00	1.70	0.85	NO	
L0036923	0	0.69600E-07	385854.0	3868266.1	874.8	0.00	1.70	0.85	NO	
L0036924	0	0.69600E-07	385850.3	3868266.2	874.8	0.00	1.70	0.85	NO	
L0036925	0	0.69600E-07	385846.7	3868266.2	874.8	0.00	1.70	0.85	NO	
L0036926	0	0.69600E-07	385843.0	3868266.2	874.9	0.00	1.70	0.85	NO	
L0036927	0	0.69600E-07	385839.3	3868266.2	874.9	0.00	1.70	0.85	NO	
L0036928	0	0.69600E-07	385835.7	3868266.2	874.9	0.00	1.70	0.85	NO	
L0036929	0	0.69600E-07	385832.0	3868266.2	874.9	0.00	1.70	0.85	NO	
L0036930	0	0.69600E-07	385828.4	3868266.3	874.9	0.00	1.70	0.85	NO	
L0036931	0	0.69600E-07	385824.7	3868266.3	874.9	0.00	1.70	0.85	NO	
L0036932	0	0.69600E-07	385821.0	3868266.3	874.9	0.00	1.70	0.85	NO	
L0036933	0	0.69600E-07	385817.4	3868266.3	874.9	0.00	1.70	0.85	NO	
L0036934	0	0.69600E-07	385813.7	3868266.3	874.9	0.00	1.70	0.85	NO	
L0036935	0	0.69600E-07	385810.1	3868266.4	874.9	0.00	1.70	0.85	NO	

L0036936	0	0.69600E-07	385806.4	3868266.4	874.9	0.00	1.70	0.85	NO
L0036937	0	0.69600E-07	385802.8	3868266.4	874.9	0.00	1.70	0.85	NO
L0036938	0	0.69600E-07	385799.1	3868266.4	874.9	0.00	1.70	0.85	NO
L0036939	0	0.69600E-07	385795.4	3868266.4	874.9	0.00	1.70	0.85	NO
L0036940	0	0.69600E-07	385791.8	3868266.4	874.8	0.00	1.70	0.85	NO
L0036941	0	0.69600E-07	385788.1	3868266.5	874.8	0.00	1.70	0.85	NO
L0036942	0	0.69600E-07	385784.5	3868266.5	874.8	0.00	1.70	0.85	NO
L0036943	0	0.69600E-07	385780.8	3868266.5	874.7	0.00	1.70	0.85	NO
L0036944	0	0.69600E-07	385777.2	3868266.5	874.7	0.00	1.70	0.85	NO
L0036945	0	0.69600E-07	385773.5	3868266.5	874.7	0.00	1.70	0.85	NO
L0036946	0	0.69600E-07	385769.8	3868266.6	874.6	0.00	1.70	0.85	NO
L0036947	0	0.69600E-07	385766.2	3868266.6	874.6	0.00	1.70	0.85	NO
L0036948	0	0.69600E-07	385762.5	3868266.6	874.6	0.00	1.70	0.85	NO
L0036949	0	0.69600E-07	385758.9	3868266.6	874.5	0.00	1.70	0.85	NO
L0036950	0	0.69600E-07	385755.2	3868266.6	874.5	0.00	1.70	0.85	NO
L0036951	0	0.69600E-07	385751.6	3868266.6	874.5	0.00	1.70	0.85	NO
L0036952	0	0.69600E-07	385747.9	3868266.7	874.5	0.00	1.70	0.85	NO
L0036953	0	0.69600E-07	385744.2	3868266.7	874.5	0.00	1.70	0.85	NO
L0036954	0	0.69600E-07	385740.6	3868266.7	874.5	0.00	1.70	0.85	NO
L0036955	0	0.69600E-07	385736.9	3868266.7	874.5	0.00	1.70	0.85	NO
L0036956	0	0.69600E-07	385733.3	3868266.7	874.5	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0036957	0	0.69600E-07	385729.6	3868266.8	874.5	0.00	1.70	0.85	NO	
L0036958	0	0.69600E-07	385726.0	3868266.8	874.5	0.00	1.70	0.85	NO	
L0036959	0	0.69600E-07	385722.3	3868266.8	874.5	0.00	1.70	0.85	NO	
L0036960	0	0.69600E-07	385718.6	3868266.8	874.5	0.00	1.70	0.85	NO	
L0036961	0	0.69600E-07	385715.0	3868266.8	874.5	0.00	1.70	0.85	NO	
L0036962	0	0.69600E-07	385711.3	3868266.8	874.6	0.00	1.70	0.85	NO	
L0036963	0	0.69600E-07	385707.7	3868266.9	874.6	0.00	1.70	0.85	NO	
L0036964	0	0.69600E-07	385704.0	3868266.9	874.6	0.00	1.70	0.85	NO	
L0036965	0	0.69600E-07	385700.4	3868266.9	874.6	0.00	1.70	0.85	NO	
L0036966	0	0.69600E-07	385696.7	3868266.9	874.6	0.00	1.70	0.85	NO	
L0036967	0	0.69600E-07	385693.0	3868266.9	874.6	0.00	1.70	0.85	NO	
L0036968	0	0.69600E-07	385689.4	3868267.0	874.6	0.00	1.70	0.85	NO	
L0036969	0	0.69600E-07	385685.7	3868267.0	874.7	0.00	1.70	0.85	NO	
L0036970	0	0.69600E-07	385682.1	3868267.0	874.7	0.00	1.70	0.85	NO	
L0036971	0	0.69600E-07	385678.4	3868267.0	874.7	0.00	1.70	0.85	NO	
L0036972	0	0.69600E-07	385674.7	3868267.0	874.7	0.00	1.70	0.85	NO	

L0036973	0	0.69600E-07	385671.1	3868267.1	874.7	0.00	1.70	0.85	NO
L0036974	0	0.69600E-07	385667.4	3868267.1	874.7	0.00	1.70	0.85	NO
L0036975	0	0.69600E-07	385663.8	3868267.1	874.7	0.00	1.70	0.85	NO
L0036976	0	0.69600E-07	385660.1	3868267.1	874.7	0.00	1.70	0.85	NO
L0036977	0	0.69600E-07	385656.5	3868267.1	874.7	0.00	1.70	0.85	NO
L0036978	0	0.69600E-07	385652.8	3868267.1	874.7	0.00	1.70	0.85	NO
L0036979	0	0.69600E-07	385649.1	3868267.2	874.7	0.00	1.70	0.85	NO
L0036980	0	0.69600E-07	385645.5	3868267.2	874.8	0.00	1.70	0.85	NO
L0036981	0	0.69600E-07	385641.8	3868267.2	874.8	0.00	1.70	0.85	NO
L0036982	0	0.69600E-07	385638.2	3868267.2	874.8	0.00	1.70	0.85	NO
L0036983	0	0.69600E-07	385634.5	3868267.2	874.8	0.00	1.70	0.85	NO
L0036984	0	0.69600E-07	385630.9	3868267.3	874.8	0.00	1.70	0.85	NO
L0036985	0	0.69600E-07	385627.2	3868267.3	874.8	0.00	1.70	0.85	NO
L0036986	0	0.69600E-07	385623.5	3868267.3	874.8	0.00	1.70	0.85	NO
L0036987	0	0.69600E-07	385619.9	3868267.3	874.8	0.00	1.70	0.85	NO
L0036988	0	0.69600E-07	385616.2	3868267.3	874.8	0.00	1.70	0.85	NO
L0036989	0	0.69600E-07	385612.6	3868267.3	874.8	0.00	1.70	0.85	NO
L0036990	0	0.69600E-07	385608.9	3868267.4	874.9	0.00	1.70	0.85	NO
L0036991	0	0.69600E-07	385605.3	3868267.4	874.9	0.00	1.70	0.85	NO
L0036992	0	0.69600E-07	385601.6	3868267.4	874.9	0.00	1.70	0.85	NO
L0036993	0	0.69600E-07	385597.9	3868267.4	874.9	0.00	1.70	0.85	NO
L0036994	0	0.69600E-07	385594.3	3868267.4	874.9	0.00	1.70	0.85	NO
L0036995	0	0.69600E-07	385590.6	3868267.5	875.0	0.00	1.70	0.85	NO
L0036996	0	0.69600E-07	385587.0	3868267.5	875.0	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0036997	0	0.69600E-07	385583.3	3868267.5	875.1	0.00	1.70	0.85	NO	
L0036998	0	0.69600E-07	385579.7	3868267.5	875.1	0.00	1.70	0.85	NO	
L0036999	0	0.69600E-07	385576.0	3868267.5	875.2	0.00	1.70	0.85	NO	
L0037000	0	0.69600E-07	385572.3	3868267.5	875.2	0.00	1.70	0.85	NO	
L0037001	0	0.69600E-07	385568.7	3868267.6	875.3	0.00	1.70	0.85	NO	
L0037002	0	0.69600E-07	385565.0	3868267.6	875.3	0.00	1.70	0.85	NO	
L0037003	0	0.69600E-07	385561.4	3868267.6	875.3	0.00	1.70	0.85	NO	
L0037004	0	0.69600E-07	385557.7	3868267.6	875.4	0.00	1.70	0.85	NO	
L0037005	0	0.69600E-07	385554.0	3868267.6	875.4	0.00	1.70	0.85	NO	
L0037006	0	0.69600E-07	385550.4	3868267.7	875.4	0.00	1.70	0.85	NO	
L0037007	0	0.69600E-07	385546.7	3868267.7	875.4	0.00	1.70	0.85	NO	
L0037008	0	0.69600E-07	385543.1	3868267.7	875.4	0.00	1.70	0.85	NO	
L0037009	0	0.69600E-07	385539.4	3868267.7	875.4	0.00	1.70	0.85	NO	

L0037010	0	0.69600E-07	385535.8	3868267.7	875.5	0.00	1.70	0.85	NO
L0037011	0	0.69600E-07	385532.1	3868267.7	875.5	0.00	1.70	0.85	NO
L0037012	0	0.69600E-07	385528.4	3868267.8	875.5	0.00	1.70	0.85	NO
L0037013	0	0.69600E-07	385524.8	3868267.8	875.5	0.00	1.70	0.85	NO
L0037014	0	0.69600E-07	385521.1	3868267.8	875.5	0.00	1.70	0.85	NO
L0037015	0	0.69600E-07	385517.5	3868267.8	875.5	0.00	1.70	0.85	NO
L0037016	0	0.69600E-07	385513.8	3868267.8	875.4	0.00	1.70	0.85	NO
L0037017	0	0.69600E-07	385510.2	3868267.9	875.4	0.00	1.70	0.85	NO
L0037018	0	0.69600E-07	385506.5	3868267.9	875.4	0.00	1.70	0.85	NO
L0037019	0	0.69600E-07	385502.8	3868267.9	875.4	0.00	1.70	0.85	NO
L0037020	0	0.69600E-07	385499.2	3868267.9	875.4	0.00	1.70	0.85	NO
L0037021	0	0.69600E-07	385495.5	3868267.9	875.4	0.00	1.70	0.85	NO
L0037022	0	0.69600E-07	385491.9	3868267.9	875.4	0.00	1.70	0.85	NO
L0037023	0	0.69600E-07	385488.2	3868268.0	875.4	0.00	1.70	0.85	NO
L0037024	0	0.69600E-07	385484.6	3868268.0	875.4	0.00	1.70	0.85	NO
L0037025	0	0.69600E-07	385480.9	3868268.0	875.4	0.00	1.70	0.85	NO
L0037026	0	0.69600E-07	385477.2	3868268.0	875.4	0.00	1.70	0.85	NO
L0037027	0	0.69600E-07	385473.6	3868268.0	875.3	0.00	1.70	0.85	NO
L0037028	0	0.69600E-07	385469.9	3868268.1	875.3	0.00	1.70	0.85	NO
L0037029	0	0.69600E-07	385466.3	3868268.1	875.3	0.00	1.70	0.85	NO
L0037030	0	0.69600E-07	385462.6	3868268.1	875.3	0.00	1.70	0.85	NO
L0037031	0	0.69600E-07	385459.0	3868268.1	875.3	0.00	1.70	0.85	NO
L0037032	0	0.69600E-07	385455.3	3868268.1	875.2	0.00	1.70	0.85	NO
L0037033	0	0.69600E-07	385451.6	3868268.1	875.2	0.00	1.70	0.85	NO
L0037034	0	0.69600E-07	385448.0	3868268.2	875.2	0.00	1.70	0.85	NO
L0037035	0	0.69600E-07	385444.3	3868268.2	875.2	0.00	1.70	0.85	NO
L0037036	0	0.69600E-07	385440.7	3868268.2	875.1	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0037037	0	0.69600E-07	385437.0	3868268.2	875.1	0.00	1.70	0.85	NO	
L0037038	0	0.69600E-07	385433.3	3868268.2	875.1	0.00	1.70	0.85	NO	
L0037039	0	0.69600E-07	385429.7	3868268.3	875.1	0.00	1.70	0.85	NO	
L0037040	0	0.69600E-07	385426.0	3868268.3	875.1	0.00	1.70	0.85	NO	
L0037041	0	0.69600E-07	385422.4	3868268.3	875.1	0.00	1.70	0.85	NO	
L0037042	0	0.69600E-07	385418.7	3868268.3	875.1	0.00	1.70	0.85	NO	
L0037043	0	0.69600E-07	385415.1	3868268.3	875.0	0.00	1.70	0.85	NO	
L0037044	0	0.69600E-07	385411.4	3868268.4	875.0	0.00	1.70	0.85	NO	
L0037045	0	0.69600E-07	385407.7	3868268.4	875.0	0.00	1.70	0.85	NO	
L0037046	0	0.69600E-07	385404.1	3868268.4	875.0	0.00	1.70	0.85	NO	

L0037047	0	0.69600E-07	385400.4	3868268.4	875.0	0.00	1.70	0.85	NO
L0037048	0	0.69600E-07	385396.8	3868268.4	874.9	0.00	1.70	0.85	NO
L0037049	0	0.69600E-07	385393.1	3868268.4	874.9	0.00	1.70	0.85	NO
L0037050	0	0.69600E-07	385389.5	3868268.5	874.9	0.00	1.70	0.85	NO
L0037051	0	0.69600E-07	385385.8	3868268.5	874.9	0.00	1.70	0.85	NO
L0037052	0	0.69600E-07	385382.1	3868268.5	874.9	0.00	1.70	0.85	NO
L0037053	0	0.69600E-07	385378.5	3868268.5	874.8	0.00	1.70	0.85	NO
L0037054	0	0.69600E-07	385374.8	3868268.5	874.8	0.00	1.70	0.85	NO
L0037055	0	0.69600E-07	385371.2	3868268.6	874.8	0.00	1.70	0.85	NO
L0037056	0	0.69600E-07	385367.5	3868268.6	874.8	0.00	1.70	0.85	NO
L0037057	0	0.69600E-07	385363.9	3868268.6	874.8	0.00	1.70	0.85	NO
L0037058	0	0.69600E-07	385360.2	3868268.6	874.8	0.00	1.70	0.85	NO
L0037059	0	0.69600E-07	385356.5	3868268.6	874.8	0.00	1.70	0.85	NO
L0037060	0	0.69600E-07	385352.9	3868268.6	874.8	0.00	1.70	0.85	NO
L0037061	0	0.69600E-07	385349.2	3868268.7	874.8	0.00	1.70	0.85	NO
L0037062	0	0.69600E-07	385345.6	3868268.7	874.8	0.00	1.70	0.85	NO
L0037063	0	0.69600E-07	385341.9	3868268.7	874.8	0.00	1.70	0.85	NO
L0037064	0	0.69600E-07	385338.3	3868268.7	874.8	0.00	1.70	0.85	NO
L0037065	0	0.69600E-07	385334.6	3868268.7	874.8	0.00	1.70	0.85	NO
L0037066	0	0.69600E-07	385330.9	3868268.8	874.8	0.00	1.70	0.85	NO
L0037067	0	0.69600E-07	385327.3	3868268.8	874.8	0.00	1.70	0.85	NO
L0037068	0	0.69600E-07	385323.6	3868268.8	874.9	0.00	1.70	0.85	NO
L0037069	0	0.69600E-07	385320.0	3868268.8	874.9	0.00	1.70	0.85	NO
L0037070	0	0.69600E-07	385316.3	3868268.8	874.9	0.00	1.70	0.85	NO
L0037071	0	0.69600E-07	385312.6	3868268.8	874.8	0.00	1.70	0.85	NO
L0037072	0	0.69600E-07	385309.0	3868268.9	874.8	0.00	1.70	0.85	NO
L0037073	0	0.69600E-07	385305.3	3868268.9	874.8	0.00	1.70	0.85	NO
L0037074	0	0.69600E-07	385301.7	3868268.9	874.8	0.00	1.70	0.85	NO
L0037075	0	0.69600E-07	385298.0	3868268.9	874.7	0.00	1.70	0.85	NO
L0037076	0	0.69600E-07	385294.4	3868268.9	874.7	0.00	1.70	0.85	NO

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SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0037077	0	0.69600E-07	385290.7	3868269.0	874.7	0.00	1.70	0.85	NO	
L0037078	0	0.69600E-07	385287.0	3868269.0	874.7	0.00	1.70	0.85	NO	
L0037079	0	0.69600E-07	385283.4	3868269.0	874.7	0.00	1.70	0.85	NO	
L0037080	0	0.69600E-07	385279.7	3868269.0	874.7	0.00	1.70	0.85	NO	
L0037081	0	0.69600E-07	385276.1	3868269.0	874.7	0.00	1.70	0.85	NO	
L0037082	0	0.69600E-07	385272.4	3868269.0	874.7	0.00	1.70	0.85	NO	
L0037083	0	0.69600E-07	385268.8	3868269.1	874.7	0.00	1.70	0.85	NO	

L0037084	0	0.69600E-07	385265.1	3868269.1	874.7	0.00	1.70	0.85	NO
L0037085	0	0.69600E-07	385261.4	3868269.1	874.6	0.00	1.70	0.85	NO
L0037086	0	0.69600E-07	385257.8	3868269.1	874.6	0.00	1.70	0.85	NO
L0037087	0	0.69600E-07	385254.1	3868269.1	874.5	0.00	1.70	0.85	NO
L0037088	0	0.69600E-07	385250.5	3868269.2	874.4	0.00	1.70	0.85	NO
L0037089	0	0.69600E-07	385246.8	3868269.2	874.4	0.00	1.70	0.85	NO
L0037090	0	0.69600E-07	385243.2	3868269.2	874.3	0.00	1.70	0.85	NO
L0037091	0	0.69600E-07	385239.5	3868269.2	874.2	0.00	1.70	0.85	NO
L0037092	0	0.69600E-07	385235.8	3868269.2	874.1	0.00	1.70	0.85	NO
L0037093	0	0.69600E-07	385232.2	3868269.2	873.9	0.00	1.70	0.85	NO
L0037094	0	0.69600E-07	385228.5	3868269.3	873.8	0.00	1.70	0.85	NO
L0037095	0	0.69600E-07	385224.9	3868269.3	873.7	0.00	1.70	0.85	NO
L0037096	0	0.69600E-07	385221.2	3868269.3	873.5	0.00	1.70	0.85	NO
L0037097	0	0.69600E-07	385217.6	3868269.3	873.4	0.00	1.70	0.85	NO
L0037098	0	0.69600E-07	385213.9	3868269.3	873.4	0.00	1.70	0.85	NO
L0037099	0	0.69600E-07	385210.2	3868269.4	873.4	0.00	1.70	0.85	NO
L0037100	0	0.69600E-07	385206.6	3868269.4	873.4	0.00	1.70	0.85	NO
L0037101	0	0.69600E-07	385202.9	3868269.4	873.3	0.00	1.70	0.85	NO
L0037102	0	0.69600E-07	385199.3	3868269.4	873.3	0.00	1.70	0.85	NO
L0037103	0	0.69600E-07	385195.6	3868269.4	873.3	0.00	1.70	0.85	NO
L0037104	0	0.69600E-07	385192.0	3868269.4	873.3	0.00	1.70	0.85	NO
L0037105	0	0.69600E-07	385188.3	3868269.4	873.4	0.00	1.70	0.85	NO
L0037106	0	0.69600E-07	385184.6	3868269.4	873.4	0.00	1.70	0.85	NO
L0037107	0	0.69600E-07	385181.0	3868269.3	873.5	0.00	1.70	0.85	NO
L0037108	0	0.69600E-07	385177.3	3868269.3	873.5	0.00	1.70	0.85	NO
L0037109	0	0.69600E-07	385173.7	3868269.3	873.6	0.00	1.70	0.85	NO
L0037110	0	0.69600E-07	385170.0	3868269.3	873.6	0.00	1.70	0.85	NO
L0037111	0	0.69600E-07	385166.3	3868269.3	873.7	0.00	1.70	0.85	NO
L0037112	0	0.69600E-07	385162.7	3868269.2	873.7	0.00	1.70	0.85	NO
L0037113	0	0.69600E-07	385159.0	3868269.2	873.7	0.00	1.70	0.85	NO
L0037114	0	0.69600E-07	385155.4	3868269.2	873.7	0.00	1.70	0.85	NO
L0037115	0	0.69600E-07	385151.7	3868269.2	873.8	0.00	1.70	0.85	NO
L0037116	0	0.69600E-07	385148.1	3868269.1	873.8	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0037117	0	0.69600E-07	385144.4	3868269.1	873.8	0.00	1.70	0.85	NO	
L0037118	0	0.69600E-07	385140.7	3868269.1	873.8	0.00	1.70	0.85	NO	
L0037119	0	0.69600E-07	385137.1	3868269.1	873.8	0.00	1.70	0.85	NO	
L0037120	0	0.69600E-07	385133.4	3868269.1	873.8	0.00	1.70	0.85	NO	

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L0037121         0   0.69600E-07  385129.8 3868269.0   873.7     0.00     1.70     0.85     NO
L0037122         0   0.69600E-07  385126.1 3868269.0   873.7     0.00     1.70     0.85     NO
L0037123         0   0.69600E-07  385122.5 3868269.0   873.7     0.00     1.70     0.85     NO
L0037124         0   0.69600E-07  385118.8 3868269.0   873.6     0.00     1.70     0.85     NO
L0037125         0   0.69600E-07  385115.1 3868269.0   873.6     0.00     1.70     0.85     NO
L0037126         0   0.69600E-07  385111.5 3868268.9   873.6     0.00     1.70     0.85     NO
L0037127         0   0.69600E-07  385107.8 3868268.9   873.5     0.00     1.70     0.85     NO
L0037128         0   0.69600E-07  385104.2 3868268.9   873.5     0.00     1.70     0.85     NO
L0037129         0   0.69600E-07  385100.5 3868268.9   873.5     0.00     1.70     0.85     NO
L0037130         0   0.69600E-07  385096.9 3868268.8   873.4     0.00     1.70     0.85     NO
L0037131         0   0.69600E-07  385093.2 3868268.8   873.4     0.00     1.70     0.85     NO
L0037132         0   0.69600E-07  385089.5 3868268.8   873.3     0.00     1.70     0.85     NO
L0037133         0   0.69600E-07  385085.9 3868268.8   873.3     0.00     1.70     0.85     NO
L0037134         0   0.69600E-07  385082.2 3868268.8   873.3     0.00     1.70     0.85     NO
L0037135         0   0.69600E-07  385078.6 3868268.7   873.3     0.00     1.70     0.85     NO
L0037136         0   0.69600E-07  385074.9 3868268.7   873.3     0.00     1.70     0.85     NO
L0037137         0   0.69600E-07  385071.3 3868268.7   873.3     0.00     1.70     0.85     NO
L0037138         0   0.69600E-07  385067.6 3868268.7   873.3     0.00     1.70     0.85     NO
L0037139         0   0.69600E-07  385063.9 3868268.7   873.3     0.00     1.70     0.85     NO
L0037140         0   0.69600E-07  385060.3 3868268.6   873.3     0.00     1.70     0.85     NO
L0037141         0   0.69600E-07  385056.6 3868268.6   873.3     0.00     1.70     0.85     NO
L0037142         0   0.69600E-07  385053.0 3868268.6   873.3     0.00     1.70     0.85     NO
L0037143         0   0.69600E-07  385049.3 3868268.6   873.3     0.00     1.70     0.85     NO
L0037144         0   0.69600E-07  385045.6 3868268.5   873.3     0.00     1.70     0.85     NO
L0037145         0   0.69600E-07  385042.0 3868268.5   873.3     0.00     1.70     0.85     NO
L0037146         0   0.69600E-07  385038.3 3868268.5   873.3     0.00     1.70     0.85     NO
L0037147         0   0.69600E-07  385034.7 3868268.5   873.3     0.00     1.70     0.85     NO
L0037148         0   0.69600E-07  385031.0 3868268.5   873.3     0.00     1.70     0.85     NO
L0037149         0   0.69600E-07  385027.4 3868268.4   873.4     0.00     1.70     0.85     NO
L0037150         0   0.69600E-07  385023.7 3868268.4   873.4     0.00     1.70     0.85     NO
L0037151         0   0.69600E-07  385020.0 3868268.4   873.4     0.00     1.70     0.85     NO
L0037152         0   0.69600E-07  385016.4 3868268.4   873.4     0.00     1.70     0.85     NO
L0037153         0   0.69600E-07  385012.7 3868268.4   873.4     0.00     1.70     0.85     NO
L0037154         0   0.69600E-07  385009.1 3868268.3   873.4     0.00     1.70     0.85     NO
L0037155         0   0.69600E-07  385005.4 3868268.3   873.5     0.00     1.70     0.85     NO
L0037156         0   0.69600E-07  385001.8 3868268.3   873.5     0.00     1.70     0.85     NO

*** AERMOD - VERSION 21112  ***   *** 19294 Gem Hill Quarry - rev                                    ***        01/06/22
*** AERMET - VERSION  14134 ***   *** Opening Year 2021                                             ***        11:52:36
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*** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  VectorWS


                                          *** VOLUME SOURCE DATA ***

             NUMBER EMISSION RATE                   BASE    RELEASE    INIT.    INIT.   URBAN  EMISSION RATE
  SOURCE      PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY       SZ     SOURCE  SCALAR VARY
    ID        CATS.               (METERS) (METERS) (METERS) (METERS) (METERS) (METERS)             BY
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

L0037157         0   0.69600E-07  384998.1 3868268.3   873.5     0.00     1.70     0.85     NO
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L0037158	0	0.69600E-07	384994.4	3868268.2	873.5	0.00	1.70	0.85	NO
L0037159	0	0.69600E-07	384990.8	3868268.2	873.5	0.00	1.70	0.85	NO
L0037160	0	0.69600E-07	384987.1	3868268.2	873.5	0.00	1.70	0.85	NO
L0037161	0	0.69600E-07	384983.5	3868268.2	873.6	0.00	1.70	0.85	NO
L0037162	0	0.69600E-07	384979.8	3868268.2	873.6	0.00	1.70	0.85	NO
L0037163	0	0.69600E-07	384976.2	3868268.1	873.7	0.00	1.70	0.85	NO
L0037164	0	0.69600E-07	384972.5	3868268.1	873.7	0.00	1.70	0.85	NO
L0037165	0	0.69600E-07	384968.8	3868268.1	873.8	0.00	1.70	0.85	NO
L0037166	0	0.69600E-07	384965.2	3868268.1	873.8	0.00	1.70	0.85	NO
L0037167	0	0.69600E-07	384961.5	3868268.1	873.9	0.00	1.70	0.85	NO
L0037168	0	0.69600E-07	384957.9	3868268.0	873.9	0.00	1.70	0.85	NO
L0037169	0	0.69600E-07	384954.2	3868268.0	873.9	0.00	1.70	0.85	NO
L0037170	0	0.69600E-07	384950.6	3868268.0	873.9	0.00	1.70	0.85	NO
L0037171	0	0.69600E-07	384946.9	3868268.0	873.9	0.00	1.70	0.85	NO
L0037172	0	0.69600E-07	384943.2	3868267.9	873.9	0.00	1.70	0.85	NO
L0037173	0	0.69600E-07	384939.6	3868267.9	873.9	0.00	1.70	0.85	NO
L0037174	0	0.69600E-07	384935.9	3868267.9	873.9	0.00	1.70	0.85	NO
L0037175	0	0.69600E-07	384932.3	3868267.9	873.9	0.00	1.70	0.85	NO
L0037176	0	0.69600E-07	384928.6	3868267.9	873.8	0.00	1.70	0.85	NO
L0037177	0	0.69600E-07	384925.0	3868267.8	873.8	0.00	1.70	0.85	NO
L0037178	0	0.69600E-07	384921.3	3868267.8	873.8	0.00	1.70	0.85	NO
L0037179	0	0.69600E-07	384917.6	3868267.8	873.8	0.00	1.70	0.85	NO
L0037180	0	0.69600E-07	384914.0	3868267.8	873.8	0.00	1.70	0.85	NO
L0037181	0	0.69600E-07	384910.3	3868267.8	873.8	0.00	1.70	0.85	NO
L0037182	0	0.69600E-07	384906.7	3868267.7	873.8	0.00	1.70	0.85	NO
L0037183	0	0.69600E-07	384903.0	3868267.7	873.8	0.00	1.70	0.85	NO
L0037184	0	0.69600E-07	384899.3	3868267.7	873.8	0.00	1.70	0.85	NO
L0037185	0	0.69600E-07	384895.7	3868267.7	873.8	0.00	1.70	0.85	NO
L0037186	0	0.69600E-07	384892.0	3868267.6	873.8	0.00	1.70	0.85	NO
L0037187	0	0.69600E-07	384888.4	3868267.6	873.8	0.00	1.70	0.85	NO
L0037188	0	0.69600E-07	384884.7	3868267.6	873.8	0.00	1.70	0.85	NO
L0037189	0	0.69600E-07	384881.1	3868267.6	873.8	0.00	1.70	0.85	NO
L0037190	0	0.69600E-07	384877.4	3868267.6	873.8	0.00	1.70	0.85	NO
L0037191	0	0.69600E-07	384873.7	3868267.5	873.8	0.00	1.70	0.85	NO
L0037192	0	0.69600E-07	384870.1	3868267.5	873.8	0.00	1.70	0.85	NO
L0037193	0	0.69600E-07	384866.4	3868267.5	873.8	0.00	1.70	0.85	NO
L0037194	0	0.69600E-07	384862.8	3868267.5	873.8	0.00	1.70	0.85	NO
L0037195	0	0.69600E-07	384859.1	3868267.5	873.8	0.00	1.70	0.85	NO
L0037196	0	0.69600E-07	384855.5	3868267.4	873.8	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY

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- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

L0037197         0   0.69600E-07  384851.8 3868267.4   873.8     0.00     1.70     0.85     NO
L0037198         0   0.69600E-07  384848.1 3868267.4   873.8     0.00     1.70     0.85     NO
L0037199         0   0.69600E-07  384844.5 3868267.4   873.8     0.00     1.70     0.85     NO
L0037200         0   0.69600E-07  384840.8 3868267.3   873.8     0.00     1.70     0.85     NO
L0037201         0   0.69600E-07  384837.2 3868267.3   873.8     0.00     1.70     0.85     NO
L0037202         0   0.69600E-07  384833.5 3868267.3   873.8     0.00     1.70     0.85     NO
L0037203         0   0.69600E-07  384829.9 3868267.3   873.8     0.00     1.70     0.85     NO
L0037204         0   0.69600E-07  384826.2 3868267.3   873.8     0.00     1.70     0.85     NO
L0037205         0   0.69600E-07  384822.5 3868267.2   873.8     0.00     1.70     0.85     NO
L0037206         0   0.69600E-07  384818.9 3868267.2   873.8     0.00     1.70     0.85     NO
L0037207         0   0.69600E-07  384815.2 3868267.2   873.8     0.00     1.70     0.85     NO
L0037208         0   0.69600E-07  384811.6 3868267.2   873.8     0.00     1.70     0.85     NO
L0037209         0   0.69600E-07  384807.9 3868267.2   873.9     0.00     1.70     0.85     NO
L0037210         0   0.69600E-07  384804.3 3868267.1   873.9     0.00     1.70     0.85     NO
L0037211         0   0.69600E-07  384800.6 3868267.1   873.9     0.00     1.70     0.85     NO
L0037212         0   0.69600E-07  384796.9 3868267.1   874.0     0.00     1.70     0.85     NO
L0037213         0   0.69600E-07  384793.3 3868267.1   874.0     0.00     1.70     0.85     NO
L0037214         0   0.69600E-07  384789.6 3868267.0   874.0     0.00     1.70     0.85     NO
L0037215         0   0.69600E-07  384786.0 3868267.0   874.0     0.00     1.70     0.85     NO
L0037216         0   0.69600E-07  384782.3 3868267.0   874.1     0.00     1.70     0.85     NO
L0037217         0   0.69600E-07  384778.6 3868267.0   874.1     0.00     1.70     0.85     NO
L0037218         0   0.69600E-07  384775.0 3868267.0   874.2     0.00     1.70     0.85     NO
L0037219         0   0.69600E-07  384771.3 3868266.9   874.2     0.00     1.70     0.85     NO
L0037220         0   0.69600E-07  384767.7 3868266.9   874.2     0.00     1.70     0.85     NO
L0037221         0   0.69600E-07  384764.0 3868266.9   874.3     0.00     1.70     0.85     NO
L0037222         0   0.69600E-07  384760.4 3868266.9   874.3     0.00     1.70     0.85     NO
L0037223         0   0.69600E-07  384756.7 3868266.9   874.3     0.00     1.70     0.85     NO
L0037224         0   0.69600E-07  384753.0 3868266.8   874.3     0.00     1.70     0.85     NO
L0037225         0   0.69600E-07  384749.4 3868266.8   874.4     0.00     1.70     0.85     NO
L0037226         0   0.69600E-07  384745.7 3868266.8   874.4     0.00     1.70     0.85     NO
L0037227         0   0.69600E-07  384742.1 3868266.8   874.4     0.00     1.70     0.85     NO
L0037228         0   0.69600E-07  384738.4 3868266.7   874.4     0.00     1.70     0.85     NO
L0037229         0   0.69600E-07  384734.8 3868266.7   874.4     0.00     1.70     0.85     NO
L0037230         0   0.69600E-07  384731.1 3868266.7   874.4     0.00     1.70     0.85     NO
L0037231         0   0.69600E-07  384727.4 3868266.7   874.4     0.00     1.70     0.85     NO
L0037232         0   0.69600E-07  384723.8 3868266.7   874.4     0.00     1.70     0.85     NO
L0037233         0   0.69600E-07  384720.1 3868266.6   874.4     0.00     1.70     0.85     NO
L0037234         0   0.69600E-07  384716.5 3868266.6   874.4     0.00     1.70     0.85     NO
L0037235         0   0.69600E-07  384712.8 3868266.6   874.4     0.00     1.70     0.85     NO
L0037236         0   0.69600E-07  384709.2 3868266.6   874.4     0.00     1.70     0.85     NO

*** AERMOD - VERSION 21112  ***   *** 19294 Gem Hill Quarry - rev                                    ***        01/06/22
*** AERMET - VERSION  14134 ***   *** Opening Year 2021                                             ***        11:52:36
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*** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  VectorWS


                                        *** VOLUME SOURCE DATA ***
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SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0037237	0	0.69600E-07	384705.5	3868266.6	874.4	0.00	1.70	0.85	NO	
L0037238	0	0.69600E-07	384701.8	3868266.5	874.4	0.00	1.70	0.85	NO	
L0037239	0	0.69600E-07	384698.2	3868266.5	874.4	0.00	1.70	0.85	NO	
L0037240	0	0.69600E-07	384694.5	3868266.5	874.4	0.00	1.70	0.85	NO	
L0037241	0	0.69600E-07	384690.9	3868266.5	874.3	0.00	1.70	0.85	NO	
L0037242	0	0.69600E-07	384687.2	3868266.4	874.3	0.00	1.70	0.85	NO	
L0037243	0	0.69600E-07	384683.6	3868266.4	874.3	0.00	1.70	0.85	NO	
L0037244	0	0.69600E-07	384679.9	3868266.4	874.3	0.00	1.70	0.85	NO	
L0037245	0	0.69600E-07	384676.2	3868266.4	874.3	0.00	1.70	0.85	NO	
L0037246	0	0.69600E-07	384672.6	3868266.4	874.3	0.00	1.70	0.85	NO	
L0037247	0	0.69600E-07	384668.9	3868266.3	874.3	0.00	1.70	0.85	NO	
L0037248	0	0.69600E-07	384665.3	3868266.3	874.4	0.00	1.70	0.85	NO	
L0037249	0	0.69600E-07	384661.6	3868266.3	874.4	0.00	1.70	0.85	NO	
L0037250	0	0.69600E-07	384658.0	3868266.3	874.4	0.00	1.70	0.85	NO	
L0037251	0	0.69600E-07	384654.3	3868266.3	874.4	0.00	1.70	0.85	NO	
L0037252	0	0.69600E-07	384650.6	3868266.2	874.4	0.00	1.70	0.85	NO	
L0037253	0	0.69600E-07	384647.0	3868266.2	874.4	0.00	1.70	0.85	NO	
L0037254	0	0.69600E-07	384643.3	3868266.2	874.5	0.00	1.70	0.85	NO	
L0037255	0	0.69600E-07	384639.7	3868266.2	874.5	0.00	1.70	0.85	NO	
L0037256	0	0.69600E-07	384636.0	3868266.1	874.5	0.00	1.70	0.85	NO	
L0037257	0	0.69600E-07	384632.3	3868266.1	874.5	0.00	1.70	0.85	NO	
L0037258	0	0.69600E-07	384628.7	3868266.1	874.5	0.00	1.70	0.85	NO	
L0037259	0	0.69600E-07	384625.0	3868266.1	874.5	0.00	1.70	0.85	NO	
L0037260	0	0.69600E-07	384621.4	3868266.1	874.5	0.00	1.70	0.85	NO	
L0037261	0	0.69600E-07	384617.7	3868266.0	874.5	0.00	1.70	0.85	NO	
L0037262	0	0.69600E-07	384614.1	3868266.0	874.4	0.00	1.70	0.85	NO	
L0037263	0	0.69600E-07	384610.4	3868266.0	874.4	0.00	1.70	0.85	NO	
L0037264	0	0.69600E-07	384606.7	3868266.0	874.4	0.00	1.70	0.85	NO	
L0037265	0	0.69600E-07	384603.1	3868266.0	874.3	0.00	1.70	0.85	NO	
L0037266	0	0.69600E-07	384599.4	3868265.9	874.3	0.00	1.70	0.85	NO	
L0037267	0	0.69600E-07	384595.8	3868265.9	874.2	0.00	1.70	0.85	NO	
L0037268	0	0.69600E-07	384592.1	3868265.9	874.1	0.00	1.70	0.85	NO	
L0037269	0	0.69600E-07	384588.5	3868265.9	874.1	0.00	1.70	0.85	NO	
L0037270	0	0.69600E-07	384584.8	3868265.8	874.0	0.00	1.70	0.85	NO	
L0037271	0	0.69600E-07	384581.1	3868265.8	873.9	0.00	1.70	0.85	NO	
L0037272	0	0.69600E-07	384577.5	3868265.8	873.9	0.00	1.70	0.85	NO	
L0037273	0	0.69600E-07	384573.8	3868265.8	873.8	0.00	1.70	0.85	NO	
L0037274	0	0.69600E-07	384570.2	3868265.8	873.8	0.00	1.70	0.85	NO	
L0037275	0	0.69600E-07	384566.5	3868265.7	873.8	0.00	1.70	0.85	NO	
L0037276	0	0.69600E-07	384562.9	3868265.7	873.7	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0037277	0	0.69600E-07	384559.2	3868265.7	873.7	0.00	1.70	0.85	NO	
L0037278	0	0.69600E-07	384555.5	3868265.7	873.6	0.00	1.70	0.85	NO	
L0037279	0	0.69600E-07	384551.9	3868265.7	873.6	0.00	1.70	0.85	NO	
L0037280	0	0.69600E-07	384548.2	3868265.6	873.7	0.00	1.70	0.85	NO	
L0037281	0	0.69600E-07	384544.6	3868265.6	873.7	0.00	1.70	0.85	NO	
L0037282	0	0.69600E-07	384540.9	3868265.6	873.7	0.00	1.70	0.85	NO	
L0037283	0	0.69600E-07	384537.3	3868265.6	873.7	0.00	1.70	0.85	NO	
L0037284	0	0.69600E-07	384533.6	3868265.5	873.7	0.00	1.70	0.85	NO	
L0037285	0	0.69600E-07	384529.9	3868265.5	873.7	0.00	1.70	0.85	NO	
L0037286	0	0.69600E-07	384526.3	3868265.5	873.6	0.00	1.70	0.85	NO	
L0037287	0	0.69600E-07	384522.6	3868265.5	873.6	0.00	1.70	0.85	NO	
L0037288	0	0.69600E-07	384519.0	3868265.5	873.5	0.00	1.70	0.85	NO	
L0037289	0	0.69600E-07	384515.3	3868265.4	873.5	0.00	1.70	0.85	NO	
L0037290	0	0.69600E-07	384511.6	3868265.4	873.4	0.00	1.70	0.85	NO	
L0037291	0	0.69600E-07	384508.0	3868265.4	873.4	0.00	1.70	0.85	NO	
L0037292	0	0.69600E-07	384504.3	3868265.4	873.3	0.00	1.70	0.85	NO	
L0037293	0	0.69600E-07	384500.7	3868265.4	873.2	0.00	1.70	0.85	NO	
L0037294	0	0.69600E-07	384497.0	3868265.3	873.2	0.00	1.70	0.85	NO	
L0037295	0	0.69600E-07	384493.4	3868265.3	873.1	0.00	1.70	0.85	NO	
L0037296	0	0.69600E-07	384489.7	3868265.3	873.0	0.00	1.70	0.85	NO	
L0037297	0	0.69600E-07	384486.0	3868265.3	873.0	0.00	1.70	0.85	NO	
L0037298	0	0.69600E-07	384482.4	3868265.2	872.9	0.00	1.70	0.85	NO	
L0037299	0	0.69600E-07	384478.7	3868265.2	872.9	0.00	1.70	0.85	NO	
L0037300	0	0.69600E-07	384475.1	3868265.2	872.8	0.00	1.70	0.85	NO	
L0037301	0	0.69600E-07	384471.4	3868265.2	872.8	0.00	1.70	0.85	NO	
L0037302	0	0.69600E-07	384467.8	3868265.2	872.7	0.00	1.70	0.85	NO	
L0037303	0	0.69600E-07	384464.1	3868265.1	872.6	0.00	1.70	0.85	NO	
L0037304	0	0.69600E-07	384460.4	3868265.1	872.6	0.00	1.70	0.85	NO	
L0037305	0	0.69600E-07	384456.8	3868265.1	872.5	0.00	1.70	0.85	NO	
L0037306	0	0.69600E-07	384453.1	3868265.1	872.5	0.00	1.70	0.85	NO	
L0037307	0	0.69600E-07	384449.5	3868265.1	872.5	0.00	1.70	0.85	NO	
L0037308	0	0.69600E-07	384445.8	3868265.0	872.4	0.00	1.70	0.85	NO	
L0037309	0	0.69600E-07	384442.2	3868265.0	872.4	0.00	1.70	0.85	NO	
L0037310	0	0.69600E-07	384438.5	3868265.0	872.3	0.00	1.70	0.85	NO	
L0037311	0	0.69600E-07	384434.8	3868265.0	872.3	0.00	1.70	0.85	NO	
L0037312	0	0.69600E-07	384431.2	3868264.9	872.2	0.00	1.70	0.85	NO	
L0037313	0	0.69600E-07	384427.5	3868264.9	872.2	0.00	1.70	0.85	NO	
L0037314	0	0.69600E-07	384423.9	3868264.9	872.2	0.00	1.70	0.85	NO	
L0037315	0	0.69600E-07	384420.2	3868264.9	872.2	0.00	1.70	0.85	NO	
L0037316	0	0.69600E-07	384416.6	3868264.9	872.2	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0037317	0	0.69600E-07	384412.9	3868264.8	872.1	0.00	1.70	0.85	NO	
L0037318	0	0.69600E-07	384409.2	3868264.8	872.1	0.00	1.70	0.85	NO	
L0037319	0	0.69600E-07	384405.6	3868264.8	872.1	0.00	1.70	0.85	NO	
L0037320	0	0.69600E-07	384401.9	3868264.8	872.1	0.00	1.70	0.85	NO	
L0037321	0	0.69600E-07	384398.3	3868264.8	872.1	0.00	1.70	0.85	NO	
L0037322	0	0.69600E-07	384394.6	3868264.7	872.1	0.00	1.70	0.85	NO	
L0037323	0	0.69600E-07	384391.0	3868264.7	872.0	0.00	1.70	0.85	NO	
L0037324	0	0.69600E-07	384387.3	3868264.7	872.0	0.00	1.70	0.85	NO	
L0037325	0	0.69600E-07	384383.6	3868264.7	872.0	0.00	1.70	0.85	NO	
L0037326	0	0.69600E-07	384380.0	3868264.6	872.0	0.00	1.70	0.85	NO	
L0037327	0	0.69600E-07	384376.3	3868264.6	872.0	0.00	1.70	0.85	NO	
L0037328	0	0.69600E-07	384372.7	3868264.6	872.0	0.00	1.70	0.85	NO	
L0037329	0	0.69600E-07	384369.0	3868264.6	872.0	0.00	1.70	0.85	NO	
L0037330	0	0.69600E-07	384365.3	3868264.6	872.0	0.00	1.70	0.85	NO	
L0037331	0	0.69600E-07	384361.7	3868264.5	872.0	0.00	1.70	0.85	NO	
L0037332	0	0.69600E-07	384358.0	3868264.5	872.0	0.00	1.70	0.85	NO	
L0037333	0	0.69600E-07	384354.4	3868264.5	872.0	0.00	1.70	0.85	NO	
L0037334	0	0.69600E-07	384350.7	3868264.5	872.0	0.00	1.70	0.85	NO	
L0037335	0	0.69600E-07	384347.1	3868264.5	872.0	0.00	1.70	0.85	NO	
L0037336	0	0.69600E-07	384343.4	3868264.4	872.0	0.00	1.70	0.85	NO	
L0037337	0	0.69600E-07	384339.7	3868264.4	872.1	0.00	1.70	0.85	NO	
L0037338	0	0.69600E-07	384336.1	3868264.4	872.1	0.00	1.70	0.85	NO	
L0037339	0	0.69600E-07	384332.4	3868264.4	872.1	0.00	1.70	0.85	NO	
L0037340	0	0.69600E-07	384328.8	3868264.3	872.1	0.00	1.70	0.85	NO	
L0037341	0	0.69600E-07	384325.1	3868264.3	872.1	0.00	1.70	0.85	NO	
L0037342	0	0.69600E-07	384321.5	3868264.3	872.0	0.00	1.70	0.85	NO	
L0037343	0	0.69600E-07	384317.8	3868264.3	872.0	0.00	1.70	0.85	NO	
L0037344	0	0.69600E-07	384314.1	3868264.3	871.9	0.00	1.70	0.85	NO	
L0037345	0	0.69600E-07	384310.5	3868264.2	871.9	0.00	1.70	0.85	NO	
L0037346	0	0.69600E-07	384306.8	3868264.2	871.8	0.00	1.70	0.85	NO	
L0037347	0	0.69600E-07	384303.2	3868264.2	871.8	0.00	1.70	0.85	NO	
L0037348	0	0.69600E-07	384299.5	3868264.2	871.7	0.00	1.70	0.85	NO	
L0037349	0	0.69600E-07	384295.9	3868264.2	871.6	0.00	1.70	0.85	NO	
L0037350	0	0.69600E-07	384292.2	3868264.1	871.5	0.00	1.70	0.85	NO	
L0037351	0	0.69600E-07	384288.5	3868264.1	871.4	0.00	1.70	0.85	NO	
L0037352	0	0.69600E-07	384284.9	3868264.1	871.4	0.00	1.70	0.85	NO	
L0037353	0	0.69600E-07	384281.2	3868264.1	871.3	0.00	1.70	0.85	NO	
L0037354	0	0.69600E-07	384277.6	3868264.0	871.2	0.00	1.70	0.85	NO	
L0037355	0	0.69600E-07	384273.9	3868264.0	871.2	0.00	1.70	0.85	NO	
L0037356	0	0.69600E-07	384270.3	3868264.0	871.2	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0037357	0	0.69600E-07	384266.6	3868264.0	871.1	0.00	1.70	0.85	NO	
L0037358	0	0.69600E-07	384262.9	3868264.0	871.1	0.00	1.70	0.85	NO	
L0037359	0	0.69600E-07	384259.3	3868263.9	871.1	0.00	1.70	0.85	NO	
L0037360	0	0.69600E-07	384255.6	3868263.9	871.1	0.00	1.70	0.85	NO	
L0037361	0	0.69600E-07	384252.0	3868263.9	871.1	0.00	1.70	0.85	NO	
L0037362	0	0.69600E-07	384248.3	3868263.9	871.1	0.00	1.70	0.85	NO	
L0037363	0	0.69600E-07	384244.6	3868263.9	871.1	0.00	1.70	0.85	NO	
L0037364	0	0.69600E-07	384241.0	3868263.8	871.1	0.00	1.70	0.85	NO	
L0037365	0	0.69600E-07	384237.3	3868263.8	871.1	0.00	1.70	0.85	NO	
L0037366	0	0.69600E-07	384233.7	3868263.8	871.1	0.00	1.70	0.85	NO	
L0037367	0	0.69600E-07	384230.0	3868263.8	871.1	0.00	1.70	0.85	NO	
L0037368	0	0.69600E-07	384226.4	3868263.7	871.1	0.00	1.70	0.85	NO	
L0037369	0	0.69600E-07	384222.7	3868263.7	871.1	0.00	1.70	0.85	NO	
L0037370	0	0.69600E-07	384219.0	3868263.7	871.1	0.00	1.70	0.85	NO	
L0037371	0	0.69600E-07	384215.4	3868263.7	871.1	0.00	1.70	0.85	NO	
L0037372	0	0.69600E-07	384211.7	3868263.7	871.2	0.00	1.70	0.85	NO	
L0037373	0	0.69600E-07	384208.1	3868263.6	871.2	0.00	1.70	0.85	NO	
L0037374	0	0.69600E-07	384204.4	3868263.6	871.2	0.00	1.70	0.85	NO	
L0037375	0	0.69600E-07	384200.8	3868263.6	871.2	0.00	1.70	0.85	NO	
L0037376	0	0.69600E-07	384197.1	3868263.6	871.2	0.00	1.70	0.85	NO	
L0037377	0	0.69600E-07	384193.4	3868263.6	871.2	0.00	1.70	0.85	NO	
L0037378	0	0.69600E-07	384189.8	3868263.5	871.2	0.00	1.70	0.85	NO	
L0037379	0	0.69600E-07	384186.1	3868263.5	871.2	0.00	1.70	0.85	NO	
L0037380	0	0.69600E-07	384182.5	3868263.5	871.2	0.00	1.70	0.85	NO	
L0037381	0	0.69600E-07	384178.8	3868263.5	871.1	0.00	1.70	0.85	NO	
L0037382	0	0.69600E-07	384175.2	3868263.4	871.1	0.00	1.70	0.85	NO	
L0037383	0	0.69600E-07	384171.5	3868263.4	871.1	0.00	1.70	0.85	NO	
L0037384	0	0.69600E-07	384167.8	3868263.4	871.1	0.00	1.70	0.85	NO	
L0037385	0	0.69600E-07	384164.2	3868263.4	871.1	0.00	1.70	0.85	NO	
L0037386	0	0.69600E-07	384160.5	3868263.4	871.1	0.00	1.70	0.85	NO	
L0037387	0	0.69600E-07	384156.9	3868263.3	871.1	0.00	1.70	0.85	NO	
L0037388	0	0.69600E-07	384153.2	3868263.3	871.1	0.00	1.70	0.85	NO	
L0037389	0	0.69600E-07	384149.6	3868263.3	871.1	0.00	1.70	0.85	NO	
L0037390	0	0.69600E-07	384145.9	3868263.3	871.1	0.00	1.70	0.85	NO	
L0037391	0	0.69600E-07	384142.2	3868263.3	871.1	0.00	1.70	0.85	NO	
L0037392	0	0.69600E-07	384138.6	3868263.2	871.1	0.00	1.70	0.85	NO	
L0037393	0	0.69600E-07	384134.9	3868263.2	871.1	0.00	1.70	0.85	NO	

L0037394	0	0.69600E-07	384131.3	3868263.2	871.1	0.00	1.70	0.85	NO
L0037395	0	0.69600E-07	384127.6	3868263.2	871.1	0.00	1.70	0.85	NO
L0037396	0	0.69600E-07	384124.0	3868263.1	871.1	0.00	1.70	0.85	NO

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*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0037397	0	0.69600E-07	384120.3	3868263.1	871.1	0.00	1.70	0.85	NO	
L0037398	0	0.69600E-07	384116.6	3868263.1	871.0	0.00	1.70	0.85	NO	
L0037399	0	0.69600E-07	384113.0	3868263.1	871.0	0.00	1.70	0.85	NO	
L0037400	0	0.69600E-07	384109.3	3868263.1	871.0	0.00	1.70	0.85	NO	
L0037401	0	0.69600E-07	384105.7	3868263.0	871.0	0.00	1.70	0.85	NO	
L0037402	0	0.69600E-07	384102.0	3868263.0	871.0	0.00	1.70	0.85	NO	
L0037403	0	0.69600E-07	384098.3	3868263.0	871.0	0.00	1.70	0.85	NO	
L0037404	0	0.69600E-07	384094.7	3868263.0	870.9	0.00	1.70	0.85	NO	
L0037405	0	0.69600E-07	384091.0	3868263.0	870.9	0.00	1.70	0.85	NO	
L0037406	0	0.69600E-07	384087.4	3868262.9	870.8	0.00	1.70	0.85	NO	
L0037407	0	0.69600E-07	384083.7	3868262.9	870.8	0.00	1.70	0.85	NO	
L0037408	0	0.69600E-07	384080.1	3868262.9	870.7	0.00	1.70	0.85	NO	
L0037409	0	0.69600E-07	384076.4	3868262.9	870.7	0.00	1.70	0.85	NO	
L0037410	0	0.69600E-07	384072.7	3868262.8	870.6	0.00	1.70	0.85	NO	
L0037411	0	0.69600E-07	384069.1	3868262.8	870.6	0.00	1.70	0.85	NO	
L0037412	0	0.69600E-07	384065.4	3868262.8	870.5	0.00	1.70	0.85	NO	
L0037413	0	0.69600E-07	384061.8	3868262.8	870.5	0.00	1.70	0.85	NO	
L0037414	0	0.69600E-07	384058.1	3868262.8	870.4	0.00	1.70	0.85	NO	
L0037415	0	0.69600E-07	384054.5	3868262.7	870.4	0.00	1.70	0.85	NO	
L0037416	0	0.69600E-07	384050.8	3868262.7	870.3	0.00	1.70	0.85	NO	
L0037417	0	0.69600E-07	384047.1	3868262.7	870.3	0.00	1.70	0.85	NO	
L0037418	0	0.69600E-07	384043.5	3868262.7	870.2	0.00	1.70	0.85	NO	
L0037419	0	0.69600E-07	384039.8	3868262.6	870.2	0.00	1.70	0.85	NO	
L0037420	0	0.69600E-07	384036.2	3868262.6	870.1	0.00	1.70	0.85	NO	
L0037421	0	0.69600E-07	384032.7	3868261.6	870.1	0.00	1.70	0.85	NO	
L0037422	0	0.69600E-07	384029.3	3868260.2	870.0	0.00	1.70	0.85	NO	
L0037423	0	0.69600E-07	384026.0	3868258.8	869.9	0.00	1.70	0.85	NO	
L0037424	0	0.69600E-07	384022.6	3868257.4	869.9	0.00	1.70	0.85	NO	
L0037425	0	0.69600E-07	384019.2	3868256.0	869.8	0.00	1.70	0.85	NO	
L0037426	0	0.69600E-07	384015.8	3868254.6	869.8	0.00	1.70	0.85	NO	
L0037427	0	0.69600E-07	384012.5	3868253.2	869.7	0.00	1.70	0.85	NO	
L0037428	0	0.69600E-07	384009.1	3868251.8	869.7	0.00	1.70	0.85	NO	
L0037429	0	0.69600E-07	384005.7	3868250.4	869.6	0.00	1.70	0.85	NO	
L0037430	0	0.69600E-07	384002.3	3868248.9	869.5	0.00	1.70	0.85	NO	

L0037431	0	0.69600E-07	383999.0	3868247.5	869.5	0.00	1.70	0.85	NO
L0037432	0	0.69600E-07	383995.6	3868246.1	869.4	0.00	1.70	0.85	NO
L0037433	0	0.69600E-07	383992.2	3868244.7	869.4	0.00	1.70	0.85	NO
L0037434	0	0.69600E-07	383988.8	3868243.3	869.3	0.00	1.70	0.85	NO
L0037435	0	0.69600E-07	383985.5	3868241.9	869.2	0.00	1.70	0.85	NO
L0037436	0	0.69600E-07	383982.1	3868240.5	869.2	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0037437	0	0.69600E-07	383978.7	3868239.1	869.1	0.00	1.70	0.85	NO	
L0037438	0	0.69600E-07	383975.3	3868237.7	869.0	0.00	1.70	0.85	NO	
L0037439	0	0.69600E-07	383972.0	3868236.3	869.0	0.00	1.70	0.85	NO	
L0037440	0	0.69600E-07	383968.6	3868234.9	868.9	0.00	1.70	0.85	NO	
L0037441	0	0.69600E-07	383965.2	3868233.5	868.8	0.00	1.70	0.85	NO	
L0037442	0	0.69600E-07	383961.8	3868232.0	868.8	0.00	1.70	0.85	NO	
L0037443	0	0.69600E-07	383958.5	3868230.6	868.7	0.00	1.70	0.85	NO	
L0037444	0	0.69600E-07	383955.1	3868229.2	868.6	0.00	1.70	0.85	NO	
L0037445	0	0.69600E-07	383951.7	3868227.8	868.5	0.00	1.70	0.85	NO	
L0037446	0	0.69600E-07	383948.3	3868226.4	868.5	0.00	1.70	0.85	NO	
L0037447	0	0.69600E-07	383944.9	3868225.0	868.4	0.00	1.70	0.85	NO	
L0037448	0	0.69600E-07	383941.6	3868223.6	868.3	0.00	1.70	0.85	NO	
L0037449	0	0.69600E-07	383938.2	3868222.2	868.2	0.00	1.70	0.85	NO	
L0037450	0	0.69600E-07	383934.8	3868220.8	868.2	0.00	1.70	0.85	NO	
L0037451	0	0.69600E-07	383931.4	3868219.4	868.1	0.00	1.70	0.85	NO	
L0037452	0	0.69600E-07	383928.1	3868218.0	868.0	0.00	1.70	0.85	NO	
L0037453	0	0.69600E-07	383924.7	3868216.5	867.9	0.00	1.70	0.85	NO	
L0037454	0	0.69600E-07	383921.3	3868215.1	867.9	0.00	1.70	0.85	NO	
L0037455	0	0.69600E-07	383917.9	3868213.7	867.8	0.00	1.70	0.85	NO	
L0037456	0	0.69600E-07	383914.6	3868212.3	867.7	0.00	1.70	0.85	NO	
L0037457	0	0.69600E-07	383911.2	3868210.9	867.7	0.00	1.70	0.85	NO	
L0037458	0	0.69600E-07	383907.8	3868209.5	867.6	0.00	1.70	0.85	NO	
L0037459	0	0.69600E-07	383904.4	3868208.1	867.5	0.00	1.70	0.85	NO	
L0037460	0	0.69600E-07	383901.1	3868206.7	867.5	0.00	1.70	0.85	NO	
L0037461	0	0.69600E-07	383897.7	3868205.3	867.4	0.00	1.70	0.85	NO	
L0037462	0	0.69600E-07	383894.3	3868203.9	867.3	0.00	1.70	0.85	NO	
L0037463	0	0.69600E-07	383890.9	3868202.5	867.3	0.00	1.70	0.85	NO	
L0037464	0	0.69600E-07	383887.6	3868201.1	867.2	0.00	1.70	0.85	NO	
L0037465	0	0.69600E-07	383884.2	3868199.6	867.1	0.00	1.70	0.85	NO	
L0037466	0	0.69600E-07	383880.8	3868198.2	867.1	0.00	1.70	0.85	NO	
L0037467	0	0.69600E-07	383877.4	3868196.8	867.0	0.00	1.70	0.85	NO	

L0037468	0	0.69600E-07	383874.1	3868195.4	866.9	0.00	1.70	0.85	NO
L0037469	0	0.69600E-07	383870.7	3868194.0	866.9	0.00	1.70	0.85	NO
L0037470	0	0.69600E-07	383867.3	3868192.6	866.8	0.00	1.70	0.85	NO
L0037471	0	0.69600E-07	383863.9	3868191.2	866.7	0.00	1.70	0.85	NO
L0037472	0	0.69600E-07	383860.6	3868189.8	866.7	0.00	1.70	0.85	NO
L0037473	0	0.69600E-07	383857.2	3868188.4	866.6	0.00	1.70	0.85	NO
L0037474	0	0.69600E-07	383853.8	3868187.0	866.5	0.00	1.70	0.85	NO
L0037475	0	0.69600E-07	383850.4	3868185.6	866.5	0.00	1.70	0.85	NO
L0037476	0	0.69600E-07	383847.1	3868184.2	866.4	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0037477	0	0.69600E-07	383843.7	3868182.7	866.3	0.00	1.70	0.85	NO	
L0037478	0	0.69600E-07	383840.3	3868181.3	866.3	0.00	1.70	0.85	NO	
L0037479	0	0.69600E-07	383836.9	3868179.9	866.2	0.00	1.70	0.85	NO	
L0037480	0	0.69600E-07	383833.6	3868178.5	866.1	0.00	1.70	0.85	NO	
L0037481	0	0.69600E-07	383830.2	3868177.1	866.1	0.00	1.70	0.85	NO	
L0037482	0	0.69600E-07	383826.8	3868175.7	866.0	0.00	1.70	0.85	NO	
L0037483	0	0.69600E-07	383823.4	3868174.3	866.0	0.00	1.70	0.85	NO	
L0037484	0	0.69600E-07	383820.1	3868172.9	865.9	0.00	1.70	0.85	NO	
L0037485	0	0.69600E-07	383816.7	3868171.5	865.9	0.00	1.70	0.85	NO	
L0037486	0	0.69600E-07	383813.3	3868170.1	865.8	0.00	1.70	0.85	NO	
L0037487	0	0.69600E-07	383809.9	3868168.7	865.7	0.00	1.70	0.85	NO	
L0037488	0	0.69600E-07	383806.6	3868167.3	865.7	0.00	1.70	0.85	NO	
L0037489	0	0.69600E-07	383803.2	3868165.8	865.6	0.00	1.70	0.85	NO	
L0037490	0	0.69600E-07	383799.8	3868164.4	865.6	0.00	1.70	0.85	NO	
L0037491	0	0.69600E-07	383796.4	3868163.0	865.5	0.00	1.70	0.85	NO	
L0037492	0	0.69600E-07	383793.0	3868161.6	865.4	0.00	1.70	0.85	NO	
L0037493	0	0.69600E-07	383789.7	3868160.2	865.4	0.00	1.70	0.85	NO	
L0037494	0	0.69600E-07	383786.3	3868158.8	865.3	0.00	1.70	0.85	NO	
L0037495	0	0.69600E-07	383782.9	3868157.4	865.2	0.00	1.70	0.85	NO	
L0037496	0	0.69600E-07	383779.5	3868156.0	865.2	0.00	1.70	0.85	NO	
L0037497	0	0.69600E-07	383776.2	3868154.6	865.1	0.00	1.70	0.85	NO	
L0037498	0	0.69600E-07	383772.8	3868153.2	865.0	0.00	1.70	0.85	NO	
L0037499	0	0.69600E-07	383769.4	3868151.8	864.9	0.00	1.70	0.85	NO	
L0037500	0	0.69600E-07	383766.0	3868150.4	864.9	0.00	1.70	0.85	NO	
L0037501	0	0.69600E-07	383762.7	3868148.9	864.8	0.00	1.70	0.85	NO	
L0037502	0	0.69600E-07	383759.3	3868147.5	864.8	0.00	1.70	0.85	NO	
L0037503	0	0.69600E-07	383755.9	3868146.1	864.7	0.00	1.70	0.85	NO	
L0037504	0	0.69600E-07	383752.5	3868144.7	864.7	0.00	1.70	0.85	NO	

L0037505	0	0.69600E-07	383749.2	3868143.3	864.6	0.00	1.70	0.85	NO
L0037506	0	0.69600E-07	383745.8	3868141.9	864.6	0.00	1.70	0.85	NO
L0037507	0	0.69600E-07	383742.4	3868140.5	864.5	0.00	1.70	0.85	NO
L0037508	0	0.69600E-07	383739.0	3868139.1	864.5	0.00	1.70	0.85	NO
L0037509	0	0.69600E-07	383735.7	3868137.7	864.4	0.00	1.70	0.85	NO
L0037510	0	0.69600E-07	383732.3	3868136.3	864.4	0.00	1.70	0.85	NO
L0037511	0	0.69600E-07	383728.9	3868134.9	864.3	0.00	1.70	0.85	NO
L0037512	0	0.69600E-07	383725.5	3868133.4	864.3	0.00	1.70	0.85	NO
L0037513	0	0.69600E-07	383722.2	3868132.0	864.2	0.00	1.70	0.85	NO
L0037514	0	0.69600E-07	383718.8	3868130.6	864.2	0.00	1.70	0.85	NO
L0037515	0	0.69600E-07	383715.4	3868129.2	864.2	0.00	1.70	0.85	NO
L0037516	0	0.69600E-07	383712.0	3868127.8	864.1	0.00	1.70	0.85	NO

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*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0037517	0	0.69600E-07	383708.7	3868126.4	864.1	0.00	1.70	0.85	NO	
L0037518	0	0.69600E-07	383705.3	3868125.0	864.0	0.00	1.70	0.85	NO	
L0037519	0	0.69600E-07	383701.9	3868123.6	864.0	0.00	1.70	0.85	NO	
L0037520	0	0.69600E-07	383698.5	3868122.2	864.0	0.00	1.70	0.85	NO	
L0037521	0	0.69600E-07	383695.2	3868120.8	863.9	0.00	1.70	0.85	NO	
L0037522	0	0.69600E-07	383691.8	3868119.4	863.9	0.00	1.70	0.85	NO	
L0037523	0	0.69600E-07	383688.4	3868118.0	863.8	0.00	1.70	0.85	NO	
L0037524	0	0.69600E-07	383685.0	3868116.5	863.8	0.00	1.70	0.85	NO	
L0037525	0	0.69600E-07	383681.7	3868115.1	863.8	0.00	1.70	0.85	NO	
L0037526	0	0.69600E-07	383678.3	3868113.7	863.7	0.00	1.70	0.85	NO	
L0037527	0	0.69600E-07	383674.9	3868112.3	863.7	0.00	1.70	0.85	NO	
L0037528	0	0.69600E-07	383671.5	3868110.9	863.6	0.00	1.70	0.85	NO	
L0037529	0	0.69600E-07	383668.2	3868109.5	863.6	0.00	1.70	0.85	NO	
L0037530	0	0.69600E-07	383664.8	3868108.1	863.5	0.00	1.70	0.85	NO	
L0037531	0	0.69600E-07	383661.4	3868106.7	863.5	0.00	1.70	0.85	NO	
L0037532	0	0.69600E-07	383658.0	3868105.3	863.5	0.00	1.70	0.85	NO	
L0037533	0	0.69600E-07	383654.7	3868103.9	863.4	0.00	1.70	0.85	NO	
L0037534	0	0.69600E-07	383651.3	3868102.5	863.4	0.00	1.70	0.85	NO	
L0037535	0	0.69600E-07	383647.9	3868101.1	863.3	0.00	1.70	0.85	NO	
L0037536	0	0.69600E-07	383644.5	3868099.6	863.3	0.00	1.70	0.85	NO	
L0037537	0	0.69600E-07	383641.2	3868098.2	863.3	0.00	1.70	0.85	NO	
L0037538	0	0.69600E-07	383637.8	3868096.8	863.2	0.00	1.70	0.85	NO	
L0037539	0	0.69600E-07	383634.4	3868095.4	863.2	0.00	1.70	0.85	NO	
L0037540	0	0.69600E-07	383631.0	3868094.0	863.2	0.00	1.70	0.85	NO	
L0037541	0	0.69600E-07	383627.6	3868092.6	863.2	0.00	1.70	0.85	NO	

L0037542	0	0.69600E-07	383624.3	3868091.2	863.2	0.00	1.70	0.85	NO
L0037543	0	0.69600E-07	383620.9	3868089.8	863.2	0.00	1.70	0.85	NO
L0037544	0	0.69600E-07	383617.5	3868088.4	863.1	0.00	1.70	0.85	NO
L0037545	0	0.69600E-07	383614.1	3868087.0	863.2	0.00	1.70	0.85	NO
L0037546	0	0.69600E-07	383610.8	3868085.6	863.3	0.00	1.70	0.85	NO
L0037547	0	0.69600E-07	383607.4	3868084.2	863.4	0.00	1.70	0.85	NO
L0037548	0	0.69600E-07	383604.0	3868082.7	863.5	0.00	1.70	0.85	NO
L0037549	0	0.69600E-07	383600.6	3868081.3	863.5	0.00	1.70	0.85	NO
L0037550	0	0.69600E-07	383597.3	3868079.9	863.6	0.00	1.70	0.85	NO
L0037551	0	0.69600E-07	383593.9	3868078.5	863.7	0.00	1.70	0.85	NO
L0037552	0	0.69600E-07	383590.5	3868077.1	863.8	0.00	1.70	0.85	NO
L0037553	0	0.69600E-07	383587.1	3868075.7	864.0	0.00	1.70	0.85	NO
L0037554	0	0.69600E-07	383583.8	3868074.3	864.2	0.00	1.70	0.85	NO
L0037555	0	0.69600E-07	383580.4	3868072.9	864.5	0.00	1.70	0.85	NO
L0037556	0	0.69600E-07	383577.0	3868071.5	864.7	0.00	1.70	0.85	NO

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*** VOLUME SOURCE DATA ***

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L0037557	0	0.69600E-07	383573.6	3868070.1	865.0	0.00	1.70	0.85	NO	
L0037558	0	0.69600E-07	383570.3	3868068.7	865.5	0.00	1.70	0.85	NO	
L0037559	0	0.69600E-07	383566.9	3868067.2	866.0	0.00	1.70	0.85	NO	
L0037560	0	0.69600E-07	383563.5	3868065.8	866.5	0.00	1.70	0.85	NO	
L0051906	0	0.23160E-07	389257.2	3868249.8	846.5	0.00	1.70	0.85	NO	
L0051907	0	0.23160E-07	389260.8	3868249.8	846.5	0.00	1.70	0.85	NO	
L0051908	0	0.23160E-07	389264.5	3868249.7	846.5	0.00	1.70	0.85	NO	
L0051909	0	0.23160E-07	389268.2	3868249.7	846.4	0.00	1.70	0.85	NO	
L0051910	0	0.23160E-07	389271.8	3868249.7	846.4	0.00	1.70	0.85	NO	
L0051911	0	0.23160E-07	389275.5	3868249.6	846.4	0.00	1.70	0.85	NO	
L0051912	0	0.23160E-07	389279.1	3868249.6	846.4	0.00	1.70	0.85	NO	
L0051913	0	0.23160E-07	389282.8	3868249.5	846.3	0.00	1.70	0.85	NO	
L0051914	0	0.23160E-07	389286.4	3868249.5	846.3	0.00	1.70	0.85	NO	
L0051915	0	0.23160E-07	389290.1	3868249.5	846.3	0.00	1.70	0.85	NO	
L0051916	0	0.23160E-07	389293.8	3868249.4	846.3	0.00	1.70	0.85	NO	
L0051917	0	0.23160E-07	389297.4	3868249.4	846.3	0.00	1.70	0.85	NO	
L0051918	0	0.23160E-07	389301.1	3868249.4	846.2	0.00	1.70	0.85	NO	
L0051919	0	0.23160E-07	389304.7	3868249.3	846.2	0.00	1.70	0.85	NO	
L0051920	0	0.23160E-07	389308.4	3868249.3	846.2	0.00	1.70	0.85	NO	
L0051921	0	0.23160E-07	389312.0	3868249.2	846.2	0.00	1.70	0.85	NO	
L0051922	0	0.23160E-07	389315.7	3868249.2	846.1	0.00	1.70	0.85	NO	
L0051923	0	0.23160E-07	389319.4	3868249.2	846.1	0.00	1.70	0.85	NO	

L0051924	0	0.23160E-07	389323.0	3868249.1	846.1	0.00	1.70	0.85	NO
L0051925	0	0.23160E-07	389326.7	3868249.1	846.1	0.00	1.70	0.85	NO
L0051926	0	0.23160E-07	389330.3	3868249.0	846.0	0.00	1.70	0.85	NO
L0051927	0	0.23160E-07	389334.0	3868249.0	845.9	0.00	1.70	0.85	NO
L0051928	0	0.23160E-07	389337.7	3868249.0	845.9	0.00	1.70	0.85	NO
L0051929	0	0.23160E-07	389341.3	3868248.9	845.8	0.00	1.70	0.85	NO
L0051930	0	0.23160E-07	389345.0	3868248.9	845.8	0.00	1.70	0.85	NO
L0051931	0	0.23160E-07	389348.6	3868248.8	845.7	0.00	1.70	0.85	NO
L0051932	0	0.23160E-07	389352.3	3868248.8	845.7	0.00	1.70	0.85	NO
L0051933	0	0.23160E-07	389355.9	3868248.8	845.6	0.00	1.70	0.85	NO
L0051934	0	0.23160E-07	389359.6	3868248.7	845.6	0.00	1.70	0.85	NO
L0051935	0	0.23160E-07	389363.3	3868248.7	845.5	0.00	1.70	0.85	NO
L0051936	0	0.23160E-07	389366.9	3868248.7	845.4	0.00	1.70	0.85	NO
L0051937	0	0.23160E-07	389370.6	3868248.6	845.4	0.00	1.70	0.85	NO
L0051938	0	0.23160E-07	389374.2	3868248.6	845.3	0.00	1.70	0.85	NO
L0051939	0	0.23160E-07	389377.9	3868248.5	845.2	0.00	1.70	0.85	NO
L0051940	0	0.23160E-07	389381.5	3868248.5	845.2	0.00	1.70	0.85	NO
L0051941	0	0.23160E-07	389385.2	3868248.5	845.2	0.00	1.70	0.85	NO

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L0051942	0	0.23160E-07	389388.9	3868248.4	845.2	0.00	1.70	0.85	NO	
L0051943	0	0.23160E-07	389392.5	3868248.4	845.1	0.00	1.70	0.85	NO	
L0051944	0	0.23160E-07	389396.2	3868248.3	845.1	0.00	1.70	0.85	NO	
L0051945	0	0.23160E-07	389399.8	3868248.3	845.1	0.00	1.70	0.85	NO	
L0051946	0	0.23160E-07	389403.5	3868248.3	845.0	0.00	1.70	0.85	NO	
L0051947	0	0.23160E-07	389407.1	3868248.2	845.0	0.00	1.70	0.85	NO	
L0051948	0	0.23160E-07	389410.8	3868248.2	845.1	0.00	1.70	0.85	NO	
L0051949	0	0.23160E-07	389414.5	3868248.1	845.1	0.00	1.70	0.85	NO	
L0051950	0	0.23160E-07	389418.1	3868248.1	845.1	0.00	1.70	0.85	NO	
L0051951	0	0.23160E-07	389421.8	3868248.1	845.1	0.00	1.70	0.85	NO	
L0051952	0	0.23160E-07	389425.4	3868248.0	845.1	0.00	1.70	0.85	NO	
L0051953	0	0.23160E-07	389429.1	3868248.0	845.1	0.00	1.70	0.85	NO	
L0051954	0	0.23160E-07	389432.7	3868247.9	845.1	0.00	1.70	0.85	NO	
L0051955	0	0.23160E-07	389436.4	3868247.9	845.1	0.00	1.70	0.85	NO	
L0051956	0	0.23160E-07	389440.1	3868247.9	845.1	0.00	1.70	0.85	NO	
L0051957	0	0.23160E-07	389443.7	3868247.8	845.1	0.00	1.70	0.85	NO	
L0051958	0	0.23160E-07	389447.4	3868247.8	845.0	0.00	1.70	0.85	NO	
L0051959	0	0.23160E-07	389451.0	3868247.8	845.0	0.00	1.70	0.85	NO	
L0051960	0	0.23160E-07	389454.7	3868247.7	845.0	0.00	1.70	0.85	NO	

L0051961	0	0.23160E-07	389458.3	3868247.7	845.0	0.00	1.70	0.85	NO
L0051962	0	0.23160E-07	389462.0	3868247.6	845.0	0.00	1.70	0.85	NO
L0051963	0	0.23160E-07	389465.7	3868247.6	845.0	0.00	1.70	0.85	NO
L0051964	0	0.23160E-07	389469.3	3868247.6	845.0	0.00	1.70	0.85	NO
L0051965	0	0.23160E-07	389473.0	3868247.5	845.0	0.00	1.70	0.85	NO
L0051966	0	0.23160E-07	389476.6	3868247.5	844.9	0.00	1.70	0.85	NO
L0051967	0	0.23160E-07	389480.3	3868247.4	844.9	0.00	1.70	0.85	NO
L0051968	0	0.23160E-07	389483.9	3868247.4	844.9	0.00	1.70	0.85	NO
L0051969	0	0.23160E-07	389487.6	3868247.4	844.9	0.00	1.70	0.85	NO
L0051970	0	0.23160E-07	389491.3	3868247.3	844.8	0.00	1.70	0.85	NO
L0051971	0	0.23160E-07	389494.9	3868247.3	844.8	0.00	1.70	0.85	NO
L0051972	0	0.23160E-07	389498.6	3868247.2	844.8	0.00	1.70	0.85	NO
L0051973	0	0.23160E-07	389502.2	3868247.2	844.8	0.00	1.70	0.85	NO
L0051974	0	0.23160E-07	389505.9	3868247.2	844.7	0.00	1.70	0.85	NO
L0051975	0	0.23160E-07	389509.5	3868247.1	844.7	0.00	1.70	0.85	NO
L0051976	0	0.23160E-07	389513.2	3868247.1	844.6	0.00	1.70	0.85	NO
L0051977	0	0.23160E-07	389516.9	3868247.1	844.6	0.00	1.70	0.85	NO
L0051978	0	0.23160E-07	389520.5	3868247.0	844.6	0.00	1.70	0.85	NO
L0051979	0	0.23160E-07	389524.2	3868247.0	844.5	0.00	1.70	0.85	NO
L0051980	0	0.23160E-07	389527.8	3868246.9	844.5	0.00	1.70	0.85	NO
L0051981	0	0.23160E-07	389531.5	3868246.9	844.4	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0051982	0	0.23160E-07	389535.2	3868246.9	844.4	0.00	1.70	0.85	NO	
L0051983	0	0.23160E-07	389538.8	3868246.8	844.3	0.00	1.70	0.85	NO	
L0051984	0	0.23160E-07	389542.5	3868246.8	844.3	0.00	1.70	0.85	NO	
L0051985	0	0.23160E-07	389546.1	3868246.7	844.2	0.00	1.70	0.85	NO	
L0051986	0	0.23160E-07	389549.8	3868246.7	844.2	0.00	1.70	0.85	NO	
L0051987	0	0.23160E-07	389553.4	3868246.7	844.1	0.00	1.70	0.85	NO	
L0051988	0	0.23160E-07	389557.1	3868246.6	844.1	0.00	1.70	0.85	NO	
L0051989	0	0.23160E-07	389560.8	3868246.6	844.0	0.00	1.70	0.85	NO	
L0051990	0	0.23160E-07	389564.4	3868246.5	844.0	0.00	1.70	0.85	NO	
L0051991	0	0.23160E-07	389568.1	3868246.5	843.9	0.00	1.70	0.85	NO	
L0051992	0	0.23160E-07	389571.7	3868246.5	843.9	0.00	1.70	0.85	NO	
L0051993	0	0.23160E-07	389575.4	3868246.4	843.8	0.00	1.70	0.85	NO	
L0051994	0	0.23160E-07	389579.0	3868246.4	843.8	0.00	1.70	0.85	NO	
L0051995	0	0.23160E-07	389582.7	3868246.4	843.7	0.00	1.70	0.85	NO	
L0051996	0	0.23160E-07	389586.4	3868246.3	843.7	0.00	1.70	0.85	NO	
L0051997	0	0.23160E-07	389590.0	3868246.3	843.6	0.00	1.70	0.85	NO	

L0051998	0	0.23160E-07	389593.7	3868246.2	843.6	0.00	1.70	0.85	NO
L0051999	0	0.23160E-07	389597.3	3868246.2	843.5	0.00	1.70	0.85	NO
L0052000	0	0.23160E-07	389601.0	3868246.2	843.5	0.00	1.70	0.85	NO
L0052001	0	0.23160E-07	389604.6	3868246.1	843.5	0.00	1.70	0.85	NO
L0052002	0	0.23160E-07	389608.3	3868246.1	843.4	0.00	1.70	0.85	NO
L0052003	0	0.23160E-07	389612.0	3868246.0	843.4	0.00	1.70	0.85	NO
L0052004	0	0.23160E-07	389615.6	3868246.0	843.3	0.00	1.70	0.85	NO
L0052005	0	0.23160E-07	389619.3	3868246.0	843.2	0.00	1.70	0.85	NO
L0052006	0	0.23160E-07	389622.9	3868245.9	843.2	0.00	1.70	0.85	NO
L0052007	0	0.23160E-07	389626.6	3868245.9	843.1	0.00	1.70	0.85	NO
L0052008	0	0.23160E-07	389630.2	3868245.8	843.1	0.00	1.70	0.85	NO
L0052009	0	0.23160E-07	389633.9	3868245.8	843.0	0.00	1.70	0.85	NO
L0052010	0	0.23160E-07	389637.6	3868245.8	843.0	0.00	1.70	0.85	NO
L0052011	0	0.23160E-07	389641.2	3868245.7	842.9	0.00	1.70	0.85	NO
L0052012	0	0.23160E-07	389644.9	3868245.7	842.8	0.00	1.70	0.85	NO
L0052013	0	0.23160E-07	389648.5	3868245.6	842.8	0.00	1.70	0.85	NO
L0052014	0	0.23160E-07	389652.2	3868245.6	842.7	0.00	1.70	0.85	NO
L0052015	0	0.23160E-07	389655.8	3868245.6	842.7	0.00	1.70	0.85	NO
L0052016	0	0.23160E-07	389659.5	3868245.5	842.6	0.00	1.70	0.85	NO
L0052017	0	0.23160E-07	389663.2	3868245.5	842.6	0.00	1.70	0.85	NO
L0052018	0	0.23160E-07	389666.8	3868245.5	842.5	0.00	1.70	0.85	NO
L0052019	0	0.23160E-07	389670.5	3868245.4	842.4	0.00	1.70	0.85	NO
L0052020	0	0.23160E-07	389674.1	3868245.4	842.4	0.00	1.70	0.85	NO
L0052021	0	0.23160E-07	389677.8	3868245.3	842.3	0.00	1.70	0.85	NO

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*** VOLUME SOURCE DATA ***

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L0052022	0	0.23160E-07	389681.4	3868245.3	842.3	0.00	1.70	0.85	NO	
L0052023	0	0.23160E-07	389685.1	3868245.3	842.2	0.00	1.70	0.85	NO	
L0052024	0	0.23160E-07	389688.8	3868245.2	842.1	0.00	1.70	0.85	NO	
L0052025	0	0.23160E-07	389692.4	3868245.2	842.1	0.00	1.70	0.85	NO	
L0052026	0	0.23160E-07	389696.1	3868245.1	842.0	0.00	1.70	0.85	NO	
L0052027	0	0.23160E-07	389699.7	3868245.1	842.0	0.00	1.70	0.85	NO	
L0052028	0	0.23160E-07	389703.4	3868245.0	841.9	0.00	1.70	0.85	NO	
L0052029	0	0.23160E-07	389707.0	3868245.0	841.8	0.00	1.70	0.85	NO	
L0052030	0	0.23160E-07	389710.7	3868245.0	841.8	0.00	1.70	0.85	NO	
L0052031	0	0.23160E-07	389714.4	3868244.9	841.7	0.00	1.70	0.85	NO	
L0052032	0	0.23160E-07	389718.0	3868244.9	841.7	0.00	1.70	0.85	NO	
L0052033	0	0.23160E-07	389721.7	3868244.8	841.6	0.00	1.70	0.85	NO	
L0052034	0	0.23160E-07	389725.3	3868244.8	841.6	0.00	1.70	0.85	NO	

L0052035	0	0.23160E-07	389729.0	3868244.7	841.5	0.00	1.70	0.85	NO
L0052036	0	0.23160E-07	389732.6	3868244.7	841.5	0.00	1.70	0.85	NO
L0052037	0	0.23160E-07	389736.3	3868244.6	841.4	0.00	1.70	0.85	NO
L0052038	0	0.23160E-07	389740.0	3868244.6	841.4	0.00	1.70	0.85	NO
L0052039	0	0.23160E-07	389743.6	3868244.5	841.3	0.00	1.70	0.85	NO
L0052040	0	0.23160E-07	389747.3	3868244.5	841.3	0.00	1.70	0.85	NO
L0052041	0	0.23160E-07	389750.9	3868244.4	841.2	0.00	1.70	0.85	NO
L0052042	0	0.23160E-07	389754.6	3868244.4	841.2	0.00	1.70	0.85	NO
L0052043	0	0.23160E-07	389758.2	3868244.3	841.1	0.00	1.70	0.85	NO
L0052044	0	0.23160E-07	389761.9	3868244.3	841.0	0.00	1.70	0.85	NO
L0052045	0	0.23160E-07	389765.6	3868244.2	841.0	0.00	1.70	0.85	NO
L0052046	0	0.23160E-07	389769.2	3868244.2	840.9	0.00	1.70	0.85	NO
L0052047	0	0.23160E-07	389772.9	3868244.1	840.9	0.00	1.70	0.85	NO
L0052048	0	0.23160E-07	389776.5	3868244.1	840.8	0.00	1.70	0.85	NO
L0052049	0	0.23160E-07	389780.2	3868244.1	840.8	0.00	1.70	0.85	NO
L0052050	0	0.23160E-07	389783.9	3868244.0	840.7	0.00	1.70	0.85	NO
L0052051	0	0.23160E-07	389787.5	3868244.0	840.6	0.00	1.70	0.85	NO
L0052052	0	0.23160E-07	389791.2	3868243.9	840.6	0.00	1.70	0.85	NO
L0052053	0	0.23160E-07	389794.8	3868243.9	840.5	0.00	1.70	0.85	NO
L0052054	0	0.23160E-07	389798.5	3868243.8	840.5	0.00	1.70	0.85	NO
L0052055	0	0.23160E-07	389802.1	3868243.8	840.4	0.00	1.70	0.85	NO
L0052056	0	0.23160E-07	389805.8	3868243.7	840.4	0.00	1.70	0.85	NO
L0052057	0	0.23160E-07	389809.5	3868243.7	840.3	0.00	1.70	0.85	NO
L0052058	0	0.23160E-07	389813.1	3868243.6	840.3	0.00	1.70	0.85	NO
L0052059	0	0.23160E-07	389816.8	3868243.6	840.2	0.00	1.70	0.85	NO
L0052060	0	0.23160E-07	389820.4	3868243.5	840.2	0.00	1.70	0.85	NO
L0052061	0	0.23160E-07	389824.1	3868243.5	840.1	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

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L0052062	0	0.23160E-07	389827.7	3868243.4	840.1	0.00	1.70	0.85	NO	
L0052063	0	0.23160E-07	389831.4	3868243.4	840.0	0.00	1.70	0.85	NO	
L0052064	0	0.23160E-07	389835.1	3868243.3	840.0	0.00	1.70	0.85	NO	
L0052065	0	0.23160E-07	389838.7	3868243.3	840.0	0.00	1.70	0.85	NO	
L0052066	0	0.23160E-07	389842.4	3868243.2	839.9	0.00	1.70	0.85	NO	
L0052067	0	0.23160E-07	389846.0	3868243.2	839.9	0.00	1.70	0.85	NO	
L0052068	0	0.23160E-07	389849.7	3868243.1	839.9	0.00	1.70	0.85	NO	
L0052069	0	0.23160E-07	389853.3	3868243.1	839.8	0.00	1.70	0.85	NO	
L0052070	0	0.23160E-07	389857.0	3868243.1	839.8	0.00	1.70	0.85	NO	
L0052071	0	0.23160E-07	389860.7	3868243.1	839.8	0.00	1.70	0.85	NO	

L0052072	0	0.23160E-07	389864.3	3868243.2	839.7	0.00	1.70	0.85	NO
L0052073	0	0.23160E-07	389868.0	3868243.4	839.7	0.00	1.70	0.85	NO
L0052074	0	0.23160E-07	389871.6	3868243.5	839.7	0.00	1.70	0.85	NO
L0052075	0	0.23160E-07	389875.3	3868243.6	839.7	0.00	1.70	0.85	NO
L0052076	0	0.23160E-07	389878.9	3868243.7	839.6	0.00	1.70	0.85	NO
L0052077	0	0.23160E-07	389882.6	3868243.9	839.6	0.00	1.70	0.85	NO
L0052078	0	0.23160E-07	389886.2	3868244.0	839.6	0.00	1.70	0.85	NO
L0052079	0	0.23160E-07	389889.9	3868244.1	839.5	0.00	1.70	0.85	NO
L0052080	0	0.23160E-07	389893.6	3868244.2	839.5	0.00	1.70	0.85	NO
L0052081	0	0.23160E-07	389897.2	3868244.3	839.5	0.00	1.70	0.85	NO
L0052082	0	0.23160E-07	389900.9	3868244.5	839.5	0.00	1.70	0.85	NO
L0052083	0	0.23160E-07	389904.5	3868244.6	839.4	0.00	1.70	0.85	NO
L0052084	0	0.23160E-07	389908.2	3868244.7	839.4	0.00	1.70	0.85	NO
L0052085	0	0.23160E-07	389911.8	3868244.8	839.4	0.00	1.70	0.85	NO
L0052086	0	0.23160E-07	389915.5	3868245.0	839.4	0.00	1.70	0.85	NO
L0052087	0	0.23160E-07	389919.1	3868245.1	839.4	0.00	1.70	0.85	NO
L0052088	0	0.23160E-07	389922.8	3868245.2	839.4	0.00	1.70	0.85	NO
L0052089	0	0.23160E-07	389926.5	3868245.3	839.4	0.00	1.70	0.85	NO
L0052090	0	0.23160E-07	389930.1	3868245.4	839.4	0.00	1.70	0.85	NO
L0052091	0	0.23160E-07	389933.8	3868245.6	839.4	0.00	1.70	0.85	NO
L0052092	0	0.23160E-07	389937.4	3868245.7	839.4	0.00	1.70	0.85	NO
L0052093	0	0.23160E-07	389941.1	3868245.8	839.4	0.00	1.70	0.85	NO
L0052094	0	0.23160E-07	389944.7	3868245.9	839.4	0.00	1.70	0.85	NO
L0052095	0	0.23160E-07	389948.4	3868246.0	839.4	0.00	1.70	0.85	NO
L0052096	0	0.23160E-07	389952.0	3868246.2	839.4	0.00	1.70	0.85	NO
L0052097	0	0.23160E-07	389955.7	3868246.3	839.4	0.00	1.70	0.85	NO
L0052098	0	0.23160E-07	389959.4	3868246.4	839.4	0.00	1.70	0.85	NO
L0052099	0	0.23160E-07	389963.0	3868246.5	839.4	0.00	1.70	0.85	NO
L0052100	0	0.23160E-07	389966.7	3868246.7	839.4	0.00	1.70	0.85	NO
L0052101	0	0.23160E-07	389970.3	3868246.8	839.4	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052102	0	0.23160E-07	389974.0	3868246.9	839.4	0.00	1.70	0.85	NO	
L0052103	0	0.23160E-07	389977.6	3868247.0	839.4	0.00	1.70	0.85	NO	
L0052104	0	0.23160E-07	389981.3	3868247.1	839.4	0.00	1.70	0.85	NO	
L0052105	0	0.23160E-07	389984.9	3868247.3	839.4	0.00	1.70	0.85	NO	
L0052106	0	0.23160E-07	389988.6	3868247.4	839.4	0.00	1.70	0.85	NO	
L0052107	0	0.23160E-07	389992.3	3868247.5	839.4	0.00	1.70	0.85	NO	
L0052108	0	0.23160E-07	389995.9	3868247.6	839.4	0.00	1.70	0.85	NO	

L0052109	0	0.23160E-07	389999.6	3868247.8	839.4	0.00	1.70	0.85	NO
L0052110	0	0.23160E-07	390003.2	3868247.9	839.4	0.00	1.70	0.85	NO
L0052111	0	0.23160E-07	390006.9	3868248.0	839.4	0.00	1.70	0.85	NO
L0052112	0	0.23160E-07	390010.5	3868248.1	839.4	0.00	1.70	0.85	NO
L0052113	0	0.23160E-07	390014.2	3868248.2	839.4	0.00	1.70	0.85	NO
L0052114	0	0.23160E-07	390017.8	3868248.4	839.4	0.00	1.70	0.85	NO
L0052115	0	0.23160E-07	390021.5	3868248.5	839.4	0.00	1.70	0.85	NO
L0052116	0	0.23160E-07	390025.2	3868248.6	839.4	0.00	1.70	0.85	NO
L0052117	0	0.23160E-07	390028.8	3868248.7	839.4	0.00	1.70	0.85	NO
L0052118	0	0.23160E-07	390032.5	3868248.9	839.4	0.00	1.70	0.85	NO
L0052119	0	0.23160E-07	390036.1	3868249.0	839.4	0.00	1.70	0.85	NO
L0052120	0	0.23160E-07	390039.8	3868249.1	839.4	0.00	1.70	0.85	NO
L0052121	0	0.23160E-07	390043.4	3868249.2	839.3	0.00	1.70	0.85	NO
L0052122	0	0.23160E-07	390047.1	3868249.3	839.3	0.00	1.70	0.85	NO
L0052123	0	0.23160E-07	390050.7	3868249.4	839.3	0.00	1.70	0.85	NO
L0052124	0	0.23160E-07	390054.4	3868249.5	839.3	0.00	1.70	0.85	NO
L0052125	0	0.23160E-07	390058.1	3868249.6	839.2	0.00	1.70	0.85	NO
L0052126	0	0.23160E-07	390061.7	3868249.7	839.2	0.00	1.70	0.85	NO
L0052127	0	0.23160E-07	390065.4	3868249.8	839.2	0.00	1.70	0.85	NO
L0052128	0	0.23160E-07	390069.0	3868249.9	839.2	0.00	1.70	0.85	NO
L0052129	0	0.23160E-07	390072.7	3868250.0	839.1	0.00	1.70	0.85	NO
L0052130	0	0.23160E-07	390076.3	3868250.0	839.1	0.00	1.70	0.85	NO
L0052131	0	0.23160E-07	390080.0	3868250.1	839.1	0.00	1.70	0.85	NO
L0052132	0	0.23160E-07	390083.7	3868250.2	839.1	0.00	1.70	0.85	NO
L0052133	0	0.23160E-07	390087.3	3868250.3	839.0	0.00	1.70	0.85	NO
L0052134	0	0.23160E-07	390091.0	3868250.4	839.1	0.00	1.70	0.85	NO
L0052135	0	0.23160E-07	390094.6	3868250.5	839.1	0.00	1.70	0.85	NO
L0052136	0	0.23160E-07	390098.3	3868250.6	839.1	0.00	1.70	0.85	NO
L0052137	0	0.23160E-07	390101.9	3868250.7	839.1	0.00	1.70	0.85	NO
L0052138	0	0.23160E-07	390105.6	3868250.7	839.1	0.00	1.70	0.85	NO
L0052139	0	0.23160E-07	390109.2	3868250.8	839.1	0.00	1.70	0.85	NO
L0052140	0	0.23160E-07	390112.9	3868250.9	839.1	0.00	1.70	0.85	NO
L0052141	0	0.23160E-07	390116.6	3868251.0	839.1	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052142	0	0.23160E-07	390120.2	3868251.1	839.2	0.00	1.70	0.85	NO	
L0052143	0	0.23160E-07	390123.9	3868251.2	839.2	0.00	1.70	0.85	NO	
L0052144	0	0.23160E-07	390127.5	3868251.3	839.2	0.00	1.70	0.85	NO	
L0052145	0	0.23160E-07	390131.2	3868251.4	839.3	0.00	1.70	0.85	NO	

L0052146	0	0.23160E-07	390134.8	3868251.5	839.3	0.00	1.70	0.85	NO
L0052147	0	0.23160E-07	390138.5	3868251.5	839.3	0.00	1.70	0.85	NO
L0052148	0	0.23160E-07	390142.2	3868251.6	839.3	0.00	1.70	0.85	NO
L0052149	0	0.23160E-07	390145.8	3868251.7	839.3	0.00	1.70	0.85	NO
L0052150	0	0.23160E-07	390149.5	3868251.8	839.3	0.00	1.70	0.85	NO
L0052151	0	0.23160E-07	390153.1	3868251.9	839.3	0.00	1.70	0.85	NO
L0052152	0	0.23160E-07	390156.8	3868252.0	839.3	0.00	1.70	0.85	NO
L0052153	0	0.23160E-07	390160.4	3868252.1	839.3	0.00	1.70	0.85	NO
L0052154	0	0.23160E-07	390164.1	3868252.2	839.3	0.00	1.70	0.85	NO
L0052155	0	0.23160E-07	390167.8	3868252.3	839.3	0.00	1.70	0.85	NO
L0052156	0	0.23160E-07	390171.4	3868252.3	839.2	0.00	1.70	0.85	NO
L0052157	0	0.23160E-07	390175.1	3868252.4	839.1	0.00	1.70	0.85	NO
L0052158	0	0.23160E-07	390178.7	3868252.5	839.0	0.00	1.70	0.85	NO
L0052159	0	0.23160E-07	390182.4	3868252.6	839.0	0.00	1.70	0.85	NO
L0052160	0	0.23160E-07	390186.0	3868252.7	838.9	0.00	1.70	0.85	NO
L0052161	0	0.23160E-07	390189.7	3868252.8	838.8	0.00	1.70	0.85	NO
L0052162	0	0.23160E-07	390193.3	3868252.9	838.8	0.00	1.70	0.85	NO
L0052163	0	0.23160E-07	390197.0	3868253.0	838.7	0.00	1.70	0.85	NO
L0052164	0	0.23160E-07	390200.7	3868253.0	838.6	0.00	1.70	0.85	NO
L0052165	0	0.23160E-07	390204.3	3868253.1	838.5	0.00	1.70	0.85	NO
L0052166	0	0.23160E-07	390208.0	3868253.2	838.5	0.00	1.70	0.85	NO
L0052167	0	0.23160E-07	390211.6	3868253.3	838.4	0.00	1.70	0.85	NO
L0052168	0	0.23160E-07	390215.3	3868253.4	838.3	0.00	1.70	0.85	NO
L0052169	0	0.23160E-07	390218.9	3868253.5	838.2	0.00	1.70	0.85	NO
L0052170	0	0.23160E-07	390222.6	3868253.6	838.2	0.00	1.70	0.85	NO
L0052171	0	0.23160E-07	390226.3	3868253.7	838.1	0.00	1.70	0.85	NO
L0052172	0	0.23160E-07	390229.9	3868253.8	838.0	0.00	1.70	0.85	NO
L0052173	0	0.23160E-07	390233.6	3868253.8	837.9	0.00	1.70	0.85	NO
L0052174	0	0.23160E-07	390237.2	3868253.9	837.9	0.00	1.70	0.85	NO
L0052175	0	0.23160E-07	390240.9	3868254.0	837.8	0.00	1.70	0.85	NO
L0052176	0	0.23160E-07	390244.5	3868254.1	837.7	0.00	1.70	0.85	NO
L0052177	0	0.23160E-07	390248.2	3868254.2	837.7	0.00	1.70	0.85	NO
L0052178	0	0.23160E-07	390251.9	3868254.3	837.6	0.00	1.70	0.85	NO
L0052179	0	0.23160E-07	390255.5	3868254.4	837.5	0.00	1.70	0.85	NO
L0052180	0	0.23160E-07	390259.2	3868254.5	837.4	0.00	1.70	0.85	NO
L0052181	0	0.23160E-07	390262.8	3868254.6	837.4	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052182	0	0.23160E-07	390266.5	3868254.6	837.3	0.00	1.70	0.85	NO	

L0052183	0	0.23160E-07	390270.1	3868254.7	837.2	0.00	1.70	0.85	NO
L0052184	0	0.23160E-07	390273.8	3868254.8	837.2	0.00	1.70	0.85	NO
L0052185	0	0.23160E-07	390277.4	3868254.9	837.1	0.00	1.70	0.85	NO
L0052186	0	0.23160E-07	390281.1	3868255.0	837.1	0.00	1.70	0.85	NO
L0052187	0	0.23160E-07	390284.8	3868255.1	837.0	0.00	1.70	0.85	NO
L0052188	0	0.23160E-07	390288.4	3868255.2	837.0	0.00	1.70	0.85	NO
L0052189	0	0.23160E-07	390292.1	3868255.3	836.9	0.00	1.70	0.85	NO
L0052190	0	0.23160E-07	390295.7	3868255.3	836.9	0.00	1.70	0.85	NO
L0052191	0	0.23160E-07	390299.4	3868255.4	836.8	0.00	1.70	0.85	NO
L0052192	0	0.23160E-07	390303.0	3868255.5	836.8	0.00	1.70	0.85	NO
L0052193	0	0.23160E-07	390306.7	3868255.6	836.8	0.00	1.70	0.85	NO
L0052194	0	0.23160E-07	390310.4	3868255.7	836.7	0.00	1.70	0.85	NO
L0052195	0	0.23160E-07	390314.0	3868255.7	836.7	0.00	1.70	0.85	NO
L0052196	0	0.23160E-07	390317.7	3868255.8	836.7	0.00	1.70	0.85	NO
L0052197	0	0.23160E-07	390321.3	3868255.8	836.7	0.00	1.70	0.85	NO
L0052198	0	0.23160E-07	390325.0	3868255.9	836.6	0.00	1.70	0.85	NO
L0052199	0	0.23160E-07	390328.6	3868255.9	836.6	0.00	1.70	0.85	NO
L0052200	0	0.23160E-07	390332.3	3868256.0	836.6	0.00	1.70	0.85	NO
L0052201	0	0.23160E-07	390336.0	3868256.0	836.6	0.00	1.70	0.85	NO
L0052202	0	0.23160E-07	390339.6	3868256.1	836.6	0.00	1.70	0.85	NO
L0052203	0	0.23160E-07	390343.3	3868256.2	836.5	0.00	1.70	0.85	NO
L0052204	0	0.23160E-07	390346.9	3868256.2	836.5	0.00	1.70	0.85	NO
L0052205	0	0.23160E-07	390350.6	3868256.3	836.5	0.00	1.70	0.85	NO
L0052206	0	0.23160E-07	390354.2	3868256.3	836.5	0.00	1.70	0.85	NO
L0052207	0	0.23160E-07	390357.9	3868256.4	836.4	0.00	1.70	0.85	NO
L0052208	0	0.23160E-07	390361.6	3868256.4	836.4	0.00	1.70	0.85	NO
L0052209	0	0.23160E-07	390365.2	3868256.5	836.4	0.00	1.70	0.85	NO
L0052210	0	0.23160E-07	390368.9	3868256.5	836.4	0.00	1.70	0.85	NO
L0052211	0	0.23160E-07	390372.5	3868256.6	836.4	0.00	1.70	0.85	NO
L0052212	0	0.23160E-07	390376.2	3868256.7	836.3	0.00	1.70	0.85	NO
L0052213	0	0.23160E-07	390379.8	3868256.7	836.3	0.00	1.70	0.85	NO
L0052214	0	0.23160E-07	390383.5	3868256.8	836.3	0.00	1.70	0.85	NO
L0052215	0	0.23160E-07	390387.2	3868256.8	836.3	0.00	1.70	0.85	NO
L0052216	0	0.23160E-07	390390.8	3868256.9	836.3	0.00	1.70	0.85	NO
L0052217	0	0.23160E-07	390394.5	3868256.9	836.3	0.00	1.70	0.85	NO
L0052218	0	0.23160E-07	390398.1	3868257.0	836.2	0.00	1.70	0.85	NO
L0052219	0	0.23160E-07	390401.8	3868257.0	836.2	0.00	1.70	0.85	NO
L0052220	0	0.23160E-07	390405.4	3868257.1	836.2	0.00	1.70	0.85	NO
L0052221	0	0.23160E-07	390409.1	3868257.2	836.2	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY

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SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052262	0	0.23160E-07	390559.0	3868259.4	834.6	0.00	1.70	0.85	NO	
L0052263	0	0.23160E-07	390562.7	3868259.5	834.5	0.00	1.70	0.85	NO	
L0052264	0	0.23160E-07	390566.4	3868259.5	834.4	0.00	1.70	0.85	NO	
L0052265	0	0.23160E-07	390570.0	3868259.6	834.3	0.00	1.70	0.85	NO	
L0052266	0	0.23160E-07	390573.7	3868259.6	834.2	0.00	1.70	0.85	NO	
L0052267	0	0.23160E-07	390577.3	3868259.7	834.1	0.00	1.70	0.85	NO	
L0052268	0	0.23160E-07	390581.0	3868259.8	834.0	0.00	1.70	0.85	NO	
L0052269	0	0.23160E-07	390584.6	3868259.9	833.9	0.00	1.70	0.85	NO	
L0052270	0	0.23160E-07	390588.3	3868260.0	833.8	0.00	1.70	0.85	NO	
L0052271	0	0.23160E-07	390592.0	3868260.1	833.8	0.00	1.70	0.85	NO	
L0052272	0	0.23160E-07	390595.6	3868260.2	833.6	0.00	1.70	0.85	NO	
L0052273	0	0.23160E-07	390599.3	3868260.4	833.6	0.00	1.70	0.85	NO	
L0052274	0	0.23160E-07	390602.9	3868260.5	833.5	0.00	1.70	0.85	NO	
L0052275	0	0.23160E-07	390606.6	3868260.6	833.4	0.00	1.70	0.85	NO	
L0052276	0	0.23160E-07	390610.2	3868260.7	833.3	0.00	1.70	0.85	NO	
L0052277	0	0.23160E-07	390613.9	3868260.8	833.2	0.00	1.70	0.85	NO	
L0052278	0	0.23160E-07	390617.5	3868261.0	833.1	0.00	1.70	0.85	NO	
L0052279	0	0.23160E-07	390621.2	3868261.1	833.1	0.00	1.70	0.85	NO	
L0052280	0	0.23160E-07	390624.9	3868261.2	833.0	0.00	1.70	0.85	NO	
L0052281	0	0.23160E-07	390628.5	3868261.3	832.9	0.00	1.70	0.85	NO	
L0052282	0	0.23160E-07	390632.2	3868261.5	832.9	0.00	1.70	0.85	NO	
L0052283	0	0.23160E-07	390635.8	3868261.6	832.8	0.00	1.70	0.85	NO	
L0052284	0	0.23160E-07	390639.5	3868261.7	832.8	0.00	1.70	0.85	NO	
L0052285	0	0.23160E-07	390643.1	3868261.8	832.7	0.00	1.70	0.85	NO	
L0052286	0	0.23160E-07	390646.8	3868261.9	832.7	0.00	1.70	0.85	NO	
L0052287	0	0.23160E-07	390650.4	3868262.1	832.6	0.00	1.70	0.85	NO	
L0052288	0	0.23160E-07	390654.1	3868262.2	832.6	0.00	1.70	0.85	NO	
L0052289	0	0.23160E-07	390657.8	3868262.3	832.6	0.00	1.70	0.85	NO	
L0052290	0	0.23160E-07	390661.4	3868262.4	832.5	0.00	1.70	0.85	NO	
L0052291	0	0.23160E-07	390665.1	3868262.6	832.5	0.00	1.70	0.85	NO	
L0052292	0	0.23160E-07	390668.7	3868262.7	832.5	0.00	1.70	0.85	NO	
L0052293	0	0.23160E-07	390672.4	3868262.8	832.4	0.00	1.70	0.85	NO	
L0052294	0	0.23160E-07	390676.0	3868262.9	832.4	0.00	1.70	0.85	NO	
L0052295	0	0.23160E-07	390679.7	3868263.0	832.3	0.00	1.70	0.85	NO	
L0052296	0	0.23160E-07	390683.3	3868263.2	832.3	0.00	1.70	0.85	NO	
L0052297	0	0.23160E-07	390687.0	3868263.3	832.3	0.00	1.70	0.85	NO	
L0052298	0	0.23160E-07	390690.7	3868263.4	832.2	0.00	1.70	0.85	NO	
L0052299	0	0.23160E-07	390694.3	3868263.5	832.2	0.00	1.70	0.85	NO	
L0052300	0	0.23160E-07	390698.0	3868263.6	832.2	0.00	1.70	0.85	NO	
L0052301	0	0.23160E-07	390701.6	3868263.8	832.1	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052302	0	0.23160E-07	390705.3	3868263.9	832.1	0.00	1.70	0.85	NO	
L0052303	0	0.23160E-07	390708.9	3868264.0	832.0	0.00	1.70	0.85	NO	
L0052304	0	0.23160E-07	390712.6	3868264.1	832.0	0.00	1.70	0.85	NO	
L0052305	0	0.23160E-07	390716.2	3868264.3	831.9	0.00	1.70	0.85	NO	
L0052306	0	0.23160E-07	390719.9	3868264.4	831.9	0.00	1.70	0.85	NO	
L0052307	0	0.23160E-07	390723.6	3868264.5	831.8	0.00	1.70	0.85	NO	
L0052308	0	0.23160E-07	390727.2	3868264.6	831.7	0.00	1.70	0.85	NO	
L0052309	0	0.23160E-07	390730.9	3868264.7	831.6	0.00	1.70	0.85	NO	
L0052310	0	0.23160E-07	390734.5	3868264.9	831.6	0.00	1.70	0.85	NO	
L0052311	0	0.23160E-07	390738.2	3868265.0	831.5	0.00	1.70	0.85	NO	
L0052312	0	0.23160E-07	390741.8	3868265.1	831.4	0.00	1.70	0.85	NO	
L0052313	0	0.23160E-07	390745.5	3868265.2	831.3	0.00	1.70	0.85	NO	
L0052314	0	0.23160E-07	390749.1	3868265.4	831.2	0.00	1.70	0.85	NO	
L0052315	0	0.23160E-07	390752.8	3868265.5	831.2	0.00	1.70	0.85	NO	
L0052316	0	0.23160E-07	390756.5	3868265.6	831.1	0.00	1.70	0.85	NO	
L0052317	0	0.23160E-07	390760.1	3868265.7	831.0	0.00	1.70	0.85	NO	
L0052318	0	0.23160E-07	390763.8	3868265.8	831.0	0.00	1.70	0.85	NO	
L0052319	0	0.23160E-07	390767.4	3868266.0	830.9	0.00	1.70	0.85	NO	
L0052320	0	0.23160E-07	390771.1	3868266.1	830.8	0.00	1.70	0.85	NO	
L0052321	0	0.23160E-07	390774.7	3868266.2	830.8	0.00	1.70	0.85	NO	
L0052322	0	0.23160E-07	390778.4	3868266.3	830.7	0.00	1.70	0.85	NO	
L0052323	0	0.23160E-07	390782.0	3868266.4	830.7	0.00	1.70	0.85	NO	
L0052324	0	0.23160E-07	390785.7	3868266.5	830.6	0.00	1.70	0.85	NO	
L0052325	0	0.23160E-07	390789.4	3868266.6	830.6	0.00	1.70	0.85	NO	
L0052326	0	0.23160E-07	390793.0	3868266.7	830.5	0.00	1.70	0.85	NO	
L0052327	0	0.23160E-07	390796.7	3868266.8	830.5	0.00	1.70	0.85	NO	
L0052328	0	0.23160E-07	390800.3	3868266.9	830.5	0.00	1.70	0.85	NO	
L0052329	0	0.23160E-07	390804.0	3868267.0	830.4	0.00	1.70	0.85	NO	
L0052330	0	0.23160E-07	390807.6	3868267.1	830.4	0.00	1.70	0.85	NO	
L0052331	0	0.23160E-07	390811.3	3868267.2	830.4	0.00	1.70	0.85	NO	
L0052332	0	0.23160E-07	390815.0	3868267.3	830.4	0.00	1.70	0.85	NO	
L0052333	0	0.23160E-07	390818.6	3868267.4	830.3	0.00	1.70	0.85	NO	
L0052334	0	0.23160E-07	390822.3	3868267.5	830.3	0.00	1.70	0.85	NO	
L0052335	0	0.23160E-07	390825.9	3868267.7	830.3	0.00	1.70	0.85	NO	
L0052336	0	0.23160E-07	390829.6	3868267.8	830.3	0.00	1.70	0.85	NO	
L0052337	0	0.23160E-07	390833.2	3868267.9	830.3	0.00	1.70	0.85	NO	
L0052338	0	0.23160E-07	390836.9	3868268.0	830.3	0.00	1.70	0.85	NO	
L0052339	0	0.23160E-07	390840.5	3868268.1	830.3	0.00	1.70	0.85	NO	
L0052340	0	0.23160E-07	390844.2	3868268.2	830.2	0.00	1.70	0.85	NO	
L0052341	0	0.23160E-07	390847.9	3868268.3	830.2	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052342	0	0.23160E-07	390851.5	3868268.4	830.2	0.00	1.70	0.85	NO	
L0052343	0	0.23160E-07	390855.2	3868268.5	830.2	0.00	1.70	0.85	NO	
L0052344	0	0.23160E-07	390858.8	3868268.6	830.2	0.00	1.70	0.85	NO	
L0052345	0	0.23160E-07	390862.5	3868268.7	830.1	0.00	1.70	0.85	NO	
L0052346	0	0.23160E-07	390866.1	3868268.8	830.1	0.00	1.70	0.85	NO	
L0052347	0	0.23160E-07	390869.8	3868268.9	830.1	0.00	1.70	0.85	NO	
L0052348	0	0.23160E-07	390873.5	3868269.0	830.0	0.00	1.70	0.85	NO	
L0052349	0	0.23160E-07	390877.1	3868269.1	830.0	0.00	1.70	0.85	NO	
L0052350	0	0.23160E-07	390880.8	3868269.2	830.0	0.00	1.70	0.85	NO	
L0052351	0	0.23160E-07	390884.4	3868269.3	829.9	0.00	1.70	0.85	NO	
L0052352	0	0.23160E-07	390888.1	3868269.4	829.9	0.00	1.70	0.85	NO	
L0052353	0	0.23160E-07	390891.7	3868269.5	829.8	0.00	1.70	0.85	NO	
L0052354	0	0.23160E-07	390895.4	3868269.6	829.8	0.00	1.70	0.85	NO	
L0052355	0	0.23160E-07	390899.0	3868269.7	829.8	0.00	1.70	0.85	NO	
L0052356	0	0.23160E-07	390902.7	3868269.9	829.7	0.00	1.70	0.85	NO	
L0052357	0	0.23160E-07	390906.4	3868270.0	829.7	0.00	1.70	0.85	NO	
L0052358	0	0.23160E-07	390910.0	3868270.1	829.6	0.00	1.70	0.85	NO	
L0052359	0	0.23160E-07	390913.7	3868270.2	829.6	0.00	1.70	0.85	NO	
L0052360	0	0.23160E-07	390917.3	3868270.3	829.5	0.00	1.70	0.85	NO	
L0052361	0	0.23160E-07	390921.0	3868270.4	829.5	0.00	1.70	0.85	NO	
L0052362	0	0.23160E-07	390924.6	3868270.5	829.4	0.00	1.70	0.85	NO	
L0052363	0	0.23160E-07	390928.3	3868270.6	829.4	0.00	1.70	0.85	NO	
L0052364	0	0.23160E-07	390931.9	3868270.7	829.4	0.00	1.70	0.85	NO	
L0052365	0	0.23160E-07	390935.6	3868270.8	829.3	0.00	1.70	0.85	NO	
L0052366	0	0.23160E-07	390939.3	3868270.9	829.3	0.00	1.70	0.85	NO	
L0052367	0	0.23160E-07	390942.9	3868271.0	829.2	0.00	1.70	0.85	NO	
L0052368	0	0.23160E-07	390946.6	3868271.1	829.2	0.00	1.70	0.85	NO	
L0052369	0	0.23160E-07	390950.2	3868271.2	829.1	0.00	1.70	0.85	NO	
L0052370	0	0.23160E-07	390953.9	3868271.3	829.1	0.00	1.70	0.85	NO	
L0052371	0	0.23160E-07	390957.5	3868271.4	829.0	0.00	1.70	0.85	NO	
L0052372	0	0.23160E-07	390961.2	3868271.5	829.0	0.00	1.70	0.85	NO	
L0052373	0	0.23160E-07	390964.9	3868271.6	829.0	0.00	1.70	0.85	NO	
L0052374	0	0.23160E-07	390968.5	3868271.7	828.9	0.00	1.70	0.85	NO	
L0052375	0	0.23160E-07	390972.2	3868271.8	828.9	0.00	1.70	0.85	NO	
L0052376	0	0.23160E-07	390975.8	3868271.9	828.8	0.00	1.70	0.85	NO	
L0052377	0	0.23160E-07	390979.5	3868272.1	828.8	0.00	1.70	0.85	NO	
L0052378	0	0.23160E-07	390983.1	3868272.2	828.7	0.00	1.70	0.85	NO	
L0052379	0	0.23160E-07	390986.8	3868272.3	828.7	0.00	1.70	0.85	NO	
L0052380	0	0.23160E-07	390990.4	3868272.4	828.6	0.00	1.70	0.85	NO	
L0052381	0	0.23160E-07	390994.1	3868272.5	828.6	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052382	0	0.23160E-07	390997.8	3868272.6	828.5	0.00	1.70	0.85	NO	
L0052383	0	0.23160E-07	391001.4	3868272.7	828.5	0.00	1.70	0.85	NO	
L0052384	0	0.23160E-07	391005.1	3868272.8	828.5	0.00	1.70	0.85	NO	
L0052385	0	0.23160E-07	391008.7	3868272.9	828.4	0.00	1.70	0.85	NO	
L0052386	0	0.23160E-07	391012.4	3868273.0	828.4	0.00	1.70	0.85	NO	
L0052387	0	0.23160E-07	391016.0	3868273.1	828.4	0.00	1.70	0.85	NO	
L0052388	0	0.23160E-07	391019.7	3868273.2	828.3	0.00	1.70	0.85	NO	
L0052389	0	0.23160E-07	391023.4	3868273.3	828.3	0.00	1.70	0.85	NO	
L0052390	0	0.23160E-07	391027.0	3868273.4	828.3	0.00	1.70	0.85	NO	
L0052391	0	0.23160E-07	391030.7	3868273.5	828.2	0.00	1.70	0.85	NO	
L0052392	0	0.23160E-07	391034.3	3868273.6	828.2	0.00	1.70	0.85	NO	
L0052393	0	0.23160E-07	391038.0	3868273.7	828.2	0.00	1.70	0.85	NO	
L0052394	0	0.23160E-07	391041.6	3868273.8	828.2	0.00	1.70	0.85	NO	
L0052395	0	0.23160E-07	391045.3	3868273.9	828.1	0.00	1.70	0.85	NO	
L0052396	0	0.23160E-07	391048.9	3868274.0	828.1	0.00	1.70	0.85	NO	
L0052397	0	0.23160E-07	391052.6	3868274.1	828.1	0.00	1.70	0.85	NO	
L0052398	0	0.23160E-07	391056.3	3868274.3	828.0	0.00	1.70	0.85	NO	
L0052399	0	0.23160E-07	391059.9	3868274.4	828.0	0.00	1.70	0.85	NO	
L0052400	0	0.23160E-07	391063.6	3868274.5	827.9	0.00	1.70	0.85	NO	
L0052401	0	0.23160E-07	391067.2	3868274.6	827.9	0.00	1.70	0.85	NO	
L0052402	0	0.23160E-07	391070.9	3868274.7	827.9	0.00	1.70	0.85	NO	
L0052403	0	0.23160E-07	391074.5	3868274.8	827.8	0.00	1.70	0.85	NO	
L0052404	0	0.23160E-07	391078.2	3868274.9	827.8	0.00	1.70	0.85	NO	
L0052405	0	0.23160E-07	391081.8	3868275.0	827.8	0.00	1.70	0.85	NO	
L0052406	0	0.23160E-07	391085.5	3868275.1	827.7	0.00	1.70	0.85	NO	
L0052407	0	0.23160E-07	391089.2	3868275.2	827.7	0.00	1.70	0.85	NO	
L0052408	0	0.23160E-07	391092.8	3868275.3	827.6	0.00	1.70	0.85	NO	
L0052409	0	0.23160E-07	391096.5	3868275.4	827.6	0.00	1.70	0.85	NO	
L0052410	0	0.23160E-07	391100.1	3868275.5	827.6	0.00	1.70	0.85	NO	
L0052411	0	0.23160E-07	391103.8	3868275.6	827.5	0.00	1.70	0.85	NO	
L0052412	0	0.23160E-07	391107.4	3868275.7	827.5	0.00	1.70	0.85	NO	
L0052413	0	0.23160E-07	391111.1	3868275.8	827.5	0.00	1.70	0.85	NO	
L0052414	0	0.23160E-07	391114.8	3868275.9	827.4	0.00	1.70	0.85	NO	
L0052415	0	0.23160E-07	391118.4	3868276.0	827.4	0.00	1.70	0.85	NO	
L0052416	0	0.23160E-07	391122.1	3868276.1	827.4	0.00	1.70	0.85	NO	
L0052417	0	0.23160E-07	391125.7	3868276.2	827.3	0.00	1.70	0.85	NO	
L0052418	0	0.23160E-07	391129.4	3868276.4	827.3	0.00	1.70	0.85	NO	

L0052419	0	0.23160E-07	391133.0	3868276.5	827.3	0.00	1.70	0.85	NO
L0052420	0	0.23160E-07	391136.7	3868276.6	827.3	0.00	1.70	0.85	NO
L0052421	0	0.23160E-07	391140.3	3868276.7	827.2	0.00	1.70	0.85	NO

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052422	0	0.23160E-07	391144.0	3868276.8	827.2	0.00	1.70	0.85	NO	
L0052423	0	0.23160E-07	391147.7	3868276.9	827.2	0.00	1.70	0.85	NO	
L0052424	0	0.23160E-07	391151.3	3868277.0	827.1	0.00	1.70	0.85	NO	
L0052425	0	0.23160E-07	391155.0	3868277.1	827.1	0.00	1.70	0.85	NO	
L0052426	0	0.23160E-07	391158.6	3868277.2	827.1	0.00	1.70	0.85	NO	
L0052427	0	0.23160E-07	391162.3	3868277.3	827.0	0.00	1.70	0.85	NO	
L0052428	0	0.23160E-07	391165.9	3868277.4	827.0	0.00	1.70	0.85	NO	
L0052429	0	0.23160E-07	391169.6	3868277.5	827.0	0.00	1.70	0.85	NO	
L0052430	0	0.23160E-07	391173.3	3868277.6	826.9	0.00	1.70	0.85	NO	
L0052431	0	0.23160E-07	391176.9	3868277.7	826.9	0.00	1.70	0.85	NO	
L0052432	0	0.23160E-07	391180.6	3868277.8	826.8	0.00	1.70	0.85	NO	
L0052433	0	0.23160E-07	391184.2	3868277.9	826.8	0.00	1.70	0.85	NO	
L0052434	0	0.23160E-07	391187.9	3868278.0	826.7	0.00	1.70	0.85	NO	
L0052435	0	0.23160E-07	391191.5	3868278.1	826.7	0.00	1.70	0.85	NO	
L0052436	0	0.23160E-07	391195.2	3868278.2	826.6	0.00	1.70	0.85	NO	
L0052437	0	0.23160E-07	391198.8	3868278.3	826.5	0.00	1.70	0.85	NO	
L0052438	0	0.23160E-07	391202.5	3868278.4	826.5	0.00	1.70	0.85	NO	
L0052439	0	0.23160E-07	391206.2	3868278.6	826.4	0.00	1.70	0.85	NO	
L0052440	0	0.23160E-07	391209.8	3868278.7	826.4	0.00	1.70	0.85	NO	
L0052441	0	0.23160E-07	391213.5	3868278.8	826.3	0.00	1.70	0.85	NO	
L0052442	0	0.23160E-07	391217.1	3868278.9	826.3	0.00	1.70	0.85	NO	
L0052443	0	0.23160E-07	391220.8	3868279.0	826.2	0.00	1.70	0.85	NO	
L0052444	0	0.23160E-07	391224.4	3868279.1	826.2	0.00	1.70	0.85	NO	
L0052445	0	0.23160E-07	391228.1	3868279.2	826.1	0.00	1.70	0.85	NO	
L0052446	0	0.23160E-07	391231.7	3868279.3	826.1	0.00	1.70	0.85	NO	
L0052447	0	0.23160E-07	391235.4	3868279.4	826.0	0.00	1.70	0.85	NO	
L0052448	0	0.23160E-07	391239.1	3868279.5	826.0	0.00	1.70	0.85	NO	
L0052449	0	0.23160E-07	391242.7	3868279.6	825.9	0.00	1.70	0.85	NO	
L0052450	0	0.23160E-07	391246.4	3868279.7	825.9	0.00	1.70	0.85	NO	
L0052451	0	0.23160E-07	391250.0	3868279.8	825.8	0.00	1.70	0.85	NO	
L0052452	0	0.23160E-07	391253.7	3868279.9	825.8	0.00	1.70	0.85	NO	
L0052453	0	0.23160E-07	391257.3	3868280.0	825.7	0.00	1.70	0.85	NO	
L0052454	0	0.23160E-07	391261.0	3868280.1	825.6	0.00	1.70	0.85	NO	
L0052455	0	0.23160E-07	391264.7	3868280.2	825.6	0.00	1.70	0.85	NO	

L0052456	0	0.23160E-07	391268.3	3868280.3	825.5	0.00	1.70	0.85	NO	
L0052457	0	0.23160E-07	391272.0	3868280.4	825.5	0.00	1.70	0.85	NO	
L0052458	0	0.23160E-07	391275.6	3868280.5	825.4	0.00	1.70	0.85	NO	
L0052459	0	0.23160E-07	391279.3	3868280.6	825.4	0.00	1.70	0.85	NO	
L0052460	0	0.23160E-07	391282.9	3868280.8	825.3	0.00	1.70	0.85	NO	
L0052461	0	0.23160E-07	391286.6	3868280.9	825.2	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052462	0	0.23160E-07	391290.2	3868281.0	825.2	0.00	1.70	0.85	NO	
L0052463	0	0.23160E-07	391293.9	3868281.1	825.1	0.00	1.70	0.85	NO	
L0052464	0	0.23160E-07	391297.6	3868281.2	825.1	0.00	1.70	0.85	NO	
L0052465	0	0.23160E-07	391301.2	3868281.3	825.0	0.00	1.70	0.85	NO	
L0052466	0	0.23160E-07	391304.9	3868281.4	825.0	0.00	1.70	0.85	NO	
L0052467	0	0.23160E-07	391308.5	3868281.5	824.9	0.00	1.70	0.85	NO	
L0052468	0	0.23160E-07	391312.2	3868281.6	824.9	0.00	1.70	0.85	NO	
L0052469	0	0.23160E-07	391315.8	3868281.7	824.8	0.00	1.70	0.85	NO	
L0052470	0	0.23160E-07	391319.5	3868281.8	824.8	0.00	1.70	0.85	NO	
L0052471	0	0.23160E-07	391323.2	3868281.9	824.7	0.00	1.70	0.85	NO	
L0052472	0	0.23160E-07	391326.8	3868282.0	824.7	0.00	1.70	0.85	NO	
L0052473	0	0.23160E-07	391330.5	3868282.1	824.6	0.00	1.70	0.85	NO	
L0052474	0	0.23160E-07	391334.1	3868282.2	824.6	0.00	1.70	0.85	NO	
L0052475	0	0.23160E-07	391337.8	3868282.3	824.5	0.00	1.70	0.85	NO	
L0052476	0	0.23160E-07	391341.4	3868282.4	824.4	0.00	1.70	0.85	NO	
L0052477	0	0.23160E-07	391345.1	3868282.5	824.4	0.00	1.70	0.85	NO	
L0052478	0	0.23160E-07	391348.7	3868282.6	824.3	0.00	1.70	0.85	NO	
L0052479	0	0.23160E-07	391352.4	3868282.7	824.3	0.00	1.70	0.85	NO	
L0052480	0	0.23160E-07	391356.1	3868282.8	824.2	0.00	1.70	0.85	NO	
L0052481	0	0.23160E-07	391359.7	3868283.0	824.1	0.00	1.70	0.85	NO	
L0052482	0	0.23160E-07	391363.4	3868283.1	824.1	0.00	1.70	0.85	NO	
L0052483	0	0.23160E-07	391367.0	3868283.2	824.0	0.00	1.70	0.85	NO	
L0052484	0	0.23160E-07	391370.7	3868283.3	824.0	0.00	1.70	0.85	NO	
L0052485	0	0.23160E-07	391374.3	3868283.4	823.9	0.00	1.70	0.85	NO	
L0052486	0	0.23160E-07	391378.0	3868283.5	823.9	0.00	1.70	0.85	NO	
L0052487	0	0.23160E-07	391381.6	3868283.6	823.8	0.00	1.70	0.85	NO	
L0052488	0	0.23160E-07	391385.3	3868283.7	823.7	0.00	1.70	0.85	NO	
L0052489	0	0.23160E-07	391389.0	3868283.8	823.7	0.00	1.70	0.85	NO	
L0052490	0	0.23160E-07	391392.6	3868283.9	823.6	0.00	1.70	0.85	NO	
L0052491	0	0.23160E-07	391396.3	3868284.0	823.5	0.00	1.70	0.85	NO	
L0052492	0	0.23160E-07	391399.9	3868284.1	823.5	0.00	1.70	0.85	NO	

L0052493	0	0.23160E-07	391403.6	3868284.2	823.4	0.00	1.70	0.85	NO
L0052494	0	0.23160E-07	391407.2	3868284.3	823.3	0.00	1.70	0.85	NO
L0052495	0	0.23160E-07	391410.9	3868284.4	823.3	0.00	1.70	0.85	NO
L0052496	0	0.23160E-07	391414.6	3868284.5	823.2	0.00	1.70	0.85	NO
L0052497	0	0.23160E-07	391418.2	3868284.6	823.1	0.00	1.70	0.85	NO
L0052498	0	0.23160E-07	391421.9	3868284.7	823.1	0.00	1.70	0.85	NO
L0052499	0	0.23160E-07	391425.5	3868284.8	823.0	0.00	1.70	0.85	NO
L0052500	0	0.23160E-07	391429.2	3868284.9	823.0	0.00	1.70	0.85	NO
L0052501	0	0.23160E-07	391432.8	3868285.1	822.9	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052502	0	0.23160E-07	391436.5	3868285.2	822.8	0.00	1.70	0.85	NO	
L0052503	0	0.23160E-07	391440.1	3868285.3	822.8	0.00	1.70	0.85	NO	
L0052504	0	0.23160E-07	391443.8	3868285.4	822.7	0.00	1.70	0.85	NO	
L0052505	0	0.23160E-07	391447.5	3868285.5	822.6	0.00	1.70	0.85	NO	
L0052506	0	0.23160E-07	391451.1	3868285.6	822.6	0.00	1.70	0.85	NO	
L0052507	0	0.23160E-07	391454.8	3868285.7	822.5	0.00	1.70	0.85	NO	
L0052508	0	0.23160E-07	391458.4	3868285.8	822.4	0.00	1.70	0.85	NO	
L0052509	0	0.23160E-07	391462.1	3868285.9	822.4	0.00	1.70	0.85	NO	
L0052510	0	0.23160E-07	391465.7	3868286.0	822.3	0.00	1.70	0.85	NO	
L0052511	0	0.23160E-07	391469.4	3868286.1	822.3	0.00	1.70	0.85	NO	
L0052512	0	0.23160E-07	391473.1	3868286.2	822.2	0.00	1.70	0.85	NO	
L0052513	0	0.23160E-07	391476.7	3868286.3	822.2	0.00	1.70	0.85	NO	
L0052514	0	0.23160E-07	391480.4	3868286.4	822.1	0.00	1.70	0.85	NO	
L0052515	0	0.23160E-07	391484.0	3868286.5	822.1	0.00	1.70	0.85	NO	
L0052516	0	0.23160E-07	391487.7	3868286.6	822.0	0.00	1.70	0.85	NO	
L0052517	0	0.23160E-07	391491.3	3868286.7	822.0	0.00	1.70	0.85	NO	
L0052518	0	0.23160E-07	391495.0	3868286.8	821.9	0.00	1.70	0.85	NO	
L0052519	0	0.23160E-07	391498.6	3868286.9	821.9	0.00	1.70	0.85	NO	
L0052520	0	0.23160E-07	391502.3	3868287.0	821.8	0.00	1.70	0.85	NO	
L0052521	0	0.23160E-07	391506.0	3868287.1	821.8	0.00	1.70	0.85	NO	
L0052522	0	0.23160E-07	391509.6	3868287.3	821.7	0.00	1.70	0.85	NO	
L0052523	0	0.23160E-07	391513.3	3868287.4	821.7	0.00	1.70	0.85	NO	
L0052524	0	0.23160E-07	391516.9	3868287.5	821.6	0.00	1.70	0.85	NO	
L0052525	0	0.23160E-07	391520.6	3868287.6	821.5	0.00	1.70	0.85	NO	
L0052526	0	0.23160E-07	391524.2	3868287.7	821.5	0.00	1.70	0.85	NO	
L0052527	0	0.23160E-07	391527.9	3868287.8	821.4	0.00	1.70	0.85	NO	
L0052528	0	0.23160E-07	391531.5	3868287.9	821.4	0.00	1.70	0.85	NO	
L0052529	0	0.23160E-07	391535.2	3868288.0	821.3	0.00	1.70	0.85	NO	

L0052530	0	0.23160E-07	391538.9	3868288.1	821.2	0.00	1.70	0.85	NO
L0052531	0	0.23160E-07	391542.5	3868288.2	821.2	0.00	1.70	0.85	NO
L0052532	0	0.23160E-07	391546.2	3868288.3	821.1	0.00	1.70	0.85	NO
L0052533	0	0.23160E-07	391549.8	3868288.4	821.1	0.00	1.70	0.85	NO
L0052534	0	0.23160E-07	391553.5	3868288.5	821.0	0.00	1.70	0.85	NO
L0052535	0	0.23160E-07	391557.1	3868288.6	820.9	0.00	1.70	0.85	NO
L0052536	0	0.23160E-07	391560.8	3868288.7	820.9	0.00	1.70	0.85	NO
L0052537	0	0.23160E-07	391564.5	3868288.8	820.8	0.00	1.70	0.85	NO
L0052538	0	0.23160E-07	391568.1	3868288.9	820.8	0.00	1.70	0.85	NO
L0052539	0	0.23160E-07	391571.8	3868289.0	820.7	0.00	1.70	0.85	NO
L0052540	0	0.23160E-07	391575.4	3868289.1	820.7	0.00	1.70	0.85	NO
L0052541	0	0.23160E-07	391579.1	3868289.2	820.6	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052542	0	0.23160E-07	391582.7	3868289.3	820.6	0.00	1.70	0.85	NO	
L0052543	0	0.23160E-07	391586.4	3868289.5	820.5	0.00	1.70	0.85	NO	
L0052544	0	0.23160E-07	391590.0	3868289.6	820.5	0.00	1.70	0.85	NO	
L0052545	0	0.23160E-07	391593.7	3868289.7	820.4	0.00	1.70	0.85	NO	
L0052546	0	0.23160E-07	391597.4	3868289.8	820.4	0.00	1.70	0.85	NO	
L0052547	0	0.23160E-07	391601.0	3868289.9	820.4	0.00	1.70	0.85	NO	
L0052548	0	0.23160E-07	391604.7	3868290.0	820.3	0.00	1.70	0.85	NO	
L0052549	0	0.23160E-07	391608.3	3868290.1	820.3	0.00	1.70	0.85	NO	
L0052550	0	0.23160E-07	391612.0	3868290.2	820.2	0.00	1.70	0.85	NO	
L0052551	0	0.23160E-07	391615.6	3868290.3	820.2	0.00	1.70	0.85	NO	
L0052552	0	0.23160E-07	391619.3	3868290.4	820.1	0.00	1.70	0.85	NO	
L0052553	0	0.23160E-07	391623.0	3868290.5	820.1	0.00	1.70	0.85	NO	
L0052554	0	0.23160E-07	391626.6	3868290.6	820.0	0.00	1.70	0.85	NO	
L0052555	0	0.23160E-07	391630.3	3868290.7	820.0	0.00	1.70	0.85	NO	
L0052556	0	0.23160E-07	391633.9	3868290.8	819.9	0.00	1.70	0.85	NO	
L0052557	0	0.23160E-07	391637.6	3868290.9	819.9	0.00	1.70	0.85	NO	
L0052558	0	0.23160E-07	391641.2	3868291.0	819.8	0.00	1.70	0.85	NO	
L0052559	0	0.23160E-07	391644.9	3868291.1	819.8	0.00	1.70	0.85	NO	
L0052560	0	0.23160E-07	391648.5	3868291.2	819.7	0.00	1.70	0.85	NO	
L0052561	0	0.23160E-07	391652.2	3868291.3	819.7	0.00	1.70	0.85	NO	
L0052562	0	0.23160E-07	391655.9	3868291.4	819.6	0.00	1.70	0.85	NO	
L0052563	0	0.23160E-07	391659.5	3868291.5	819.6	0.00	1.70	0.85	NO	
L0052564	0	0.23160E-07	391663.2	3868291.7	819.6	0.00	1.70	0.85	NO	
L0052565	0	0.23160E-07	391666.8	3868291.8	819.5	0.00	1.70	0.85	NO	
L0052566	0	0.23160E-07	391670.5	3868291.9	819.5	0.00	1.70	0.85	NO	

L0052567	0	0.23160E-07	391674.1	3868292.0	819.4	0.00	1.70	0.85	NO
L0052568	0	0.23160E-07	391677.8	3868292.1	819.4	0.00	1.70	0.85	NO
L0052569	0	0.23160E-07	391681.4	3868292.2	819.4	0.00	1.70	0.85	NO
L0052570	0	0.23160E-07	391685.1	3868292.3	819.3	0.00	1.70	0.85	NO
L0052571	0	0.23160E-07	391688.8	3868292.4	819.3	0.00	1.70	0.85	NO
L0052572	0	0.23160E-07	391692.4	3868292.5	819.2	0.00	1.70	0.85	NO
L0052573	0	0.23160E-07	391696.1	3868292.6	819.2	0.00	1.70	0.85	NO
L0052574	0	0.23160E-07	391699.7	3868292.7	819.2	0.00	1.70	0.85	NO
L0052575	0	0.23160E-07	391703.4	3868292.8	819.1	0.00	1.70	0.85	NO
L0052576	0	0.23160E-07	391707.0	3868292.9	819.1	0.00	1.70	0.85	NO
L0052577	0	0.23160E-07	391710.7	3868293.0	819.0	0.00	1.70	0.85	NO
L0052578	0	0.23160E-07	391714.4	3868293.1	819.0	0.00	1.70	0.85	NO
L0052579	0	0.23160E-07	391718.0	3868293.2	818.9	0.00	1.70	0.85	NO
L0052580	0	0.23160E-07	391721.7	3868293.3	818.9	0.00	1.70	0.85	NO
L0052581	0	0.23160E-07	391725.3	3868293.4	818.8	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052582	0	0.23160E-07	391729.0	3868293.5	818.8	0.00	1.70	0.85	NO	
L0052583	0	0.23160E-07	391732.6	3868293.6	818.8	0.00	1.70	0.85	NO	
L0052584	0	0.23160E-07	391736.3	3868293.8	818.7	0.00	1.70	0.85	NO	
L0052585	0	0.23160E-07	391739.9	3868293.9	818.6	0.00	1.70	0.85	NO	
L0052586	0	0.23160E-07	391743.6	3868294.0	818.6	0.00	1.70	0.85	NO	
L0052587	0	0.23160E-07	391747.3	3868294.1	818.5	0.00	1.70	0.85	NO	
L0052588	0	0.23160E-07	391750.9	3868294.2	818.5	0.00	1.70	0.85	NO	
L0052589	0	0.23160E-07	391754.6	3868294.3	818.4	0.00	1.70	0.85	NO	
L0052590	0	0.23160E-07	391758.2	3868294.4	818.4	0.00	1.70	0.85	NO	
L0052591	0	0.23160E-07	391761.9	3868294.5	818.3	0.00	1.70	0.85	NO	
L0052592	0	0.23160E-07	391765.5	3868294.6	818.3	0.00	1.70	0.85	NO	
L0052593	0	0.23160E-07	391769.2	3868294.7	818.2	0.00	1.70	0.85	NO	
L0052594	0	0.23160E-07	391772.9	3868294.8	818.2	0.00	1.70	0.85	NO	
L0052595	0	0.23160E-07	391776.5	3868294.9	818.1	0.00	1.70	0.85	NO	
L0052596	0	0.23160E-07	391780.2	3868295.0	818.1	0.00	1.70	0.85	NO	
L0052597	0	0.23160E-07	391783.8	3868295.1	818.0	0.00	1.70	0.85	NO	
L0052598	0	0.23160E-07	391787.5	3868295.2	818.0	0.00	1.70	0.85	NO	
L0052599	0	0.23160E-07	391791.1	3868295.3	817.9	0.00	1.70	0.85	NO	
L0052600	0	0.23160E-07	391794.8	3868295.4	817.9	0.00	1.70	0.85	NO	
L0052601	0	0.23160E-07	391798.4	3868295.5	817.8	0.00	1.70	0.85	NO	
L0052602	0	0.23160E-07	391802.1	3868295.6	817.8	0.00	1.70	0.85	NO	
L0052603	0	0.23160E-07	391805.8	3868295.7	817.7	0.00	1.70	0.85	NO	

L0052604	0	0.23160E-07	391809.4	3868295.8	817.6	0.00	1.70	0.85	NO	
L0052605	0	0.23160E-07	391813.1	3868296.0	817.6	0.00	1.70	0.85	NO	
L0052606	0	0.23160E-07	391816.7	3868296.1	817.5	0.00	1.70	0.85	NO	
L0052607	0	0.23160E-07	391820.4	3868296.2	817.4	0.00	1.70	0.85	NO	
L0052608	0	0.23160E-07	391824.0	3868296.3	817.4	0.00	1.70	0.85	NO	
L0052609	0	0.23160E-07	391827.7	3868296.4	817.3	0.00	1.70	0.85	NO	
L0052610	0	0.23160E-07	391831.3	3868296.5	817.3	0.00	1.70	0.85	NO	
L0052611	0	0.23160E-07	391835.0	3868296.6	817.2	0.00	1.70	0.85	NO	
L0052612	0	0.23160E-07	391838.7	3868296.7	817.2	0.00	1.70	0.85	NO	
L0052613	0	0.23160E-07	391842.3	3868296.8	817.1	0.00	1.70	0.85	NO	
L0052614	0	0.23160E-07	391846.0	3868296.9	817.0	0.00	1.70	0.85	NO	
L0052615	0	0.23160E-07	391849.6	3868297.0	817.0	0.00	1.70	0.85	NO	
L0052616	0	0.23160E-07	391853.3	3868297.1	816.9	0.00	1.70	0.85	NO	
L0052617	0	0.23160E-07	391856.9	3868297.2	816.9	0.00	1.70	0.85	NO	
L0052618	0	0.23160E-07	391860.6	3868297.3	816.8	0.00	1.70	0.85	NO	
L0052619	0	0.23160E-07	391864.3	3868297.4	816.8	0.00	1.70	0.85	NO	
L0052620	0	0.23160E-07	391867.9	3868297.5	816.7	0.00	1.70	0.85	NO	
L0052621	0	0.23160E-07	391871.6	3868297.6	816.6	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052622	0	0.23160E-07	391875.2	3868297.7	816.6	0.00	1.70	0.85	NO	
L0052623	0	0.23160E-07	391878.9	3868297.8	816.5	0.00	1.70	0.85	NO	
L0052624	0	0.23160E-07	391882.5	3868297.9	816.5	0.00	1.70	0.85	NO	
L0052625	0	0.23160E-07	391886.2	3868298.0	816.4	0.00	1.70	0.85	NO	
L0052626	0	0.23160E-07	391889.8	3868298.2	816.4	0.00	1.70	0.85	NO	
L0052627	0	0.23160E-07	391893.5	3868298.3	816.3	0.00	1.70	0.85	NO	
L0052628	0	0.23160E-07	391897.2	3868298.4	816.3	0.00	1.70	0.85	NO	
L0052629	0	0.23160E-07	391900.8	3868298.5	816.2	0.00	1.70	0.85	NO	
L0052630	0	0.23160E-07	391904.5	3868298.6	816.2	0.00	1.70	0.85	NO	
L0052631	0	0.23160E-07	391908.1	3868298.7	816.1	0.00	1.70	0.85	NO	
L0052632	0	0.23160E-07	391911.8	3868298.8	816.1	0.00	1.70	0.85	NO	
L0052633	0	0.23160E-07	391915.4	3868298.9	816.0	0.00	1.70	0.85	NO	
L0052634	0	0.23160E-07	391919.1	3868299.0	815.9	0.00	1.70	0.85	NO	
L0052635	0	0.23160E-07	391922.8	3868299.1	815.9	0.00	1.70	0.85	NO	
L0052636	0	0.23160E-07	391926.4	3868299.2	815.9	0.00	1.70	0.85	NO	
L0052637	0	0.23160E-07	391930.1	3868299.3	815.8	0.00	1.70	0.85	NO	
L0052638	0	0.23160E-07	391933.7	3868299.4	815.8	0.00	1.70	0.85	NO	
L0052639	0	0.23160E-07	391937.4	3868299.5	815.7	0.00	1.70	0.85	NO	
L0052640	0	0.23160E-07	391941.0	3868299.6	815.7	0.00	1.70	0.85	NO	

L0052641	0	0.23160E-07	391944.7	3868299.7	815.6	0.00	1.70	0.85	NO
L0052642	0	0.23160E-07	391948.3	3868299.8	815.6	0.00	1.70	0.85	NO
L0052643	0	0.23160E-07	391952.0	3868299.9	815.5	0.00	1.70	0.85	NO
L0052644	0	0.23160E-07	391955.7	3868300.0	815.5	0.00	1.70	0.85	NO
L0052645	0	0.23160E-07	391959.3	3868300.1	815.4	0.00	1.70	0.85	NO
L0052646	0	0.23160E-07	391963.0	3868300.2	815.4	0.00	1.70	0.85	NO
L0052647	0	0.23160E-07	391966.6	3868300.4	815.3	0.00	1.70	0.85	NO
L0052648	0	0.23160E-07	391970.3	3868300.5	815.3	0.00	1.70	0.85	NO
L0052649	0	0.23160E-07	391973.9	3868300.6	815.2	0.00	1.70	0.85	NO
L0052650	0	0.23160E-07	391977.6	3868300.7	815.2	0.00	1.70	0.85	NO
L0052651	0	0.23160E-07	391981.2	3868300.8	815.1	0.00	1.70	0.85	NO
L0052652	0	0.23160E-07	391984.9	3868300.9	815.1	0.00	1.70	0.85	NO
L0052653	0	0.23160E-07	391988.6	3868301.0	815.0	0.00	1.70	0.85	NO
L0052654	0	0.23160E-07	391992.2	3868301.1	815.0	0.00	1.70	0.85	NO
L0052655	0	0.23160E-07	391995.9	3868301.2	814.9	0.00	1.70	0.85	NO
L0052656	0	0.23160E-07	391999.5	3868301.3	814.9	0.00	1.70	0.85	NO
L0052657	0	0.23160E-07	392003.2	3868301.4	814.8	0.00	1.70	0.85	NO
L0052658	0	0.23160E-07	392006.8	3868301.5	814.8	0.00	1.70	0.85	NO
L0052659	0	0.23160E-07	392010.5	3868301.6	814.8	0.00	1.70	0.85	NO
L0052660	0	0.23160E-07	392014.2	3868301.7	814.7	0.00	1.70	0.85	NO
L0052661	0	0.23160E-07	392017.8	3868301.8	814.7	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052662	0	0.23160E-07	392021.5	3868301.9	814.6	0.00	1.70	0.85	NO	
L0052663	0	0.23160E-07	392025.1	3868302.0	814.6	0.00	1.70	0.85	NO	
L0052664	0	0.23160E-07	392028.8	3868302.1	814.5	0.00	1.70	0.85	NO	
L0052665	0	0.23160E-07	392032.4	3868302.2	814.4	0.00	1.70	0.85	NO	
L0052666	0	0.23160E-07	392036.1	3868302.3	814.4	0.00	1.70	0.85	NO	
L0052667	0	0.23160E-07	392039.7	3868302.4	814.3	0.00	1.70	0.85	NO	
L0052668	0	0.23160E-07	392043.4	3868302.6	814.3	0.00	1.70	0.85	NO	
L0052669	0	0.23160E-07	392047.1	3868302.7	814.2	0.00	1.70	0.85	NO	
L0052670	0	0.23160E-07	392050.7	3868302.8	814.2	0.00	1.70	0.85	NO	
L0052671	0	0.23160E-07	392054.4	3868302.9	814.1	0.00	1.70	0.85	NO	
L0052672	0	0.23160E-07	392058.0	3868303.0	814.1	0.00	1.70	0.85	NO	
L0052673	0	0.23160E-07	392061.7	3868303.1	814.0	0.00	1.70	0.85	NO	
L0052674	0	0.23160E-07	392065.3	3868303.2	814.0	0.00	1.70	0.85	NO	
L0052675	0	0.23160E-07	392069.0	3868303.3	813.9	0.00	1.70	0.85	NO	
L0052676	0	0.23160E-07	392072.7	3868303.4	813.9	0.00	1.70	0.85	NO	
L0052677	0	0.23160E-07	392076.3	3868303.5	813.9	0.00	1.70	0.85	NO	

L0052678	0	0.23160E-07	392080.0	3868303.6	813.8	0.00	1.70	0.85	NO
L0052679	0	0.23160E-07	392083.6	3868303.7	813.8	0.00	1.70	0.85	NO
L0052680	0	0.23160E-07	392087.3	3868303.8	813.7	0.00	1.70	0.85	NO
L0052681	0	0.23160E-07	392090.9	3868303.9	813.7	0.00	1.70	0.85	NO
L0052682	0	0.23160E-07	392094.6	3868304.0	813.6	0.00	1.70	0.85	NO
L0052683	0	0.23160E-07	392098.2	3868304.1	813.6	0.00	1.70	0.85	NO
L0052684	0	0.23160E-07	392101.9	3868304.2	813.6	0.00	1.70	0.85	NO
L0052685	0	0.23160E-07	392105.6	3868304.3	813.5	0.00	1.70	0.85	NO
L0052686	0	0.23160E-07	392109.2	3868304.4	813.5	0.00	1.70	0.85	NO
L0052687	0	0.23160E-07	392112.9	3868304.5	813.4	0.00	1.70	0.85	NO
L0052688	0	0.23160E-07	392116.5	3868304.7	813.4	0.00	1.70	0.85	NO
L0052689	0	0.23160E-07	392120.2	3868304.8	813.3	0.00	1.70	0.85	NO
L0052690	0	0.23160E-07	392123.8	3868304.9	813.3	0.00	1.70	0.85	NO
L0052691	0	0.23160E-07	392127.5	3868305.0	813.2	0.00	1.70	0.85	NO
L0052692	0	0.23160E-07	392131.1	3868305.1	813.1	0.00	1.70	0.85	NO
L0052693	0	0.23160E-07	392134.8	3868305.2	813.1	0.00	1.70	0.85	NO
L0052694	0	0.23160E-07	392138.5	3868305.3	813.0	0.00	1.70	0.85	NO
L0052695	0	0.23160E-07	392142.1	3868305.4	813.0	0.00	1.70	0.85	NO
L0052696	0	0.23160E-07	392145.8	3868305.5	812.9	0.00	1.70	0.85	NO
L0052697	0	0.23160E-07	392149.4	3868305.6	812.9	0.00	1.70	0.85	NO
L0052698	0	0.23160E-07	392153.1	3868305.7	812.8	0.00	1.70	0.85	NO
L0052699	0	0.23160E-07	392156.7	3868305.8	812.8	0.00	1.70	0.85	NO
L0052700	0	0.23160E-07	392160.4	3868305.9	812.7	0.00	1.70	0.85	NO
L0052701	0	0.23160E-07	392164.1	3868306.0	812.7	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052702	0	0.23160E-07	392167.7	3868306.1	812.6	0.00	1.70	0.85	NO	
L0052703	0	0.23160E-07	392171.4	3868306.2	812.6	0.00	1.70	0.85	NO	
L0052704	0	0.23160E-07	392175.0	3868306.3	812.5	0.00	1.70	0.85	NO	
L0052705	0	0.23160E-07	392178.7	3868306.4	812.5	0.00	1.70	0.85	NO	
L0052706	0	0.23160E-07	392182.3	3868306.5	812.5	0.00	1.70	0.85	NO	
L0052707	0	0.23160E-07	392186.0	3868306.6	812.4	0.00	1.70	0.85	NO	
L0052708	0	0.23160E-07	392189.6	3868306.7	812.4	0.00	1.70	0.85	NO	
L0052709	0	0.23160E-07	392193.3	3868306.9	812.3	0.00	1.70	0.85	NO	
L0052710	0	0.23160E-07	392197.0	3868307.0	812.3	0.00	1.70	0.85	NO	
L0052711	0	0.23160E-07	392200.6	3868307.1	812.2	0.00	1.70	0.85	NO	
L0052712	0	0.23160E-07	392204.3	3868307.2	812.1	0.00	1.70	0.85	NO	
L0052713	0	0.23160E-07	392207.9	3868307.3	812.1	0.00	1.70	0.85	NO	
L0052714	0	0.23160E-07	392211.6	3868307.4	812.0	0.00	1.70	0.85	NO	

L0052715	0	0.23160E-07	392215.2	3868307.5	812.0	0.00	1.70	0.85	NO
L0052716	0	0.23160E-07	392218.9	3868307.6	811.9	0.00	1.70	0.85	NO
L0052717	0	0.23160E-07	392222.6	3868307.7	811.8	0.00	1.70	0.85	NO
L0052718	0	0.23160E-07	392226.2	3868307.8	811.8	0.00	1.70	0.85	NO
L0052719	0	0.23160E-07	392229.9	3868307.9	811.7	0.00	1.70	0.85	NO
L0052720	0	0.23160E-07	392233.5	3868308.0	811.6	0.00	1.70	0.85	NO
L0052721	0	0.23160E-07	392237.2	3868308.1	811.5	0.00	1.70	0.85	NO
L0052722	0	0.23160E-07	392240.8	3868308.2	811.5	0.00	1.70	0.85	NO
L0052723	0	0.23160E-07	392244.5	3868308.3	811.4	0.00	1.70	0.85	NO
L0052724	0	0.23160E-07	392248.1	3868308.4	811.4	0.00	1.70	0.85	NO
L0052725	0	0.23160E-07	392251.8	3868308.5	811.3	0.00	1.70	0.85	NO
L0052726	0	0.23160E-07	392255.5	3868308.6	811.3	0.00	1.70	0.85	NO
L0052727	0	0.23160E-07	392259.1	3868308.7	811.3	0.00	1.70	0.85	NO
L0052728	0	0.23160E-07	392262.8	3868308.8	811.2	0.00	1.70	0.85	NO
L0052729	0	0.23160E-07	392266.4	3868308.9	811.2	0.00	1.70	0.85	NO
L0052730	0	0.23160E-07	392270.1	3868309.1	811.2	0.00	1.70	0.85	NO
L0052731	0	0.23160E-07	392273.7	3868309.2	811.1	0.00	1.70	0.85	NO
L0052732	0	0.23160E-07	392277.4	3868309.3	811.1	0.00	1.70	0.85	NO
L0052733	0	0.23160E-07	392281.0	3868309.4	811.0	0.00	1.70	0.85	NO
L0052734	0	0.23160E-07	392284.7	3868309.5	811.0	0.00	1.70	0.85	NO
L0052735	0	0.23160E-07	392288.4	3868309.6	811.0	0.00	1.70	0.85	NO
L0052736	0	0.23160E-07	392292.0	3868309.7	810.9	0.00	1.70	0.85	NO
L0052737	0	0.23160E-07	392295.7	3868309.8	810.9	0.00	1.70	0.85	NO
L0052738	0	0.23160E-07	392299.3	3868309.9	810.8	0.00	1.70	0.85	NO
L0052739	0	0.23160E-07	392303.0	3868310.0	810.8	0.00	1.70	0.85	NO
L0052740	0	0.23160E-07	392306.6	3868310.1	810.7	0.00	1.70	0.85	NO
L0052741	0	0.23160E-07	392310.3	3868310.2	810.7	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052742	0	0.23160E-07	392314.0	3868310.3	810.6	0.00	1.70	0.85	NO	
L0052743	0	0.23160E-07	392317.6	3868310.4	810.6	0.00	1.70	0.85	NO	
L0052744	0	0.23160E-07	392321.3	3868310.5	810.5	0.00	1.70	0.85	NO	
L0052745	0	0.23160E-07	392324.9	3868310.6	810.4	0.00	1.70	0.85	NO	
L0052746	0	0.23160E-07	392328.6	3868310.7	810.4	0.00	1.70	0.85	NO	
L0052747	0	0.23160E-07	392332.2	3868310.8	810.3	0.00	1.70	0.85	NO	
L0052748	0	0.23160E-07	392335.9	3868310.9	810.3	0.00	1.70	0.85	NO	
L0052749	0	0.23160E-07	392339.5	3868311.0	810.2	0.00	1.70	0.85	NO	
L0052750	0	0.23160E-07	392343.2	3868311.1	810.1	0.00	1.70	0.85	NO	
L0052751	0	0.23160E-07	392346.9	3868311.3	810.1	0.00	1.70	0.85	NO	

L0052752	0	0.23160E-07	392350.5	3868311.4	810.0	0.00	1.70	0.85	NO
L0052753	0	0.23160E-07	392354.2	3868311.5	810.0	0.00	1.70	0.85	NO
L0052754	0	0.23160E-07	392357.8	3868311.6	809.9	0.00	1.70	0.85	NO
L0052755	0	0.23160E-07	392361.5	3868311.7	809.8	0.00	1.70	0.85	NO
L0052756	0	0.23160E-07	392365.1	3868311.8	809.8	0.00	1.70	0.85	NO
L0052757	0	0.23160E-07	392368.8	3868311.9	809.8	0.00	1.70	0.85	NO
L0052758	0	0.23160E-07	392372.5	3868312.0	809.7	0.00	1.70	0.85	NO
L0052759	0	0.23160E-07	392376.1	3868312.1	809.6	0.00	1.70	0.85	NO
L0052760	0	0.23160E-07	392379.8	3868312.2	809.6	0.00	1.70	0.85	NO
L0052761	0	0.23160E-07	392383.4	3868312.3	809.5	0.00	1.70	0.85	NO
L0052762	0	0.23160E-07	392387.1	3868312.4	809.5	0.00	1.70	0.85	NO
L0052763	0	0.23160E-07	392390.7	3868312.5	809.4	0.00	1.70	0.85	NO
L0052764	0	0.23160E-07	392394.4	3868312.6	809.4	0.00	1.70	0.85	NO
L0052765	0	0.23160E-07	392398.0	3868312.7	809.3	0.00	1.70	0.85	NO
L0052766	0	0.23160E-07	392401.7	3868312.8	809.3	0.00	1.70	0.85	NO
L0052767	0	0.23160E-07	392405.4	3868312.9	809.2	0.00	1.70	0.85	NO
L0052768	0	0.23160E-07	392409.0	3868313.0	809.2	0.00	1.70	0.85	NO
L0052769	0	0.23160E-07	392412.7	3868313.1	809.1	0.00	1.70	0.85	NO
L0052770	0	0.23160E-07	392416.3	3868313.2	809.1	0.00	1.70	0.85	NO
L0052771	0	0.23160E-07	392420.0	3868313.4	809.0	0.00	1.70	0.85	NO
L0052772	0	0.23160E-07	392423.6	3868313.5	809.0	0.00	1.70	0.85	NO
L0052773	0	0.23160E-07	392427.3	3868313.6	808.9	0.00	1.70	0.85	NO
L0052774	0	0.23160E-07	392430.9	3868313.7	808.9	0.00	1.70	0.85	NO
L0052775	0	0.23160E-07	392434.6	3868313.8	808.8	0.00	1.70	0.85	NO
L0052776	0	0.23160E-07	392438.3	3868313.9	808.8	0.00	1.70	0.85	NO
L0052777	0	0.23160E-07	392441.9	3868314.0	808.7	0.00	1.70	0.85	NO
L0052778	0	0.23160E-07	392445.6	3868314.1	808.7	0.00	1.70	0.85	NO
L0052779	0	0.23160E-07	392449.2	3868314.2	808.6	0.00	1.70	0.85	NO
L0052780	0	0.23160E-07	392452.9	3868314.3	808.6	0.00	1.70	0.85	NO
L0052781	0	0.23160E-07	392456.5	3868314.4	808.5	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052782	0	0.23160E-07	392460.2	3868314.5	808.5	0.00	1.70	0.85	NO	
L0052783	0	0.23160E-07	392463.9	3868314.6	808.4	0.00	1.70	0.85	NO	
L0052784	0	0.23160E-07	392467.5	3868314.7	808.4	0.00	1.70	0.85	NO	
L0052785	0	0.23160E-07	392471.2	3868314.8	808.3	0.00	1.70	0.85	NO	
L0052786	0	0.23160E-07	392474.8	3868314.9	808.3	0.00	1.70	0.85	NO	
L0052787	0	0.23160E-07	392478.5	3868315.0	808.2	0.00	1.70	0.85	NO	
L0052788	0	0.23160E-07	392482.1	3868315.1	808.2	0.00	1.70	0.85	NO	

L0052789	0	0.23160E-07	392485.8	3868315.2	808.1	0.00	1.70	0.85	NO
L0052790	0	0.23160E-07	392489.4	3868315.3	808.1	0.00	1.70	0.85	NO
L0052791	0	0.23160E-07	392493.1	3868315.4	808.0	0.00	1.70	0.85	NO
L0052792	0	0.23160E-07	392496.8	3868315.6	808.0	0.00	1.70	0.85	NO
L0052793	0	0.23160E-07	392500.4	3868315.7	808.0	0.00	1.70	0.85	NO
L0052794	0	0.23160E-07	392504.1	3868315.8	807.9	0.00	1.70	0.85	NO
L0052795	0	0.23160E-07	392507.7	3868315.9	807.9	0.00	1.70	0.85	NO
L0052796	0	0.23160E-07	392511.4	3868316.0	807.8	0.00	1.70	0.85	NO
L0052797	0	0.23160E-07	392515.0	3868316.1	807.8	0.00	1.70	0.85	NO
L0052798	0	0.23160E-07	392518.7	3868316.2	807.8	0.00	1.70	0.85	NO
L0052799	0	0.23160E-07	392522.4	3868316.3	807.7	0.00	1.70	0.85	NO
L0052800	0	0.23160E-07	392526.0	3868316.4	807.7	0.00	1.70	0.85	NO
L0052801	0	0.23160E-07	392529.7	3868316.5	807.6	0.00	1.70	0.85	NO
L0052802	0	0.23160E-07	392533.3	3868316.6	807.5	0.00	1.70	0.85	NO
L0052803	0	0.23160E-07	392537.0	3868316.7	807.5	0.00	1.70	0.85	NO
L0052804	0	0.23160E-07	392540.6	3868316.8	807.4	0.00	1.70	0.85	NO
L0052805	0	0.23160E-07	392544.3	3868316.9	807.4	0.00	1.70	0.85	NO
L0052806	0	0.23160E-07	392547.9	3868317.0	807.3	0.00	1.70	0.85	NO
L0052807	0	0.23160E-07	392551.6	3868317.1	807.3	0.00	1.70	0.85	NO
L0052808	0	0.23160E-07	392555.3	3868317.2	807.2	0.00	1.70	0.85	NO
L0052809	0	0.23160E-07	392558.9	3868317.3	807.1	0.00	1.70	0.85	NO
L0052810	0	0.23160E-07	392562.6	3868317.4	807.1	0.00	1.70	0.85	NO
L0052811	0	0.23160E-07	392566.2	3868317.5	807.0	0.00	1.70	0.85	NO
L0052812	0	0.23160E-07	392569.9	3868317.6	807.0	0.00	1.70	0.85	NO
L0052813	0	0.23160E-07	392573.5	3868317.8	806.9	0.00	1.70	0.85	NO
L0052814	0	0.23160E-07	392577.2	3868317.9	806.9	0.00	1.70	0.85	NO
L0052815	0	0.23160E-07	392580.8	3868318.0	806.8	0.00	1.70	0.85	NO
L0052816	0	0.23160E-07	392584.5	3868318.1	806.8	0.00	1.70	0.85	NO
L0052817	0	0.23160E-07	392588.2	3868318.2	806.7	0.00	1.70	0.85	NO
L0052818	0	0.23160E-07	392591.8	3868318.3	806.7	0.00	1.70	0.85	NO
L0052819	0	0.23160E-07	392595.5	3868318.4	806.6	0.00	1.70	0.85	NO
L0052820	0	0.23160E-07	392599.1	3868318.5	806.6	0.00	1.70	0.85	NO
L0052821	0	0.23160E-07	392602.8	3868318.6	806.5	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052822	0	0.23160E-07	392606.4	3868318.7	806.5	0.00	1.70	0.85	NO	
L0052823	0	0.23160E-07	392610.1	3868318.8	806.5	0.00	1.70	0.85	NO	
L0052824	0	0.23160E-07	392613.8	3868318.9	806.4	0.00	1.70	0.85	NO	
L0052825	0	0.23160E-07	392617.4	3868319.0	806.4	0.00	1.70	0.85	NO	

L0052826	0	0.23160E-07	392621.1	3868319.1	806.4	0.00	1.70	0.85	NO
L0052827	0	0.23160E-07	392624.7	3868319.2	806.3	0.00	1.70	0.85	NO
L0052828	0	0.23160E-07	392628.4	3868319.3	806.3	0.00	1.70	0.85	NO
L0052829	0	0.23160E-07	392632.0	3868319.4	806.3	0.00	1.70	0.85	NO
L0052830	0	0.23160E-07	392635.7	3868319.5	806.3	0.00	1.70	0.85	NO
L0052831	0	0.23160E-07	392639.3	3868319.6	806.3	0.00	1.70	0.85	NO
L0052832	0	0.23160E-07	392643.0	3868319.7	806.2	0.00	1.70	0.85	NO
L0052833	0	0.23160E-07	392646.7	3868319.8	806.2	0.00	1.70	0.85	NO
L0052834	0	0.23160E-07	392650.3	3868320.0	806.2	0.00	1.70	0.85	NO
L0052835	0	0.23160E-07	392654.0	3868320.1	806.2	0.00	1.70	0.85	NO
L0052836	0	0.23160E-07	392657.6	3868320.2	806.1	0.00	1.70	0.85	NO
L0052837	0	0.23160E-07	392661.3	3868320.3	806.1	0.00	1.70	0.85	NO
L0052838	0	0.23160E-07	392664.9	3868320.4	806.1	0.00	1.70	0.85	NO
L0052839	0	0.23160E-07	392668.6	3868320.5	806.0	0.00	1.70	0.85	NO
L0052840	0	0.23160E-07	392672.3	3868320.6	806.0	0.00	1.70	0.85	NO
L0052841	0	0.23160E-07	392675.9	3868320.7	806.0	0.00	1.70	0.85	NO
L0052842	0	0.23160E-07	392679.6	3868320.8	805.9	0.00	1.70	0.85	NO
L0052843	0	0.23160E-07	392683.2	3868320.9	805.9	0.00	1.70	0.85	NO
L0052844	0	0.23160E-07	392686.9	3868321.0	805.9	0.00	1.70	0.85	NO
L0052845	0	0.23160E-07	392690.5	3868321.1	805.8	0.00	1.70	0.85	NO
L0052846	0	0.23160E-07	392694.2	3868321.2	805.8	0.00	1.70	0.85	NO
L0052847	0	0.23160E-07	392697.8	3868321.3	805.7	0.00	1.70	0.85	NO
L0052848	0	0.23160E-07	392701.5	3868321.4	805.7	0.00	1.70	0.85	NO
L0052849	0	0.23160E-07	392705.2	3868321.5	805.6	0.00	1.70	0.85	NO
L0052850	0	0.23160E-07	392708.8	3868321.6	805.6	0.00	1.70	0.85	NO
L0052851	0	0.23160E-07	392712.5	3868321.7	805.5	0.00	1.70	0.85	NO
L0052852	0	0.23160E-07	392716.1	3868321.8	805.5	0.00	1.70	0.85	NO
L0052853	0	0.23160E-07	392719.8	3868321.9	805.4	0.00	1.70	0.85	NO
L0052854	0	0.23160E-07	392723.4	3868322.1	805.3	0.00	1.70	0.85	NO
L0052855	0	0.23160E-07	392727.1	3868322.2	805.3	0.00	1.70	0.85	NO
L0052856	0	0.23160E-07	392730.7	3868322.3	805.2	0.00	1.70	0.85	NO
L0052857	0	0.23160E-07	392734.4	3868322.4	805.1	0.00	1.70	0.85	NO
L0052858	0	0.23160E-07	392738.1	3868322.5	805.1	0.00	1.70	0.85	NO
L0052859	0	0.23160E-07	392741.7	3868322.6	805.0	0.00	1.70	0.85	NO
L0052860	0	0.23160E-07	392745.4	3868322.7	805.0	0.00	1.70	0.85	NO
L0052861	0	0.23160E-07	392749.0	3868322.8	804.9	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052862	0	0.23160E-07	392752.7	3868322.9	804.8	0.00	1.70	0.85	NO	

L0052863	0	0.23160E-07	392756.3	3868323.0	804.8	0.00	1.70	0.85	NO
L0052864	0	0.23160E-07	392760.0	3868323.1	804.7	0.00	1.70	0.85	NO
L0052865	0	0.23160E-07	392763.7	3868323.2	804.6	0.00	1.70	0.85	NO
L0052866	0	0.23160E-07	392767.3	3868323.3	804.6	0.00	1.70	0.85	NO
L0052867	0	0.23160E-07	392771.0	3868323.4	804.5	0.00	1.70	0.85	NO
L0052868	0	0.23160E-07	392774.6	3868323.5	804.5	0.00	1.70	0.85	NO
L0052869	0	0.23160E-07	392778.3	3868323.6	804.4	0.00	1.70	0.85	NO
L0052870	0	0.23160E-07	392781.9	3868323.7	804.4	0.00	1.70	0.85	NO
L0052871	0	0.23160E-07	392785.6	3868323.8	804.3	0.00	1.70	0.85	NO
L0052872	0	0.23160E-07	392789.2	3868323.9	804.3	0.00	1.70	0.85	NO
L0052873	0	0.23160E-07	392792.9	3868324.0	804.3	0.00	1.70	0.85	NO
L0052874	0	0.23160E-07	392796.6	3868324.1	804.2	0.00	1.70	0.85	NO
L0052875	0	0.23160E-07	392800.2	3868324.3	804.2	0.00	1.70	0.85	NO
L0052876	0	0.23160E-07	392803.9	3868324.4	804.2	0.00	1.70	0.85	NO
L0052877	0	0.23160E-07	392807.5	3868324.5	804.1	0.00	1.70	0.85	NO
L0052878	0	0.23160E-07	392811.2	3868324.6	804.1	0.00	1.70	0.85	NO
L0052879	0	0.23160E-07	392814.8	3868324.7	804.1	0.00	1.70	0.85	NO
L0052880	0	0.23160E-07	392818.5	3868324.8	804.0	0.00	1.70	0.85	NO
L0052881	0	0.23160E-07	392822.2	3868324.9	804.0	0.00	1.70	0.85	NO
L0052882	0	0.23160E-07	392825.8	3868325.0	804.0	0.00	1.70	0.85	NO
L0052883	0	0.23160E-07	392829.5	3868325.1	803.9	0.00	1.70	0.85	NO
L0052884	0	0.23160E-07	392833.1	3868325.2	803.9	0.00	1.70	0.85	NO
L0052885	0	0.23160E-07	392836.8	3868325.3	803.8	0.00	1.70	0.85	NO
L0052886	0	0.23160E-07	392840.4	3868325.4	803.8	0.00	1.70	0.85	NO
L0052887	0	0.23160E-07	392844.1	3868325.5	803.8	0.00	1.70	0.85	NO
L0052888	0	0.23160E-07	392847.7	3868325.6	803.7	0.00	1.70	0.85	NO
L0052889	0	0.23160E-07	392851.4	3868325.7	803.7	0.00	1.70	0.85	NO
L0052890	0	0.23160E-07	392855.1	3868325.8	803.6	0.00	1.70	0.85	NO
L0052891	0	0.23160E-07	392858.7	3868325.9	803.6	0.00	1.70	0.85	NO
L0052892	0	0.23160E-07	392862.4	3868326.0	803.5	0.00	1.70	0.85	NO
L0052893	0	0.23160E-07	392866.0	3868326.1	803.5	0.00	1.70	0.85	NO
L0052894	0	0.23160E-07	392869.7	3868326.2	803.5	0.00	1.70	0.85	NO
L0052895	0	0.23160E-07	392873.3	3868326.3	803.4	0.00	1.70	0.85	NO
L0052896	0	0.23160E-07	392877.0	3868326.5	803.4	0.00	1.70	0.85	NO
L0052897	0	0.23160E-07	392880.6	3868326.6	803.3	0.00	1.70	0.85	NO
L0052898	0	0.23160E-07	392884.3	3868326.7	803.3	0.00	1.70	0.85	NO
L0052899	0	0.23160E-07	392888.0	3868326.8	803.2	0.00	1.70	0.85	NO
L0052900	0	0.23160E-07	392891.6	3868326.9	803.2	0.00	1.70	0.85	NO
L0052901	0	0.23160E-07	392895.3	3868327.0	803.1	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY

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SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052942	0	0.23160E-07	393045.2	3868331.3	801.4	0.00	1.70	0.85	NO	
L0052943	0	0.23160E-07	393048.8	3868331.4	801.4	0.00	1.70	0.85	NO	
L0052944	0	0.23160E-07	393052.5	3868331.5	801.3	0.00	1.70	0.85	NO	
L0052945	0	0.23160E-07	393056.1	3868331.6	801.3	0.00	1.70	0.85	NO	
L0052946	0	0.23160E-07	393059.8	3868331.7	801.2	0.00	1.70	0.85	NO	
L0052947	0	0.23160E-07	393063.5	3868331.8	801.2	0.00	1.70	0.85	NO	
L0052948	0	0.23160E-07	393067.1	3868331.9	801.1	0.00	1.70	0.85	NO	
L0052949	0	0.23160E-07	393070.8	3868332.0	801.1	0.00	1.70	0.85	NO	
L0052950	0	0.23160E-07	393074.4	3868332.1	801.0	0.00	1.70	0.85	NO	
L0052951	0	0.23160E-07	393078.1	3868332.2	801.0	0.00	1.70	0.85	NO	
L0052952	0	0.23160E-07	393081.7	3868332.3	800.9	0.00	1.70	0.85	NO	
L0052953	0	0.23160E-07	393085.4	3868332.4	800.9	0.00	1.70	0.85	NO	
L0052954	0	0.23160E-07	393089.0	3868332.5	800.8	0.00	1.70	0.85	NO	
L0052955	0	0.23160E-07	393092.7	3868332.6	800.8	0.00	1.70	0.85	NO	
L0052956	0	0.23160E-07	393096.4	3868332.7	800.8	0.00	1.70	0.85	NO	
L0052957	0	0.23160E-07	393100.0	3868332.8	800.7	0.00	1.70	0.85	NO	
L0052958	0	0.23160E-07	393103.7	3868333.0	800.7	0.00	1.70	0.85	NO	
L0052959	0	0.23160E-07	393107.3	3868333.1	800.6	0.00	1.70	0.85	NO	
L0052960	0	0.23160E-07	393111.0	3868333.2	800.6	0.00	1.70	0.85	NO	
L0052961	0	0.23160E-07	393114.6	3868333.3	800.5	0.00	1.70	0.85	NO	
L0052962	0	0.23160E-07	393118.3	3868333.4	800.5	0.00	1.70	0.85	NO	
L0052963	0	0.23160E-07	393122.0	3868333.5	800.4	0.00	1.70	0.85	NO	
L0052964	0	0.23160E-07	393125.6	3868333.6	800.4	0.00	1.70	0.85	NO	
L0052965	0	0.23160E-07	393129.3	3868333.7	800.3	0.00	1.70	0.85	NO	
L0052966	0	0.23160E-07	393132.9	3868333.8	800.3	0.00	1.70	0.85	NO	
L0052967	0	0.23160E-07	393136.6	3868333.9	800.2	0.00	1.70	0.85	NO	
L0052968	0	0.23160E-07	393140.2	3868334.0	800.2	0.00	1.70	0.85	NO	
L0052969	0	0.23160E-07	393143.9	3868334.1	800.1	0.00	1.70	0.85	NO	
L0052970	0	0.23160E-07	393147.5	3868334.2	800.1	0.00	1.70	0.85	NO	
L0052971	0	0.23160E-07	393151.2	3868334.3	800.0	0.00	1.70	0.85	NO	
L0052972	0	0.23160E-07	393154.9	3868334.4	800.0	0.00	1.70	0.85	NO	
L0052973	0	0.23160E-07	393158.5	3868334.5	799.9	0.00	1.70	0.85	NO	
L0052974	0	0.23160E-07	393162.2	3868334.6	799.9	0.00	1.70	0.85	NO	
L0052975	0	0.23160E-07	393165.8	3868334.7	799.8	0.00	1.70	0.85	NO	
L0052976	0	0.23160E-07	393169.5	3868334.8	799.8	0.00	1.70	0.85	NO	
L0052977	0	0.23160E-07	393173.1	3868334.9	799.7	0.00	1.70	0.85	NO	
L0052978	0	0.23160E-07	393176.8	3868335.0	799.6	0.00	1.70	0.85	NO	
L0052979	0	0.23160E-07	393180.4	3868335.2	799.6	0.00	1.70	0.85	NO	
L0052980	0	0.23160E-07	393184.1	3868335.3	799.5	0.00	1.70	0.85	NO	
L0052981	0	0.23160E-07	393187.8	3868335.4	799.5	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0052982	0	0.23160E-07	393191.4	3868335.5	799.4	0.00	1.70	0.85	NO	
L0052983	0	0.23160E-07	393195.1	3868335.6	799.4	0.00	1.70	0.85	NO	
L0052984	0	0.23160E-07	393198.7	3868335.7	799.3	0.00	1.70	0.85	NO	
L0052985	0	0.23160E-07	393202.4	3868335.8	799.3	0.00	1.70	0.85	NO	
L0052986	0	0.23160E-07	393206.0	3868335.9	799.2	0.00	1.70	0.85	NO	
L0052987	0	0.23160E-07	393209.7	3868336.0	799.2	0.00	1.70	0.85	NO	
L0052988	0	0.23160E-07	393213.4	3868336.1	799.1	0.00	1.70	0.85	NO	
L0052989	0	0.23160E-07	393217.0	3868336.2	799.1	0.00	1.70	0.85	NO	
L0052990	0	0.23160E-07	393220.7	3868336.3	799.0	0.00	1.70	0.85	NO	
L0052991	0	0.23160E-07	393224.3	3868336.4	799.0	0.00	1.70	0.85	NO	
L0052992	0	0.23160E-07	393228.0	3868336.5	798.9	0.00	1.70	0.85	NO	
L0052993	0	0.23160E-07	393231.6	3868336.6	798.9	0.00	1.70	0.85	NO	
L0052994	0	0.23160E-07	393235.3	3868336.7	798.8	0.00	1.70	0.85	NO	
L0052995	0	0.23160E-07	393238.9	3868336.8	798.8	0.00	1.70	0.85	NO	
L0052996	0	0.23160E-07	393242.6	3868336.9	798.7	0.00	1.70	0.85	NO	
L0052997	0	0.23160E-07	393246.3	3868337.0	798.7	0.00	1.70	0.85	NO	
L0052998	0	0.23160E-07	393249.9	3868337.1	798.6	0.00	1.70	0.85	NO	
L0052999	0	0.23160E-07	393253.6	3868337.2	798.6	0.00	1.70	0.85	NO	
L0053000	0	0.23160E-07	393257.2	3868337.4	798.5	0.00	1.70	0.85	NO	
L0053001	0	0.23160E-07	393260.9	3868337.5	798.5	0.00	1.70	0.85	NO	
L0053002	0	0.23160E-07	393264.5	3868337.6	798.4	0.00	1.70	0.85	NO	
L0053003	0	0.23160E-07	393268.2	3868337.7	798.4	0.00	1.70	0.85	NO	
L0053004	0	0.23160E-07	393271.9	3868337.8	798.3	0.00	1.70	0.85	NO	
L0053005	0	0.23160E-07	393275.5	3868337.9	798.3	0.00	1.70	0.85	NO	
L0053006	0	0.23160E-07	393279.2	3868338.0	798.2	0.00	1.70	0.85	NO	
L0053007	0	0.23160E-07	393282.8	3868338.1	798.2	0.00	1.70	0.85	NO	
L0053008	0	0.23160E-07	393286.5	3868338.2	798.1	0.00	1.70	0.85	NO	
L0053009	0	0.23160E-07	393290.1	3868338.3	798.1	0.00	1.70	0.85	NO	
L0053010	0	0.23160E-07	393293.8	3868338.4	798.0	0.00	1.70	0.85	NO	
L0053011	0	0.23160E-07	393297.4	3868338.5	798.0	0.00	1.70	0.85	NO	
L0053012	0	0.23160E-07	393301.1	3868338.6	797.9	0.00	1.70	0.85	NO	
L0053013	0	0.23160E-07	393304.8	3868338.7	797.9	0.00	1.70	0.85	NO	
L0053014	0	0.23160E-07	393308.4	3868338.8	797.8	0.00	1.70	0.85	NO	
L0053015	0	0.23160E-07	393312.1	3868338.9	797.8	0.00	1.70	0.85	NO	
L0053016	0	0.23160E-07	393315.7	3868339.0	797.7	0.00	1.70	0.85	NO	
L0053017	0	0.23160E-07	393319.4	3868339.1	797.7	0.00	1.70	0.85	NO	
L0053018	0	0.23160E-07	393323.0	3868339.2	797.6	0.00	1.70	0.85	NO	
L0053019	0	0.23160E-07	393326.7	3868339.3	797.6	0.00	1.70	0.85	NO	
L0053020	0	0.23160E-07	393330.3	3868339.5	797.5	0.00	1.70	0.85	NO	
L0053021	0	0.23160E-07	393334.0	3868339.6	797.5	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0053022	0	0.23160E-07	393337.7	3868339.7	797.4	0.00	1.70	0.85	NO	
L0053023	0	0.23160E-07	393341.3	3868339.8	797.4	0.00	1.70	0.85	NO	
L0053024	0	0.23160E-07	393345.0	3868339.9	797.3	0.00	1.70	0.85	NO	
L0053025	0	0.23160E-07	393348.6	3868340.0	797.3	0.00	1.70	0.85	NO	
L0053026	0	0.23160E-07	393352.3	3868340.1	797.2	0.00	1.70	0.85	NO	
L0053027	0	0.23160E-07	393355.9	3868340.2	797.2	0.00	1.70	0.85	NO	
L0053028	0	0.23160E-07	393359.6	3868340.3	797.1	0.00	1.70	0.85	NO	
L0053029	0	0.23160E-07	393363.3	3868340.4	797.1	0.00	1.70	0.85	NO	
L0053030	0	0.23160E-07	393366.9	3868340.5	797.0	0.00	1.70	0.85	NO	
L0053031	0	0.23160E-07	393370.6	3868340.6	797.0	0.00	1.70	0.85	NO	
L0053032	0	0.23160E-07	393374.2	3868340.7	796.9	0.00	1.70	0.85	NO	
L0053033	0	0.23160E-07	393377.9	3868340.8	796.9	0.00	1.70	0.85	NO	
L0053034	0	0.23160E-07	393381.5	3868340.9	796.8	0.00	1.70	0.85	NO	
L0053035	0	0.23160E-07	393385.2	3868341.0	796.8	0.00	1.70	0.85	NO	
L0053036	0	0.23160E-07	393388.8	3868341.1	796.7	0.00	1.70	0.85	NO	
L0053037	0	0.23160E-07	393392.5	3868341.2	796.7	0.00	1.70	0.85	NO	
L0053038	0	0.23160E-07	393396.2	3868341.3	796.6	0.00	1.70	0.85	NO	
L0053039	0	0.23160E-07	393399.8	3868341.4	796.6	0.00	1.70	0.85	NO	
L0053040	0	0.23160E-07	393403.5	3868341.5	796.5	0.00	1.70	0.85	NO	
L0053041	0	0.23160E-07	393407.1	3868341.7	796.5	0.00	1.70	0.85	NO	
L0053042	0	0.23160E-07	393410.8	3868341.8	796.4	0.00	1.70	0.85	NO	
L0053043	0	0.23160E-07	393414.4	3868341.9	796.4	0.00	1.70	0.85	NO	
L0053044	0	0.23160E-07	393418.1	3868342.0	796.3	0.00	1.70	0.85	NO	
L0053045	0	0.23160E-07	393421.8	3868342.1	796.3	0.00	1.70	0.85	NO	
L0053046	0	0.23160E-07	393425.4	3868342.2	796.3	0.00	1.70	0.85	NO	
L0053047	0	0.23160E-07	393429.1	3868342.3	796.2	0.00	1.70	0.85	NO	
L0053048	0	0.23160E-07	393432.7	3868342.4	796.2	0.00	1.70	0.85	NO	
L0053049	0	0.23160E-07	393436.4	3868342.5	796.1	0.00	1.70	0.85	NO	
L0053050	0	0.23160E-07	393440.0	3868342.6	796.1	0.00	1.70	0.85	NO	
L0053051	0	0.23160E-07	393443.7	3868342.7	796.0	0.00	1.70	0.85	NO	
L0053052	0	0.23160E-07	393447.3	3868342.8	796.0	0.00	1.70	0.85	NO	
L0053053	0	0.23160E-07	393451.0	3868342.9	796.0	0.00	1.70	0.85	NO	
L0053054	0	0.23160E-07	393454.7	3868343.0	795.9	0.00	1.70	0.85	NO	
L0053055	0	0.23160E-07	393458.3	3868343.1	795.9	0.00	1.70	0.85	NO	
L0053056	0	0.23160E-07	393462.0	3868343.2	795.8	0.00	1.70	0.85	NO	
L0053057	0	0.23160E-07	393465.6	3868343.3	795.8	0.00	1.70	0.85	NO	
L0053058	0	0.23160E-07	393469.3	3868343.4	795.8	0.00	1.70	0.85	NO	
L0053059	0	0.23160E-07	393472.9	3868343.5	795.7	0.00	1.70	0.85	NO	
L0053060	0	0.23160E-07	393476.6	3868343.6	795.7	0.00	1.70	0.85	NO	
L0053061	0	0.23160E-07	393480.2	3868343.7	795.6	0.00	1.70	0.85	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0053062	0	0.23160E-07	393483.9	3868343.9	795.6	0.00	1.70	0.85	NO	
L0053063	0	0.23160E-07	393487.6	3868344.0	795.5	0.00	1.70	0.85	NO	
L0053064	0	0.23160E-07	393491.2	3868344.1	795.5	0.00	1.70	0.85	NO	
L0053065	0	0.23160E-07	393494.9	3868344.2	795.5	0.00	1.70	0.85	NO	
L0053066	0	0.23160E-07	393498.5	3868344.3	795.4	0.00	1.70	0.85	NO	
L0053067	0	0.23160E-07	393502.2	3868344.4	795.4	0.00	1.70	0.85	NO	
L0053068	0	0.23160E-07	393505.8	3868344.5	795.3	0.00	1.70	0.85	NO	
L0053069	0	0.23160E-07	393509.5	3868344.6	795.3	0.00	1.70	0.85	NO	
L0053070	0	0.23160E-07	393513.2	3868344.7	795.3	0.00	1.70	0.85	NO	
L0053071	0	0.23160E-07	393516.8	3868344.8	795.2	0.00	1.70	0.85	NO	
L0053072	0	0.23160E-07	393520.5	3868344.9	795.2	0.00	1.70	0.85	NO	
L0053073	0	0.23160E-07	393524.1	3868345.0	795.2	0.00	1.70	0.85	NO	
L0053074	0	0.23160E-07	393527.8	3868345.1	795.1	0.00	1.70	0.85	NO	
L0053075	0	0.23160E-07	393531.4	3868345.2	795.1	0.00	1.70	0.85	NO	
L0053076	0	0.23160E-07	393535.1	3868345.3	795.1	0.00	1.70	0.85	NO	
L0053077	0	0.23160E-07	393538.7	3868345.4	795.0	0.00	1.70	0.85	NO	
L0053078	0	0.23160E-07	393542.4	3868345.5	795.0	0.00	1.70	0.85	NO	
L0053079	0	0.23160E-07	393546.1	3868345.6	795.0	0.00	1.70	0.85	NO	
L0053080	0	0.23160E-07	393549.7	3868345.7	794.9	0.00	1.70	0.85	NO	
L0053081	0	0.23160E-07	393553.4	3868345.8	794.9	0.00	1.70	0.85	NO	
L0053082	0	0.23160E-07	393557.0	3868345.9	794.8	0.00	1.70	0.85	NO	
L0053083	0	0.23160E-07	393560.7	3868346.1	794.8	0.00	1.70	0.85	NO	
L0053084	0	0.23160E-07	393564.3	3868346.2	794.7	0.00	1.70	0.85	NO	
L0053085	0	0.23160E-07	393568.0	3868346.3	794.7	0.00	1.70	0.85	NO	
L0053086	0	0.23160E-07	393571.7	3868346.4	794.6	0.00	1.70	0.85	NO	
L0053087	0	0.23160E-07	393575.3	3868346.5	794.6	0.00	1.70	0.85	NO	
L0053088	0	0.23160E-07	393579.0	3868346.6	794.5	0.00	1.70	0.85	NO	
L0053089	0	0.23160E-07	393582.6	3868346.7	794.5	0.00	1.70	0.85	NO	
L0053090	0	0.23160E-07	393586.3	3868346.8	794.4	0.00	1.70	0.85	NO	
L0053091	0	0.23160E-07	393589.9	3868346.9	794.4	0.00	1.70	0.85	NO	
L0053092	0	0.23160E-07	393593.6	3868347.0	794.3	0.00	1.70	0.85	NO	
L0053093	0	0.23160E-07	393597.2	3868347.1	794.3	0.00	1.70	0.85	NO	
L0053094	0	0.23160E-07	393600.9	3868347.2	794.2	0.00	1.70	0.85	NO	
L0053095	0	0.23160E-07	393604.6	3868347.3	794.2	0.00	1.70	0.85	NO	
L0053096	0	0.23160E-07	393608.2	3868347.4	794.1	0.00	1.70	0.85	NO	
L0053097	0	0.23160E-07	393611.9	3868347.5	794.1	0.00	1.70	0.85	NO	
L0053098	0	0.23160E-07	393615.5	3868347.6	794.1	0.00	1.70	0.85	NO	

L0053099	0	0.23160E-07	393619.2	3868347.7	794.0	0.00	1.70	0.85	NO
L0053100	0	0.23160E-07	393622.8	3868347.8	794.0	0.00	1.70	0.85	NO
L0053101	0	0.23160E-07	393626.5	3868347.9	793.9	0.00	1.70	0.85	NO

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0053102	0	0.23160E-07	393630.1	3868348.0	793.9	0.00	1.70	0.85	NO	
L0053103	0	0.23160E-07	393633.8	3868348.2	793.8	0.00	1.70	0.85	NO	
L0053104	0	0.23160E-07	393637.5	3868348.3	793.8	0.00	1.70	0.85	NO	
L0053105	0	0.23160E-07	393641.1	3868348.4	793.7	0.00	1.70	0.85	NO	
L0053106	0	0.23160E-07	393644.8	3868348.5	793.7	0.00	1.70	0.85	NO	
L0053107	0	0.23160E-07	393648.4	3868348.6	793.6	0.00	1.70	0.85	NO	
L0053108	0	0.23160E-07	393652.1	3868348.7	793.6	0.00	1.70	0.85	NO	
L0053109	0	0.23160E-07	393655.7	3868348.8	793.5	0.00	1.70	0.85	NO	
L0053110	0	0.23160E-07	393659.4	3868348.9	793.5	0.00	1.70	0.85	NO	
L0053111	0	0.23160E-07	393663.1	3868349.0	793.5	0.00	1.70	0.85	NO	
L0053112	0	0.23160E-07	393666.7	3868349.1	793.4	0.00	1.70	0.85	NO	
L0053113	0	0.23160E-07	393670.4	3868349.2	793.4	0.00	1.70	0.85	NO	
L0053114	0	0.23160E-07	393674.0	3868349.3	793.3	0.00	1.70	0.85	NO	
L0053115	0	0.23160E-07	393677.7	3868349.4	793.3	0.00	1.70	0.85	NO	
L0053116	0	0.23160E-07	393681.3	3868349.5	793.3	0.00	1.70	0.85	NO	
L0053117	0	0.23160E-07	393685.0	3868349.6	793.2	0.00	1.70	0.85	NO	
L0053118	0	0.23160E-07	393688.6	3868349.7	793.2	0.00	1.70	0.85	NO	
L0053119	0	0.23160E-07	393692.3	3868349.8	793.1	0.00	1.70	0.85	NO	
L0053120	0	0.23160E-07	393696.0	3868349.9	793.1	0.00	1.70	0.85	NO	
L0053121	0	0.23160E-07	393699.6	3868350.0	793.1	0.00	1.70	0.85	NO	
L0053122	0	0.23160E-07	393703.3	3868350.1	793.0	0.00	1.70	0.85	NO	
L0053123	0	0.23160E-07	393706.9	3868350.2	793.0	0.00	1.70	0.85	NO	
L0053124	0	0.23160E-07	393710.6	3868350.4	793.0	0.00	1.70	0.85	NO	
L0053125	0	0.23160E-07	393714.2	3868350.5	792.9	0.00	1.70	0.85	NO	
L0053126	0	0.23160E-07	393717.9	3868350.6	792.9	0.00	1.70	0.85	NO	
L0053127	0	0.23160E-07	393721.6	3868350.7	792.9	0.00	1.70	0.85	NO	
L0053128	0	0.23160E-07	393725.2	3868350.8	792.8	0.00	1.70	0.85	NO	
L0053129	0	0.23160E-07	393728.9	3868350.9	792.8	0.00	1.70	0.85	NO	
L0053130	0	0.23160E-07	393732.5	3868351.0	792.8	0.00	1.70	0.85	NO	
L0053131	0	0.23160E-07	393736.2	3868351.1	792.8	0.00	1.70	0.85	NO	
L0053132	0	0.23160E-07	393739.8	3868351.2	792.7	0.00	1.70	0.85	NO	
L0053133	0	0.23160E-07	393743.5	3868351.3	792.7	0.00	1.70	0.85	NO	
L0053134	0	0.23160E-07	393747.1	3868351.4	792.7	0.00	1.70	0.85	NO	
L0053135	0	0.23160E-07	393750.8	3868351.5	792.7	0.00	1.70	0.85	NO	

L0053136	0	0.23160E-07	393754.5	3868351.6	792.7	0.00	1.70	0.85	NO
L0053137	0	0.23160E-07	393758.1	3868351.7	792.7	0.00	1.70	0.85	NO
L0053138	0	0.23160E-07	393761.8	3868351.8	792.6	0.00	1.70	0.85	NO
L0053139	0	0.23160E-07	393765.4	3868351.9	792.6	0.00	1.70	0.85	NO
L0053140	0	0.23160E-07	393769.1	3868352.0	792.7	0.00	1.70	0.85	NO
L0053141	0	0.23160E-07	393772.7	3868352.1	792.7	0.00	1.70	0.85	NO

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0053142	0	0.23160E-07	393776.4	3868352.2	792.8	0.00	1.70	0.85	NO	
L0053143	0	0.23160E-07	393780.0	3868352.3	792.9	0.00	1.70	0.85	NO	
L0053144	0	0.23160E-07	393783.7	3868352.4	792.9	0.00	1.70	0.85	NO	
L0053145	0	0.23160E-07	393787.4	3868352.6	793.0	0.00	1.70	0.85	NO	
L0053146	0	0.23160E-07	393791.0	3868352.7	793.1	0.00	1.70	0.85	NO	
L0053147	0	0.23160E-07	393794.7	3868352.8	793.3	0.00	1.70	0.85	NO	
L0053148	0	0.23160E-07	393798.3	3868352.9	793.6	0.00	1.70	0.85	NO	
L0053149	0	0.23160E-07	393802.0	3868353.0	793.9	0.00	1.70	0.85	NO	
L0053150	0	0.23160E-07	393805.6	3868353.1	794.2	0.00	1.70	0.85	NO	
L0053151	0	0.23160E-07	393809.3	3868353.2	794.5	0.00	1.70	0.85	NO	
L0053152	0	0.23160E-07	393813.0	3868353.3	794.8	0.00	1.70	0.85	NO	
L0053153	0	0.23160E-07	393816.6	3868353.4	795.1	0.00	1.70	0.85	NO	

*** AREAPOLY SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC /METER**2)	LOCATION OF AREA X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	NUMBER OF VERTS.	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
PAREA1	0	0.57772E-09	387827.4	3865044.7	915.0	3.66	18	0.00	NO	

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	PAREA1 , L0017684 , L0017685 , L0017686 , L0017687 , L0017688 , L0017689 , L0017690 ,
	L0017691 , L0017692 , L0017693 , L0017694 , L0017695 , L0017696 , L0017697 , L0017698 ,
	L0017699 , L0017700 , L0017701 , L0017702 , L0017703 , L0017704 , L0017705 , L0017706 ,
	L0017707 , L0017708 , L0017709 , L0017710 , L0017711 , L0017712 , L0017713 , L0017714 ,
	L0034988 , L0034989 , L0034990 , L0034991 , L0034992 , L0034993 , L0034994 , L0034995 ,
	L0034996 , L0034997 , L0034998 , L0034999 , L0035000 , L0035001 , L0035002 , L0035003 ,
	L0035004 , L0035005 , L0035006 , L0035007 , L0035008 , L0035009 , L0035010 , L0035011 ,
	L0035012 , L0035013 , L0035014 , L0035015 , L0035016 , L0035017 , L0035018 , L0035019 ,
	L0035020 , L0035021 , L0035022 , L0035023 , L0035024 , L0035025 , L0035026 , L0035027 ,
	L0035028 , L0035029 , L0035030 , L0035031 , L0035032 , L0035033 , L0035034 , L0035035 ,
	L0035036 , L0035037 , L0035038 , L0035039 , L0035040 , L0035041 , L0035042 , L0035043 ,
	L0035044 , L0035045 , L0035046 , L0035047 , L0035048 , L0035049 , L0035050 , L0035051 ,
	L0035052 , L0035053 , L0035054 , L0035055 , L0035056 , L0035057 , L0035058 , L0035059 ,
	L0035060 , L0035061 , L0035062 , L0035063 , L0035064 , L0035065 , L0035066 , L0035067 ,
	L0035068 , L0035069 , L0035070 , L0035071 , L0035072 , L0035073 , L0035074 , L0035075 ,
	L0035076 , L0035077 , L0035078 , L0035079 , L0035080 , L0035081 , L0035082 , L0035083 ,
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** SOURCE IDs DEFINING SOURCE GROUPS ***

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** SOURCE IDs DEFINING SOURCE GROUPS ***

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
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*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
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*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID SOURCE IDs

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID SOURCE IDs

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** SOURCE IDs DEFINING SOURCE GROUPS ***

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** SOURCE IDs DEFINING SOURCE GROUPS ***

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** SOURCE IDs DEFINING SOURCE GROUPS ***

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** SOURCE IDs DEFINING SOURCE GROUPS ***

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** SOURCE IDs DEFINING SOURCE GROUPS ***

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** SOURCE IDs DEFINING SOURCE GROUPS ***

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** SOURCE IDs DEFINING SOURCE GROUPS ***

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** SOURCE IDs DEFINING SOURCE GROUPS ***

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

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*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs

L0052661 , L0052662 , L0052663 , L0052664 , L0052665 , L0052666 , L0052667 , L0052668 ,

L0052669 , L0052670 , L0052671 , L0052672 , L0052673 , L0052674 , L0052675 , L0052676 ,

L0052677 , L0052678 , L0052679 , L0052680 , L0052681 , L0052682 , L0052683 , L0052684 ,

L0052685 , L0052686 , L0052687 , L0052688 , L0052689 , L0052690 , L0052691 , L0052692 ,

L0052693 , L0052694 , L0052695 , L0052696 , L0052697 , L0052698 , L0052699 , L0052700 ,

L0052701 , L0052702 , L0052703 , L0052704 , L0052705 , L0052706 , L0052707 , L0052708 ,

L0052709 , L0052710 , L0052711 , L0052712 , L0052713 , L0052714 , L0052715 , L0052716 ,

L0052717 , L0052718 , L0052719 , L0052720 , L0052721 , L0052722 , L0052723 , L0052724 ,

L0052725 , L0052726 , L0052727 , L0052728 , L0052729 , L0052730 , L0052731 , L0052732 ,

L0052733 , L0052734 , L0052735 , L0052736 , L0052737 , L0052738 , L0052739 , L0052740 ,

L0052741 , L0052742 , L0052743 , L0052744 , L0052745 , L0052746 , L0052747 , L0052748 ,

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L0052765 , L0052766 , L0052767 , L0052768 , L0052769 , L0052770 , L0052771 , L0052772 ,

L0052773 , L0052774 , L0052775 , L0052776 , L0052777 , L0052778 , L0052779 , L0052780 ,

L0052781 , L0052782 , L0052783 , L0052784 , L0052785 , L0052786 , L0052787 , L0052788 ,

L0052789 , L0052790 , L0052791 , L0052792 , L0052793 , L0052794 , L0052795 , L0052796 ,

L0052797 , L0052798 , L0052799 , L0052800 , L0052801 , L0052802 , L0052803 , L0052804 ,

L0052805 , L0052806 , L0052807 , L0052808 , L0052809 , L0052810 , L0052811 , L0052812 ,

L0052813 , L0052814 , L0052815 , L0052816 , L0052817 , L0052818 , L0052819 , L0052820 ,

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID SOURCE IDs

L0052821 , L0052822 , L0052823 , L0052824 , L0052825 , L0052826 , L0052827 , L0052828 ,

L0052829 , L0052830 , L0052831 , L0052832 , L0052833 , L0052834 , L0052835 , L0052836 ,

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L0052861 , L0052862 , L0052863 , L0052864 , L0052865 , L0052866 , L0052867 , L0052868 ,

L0052869 , L0052870 , L0052871 , L0052872 , L0052873 , L0052874 , L0052875 , L0052876 ,

L0052877 , L0052878 , L0052879 , L0052880 , L0052881 , L0052882 , L0052883 , L0052884 ,

L0052885 , L0052886 , L0052887 , L0052888 , L0052889 , L0052890 , L0052891 , L0052892 ,

L0052893 , L0052894 , L0052895 , L0052896 , L0052897 , L0052898 , L0052899 , L0052900 ,

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L0052973 , L0052974 , L0052975 , L0052976 , L0052977 , L0052978 , L0052979 , L0052980 ,

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID SOURCE IDs

L0052981 , L0052982 , L0052983 , L0052984 , L0052985 , L0052986 , L0052987 , L0052988 ,

L0052989 , L0052990 , L0052991 , L0052992 , L0052993 , L0052994 , L0052995 , L0052996 ,

L0052997 , L0052998 , L0052999 , L0053000 , L0053001 , L0053002 , L0053003 , L0053004 ,

L0053005 , L0053006 , L0053007 , L0053008 , L0053009 , L0053010 , L0053011 , L0053012 ,

L0053013 , L0053014 , L0053015 , L0053016 , L0053017 , L0053018 , L0053019 , L0053020 ,

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L0053053 , L0053054 , L0053055 , L0053056 , L0053057 , L0053058 , L0053059 , L0053060 ,

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            L0053069    , L0053070    , L0053071    , L0053072    , L0053073    , L0053074    , L0053075    , L0053076    ,

            L0053077    , L0053078    , L0053079    , L0053080    , L0053081    , L0053082    , L0053083    , L0053084    ,

            L0053085    , L0053086    , L0053087    , L0053088    , L0053089    , L0053090    , L0053091    , L0053092    ,

            L0053093    , L0053094    , L0053095    , L0053096    , L0053097    , L0053098    , L0053099    , L0053100    ,

            L0053101    , L0053102    , L0053103    , L0053104    , L0053105    , L0053106    , L0053107    , L0053108    ,

            L0053109    , L0053110    , L0053111    , L0053112    , L0053113    , L0053114    , L0053115    , L0053116    ,

            L0053117    , L0053118    , L0053119    , L0053120    , L0053121    , L0053122    , L0053123    , L0053124    ,

            L0053125    , L0053126    , L0053127    , L0053128    , L0053129    , L0053130    , L0053131    , L0053132    ,

            L0053133    , L0053134    , L0053135    , L0053136    , L0053137    , L0053138    , L0053139    , L0053140    ,
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*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs

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            L0053141    , L0053142    , L0053143    , L0053144    , L0053145    , L0053146    , L0053147    , L0053148    ,

            L0053149    , L0053150    , L0053151    , L0053152    , L0053153    ,
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*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: UCART1   ; NETWORK TYPE: GRIDCART ***

*** X-COORDINATES OF GRID ***
(METERS)

```
     384517.4,  384917.4,  385317.4,  385717.4,  386117.4,  386517.4,  386917.4,  387317.4,  387717.4,  388117.4,
     388517.4,  388917.4,  389317.4,  389717.4,  390117.4,  390517.4,  390917.4,  391317.4,  391717.4,  392117.4,
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392517.4,

*** Y-COORDINATES OF GRID ***
(METERS)

3861154.8, 3861554.8, 3861954.8, 3862354.8, 3862754.8, 3863154.8, 3863554.8, 3863954.8, 3864354.8, 3864754.8,
3865154.8, 3865554.8, 3865954.8, 3866354.8, 3866754.8, 3867154.8, 3867554.8, 3867954.8, 3868354.8, 3868754.8,
3869154.8,

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS)								
	384517.41	384917.41	385317.41	385717.41	386117.41	386517.41	386917.41	387317.41	387717.41
3869154.77	890.80	889.10	887.70	886.40	885.40	884.80	883.20	880.50	877.00
3868754.77	882.10	882.00	880.70	881.10	880.70	880.70	877.30	874.20	872.10
3868354.77	874.60	875.40	875.90	875.30	875.70	873.50	873.90	868.90	866.00
3867954.77	867.70	868.90	869.80	871.20	870.80	869.70	868.00	864.30	859.20
3867554.77	861.40	865.10	864.80	867.60	866.50	865.30	863.20	857.40	854.30
3867154.77	857.40	860.40	860.80	863.00	861.80	860.80	859.30	855.40	852.20
3866754.77	851.70	854.80	856.10	856.90	857.20	855.20	854.70	852.20	848.20
3866354.77	847.80	849.10	851.70	852.00	851.70	850.30	849.80	850.40	844.80
3865954.77	843.10	843.60	847.30	846.40	847.50	851.90	846.30	845.30	843.90
3865554.77	835.20	837.10	862.00	907.20	895.00	884.90	882.90	859.70	851.10
3865154.77	828.70	831.90	854.10	927.60	965.10	950.20	966.30	919.90	889.70
3864754.77	823.40	825.50	837.50	849.90	875.30	920.10	947.00	905.10	966.20
3864354.77	819.10	819.00	818.40	817.60	834.60	896.10	900.50	854.30	878.60
3863954.77	813.50	811.30	810.90	805.30	806.50	823.50	863.40	847.70	812.50
3863554.77	809.00	806.90	803.00	801.50	796.30	801.10	853.70	823.90	791.40
3863154.77	804.60	802.40	798.90	795.80	790.80	788.20	787.70	800.00	776.00
3862754.77	797.20	798.00	794.60	790.80	789.30	783.60	780.70	782.40	770.10
3862354.77	813.10	849.00	848.70	787.10	783.60	780.30	775.80	774.00	770.20
3861954.77	786.10	796.70	791.30	782.70	780.20	775.80	772.70	771.00	767.70
3861554.77	778.50	849.30	802.60	780.60	776.30	772.50	768.90	766.90	763.90
3861154.77	790.60	769.30	769.40	775.00	777.20	786.40	774.20	762.70	759.70

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS) 388117.41	388517.41	388917.41	389317.41	389717.41	390117.41	390517.41	390917.41	391317.41
3869154.77	868.60	866.00	861.50	854.70	870.90	844.90	877.50	875.50	838.00
3868754.77	868.30	861.00	857.40	850.30	846.30	842.70	865.20	833.20	830.10
3868354.77	862.30	857.30	851.70	847.60	842.40	840.10	835.80	831.00	825.30
3867954.77	857.10	852.40	847.90	843.40	840.00	835.80	831.90	828.00	822.60
3867554.77	851.30	847.90	844.30	840.30	835.90	832.90	829.50	824.70	819.20
3867154.77	847.60	842.60	839.80	838.30	832.70	831.10	828.20	823.40	819.50
3866754.77	843.80	841.80	837.60	833.20	833.80	830.10	826.10	821.80	817.30
3866354.77	841.20	838.10	835.50	832.40	830.00	825.60	820.70	818.70	813.90
3865954.77	838.70	835.60	832.10	830.00	827.80	824.60	819.40	816.70	813.00
3865554.77	849.60	851.60	835.80	830.60	833.40	822.30	819.60	816.50	812.20
3865154.77	898.00	866.70	837.50	836.70	844.80	821.20	818.90	817.10	813.40
3864754.77	865.80	833.80	820.20	816.00	825.80	830.50	827.40	840.80	826.50
3864354.77	837.10	816.30	802.50	831.00	856.80	845.10	827.70	841.60	837.10
3863954.77	799.70	801.10	792.70	808.40	820.30	820.60	811.20	828.60	814.90
3863554.77	782.80	782.70	791.40	788.30	794.90	794.80	795.20	802.30	801.00
3863154.77	818.40	779.10	771.20	785.80	782.20	775.80	781.70	782.00	786.00
3862754.77	774.20	772.50	761.50	762.10	767.60	764.70	768.80	771.00	776.00
3862354.77	764.40	760.60	757.10	768.60	800.20	766.30	760.00	767.00	777.80
3861954.77	764.00	759.80	755.10	751.70	752.10	753.70	759.10	812.30	823.00
3861554.77	762.20	758.60	754.90	750.00	747.00	747.90	750.70	780.10	768.90
3861154.77	759.10	755.90	753.00	748.40	745.00	744.40	761.80	768.40	816.20

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS) 391717.41	392117.41	392517.41
3869154.77	815.70	811.10	805.00
3868754.77	820.50	812.80	806.40
3868354.77	819.30	813.80	807.80
3867954.77	817.20	812.20	807.00
3867554.77	814.60	810.70	805.80
3867154.77	813.60	807.90	803.90
3866754.77	813.80	808.40	803.70
3866354.77	811.30	808.10	803.00
3865954.77	811.90	804.40	801.10
3865554.77	808.10	806.10	801.10

3865154.77	809.90	805.90	802.70
3864754.77	819.30	811.90	812.40
3864354.77	824.10	821.00	839.60
3863954.77	807.20	819.20	826.70
3863554.77	799.20	821.20	820.90
3863154.77	796.30	812.00	808.50
3862754.77	786.00	794.70	795.70
3862354.77	782.00	783.50	786.70
3861954.77	778.20	780.50	775.10
3861554.77	779.50	775.30	767.50
3861154.77	815.80	794.70	792.20

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	X-COORD (METERS) 384517.41	384917.41	385317.41	385717.41	386117.41	386517.41	386917.41	387317.41	387717.41
3869154.77	1060.80	1060.80	887.70	886.40	885.40	884.80	883.20	880.50	877.00
3868754.77	1060.80	1034.30	880.70	881.10	880.70	880.70	877.30	874.20	872.10
3868354.77	1034.30	1034.30	875.90	875.30	875.70	873.50	873.90	868.90	866.00
3867954.77	1034.30	868.90	869.80	871.20	870.80	869.70	868.00	864.30	859.20
3867554.77	861.40	865.10	864.80	867.60	866.50	865.30	863.20	857.40	854.30
3867154.77	857.40	860.40	860.80	863.00	861.80	860.80	859.30	855.40	852.20
3866754.77	851.70	854.80	856.10	856.90	857.20	855.20	854.70	852.20	848.20
3866354.77	847.80	849.10	992.70	996.60	1011.80	1011.80	1011.80	1011.80	1010.60
3865954.77	843.10	992.70	996.60	1011.80	1011.80	1011.80	1011.80	1011.80	1011.80
3865554.77	835.20	996.60	996.60	996.60	1011.80	1011.80	1011.80	1011.80	1011.80
3865154.77	992.70	996.60	1011.80	996.60	996.60	1011.80	1011.80	1011.80	1011.80
3864754.77	966.70	1011.80	1011.80	1011.80	1011.80	1011.80	1011.80	1011.80	984.00
3864354.77	819.10	1011.80	1011.80	1011.80	1011.80	1011.80	1011.80	1011.80	1011.80
3863954.77	813.50	996.60	1011.80	1011.80	1011.80	1011.80	1011.80	1011.80	1011.80
3863554.77	809.00	806.90	1011.80	1011.80	1011.80	1011.80	1011.80	1011.80	1011.80
3863154.77	804.60	890.60	890.60	1011.80	1011.80	1011.80	1011.80	1011.80	1011.80
3862754.77	890.60	890.60	890.60	890.60	1011.80	1011.80	1011.80	1011.80	1011.80
3862354.77	890.60	890.60	890.60	890.60	890.60	780.30	775.80	774.00	770.20
3861954.77	995.50	995.50	890.60	890.60	890.30	775.80	772.70	771.00	767.70
3861554.77	995.50	875.90	976.40	890.60	776.30	772.50	768.90	766.90	763.90
3861154.77	995.50	995.50	995.50	976.40	790.20	792.10	878.90	878.90	878.90

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	X-COORD (METERS)								
	388117.41	388517.41	388917.41	389317.41	389717.41	390117.41	390517.41	390917.41	391317.41
3869154.77	868.60	1261.50	1261.50	1261.50	1261.50	1261.50	1261.50	1261.50	1261.50
3868754.77	868.30	1025.90	1261.50	1261.50	1261.50	1261.50	1261.50	1261.50	1261.50
3868354.77	862.30	857.30	1025.90	1261.50	1261.50	1261.50	1261.50	1261.50	1261.50
3867954.77	857.10	852.40	847.90	1025.90	1261.50	1261.50	1261.50	1261.50	1261.50
3867554.77	851.30	847.90	844.30	840.30	835.90	832.90	1261.50	1261.50	1261.50
3867154.77	847.60	842.60	839.80	838.30	832.70	831.10	828.20	823.40	819.50
3866754.77	843.80	841.80	837.60	833.20	833.80	830.10	826.10	821.80	817.30
3866354.77	841.20	838.10	835.50	832.40	830.00	825.60	820.70	818.70	813.90
3865954.77	1010.60	1008.30	923.70	830.00	827.80	824.60	819.40	816.70	813.00
3865554.77	1011.80	1010.60	984.00	873.80	873.80	822.30	819.60	816.50	812.20
3865154.77	1010.60	984.00	984.00	873.80	873.80	821.20	818.90	817.10	813.40
3864754.77	1011.80	1011.20	1008.30	922.10	868.90	830.50	827.40	861.80	861.80
3864354.77	1011.80	1011.80	1010.60	868.90	868.90	858.90	827.70	841.60	837.10
3863954.77	1011.80	1011.80	1008.30	868.90	868.90	833.10	811.20	839.30	814.90
3863554.77	1011.80	1011.80	984.00	788.30	794.90	794.80	795.20	802.30	801.00
3863154.77	841.30	984.00	968.00	801.10	797.70	775.80	781.70	782.00	786.00
3862754.77	841.30	841.30	793.10	762.10	788.50	764.70	768.80	771.00	847.70
3862354.77	841.30	760.60	757.10	777.90	808.30	808.30	820.40	847.70	847.70
3861954.77	764.00	759.80	755.10	808.30	808.30	820.40	846.40	815.10	847.70
3861554.77	762.20	758.60	754.90	750.00	747.00	747.90	939.30	939.30	939.30
3861154.77	878.90	755.90	753.00	748.40	745.00	744.40	939.30	939.30	939.30

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	X-COORD (METERS)		
	391717.41	392117.41	392517.41
3869154.77	1261.50	1261.50	1261.50
3868754.77	1261.50	1261.50	1261.50
3868354.77	1261.50	1261.50	1261.50
3867954.77	1261.50	1261.50	1261.50
3867554.77	1261.50	1261.50	1261.50
3867154.77	813.60	1241.30	1239.10
3866754.77	813.80	808.40	803.70

```
 3866354.77 |        811.30       808.10       803.00
 3865954.77 |        811.90       804.40       801.10
 3865554.77 |        808.10       806.10       801.10
 3865154.77 |        809.90       805.90       802.70
 3864754.77 |        819.30       811.90       812.40
 3864354.77 |        824.10       821.00       839.60
 3863954.77 |        807.20       819.20       826.70
 3863554.77 |        799.20       831.40       820.90
 3863154.77 |        796.30       812.00       808.50
 3862754.77 |        786.00       794.70       795.70
 3862354.77 |        847.70       783.50       786.70
 3861954.77 |        939.30       939.30       939.30
 3861554.77 |        939.30       939.30       939.30
 3861154.77 |        939.30       939.30       939.30
```


*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZHILL, ZFLAG)
(METERS)

```
   ( 389457.7, 3865528.7,     838.6,     873.8,       0.0);        ( 389380.7, 3865834.4,     828.9,     828.9,       0.0);
   ( 389230.7, 3866515.3,     834.1,     834.1,       0.0);        ( 389301.3, 3866707.1,     834.4,     834.4,       0.0);
   ( 389293.1, 3867581.1,     840.4,     840.4,       0.0);        ( 388862.5, 3868212.9,     850.4,    1024.7,       0.0);
   ( 388274.7, 3868299.4,     860.1,     860.1,       0.0);        ( 389317.5, 3868179.2,     844.9,    1261.1,       0.0);
   ( 390665.3, 3868298.9,     832.9,    1261.5,       0.0);        ( 389164.1, 3865359.6,     837.9,     923.7,       0.0);
```


*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
          1 1 1 1 1 1 1 1 1 1   1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: E:\New MET data\722953.SFC Met Version: 14134
Profile file: E:\New MET data\722953.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 3183 Upper air station no.: 93214
Name: UNKNOWN Name: UNKNOWN
Year: 2009 Year: 2009

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
09	01	01	1	01	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.18	1.41	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	02	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.18	1.41	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	03	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.18	1.41	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	04	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.18	1.41	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	05	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.18	1.41	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	06	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.18	1.41	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	07	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.18	1.41	1.00	0.00	0.	10.0	273.1	2.0
09	01	01	1	08	-13.1	0.162	-9.000	-9.000	-999.	156.	26.6	0.19	1.41	0.57	2.36	263.	10.0	275.1	2.0
09	01	01	1	09	22.2	-9.000	-9.000	-9.000	55.	-999.	-99999.0	0.18	1.41	0.33	0.00	0.	10.0	279.1	2.0
09	01	01	1	10	78.2	0.229	0.713	0.014	152.	262.	-12.6	0.18	1.41	0.24	1.76	999.	10.0	281.1	2.0
09	01	01	1	11	117.8	0.238	0.948	0.014	238.	279.	-9.4	0.18	1.41	0.22	1.76	999.	10.0	283.1	2.0
09	01	01	1	12	137.7	0.242	1.188	0.011	401.	286.	-8.5	0.18	1.41	0.21	1.76	999.	10.0	285.1	2.0
09	01	01	1	13	136.7	0.242	1.267	0.009	489.	286.	-8.5	0.18	1.41	0.21	1.76	999.	10.0	286.1	2.0
09	01	01	1	14	115.1	0.238	1.207	0.007	501.	278.	-9.6	0.18	1.41	0.22	1.76	999.	10.0	287.1	2.0
09	01	01	1	15	73.6	0.227	1.045	0.006	508.	260.	-13.1	0.18	1.41	0.25	1.76	999.	10.0	287.1	2.0
09	01	01	1	16	16.5	0.200	0.635	0.006	510.	215.	-40.0	0.18	1.41	0.34	1.76	999.	10.0	287.1	2.0
09	01	01	1	17	-6.0	0.087	-9.000	-9.000	-999.	70.	9.1	0.18	1.41	0.62	1.76	999.	10.0	286.1	2.0
09	01	01	1	18	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.18	1.41	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	19	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.18	1.41	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	20	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.18	1.41	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	21	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.18	1.41	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	22	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.18	1.41	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	23	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.18	1.41	1.00	999.00	999.	-9.0	999.0	-9.0
09	01	01	1	24	-999.0	-9.000	-9.000	-9.000	-999.	-999.	-99999.0	0.18	1.41	1.00	999.00	999.	-9.0	999.0	-9.0

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV

09 01 01 01   10.0 1 -999. -99.00 -999.0   99.0 -99.00 -99.00

F indicates top of profile (=1) or below (=0)

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP: ALL   ***
INCLUDING SOURCE(S):   PAREA1   , L0017684   , L0017685   , L0017686   , L0017687   ,
L0017688   , L0017689   , L0017690   , L0017691   , L0017692   , L0017693   , L0017694   , L0017695   ,
L0017696   , L0017697   , L0017698   , L0017699   , L0017700   , L0017701   , L0017702   , L0017703   ,
L0017704   , L0017705   , L0017706   , L0017707   , L0017708   , L0017709   , L0017710   , . . .   ,

*** NETWORK ID: UCART1   ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM   IN MICROGRAMS/M**3   **

Y-COORD (METERS)	X-COORD (METERS)								
	384517.41	384917.41	385317.41	385717.41	386117.41	386517.41	386917.41	387317.41	387717.41
3869154.77	0.00001	0.00002	0.00002	0.00002	0.00002	0.00003	0.00003	0.00003	0.00003
3868754.77	0.00003	0.00004	0.00004	0.00004	0.00004	0.00004	0.00005	0.00005	0.00005
3868354.77	0.00019	0.00020	0.00020	0.00020	0.00020	0.00020	0.00020	0.00019	0.00019
3867954.77	0.00012	0.00012	0.00013	0.00013	0.00014	0.00014	0.00014	0.00014	0.00014
3867554.77	0.00006	0.00006	0.00006	0.00007	0.00007	0.00007	0.00008	0.00008	0.00008
3867154.77	0.00004	0.00004	0.00004	0.00005	0.00005	0.00005	0.00006	0.00006	0.00007
3866754.77	0.00003	0.00003	0.00004	0.00004	0.00004	0.00004	0.00005	0.00006	0.00007
3866354.77	0.00002	0.00003	0.00003	0.00003	0.00004	0.00004	0.00005	0.00005	0.00007
3865954.77	0.00002	0.00002	0.00003	0.00003	0.00004	0.00004	0.00005	0.00006	0.00007
3865554.77	0.00002	0.00002	0.00003	0.00003	0.00003	0.00004	0.00005	0.00006	0.00009
3865154.77	0.00002	0.00002	0.00003	0.00002	0.00002	0.00002	0.00002	0.00008	0.00018
3864754.77	0.00002	0.00002	0.00003	0.00003	0.00004	0.00005	0.00004	0.00012	0.00013
3864354.77	0.00002	0.00002	0.00003	0.00003	0.00004	0.00005	0.00008	0.00014	0.00029
3863954.77	0.00002	0.00002	0.00003	0.00003	0.00004	0.00006	0.00008	0.00014	0.00024
3863554.77	0.00002	0.00002	0.00003	0.00003	0.00004	0.00006	0.00008	0.00013	0.00019
3863154.77	0.00002	0.00002	0.00003	0.00004	0.00004	0.00006	0.00008	0.00011	0.00014
3862754.77	0.00002	0.00002	0.00003	0.00004	0.00004	0.00005	0.00007	0.00009	0.00011
3862354.77	0.00002	0.00003	0.00003	0.00003	0.00004	0.00005	0.00007	0.00008	0.00009
3861954.77	0.00002	0.00002	0.00003	0.00003	0.00004	0.00005	0.00006	0.00007	0.00007
3861554.77	0.00002	0.00002	0.00003	0.00003	0.00004	0.00005	0.00005	0.00006	0.00006
3861154.77	0.00002	0.00002	0.00002	0.00003	0.00004	0.00004	0.00005	0.00005	0.00005

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP: ALL   ***

INCLUDING SOURCE(S): PAREA1 , L0017684 , L0017685 , L0017686 , L0017687 ,
L0017688 , L0017689 , L0017690 , L0017691 , L0017692 , L0017693 , L0017694 , L0017695 ,
L0017696 , L0017697 , L0017698 , L0017699 , L0017700 , L0017701 , L0017702 , L0017703 ,
L0017704 , L0017705 , L0017706 , L0017707 , L0017708 , L0017709 , L0017710 , . . . ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM IN MICROGRAMS/M**3 **

Y-COORD (METERS)	X-COORD (METERS)								
	388117.41	388517.41	388917.41	389317.41	389717.41	390117.41	390517.41	390917.41	391317.41
3869154.77	0.00003	0.00003	0.00003	0.00004	0.00004	0.00006	0.00005	0.00005	0.00005
3868754.77	0.00005	0.00005	0.00006	0.00007	0.00008	0.00008	0.00007	0.00007	0.00006
3868354.77	0.00019	0.00019	0.00021	0.00028	0.00018	0.00015	0.00014	0.00014	0.00014
3867954.77	0.00015	0.00016	0.00022	0.00173	0.00027	0.00018	0.00014	0.00012	0.00011
3867554.77	0.00009	0.00011	0.00020	0.00182	0.00033	0.00019	0.00014	0.00011	0.00010
3867154.77	0.00008	0.00011	0.00021	0.00191	0.00037	0.00022	0.00016	0.00012	0.00010
3866754.77	0.00008	0.00012	0.00023	0.00199	0.00041	0.00025	0.00017	0.00013	0.00010
3866354.77	0.00009	0.00014	0.00026	0.00213	0.00044	0.00027	0.00019	0.00014	0.00011
3865954.77	0.00011	0.00020	0.00034	0.00228	0.00048	0.00029	0.00020	0.00015	0.00012
3865554.77	0.00019	0.00049	0.00059	0.00247	0.00052	0.00031	0.00022	0.00016	0.00013
3865154.77	0.00211	0.00287	0.00195	0.00232	0.00053	0.00033	0.00023	0.00018	0.00013
3864754.77	0.00248	0.00339	0.00377	0.00126	0.00056	0.00035	0.00025	0.00019	0.00014
3864354.77	0.00126	0.00317	0.00234	0.00087	0.00045	0.00033	0.00024	0.00018	0.00014
3863954.77	0.00045	0.00076	0.00084	0.00063	0.00044	0.00030	0.00022	0.00017	0.00014
3863554.77	0.00026	0.00033	0.00042	0.00043	0.00035	0.00027	0.00020	0.00016	0.00013
3863154.77	0.00018	0.00019	0.00024	0.00028	0.00028	0.00023	0.00019	0.00015	0.00012
3862754.77	0.00012	0.00013	0.00015	0.00019	0.00021	0.00020	0.00017	0.00014	0.00012
3862354.77	0.00009	0.00010	0.00011	0.00013	0.00016	0.00016	0.00015	0.00013	0.00011
3861954.77	0.00007	0.00008	0.00008	0.00009	0.00011	0.00012	0.00013	0.00013	0.00011
3861554.77	0.00006	0.00006	0.00007	0.00007	0.00009	0.00010	0.00010	0.00011	0.00010
3861154.77	0.00005	0.00005	0.00006	0.00006	0.00007	0.00008	0.00009	0.00009	0.00009

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** THE PERIOD (43872 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): PAREA1 , L0017684 , L0017685 , L0017686 , L0017687 ,
L0017688 , L0017689 , L0017690 , L0017691 , L0017692 , L0017693 , L0017694 , L0017695 ,
L0017696 , L0017697 , L0017698 , L0017699 , L0017700 , L0017701 , L0017702 , L0017703 ,
L0017704 , L0017705 , L0017706 , L0017707 , L0017708 , L0017709 , L0017710 , . . . ,

*** NETWORK ID: UCART1 ; NETWORK TYPE: GRIDCART ***

** CONC OF DPM IN MICROGRAMS/M**3 **

Y-COORD | X-COORD (METERS)

```
   (METERS) |     391717.41    392117.41    392517.41
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 3869154.77 |       0.00005      0.00004      0.00004
 3868754.77 |       0.00006      0.00005      0.00005
 3868354.77 |       0.00014      0.00015      0.00018
 3867954.77 |       0.00010      0.00009      0.00008
 3867554.77 |       0.00008      0.00007      0.00006
 3867154.77 |       0.00008      0.00007      0.00006
 3866754.77 |       0.00008      0.00007      0.00006
 3866354.77 |       0.00009      0.00007      0.00006
 3865954.77 |       0.00009      0.00008      0.00007
 3865554.77 |       0.00010      0.00008      0.00007
 3865154.77 |       0.00011      0.00009      0.00007
 3864754.77 |       0.00011      0.00009      0.00008
 3864354.77 |       0.00012      0.00010      0.00008
 3863954.77 |       0.00011      0.00009      0.00008
 3863554.77 |       0.00011      0.00009      0.00008
 3863154.77 |       0.00010      0.00009      0.00008
 3862754.77 |       0.00010      0.00008      0.00007
 3862354.77 |       0.00010      0.00008      0.00007
 3861954.77 |       0.00009      0.00008      0.00007
 3861554.77 |       0.00009      0.00008      0.00007
 3861154.77 |       0.00009      0.00008      0.00007

*** AERMOD - VERSION 21112  ***   *** 19294 Gem Hill Quarry - rev                                          ***        01/06/22
*** AERMET - VERSION  14134 ***   *** Opening Year 2021                                                   ***        11:52:36
                                                                                                                    PAGE 138
*** MODELOPTs:    RegDFAULT  CONC  ELEV  RURAL  VectorWS

                          *** THE PERIOD ( 43872 HRS) AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP: ALL      ***
                              INCLUDING SOURCE(S):     PAREA1      , L0017684    , L0017685    , L0017686    , L0017687    ,
               L0017688    , L0017689    , L0017690    , L0017691    , L0017692    , L0017693    , L0017694    , L0017695    ,
               L0017696    , L0017697    , L0017698    , L0017699    , L0017700    , L0017701    , L0017702    , L0017703    ,
               L0017704    , L0017705    , L0017706    , L0017707    , L0017708    , L0017709    , L0017710    ,  . . .      ,

                                       *** DISCRETE CARTESIAN RECEPTOR POINTS ***

                                    ** CONC OF DPM      IN MICROGRAMS/M**3                        **

      X-COORD (M)   Y-COORD (M)        CONC                       X-COORD (M)   Y-COORD (M)        CONC
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        389457.70    3865528.73        0.00090                     389380.72    3865834.37        0.00127
        389230.70    3866515.34        0.00156                     389301.35    3866707.06        0.00268
        389293.08    3867581.08        0.00275                     388862.46    3868212.91        0.00079
        388274.72    3868299.44        0.00038                     389317.52    3868179.20        0.00139
        390665.29    3868298.93        0.00023                     389164.09    3865359.58        0.00094

*** AERMOD - VERSION 21112  ***   *** 19294 Gem Hill Quarry - rev                                          ***        01/06/22
*** AERMET - VERSION  14134 ***   *** Opening Year 2021                                                   ***        11:52:36
                                                                                                                    PAGE 139
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*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** THE SUMMARY OF MAXIMUM PERIOD (43872 HRS) RESULTS ***

** CONC OF DPM IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	0.00377 AT (388917.41, 3864754.77, 820.20, 1008.30, 0.00)	GC	UCART1
	2ND HIGHEST VALUE IS	0.00339 AT (388517.41, 3864754.77, 833.80, 1011.20, 0.00)	GC	UCART1
	3RD HIGHEST VALUE IS	0.00317 AT (388517.41, 3864354.77, 816.30, 1011.80, 0.00)	GC	UCART1
	4TH HIGHEST VALUE IS	0.00287 AT (388517.41, 3865154.77, 866.70, 984.00, 0.00)	GC	UCART1
	5TH HIGHEST VALUE IS	0.00275 AT (389293.08, 3867581.08, 840.36, 840.36, 0.00)	DC	
	6TH HIGHEST VALUE IS	0.00268 AT (389301.35, 3866707.06, 834.42, 834.42, 0.00)	DC	
	7TH HIGHEST VALUE IS	0.00248 AT (388117.41, 3864754.77, 865.80, 1011.80, 0.00)	GC	UCART1
	8TH HIGHEST VALUE IS	0.00247 AT (389317.41, 3865554.77, 830.60, 873.80, 0.00)	GC	UCART1
	9TH HIGHEST VALUE IS	0.00234 AT (388917.41, 3864354.77, 802.50, 1010.60, 0.00)	GC	UCART1
	10TH HIGHEST VALUE IS	0.00232 AT (389317.41, 3865154.77, 836.70, 873.80, 0.00)	GC	UCART1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR

*** MODELOPTs: RegDFAULT CONC ELEV RURAL VectorWS

*** Message Summary : AERMOD Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 1 Warning Message(s)
A Total of 21067 Informational Message(s)

A Total of 43872 Hours Were Processed

A Total of 6666 Calm Hours Identified

A Total of 14401 Missing Hours Identified (32.83 Percent)

CAUTION!: Number of Missing Hours Exceeds 10 Percent of Total!
Data May Not Be Acceptable for Regulatory Applications.
See Section 5.3.2 of "Meteorological Monitoring Guidance
for Regulatory Modeling Applications" (EPA-454/R-99-005).

```
   ******** FATAL ERROR MESSAGES ********
             ***  NONE  ***


   ********   WARNING MESSAGES   ********
CO W116      21       MODOPT: Vector Wind Speeds specified on MODELOPT Keyword       VECTORWS

   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
```

HARP2 - HRACalc (dated 19044) 1/6/2022 2:17:03 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: Cancer
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 30

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 0
2<16 Years Bin: 14
16<30 Years Bin: 14
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors

Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

****
TIER 2 SETTINGS
Tier2 not used.

****

Calculating cancer risk
Cancer risk saved to: E:\Ganddini Projects\19294 Gem Hill Mine HRA\More revisions - 2021\November Peer Review\New version of AERMOD\Gem Hill Mine - rev DecCancerRisk.csv
HRA ran successfully

*HARP - HRACalc v19044 1/6/2022 2:17:03 PM - Cancer Risk - Input File: E:\Ganddini Projects\19294 Gem Hill Mine HRA\More revisions - 2021\November Peer Review\New version of AERMOD\Gem Hill Mine - rev DecHRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBRE\	CONC	RISK_SUM	SCENARIO	DETAILS	INH_RISK	SOIL_RISK	DERMAL_R	MMILK_RIS	WATER_RIS	FISH_RISK	CROP_RISK	BEEF_RISK	DAIRY_RISI	PIG_RISK	CHICKEN_R	EGG_RISK	1ST_DRIVE	2ND_DRIVE	PASTURE_(	FISH_CONC	WATER_CONC
1	389457.7	3865529	9901	DieselExhP	0.0009	7.96E-07	30YrCancer	*	7.96E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
2	389380.7	3865834	9901	DieselExhP	0.00127	1.12E-06	30YrCancer	*	1.12E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
3	389230.7	3866515	9901	DieselExhP	0.00156	1.38E-06	30YrCancer	*	1.38E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
4	389301.4	3866707	9901	DieselExhP	0.00268	2.37E-06	30YrCancer	*	2.37E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
5	389293.1	3867581	9901	DieselExhP	0.00275	2.43E-06	30YrCancer	*	2.43E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
6	388862.5	3868213	9901	DieselExhP	0.00079	6.99E-07	30YrCancer	*	6.99E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
7	388274.7	3868299	9901	DieselExhP	0.00038	3.36E-07	30YrCancer	*	3.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
8	389317.5	3868179	9901	DieselExhP	0.00139	1.23E-06	30YrCancer	*	1.23E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
9	390665.3	3868299	9901	DieselExhP	0.00023	2.03E-07	30YrCancer	*	2.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00
10	389164.1	3865360	9901	DieselExhP	0.00094	8.31E-07	30YrCancer	*	8.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	INHALATION		0.00E+00	0.00E+00	0.00E+00

*HARP - HRACalc v19044 1/6/2022 4:14:46 PM - Chronic Risk - Input File: E:\Ganddini Projects\19294 Gem Hill Mine HRA\More revisions - 2021\November Peer Review\New version of AERMOD\Gem Hill Mine - rev Dec non cancerHRAInput.hra

INDEX	GRP1	GRP2	POLID	POLABBREV	CONC	SCENARIO	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DE\	RESP	SKIN	EYE	BONE/TEE1	ENDO	BLOOD	ODOR	GENERAL	DETAILS	INH_CONC
1	389457.7	3865529	9901	DieselExhPM	0.0009	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.80E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	9.00E-04
2	389380.7	3865834	9901	DieselExhPM	0.00127	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.54E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	1.27E-03
3	389230.7	3866515	9901	DieselExhPM	0.00156	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.12E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	1.56E-03
4	389301.4	3866707	9901	DieselExhPM	0.00268	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.36E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	2.68E-03
5	389293.1	3867581	9901	DieselExhPM	0.00275	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.50E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	2.75E-03
6	388862.5	3868213	9901	DieselExhPM	0.00079	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.58E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	7.90E-04
7	388274.7	3868299	9901	DieselExhPM	0.00038	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.60E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	3.80E-04
8	389317.5	3868179	9901	DieselExhPM	0.00139	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.78E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	1.39E-03
9	390665.3	3868299	9901	DieselExhPM	0.00023	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.60E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	2.30E-04
10	389164.1	3865360	9901	DieselExhPM	0.00094	NonCancerChronicDerived_InhSoilDermMMilk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.88E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	*	9.40E-04



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Appendix C.3

SJVAPCD and SCAQMD Amicus Curiae Brief

SUPREME COURT COPY

CASE NO. S219783

IN THE SUPREME COURT OF CALIFORNIA

SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,
Plaintiffs and Appellants

v.

COUNTY OF FRESNO,
Defendant and Respondent

FRIANT RANCH, L.P.,
Real Party in Interest and Respondent

SUPREME COURT
FILED
APR 13 2015
Frank A. McGuire Clerk
Deputy

After a Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726

APPLICATION FOR LEAVE TO FILE AMICUS CURIAE BRIEF OF SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT IN SUPPORT OF DEFENDANT AND RESPONDENT, COUNTY OF FRESNO AND REAL PARTY IN INTEREST AND RESPONDENT, FRIANT RANCH, L.P.

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Counsel for San Joaquin Valley Unified Air Pollution Control District

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Counsel for San Joaquin Valley Unified Air Pollution Control District

APPLICATION

Pursuant to California Rules of Court 8.520(f)(1), proposed Amicus Curiae San Joaquin Valley Unified Air Pollution Control District hereby requests permission from the Chief Justice to file an amicus brief in support of Defendant and Respondent, County of Fresno, and Defendant and Real Parties in Interest Friant Ranch, L.P. Pursuant to Rule 8.520(f)(5) of the California Rules of Court, the proposed amicus curiae brief is combined with this Application. The brief addresses the following issue certified by this Court for review:

> Is an EIR adequate when it identifies the health impacts of air pollution and quantifies a project's expected emissions, or does CEQA further require the EIR to *correlate* a project's air quality emissions to specific health impacts?

As of the date of this filing, the deadline for the final reply brief on the merits was March 5, 2015. Accordingly, under Rule 8.520(f)(2), this application and brief are timely.

1. Background and Interest of San Joaquin Valley Unified Air Pollution Control District

The San Joaquin Valley Unified Air Pollution Control District ("Air District") regulates air quality in the eight counties comprising the San Joaquin Valley ("Central Valley"): Kern, Tulare, Madera, Fresno, Merced, San Joaquin, Stanislaus, and Kings, and is primarily responsible for attaining air quality standards within its jurisdiction. After billions of dollars of investment by Central Valley businesses, pioneering air quality regulations, and consistent efforts by residents, the Central Valley air basin has made historic improvements in air quality.

The Central Valley's geographical, topographical and meteorological features create exceptionally challenging air quality

conditions. For example, it receives air pollution transported from the San Francisco Bay Area and northern Central Valley communities, and the southern portion of the Central Valley includes three mountain ranges (Sierra, Tehachapi, and Coastal) that, under some meteorological conditions, effectively trap air pollution. Central Valley air pollution is only a fraction of what the Bay Area and Los Angeles produce, but these natural conditions result in air quality conditions that are only marginally better than Los Angeles, even though about ten times more pollution is emitted in the Los Angeles region. Bay Area air quality is much better than the Central Valley's, even though the Bay Area produces about six times more pollution. The Central Valley also receives air pollution transported from the Bay Area and northern counties in the Central Valley, including Sacramento, and transboundary anthropogenic ozone from as far away as China.

Notwithstanding these challenges, the Central Valley has reduced emissions at the same or better rate than other areas in California and has achieved unparalleled milestones in protecting public health and the environment:

- In the last decade, the Central Valley became the first air basin classified by the federal government under the Clean Air Act as a "serious nonattainment" area to come into attainment of health-based National Ambient Air Quality Standard ("NAAQS") for coarse particulate matter (PM10), an achievement made even more notable given the Valley's extensive agricultural sector. Unhealthy levels of particulate matter can cause and exacerbate a range of chronic and acute illnesses.
- In 2013, the Central Valley became the first air basin in the country to improve from a federal designation of "extreme" nonattainment to

actually attain (and quality for an attainment designation) of the 1-hour ozone NAAQS; ozone creates "smog" and, like PM10, causes adverse health impacts.

- The Central Valley also is in full attainment of federal standards for lead, nitrogen dioxide, sulfur dioxide, and carbon monoxide.
- The Central Valley continues to make progress toward compliance with its last two attainment standards, with the number of exceedences for the 8-hour ozone NAAQS reduced by 74% (for the 1997 standard) and 38% (for the 2008 standard) since 1991, and for the small particulate matter (PM2.5) NAAQS reduced by 85% (for the 1997 standard) and 61% (for the 2006 standard).

Sustained improvement in Central Valley air quality requires a rigorous and comprehensive regulatory framework that includes prohibitions (e.g., on wood-burning fireplaces in new residences), mandates (e.g., requiring the installation of best available pollution reduction technologies on new and modified equipment and industrial operations), innovations (e.g., fees assessed against residential development to fund pollution reduction actions to "offset" vehicular emissions associated with new residences), incentive programs (e.g., funding replacements of older, more polluting heavy duty trucks and school buses)[1], ongoing planning for continued air quality improvements, and enforcement of Air District permits and regulations.

The Air District is also an expert air quality agency for the eight counties and cities in the San Joaquin Valley. In that capacity, the Air District has developed air quality emission guidelines for use by the Central

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[1] San Joaquin's incentive program has been so successful that through 2012, it has awarded over $ 432 million in incentive funds and has achieved 93,349 tons of lifetime emissions reductions. *See* SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 2012 PM2.5 PLAN, 6-6 (2012) *available at* http://www.valleyair.org/Workshops/postings/2012/12-20-12PM25/FinalVersion/06%20Chapter%206%20Incentives.pdf.

Valley counties and cities that implement the California Environment Quality Act (CEQA).[2] In its guidance, the Air District has distinguished between toxic air contaminants and criteria air pollutants.[3] Recognizing this distinction, the Air District's CEQA Guidance has adopted distinct thresholds of significance for *criteria* pollutants (i.e., ozone, PM2.5 and their respective precursor pollutants) based upon scientific and factual data which demonstrates the level that can be accommodated on a cumulative basis in the San Joaquin Valley without affecting the attainment of the applicable NAAQS.[4] For *toxic air* pollutants, the District has adopted different thresholds of significance which scientific and factual data demonstrates has the potential to expose sensitive receptors (i.e., children, the elderly) to levels which may result in localized health impacts.[5]

The Air District's CEQA Guidance was followed by the County of Fresno in its environment review of the Friant Ranch project, for which the Air District also served as a commenting agency. The Court of Appeal's holding, however, requiring correlation between the project's criteria

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[2] *See, e.g.*, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, PLANNING DIVISION, GUIDE FOR ASSESSING AND MITIGATING AIR QUALITY IMPACTS (2015), *available at* http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf ("CEQA Guidance").

[3] Toxic air contaminants, also known as hazardous air pollutants, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as birth defects. There are currently 189 toxic air contaminants regulated by the United States Environmental Protection Agency ("EPA") and the states pursuant to the Clean Air Act. 42 U.S.C. § 7412. Common TACs include benzene, perchloroethylene and asbestos. *Id.* at 7412(b).

In contrast, there are only six (6) criteria air pollutants: ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide and lead. Although criteria air pollutants can also be harmful to human health, they are distinguishable from toxic air contaminants and are regulated separately. For instance, while criteria pollutants are regulated by numerous sections throughout Title I of the Clean Air Act, the regulation of toxic air contaminants occurs solely under section 112 of the Act. Compare 42 U.S.C. §§ 7407 – 7411 & 7501 – 7515 with 42 U.S.C. § 7411.

[4] See, e.g., CEQA Guidance at http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf, pp. 64-66, 80.

[5] See, e.g., CEQA Guidance at http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf, pp. 66, 99-101.

pollutants and local health impacts, departs from the Air District's Guidance and approved methodology for assessing criteria pollutants. A close reading of the administrative record that gave rise to this issue demonstrates that the Court's holding is based on a misunderstanding of the distinction between toxic air contaminants (for which a local health risk assessment is feasible and routinely performed) and criteria air pollutants (for which a local health risk assessment is not feasible and would result in speculative results).[6] The Air District has a direct interest in ensuring the lawfulness and consistent application of its CEQA Guidance, and will explain how the Court of Appeal departed from the Air District's long-standing CEQA Guidance in addressing criteria pollutants and toxic air contaminants in this amicus brief.

2. How the Proposed Amicus Curiae Brief Will Assist the Court

As counsel for the proposed amicus curiae, we have reviewed the briefs filed in this action. In addition to serving as a "commentary agency" for CEQA purposes over the Friant Ranch project, the Air District has a strong interest in assuring that CEQA is used for its intended purpose, and believes that this Court would benefit from additional briefing explaining the distinction between criteria pollutants and toxic air contaminants and the different methodologies employed by local air pollution control agencies such as the Air District to analyze these two categories of air pollutants under CEQA. The Air District will also explain how the Court of Appeal's opinion is based upon a fundamental misunderstanding of these two different approaches by requiring the County of Fresno to correlate the project's *criteria* pollution emissions with *local* health impacts. In doing

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[6] CEQA does not require speculation. *See, e.g., Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.*, 6 Cal. 4th 1112, 1137 (1993) (upholding EIR that failed to evaluate cumulative toxic air emission increases given absence of any acceptable means for doing so).

so, the Air District will provide helpful analysis to support its position that at least insofar as criteria pollutants are concerned, CEQA does not require an EIR to correlate a project's air quality emissions to specific health impacts, because such an analysis is not reasonably feasible.

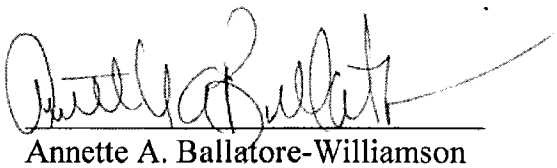
Rule 8.520 Disclosure

Pursuant to Cal. R. 8.520(f)(4), neither the Plaintiffs nor the Defendant or Real Party In Interest or their respective counsel authored this brief in whole or in part. Neither the Plaintiffs nor the Defendant or Real Party in Interest or their respective counsel made any monetary contribution towards or in support of the preparation of this brief.

CONCLUSION

On behalf of the San Joaquin Valley Unified Air Pollution Control District, we respectfully request that this Court accept the filing of the attached brief.

Dated: April 2, 2015



Annette A. Ballatore-Williamson
District Counsel
Attorney for Proposed Amicus Curiae

SAN JOAQUIN VALLEY UNIFIED
AIR POLLUTION CONTROL
DISTRICT

CASE NO. S219783

IN THE SUPREME COURT OF CALIFORNIA

SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,
Plaintiffs and Appellants

v.

COUNTY OF FRESNO,
Defendant and Respondent

FRIANT RANCH, L.P.,
Real Party in Interest and Respondent

After a Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726

AMICUS CURIAE BRIEF OF SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT IN SUPPORT OF DEFENDANT AND RESPONDENT, COUNTY OF FRESNO AND REAL PARTY IN INTEREST AND RESPONDENT, FRIANT RANCH, L.P.

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I. INTRODUCTION.

The San Joaquin Valley Unified Air Pollution Control District ("Air District") respectfully submits that the Court of Appeal erred when it held that the air quality analysis contained in the Environmental Impact Report ("EIR") for the Friant Ranch development project was inadequate under the California Environmental Quality Act ("CEQA") because it did not include an analysis of the correlation between the project's criteria air pollutants and the potential adverse human health impacts. A close reading of the portion of the administrative record that gave rise to this issue demonstrates that the Court's holding is based on a misunderstanding of the distinction between toxic air contaminants and criteria air pollutants.

Toxic air contaminants, also known as hazardous air pollutants, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as birth defects. There are currently 189 toxic air contaminants (hereinafter referred to as "TACs") regulated by the United States Environmental Protection Agency ("EPA") and the states pursuant to the Clean Air Act. 42 U.S.C. § 7412. Common TACs include benzene, perchloroethylene and asbestos. *Id.* at 7412(b).

In contrast, there are only six (6) criteria air pollutants: ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide and lead. Although criteria air pollutants can also be harmful to human health,

they are distinguishable from TACs and are regulated separately. For instance, while criteria pollutants are regulated by numerous sections throughout Title I of the Clean Air Act, the regulation of TACs occurs solely under section 112 of the Act. *Compare* 42 U.S.C. §§ 7407 – 7411 & 7501 – 7515 *with* 42 U.S.C. § 7411.

The most relevant difference between criteria pollutants and TACs for purposes of this case is the manner in which human health impacts are accounted for. While it is common practice to analyze the correlation between an individual facility's TAC emissions and the expected localized human health impacts, such is not the case for criteria pollutants. Instead, the human health impacts associated with criteria air pollutants are analyzed and taken into consideration when EPA sets the national ambient air quality standard ("NAAQS") for each criteria pollutant. 42 U.S.C. § 7409(b)(1). The health impact of a particular criteria pollutant is analyzed on a regional and not a facility level based on how close the area is to complying with (attaining) the NAAQS. Accordingly, while the type of individual facility / health impact analysis that the Court of Appeal has required is a customary practice for TACs, it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task.

It is clear from a reading of both the administrative record and the Court of Appeal's decision that the Court did not have the expertise to fully

appreciate the difference between TACs and criteria air pollutants. As a result, the Court has ordered the County of Fresno to conduct an analysis that is not practicable and not likely yield valid information. The Air District respectfully requests that this portion of the Court of Appeal's decision be reversed.

II. THE COURT OF APPEAL ERRED IN FINDING THE FRIANT RANCH EIR INADEQUATE FOR FAILING TO ANALYZE THE SPECIFIC HUMAN HEALTH IMPACTS ASSOCIATED CRITERIA AIR POLLUTANTS.

Although the Air District does not take lightly the amount of air emissions at issue in this case, it submits that the Court of Appeal got it wrong when it required Fresno County to revise the Friant Ranch EIR to include an analysis correlating the criteria air pollutant emissions associated with the project with specific, localized health-impacts. The type of analysis the Court of Appeal has required will not yield reliable information because currently available modeling tools are not well suited for this task. Further, in reviewing this issue de novo, the Court of Appeal failed to appreciate that it lacked the scientific expertise to appreciate the significant differences between a health risk assessment commonly performed for toxic air contaminants and a similar type of analysis it felt should have been conducted for criteria air pollutants.

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A. Currently Available Modeling Tools are not Equipped to Provide a Meaningful Analysis of the Correlation between an Individual Development Project's Air Emissions and Specific Human Health Impacts.

In order to appreciate the problematic nature of the Court of Appeals' decision requiring a health risk type analysis for criteria air pollutants, it is important to understand how the relevant criteria pollutants (ozone and particulate matter) are formed, dispersed and regulated.

Ground level ozone (smog) is not directly emitted into the air, but is formed when precursor pollutants such as oxides of nitrogen (NOx) and volatile organic compounds (VOCs) are emitted into the atmosphere and undergo complex chemical reactions in the process of sunlight.[1] Once formed, ozone can be transported long distances by wind.[2] Because of the complexity of ozone formation, a specific tonnage amount of NOx or VOCs emitted in a particular area does not equate to a particular concentration of ozone in that area. In fact, even rural areas that have relatively low tonnages of emissions of NOx or VOCs can have high levels of ozone concentration simply due to wind transport.[3] Conversely, the San Francisco Bay Area has six times more NOx and VOC emissions per square mile than the San Joaquin Valley, but experiences lower

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[1] *See* United States Environmental Protection Agency, *Ground-level Ozone: Basic Information*, available at: http://www.epa.gov/airquality/ozonepollution/basic.html (visited March 10, 2015).
[2] *Id.*
[3] *Id.*

concentrations of ozone (and better air quality) simply because sea breezes disperse the emissions.[4]

Particulate matter ("PM") can be divided into two categories: directly emitted PM and secondary PM.[5] While directly emitted PM can have a localized impact, the tonnage emitted does not always equate to the local PM concentration because it can be transported long distances by wind.[6] Secondary PM, like ozone, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as sulfur dioxides (SOx) and NOx.[7] Because of the complexity of secondary PM formation, the tonnage of PM-forming precursor emissions in an area does not necessarily result in an equivalent concentration of secondary PM in that area.

The disconnect between the *tonnage* of precursor pollutants (NOx, SOx and VOCs) and the *concentration* of ozone or PM formed is important because it is not necessarily the tonnage of precursor pollutants that causes human health effects, but the concentration of resulting ozone or PM. Indeed, the national ambient air quality standards ("NAAQS"), which are statutorily required to be set by the United States Environmental Protection

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[4] *San Joaquin Valley Air Pollution Control District 2007 Ozone Plan*, Executive Summary p. ES-6, available at: http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Ozone_2007_Adopted/03%20Executive%20Summary.pdf (visited March 10, 2015).

[5] United States Environmental Protection Agency, *Particulate Matter: Basic Information*, available at: http://www.epa.gov/airquality/particlepollution/basic.html (visited March 10, 2015).

[6] *Id.*

[7] *Id.*

Agency ("EPA") at levels that are "requisite to protect the public health," 42 U.S.C. § 7409(b)(1), are established as concentrations of ozone or particulate matter and not as tonnages of their precursor pollutants.[8]

Attainment of a particular NAAQS occurs when the concentration of the relevant pollutant remains below a set threshold on a consistent basis throughout a particular region. For example, the San Joaquin Valley attained the 1-hour ozone NAAQS when ozone concentrations remained at or below 0.124 parts per million Valley-wide on 3 or fewer days over a 3-year period.[9] Because the NAAQS are focused on achieving a particular concentration of pollution region-wide, the Air District's tools and plans for attaining the NAAQS are regional in nature.

For instance, the computer models used to simulate and predict an attainment date for the ozone or particulate matter NAAQS in the San Joaquin Valley are based on regional inputs, such as regional inventories of precursor pollutants (NOx, SOx and VOCs) and the atmospheric chemistry and meteorology of the Valley.[10] At a very basic level, the models simulate future ozone or PM levels based on predicted changes in precursor

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[8] See, e.g., United States Environmental Protection Agency, *Table of National Ambient Air Quality Standards*, available at: http://www.epa.gov/air/criteria.html#3 (visited March 10, 2015).

[9] *San Joaquin Valley Unified Air Pollution Control District 2013 Plan for the Revoked 1-Hour Ozone Standard*, Ch. 2 p. 2-16, available at: http://www.valleyair.org/Air_Quality_Plans/OzoneOneHourPlan2013/02Chapter2ScienceTrendsModeling.pdf (visited March 10, 2015).

[10] *Id.* at Ch. 2 p. 2-19 (visited March 12, 2015); *San Joaquin Valley Unified Air Pollution Control District 2008 PM2.5 Plan*, Appendix F, pp. F-2 – F-5, available at: http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Final_Adopted_PM2.5/20%20Appendix%20F.pdf (visited March 19, 2015).

emissions Valley wide.[11] Because the NAAQS are set levels necessary to protect human health, the closer a region is to attaining a particular NAAQS, the lower the human health impact is from that pollutant.

The goal of these modeling exercises is not to determine whether the emissions generated by a particular factory or development project will affect the date that the Valley attains the NAAQS. Rather, the Air District's modeling and planning strategy is regional in nature and based on the extent to which *all* of the emission-generating sources in the Valley (current and future) must be controlled in order to reach attainment.[12]

Accordingly, the Air District has based its thresholds of significance for CEQA purposes on the levels that scientific and factual data demonstrate that the Valley can accommodate without affecting the attainment date for the NAAQS.[13] The Air District has tied its CEQA significance thresholds to the level at which stationary pollution sources permitted by the Air District must "offset" their emissions.[14] This "offset"

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[11] *Id.*

[12] Although the Air District does have a dispersion modeling tool used during its air permitting process that is used to predict whether a particular project's directly emitted PM will either cause an exceedance of the PM NAAQS or contribute to an existing exceedance, this model bases the prediction on a worst case scenario of emissions and meteorology and has no provision for predicting any associated human health impacts. Further, this analysis is only performed for stationary sources (factories, oil refineries, etc.) that are required to obtain a New Source Review permit from the Air District and not for development projects such as Friant Ranch over which the Air District has no preconstruction permitting authority. *See* San Joaquin Valley Unified Air Pollution Control District Rule 2201 §§ 2.0; 3.3.9; 4.14.1, available at: http://www.valleyair.org/rules/currntrules/Rule2201041l.pdf (visited March 19, 2015).

[13] *San Joaquin Valley Unified Air Pollution Control District Guide to Assessing and Mitigating Air Quality Impacts*, (March 19, 2015) p. 22, available at: http://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI%20Jan%202002%20Rev.pdf (visited March 30, 2015).

[14] *Id.* at pp. 22, 25.

level allows for growth while keeping the cumulative effects of all new sources at a level that will not impede attainment of the NAAQS.[15] In the Valley, these thresholds are 15 tons per year of PM, and 10 tons of NOx or VOC per year. *Sierra Club*, *supra*, 172 Cal.Rptr.3d at 303; AR 4554. Thus, the CEQA air quality analysis for criteria pollutants is not really a localized, project-level impact analysis but one of regional, "cumulative impacts."

Accordingly, the significance thresholds applied in the Friant Ranch EIR (15 tons per year of PM and 10 tons of NOx or VOCs) are not intended to be indicative of any localized human health impact that the project may have. While the health effects of air pollution are of primary concern to the Air District (indeed, the NAAQS are established to protect human health), the Air District is simply not equipped to analyze whether and to what extent the criteria pollutant emissions of an individual CEQA project directly impact human health in a particular area. This is true even for projects with relatively high levels of emissions of criteria pollutant precursor emissions.

For instance, according to the EIR, the Friant Ranch project is estimated to emit 109.52 tons per year of ROG (VOC), 102.19 tons per year of NOx, and 117.38 tons per year of PM. Although these levels well

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[15] [15] *San Joaquin Valley Unified Air Pollution Control District Environmental Review Guidelines* (Aug. 2000) p. 4-11, available at: http://www.valleyair.org/transportation/CEQA%20Rules/ERG%20Adopted%20_August%202000_.pdf (visited March 12, 2015).

exceed the Air District's CEQA significance thresholds, this does not mean that one can easily determine the concentration of ozone or PM that will be created at or near the Friant Ranch site on a particular day or month of the year, or what specific health impacts will occur. Meteorology, the presence of sunlight, and other complex chemical factors all combine to determine the ultimate concentration and location of ozone or PM. This is especially true for a project like Friant Ranch where most of the criteria pollutant emissions derive not from a single "point source," but from area wide sources (consumer products, paint, etc.) or mobile sources (cars and trucks) driving to, from and around the site.

In addition, it would be extremely difficult to model the impact on NAAQS attainment that the emissions from the Friant Ranch project may have. As discussed above, the currently available modeling tools are equipped to model the impact of *all* emission sources in the Valley on attainment. According to the most recent EPA-approved emission inventory, the NOx inventory for the Valley is for the year 2014 is 458.2 tons per day, or 167,243 tons per year and the VOC (or ROG) inventory is 361.7 tons per day, or 132,020.5 tons per year.[16] Running the photochemical grid model used for predicting ozone attainment with the

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[16] *San Joaquin Valley Unified Air Pollution Control District 2007 Ozone Plan*, Appendix B pp. B-6, B-9,
available at:
http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Ozone_2007_Adopted/19%20Appendix%20B%20April%202007.pdf (visited March 12, 2015).

emissions solely from the Friant Ranch project (which equate to less than one-tenth of one percent of the total NOx and VOC in the Valley) is not likely to yield valid information given the relative scale involved.

Finally, even once a model is developed to accurately ascertain local increases in concentrations of photochemical pollutants like ozone and some particulates, it remains impossible, using today's models, to correlate that increase in concentration to a specific health impact. The reason is the same: such models are designed to determine regional, population-wide health impacts, and simply are not accurate when applied at the local level.

For these reasons, it is not the norm for CEQA practitioners, including the Air District, to conduct an analysis of the localized health impacts associated with a project's criteria air pollutant emissions as part of the EIR process. When the accepted scientific method precludes a certain type of analysis, "the court cannot impose a legal standard to the contrary." *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 717 n. 8. However, that is exactly what the Court of Appeal has done in this case. Its decision upends the way CEQA air quality analysis of criteria pollutants occurs and should be reversed.

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B. The Court of Appeal Improperly Extrapolated a Request for a Health Risk Assessment for Toxic Air Contaminants into a Requirement that the EIR contain an Analysis of Localized Health Impacts Associated with Criteria Air Pollutants.

The Court of Appeal's error in requiring the new health impact analysis for criteria air pollutants clearly stems from a misunderstanding of terms of art commonly used in the air pollution field. More specifically, the Court of Appeal (and Appellants Sierra Club et al.) appear to have confused the health risk analysis ("HRA") performed to determine the health impacts associated with a project's toxic air contaminants ("TACs"), with an analysis correlating a project's criteria air pollutants (ozone, PM and the like) with specific localized health impacts.

The first type of analysis, the HRA, is commonly performed during the Air District's stationary source permitting process for projects that emit TACs and is, thus, incorporated into the CEQA review process. An HRA is a comprehensive analysis to evaluate and predict the dispersion of TACs emitted by a project and the potential for exposure of human populations. It also assesses and quantifies both the individual and population-wide health risks associated with those levels of exposure. There is no similar analysis conducted for criteria air pollutants. Thus, the second type of analysis (required by the Court of Appeal), is not currently part of the Air District's process because, as outlined above, the health risks associated

with exposure to criteria pollutants are evaluated on a regional level based on the region's attainment of the NAAQS.

The root of this confusion between the types of analyses conducted for TACs versus criteria air pollutants appears to stem from a comment that was presented to Fresno County by the City of Fresno during the administrative process.

In its comments on the draft EIR, the City of Fresno (the only party to raise this issue) stated:

> [t]he EIR must disclose the human health related effects of the Project's air pollution impacts. (CEQA Guidelines section 15126.2(a).) The EIR fails completely in this area. The EIR should be revised to disclose and determine the significance of TAC impacts, and of human health risks due to exposure to Project-related air emissions.

(AR 4602.)

In determining that the issue regarding the correlation between the Friant Ranch project's criteria air pollutants and adverse health impacts was adequately exhausted at the administrative level, the Court of Appeal improperly read the first two sentences of the City of Fresno's comment in isolation rather than in the context of the entire comment. *See Sierra Club v. County of Fresno* (2014) 172 Cal.Rptr.3d 271, 306. Although the comment first speaks generally in terms of "human health related effects" and "air pollution," it requests only that the EIR be revised to disclose "the significance of TACs" and the "human health risks due to exposure."

The language of this request in the third sentence of the comment is significant because, to an air pollution practitioner, the language would only have indicated only that a HRA for TACs was requested, and not a separate analysis of the health impacts associated with the project's criteria air pollutants. Fresno County clearly read the comment as a request to perform an HRA for TACs and limited its response accordingly. (AR 4602.)[17] The Air District submits that it would have read the City's comment in the same manner as the County because the City's use of the terms "human health risks" and "TACs" signal that an HRA for TACs is being requested. Indeed, the Air District was also concerned that an HRA be conducted, but understood that it was not possible to conduct such an analysis until the project entered the phase where detailed site specific information, such as the types of emission sources and the proximity of the sources to sensitive receptors became available. (AR 4553.)[18] The City of Fresno was apparently satisfied with the County's discussion of human health risks, as it did not raise the issue again when it commented on the final EIR. (AR 8944 – 8960.)

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[17] Appellants do not challenge the manner in which the County addressed TACs in the EIR. (Appellants' Answer Brief p. 28 fn. 7.)

[18] Appellants rely on the testimony of Air District employee, Dan Barber, as support for their position that the County should have conducted an analysis correlating the project's criteria air pollutant emissions with localized health impacts. (Appellants Answer Brief pp. 10-11; 28.) However, Mr. Barber's testimony simply reinforces the Air District's concern that a risk assessment (HRA) be conducted once the actual details of the project become available. (AR 8863.) As to criteria air pollutants, Mr. Barber's comments are aimed at the Air District's concern about the amount of emissions and the fact that the emissions will make it "more difficult for Fresno County and the Valley to reach attainment which means that the health of Valley residents maybe [sic] adversely impacted." Mr. Barber says nothing about conducting a separate analysis of the localized health impacts the project's emissions may have.

The Court of Appeal's holding, which incorrectly extrapolates a request for an HRA for TACs into a new analysis of the localized health impacts of the project's criteria air pollutants, highlights two additional errors in the Court's decision.

First, the Court of Appeal's holding illustrates why the Court should have applied the deferential substantial evidence standard of review to the issue of whether the EIR's air quality analysis was sufficient. The regulation of air pollution is a technical and complex field and the Court of Appeal lacked the expertise to fully appreciate the difference between TACs and criteria air pollutants and tools available for analyzing each type of pollutant.

Second, it illustrates that the Court likely got it wrong when it held that the issue regarding the criteria pollutant / localized health impact analysis was properly exhausted during the administrative process. In order to preserve an issue for the court, '[t]he "exact issue" must have been presented to the administrative agency....' [Citation.] *Citizens for Responsible Equitable Environmental Development v. City of San Diego*, (2011) 196 Cal.App.4th 515, 527 129 Cal.Rptr.3d 512, 521; *Sierra Club v. City of Orange* (2008) 163 Cal.App.4th 523, 535, 78 Cal.Rptr.3d 1, 13. "'[T]he objections must be sufficiently specific so that the agency has the

opportunity to evaluate and respond to them.' [Citation.]" *Sierra Club v. City of Orange*,163 Cal.App.4th at 536.[19]

As discussed above, the City's comment, while specific enough to request a commonly performed HRA for TACs, provided the County with no notice that it should perform a new type of analysis correlating criteria pollutant tonnages to specific human health effects. Although the parties have not directly addressed the issue of failure to exhaust administrative remedies in their briefs, the Air District submits that the Court should consider how it affects the issues briefed by the parties since "[e]xhaustion of administrative remedies is a jurisdictional prerequisite to maintenance of a CEQA action." *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1199, 22 Cal.Rptr.3d 203.

III. CONCLUSION

For all of the foregoing reasons, the Air District respectfully requests that the portion of the Court of Appeal's decision requiring an analysis correlating the localized human health impacts associated with an individual project's criteria air pollutant emissions be reversed.

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[19] *Sierra Club v. City of Orange*, is illustrative here. In that case, the plaintiffs challenged an EIR approved for a large planned community on the basis that the EIR improperly broke up the various environmental impacts by separate project components or "piecemealed" the analysis in violation of CEQA. In evaluating the defense that the plaintiffs had failed to adequately raise the issue at the administrative level, the Court held that comments such as *"the use of a single document for both a project-level and a program-level EIR [is] 'confusing',"* and *"[t]he lead agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project,"* were too vague to fairly raise the argument of piecemealing before the agency. *Sierra Club v. City of Orange*, 163 Cal.App.4th at 537.

correlating the localized human health impacts associated with an individual project's criteria air pollutant emissions be reversed.

Respectfully submitted,

Dated: April 2, 2015

Catherine T. Redmond
Attorney for Proposed Amicus Curiae

SAN JOAQUIN VALLEY
UNIFIED
AIR POLLUTION CONTROL
DISTRICT

CERTIFICATE OF WORD COUNT

Pursuant to Rule 8.204 of the California Rules of Court, I hereby certify that this document, based on the Word County feature of the Microsoft Word software program used to compose and print this document, contains, exclusive of caption, tables, certificate of word count, signature block and certificate of service, 3806 words.

Dated: April 2, 2015

Annette A. Ballatore-Williamson
District Counsel (SBN 192176)

Sierra Club et al, v. County of Fresno, et al
Supreme Court of California Case No.: S219783
Fifth District Court of Appeal Case No.: F066798
Fresno County Superior Court Case No.: 11CECG00726

PROOF OF SERVICE

I am over the age of 18 years and not a p[arty to the above-captioned action; that my business address is San Joaquin Valley Unified Air Pollution Control District located at 1990 E. Gettysburg Avenue, Fresno, California 93726.

On April 2, 2015, I served the document described below:

APPLICATION FOR LEAVE TO FILE AMICUS CURIAE BRIEF OF SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT IN SUPPORT OF DEFENDANT AND RESPONDENT, COUNTY OF FRESNO

On all parties to this action at the following addresses and in the following manner:

PLEASE SEE ATTACHED SERVICE LIST

(XX) **(BY MAIL)** I caused a true copy of each document(s) to be laced in a sealed envelope with first-class postage affixed and placed the envelope for collection. Mail is collected daily at my office and placed in a United State Postal Service collection box for pick-up and delivery that same day.

( ) **(BY ELECTRONIC MAIL)** I caused a true and correct scanned image (.PDF file) copy to be transmitted via electronic mail transfer system in place at the San Joaquin Valley Unified Air Pollution Control District ("District"), originating from the undersigned at 1990 E. Gettysburg Avenue, Fresno, CA, to the address(es) indicated below.

( ) **(BY OVERNIGHT MAIL)** I caused a true and correct copy to be delivered via Federal Express to the following person(s) or their representative at the address(es) listed below.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that I executed this document on April 2, 2015, at Fresno, California.

Esthela Soto

SERVICE LIST

Sierra Club et al, v. County of Fresno, et al
Supreme Court of California Case No.: S219783
Fifth District Court of Appeal Case No.: F066798
Fresno County Superior Court Case No.: 11CECG00726

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IN THE SUPREME COURT OF C ALIFORNIA

SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,

Plaintiffs and Appellants,

v.

COUNTY OF FRESNO,

Defendant and Respondent,

and,

FRIANT RANCH, L.P.,

Real Party in Interest and Respondent.

SUPREME COURT
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Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726
Honorable Rosendo A. Pena, Jr.

APPLICATION OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT FOR LEAVE TO FILE BRIEF OF *AMICUS CURIAE* IN SUPPORT OF NEITHER PARTY AND *[PROPOSED]* BRIEF OF *AMICUS CURIAE*

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TO THE HONORABLE CHIEF JUSTICE AND JUSTICES OF THE SUPREME COURT:

APPLICATION FOR LEAVE TO FILE *AMICUS CURIAE* BRIEF

Pursuant to Rule 8.520(f) of the California Rules of Court, the South Coast Air Quality Management District (SCAQMD) respectfully requests leave to file the attached *amicus curiae* brief. Because SCAQMD's position differs from that of either party, we request leave to submit this amicus brief in support of neither party.

HOW THIS BRIEF WILL ASSIST THE COURT

SCAQMD's proposed amicus brief takes a position on two of the issues in this case. In both instances, its position differs from that of either party. The issues are:

1) Does the California Environmental Quality Act (CEQA) require an environmental impact report (EIR) to correlate a project's air pollution emissions with specific levels of health impacts?
2) What is the proper standard of review for determining whether an EIR provides sufficient information on the health impacts caused by a project's emission of air pollutants?

This brief will assist the Court by discussing the practical realities of correlating identified air quality impacts with specific health outcomes. In short, CEQA requires agencies to provide detailed information about a project's air quality impacts that is sufficient for the public and decisionmakers to adequately evaluate the project and meaningfully understand its impacts. However, the level of analysis is governed by a rule of reason; CEQA only requires agencies to conduct analysis if it is reasonably feasible to do so.

With regard to health-related air quality impacts, an analysis that correlates a project's air pollution emissions with specific levels of health impacts will be feasible in some cases but not others. Whether it is feasible depends on a variety of factors, including the nature of the project and the nature of the analysis under consideration. The feasibility of analysis may also change over time as air districts and others develop new tools for measuring projects' air quality related health impacts. Because SCAQMD has among the most sophisticated air quality modeling and health impact evaluation capability of any of the air districts in the State, it is uniquely situated to express an opinion on the extent to which the Court should hold that CEQA requires lead agencies to correlate air quality impacts with specific health outcomes.

SCAQMD can also offer a unique perspective on the question of the appropriate standard of review. SCAQMD submits that the proper standard of review for determining whether an EIR is sufficient as an informational document is more nuanced than argued by either party. In our view, this is a mixed question of fact and law. It includes determining whether additional analysis is feasible, which is primarily a factual question that should be reviewed under the substantial evidence standard. However, it also involves determining whether the omission of a particular analysis renders an EIR insufficient to serve CEQA's purpose as a meaningful, informational document. If a lead agency has not determined that a requested analysis is infeasible, it is the court's role to determine whether the EIR nevertheless meets CEQA's purposes, and courts should not defer to the lead agency's conclusions regarding the legal sufficiency of an EIR's analysis. The ultimate question of whether an EIR's analysis is "sufficient" to serve CEQA's informational purposes is predominately a question of law that courts should review de novo.

This brief will explain the rationale for these arguments and may assist the Court in reaching a conclusion that accords proper respect to a lead agency's factual conclusions while maintaining judicial authority over the ultimate question of what level of analysis CEQA requires.

STATEMENT OF INTEREST OF *AMICUS CURIAE*

The SCAQMD is the regional agency primarily responsible for air pollution control in the South Coast Air Basin, which consists of all of Orange County and the non-desert portions of the Los Angeles, Riverside, and San Bernardino Counties. (Health & Saf. Code § 40410; Cal. Code Regs., tit. 17, § 60104.) The SCAQMD participates in the CEQA process in several ways. Sometimes it acts as a lead agency that prepares CEQA documents for projects. Other times it acts as a responsible agency when it has permit authority over some part of a project that is undergoing CEQA review by a different lead agency. Finally, SCAQMD also acts as a commenting agency for CEQA documents that it receives because it is a public agency with jurisdiction by law over natural resources affected by the project.

In all of these capacities, SCAQMD will be affected by the decision in this case. SCAQMD sometimes submits comments requesting that a lead agency perform an additional type of air quality or health impacts analysis. On the other hand, SCAQMD sometimes determines that a particular type of health impact analysis is not feasible or would not produce reliable and informative results. Thus, SCAQMD will be affected by the Court's resolution of the extent to which CEQA requires EIRs to correlate emissions and health impacts, and its resolution of the proper standard of review.

CERTIFICATION REGARDING AUTHORSHIP AND FUNDING

No party or counsel in the pending case authored the proposed amicus curiae brief in whole or in part, or made any monetary contribution intended to fund the preparation or submission of the brief. No person or entity other than the proposed *Amicus Curiae* made any monetary contribution intended to fund the preparation or submission of the brief.

Respectfully submitted,

DATED: April 3, 2015

SOUTH COAST AIR QUALITY
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BRIEF OF AMICUS CURIAE

SUMMARY OF ARGUMENT

The South Coast Air Quality Management District (SCAQMD) submits that this Court should not try to establish a hard-and-fast rule concerning whether lead agencies are required to correlate emissions of air pollutants with specific health consequences in their environmental impact reports (EIR). The level of detail required in EIRs is governed by a few, core CEQA (California Environmental Quality Act) principles. As this Court has stated, "[a]n EIR must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project." (*Laurel Heights Improvement Assn. v. Regents of the Univ of Cal.* (1988) 47 Cal.3d 376, 405 ["*Laurel Heights I*"]) Accordingly, "an agency must use its best efforts to find out and disclose all that it reasonably can." (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 428 (quoting CEQA Guidelines § 15144)[1].). However, "[a]nalysis of environmental effects need not be exhaustive, but will be judged in light of what is reasonably feasible." (*Association of Irritated Residents v. County of Madera* (2003) 107 Cal.App.4th 1383, 1390; CEQA Guidelines §§ 15151, 15204(a).)

With regard to analysis of air quality related health impacts, EIRs must generally quantify a project's pollutant emissions, but in some cases it is not feasible to correlate these emissions to specific, quantifiable health impacts (e.g., premature mortality; hospital admissions). In such cases, a general description of the adverse health impacts resulting from the pollutants at issue may be sufficient. In other cases, due to the magnitude

[1] The CEQA Guidelines are found at Cal. Code Regs., tit. 14 §§ 15000, *et seq.*

or nature of the pollution emissions, as well as the specificity of the project involved, it may be feasible to quantify health impacts. Or there may be a less exacting, but still meaningful analysis of health impacts that can feasibly be performed. In these instances, agencies should disclose those impacts.

SCAQMD also submits that whether or not an EIR complies with CEQA's informational mandates by providing sufficient, feasible analysis is a mixed question of fact and law. Pertinent here, the question of whether an EIR's discussion of health impacts from air pollution is sufficient to allow the public to understand and consider meaningfully the issues involves two inquiries: (1) Is it feasible to provide the information or analysis that a commenter is requesting or a petitioner is arguing should be required?; and (2) Even if it is feasible, is the agency relying on other policy or legal considerations to justify not preparing the requested analysis? The first question of whether an analysis is feasible is primarily a question of fact that should be judged by the substantial evidence standard. The second inquiry involves evaluating CEQA's information disclosure purposes against the asserted reasons to not perform the requested analysis. For example, an agency might believe that its EIR meets CEQA's informational disclosure standards even without a particular analysis, and therefore choose not to conduct that analysis. SCAQMD submits that this is more of a legal question, which should be reviewed de novo as a question of law.

ARGUMENT

I. RELEVANT FACTUAL AND LEGAL FRAMEWORK.

A. Air Quality Regulatory Background

The South Coast Air Quality Management District (SCAQMD) is one of the local and regional air pollution control districts and air quality

management districts in California. The SCAQMD is the regional air pollution agency for the South Coast Air Basin, which consists of all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. (Health & Saf. Code § 40410, 17 Cal. Code Reg. § 60104.) The SCAQMD also includes the Coachella Valley in Riverside County (Palm Springs area to the Salton Sea). (SCAQMD, *Final 2012 AQMP (Feb. 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "chapter 7" hyperlink; pp 7-1, 7-3 (last visited Apr. 1, 2015).) The SCAQMD's jurisdiction includes over 16 million residents and has the worst or nearly the worst air pollution levels in the country for ozone and fine particulate matter. (SCAQMD, *Final 2012 AQMP (Feb. 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "Executive Summary" hyperlink p. ES-1 (last visited Apr. 1, 2015).)

Under California law, the local and regional districts are primarily responsible for controlling air pollution from all sources except motor vehicles. (Health & Saf. Code § 40000.) The California Air Resources Board (CARB), part of the California Environmental Protection Agency, is primarily responsible for controlling pollution from motor vehicles. (*Id.*) The air districts must adopt rules to achieve and maintain the state and federal ambient air quality standards within their jurisdictions. (Health & Saf. Code § 40001.)

The federal Clean Air Act (CAA) requires the United States Environmental Protection Agency (EPA) to identify pollutants that are widely distributed and pose a threat to human health, developing a so-called "criteria" document. (42 U.S.C. § 7408; CAA § 108.) These pollutants are frequently called "criteria pollutants." EPA must then establish "national ambient air quality standards" at levels "requisite to protect public health",

allowing "an adequate margin of safety." (42 U.S.C. § 7409; CAA § 109.) EPA has set standards for six identified pollutants: ozone, nitrogen dioxide, sulfur dioxide, carbon monoxide, particulate matter (PM), and lead. (U.S. EPA, National Ambient Air Quality Standards (NAAQS), http://www.epa.gov/air/criteria.html (last updated Oct. 21, 2014).)[2]

Under the Clean Air Act, EPA sets emission standards for motor vehicles and "nonroad engines" (mobile farm and construction equipment, marine vessels, locomotives, aircraft, etc.). (42 U.S.C. §§ 7521, 7547; CAA §§ 202, 213.) California is the only state allowed to establish emission standards for motor vehicles and most nonroad sources; however, it may only do so with EPA's approval. (42 U.S.C. §§ 7543(b), 7543(e); CAA §§ 209(b), 209(c).) Sources such as manufacturing facilities, power plants and refineries that are not mobile are often referred to as "stationary sources." The Clean Air Act charges state and local agencies with the primary responsibility to attain the national ambient air quality standards. (42 U.S.C. § 7401(a)(3); CAA § 101(a)(3).) Each state must adopt and implement a plan including enforceable measures to achieve and maintain the national ambient air quality standards. (42 U.S.C. § 7410; CAA § 110.) The SCAQMD and CARB jointly prepare portion of the plan for the South Coast Air Basin and submit it for approval by EPA. (Health & Saf. Code §§ 40460, et seq.)

The Clean Air Act also requires state and local agencies to adopt a permit program requiring, among other things, that new or modified "major" stationary sources use technology to achieve the "lowest achievable emission rate," and to control minor stationary sources as

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[2] Particulate matter (PM) is further divided into two categories: fine particulate or $PM_{2.5}$ (particles with a diameter of less than or equal to 2.5 microns) and coarse particulate (PM_{10}) (particles with a diameter of 10 microns or less). (U.S. EPA, Particulate Matter (PM), http://www.epa.gov/airquality/particlepollution/ (last visited Apr. 1, 2015).)

needed to help attain the standards. (42 U.S.C. §§ 7502(c)(5), 7503(a)(2), 7410(a)(2)(C); CAA §§ 172(c)(5), 173(a)(2), 110(a)(2)(C).) The air districts implement these permit programs in California. (Health & Saf. Code §§ 42300, et seq.)

The Clean Air Act also sets out a regulatory structure for over 100 so-called "hazardous air pollutants" calling for EPA to establish "maximum achievable control technology" (MACT) for sources of these pollutants. (42 U.S.C. § 7412(d)(2); CAA § 112(d)(2).) California refers to these pollutants as "toxic air contaminants" (TACs) which are subject to two state-required programs. The first program requires "air toxics control measures" for specific categories of sources. (Health & Saf. Code § 39666.) The other program requires larger stationary sources and sources identified by air districts to prepare "health risk assessments" for impacts of toxic air contaminants. (Health & Saf. Code §§ 44320(b), 44322, 44360.) If the health risk exceeds levels identified by the district as "significant," the facility must implement a "risk reduction plan" to bring its risk levels below "significant" levels. Air districts may adopt additional more stringent requirements than those required by state law, including requirements for toxic air contaminants. (Health & Saf. Code § 41508; *Western Oil & Gas Assn. v. Monterey Bay Unified APCD* (1989) 49 Cal.3d 408, 414.) For example, SCAQMD has adopted a rule requiring new or modified sources to keep their risks below specified levels and use best available control technology (BACT) for toxics. (SCAQMD, *Rule 1401-New Source Review of Toxic Air Contaminants*, http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book/regulation-xiv; then follow "Rule 1401" hyperlink (last visited Apr. 1, 2015).)

B. The SCAQMD's Role Under CEQA

The California Environmental Quality Act (CEQA) requires public agencies to perform an environmental review and appropriate analysis for projects that they implement or approve. (Pub. Resources Code § 21080(a).) The agency with primary approval authority for a particular project is generally the "lead agency" that prepares the appropriate CEQA document. (CEQA Guidelines §§ 15050, 15051.) Other agencies having a subsequent approval authority over all or part of a project are called "responsible" agencies that must determine whether the CEQA document is adequate for their use. (CEQA Guidelines §§ 15096(c), 15381.) Lead agencies must also consult with and circulate their environmental impact reports to "trustee agencies" and agencies "with jurisdiction by law" including "authority over resources which may be affected by the project." (Pub. Resources Code §§ 21104(a), 21153; CEQA Guidelines §§ 15086(a)(3), 15073(c).) The SCAQMD has a role in all these aspects of CEQA.

Fulfilling its responsibilities to implement its air quality plan and adopt rules to attain the national ambient air quality standards, SCAQMD adopts a dozen or more rules each year to require pollution reductions from a wide variety of sources. The SCAQMD staff evaluates each rule for any adverse environmental impact and prepares the appropriate CEQA document. Although most rules reduce air emissions, they may have secondary environmental impacts such as use of water or energy or disposal of waste—e.g., spent catalyst from control equipment.[3]

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[3] The SCAQMD's CEQA program for its rules is a "Certified Regulatory Program" under which it prepares a "functionally equivalent" document in lieu of a negative declaration or EIR. (Pub. Resources Code § 21080.5, CEQA Guidelines § 15251(l).)

The SCAQMD also approves a large number of permits every year to construct new, modified, or replacement facilities that emit regulated air pollutants. The majority of these air pollutant sources have already been included in an earlier CEQA evaluation for a larger project, are currently being evaluated by a local government as lead agency, or qualify for an exemption. However, the SCAQMD sometimes acts as lead agency for major projects where the local government does not have a discretionary approval. In such cases, SCAQMD prepares and certifies a negative declaration or environmental impact report (EIR) as appropriate.[4] SCAQMD evaluates perhaps a dozen such permit projects under CEQA each year. SCAQMD is often also a "responsible agency" for many projects since it must issue a permit for part of the projects (e.g., a boiler used to provide heat in a commercial building). For permit projects evaluated by another lead agency under CEQA, SCAQMD has the right to determine that the CEQA document is inadequate for its purposes as a responsible agency, but it may not do so because its permit program already requires all permitted sources to use the best available air pollution control technology. (SCAQMD, *Rule 1303(a)(1) – Requirements*, http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book/regulation-xiii; then follow "Rule 1303" hyperlink (last visited Apr. 1, 2015).)

Finally, SCAQMD receives as many as 60 or more CEQA documents each month (around 500 per year) in its role as commenting agency or an agency with "jurisdiction by law" over air quality—a natural resource affected by the project. (Pub. Resources Code §§ 21104(a), 21153; CEQA Guidelines § 15366(a)(3).) The SCAQMD staff provides comments on as many as 25 or 30 such documents each month.

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[4] The SCAQMD's permit projects are not included in its Certified Regulatory Program, and are evaluated under the traditional local government CEQA analysis. (Pub. Resources Code §§ 21150-21154.)

(SCAQMD Governing Board Agenda, Apr. 3, 2015, Agenda Item 16, Attachment A, http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=governing-board-meeting-agenda-april-3-2015; then follow "16. Lead Agency Projects and Environmental Documents Received by SCAQMD" hyperlink (last visited Apr. 1, 2015).) Of course, SCAQMD focuses its commenting efforts on the more significant projects.

Typically, SCAQMD comments on the adequacy of air quality analysis, appropriateness of assumptions and methodology, and completeness of the recommended air quality mitigation measures. Staff may comment on the need to prepare a health risk assessment detailing the projected cancer and noncancer risks from toxic air contaminants resulting from the project, particularly the impacts of diesel particulate matter, which CARB has identified as a toxic air contaminant based on its carcinogenic effects. (California Air Resources Board, Resolution 98-35, Aug. 27, 1998, http://www.arb.ca.gov/regact/diesltac/diesltac.htm; then follow Resolution 98-35 hyperlink (last visited Apr. 1, 2015).) Because SCAQMD already requires new or modified stationary sources of toxic air contaminants to use the best available control technology for toxics and to keep their risks below specified levels, (SCAQMD Rule 1401, supra, note 15), the greatest opportunity to further mitigate toxic impacts through the CEQA process is by reducing emissions—particularly diesel emissions—from vehicles.

II. THIS COURT SHOULD NOT SET A HARD-AND-FAST RULE CONCERNING THE EXTENT TO WHICH AN EIR MUST CORRELATE A PROJECT'S EMISSION OF POLLUTANTS WITH RESULTING HEALTH IMPACTS.

Numerous cases hold that courts do not review the correctness of an EIR's conclusions but rather its sufficiency as an informative document. (*Laurel Heights 1, supra*, 47 Cal.3d at p. 392; *Citizens of Goleta Valley v.*

Bd. of Supervisors (1990) 52 Cal.3d 553, 569; *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1197.)

As stated by the Court of Appeal in this case, where an EIR has addressed a topic, but the petitioner claims that the information provided about that topic is insufficient, courts must "draw[] a line that divides *sufficient* discussions from those that are *insufficient*." (*Sierra Club v. County of Fresno* (2014) 226 Cal.App.4th 704 (superseded by grant of review) 172 Cal.Rptr.3d 271, 290.) The Court of Appeal readily admitted that "[t]he terms themselves – sufficient and insufficient – provide little, if any, guidance as to where the line should be drawn. They are simply labels applied once the court has completed its analysis." (*Id.*)

The CEQA Guidelines, however, provide guidance regarding what constitutes a sufficient discussion of impacts. Section 15151 states that "the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible." Case law reflects this: "Analysis of environmental effects need not be exhaustive, but will be judged in light of what was reasonably feasible." (*Association of Irritated Residents v. County of Madera, supra,* 107 Cal.App.4th at p. 1390; see also CEQA Guidelines § 15204(a).)

Applying this test, this Court cannot realistically establish a hard-and-fast rule that an analysis correlating air pollution impacts of a project to quantified resulting health impacts is always required, or indeed that it is never required. Simply put, in some cases such an analysis will be "feasible"; in some cases it will not.

For example, air pollution control districts often require a proposed new source of toxic air contaminants to prepare a "health risk assessment" before issuing a permit to construct. District rules often limit the allowable cancer risk the new source may cause to the "maximally exposed individual" (worker and residence exposures). (*See, e.g.*, SCAQMD Rule 1401(c)(8); 1401(d)(1), *supra* note 15.) In order to perform this analysis, it

is necessary to have data regarding the sources and types of air toxic contaminants, location of emission points, velocity of emissions, the meteorology and topography of the area, and the location of receptors (worker and residence). (SCAQMD, *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act (AB2588), pp. 11-16*; (last visited Apr. 1, 2015) http://www.aqmd.gov/home/library/documents-support-material; "Guidelines" hyperlink; AB2588; then follow AB2588 Risk Assessment Guidelines hyperlink.)

Thus, it is feasible to determine the health risk posed by a new gas station locating at an intersection in a mixed use area, where receptor locations are known. On the other hand, it may not be feasible to perform a health risk assessment for airborne toxics that will be emitted by a generic industrial building that was built on "speculation" (i.e., without knowing the future tenant(s)). Even where a health risk assessment can be prepared, however, the resulting maximum health risk value is only a calculation of risk—it does not necessarily mean anyone will contract cancer as a result of the project.

In order to find the "cancer burden" or expected additional cases of cancer resulting from the project, it is also necessary to know the numbers and location of individuals living within the "zone of impact" of the project: i.e., those living in areas where the projected cancer risk from the project exceeds one in a million. (SCAQMD, Health Risk Assessment Summary form, http://www.aqmd.gov/home/forms ; filter by "AB2588" category; then "Health Risk Assessment" hyperlink (last visited Apr. 1, 2015).) The affected population is divided into bands of those exposed to at least 1 in a million risk, those exposed to at least 10 in a million risk, etc. up to those exposed at the highest levels. (*Id.*) This data allows agencies to calculate an approximate number of additional cancer cases expected from

the project. However, it is not possible to predict which particular individuals will be affected.

For the so-called criteria pollutants[5], such as ozone, it may be more difficult to quantify health impacts. Ozone is formed in the atmosphere from the chemical reaction of the nitrogen oxides (NO_x) and volatile organic compounds (VOC) in the presence of sunlight. (U.S. EPA, Ground Level Ozone, http://www.epa.gov/airquality/ozonepollution/ (last updated Mar. 25, 2015).) It takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources. (U.S. EPA, *Guideline on Ozone Monitoring Site Selection* (Aug. 1998) EPA-454/R-98-002 § 5.1.2, http://www.epa.gov/ttnamti1/archive/cpreldoc.html (last visited Apr. 1, 2015).) NO_x and VOC are known as "precursors" of ozone.

Scientifically, health effects from ozone are correlated with increases in the ambient level of ozone in the air a person breathes. (U.S. EPA, *Health Effects of Ozone in the General Population,* Figure 9, http://www.epa.gov/apti/ozonehealth/population.html#levels (last visited Apr. 1, 2015).) However, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire region. For example, the SCAQMD's 2012 AQMP showed that reducing NO_x by 432 tons per day (157,680 tons/year) and reducing VOC by 187 tons per day (68,255 tons/year) would reduce ozone levels at the SCAQMD's monitor site with the highest levels by only 9 parts per billion. (South Coast Air Quality Management District, *Final 2012 AQMP (February 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "Appendix V: Modeling & Attainment Demonstrations" hyperlink,

[5] See discussion of types of pollutants, supra, Part I.A.

pp. v-4-2, v-7-4, v-7-24.) SCAQMD staff does not currently know of a way to accurately quantify ozone-related health impacts caused by NO_x or VOC emissions from relatively small projects.

On the other hand, this type of analysis may be feasible for projects on a regional scale with very high emissions of NO_x and VOCs, where impacts are regional. For example, in 2011 the SCAQMD performed a health impact analysis in its CEQA document for proposed Rule 1315, which authorized various newly-permitted sources to use offsets from the districts "internal bank" of emission reductions. This CEQA analysis accounted for essentially *all* the increases in emissions due to new or modified sources in the District between 2010 and 2030.[6] The SCAQMD was able to correlate this very large emissions increase (e.g., 6,620 pounds per day NO_x (1,208 tons per year), 89,180 pounds per day VOC (16,275 tons per year)) to expected health outcomes from ozone and particulate matter (e.g., 20 premature deaths per year and 89,947 school absences in the year 2030 due to ozone).[7] (SCAQMD Governing Board Agenda, February 4, 2011, Agenda Item 26, *Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System* (see hyperlink in fn 6*)* at p. 4.1-35, Table 4.1-29.)

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[6] (SCAQMD Governing Board Agenda, February 4, 2011, Agenda Item 26, Attachment G, *Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System, Vol. 1, p.4.0-6,* http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=governing-board-meeting-agenda-february-4-2011; the follow "26. Adopt Proposed Rule 1315 – Federal New Source Review Tracking System" (last visited April 1, 2015).)

[7] The SCAQMD was able to establish the location of future NO_x and VOC emissions by assuming that new projects would be built in the same locations and proportions as existing stationary sources. This CEQA document was upheld by the Los Angeles County Superior Court in *Natural Res. Def. Council v SCAQMD*, Los Angeles Superior Court No. BS110792).

However, a project emitting only 10 tons per year of NO_x or VOC is small enough that its regional impact on ambient ozone levels may not be detected in the regional air quality models that are currently used to determine ozone levels. Thus, in this case it would not be feasible to directly correlate project emissions of VOC or NO_x with specific health impacts from ozone. This is in part because ozone formation is not linearly related to emissions. Ozone impacts vary depending on the location of the emissions, the location of other precursor emissions, meteorology and seasonal impacts, and because ozone is formed some time later and downwind from the actual emission. (EPA Guideline on Ozone Monitoring Site Selection (Aug. 1998) EPA-454/R-98-002, § 5.1.2; https://www.epa.gov/ttnamti1/archive/cpreldoc.html; then search "Guideline on Ozone Monitoring Site Selection" click on pdf) (last viewed Apr. 1, 2015).)

SCAQMD has set its CEQA "significance" threshold for NO_x and VOC at 10 tons per year (expressed as 55 lb/day). (SCAQMD, *Air Quality Analysis Handbook*, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook; then follow "SCAQMD Air Quality Significance Thresholds" hyperlink (last visited Apr. 1, 2015).) This is because the federal Clean Air Act defines a "major" stationary source for "extreme" ozone nonattainment areas such as SCAQMD as one emitting 10 tons/year. (42 U.S.C. §§ 7511a(e), 7511a(f); CAA §§ 182(e), 182(f).) Under the Clean Air Act, such sources are subject to enhanced control requirements (42 U.S.C. §§ 7502(c)(5), 7503; CAA §§ 172(c)(5), 173), so SCAQMD decided this was an appropriate threshold for making a CEQA "significance" finding and requiring feasible mitigation. Essentially, SCAQMD takes the position that a source that emits 10 tons/year of NO_x or VOC would contribute cumulatively to ozone formation. Therefore, lead agencies that use SCAQMD's thresholds of significance may determine

that many projects have "significant" air quality impacts and must apply all feasible mitigation measures, yet will not be able to precisely correlate the project to quantifiable health impacts, unless the emissions are sufficiently high to use a regional modeling program.

In the case of particulate matter ($PM_{2.5}$)[8], another "criteria" pollutant, SCAQMD staff is aware of two possible methods of analysis. SCAQMD used regional modeling to predict expected health impacts from its proposed Rule 1315, as mentioned above. Also, the California Air Resources Board (CARB) has developed a methodology that can predict expected mortality (premature deaths) from large amounts of $PM_{2.5}$. (California Air Resources Board, *Health Impacts Analysis: PM Premature Death Relationship*, http://www.arb.ca.gov/research/health/pm-mort/pm-mort_arch.htm (last reviewed Jan. 19, 2012).) SCAQMD used the CARB methodology to predict impacts from three very large power plants (e.g., 731-1837 lbs/day). (Final Environmental Assessment for Rule 1315, *supra*, pp 4.0-12, 4.1-13, 4.1-37 (e.g., 125 premature deaths in the entire SCAQMD in 2030), 4.1-39 (0.05 to 1.77 annual premature deaths from power plants.) Again, this project involved large amounts of additional $PM_{2.5}$ in the District, up to 2.82 tons/day (5,650 lbs/day of $PM_{2.5}$, or, or 1029 tons/year. (*Id.* at table 4.1-4, p. 4.1-10.)

However, the primary author of the CARB methodology has reported that this $PM_{2.5}$ health impact methodology is not suited for small projects and may yield unreliable results due to various uncertainties. [9] (SCAQMD, *Final Subsequent Mitigated Negative Declaration for: Warren*

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[8] SCAQMD has not attained the latest annual or 24-hour national ambient air quality standards for "$PM_{2.5}$" or particulate matter less than 2.5 microns in diameter.

[9] Among these uncertainties are the representativeness of the population used in the methodology, and the specific source of PM and the corresponding health impacts. (*Id.* at p. 2-24.)

E&P, Inc. WTU Central Facility, New Equipment Project (certified July 19, 2011), http://www.aqmd.gov/home/library/documents-support-material/lead-agency-permit-projects/permit-project-documents---year-2011; then follow "Final Subsequent Mitigated Negative Declaration for Warren E&P Inc. WTU Central Facility, New Equipment Project" hyperlink, pp. 2-22, 2-23 (last visited Apr. 1, 2015).) Therefore, when SCAQMD prepared a CEQA document for the expansion of an existing oil production facility, with very small $PM_{2.5}$ increases (3.8 lb/day) and a very small affected population, staff elected not to use the CARB methodology for using estimated $PM_{2.5}$ emissions to derive a projected premature mortality number and explained why it would be inappropriate to do so. (*Id.* at pp 2-22 to 2-24.) SCAQMD staff concluded that use of this methodology for such a small source could result in unreliable findings and would not provide meaningful information. (*Id.* at pp. 2-23, 2-25.) This CEQA document was not challenged in court.

In the above case, while it may have been technically possible to plug the data into the methodology, the results would not have been reliable or meaningful. SCAQMD believes that an agency should not be required to perform analyses that do not produce reliable or meaningful results. This Court has already held that an agency may decline to use even the "normal" "existing conditions" CEQA baseline where to do so would be misleading or without informational value. (*Neighbors for Smart Rail v. Exposition Metro Line* (2013) 57 Cal.4th 439, 448, 457.) The same should be true for a decision that a particular study or analysis would not provide reliable or meaningful results.[10]

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[10] Whether a particular study would result in "informational value" is a part of deciding whether it is "feasible." CEQA defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and

Therefore, it is not possible to set a hard-and-fast rule on whether a correlation of air quality impacts with specific quantifiable health impacts is required in all cases. Instead, the result turns on whether such an analysis is reasonably feasible in the particular case.[11] Moreover, what is reasonably feasible may change over time as scientists and regulatory agencies continually seek to improve their ability to predict health impacts. For example, CARB staff has been directed by its Governing Board to reassess and improve the methodology for estimating premature deaths. (California Air Resources Board, *Health Impacts Analysis: PM Mortality Relationship*, http://www.arb.ca.gov/research/health/pm-mort/pm-mort.htm (last reviewed Dec. 29, 2010).) This factor also counsels against setting any hard-and-fast rule in this case.

III. THE QUESTION OF WHETHER AN EIR CONTAINS SUFFICIENT ANALYSIS TO MEET CEQA'S REQUIREMENTS IS A MIXED QUESTION OF FACT AND LAW GOVERNED BY TWO DIFFERENT STANDARDS OF REVIEW.

A. Standard of Review for Feasibility Determination and Sufficiency as an Informative Document

A second issue in this case is whether courts should review an EIR's informational sufficiency under the "substantial evidence" test as argued by Friant Ranch or the "independent judgment" test as argued by Sierra Club.

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technological factors." (Pub. Resources Code § 21061.1.) A study cannot be "accomplished in a *successful* manner" if it produces unreliable or misleading results.

[11] In this case, the lead agency did not have an opportunity to determine whether the requested analysis was feasible because the comment was non-specific. Therefore, SCAQMD suggests that this Court, after resolving the legal issues in the case, direct the Court of Appeal to remand the case to the lead agency for a determination of whether the requested analysis is feasible. Because Fresno County, the lead agency, did not seek review in this Court, it seems likely that the County has concluded that at least some level of correlation of air pollution with health impacts is feasible.

As this Court has explained, "a reviewing court must adjust its scrutiny to the nature of the alleged defect, depending on whether the claim is predominantly one of improper procedure or a dispute over the facts." (*Vineyard Area Citizens v. City of Rancho Cordova, supra,* 40 Cal.4th at 435.) For questions regarding compliance with proper procedure or other legal questions, courts review an agency's action de novo under the "independent judgment" test. (*Id.*) On the other hand, courts review factual disputes only for substantial evidence, thereby "accord[ing] greater deference to the agency's substantive factual conclusions." (*Id.*)

Here, Friant Ranch and Sierra Club agree that the case involves the question of whether an EIR includes sufficient information regarding a project's impacts. However, they disagree on the proper standard of review for answering this question: Sierra Club contends that courts use the independent judgment standard to determine whether an EIR's analysis is sufficient to meet CEQA's informational purposes,[12] while Friant Ranch contends that the substantial evidence standard applies to this question.

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[12] Sierra Club acknowledges that courts use the substantial evidence standard when reviewing predicate factual issues, but argues that courts ultimately decide as a matter of law what CEQA requires. (Answering Brief, pp. 14, 23.)

SCAQMD submits that the issue is more nuanced than either party contends. We submit that, whether a CEQA document includes sufficient analysis to satisfy CEQA's informational mandates is a mixed question of fact and law,[13] containing two levels of inquiry that should be judged by different standards.[14]

The state CEQA Guidelines set forth standards for the adequacy of environmental analysis. Guidelines Section 15151 states:

> An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good-faith effort at full disclosure.

In this case, the basic question is whether the underlying analysis of air quality impacts made the EIR "sufficient" as an informative document. However, whether the EIR's analysis was sufficient is judged in light of what was reasonably feasible. This represents a mixed question of fact and law that is governed by two different standards of review.

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[13] Friant Ranch actually states that the claim that an EIR lacks sufficient relevant information is, "most properly thought of as raising mixed questions of fact and law." (Opening Brief, p. 27.) However, the remainder of its argument claims that the court should apply the substantial evidence standard of review to all aspects of the issue.

[14] Mixed questions of fact and law issues may implicate predominantly factual subordinate questions that are reviewed under the substantial evidence test even though the ultimate question may be reviewed by the independent judgment test. *Crocker National Bank v. City and County of San Francisco* (1989) 49 Cal.3d 881, 888-889.

SCAQMD submits that an EIR's sufficiency as an informational document is ultimately a legal question that courts should determine using their independent judgment. This Court's language in *Laurel Heights I* supports this position. As this Court explained: "The court does not pass upon the correctness of the EIR's environmental conclusions, but only upon its *sufficiency as an informative document.*" (*Laurel Heights I, supra,* 47 Cal.3d at 392-393) (emphasis added.) As described above, the Court in *Vineyard Area Citizens v. City of Rancho Cordova, supra,* 40 Cal.4th at 431, also used its independent judgment to determine what level of analysis CEQA requires for water supply impacts. The Court did not defer to the lead agency's opinion regarding the law's requirements; rather, it determined for itself what level of analysis was necessary to meet "[t]he law's informational demands." (*Id.* at p. 432.) Further, existing case law also holds that where an agency fails to comply with CEQA's information disclosure requirements, the agency has "failed to proceed in the manner required by law." (*Save Our Peninsula Comm. v. Monterey County Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 118.)

However, whether an EIR satisfies CEQA's requirements depends in part on whether it was reasonably feasible for an agency to conduct additional or more thorough analysis. EIRs must contain "a detailed statement" of a project's impacts (Pub. Res. Code § 21061), and an agency must "use its best efforts to find out and disclose all that it reasonably can." (CEQA Guidelines § 15144.) Nevertheless, "the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible." (CEQA Guidelines § 15151.)

SCAQMD submits that the question of whether additional analysis or a particular study suggested by a commenter is "feasible" is generally a question of fact. Courts have already held that whether a particular alternative is "feasible" is reviewed by the substantial evidence test.

(*Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587, 598-99; *Center for Biological Diversity v. County of San Bernardino* (2010) 185 Cal.App.4th 866, 883.) Thus, if a lead agency determines that a particular study or analysis is infeasible, that decision should generally be judged by the substantial evidence standard. However, SCAQMD urges this Court to hold that lead agencies must explain the basis of any determination that a particular analysis is infeasible in the EIR itself. An EIR must discuss information, including issues related to the feasibility of particular analyses "in sufficient detail to enable meaningful participation and criticism by the public. '[W]hatever is required to be considered in an EIR must be in that formal report; what any official might have known from other writings or oral presentations cannot supply what is lacking in the report.'" (*Laurel Heights I, supra*, 47 Cal.3d at p. 405 (quoting *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3d 818, 831) (discussing analysis of alternatives).) The evidence on which the determination is based should also be summarized in the EIR itself, with appropriate citations to reference materials if necessary. Otherwise commenting agencies such as SCAQMD would be forced to guess where the lead agency's evidence might be located, thus thwarting effective public participation.

Moreover, if a lead agency determines that a particular study or analysis would not result in reliable or useful information and for that reason is not feasible, that determination should be judged by the substantial evidence test. (See *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority*, *supra*, 57 Cal.4th 439, 448, 457:

whether "existing conditions" baseline would be misleading or uninformative judged by substantial evidence standard.[15])

If the lead agency's determination that a particular analysis or study is not feasible is supported by substantial evidence, then the agency has not violated CEQA's information disclosure provisions, since it would be infeasible to provide additional information. This Court's decisions provide precedent for such a result. For example, this Court determined that the issue of whether the EIR should have included a more detailed discussion of future herbicide use was resolved because substantial evidence supported the agency's finding that "the precise parameters of future herbicide use could not be predicted." *Ebbetts Pass Forest Watch v. California Dept. of Forestry & Fire Protection* (2008) 43 Cal.4th 936, 955.

Of course, SCAQMD expects that courts will continue to hold lead agencies to their obligations to consult with, and not to ignore or misrepresent, the views of sister agencies having special expertise in the area of air quality. (*Berkeley Keep Jets Over the Bay v. Board of Port Commissioners* (2007) 91 Cal.App.4th 1344, 1364 n.11.) In some cases, information provided by such expert agencies may establish that the purported evidence relied on by the lead agency is not in fact "substantial". (*Id.* at pp. 1369-1371.)

In sum, courts retain ultimate responsibility to determine what CEQA requires. However, the law does not require exhaustive analysis, but only what is reasonably feasible. Agencies deserve deference for their factual determinations regarding what type of analysis is reasonably feasible. On the other hand, if a commenter requests more information, and the lead agency declines to provide it but does *not* determine that the

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[15] The substantial evidence standard recognizes that the courts "have neither the resources nor the scientific expertise" to weigh conflicting evidence on technical issues. (*Laurel Heights I, supra,* 47 Cal.3d 376, 393.)

requested study or analysis would be infeasible, misleading or uninformative, the question becomes whether the omission of that analysis renders the EIR inadequate to satisfy CEQA's informational purposes. (*Id.* at pp. 1370-71.) Again, this is predominantly a question of law and should be judged by the de novo or independent judgment standard of review. Of course, this Court has recognized that a "project opponent or reviewing court can always imagine some additional study or analysis that might provide helpful information. It is not for them to design the EIR. That further study...might be helpful does not make it necessary." (*Laurel Heights I, supra,* 47 Cal.3d 376, 415 – see also CEQA Guidelines § 15204(a) [CEQA "does not require a lead agency to conduct every test. . . recommended or demanded by commenters."].) Courts, then, must adjudicate whether an omission of particular information renders an EIR inadequate to serve CEQA's informational purposes.[16]

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[16] We recognize that there is case law stating that the substantial evidence standard applies to "challenges to the scope of an EIR's analysis of a topic" as well as the methodology used and the accuracy of the data relied on in the document "because these types of challenges involve factual questions." (*Bakersfield Citizens for Local Control v. City of Bakersfield, supra,* 124 Cal.App.4th 1184, 1198, and cases relied on therein.) However, we interpret this language to refer to situations where the question of the scope of the analysis really is factual—that is, where it involves whether further analysis is feasible, as discussed above. This interpretation is supported by the fact that the *Bakersfield* court expressly rejected an argument that a claimed "omission of information from the EIR should be treated as inquiries whether there is substantial evidence supporting the decision approving the project. " *Bakersfield, supra,* 124 Cal.App.4th at p. 1208. And the *Bakersfield* court ultimately decided that the lead agency must analyze the connection between the identified air pollution impacts and resulting health impacts, even though the EIR already included some discussion of air-pollution-related respiratory illnesses. *Bakersfield, supra,* 124 Cal.App.4th at p. 1220. Therefore, the court must not have interpreted this question as one of the "scope of the analysis" to be judged by the substantial evidence standard.

B. Friant Ranch's Rationale for Rejecting the Independent Judgment Standard of Review is Unsupported by Case Law.

In its brief, Friant Ranch makes a distinction between cases where a required CEQA topic is not discussed at all (to be reviewed by independent judgment as a failure to proceed in the manner required by law) and cases where a topic is discussed, but the commenter claims the information provided is insufficient (to be judged by the substantial evidence test). (Opening Brief, pp. 13-17.) The Court of Appeal recognized these two types of cases, but concluded that both raised questions of law. (*Sierra Club v. County of Fresno* (2014) 226 Cal.App.4th 704 (superseded by grant of review) 172 Cal.Rptr.3d 271, 290.) We believe the distinction drawn by Friant Ranch is unduly narrow, and inconsistent with cases which have concluded that CEQA documents are insufficient. In many instances, CEQA's requirements are stated broadly, and the courts must interpret the law to determine what level of analysis satisfies CEQA's mandate for providing meaningful information, even though the EIR discusses the issue to some extent.

For example, the CEQA Guidelines require discussion of the existing environmental baseline. In *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 954-955, the lead agency had discussed the environmental baseline by describing historic month-end water levels in the affected lakes. However, the court held that this was not an adequate baseline discussion because it failed to discuss the timing and amounts of past actual water releases, to allow comparison with the proposed project. The court evidently applied the independent judgment test to its decision, even though the agency discussed the issue to some extent.

Likewise, in *Vineyard Area Citizens* (2007) 40 Cal.4th 412, this Court addressed the question of whether an EIR's analysis of water supply impacts complied with CEQA. The parties agreed that the EIR was required to analyze the effects of providing water to the development project, "and that in order to do so the EIR had, in some manner, to identify the planned sources of that water." (*Vineyard Area Citizens, supra,* at p. 428.) However, the parties disagreed as to the level of detail required for this analysis and "what level of uncertainty regarding the availability of water supplies can be tolerated in an EIR . . . ." (*Id.*) In other words, the EIR had analyzed water supply impacts for the project, but the petitioner claimed that the analysis was insufficient.

This Court noted that neither CEQA's statutory language or the CEQA Guidelines specifically addressed the question of how precisely an EIR must discuss water supply impacts. (*Id.*) However, it explained that CEQA "states that '[w]hile foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can.'" (*Id.*, [Guidelines § 15144].) The Court used this general principle, along with prior precedent, to elucidate four "principles for analytical adequacy" that are necessary in order to satisfy "CEQA's informational purposes." (*Vineyard Area Citizens, supra,* at p. 430.) The Court did not defer to the agency's determination that the EIR's analysis of water supply impacts was sufficient. Rather, this Court used its independent judgment to determine for itself the level of analysis required to satisfy CEQA's fundamental purposes. (*Vineyard Area Citizens, supra*, at p. 441: an EIR does not serve its purposes where it neglects to explain likely sources of water and "... leaves long term water supply considerations to later stages of the project.")

Similarly, the CEQA Guidelines require an analysis of noise impacts of the project. (Appendix G, "Environmental Checklist Form."[17]) In *Gray v. County of Madera* (2008) 167 Cal.App.4th 1099, 1123, the court held that the lead agency's noise impact analysis was inadequate even though it had addressed the issue and concluded that the increase would not be noticeable. If the court had been using the substantial evidence standard, it likely would have upheld this discussion.

Therefore, we do not agree that the issue can be resolved on the basis suggested by Friant Ranch, which would apply the substantial evidence standard to *every* challenge to an analysis that addresses a required CEQA topic. This interpretation would subvert the courts' proper role in interpreting CEQA and determining what the law requires.

Nor do we agree that the Court of Appeal in this case violated CEQA's prohibition on courts interpreting its provisions "in a manner which imposes procedural or substantive requirements beyond those explicitly stated in this division or in the state guidelines." (Pub. Resources Code § 21083.1.) CEQA requires an EIR to describe *all* significant impacts of the project on the environment. (Pub. Resources Code § 21100(b)(2); *Vineyard Area Citizens, supra,* at p. 428.) Human beings are part of the environment, so CEQA requires EIRs to discuss a project's significant impacts on human health. However, except in certain particular circumstances,[18] neither the CEQA statute nor Guidelines specify the precise level of analysis that agencies must undertake to satisfy the law's requirements. (see, e.g., CEQA Guidelines § 15126.2(a) [EIRs must describe "health and safety problems caused by {a project's} physical changes"].) Accordingly, courts must interpret CEQA as a whole to

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[17] Association of Environmental Professionals, 2015 CEQA Statute and Guidelines (2015) p.287.

[18] E.g., Pub. Resources Code § 21151.8(C)(3)(B)(iii) (requiring specific type of health risk analysis for siting schools).

determine whether a particular EIR is sufficient as an informational document. A court determining whether an EIR's discussion of human health impacts is legally sufficient does not constitute imposing a new substantive requirement.[19] Under Friant Ranch's theory, the above-referenced cases holding a CEQA analysis inadequate would have violated the law. This is not a reasonable interpretation.

IV. COURTS MUST SCRUPULOUSLY ENFORCE THE REQUIREMENTS THAT LEAD AGENCIES CONSULT WITH AND OBTAIN COMMENTS FROM AIR DISTRICTS

Courts must "scrupulously enforce" CEQA's legislatively mandated requirements. (*Vineyard Area Citizens, supra*, 40 Cal.4th 412, 435.) Case law has firmly established that lead agencies must consult with the relevant air pollution control district before conducting an initial study, and must provide the districts with notice of the intention to adopt a negative declaration (or EIR). (*Schenck v. County of Sonoma* (2011) 198 Cal.App.4th 949, 958.) As *Schenck* held, neither publishing the notice nor providing it to the State Clearinghouse was a sufficient substitute for sending notice directly to the air district. (*Id.*) Rather, courts "must be satisfied that [administrative] agencies have fully complied with the procedural requirements of CEQA, since only in this way can the important public purposes of CEQA be protected from subversion." *Schenck,* 198 Cal.App.4th at p. 959 (citations omitted).[20]

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[19] We submit that Public Resources Code Section 21083.1 was intended to prevent courts from, for example, holding that an agency must analyze economic impacts of a project where there are no resulting environmental impacts (see CEQA Guidelines § 15131) , or imposing new procedural requirements, such as imposing additional public notice requirements not set forth in CEQA or the Guidelines.

[20] Lead agencies must consult air districts, as public agencies with jurisdiction by law over resources affected by the project, *before* releasing an EIR. (Pub. Resources Code §§ 21104(a); 21153.) Moreover, air

Lead agencies should be aware, therefore, that failure to properly seek and consider input from the relevant air district constitutes legal error which may jeopardize their project approvals. For example, the court in *Fall River Wild Trout Foundation v. County of Shasta,* (1999) 70 Cal.App.4th 482, 492 held that the failure to give notice to a trustee agency (Department of Fish and Game) was prejudicial error requiring reversal. The court explained that the lack of notice prevented the Department from providing any response to the CEQA document. (*Id.* at p. 492.) It therefore prevented relevant information from being presented to the lead agency, which was prejudicial error because it precluded informed decision-making. (*Id.*)[21]

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districts should be considered "state agencies" for purposes of the requirement to consult with "trustee agencies" as set forth in Public Resources Code § 20180.3(a). This Court has long ago held that the districts are not mere "local agencies" whose regulations are superseded by those of a state agency regarding matters of statewide concern, but rather have concurrent jurisdiction over such issues. (*Orange County Air Pollution Control District v. Public Util. Com.* (1971) 4 Cal.3d 945, 951, 954.) Since air pollution is a matter of statewide concern, *Id* at 952, air districts should be entitled to trustee agency status in order to ensure that this vital concern is adequately protected during the CEQA process.

[21] In *Schenck,* the court concluded that failure to give notice to the air district was not prejudicial, but this was partly because the trial court had already corrected the error before the case arrived at the Court of Appeal. The trial court issued a writ of mandate requiring the lead agency to give notice to the air district. The air district responded by concurring with the lead agency that air impacts were not significant. (*Schenck,* 198 Cal.App.4th 949, 960.) We disagree with the *Schenck* court that the failure to give notice to the air district would not have been prejudicial (even in the absence of the trial court writ) merely because the lead agency purported to follow the air district's published CEQA guidelines for significance. (*Id.*, 198 Cal.App.4th at p. 960.) In the first place, absent notice to the air district, it is uncertain whether the lead agency properly followed those guidelines. Moreover, it is not realistic to expect that an air district's published guidelines would necessarily fully address all possible air-quality related issues that can arise with a CEQA project, or that those

Similarly, lead agencies must obtain additional information requested by expert agencies, including those with jurisdiction by law, if that information is necessary to determine a project's impacts. (*Sierra Club v. State Bd. Of Forestry* (1994) 7 Cal.4th 1215, 1236-37.) Approving a project without obtaining that information constitutes a failure to proceed in the manner prescribed by CEQA. (*Id.* at p. 1236.)

Moreover, a lead agency can save significant time and money by consulting with the air district early in the process. For example, the lead agency can learn what the air district recommends as an appropriate analysis on the facts of its case, including what kinds of health impacts analysis may be available, and what models are appropriate for use. This saves the lead agency from the need to do its analysis all over again and possibly needing to recirculate the document after errors are corrected, if new significant impacts are identified. (CEQA Guidelines § 15088.5(a).) At the same time, the air district's expert input can help the lead agency properly determine whether another commenter's request for additional analysis or studies is reasonable or feasible. Finally, the air district can provide input on what mitigation measures would be feasible and effective.

Therefore, we suggest that this Court provide guidance to lead agencies reminding them of the importance of consulting with the relevant air districts regarding these issues. Otherwise, their feasibility decisions may be vulnerable to air district evidence that establishes that there is no substantial evidence to support the lead agency decision not to provide specific analysis. (*See Berkeley Keep Jets Over the Bay, supra,* 91 Cal.App.4th 1344, 1369-1371.)

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guidelines would necessarily be continually modified to reflect new developments. Therefore we believe that, had the trial court not already ordered the lead agency to obtain the air district's views, the failure to give notice would have been prejudicial, as in *Fall River, supra,* 70 Cal.App.4th 482, 492.

CONCLUSION

The SCAQMD respectfully requests this Court *not* to establish a hard-and-fast rule concerning whether CEQA requires a lead agency to correlate identified air quality impacts of a project with resulting health outcomes. Moreover, the question of whether an EIR is "sufficient as an informational document" is a mixed question of fact and law containing two levels of inquiry. Whether a particular proposed analysis is feasible is predominantly a question of fact to be judged by the substantial evidence standard of review. Where the requested analysis is feasible, but the lead agency relies on legal or policy reasons not to provide it, the question of whether the EIR is nevertheless sufficient as an informational document is predominantly a question of law to be judged by the independent judgment standard of review.

Respectfully submitted,

DATED: April 3, 2015

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
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CERTIFICATE OF WORD COUNT

Pursuant to Rule 8.520(c)(1) of the California Rules of Court, I hereby certify that this brief contains 8,476 words, including footnotes, but excluding the Application, Table of Contents, Table of Authorities, Certificate of Service, this Certificate of Word Count, and signature blocks. I have relied on the word count of the Microsoft Word Vista program used to prepare this Certificate.

DATED: April 3, 2015 Respectfully submitted,

Barbara Baird

Barbara Baird

PROOF OF SERVICE

I am employed in the County of Los Angeles, California. I am over the age of 18 years and not a party to the within action. My business address is 21865 Copley Drive, Diamond Bar, California 91765.

On April 3, 2015 I served true copies of the following document(s) described as **APPLICATION OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT FOR LEAVE TO FILE BRIEF OF *AMICUS CURIAE* IN SUPPORT OF NEITHER PARTY AND *[PROPOSED]* BRIEF OF *AMICUS CURIAE*** by placing a true copy of the foregoing document(s) in a sealed envelope addressed as set forth on the attached service list as follows:

BY MAIL: I enclosed the document(s) in a sealed envelope or package addressed to the persons at the addresses listed in the Service List and placed the envelope for collection and mailing following our ordinary business practices. I am readily familiar with this District's practice for collection and processing of correspondence for mailing. Under that practice, the correspondence would be deposited with the United States Postal Service, with postage thereon fully prepaid at Diamond Bar, California, in the ordinary course of business. I am aware that on motion of the party served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing in affidavit.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on April 3, 2015 at Diamond Bar, California.

Patricia Anderson

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Appendix D

Biological Resources Technical Studies

Appendix D.1

Gem Hill Project Habitat Assessment and Desert Tortoise Presence/Absence Survey Report

GEM HILL PROJECT

ROSAMOND, KERN COUNTY, CALIFORNIA

Habitat Assessment and Desert Tortoise Presence/Absence Survey Report

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October 2020
Updated January 2022

GEM HILL PROJECT

ROSAMOND, KERN COUNTY, CALIFORNIA

Habitat Assessment and Desert Tortoise Presence/Absence Survey Report

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The undersigned certify that the statements furnished in this report and exhibits present data and information required for this biological evaluation, and the facts, statements, and information presented is a complete and accurate account of the findings and conclusions to the best of our knowledge and beliefs.



Travis J. McGill
Director/Biologist



Thomas J. McGill, Ph.D.
Managing Director

October 2020
Updated January 2022

Executive Summary

The Gem Hill Project is located in unincorporated Kern County, California. A habitat assessment was conducted by ELMT biologists Thomas J. McGill, Ph.D., Travis J. McGill and Jacob H. Lloyd Davies on May 5 and September 26, 2019 to evaluate the condition of the habitat and assess probability of occurrence of special-status plant and wildlife species that could pose a constraint to project implementation. Further, a desert tortoise presence/absence survey was conducted during the September 26, 2019 field investigation to determine the presence/absence of desert tortoise (*Gopherus agassizii*) within the proposed project site.

The project site is largely composed of undeveloped land. During the field investigation, one (1) plant community, creosote bush scrub, was observed within the boundary of the project site.

No special-status plant species were observed on-site. Based on habitat requirements for specific species and the availability and quality of onsite habitats, it was determined that the proposed project supports moderate habitat for alkali mariposa-lily (*Calochortus striatus*), Mojave spineflower (*Chorizanthe spinosa*), recurved larkspur (*Delphinium recurvatum*), and sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*). None of these plant species were observed onsite during two focused surveys performed in 2019. As a result, it was determined that all special-status plant species known to occur in the area are absent from the project site.

No special-status wildlife species were observed on-site during the field investigation. Based on habitat requirements for specific species and the availability and quality of onsite habitats, it was determined that the proposed project has a low potential to support golden eagle (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia*), desert tortoise (*Gopherus agassizii*), loggerhead shrike (*Lanius ludovicianus*), and American badger (*Toxostoma lecontei*).

A desert tortoise presence/absence survey was conducted on September 26, 2019. Despite a systematic 100% visual survey of the project site, no desert tortoises, signs, or burrows were observed on the project site. Additionally, no suitable burrows or signs of American badger were observed during the desert tortoise presence/absence survey. Therefore, it was determined that desert tortoise and American badger are presumed absent from the project site.

The project site is not located within federally designated Critical Habitat. The closest Critical Habitat designation is located over 16 miles west of the project site for California condor. Therefore, the loss or adverse modification of Critical Habitat from site development will not occur and consultation with the United States Fish and Wildlife Service (USFWS) will not be required for implementation of the proposed project.

Nine (9) unnamed ephemeral drainage features (Drainages 1-9) were observed within the boundaries of the project site during the field delineation. A separate Delineation of State and Federal Jurisdictional Waters (ELMT 2020) has been completed for the site.

ELMT also verified the inventory of native desert plants protected by the California Native Desert Plants Act. Based on the results of the survey, no California native desert plant species protected under the California Desert Native Plants Act are present on the project site.

Nesting birds are protected pursuant to the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (Sections 3503, 3503.5, 3511, and 3513 prohibit the take, possession, or destruction of birds, their nests or eggs). In order to protect migratory bird species, a nesting bird clearance survey should be conducted prior to any ground disturbance or vegetation removal activities that may disrupt the birds during the nesting season.

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Appendix A Site Photographs
Appendix B Potentially Occurring Special-Status Biological Resources
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Section 1 Introduction

This report contains the findings of ELMT Consulting (ELMT)'s habitat assessment and desert tortoise presence/absence survey for the proposed Gem Hill Project (project site or site) located north of Rosamond in unincorporated Kern County, California. ELMT biologists Thomas J. McGill, Ph.D., Travis J. McGill and Jacob H. Lloyd Davies conducted a field survey and evaluated the condition of the habitat within the proposed project site on May 5 and September 26, 2019.

The habitat assessment was conducted to document existing site conditions and to assess the probability of occurrence of special-status[1] plant and wildlife species that could pose a constraint to project implementation. Special attention was given to the suitability of the habitat on the project site to support desert tortoise (*Gopherus agassizii*), and other special-status plant and wildlife species identified by the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB), and other electronic databases as potentially occurring in the general vicinity of the project site. In addition, ELMT conducted a desert tortoise presence/absence survey on September 26, 2019 to determine the presence/absence of desert tortoise within the proposed project site.

1.1 PROJECT LOCATION

The project site is generally located west of State Route 14, south of State Route 58, north of State Route 138, and east of the Tehachapi Mountains northwest of Rosamond, unincorporated Kern County, California (Exhibit 1, *Regional Vicinity*). The project site is depicted on the Soledad Mountain quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic map series within Sections 25, 26, 35 and 36 of Township 10 North, Range 13 West (Exhibit 2, *Site Vicinity*). Specifically, the project site is located west of Mojave Tropico Road within the northwestern portion of the Rosamond Hills approximately 3.8 miles north of Rosamond Boulevard and approximately 2.3 miles south of Backus Road (Exhibit 3, *Project Site*). The project site is located within Assessor Parcel Number (APN) 0345-032-31, -05 and 0345-031-02.

1.2 PROJECT DESCRIPTION

The proposed project is the development and subsequent reclamation of a 35-acre quarry within a 210-acre project area. The quarry is located within approximately 778 acres of land owned by CalPortland. The Surface Mining and Reclamation Plan describes the planned operations for a period of 30 years from approval or through the year 2050. The Proposed Project is planned to be developed on a proposed total disturbance area of approximately 82 acres.

The planned operation includes the quarry, two overburden stockpiles, stormwater basins for potential run-off, an equipment storage area, a water well, scale, and access roads on a proposed disturbance area of

[1] As used in this report, "special-status" refers to plant and wildlife species that are federally or State listed, proposed, or candidates; plant species that have been designated a California Native Plant Society (CNPS) Rare Plant Rank; and wildlife species that are designated by the California Department of Fish and Wildlife (CDFW) as fully protected, species of special concern, or watch list species.

approximately 82 acres. Typical mining operations will consist of blasting about once per week, dozing, and stockpiling the tuff materials for haulage offsite. The material will be loaded onto on-road trucks and hauled to existing cement production facilities. The material does not require crushing or processing, therefore, there will be no processing plant operations conducted on-site, limiting the production of dust and noise on-site. An access road at Mojave Tropico Road will serve as the main ingress and egress for the Proposed Project.



GEM HILL
HABITAT ASSESSMENT

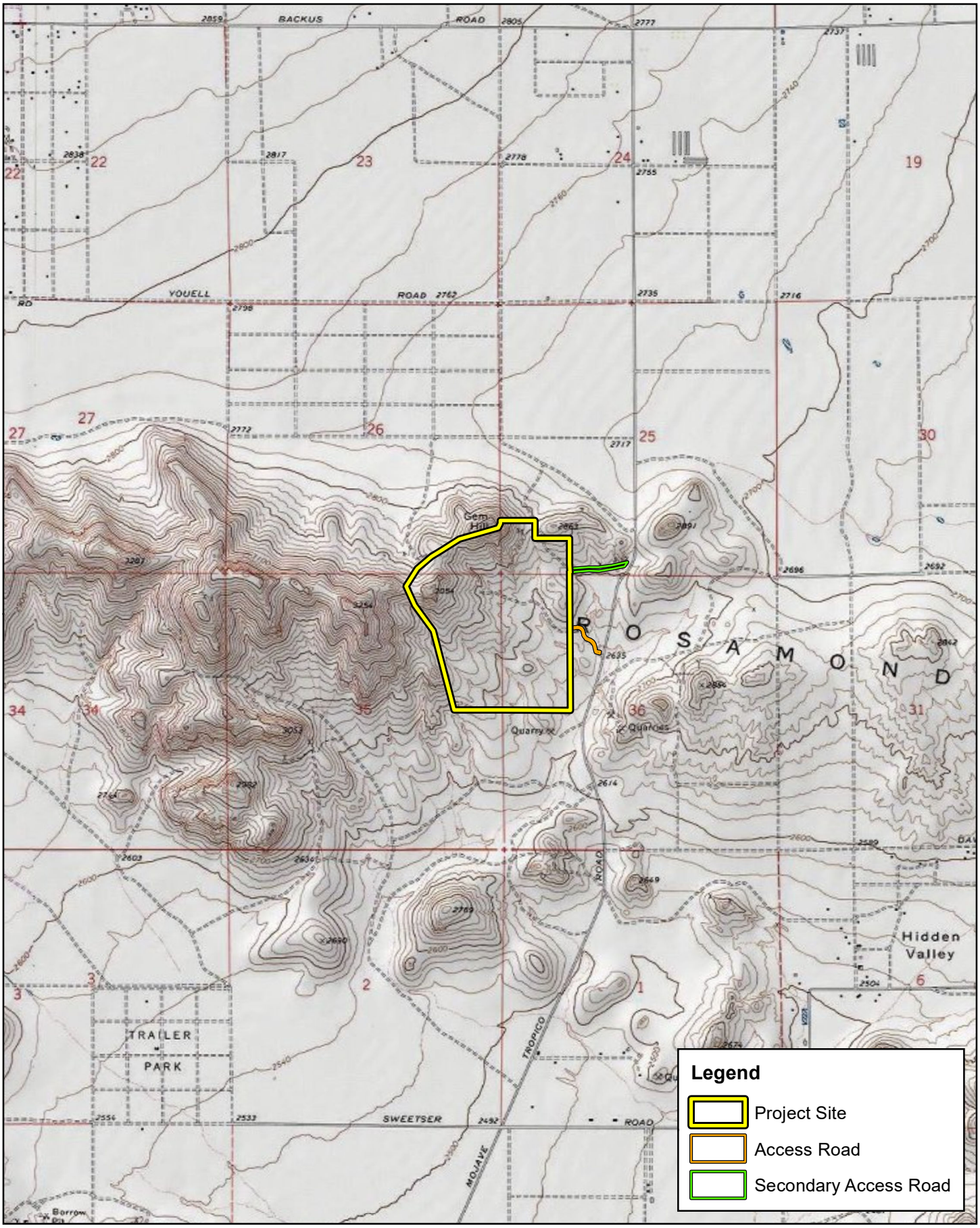
Regional Vicinity

ELMT CONSULTING

0 5 10 20 Miles

Source: Federal Highway Administration, US Department of Transportation

Exhibit 1



ELMT CONSULTING

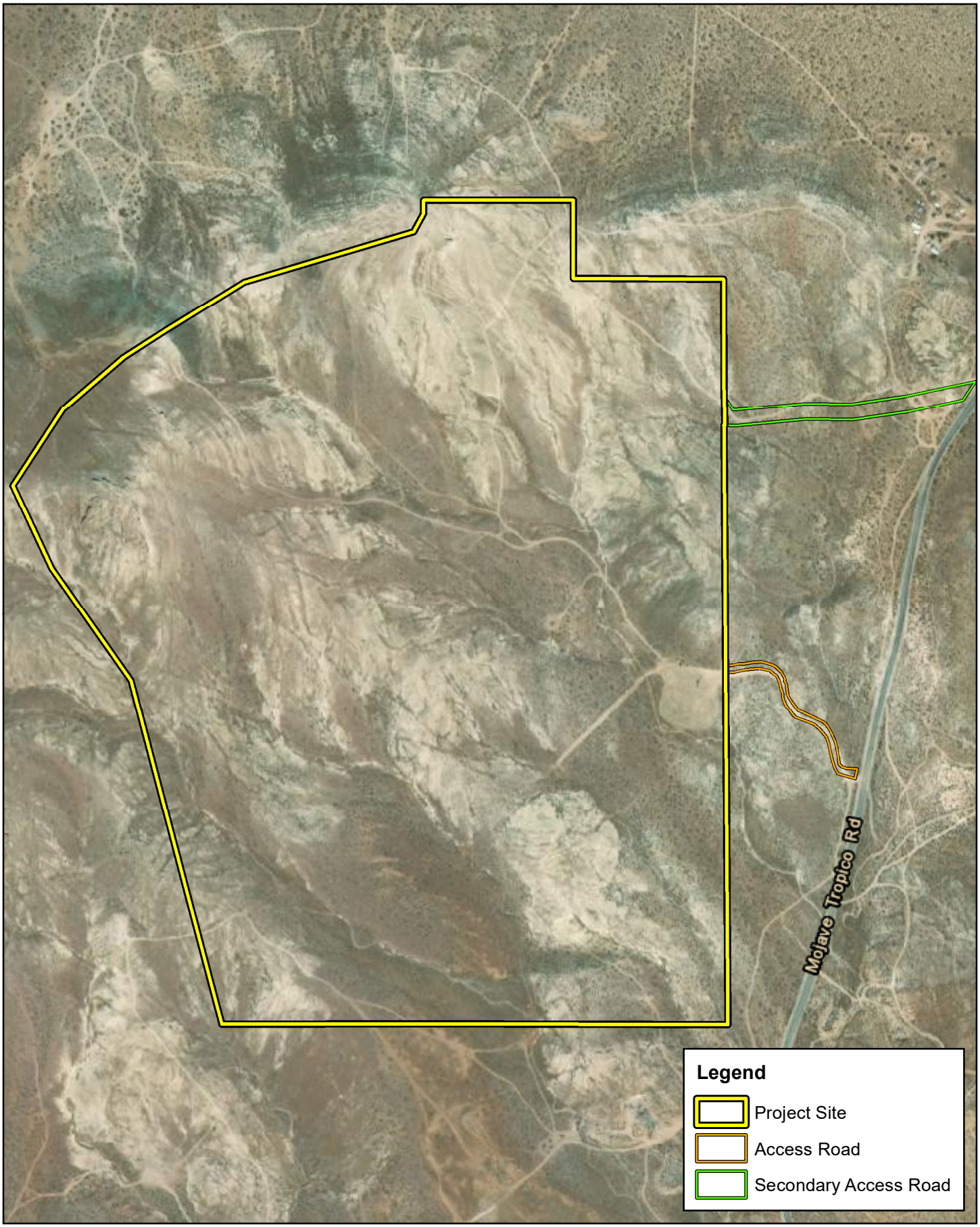
0 1,250 2,500 5,000 Feet

Source:USA Topographic Maps, Kern County

GEM HILL
HABITAT ASSESSMENT

Site Vicinity

Exhibit 2



ELMT CONSULTING

0 250 500 1,000 Feet

Source: ESRI Aerial Imagery, Kern County

GEM HILL
HABITAT ASSESSMENT

Project Site

Exhibit 3

Section 2 Methodology

A literature review and records search were conducted to determine which special-status biological resources have the potential to occur on or within the general vicinity of the project site. In addition to the literature review, a general habitat assessment or field investigation of the project site was conducted. The field investigation was conducted to document existing conditions within the project site and assess the potential for special-status biological resources to occur. A follow-up visit was conducted to complete a desert tortoise presence/absence survey.

2.1 LITERATURE REVIEW

Prior to conducting the field investigation, a literature review and records search was conducted for special-status biological resources potentially occurring on or within the vicinity of the project site. Previously recorded occurrences of special-status plant and wildlife species and their proximity to the project site were determined through a query of the CDFW QuickView Tool in the Biogeographic Information and Observation System (BIOS), CNDDB Rarefind 5, the California Native Plant Society's (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California, Calflora Database, compendia of special-status species published by CDFW, and the United States Fish and Wildlife Service (USFWS) species listings.

All available reports, survey results, and literature detailing the biological resources previously observed on or within the vicinity of the project site were reviewed to understand existing site conditions and note the extent of any disturbances that have occurred on the project site that would otherwise limit the distribution of special-status biological resources. Standard field guides and texts were reviewed for specific habitat requirements of special-status and non-special-status biological resources, as well as the following resources:

- Google Earth Pro historic aerial imagery (1994-2017);
- United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Soil Survey;
- USFWS Critical Habitat designations for Threatened and Endangered Species; and
- USFWS Endangered Species Profile and Primary Constituent Elements for desert tortoise.

The literature review provided a baseline from which to inventory the biological resources potentially occurring on the subject property. The CNDDB database was used, in conjunction with ArcGIS software, to locate the nearest recorded occurrences of special-status species and determine the distance from the project site.

2.2 FIELD INVESTIGATION

ELMT biologists Thomas J. McGill, Ph.D., Travis J. McGill and Jacob H. Lloyd Davies evaluated the extent and conditions of the plant communities found within the boundaries of the project site on May 5 and September 26, 2019. The plant communities were evaluated for their potential to support special-status

plant and wildlife species. In addition, field staff identified any natural corridors and linkages that may support the movement of wildlife through the area. Special attention was given to special-status habitats and/or undeveloped areas, which have higher potentials to support special-status plant and wildlife species.

All plant and wildlife species observed, as well as dominant plant species within each plant community, were recorded. Wildlife detections were made through observation of scat, trails, tracks, burrows, nests, and/or visual and aural observation. In addition, site characteristics such as soil condition, topography, hydrology, anthropogenic disturbances, indicator species, condition of on-site plant communities, and presence of potential jurisdictional drainage and/or wetland features were noted.

2.3 SOIL SERIES ASSESSMENT

Onsite and adjoining soils were researched prior to the field survey using the USDA NRCS Soil Survey for Kern County. In addition, a review of the local geological conditions and historical aerial photographs was conducted to assess the ecological changes that the project site has undergone.

2.4 PLANT COMMUNITIES

Plant communities were mapped using 7.5-minute USGS topographic base maps and aerial photography. The plant communities were classified in accordance with Sawyer, Keeler-Wolf and Evens (2009), CDFW (2010) and Holland (1986), delineated on an aerial photograph, and then digitized into ArcGIS. The ArcGIS application was used to compute the area of each plant community in acres.

2.5 PLANTS

Common plant species observed during the field survey were identified by visual characteristics and morphology in the field and recorded in a field notebook. Unusual and less familiar plants were photographed in the field and identified in the laboratory using taxonomic guides. Taxonomic nomenclature used in this study follows the 2012 Jepson Manual (Hickman 2012). In this report, scientific names are provided immediately following common names of plant species (first reference only).

Focused Plant Survey

Surveys were conducted at the time of year when plant species are both evident and identifiable. Two (2) site visits were spaced throughout the growing season to accurately determine what plant species exist on-site and capture the floristic diversity at a level necessary to determine if special-status plants are present. The timing and number of surveys was determined based on geographic location, the natural communities present, and the weather patterns of the region. Based on the special-status plant species known to occur within the general vicinity and the suitability of the onsite habitat to support those species, ELMT biologists Thomas J. McGill, Ph.D., Travis J. McGill and Jacob H. Lloyd Davies conducted the surveys on May 5 and September 26, 2019.

All areas that may be impacted by proposed project were extensively surveyed on foot. Linear transects were walked throughout the project site and spaced at 10-meter intervals to ensure maximum visual

coverage and increase the likelihood of detecting special-status plant species known to occur within the general vicinity of the project site.

2.6 WILDLIFE

Wildlife species detected during field surveys by sight, calls, tracks, scat, or other sign were recorded during surveys in a field notebook. Field guides were used to assist with identification of wildlife species during the survey included The Sibley Field Guide to the Birds of Western North America (Sibley 2003), A Field Guide to Western Reptiles and Amphibians (Stebbins 2003), and A Field Guide to Mammals of North America (Reid 2006). Although common names of wildlife species are fairly well standardized, scientific names are provided immediately following common names in this report (first reference only).

2.7 DESERT TORTOISE PRESENCE/ABSENCE SURVEY

A desert tortoise presence/absence survey was conducted on September 26, 2019 to ensure that project activities would not violate the Federal Endangered Species Act or the California Endangered Species Act. In accordance with the USFWS 2018 Survey Protocols (Preparing for any Action that may Occur within the Range of the Mojave Desert Tortoise - October 9, 2019), project site that fall within the Western Mojave Recovery Unit for desert tortoise that are smaller than 500 acres in size qualify under the "Small Project Surveys" protocol.

In accordance with the "Small Project Survey," transects were oriented east to west and were spaced at 10-meter (33 feet) intervals throughout all suitable habitat within the survey area to provide 100 percent visual coverage and increase the likelihood of locating desert tortoise and/or sign. All transects were walked at a pace that allowed for careful/detailed observation along transect routes and the immediate vicinity.

ELMT biologists conducted a 100 percent coverage survey from 0630 to 1130 hours on September 26, 2019, which falls within the desert tortoise's most active periods (April through May and September through October). Weather conditions during the survey included clear skies, calm wind conditions, and temperatures ranging from 60 to 75 degrees Fahrenheit. If present, any live desert tortoises and/or sign (burrows, scat, carapace, drinking depressions) were recorded on USFWS pre-project survey field data sheets and marked using a Garmin GPSMap 64 Global Positioning System (GPS).

Any burrows encountered would be thoroughly inspected for the presence of desert tortoise or evidence of recent use using non-intrusive methods (i.e., mirror, digital camera). Burrow characteristics including class, shape, orientation, size, and evidence of deterioration would be recorded on field data sheets, when observed. In addition, any burrow, if observed, would be photographed and given a class rating to describe the overall status and condition of the burrow.

2.8 JURISDICTIONAL DRAINAGES AND WETLANDS

Aerial photography was reviewed prior to conducting a field investigation in order to locate and inspect any potential natural drainage features, ponded areas, or water bodies that may fall under the jurisdiction of the Corps, Regional Board, or CDFW. In general, surface drainage features indicated as blue-line streams on USGS maps that are observed or expected to exhibit evidence of flow are considered potential

riparian/riverine habitat and are also subject to state and federal regulatory jurisdiction. In addition, ELMT reviewed jurisdictional waters information through examining historical aerial photographs to gain an understanding of the impact of land-use on natural drainage patterns in the area. The USFWS National Wetland Inventory (NWI) and Environmental Protection Agency (EPA) Water Program "My Waters" data layers were also reviewed to determine whether any hydrologic features and wetland areas have been documented on or within the vicinity of the project site. A separate Delineation of State and Federal Jurisdictional Waters (ELMT 2020) has been completed for the site.

Section 3 Existing Conditions

3.1 LOCAL CLIMATE

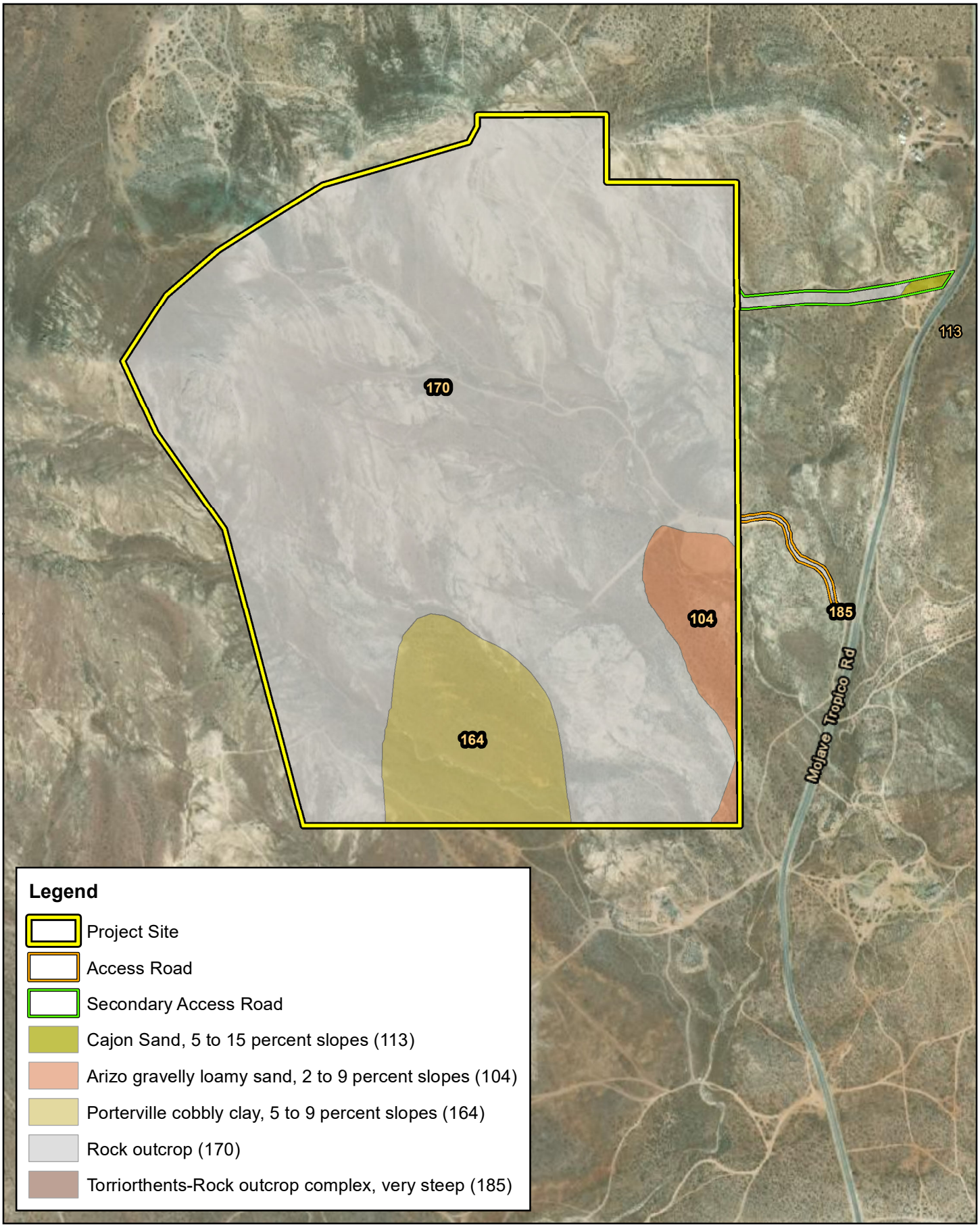
The Mojave Desert is found at elevations of 2,000 to 5,000 feet above mean sea level (msl) and is characterized by cool winter temperatures and warm summer temperatures, with its rainfall occurring almost entirely in the winter. Climatological data obtained from nearby weather stations indicated the annual precipitation in Rosamond averages 5.87 inches per year. Almost all of the precipitation occurs November through March, with hardly any occurring between May and August. The wettest month of February, with a monthly average total of 1.23 inches. The average maximum and minimum temperatures for Rosamond are 96.2 and 57.1 degrees Fahrenheit (°F), respectively with July and August being the hottest months and December and January being the coldest. Temperatures during the site visits were in the mid-60s to high-70s (degrees Fahrenheit) with light winds and no cloud cover.

3.2 TOPOGRAPHY AND SOILS

On-site elevation ranges from approximately 2,620 to 3,050 feet above mean sea level and generally slopes from northwest to southeast. The northwestern portion of the site supports steep slopes that extend southeast to flat areas. Based on the NRCS USDA Web Soil Survey, the project site is underlain by the following soil units: Arizo gravelly loam sand (2 to 9 percent slopes), Cajon sand (5 to 15 percent slopes), Porterville cobbly clay (5 to 9 percent slopes), and rock outcrop (Exhibit 4, *Soils*). The Arizo series consists of very deep, excessively drained soils that formed in mixed alluvium on recent alluvial fans, inset fans, fan apron, fan skirts, stream terraces, floodplains of intermittent streams and channels. The Porterville series consists of deep, well drained soils that formed in fine textured alluvial material from basic and metabasic igneous rock on fans and foothills.

3.3 SURROUNDING LAND USES

The project site is located in the northwest portion of Rosamond Hills in a primarily undeveloped area in unincorporated Kern County, California. Minimal development occurs in proximity to the project site. Scattered residential plots occur to the north, and undeveloped, vacant land occurs to the east, south, and west. The nearest residence is approximately 884 feet northeast of the northeast corner of the site. There is also a solar panel field 1.2 miles to the southwest of the project site on the western site of the Rosamond Hills.



ELMT CONSULTING

0 250 500 1,000 Feet

Source: ESRI Aerial Imagery, Soil Survey Geographic Database, Kern County

GEM HILL
HABITAT ASSESSMENT

Soils

Exhibit 4

Section 4 Discussion

4.1 SITE CONDITIONS

The project site primarily consists of vacant, undeveloped land with several dirt access roads that traverse the site and a graded pad. The steeper slopes of the project site are barren or support minimal vegetation (<5% cover) while the flatland areas at the bottom of the slopes support a denser (<30% cover) cover of vegetation. Refer to Appendix A, *Site Photographs*, for representative site photographs.

4.2 VEGETATION

During the field investigations, one (1) plant community, Creosote Bush Scrub, was observed within the boundary of the project site (Exhibit 5, *Vegetation*).

4.2.1 Creosote Bush Scrub

Creosote bush scrub is an open scrub plant community characterized by sparse, evenly spaced plants and dominated by creosote (*Larrea tridentata*). This plant community typically occurs below 3,500 feet above msl in the southeastern deserts of California. An abundance of open ground is common in creosote brush scrub, as an adaptation by the associated plants to prevent the spreading of wildfires. Plants found in this plant community are adapted to extreme seasonal shifts in temperature and high winds.

Plant species found on the project site within the creosote bush scrub community included creosote, burrobush (*Ambrosia dumosa*), California buckwheat (*Eriogonum fasciculatum*), beavertail (*Opuntia basilaris*), chia (*Salvia columbariae*), Mormon tea (*Ephedra nevadensis*), cheesebush (*Ambrosia salsola*), matchweed (*Gutierrezia californica*), cryptantha (*Cryptantha* sp.), blackbush (*Coleogyne ramosissima*), allscale (*Atriplex polycarpa*), red brome (*Bromus madritensis* ssp. *rubens*), and Mediterranean grass (*Schismus* sp.).

4.2.2 Disturbed

Disturbed areas refer to unpaved or dirt access roads and the graded pad that have been exposed to anthropogenic disturbances and do not comprise a plant community. Surface soils within these areas are generally devoid of vegetation or support non-native and ruderal/weedy plant species and have been heavily disturbed/compacted from anthropogenic disturbances. Disturbed areas on-site encompass all dirt access roads, graded pad, and areas that have been subject to off-road vehicle use.

4.3 WILDLIFE

Plant communities provide foraging habitat, nesting and denning sites, and shelter from adverse weather or predation. This section provides a discussion of those wildlife species that were observed during the field survey or that are expected to occur within the project site. The discussion is to be used as a general reference and is limited by the season, time of day, and weather condition in which the field survey was conducted. Wildlife detections were based on calls, songs, scat, tracks, burrows, and direct observation.

4.3.1 Fish

No fish or hydrogeomorphic features (e.g., perennial creeks, ponds, lakes, reservoirs) with frequent sources of water that would provide suitable habitat for fish were observed on or immediately adjacent to the project site. Therefore, no fish are expected to occur and are presumed absent from the project site.

4.3.2 Amphibians

No amphibians or hydrogeomorphic features (e.g., perennial creeks, ponds, lakes, reservoirs) that would provide suitable habitat for amphibian species were observed on or immediately adjacent to the project site. Therefore, no amphibians are expected to occur on the project site and are presumed absent.

4.3.3 Reptiles

The project site provides suitable foraging and cover habitat for a variety of reptile species. Reptiles observed during the field investigation include western side-blotched lizard (*Uta stansburiana*) and California king snake *Lampropeltis californiae*). Common reptilian species that have the potential to occur on-site include Great Basin whiptail (Aspidoscelis tigris tigris), northern Mohave rattlesnake (*Crotalus scutulatus scutulatus*), Great Basin gopher snake (*Pituophis catenifer deserticola*), and red racer (*Coluber flagellum piceus*)

4.3.4 Birds

The project site provides suitable foraging and cover habitat for a variety of resident and migrant bird species adapted to conditions within the Mojave Desert. Avian species detected during the survey included horned lark (*Eremophila alpestris*), red-tailed hawk (*Buteo jamaicensis*), cactus wren (*Campulorhynchys brunneicapillus*), common raven (*Corvus corax*), and black-throated sparrow (*Amphispiza bilineata*).

4.3.5 Mammals

The project site provides suitable habitat for a variety of mammalian species adapted to conditions within the Mojave Desert. Most naturally occurring mammal species are nocturnal and are difficult to observe during a diurnal field visit. Mammalian species observed on-site during the field investigation include black-tailed jackrabbit (*Lepus californicus*) and white-tailed antelope squirrel (*Ammospermophilus leucurus*). Mammalian species expected to occur include desert woodrat (*Neotoma lepida*), Audubon's cottontail (*Sylvilagus audubonii*), non-special status kangaroo rat (*Dipodomys* sp.), and desert cottontail (*Sylvilagus audubonii*).

Cliffs and minimal rocky outcrops are present in on the northern boundary of the project site. Specifically, the northwest corner of the project site provides rock outcrops/cervices that have a low potential to support suitable roosting habitat for bats. Common bat species that roost in cliffs and rocky outcrops that have the potential to occur include western canyon bat (*Parastrellus hesperus*), California myotis (*Myotis californicus*), big brown bat (*Eptesicus fuscus*), Mexican free-tailed bat (*Tadarida brasiliensis*). It should be noted that the northeast corner of the project site, the portion of the site that has a greater potential to support rocky outcrops for bat species, is located outside of the proposed limits of disturbance. To prevent

impacts to potential roosting habitat on the northern boundary of the site, disturbance or removal of large boulders should be avoided.

4.4 NESTING BIRDS

No active nests or birds displaying nesting behavior were observed during the field surveys. The creosote bush scrub community provides suitable foraging and nesting habitat for year-round and seasonal avian residents, as well as migrating songbirds that have adapted to conditions in the Mojave Desert. No raptors are expected to nest on-site due to lack of suitable nesting opportunities.

Nesting birds are protected pursuant to the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (Sections 3503, 3503.5, 3511, and 3513 prohibit the take, possession, or destruction of birds, their nests or eggs). If construction occurs between February 1st and August 31st, a pre-construction clearance survey for nesting birds should be conducted within three (3) days of the start of any vegetation removal or ground disturbing activities to ensure that no nesting birds will be disturbed during construction.

4.5 WILDLIFE CORRIDORS AND LINKAGES

Habitat linkages provide links between larger undeveloped habitat areas that are separated by development. Wildlife corridors are similar to linkages but provide specific opportunities for animals to disperse or migrate between areas. A corridor can be defined as a linear landscape feature of sufficient width to allow animal movement between two comparatively undisturbed habitat fragments. Adequate cover is essential for a corridor to function as a wildlife movement area. It is possible for a habitat corridor to be adequate for one species yet inadequate for others. Wildlife corridors are significant features for dispersal, seasonal migration, breeding, and foraging. Additionally, open space can provide a buffer against both human disturbance and natural fluctuations in resources.

The project site occurs on the eastern side of Rosamond Hills and terminates along the highest points of elevation adjacent to the site. This forms a naturally occurring bowl-shaped depression along the entirety of the site, which isolates the project site from the surrounding area. These kinds of geographical features typically preclude most terrestrial wildlife from utilizing an area as a corridor.

It should be noted that the undeveloped land in the immediate vicinity of the project site has the potential to provide local wildlife movement opportunities for species (e.g., coyote, bobcat, etc.) moving through the immediate area; however, the project site does not function as a major wildlife movement corridor or linkage. As such, implementation of the proposed project is not expected to have a significant impact to wildlife movement opportunities or prevent local wildlife movement through the area since there is ample habitat adjacent to the project site to support wildlife movement opportunities.

4.6 STATE AND FEDERAL JURISDICTIONAL AREAS

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates discharge of dredge or fill materials into “waters of the United States” pursuant to Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the CDFW regulates alterations to streambed and bank under Fish and

Wildlife Code Sections 1600 et seq., and the Regional Board regulates discharges into surface waters pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

The project site was evaluated for the presence of jurisdictional waters of the United States, waters of the State, and/or jurisdictional streambed. Prior to the field visit, aerial photographs of the site were viewed and compared with the surrounding USGS 7.5-minute topographic quadrangle maps to identify drainage features within the survey area as indicated from topographic changes, blue-line features, or visible drainage patterns. The Environmental Protection Agency (EPA) Water Program "My Waters" data layer was also reviewed to determine whether any hydrologic features had been documented within the vicinity of the site. Similarly, the United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) soil maps for Kern County were used to identify the soil series in the area and to check these soils to determine whether they are regionally identified as hydric soils. The surveyors carefully assessed the site for depressions, inundation, presence of hydrophytic vegetation, staining, cracked soil, ponding, and indicators of active surface flow and corresponding physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris. Suspected jurisdictional areas were checked for the presence of definable channels, soils, and hydrology.

Nine (9) unnamed ephemeral drainage features (Drainages 1-9) were observed within the boundaries of the project site during the field delineation. ELMT carefully assessed the site for depressions, inundation, presence of hydrophytic vegetation, staining, cracked soil, ponding, and indicators of active surface flow and corresponding physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris. Suspected jurisdictional areas were checked for the presence of definable channels, soils, and hydrology.

All of the onsite drainage features generally flow in a northwest to southeast direction across the project site. No surface water was present within the drainage during the site visit; however, evidence of an Ordinary High Water Mark (OHWM) was observed via scour, changes in substrate, shelving, and lack of vegetation. Across all of the drainage features, the OHWM ranged from approximately 1-5 feet in width throughout the length of the drainages. The onsite drainages are located at the top of the watershed, originating on the steep slopes along the western northwestern boundary of the site. These features only convey surface flow in direct response to precipitation, and do not support riparian vegetation.

All of the onsite drainage features, after flowing offsite, eventually converge into one drainage and terminate approximately 4 miles southeast of the project site at the Rosamond Skypark (airport). The onsite drainage features do not have a surface hydrologic connection to downstream waters of the United States; however, the onside drainage will fall under the regulatory authority of the Regional Board as waters of the State, and, potentially, CDFW as jurisdictional streambed.

The drainages feature, at the origin, primarily consisted of rock with minimal vegetation. However, as the drainages extended across the site, they became more vegetated, consisting primarily of upland scrub indicative of the surrounding area. Common plant species observed in association with the onsite drainages include creosote, burrobush (*Ambrosia dumosa*), California buckwheat (*Eriogonum fasciculatum*), beavertail (*Opuntia basilaris*), chia (*Salvia columbariae*), Mormon tea (*Ephedra nevadensis*), cheesebush (*Ambrosia salsola*), matchweed (*Gutierrezia californica*), cryptantha (*Cryptantha* sp.), blackbush

(*Coleogyne ramosissima*), allscale (*Atriplex polycarpa*), red brome (*Bromus madritensis* ssp. *rubens*), and Mediterranean grass (*Schismus* sp.). Of the common plant species observed, it should be noted that only red brome and Mediterranean grass are the only non-native/invasive plant species. None of these plants are threatened, endangered, or have special status in California.

Although evidence of hydrology (i.e., scour, changes in substrate, shelving) was present within the onsite drainages, these areas were primarily dominated by upland plant species. Further, water does not persist long enough on the project site to create hydric soil (anaerobic) conditions, and none of the onsite drainages supported a dominance of hydrophytic vegetation. As a result, none of the onside drainage features meet the Corps' or Regional Board's wetland definition to qualify as jurisdictional wetlands.

A separate Delineation of State and Federal Jurisdictional Waters (ELMT 2020) has been completed for the site.

4.7 SPECIAL-STATUS BIOLOGICAL RESOURCES

The CNDDB Rarefind 5, CNDDB Quickview Tool in BIOS and the CNPS Electronic Inventory of Rare and Endangered Vascular Plants of California were queried for reported locations of special-status plant and wildlife species as well as special-status natural plant communities in the Soledad Mountain and Willow Springs USGS 7.5-minute quadrangle. The habitat assessment evaluated the conditions of the habitat(s) within the boundaries of the project site to determine if the existing plant communities, at the time of the survey, have the potential to provide suitable habitat(s) for special-status plant and wildlife species.

The literature search identified seven (7) special-status plant species and nineteen (19) special-status wildlife species as having potential to occur within the Soledad Mountain and Willow Springs USGS 7.5-minute quadrangles. No special-status plant communities have been recorded within these quadrangles. Special-status plant and wildlife species were evaluated for their potential to occur within the project site based on habitat requirements, availability and quality of suitable habitat, and known distributions. Species determined to have the potential to occur within the general vicinity of the project site are presented in Appendix B, *Potentially Occurring Special-Status Biological Resources*.

4.7.1 Special-Status Plants

According to the CNDDB and CNPS, seven (7) special-status plant species have been recorded in the Soledad Mountain and Willow Springs quadrangles (refer to Appendix B). The project site supports a creosote bush scrub plant community that has the potential to provide suitable habitat for alkali mariposa-lily (*Calochortus striatus*), Mojave spineflower (*Chorizanthe spinosa*), recurved larkspur (*Delphinium recurvatum*), and sagebrush loeflingia (*Loeflingia squarrosa* var. *artemisiarum*). None of these plant species are federally or State listed but are listed by the CNPS. ELMT biologists conducted focused surveys for special-status plants on May 5 and September 26, 2019. No special status plants were observed during either survey. As a result, no impacts to special-status species are expected to occur from project activities.

4.7.2 Special-Status Wildlife

According to the CNDDB, nineteen (19) special-status wildlife species have been reported in the Soledad Mountain and Willow Springs quadrangles (refer to Appendix B). No special-status wildlife species were observed on-site during the field investigation. Based on habitat requirements for specific species and the availability and quality of on-site habitats, it was determined that the project site has low potential to support golden eagle (*Aquila chrysaetos*), burrowing owl (*Athene cunicularia*), desert tortoise (*Gopherus agassizii*), loggerhead shrike (*Lanius ludovicianus*), and American badger (*Toxostoma lecontei*). The project site does not provide suitable habitat for any of the other special-status wildlife species known to occur in the area and they are presumed absent from the project site. With the exception of desert tortoise, none of the aforementioned species are federally or state listed as endangered or threatened.

A desert tortoise presence/absence survey was conducted on September 26, 2019. Despite a systematic 100% visual survey of the project site, no desert tortoises, signs, or burrows were observed on the project site. Additionally, no suitable burrows or signs of American badger were observed during the desert tortoise presence/absence survey. Therefore, it was determined that desert tortoise and American badger are presumed absent from the project site.

Information regarding desert tortoise and the results of the presence/absence survey are provided below.

Desert Tortoise

The Mojave desert tortoise survey protocol requires that biologists conduct pedestrian transect surveys covering the project's action area in order to determine the presence or absence of desert tortoise within the action area (U.S. Fish and Wildlife Service [USFWS], 2018). The action area is defined by regulation as all areas to be affected directly or indirectly and not merely the immediate area involved in the action (50 CFR §402.02). For this project, the action area includes the limits of disturbance and all areas that have the potential to be indirectly impacted by the proposed project. Site characteristics including topography, presence of suitable habitat, and human disturbance were utilized to determine the lateral extent of the action area beyond the project footprint. For consistency, the action area is hereinafter referred to as the survey area. Since the development footprint is less than 200 hectares (500 acres) in size, the Small Project Field Survey Protocol was used to determine the presence/absence of desert tortoise.

Despite a systematic 100% visual survey of the project site, no live desert tortoises, potential desert tortoise burrows, or signs of desert tortoises were observed. The estimated desert tortoise abundance is directly proportional to the number of tortoises observed above ground. Since no live desert tortoises were observed during the surveys, the estimated number of desert tortoises within the survey area is zero.

4.8 CRITICAL HABITAT

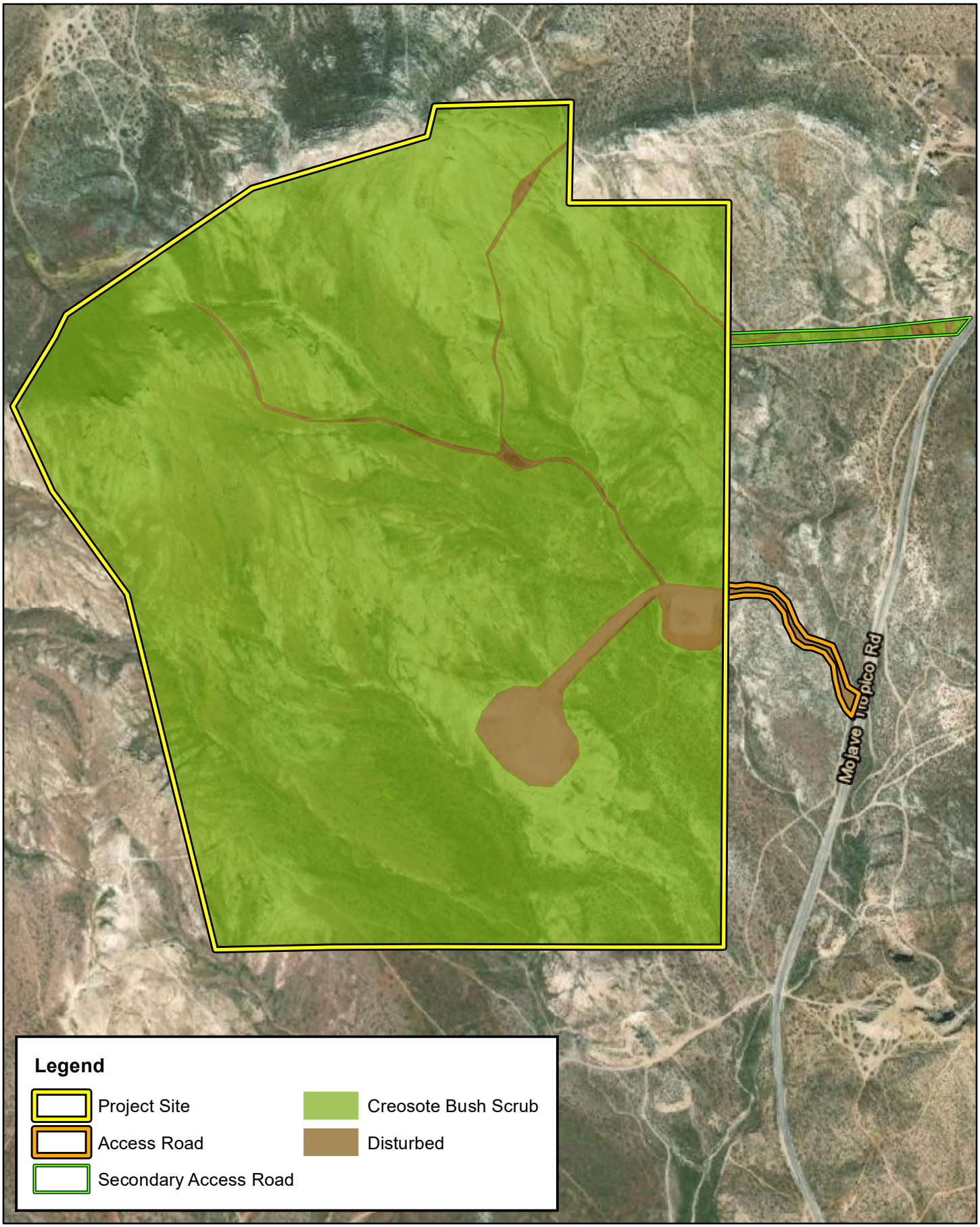
Under the federal Endangered Species Act, "Critical Habitat" is designated at the time of listing of a species or within one year of listing. Critical Habitat refers to specific areas within the geographical range of a species at the time it is listed that include the physical or biological features that are essential to the survival and eventual recovery of that species. Maintenance of these physical and biological features requires special management considerations or protection, regardless of whether individuals or the species are present or not. All federal agencies are required to consult with the United States Fish and Wildlife Service (USFWS)

regarding activities they authorize, fund, or permit which may affect a federally listed species or its designated Critical Habitat. The purpose of the consultation is to ensure that projects will not jeopardize the continued existence of the listed species or adversely modify or destroy its designated Critical Habitat. The designation of Critical Habitat does not affect private landowners, unless a project they are proposing is on federal lands, uses federal funds, or requires federal authorization or permits (e.g., funding from the Federal Highways Administration or a CWA Permit from the Corps). If a there is a federal nexus, then the federal agency that is responsible for providing the funding or permit would consult with the USFWS.

The project site is not located within federally designated Critical Habitat. The closest Critical Habitat designation is located over 16 miles east of the site for California condor (*Gymnogyps californianus*) in the Tehachapi Mountains (Exhibit 7, *Critical Habitat*). Therefore, the loss or adverse modification of Critical Habitat from site development will not occur and consultation with the USFWS will not be required for implementation of the proposed project.

4.9 CALIFORNIA DESERT NATIVE PLANTS ACT

The California Desert Native Plants Act (CDNPA) protects California desert native plants from unlawful harvesting on both public and privately owned lands within Imperial, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego Counties. The following native plants, or any part thereof, may not be harvested except under a permit issued by the commissioner or the sheriff of the county in which the native plants are growing: all species of the Agavaceae (century plants, nolinas, and yuccas); all species of the family Cactaceae; all species of the family Fouquieriaceae (ocotillo, candlewood); all species of the genus *Prosopis* (mesquites); all species of the genus *Cercidium* (palo verdes); catclaw acacia (*Acacia greggii*); desert holly (*Atriplex hymenelytra*); smoke tree (*Dalea spinosa*); and desert ironwood (*Olneya tesota*), both dead and alive (provision 80073). This provision excludes any plant that is declared to be a rare, endangered, or threatened species by federal or State law or regulations, including, but not limited to, the California State Fish and Game Code. No listed California desert native plant species were observed on the project site.



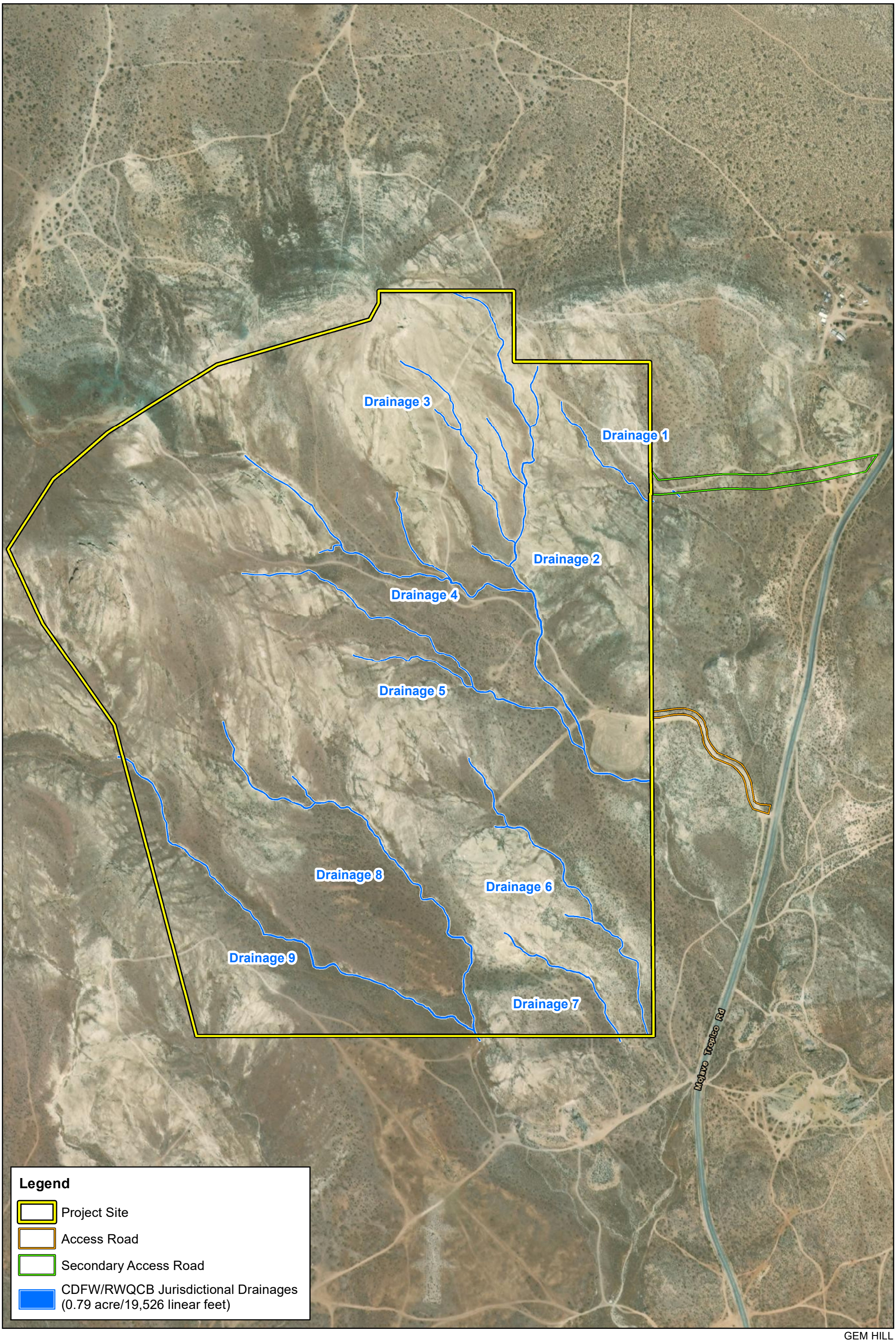
ELMT CONSULTING

Source: ESRI Aerial Imagery, Kern County

GEM HILL
HABITAT ASSESSMENT

Vegetation

Exhibit 5

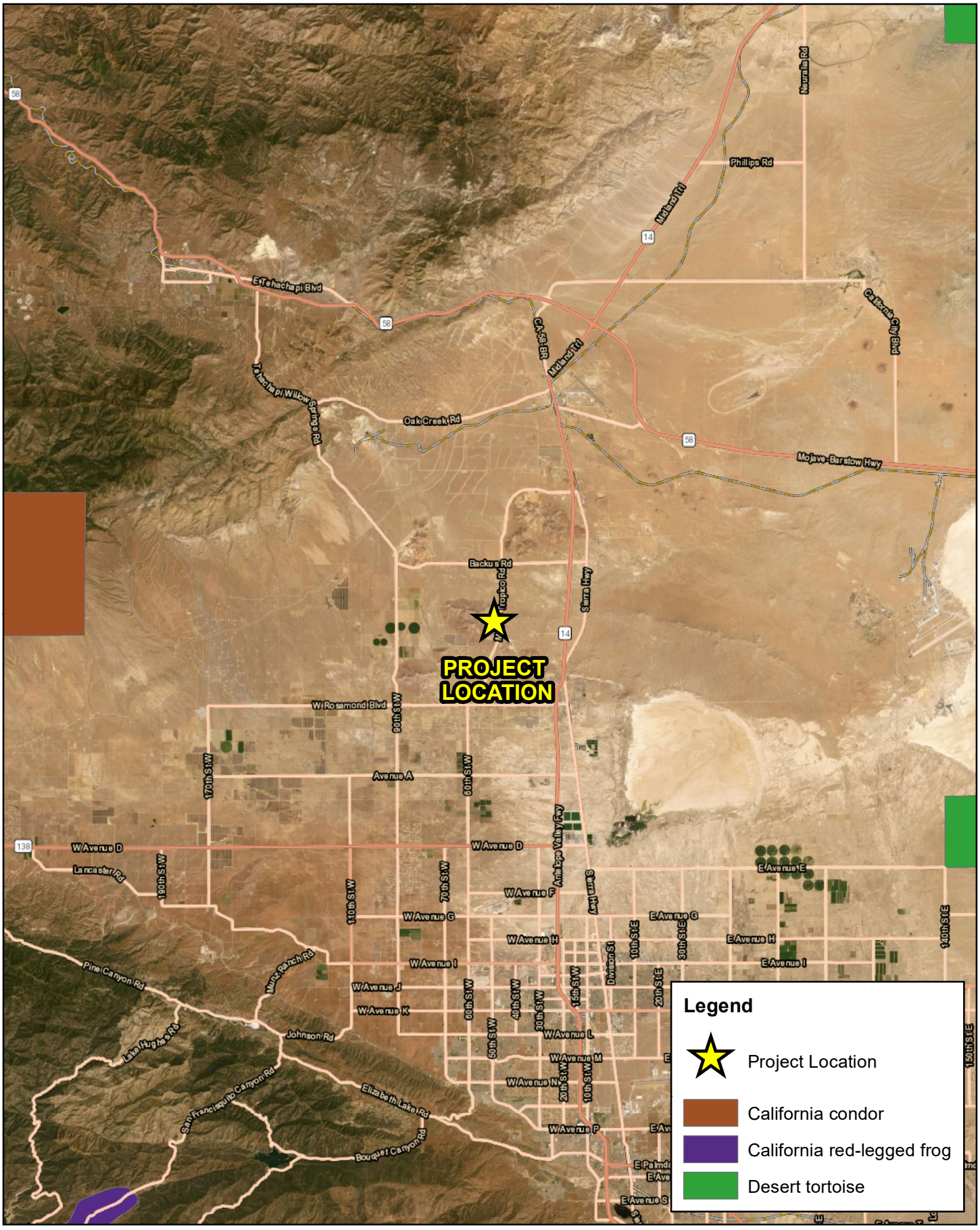


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HABITAT ASSESSMENT

Jurisdictional Areas

Exhibit 6



GEM HILL
HABITAT ASSESSMENT

Critical Habitat

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0 2.5 5 10 Miles

Source: ESRI Aerial Imagery, USFWS Critical Habitat, Kern County

Exhibit 7

Section 5 Conclusion and Recommendations

The project site is located in the northwest portion of Rosamond Hills in a largely undeveloped area in Kern County, California. Minimal development occurs in proximity to the project site. Scattered residential plots occur to the north, and undeveloped, vacant land occurs to the east, south, and west. A network of trails and dirt roads traverse the site and surrounding areas, and there is evidence of recreational off-road use.

Anthropogenic disturbances on-site are limited to illegal dumping, off-road vehicle use. The majority of the western portion of the site contains undeveloped land with minimal disturbances. During the field investigation, one (1) plant community, creosote bush scrub, was observed within the boundary of the project site.

Based on the proposed project footprint and existing site conditions discussed in this report, none of the special-status plant or wildlife species known to occur in the general vicinity of the project site are expected to be directly or indirectly impacted from implementation of the proposed project. With completion of the recommendations provided in this report, no impacts to year-round or seasonal avian residents will occur from implementation of the proposed project. Therefore, it was determined that implementation of the project will have "no effect" on federally or State listed species known to occur in the general vicinity of the project site. Additionally, the development of the project will not impact designated Critical Habitat, or regional wildlife movement corridors/linkages.

Nesting Birds

Nesting birds are protected pursuant to the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (Sections 3503, 3503.5, 3511, and 3513 prohibit the take, possession, or destruction of birds, their nests or eggs). In order to protect migratory bird species, a nesting bird clearance survey should be conducted prior to any ground disturbance or vegetation removal activities in new areas that may disrupt the birds during the nesting season.

If construction occurs between February 1st and August 31st, a pre-disturbance survey for nesting birds should be conducted within three (3) days of the start of any vegetation removal or ground disturbing activities to ensure that no nesting birds will be disturbed within new areas. The biologist conducting the clearance survey should document a negative survey with a brief letter report indicating that no impacts to active avian nests will occur. If an active avian nest is discovered during the pre-construction clearance survey, construction activities should stay outside of a no-disturbance buffer. The size of the no-disturbance buffer will be determined by the wildlife biologist and will depend on the level of noise and/or surrounding anthropogenic disturbances, line of sight between the nest and the construction activity, type and duration of construction activity, ambient noise, species habituation, and topographical barriers. These factors will be evaluated on a case-by-case basis when developing buffer distances. Limits of construction to avoid an active nest will be established in the field with flagging, fencing, or other appropriate barriers; and construction personnel will be instructed on the sensitivity of nest areas. A biological monitor should be present to delineate the boundaries of the buffer area and to monitor the active nest to ensure that nesting behavior is not adversely affected by the construction activity. Once the young have fledged and left the nest, or the nest otherwise becomes inactive under natural conditions, construction activities within the buffer area can occur.

Wildlife Corridors

The project site does not contain or occur adjacent to a wildlife corridor, therefore, no impacts to wildlife corridors are expected to occur.

State and Federal Jurisdictional Areas

As discussed in the separate Delineation of State and Federal Jurisdictional Waters (ELMT 2020) has been completed for the site, nine (9) unnamed ephemeral drainage features (Drainages 1-9) were observed within the boundaries of the project site during the field delineation. All of the onsite drainage features generally flow in a northwest to southeast direction across the project site. The onsite drainages are located at the top of the watershed, originating on the steep slopes along the western northwestern boundary of the site. These features only convey surface flow in direct response to precipitation, and do not support riparian vegetation. All of the onsite drainage features, after flowing offsite, eventually converge into one drainage and terminate approximately 4 miles southeast of the project site at the Rosamond Skypark (airport). The onsite drainage features do not have a surface hydrologic connection to downstream waters of the United States; however, the onside drainage will fall under the regulatory authority of the Regional Board as waters of the State, and CDFW as jurisdictional streambed.

The onsite drainage features exhibit characteristics consistent with the Regional Board's methodology and would be considered jurisdictional waters of the State. Approximately 0.79 acre (19,526 linear feet) of non-wetland waters of the State occur onsite. Approximately 0.28 acre (7,894 liner feet) of impacts will occur to Regional Board waters of the State.

Likewise, even though there will be no impact to existing fish and wildlife resources, the onsite drainage features exhibit characteristics consistent with CDFW's methodology and would be considered CDFW streambed. Approximately 0.79 acre (19,526 linear feet) of CDFW jurisdiction was mapped within boundaries of the project site. Approximately 0.28 acre (7,894 liner feet) of impacts will occur to CDFW jurisdictional streambed.

Additionally, in order to ensure no indirect impacts to offsite an downstream waters will occur, the project will implement Best Management Practices, and a Stormwater Pollution Prevention Plan will be prepared.

Any impacts to on-site jurisdictional areas will likely require a Regional Board Report of Waste Discharge permit prior to project implementation. Impacts to onsite jurisdictional areas may require a CDFW Section 1602 Lake or Streambed Alteration Agreement. Refer to the Delineation of State and Federal Jurisdictional Waters (ELMT 2020)for a detailed analysis of site conditions and regulatory requirements.

Special-Status Plant Species

No special-status plant species were observed on-site during two separate focused surveys. It is therefore determined that special-status plants are absent from the project site. No further surveys are recommended.

Desert Tortoise

A presence/absence survey for desert tortoise was conducted on September 26, 2019. No desert tortoises, burrows, or signs of desert tortoises were observed. Therefore, no impacts to desert tortoise are expected to occur.

California Desert Native Plants Act

No California desert native plant species were observed on-site that are covered under the CDNPA.

Section 6 References

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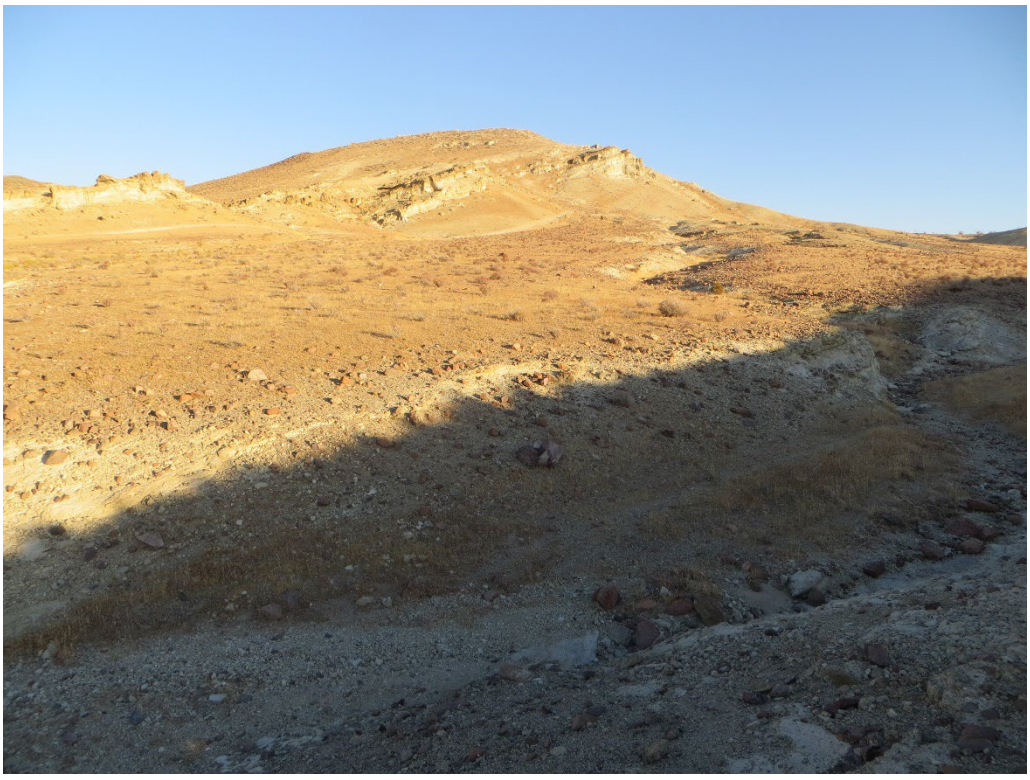
Appendix A Site Photographs



Photograph 1: Looking east towards the entrance to the property. This dirt road terminates at Mojave Tropico Road.



Photograph 2: Looking south towards one of the staging areas in the eastern portion of the project site.



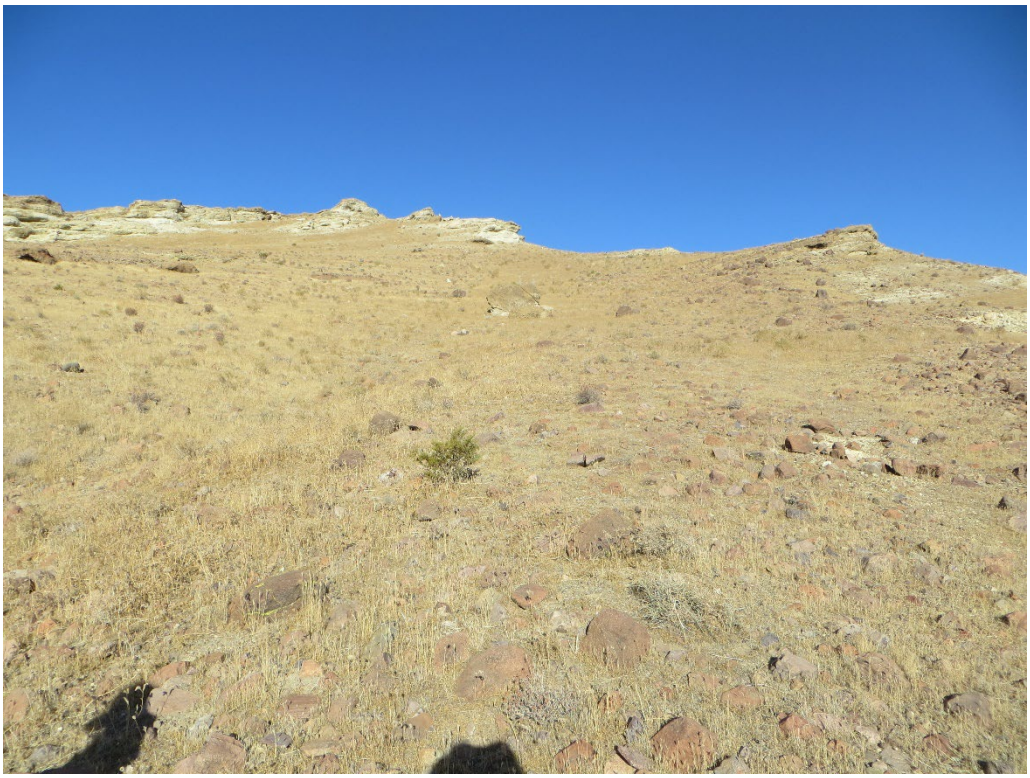
Photograph 3: Looking northwest from the eastern portion of the project site. The peak in the center of the photograph is located approximately at the middle of the northern boundary.



Photograph 4: Looking northeast from within the northern portion of the project site. The top of the rise in the middle of the right side of the photograph coincides with the northeast corner of the boundary.



Photograph 5: Looking northwest from within the northwest portion of the project site. The terminus of the dirt road coincides with the northwest boundary.



Photograph 6: Looking east from within the eastern portion of the project site. The rock outcrop on the left side of the photograph coincides with the eastern boundary of the project site.



Photograph 7: Looking east across the middle of the project site.



Photograph 8: Looking southeast at current staging areas and graded pad.



Photograph 9: Looking southeast near the western boundary of the project site.



Photograph 10: Looking northeast from the southwest corner of the project site.



Photograph 11: Looking northwest from the southeast corner of the project site.



Photograph 12: Looking northeast from the southern half of the eastern boundary of the project site. The ridge on the right side of the photograph coinsides with the northern boundary.

Appendix B Potentially Occurring Special-Status Biological Resources

Table B-1: Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	**Status**	**Habitat**	**Observed On-site**	**Potential to Occur**
WILDLIFE SPECIES				
Aquila chrysaetos golden eagle	Fed: None CA: FP; WL	Occupies nearly all terrestrial habitats of the western states except densely forested areas. Favors secluded cliffs with overhanging ledges and large trees for nesting and cover. Hilly or mountainous country where takeoff and soaring are supported by updrafts is generally preferred to flat habitats. Deeply cut canyons rising to open mountain slopes and crags are ideal habitat.	No	**Low.** The site provides marginal foraging habitat but does not provide suitable nesting opportunities.
Asio otus long-eared owl	Fed: None CA: SSC	Requires riparian or other thickets with small, densely canopied trees for roosting and nesting. Also occurs in dense conifer stands at higher elevations.	No	**Presumed Absent:** There is no suitable habitat within or adjacent to the project site.
Athene cunicularia burrowing owl	Fed: None CA: SSC	Primarily a grassland species, but it persists and even thrives in some landscapes highly altered by human activity. Occurs in open, annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. The overriding characteristics of suitable habitat appear to be burrows for roosting and nesting and relatively short vegetation with only sparse shrubs and taller vegetation.	No	**Low.** The site provides marginal foraging habitat but does not provide suitable nesting opportunities.
Buteo regalis ferruginous hawk	Fed: None CA: WL	Occurs primarily in open grasslands and fields, but may be found in sagebrush flats, desert scrub, low foothills, or along the edges of pinyon-juniper woodland. Feeds primarily on small mammals and typically found in agricultural or open fields.	No	**Presumed Absent:** There is no suitable habitat within or adjacent to the project site.
Buteo swainsonii Swainson's hawk	Fed: None CA: **THR**	Typical habitat is open desert, grassland, or cropland containing scattered, large trees or small groves. Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley. Forages in adjacent grassland or suitable grain or alfalfa fields or livestock pastures.	No	**Presumed Absent:** There is no suitable habitat within or adjacent to the project site.
Circus hudsonius northern harrier	Fed: None CA: SSC	Frequents meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands; seldom found in wooded areas. Mostly found in flat, or hummocky, open areas of tall, dense grasses moist or dry shrubs, and edges for nesting, cover, and feeding.	No	**Presumed Absent:** There is no suitable habitat within or adjacent to the project site.
Corynorhinus townsendii Townsend's big-eared bat	Fed: None CA: CTHR, SSC	A colonial species found in caves and human-made structures such as old mine workings and buildings. Roosts in the open, hanging from walls and ceilings.	No	**Presumed Absent:** There is no suitable habitat within or adjacent to the project site.

Scientific Name Common Name	**Status**	**Habitat**	**Observed On-site**	**Potential to Occur**
Falco columbarius merlin	Fed: None CA: WL	Nest in forested openings, edges, and along rivers across northern North America. Found in open forests, grasslands, and especially coastal areas with flocks of small songbirds or shorebirds.	No	**Presumed Absent:** There is no suitable habitat within or adjacent to the project site.
Falco mexicanus prairie falcon	Fed: None CA: WL	Commonly occur in arid and semiarid shrubland and grassland community types. Also occasionally found in open parklands within coniferous forests. During the breeding season, they are found commonly in foothills and mountains which provide cliffs and escarpments suitable for nest sites.	No	**Presumed Absent:** There is no suitable habitat within or adjacent to the project site.
Gopherus agassizii desert tortoise	Fed: **THR** CA: **THR**	Widely distributed in the Mojave, Sonoran and Colorado deserts from below sea level to 7,220 feet. Most common in desert scrub, desert wash, and Joshua tree habitats, but occurs in almost every desert habitat except those on the most precipitous slopes.	No	**Low.** The plant communities on the project site provide marginal foraging habitat.
Helminthoglypta greggi Mojave shoulderband	Fed: None CA: None	Currently limited to three isolated mountain peaks in southern Kern County, California. Occupies moist microhabitat like rock outcroppings, rockslides, talus areas, and clusters of rocks embedded in soils. Requires deep enough crevices to avoid desiccation.	No	**Presumed Absent:** There is no suitable habitat within or adjacent to the project site.
Lanius ludovicianus loggerhead shrike	Fed: None CA: SSC	Often found in broken woodlands, shrublands, and other habitats. Prefers open country with scattered perches for hunting and fairly dense brush for nesting.	No	**Low.** The plant communities on the project site provide marginal foraging habitat.
Onychomys torridus tularensis Tulare grasshopper mouse	Fed: None CA: SSC	Occurs in low, open scrub and semiscrub habitats in arid, deserts and favors compact soils with sparse growth of perennial grasses intermixed with shrubs.	No	**Presumed Absent:** There is no suitable habitat within or adjacent to the project site.
Perognathus alticola inexpectatus Tehachapi pocket mouse	Fed: None CA: SSC	Occurs in native and non-native grasslands, Joshua tree woodland, pinyon-juniper woodland, yellow pone woodland, and oak savannah. Constructs burrows in loose, sandy soil.	No	**Presumed Absent:** There is no suitable habitat within or adjacent to the project site.
Perognathus inornatus San Joaquin pocket mouse	Fed: None CA: None	Occurs in dry, open grasslands or scrub areas on fine-textures soils between 1,100 and 2,000 feet in the Central and Salinas valleys. Digs own burrow for cover.	No	**Presumed Absent:** There is no suitable habitat within or adjacent to the project site.
Plegadis chihi white-faced ibis	Fed: None CA: WL	Prefers to feed in fresh emergent wetland, shallow lacustrine waters, muddy ground of wet meadows, and irrigated or flooded partures and croplands. Nests in dense, fresh emergent wetland.	No	**Presumed Absent:** There is no suitable habitat within or adjacent to the project site.

Scientific Name Common Name	**Status**	**Habitat**	**Observed On-site**	**Potential to Occur**
Taxidea taxus American badger	Fed: None CA: SSC	Primarily occupy grasslands, parklands, farms, tallgrass and shortgrass prairies, meadows, shrub-steppe communities and other treeless areas with sandy loam soils where it can dig more easily for its prey. Occasionally found in open chaparral (with less than 50% plant cover) and riparian zones.	No	**Low.** The project site supports marginally suitable habitat.
Toxostoma lecontei Le Conte's thrasher	Fed: None CA: CSC	Occurs primarily in desert washes and flats with scattered shrubs and large areas of open, sandy terrain in desert wash, desert scrub, alkali desert scrub, and desert succulent shrub habitats. Commonly nests in a dense, spiny shrub or densely branched cactus. Rarely found on rocky soils, hillsides, riparian, or on agricultural lands.	No	**Presumed Absent:** There is no suitable habitat within or adjacent to the project site.
Xanthocephalus xanthocephalus yellow-headed blackbird	Fed: None CA: SSC	Uncommon yearlong resident of southern California throughout freshwater emergent wetlands, and moist, open areas along agricultural areas, and mudflats of lacustrine habitats. Prefers to nest in dense wetland vegetation characterized by cattails, tules, or other similar plant species along the border of lakes and ponds.	No	**Presumed Absent:** There is no suitable habitat within or adjacent to the project site.
PLANT SPECIES				
Astralagus hornii* var. *hornii Horn's milk-vetch	Fed: None CA: None CNPS: 1B.1	Grows along lake margins, meadows, seeps, and playas in alkaline soils. Blooming period is from May to October. Grows in elevation from 197 to 2,789 feet.	No	**Presumed Absent:** There is no suitable habitat within or adjacent to the project site.
Calochortus striatus alkali mariposa-lily	Fed: None CA: None CNPS: 1B.2	Grows in seasonally moist alkaline soils in meadows, seeps, and ephemeral washes, especially within chaparral, chenopod scrub, and Mojavean desert scrub. Blooming period is from April to June. Grows in elevation from 230 to 5,233 feet.	No	**Low.** The project site supports marginal suitable habitat.
Chorizanthe spinosa Mojave spineflower	Fed: None CA: None CNPS: 4.2	Grows in alkaline or non-alkaline soils in chenopod scrub, Joshua tree woodland, Mojavean desert scrub, and playas. Blooming period is from March to July. Grows in elevation from 20 to 4,265 feet.	No	**Low.** The project site supports marginal suitable habitat.
Delphinium recurvatum recurved larkspur	Fed: None CA: None CNPS: 1B.2	Grows in alkaline soils in chenopod scrub, cismontane woodland, and valley and foothill grasslands. Blooming period is from March to June. Grows in elevation from 10 to 2,592 feet.	No	**Low.** The project site supports marginal suitable habitat.
Loeflingia squarrosa* var. *artemisiarum sagebrush loeflingia	Fed: None CA: None CNPS: 2B.2	Grows in sandy soils within desert dunes, Great Basin scrub, and Sonoran desert scrub habitats. Blooming period is from April to May. Grows in elevation from 2,297 to 5,299 feet.	No	**Low.** The project site supports marginal suitable habitat.

Scientific Name Common Name	**Status**	**Habitat**	**Observed On-site**	**Potential to Occur**
Perideridia pringlei adobe yampah	Fed: None CA: None CNPS: 4.3	Grows in serpentinite, often clay soils in chaparral, cismontane woodland, coastal scrub, and pinyon-juniper woodlands. Blooming period is from April to June or July, depending on seasonal rainfall. Grows in elevation from 984 to 5,906 feet.	No	**Presumed Absent:** There is no suitable habitat within or adjacent to the project site.
Syntrichopappus lemmonii Lemmon's syntrichopappus	Fed: None CA: None CNPS: 4.3	Occurs in sandy or gravelly soils within chaparral, Joshua tree woodland, and Pinyon and juniper woodland habitats. Found at elevations ranging from 1,640 to 6,004 feet above msl. Blooming period is from April to May (June).	No	**Presumed Absent:** There is no suitable habitat within or adjacent to the project site.

U.S. Fish and Wildlife Service (USFWS) - Federal
END- Federal Endangered
THR- Federal Threatened

California Department of Fish and Wildlife (CDFW) - California
END- California Endangered
THR- California Threatened
FP- California Fully Protected
SSC- California Species of Concern
WL- Watch List

California Native Plant Society (CNPS)
California Rare Plant Rank
1A Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
1B Plants Rare, Threatened, or Endangered in California and Elsewhere
2B Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere
4 Plants of Limited Distribution – A Watch List

Threat Ranks
0.1- Seriously threatened in California
0.2- Moderately threatened in California
0.3- Not very threatened in California

Appendix C Regulations

Special status species are native species that have been afforded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and state levels, depending on the magnitude of threat to continued existence and existing knowledge of population levels.

Federal Regulations

Endangered Species Act of 1973

Federally listed threatened and endangered species and their habitats are protected under provisions of the Federal Endangered Species Act (ESA). Section 9 of the ESA prohibits "take" of threatened or endangered species. "Take" under the ESA is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct." The presence of any federally threatened or endangered species that are in a project area generally imposes severe constraints on development, particularly if development would result in "take" of the species or its habitat. Under the regulations of the ESA, the United States Fish and Wildlife Service (USFWS) may authorize "take" when it is incidental to, but not the purpose of, an otherwise lawful act.

Critical Habitat is designated for the survival and recovery of species listed as threatened or endangered under the ESA. Critical Habitat includes those areas occupied by the species, in which are found physical and biological features that are essential to the conservation of an ESA listed species and which may require special management considerations or protection. Critical Habitat may also include unoccupied habitat if it is determined that the unoccupied habitat is essential for the conservation of the species.

Whenever federal agencies authorize, fund, or carry out actions that may adversely modify or destroy Critical Habitat, they must consult with USFWS under Section 7 of the ESA. The designation of Critical Habitat does not affect private landowners, unless a project they are proposing uses federal funds, or requires federal authorization or permits (e.g., funding from the Federal Highway Administration or a permit from the U.S. Army Corps of Engineers (Corps)).

If USFWS determines that Critical Habitat will be adversely modified or destroyed from a proposed action, the USFWS will develop reasonable and prudent alternatives in cooperation with the federal institution to ensure the purpose of the proposed action can be achieved without loss of Critical Habitat. If the action is not likely to adversely modify or destroy Critical Habitat, USFWS will include a statement in its biological opinion concerning any incidental take that may be authorized and specify terms and conditions to ensure the agency is in compliance with the opinion.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 U.S. Government Code [USC] 703) makes it unlawful to pursue, capture, kill, possess, or attempt to do the same to any migratory bird or part, nest, or egg of any such bird listed in wildlife protection treaties between the United States, Great Britain, Mexico, Japan, and the countries of the former Soviet Union, and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC 703; 50 CFR 10, 21).

The MBTA covers the taking of any nests or eggs of migratory birds, except as allowed by permit pursuant to 50 CFR, Part 21. Disturbances causing nest abandonment and/or loss of reproductive effort (i.e., killing or abandonment of eggs or young) may also be considered "take." This regulation seeks to protect migratory birds and active nests.

In 1972, the MBTA was amended to include protection for migratory birds of prey (e.g., raptors). Six families of raptors occurring in North America were included in the amendment: Accipitridae (kites, hawks, and eagles); Cathartidae (New World vultures); Falconidae (falcons and caracaras); Pandionidae (ospreys); Strigidae (typical owls); and Tytonidae (barn owls). The provisions of the 1972 amendment to the MBTA protects all species and subspecies of the families listed above. The MBTA protects over 800 species including geese, ducks, shorebirds, raptors, songbirds and many relatively common species.

State Regulations

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) provides for the protection of the environment within the State of California by establishing State policy to prevent significant, avoidable damage to the environment through the use of alternatives or mitigation measures for projects. It applies to actions directly undertaken, financed, or permitted by State lead agencies. If a project is determined to be subject to CEQA, the lead agency will be required to conduct an Initial Study (IS); if the IS determines that the project may have significant impacts on the environment, the lead agency will subsequently be required to write an Environmental Impact Report (EIR). A finding of non-significant effects will require either a Negative Declaration or a Mitigated Negative Declaration instead of an EIR. Section 15380 of the CEQA Guidelines independently defines "endangered" and "rare" species separately from the definitions of the California Endangered Species Act (CESA). Under CEQA, "endangered" species of plants or animals are defined as those whose survival and reproduction in the wild are in immediate jeopardy, while "rare" species are defined as those who are in such low numbers that they could become endangered if their environment worsens.

California Endangered Species Act (CESA)

In addition to federal laws, the state of California implements the CESA which is enforced by CDFW. The CESA program maintains a separate listing of species beyond the FESA, although the provisions of each act are similar.

State-listed threatened and endangered species are protected under provisions of the CESA. Activities that may result in "take" of individuals (defined in CESA as; "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") are regulated by CDFW. Habitat degradation or modification is not included in the definition of "take" under CESA. Nonetheless, CDFW has interpreted "take" to include the destruction of nesting, denning, or foraging habitat necessary to maintain a viable breeding population of protected species.

The State of California considers an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is considered as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the

absence of special protection or management. A rare species is one that is considered present in such small numbers throughout its range that it may become endangered if its present environment worsens. State threatened and endangered species are fully protected against take, as defined above.

The CDFW has also produced a species of special concern list to serve as a species watch list. Species on this list are either of limited distribution or their habitats have been reduced substantially, such that a threat to their populations may be imminent. Species of special concern may receive special attention during environmental review, but they do not have formal statutory protection. At the federal level, USFWS also uses the label species of concern, as an informal term that refers to species which might be in need of concentrated conservation actions. As the Species of Concern designated by USFWS do not receive formal legal protection, the use of the term does not necessarily ensure that the species will be proposed for listing as a threatened or endangered species.

Fish and Game Code

Fish and Game Code Sections 3503, 3503.5, 3511, and 3513 are applicable to natural resource management. For example, Section 3503 of the Code makes it unlawful to destroy any birds' nest or any birds' eggs that are protected under the MBTA. Further, any birds in the orders Falconiformes or Strigiformes (Birds of Prey, such as hawks, eagles, and owls) are protected under Section 3503.5 of the Fish and Game Code which makes it unlawful to take, possess, or destroy their nest or eggs. A consultation with CDFW may be required prior to the removal of any bird of prey nest that may occur on a project site. Section 3511 of the Fish and Game Code lists fully protected bird species, where the CDFW is unable to authorize the issuance of permits or licenses to take these species. Pertinent species that are State fully protected by the State include golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*). Section 3513 of the Fish and Game Code makes it unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Native Plant Protection Act

Sections 1900–1913 of the Fish and Game Code were developed to preserve, protect, and enhance Rare and Endangered plants in the state of California. The act requires all state agencies to use their authority to carry out programs to conserve Endangered and Rare native plants. Provisions of the Native Plant Protection Act prohibit the taking of listed plants from the wild and require notification of the CDFW at least ten days in advance of any change in land use which would adversely impact listed plants. This allows the CDFW to salvage listed plant species that would otherwise be destroyed.

California Native Plant Society Rare and Endangered Plant Species

Vascular plants listed as rare or endangered by the CNPS, but which have no designated status under FESA or CESA are defined as follows:

California Rare Plant Rank

1A- Plants Presumed Extirpated in California and either Rare or Extinct Elsewhere

1B- Plants Rare, Threatened, or Endangered in California and Elsewhere

2A- Plants Presumed Extirpated in California, But More Common Elsewhere

2B- Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

3- Plants about Which More Information is Needed - A Review List

4- Plants of Limited Distribution - A Watch List

Threat Ranks

.1- Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2- Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

.3- Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known).

California Desert Native Plants Act

The California Desert Native Plants Act (Division 23 of the California Food and Agriculture Code), was established to protect California desert native plants from unlawful harvesting on both public and privately owned lands. The Act also provides information necessary to legally harvest native plants so as to ultimately transplant those plants with the greatest possible chance of survival. The act further encourages public participation in implementing the safeguards established by this division and in evaluating the effectiveness and desirability of the safeguards.

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates activities pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the CDFG regulates activities under the Fish and Game Code Section 1600-1616, and the Regional Board regulates activities pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

Federal Regulations

Section 404 of the Clean Water Act

Since 1972, the Corps and U.S. Environmental Protection Agency (EPA) have jointly regulated the filling of "waters of the U.S.," including wetlands, pursuant to Section 404 of the Clean Water Act (CWA). The Corps has regulatory authority over the discharge of dredged or fill material into the waters of the United States under Section 404 of the CWA. The Corps and EPA define "fill material" to include any "material placed in waters of the United States where the material has the effect of: (i) replacing any portion of a water of the United States with dry land; or (ii) changing the bottom elevation of any portion of the waters of the United States." Examples include, but are not limited to, sand, rock, clay, construction debris, wood chips, and "materials used to create any structure or infrastructure in the waters of the United States." In order to further define the scope of waters protected under the CWA, the Corps and EPA published the Clean Water Rule on June 29, 2015. Pursuant to the Clean Water Rule, the term "*waters of the United States*" is defined as follows:

(i) 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.

(ii) All interstate waters, including interstate wetlands[1].

(iii) The territorial seas.

(iv) All impoundments of waters otherwise defined as waters of the United States under the definition.

(v) All tributaries[2] of waters identified in paragraphs (i) through (iii) mentioned above.

(vi) All waters adjacent[3] to a water identified in paragraphs (i) through (v) mentioned above, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters.

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1 The term *wetlands* means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

2 The terms *tributary* and *tributaries* each mean a water that contributes flow, either directly or through another water (including an impoundment identified in paragraph (iv) mentioned above), to a water identified in paragraphs (i) through (iii) mentioned above, that is characterized by the presence of the physical indicators of a bed and banks and an ordinary high water mark.

3 The term *adjacent* means bordering, contiguous, or neighboring a water identified in paragraphs (i) through (v) mentioned above, including waters separated by constructed dikes or barriers, natural river berms, beach dunes, and the like.

(vii) All prairie potholes, Carolina bays and Delmarva bays, Pocosins, western vernals pools, Texas coastal prairie wetlands, where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (i) through (iii) meantioned above.

(viii) All waters located within the 100-year floodplain of a water identified in paragraphs (i) through (iii) mentioned above and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (i) through (v) mentioned above, where they are determined on a case-specific basis to have a significant nexus to a waters identified in paragraphs (i) through (iii) mentioned above.

The following features are not defined as "waters of the United States" even when they meet the terms of paragraphs (iv) through (viii) mentioned above:

(i) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act.

(ii) Prior converted cropland.

(iii) The following ditches:

- (A) Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.
- (B) Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.
- (C) Ditches that do not flow, either directly or through another water, into a water of the United States as identified in paragraphs (i) through (iii) of the previous section.

(iv) The following features:

- (A) Artificially irrigated areas that would revert to dry land should application of water to that area cease;
- (B) Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds;
- (C) Artificial reflecting pools or swimming pools created in dry land;
- (D) Small ornamental waters created in dry land;
- (E) Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water;
- (F) Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of a tributary, non-wetland swales, and lawfully constructed grassed waterways; and
- (G) Puddles.

(v) Groundwater, including groundwater drained through subsurface drainage systems.

(vi) Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.

(vii) Wastewater recycling structures constructed in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.

Section 401 of the Clean Water Act

Pursuant to Section 401 of the CWA, any applicant for a federal license or permit to conduct any activity which may result in any discharge to waters of the United States must provide certification from the State or Indian tribe in which the discharge originates. This certification provides for the protection of the physical, chemical, and biological integrity of waters, addresses impacts to water quality that may result from issuance of federal permits, and helps insure that federal actions will not violate water quality standards of the State or Indian tribe. In California, there are nine Regional Water Quality Control Boards (Regional Board) that issue or deny certification for discharges to waters of the United States and waters of the State, including wetlands, within their geographical jurisdiction. The State Water Resources Control Board assumed this responsibility when a project has the potential to result in the discharge to waters within multiple Regional Boards.

State Regulations

Fish and Game Code

Fish and Game Code Sections 1600 et. seq. establishes a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not adversely impact fish and wildlife resources, or, when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided.

Fish and Game Code Section 1602 requires any person, state, or local governmental agency or public utility to notify the CDFW before beginning any activity that will do one or more of the following:

(1) substantially obstruct or divert the natural flow of a river, stream, or lake;
(2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or
(3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

Fish and Game Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State. CDFW's regulatory authority extends to include riparian habitat (including wetlands) supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, the CDFW takes jurisdiction to the top of bank of the stream or to the outer limit of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. A Section 1602 Streambed Alteration Agreement would be required if impacts to identified CDFW jurisdictional areas occur.

Porter Cologne Act

The California *Porter-Cologne Water Quality Control Act* gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Porter-Cologne Act has become an important tool in the post SWANCC and Rapanos regulatory environment, with respect to the state's authority over isolated and insignificant waters. Generally, any person proposing to discharge waste into a water body that could affect its water quality must file a Report of Waste Discharge in the event that there is no Section 404/401 nexus. Although "waste" is partially defined as any waste substance associated with human habitation, the Regional Board also interprets this to include fill discharged into water bodies.

Appendix D.2

Gem Hill Quary Project Delineation of State and Federal Jurisdictional Waters

GEM HILL PROJECT

ROSAMOND, KERN COUNTY, CALIFORNIA

Delineation of State and Federal Jurisdictional Waters

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Updated January 2022

GEM HILL PROJECT

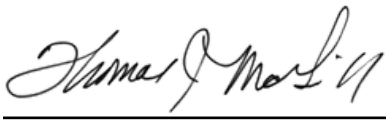
ROSAMOND, KERN COUNTY, CALIFORNIA

Delineation of State and Federal Jurisdictional Waters

The undersigned certify that the statements furnished in this report and exhibits present data and information required for this biological evaluation, and the facts, statements, and information presented is a complete and accurate account of the findings and conclusions to the best of our knowledge and beliefs.



Travis J. McGill
Biologist/Director



Thomas J. McGill, Ph.D.
Managing Director

October 2020
Updated January 2022

Executive Summary

ELMT Consulting (ELMT) has prepared this Delineation of State and Federal Jurisdictional Waters Report for the Gem Hill Project (project site or site) located in unincorporated Kern County, California. The jurisdictional delineation documents the regulatory authority of the U.S. Army Corps of Engineers (Corps), the Regional Water Quality Control Board (Regional Board), and the California Department of Fish and Wildlife (CDFW) pursuant to Section 401 and 404 of the Federal Clean Water Act (CWA), the California Porter-Cologne Water Quality Control Act, and Sections 1600 *et. seq.* of the California Fish and Game Code.[1]

Nine (9) unnamed ephemeral drainage features (Drainages 1-9) were observed within the boundaries of the project site during the field delineation. All of the onsite drainage features generally flow in a northwest to southeast direction across the project site. The onsite drainages are located at the top of the watershed, originating on the steep slopes along the western northwestern boundary of the site. These features only convey surface flow in direct response to precipitation, and do not support riparian vegetation. All of the onsite drainage features, after flowing offsite, eventually converge into one drainage and terminate approximately 4 miles southeast of the project site at the Rosamond Skypark (airport). The onsite drainage features do not have a surface hydrologic connection to downstream waters of the United States; however, the onside drainage will fall under the regulatory authority of the Regional Board as waters of the State, and, potentially, CDFW as jurisdictional streambed.

Table ES-1, *Jurisdictional Areas and Impacts*, identifies the onsite jurisdictional features including the total acreage of jurisdiction for each regulatory agency within the boundaries of the project site and proposed project impacts to jurisdiction.

Table ES-1: Jurisdictional Areas and Impacts

Jurisdictional Feature	Stream Flow	Cowardin Class	Class of Aquatic Resource	Regional Board Waters of the State				CDFW Streambed			
				On-Site Jurisdiction		Jurisdictional Impacts		On-Site Jurisdiction		Jurisdictional Impacts	
				Acreage	Linear Feet	Acreage	Linear Feet	Acreage	Linear Feet	Acreage	Linear Feet
Drainages 1-9	Ephemeral	Riverine	Non-Section 10 Non-Wetland	0.79	19,526	0.28	7,894	0.79	19,526	0.28	7,894
TOTALS				**0.79**	**19,526**	**0.28**	**7,894**	**0.79**	**19,526**	**0.28**	**7,894**

The onsite drainage features exhibit characteristics consistent with the Regional Board's methodology and would be considered jurisdictional waters of the State. Approximately 0.79 acre (19,526 linear feet) of non-

[1] The field surveys for this jurisdictional delineation were conducted on September 25, 2019 and May 9, 2020 pursuant to the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Corps 2008); and *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (Corps 2017); *The MESA Field Guide: Mapping Episodic Stream Activity* (CDFW 2014); and a *Review of Stream Processes and Forms in Dryland Watersheds* (CDFW 2010).

wetland waters of the State occur onsite. Approximately 0.28 acre (7,894 liner feet) of impacts will occur to Regional Board waters of the State.

Likewise, even though there will be no impact to existing fish and wildlife resources, the onsite drainage features exhibit characteristics consistent with CDFW's methodology and would be considered CDFW streambed. Approximately 0.79 acre (19,526 linear feet) of CDFW jurisdiction was mapped within boundaries of the project site. Approximately 0.28 acre (7,894 liner feet) of impacts will occur to CDFW jurisdictional streambed.

Any impacts to on-site jurisdictional areas will likely require a Regional Board Report of Waste Discharge permit prior to project implementation. Impacts to onsite jurisdictional areas may require a CDFW Section 1602 Lake or Streambed Alteration Agreement. Refer to Sections 1-7 for a detailed analysis of site conditions and regulatory requirements.

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Section 1 Introduction

This delineation has been prepared for the proposed Gem Hill Project (project site or site) in order to document the potential jurisdictional authority of the U.S. Army Corps of Engineers (Corps), the Regional Water Quality Control Board (Regional Board), and the California Department of Fish and Wildlife (CDFW) pursuant to Section 401 and 404 of the Federal Clean Water Act (CWA), the California Porter-Cologne Water Quality Control Act and Sections 1600 *et seq.* of the California Fish and Game Code. The analysis presented in this report is supported by field surveys and verification of site conditions conducted on September 25, 2019 and May 9, 2020.

This jurisdictional delineation explains the methodology undertaken by ELMT Consulting (ELMT) to define the regulatory authority of the aforementioned regulatory agencies and documents the findings made by ELMT. This report documents the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies.

1.1 PROJECT LOCATION

The project site is generally located west of State Route 14, south of State Route 58, north of State Route 138, and east of the Tehachapi Mountains northwest of Rosamond, unincorporated Kern County, California (Exhibit 1, *Regional Vicinity*). The project site is depicted on the Soledad Mountain quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic map series within Sections 25, 26, 35 and 36 of Township 10 North, Range 13 West (Exhibit 2, *Site Vicinity*). Specifically, the project site is located west of Mojave Tropico Road within the northwestern portion of the Rosamond Hills approximately 3.8 miles north of Rosamond Boulevard and approximately 2.3 miles south of Backus Road (Exhibit 3, *Project Site*). The project site is located within Assessor Parcel Number (APN) 0345-032-31, -05 and 0345-031-02.

1.2 PROJECT DESCRIPTION

The proposed project is the development and subsequent reclamation of a 35-acre quarry within a 210-acre project area. The quarry is located within approximately 778 acres of land owned by CalPortland. The Surface Mining and Reclamation Plan describes the planned operations for a period of 30 years from approval or through the year 2050. The Proposed Project is planned to be developed on a proposed total disturbance area of approximately 82 acres.

The planned operation includes the quarry, two overburden stockpiles, stormwater basins for potential run-off, an equipment storage area, a water well, scale, and access roads on a proposed disturbance area of approximately 82 acres. Typical mining operations will consist of blasting about once per week, dozing, and stockpiling the tuff materials for haulage offsite. The material will be loaded onto on-road trucks and hauled to existing cement production facilities. The material does not require crushing or processing, therefore, there will be no processing plant operations conducted on-site, limiting the production of dust and noise on-site. An access road at Mojave Tropico Road will serve as the main ingress and egress for the Proposed Project.



GEM HILL
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

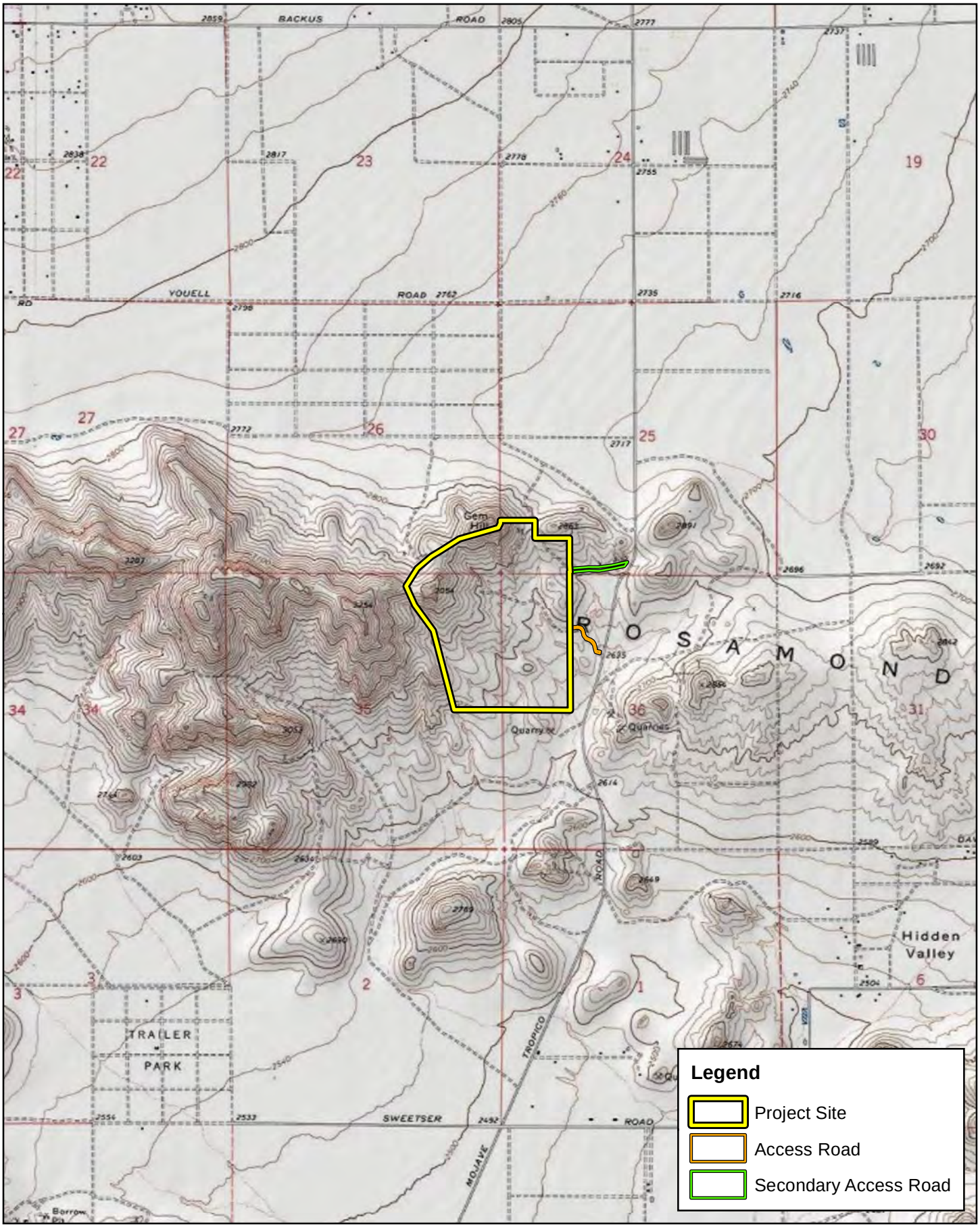
Regional Vicinity

ELMT CONSULTING

0 5 10 20 Miles

Source: Federal Highway Administration, US Department of Transportation

Exhibit 1



ELMT CONSULTING

0 1,250 2,500 5,000 Feet

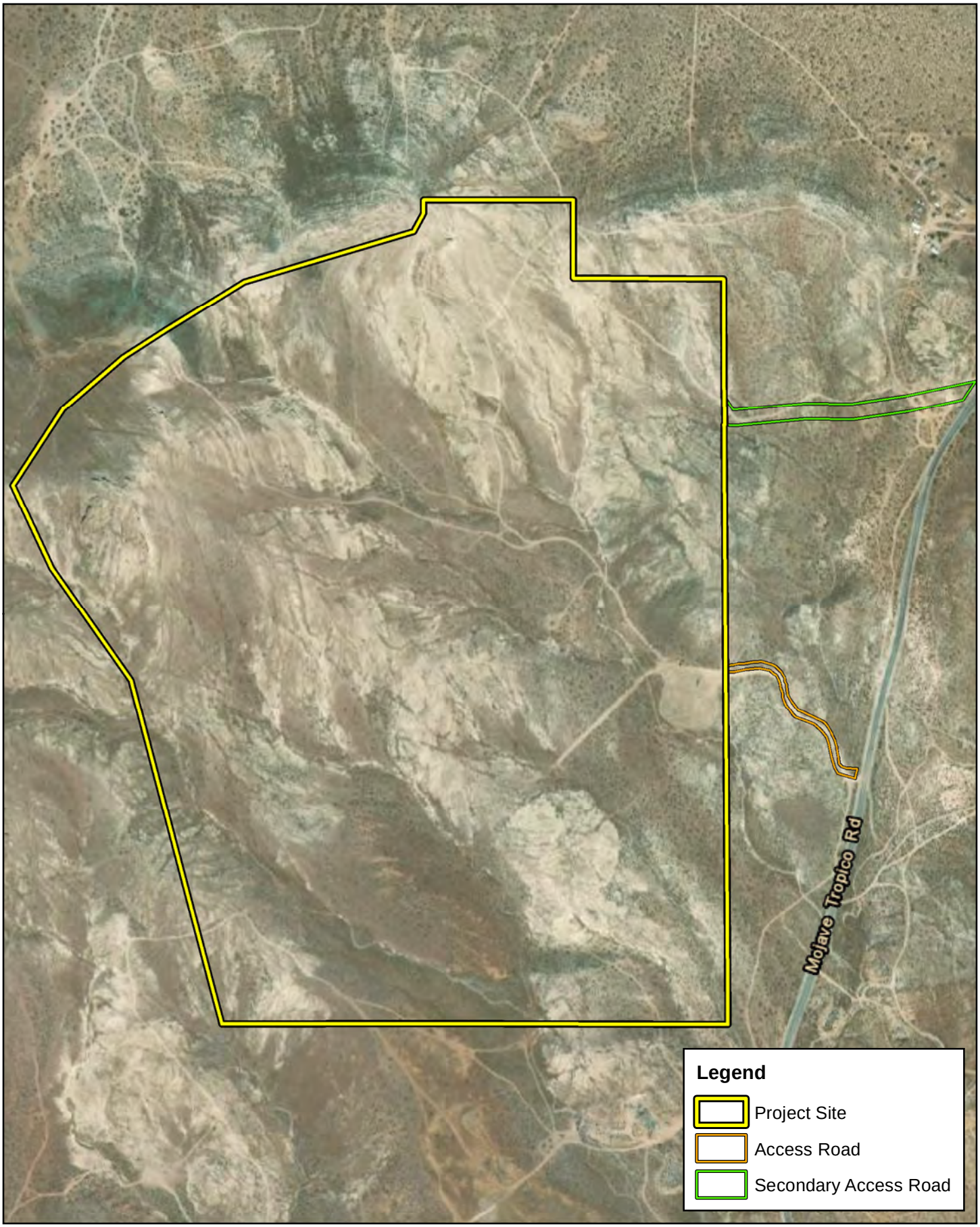
Source:USA Topographic Maps, Kern County

GEM HILL

DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Site Vicinity

Exhibit 2



GEM HILL
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERST

ELMT CONSULTING

0 250 500 1,000 Feet

Source: ESRI Aerial Imagery, Kern County

Project Site

Exhibit 3

Section 2 Regulations

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Division regulates activities pursuant to Section 404 of the CWA, Section 10 of the Rivers and Harbors Act, and Section 103 of the Marine Protection, Research, and Sanctuaries Act. The Regional Board regulates activities pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act and the CDFW regulates activities under Sections 1600 *et seq*. of the California Fish and Game Code.

2.1 U.S. ARMY CORPS OF ENGINEERS

Since 1972, the Corps and U.S. Environmental Protection Agency (EPA) have jointly regulated the discharge of dredged or fill material into waters of the United States, including wetlands, pursuant to Section 404 of the CWA. The Corps and EPA define "fill material" to include any "material placed in waters of the United States where the material has the effect of: (i) replacing any portion of a water of the United States with dry land; or (ii) changing the bottom elevation of any portion of the waters of the United States." Examples include, but are not limited to, sand, rock, clay, construction debris, wood chips, and "materials used to create any structure or infrastructure in the waters of the United States."

On April 21, 2020, the Environmental Protected Agency and Corps published a final rule defining the scope of waters subject to federal regulation under the Clean Water Act ("Navigable Waters Protection Rule"). The rule codifies the long-standing exclusion of "water-filled depressions constructed or excavated upland or in non-jurisdictional waters incidental to mining or construction activity, and pits excavated in upland or in non-jurisdictional waters for the purpose of obtaining fill, sand, or gravel." (33 CFR 328.3(b)(9); *see also* 85 FR 22252, 22323 (Apr. 21, 2020).)

However, on August 30, 2021, the United States District Court vacated the 2020 EPA final rule (*Pascua Yaqui Tribe vs. Environmental Protection Agency*) and reverted back to the Pre-2015 regulatory definition and practice.

2.2 REGIONAL WATER QUALITY CONTROL BOARD

Pursuant to Section 401 of the CWA, any applicant for a federal license or permit to conduct any activity which may result in any discharge to waters of the United States must provide certification from the State or Indian tribe in which the discharge originates. This certification provides for the protection of the physical, chemical, and biological integrity of waters, addresses impacts to water quality that may result from issuance of federal permits and helps insure that federal actions will not violate water quality standards of the State or Indian tribe. In California, there are nine Regional Boards that issue or deny certification for discharges to waters of the United States and waters of the State, including wetlands, within their geographical jurisdiction. The State Water Resources Control Board (SWRCB) assumes this responsibility when a project has the potential to result in the discharge to waters within multiple Regional Boards.

Additionally, the California Porter-Cologne Water Quality Control Act gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline

waters. The Porter-Cologne Water Quality Control Act has become an important tool post *Solid Waste Agency of Northern Cook County vs. United States Corps of Engineers*[2] (SWANCC) and *Rapanos v. United States*[3] (Rapanos) court cases with respect to the State's regulatory authority over isolated and insignificant waters. Generally, any applicant proposing to discharge waste into a water body must file a Report of Waste Discharge in the event that there is no Section 404/401 nexus. Although "waste" is partially defined as any waste substance associated with human habitation, the Regional Board also interprets this to include discharge of dredged and fill material into water bodies.

Under the State Water Resources Control Board Sate Wetland Definition, an area is a wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

2.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Sections 1600 *et seq.* of the California Fish and Game Code establishes a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not substantially adversely impact fish and wildlife resources, or, when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided. Pursuant to Section 1602 of the California Fish and Game Code, a notification must be submitted to the CDFW for any activity that will divert or obstruct the natural flow or alter the bed, channel, or bank (which may include associated biological resources) of a river or stream or use material from a streambed. One CDFW guidance document[4], although not a formally adopted rule or policy, requires notification for activities taking place within rivers or streams that flow perennially or episodically and that are defined by the area in which surface water currently flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical and biological indicators. If the project will not "substantially adversely affect an existing fish or wildlife resource," following notification to CDFW, the project may commence without an agreement with CDFW. (Fish & G. Code, § 1602(a)(4)(A)(i).)

[2] Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 531 U.S. 159 (2001)
[3] Rapanos v. United States, 547 U.S. 715 (2006)
[4] A Review of Stream Processes and Forms in Dryland Watersheds (CDFG 2010)

Section 3 Methodology

The analysis presented in this report is supported by field surveys and verification of site conditions conducted on September 25, 2019 and May 9, 2020. ELMT conducted a field delineation to determine the jurisdictional limits of "waters of the United States", "waters of the State" and jurisdictional streambed (including potential wetlands), located within the boundaries of the project site. While in the field, jurisdictional features were recorded on an aerial base map at a scale of 1" = 50' using topographic contours and visible landmarks as guidelines. Data points were obtained with a Garmin Map62 Global Positioning System to record and identify specific widths for ordinary high water mark (OHWM) indicators and the locations of photographs, soil pits, and other pertinent jurisdictional features, if present. This data was then transferred as a .shp file and added to the Project's jurisdictional exhibits. The jurisdictional exhibits were prepared using ESRI ArcInfo Version 10 software.

3.1 WATERS OF THE UNITED STATES

In the absence of adjacent wetlands, the limits of the Corps jurisdiction in non-tidal waters extend to the OHWM, which is defined as "*. . . that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.*"[5] Indicators of an OHWM are defined in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Corps 2008). An OHWM can be determined by the observation of a natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; presence of litter and debris; wracking; vegetation matted down, bent, or absent; sediment sorting; leaf litter disturbed or washed away; scour; deposition; multiple observed flow events; bed and banks; water staining; and/or change in plant community.

Pursuant to the Corps Wetland Delineation Manual (Corps 1987), the identification of wetlands is based on a three-parameter approach involving indicators of hydrophytic vegetation, hydric soils, and wetland hydrology. In order to qualify as a wetland, a feature must exhibit at least minimal characteristics within each of these three parameters. It should also be noted that both the Regional Board and CDFW follow the methods utilized by the Corps to identify wetlands. For this project location, Corps jurisdictional wetlands are delineated using the methods outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Corps 2008).

3.2 WATERS OF THE STATE

3.2.1 REGIONAL WATER QUALITY CONTROL BOARD

The California *Porter-Cologne Water Quality Control Act* gives the Regional Board very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline

[5] CWA regulations 33 CFR §328.3(e).

waters. The Regional Board shares the Corps' methodology for delineating the limits of jurisdiction based on the identification of OHWM indicators and utilizing the three parameter approach for wetlands.

3.2.2 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Evaluation of CDFW jurisdiction followed guidance in the Fish and Game Code and *A Review of Stream Processes and Forms in Dryland Watersheds* (CDFG 2010). In general, under Section 1602 of the Fish and Game Code, CDFW jurisdiction extends to the maximum extent or expression of a stream on the landscape (CDFG 2010). It has been the practice of CDFW to define a stream as "a body of water that flows perennially or episodically and that is defined by the area in a channel, which water currently flows, or has flowed over a given course during the historic hydrologic course regime, and where the width of its course can reasonably be identified by physical or biological indicators" (Brady and Vyverberg 2013). Thus, a channel is not defined by a specific flow event, nor by the path of surface water as this path might vary seasonally. Rather, it is CDFW's practice to define the channel based on the topography or elevations of land that confine the water to a definite course when the waters of a creek rise to their highest point.

Data was collected on the bank-to-bank width and active channel width along the drainage features. During the field surveys, the extent of CDFW jurisdiction, was synonymous with that of the Regional Board since the onsite drainage features were incised, in the upper reaches of the local watershed, and did not support riparian vegetation.

Section 4 Literature Review

ELMT conducted a thorough review of relevant literature and materials to preliminarily identify areas that may fall under the jurisdiction of the regulatory agencies. A summary of materials utilized during ELMT's literature review is provided below and in Appendix A. In addition, refer to Section 8 for a complete list of references used throughout the course of this delineation.

4.1 WATERSHED REVIEW

The project site is located within the Antelope-Fremont Valley Watershed (HUC 18090206). The Fremont Valley Watershed receives surface water runoff from Lone Tree Canyon, Cache Creek, and other ridges adjacent to the area. Throughout most of this watershed surface water drains toward Koehn Lake, which is a generally dry lake about 20 miles northeast of the community of Mojave. The Antelope Valley Watershed receives surface water runoff from the San Gabriel Mountains and the Tehachapi Mountains, including Big Rock Creek, Littlerock Creek, Oak Creek, and Cottonwood Creek. There are multiple intermittent or ephemeral waterways in the area which convey surface water runoff to Rosamond Lake during extreme rain events. Rosamond Lake, which is located on Edwards Air Force Base northeast of Lancaster, remains dry most of the year.

The project site is located on the northern boundary of the Antelope Valley Watershed and surface water runoff flows southeast towards Rosamond. The Antelope Valley Watershed is a large, closed basin in the western Mojave Desert. This watershed straddles the Los Angeles-Kern County line and drains a total of 3,387 square miles. Approximately 80 percent of the watershed is characterized by a low to moderate slope (0-7 percent). The remaining 20 percent consists of foothills and rugged mountains, some of which reach up to 3,600 feet in elevation. The floor of the Antelope Valley Watershed generally lacks defined natural channels outside of the foothills and is subsequently subject to unpredictable sheet flow patterns (SDLAC, 2005). The Antelope Valley Watershed is a closed basin with no outlets to the ocean. All water that enters the watershed either infiltrates into the underlying groundwater basin, or flows toward three playa lakes located near the center of the watershed.

4.2 LOCAL CLIMATE

The Mojave Desert is found at elevations of 2,000 to 5,000 feet above mean sea level (msl) and is characterized by cool winter temperatures and warm summer temperatures, with its rainfall occurring almost entirely in the winter. Climatological data obtained from nearby weather stations indicated the annual precipitation in Rosamond averages 5.87 inches per year. Almost all of the precipitation occurs November through March, with hardly any occurring between May and August. The wettest month of February, with a monthly average total of 1.23 inches. The average maximum and minimum temperatures for Rosamond are 96.2 and 57.1 degrees Fahrenheit (°F), respectively with July and August being the hottest months and December and January being the coldest. Temperatures during the site visits were in the mid-60s to high-70s (degrees Fahrenheit) with light winds and no cloud cover.

4.3 USGS TOPOGRAPHIC QUADRANGLE

The USGS 7.5 Minute Series Topographic Quadrangle maps show geological formations and their characteristics, describing the physical setting of an area through contour lines and major surface features including lakes, rivers, streams, buildings, landmarks, and other factors that may fall under an agency's jurisdiction. Additionally, the maps depict topography through color and contour lines, which are helpful in determining elevations and latitude and longitude within the project site.

The project site is located within the Soledad Mountain quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic map series in within Sections 25, 26, 35 and 36 of Township 10 North, Range 13 West. According to the topographic map, the project site consists entirely of vacant/undeveloped land within the Rosamond Hills, west of Mojave Tropico Road, with the northwest corner of the project site being mapped at Gem Hill. An existing quarry is mapped immediately south of the project site, and the northwest corner of the site

On-site elevation ranges from approximately 2,620 to 3,050 feet above mean sea level and generally slopes from northwest to southeast. The northwestern portion of the site supports steep slopes that extend southeast to flat areas on the eastern portion of the site.

4.4 AERIAL PHOTOGRAPHS

Prior to conducting the field delineation, ELMT reviewed current and historical aerial photographs (1994-2017) of the project as available from Google Earth Pro Imaging. Aerial photographs can be useful during the delineation process, as they often indicate the presence of drainage features and riverine habitat within the boundaries of the project site, if any.

The project site is located in the northwest portion of Rosamond Hills in a primarily undeveloped area in southeastern Kern County. Minimal development occurs in proximity to the project site. Scattered residential plots occur to the north, and undeveloped, vacant land occurs to the east, south, and west. The nearest residential development is located approximately 844 feet northeast of the northeast corner of the project site. There is also a solar panel field approximately 1.2 miles to the southwest of the project site on the western side of the Rosamond Hills.

The project site primarily consists of vacant, undeveloped land with several dirt access road that traverse the site. The steeper slopes of the project site are barren or support minimal vegetation (<5% cover) while the flatland areas at the bottom of the slopes support a denser (<30% cover) cover of vegetation. Refer to Appendix B, *Site Photographs,* for representative site photographs. The project site has undergone minimal changes since 1994.

4.5 SOILS

Soils within and adjacent to the Project site were researched prior to the field delineation using the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Custom Soil Resource Report for Kern County. Soil surveys furnish soil maps and interpretations originally needed in providing technical assistance to farmers and ranchers; in guiding other decisions about soil selection, use,

and management; and in planning, research, and disseminating the results of the research. In addition, soil surveys are now heavily utilized in order to obtain soil information with respect to potential wetland environments and jurisdictional areas (i.e., soil characteristics, drainage, and color).

According to the Custom Soil Resource Report, the project site is underlain by the following soil units: Arizo gravelly loam sand (2 to 9 percent slopes), Cajon sand (5 to 15 percent slopes), Porterville cobbly clay (5 to 9 percent slopes), and rock outcrop (Exhibit 4, *Soils*). The Arizo series consists of very deep, excessively drained soils that formed in mixed alluvium on recent alluvial fans, inset fans, fan apron, fan skirts, stream terraces, floodplains of intermittent streams and channels. The Porterville series consists of deep, well drained soils that formed in fine textured alluvial material from basic and metabasic igneous rock on fans and foothills.

4.6 HYDRIC SOILS LIST OF CALIFORNIA

ELMT reviewed the USDA NRCS Hydric Soils List of California in an effort to verify whether on-site soils are considered to be hydric[6]. It should be noted that lists of hydric soils along with soil survey maps provide off-site ancillary tools to assist in wetland determinations, but they are not a substitute for field investigations. The presence of hydric soils is initially investigated by comparing the mapped soil series for the site to the County list of hydric soils. According to the hydric soils list, none of the onsite soils have been listed as hydric in Kern County Southeastern Park.

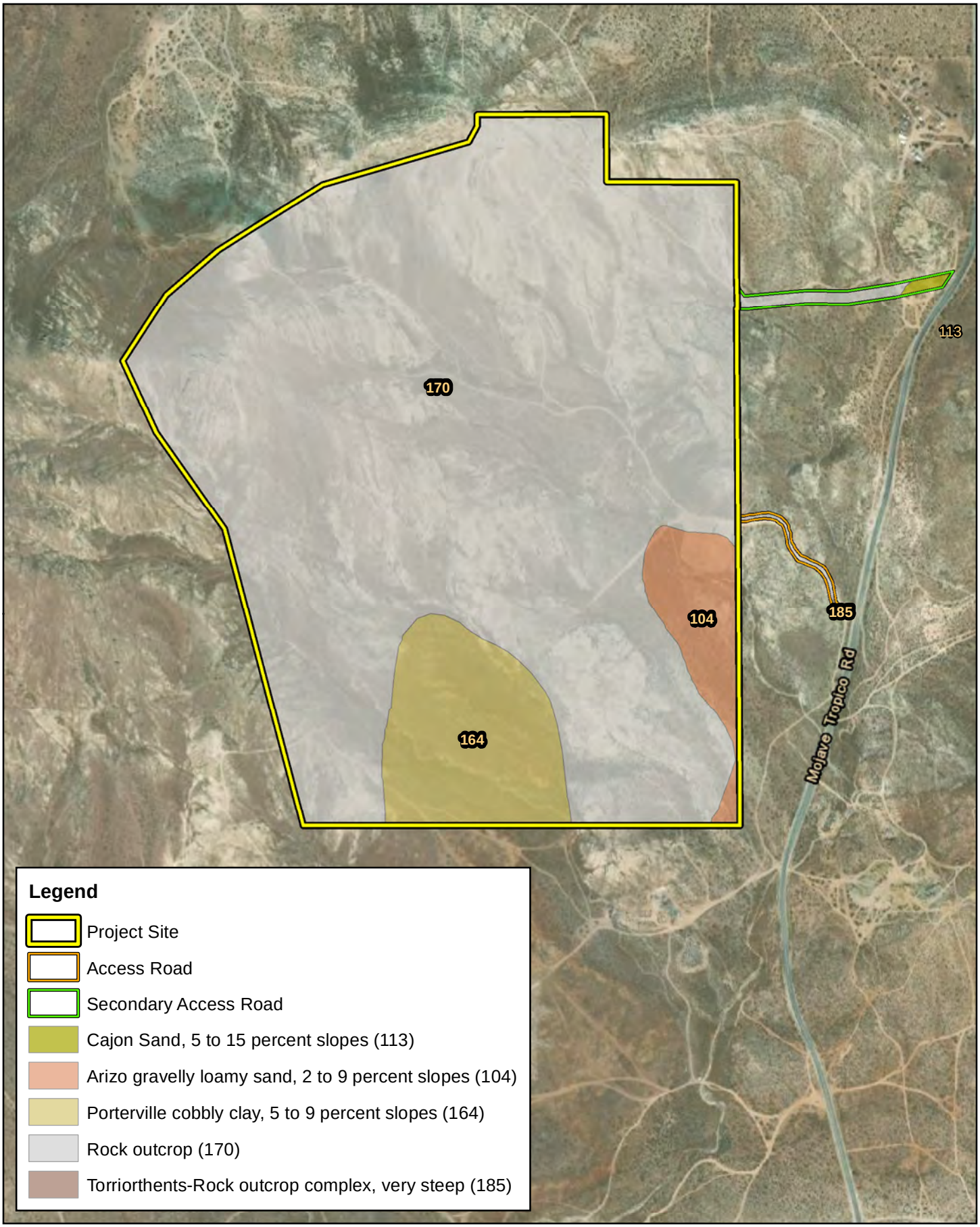
4.7 NATIONAL WETLANDS INVENTORY

ELMT reviewed the U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory maps. The NWI map depicts five (5) riverine resources flowing from northwest to southeast across the project site. No other resources have been mapped on the project site or in the immediate vicinity of the project site. Refer to Appendix B, *Documentation*.

4.8 FLOOD ZONE

The Federal Emergency Management Act (FEMA) website was searched for flood data for the project site. Based on Flood Insurance Rate Map No. 06029C3675E the project site is located within Zone X – areas determined to be outside the 0.2% annual chance floodplain. Refer to Appendix B, *Documentation*.

[6] A hydric soil is a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part.



ELMT CONSULTING

0 250 500 1,000 Feet

Source: ESRI Aerial Imagery, Soil Survey Geographic Database, Kern County

GEM HILL

DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Soils

Exhibit 4

Section 5 Site Conditions

ELMT biologists Travis J. McGill, and Jacob H. Lloyd Davies conducted a field delineation on September 25, 2019 and May 9, 2020 to verify existing site conditions and document the extent of potential jurisdictional areas within the boundaries of the project site. ELMT field staff encountered no limitations during the field delineation.

5.1 ON-SITE FEATURES

5.1.1 DRAINAGE FEATURES

Nine (9) unnamed ephemeral drainage features (Drainages 1-9) were observed within the boundaries of the project site during the field delineation. ELMT carefully assessed the site for depressions, inundation, presence of hydrophytic vegetation, staining, cracked soil, ponding, and indicators of active surface flow and corresponding physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris. Suspected jurisdictional areas were checked for the presence of definable channels, soils, and hydrology.

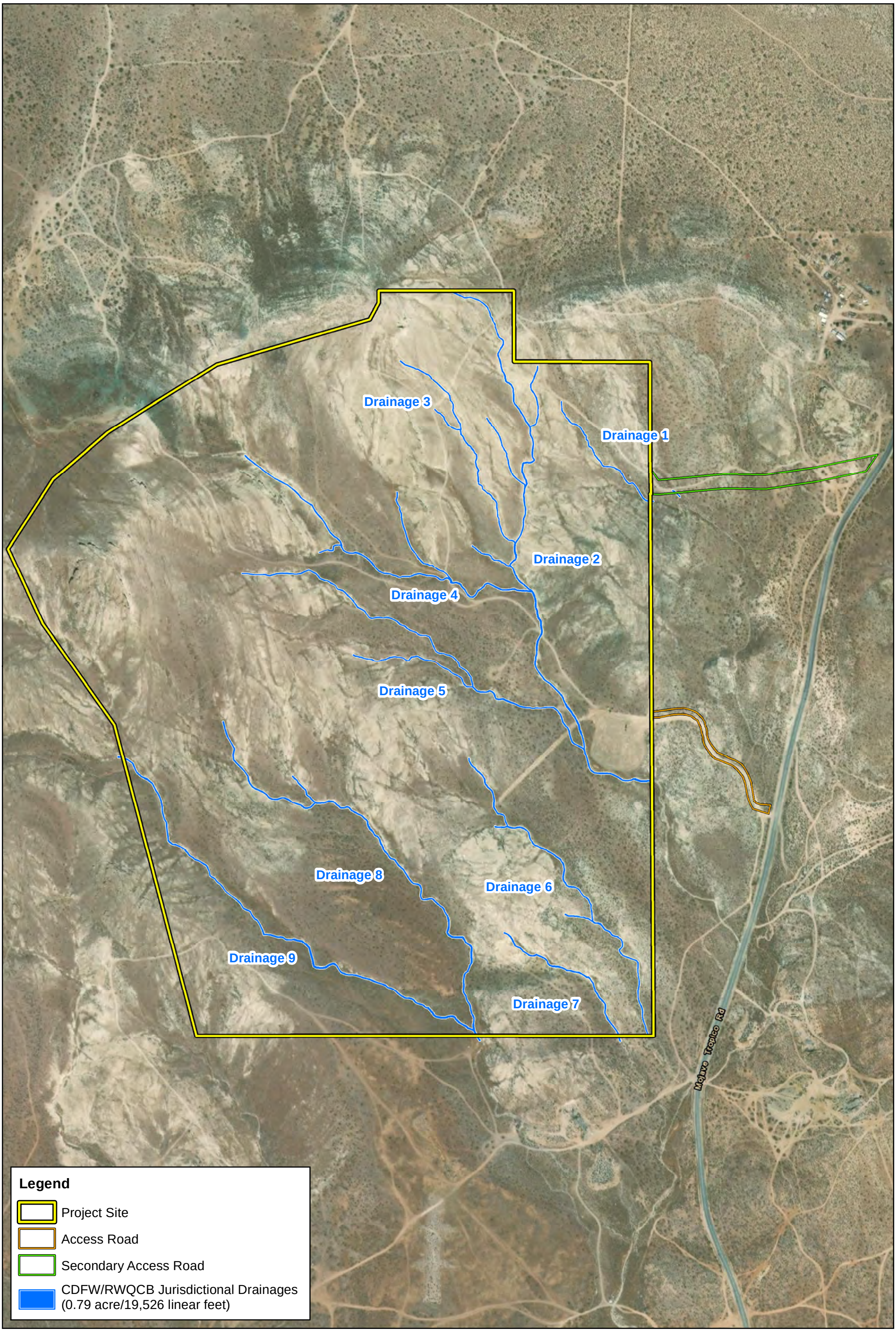
All of the onsite drainage features generally flow in a northwest to southeast direction across the project site. No surface water was present within the drainage during the site visit; however, evidence of an OHWM was observed via scour, changes in substrate, shelving, and lack of vegetation. Across all of the drainage features, the OWHM ranged from approximately 1-5 feet in width throughout the length of the drainages. The onsite drainages are located at the top of the watershed, originating on the steep slopes along the western northwestern boundary of the site. These features only convey surface flow in direct response to precipitation, and do not support riparian vegetation.

All of the onsite drainage features, after flowing offsite, eventually converge into one drainage and terminate approximately 4 miles southeast of the project site at the Rosamond Skypark (airport). The onsite drainage features do not have a surface hydrologic connection to downstream waters of the United States; however, the onside drainage will fall under the regulatory authority of the Regional Board as waters of the State, and, potentially, CDFW as jurisdictional streambed.

The drainages feature, at the origin, primarily consisted of rock with minimal vegetation. However, as the drainages extended across the site, they became more vegetated, consisting primarily of upland scrub indicative of the surrounding area. Common plant species observed in association with the onsite drainages include creosote, burrobush (*Ambrosia dumosa*), California buckwheat (*Eriogonum fasciculatum*), beavertail (*Opuntia basilaris*), chia (*Salvia columbariae*), Mormon tea (*Ephedra nevadensis*), cheesebush (*Ambrosia salsola*), matchweed (*Gutierrezia californica*), cryptantha (*Cryptantha* sp.), blackbush (*Coleogyne ramosissima*), allscale (*Atriplex polycarpa*), red brome (*Bromus madritensis* ssp. *rubens*), and Mediterranean grass (*Schismus* sp.). Of the common plant species observed, it should be noted that only red brome and Mediterranean grass are the only non-native/invasive plant species. None of these plants are threatened, endangered, or have special status in California.

5.1.2 WETLAND FEATURES

In order to qualify as a wetland, a feature must exhibit all three wetland parameters (i.e., vegetation, soils, and hydrology) described in the Corps Arid West Regional Supplement. Although evidence of hydrology (i.e., scour, changes in substrate, shelving) was present within the onsite drainages, these areas were primarily dominated by upland plant species. Further, water does not persist long enough on the project site to create hydric soil (anaerobic) conditions, and none of the onsite drainages supported a dominance of hydrophytic vegetation. As a result, none of the onside drainage features meet the Corps' or Regional Board's wetland definition to qualify as jurisdictional wetlands.



GEM HILL
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Jurisdictional Areas

Exhibit 5

Section 6 Alternative Imapct Analysis

In order to ensure the Least Environmentally Damaging Practicable Alternative (LEDPA) was selected for the project design, four (4) onsite alternatives and one (1) off-site alternative were evaluated. The alternatives analyzed for this project are provide below:

- **Proposed Project (LEDPA)** removed the sedimentation basins from natural drainages and realigned other pads and roads to avoid drainages as much as feasible – 9-10-20.
  Jurisdictional Impacts: **0.28 acre/7,894 linear feet (Exhibit 6 below)**

- **Alternative 1** maximizes the reserves and production with two quarry areas and a larger overburden stockpile along the southern boundary extending west to east across most of the southern boundary area. This alternative effectively cuts off all flows through the site.
  Jurisdictional Impacts: **0.48 acre/11,791 linear feet (Exhibit 7a in Appendix)**

- **Alternative 2** removes the "South Quarry" resulting in loss of 13.9 million tons of ore reserves. The large southern overburden still cuts off natural flows through the site and two stream channel diversions were planned. Run-off control basins were designed to capture on-site flows but impacted additional drainages
  Jurisdictional Impacts: **0.50 acre/12,534 linear feet (Exhibit 7b in Appendix)**

- **Alternative 3** redesigned the overburden stockpile into two smaller stockpiles avoiding natural drainages; sedimentation basins still within natural drainages.
  Jurisdictional Impacts**: 0.36 acre/10,077 linear feet (Exhibit 7c in Appendix C)**

- **Off-Site Alternative** – CalPortland holds unpatented mining claims on approximately 145 acres located approximately 35 miles north-northeast of the Town of Mojave, three miles east of SR 14. This site is located on public lands managed by the BLM and requires the approval of a Plan of Operations with National Environmental Protection Act (NEPA) review as well as approval of a reclamation plan and compliance with CEQA through Kern County.

  CalPortland submitted a POO in 2010 that would impact approximately 34.5 acres with ore reserves estimated at 420,000 tons with production to average 30,000 tons/year for 20 years.
  The BLM prepared an Environmental Assessment (EA) in 2012 that assessed potential impacts from the proposed action. The site has potentially significant impacts related to biological resources including two listed species, desert tortoise and the Mojave ground squirrel, requiring consultation and Federal Endangered Species Act and California Endangered Species Act "take" permits from the U.S. Fish and Wildlife Service and the CDFW.

  Due to the greater distance to the market longer truck trips would increase diesel exhaust emissions, road maintenance, and fuel usage. The La Pozz Mine does not have the long-term reserves on-site (420,000 tons) as compared to Gem Hill (16 million tons); and would not be able to meet the annual production rates (30,000 tons/year as compared to 500,000 tons/year) needed to meet the needs of

the Mojave Cement Plant. In addition, the site is on public lands and permits on BLM managed lands can be very time-consuming. It is reasonable to assume that potential environmental impacts for development of a mine similar in annual production and reserves would create substantially greater impacts than the Proposed Project.

Section 7 Findings

This report presents ELMT's best effort at determining the extent of jurisdictional features using the most up-to-date regulations, written policy, and guidance from the regulatory agencies. Please refer to the following sections for a summary of jurisdictional areas within the project site and Tables 1 and 2.

7.1 U.S. ARMY CORPS OF ENGINEERS DETERMINATION

7.1.1 WATERS OF THE UNITED STATES DETERMINATION

Prior to leaving the site, and after transmission losses, surface flows from the onsite drainages, after flowing offsite, eventually infiltrate before reaching the Rosamond Airport, approximately 4 miles south of the project site. The airport and development south of the airport have greatly reduced if not eliminated the onsite drainage features connectivity to any downstream waters of the United States.

As a result, the onsite drainage features do not possess a significant hydrologic connection to downstream waters of the United States. The discharge of the onsite drainages into downstream waters would be insignificant as the peak flows of the onsite drainages are not expected to impact the peak flows of downstream waters. Based on the detailed analysis of on-site hydrologic conditions, it was preliminarily determined that the onsite drainages have an insubstantial or speculative effect on the chemical, physical or biological significant nexus to downstream waters. The onsite drainage features are ephemeral features that only flow in direct response to precipitation, are not considered a perennial or intermittent tributary, and do not possess a significant nexus (surface hydrologic connection) to downstream waters of the United States.

Based on the proximity to downstream waters and the barriers that have reduced connectivity, and the general flow dynamics discussed throughout this report a significant nexus finding could not be established or supported, and, therefore, the onsite drainages would not be considered jurisdictional by the Corps.

7.1.2 FEDERAL WETLAND DETERMINATION

An area must exhibit all three wetland parameters described in the Corps Arid West Regional Supplement to be considered a jurisdictional wetland. Based on the results of the field delineation, it was determined that no areas within the project site met all three wetland parameters. Therefore, no jurisdictional wetland features exist within the project site.

7.2 REGIONAL WATER QUALITY CONTROL BOARD

7.2.1 WATERS OF THE STATE DETERMINATION

The onsite drainage features exhibit characteristics consistent with the Regional Board's methodology and would be considered jurisdictional waters of the State. Approximately 0.79 acre (19,526 linear feet) of non-wetland waters of the State occur onsite. Based on the preferred site plan, approximately 0.28 acre (7,894

liner feet) of impacts will occur to Regional Board waters of the State. Refer to Exhibit 6, *Jurisdictional Impacts*, for an illustration of impacts to Regional Board waters of the State.

Table 1: Regional Board Jurisdictional Impacts

Jurisdictional Features	Regional Board Non-Wetland Waters	
	On-Site Jurisdiction acreage (linear feet)	**Impacts** acreage (linear feet)
Drainages 1-9	0.79 (19,526)	0.28 (7,894)
TOTALS	**0.79 (19,526)**	**0.28 (7,894)**

7.2.2 STATE WETLAND DETERMINATION

Under the State Water Resources Control Board Sate Wetland Definition, an area is a wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

Based on the results of the field delineation, it was determined that no areas within the project site meet the State Wetland Definition. Therefore, no state wetland features exist within the project site.

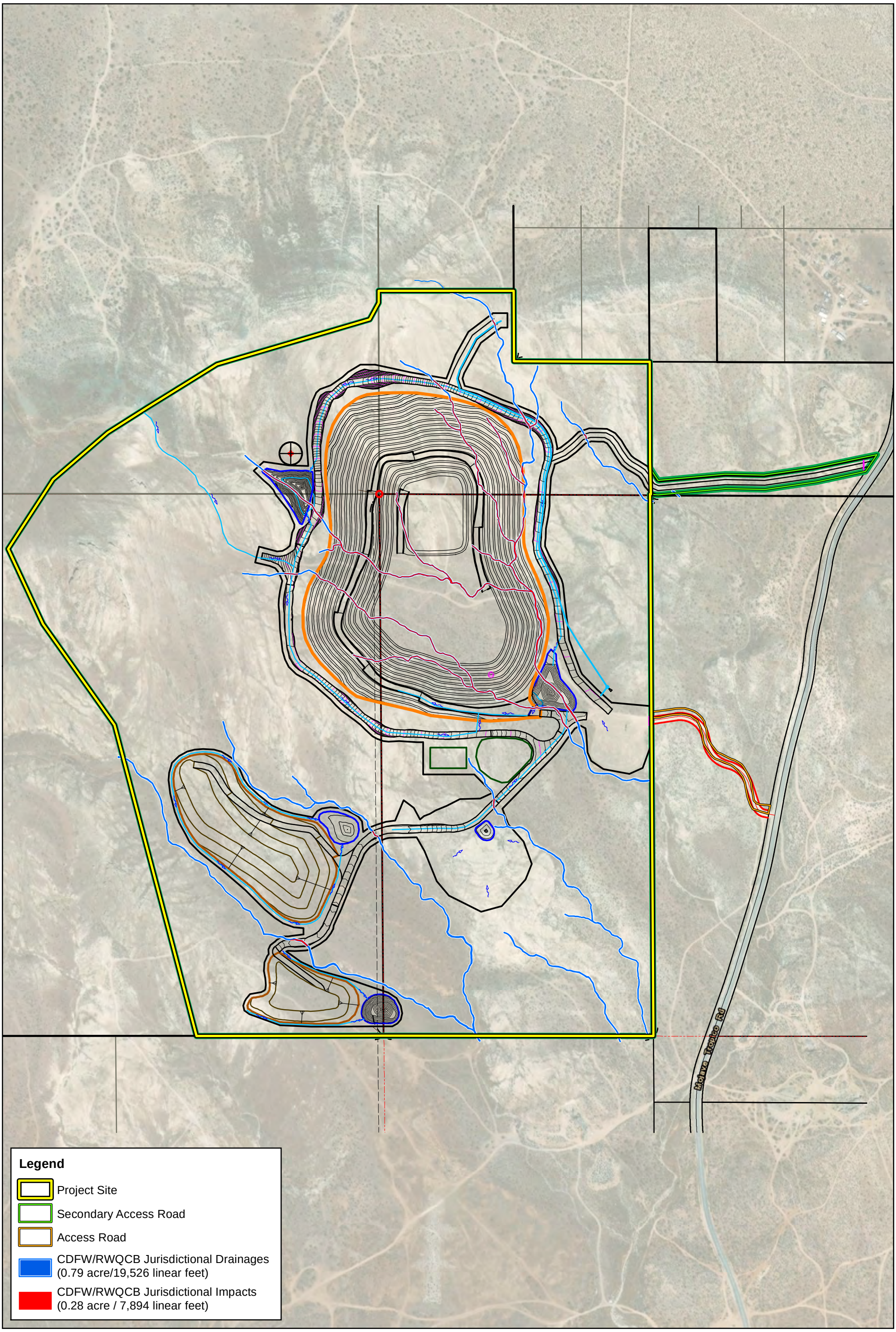
7.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

The onsite drainage features exhibit characteristics consistent with CDFW's methodology and would be considered CDFW streambed. Approximately 0.79 acre (19,526 linear feet) of CDFW jurisdiction was mapped within boundaries of the project site. Based on the preferred site plan, approximately 0.28 acre (7,894 liner feet) of impacts will occur to CDFW jurisdictional streambed; however, agreement with CDFW may not be required due to the low probability that the project will result in a substantial adverse impact to existing fish or wildlife resource (Fish & G. Code, § 1602(a)(4)(A)(i); *Habitat Assessment and Desert Tortoise Presence/Absence Survey Report, ELMT 2020*). Refer to Exhibit 6, *Jurisdictional Impacts*, for an illustration of impacts to CDFW jurisdictional areas.

Table 2: CDFW Jurisdictional Impacts

Jurisdictional Features	CDFW Jurisdictional Streambed	
	On-Site Jurisdiction acreage (linear feet)	**Impacts** acreage (linear feet)
Drainages 1-9	0.79 (19,526)	0.28 (7,894)

TOTALS	**0.79 (19,526)**	**0.28 (7,894)**



ELMT CONSULTING

0 250 500 1,000 Feet

Source: ESRI Aerial Imagery, Kern County

GEM HILL

DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Jurisdictional Impacts (Preferred Alternative)

Exhibit 6

Section 8 Regulatory Approval Process

The following is a summary of the various permits, certifications, and agreements that may be necessary prior to construction and/or alteration within jurisdictional areas. Ultimately the regulatory agencies make the final determination of jurisdictional boundaries and permitting requirements.

8.1 REGIONAL WATER QUALITY CONTROL BOARD

In the absence of federal waters of the United States, the Regional Board regulates waters under the California Porter-Cologne Water Quality Control Act. Therefore, any impacts to onsite jurisdictional areas will require a Report of Waste Discharge permit from the Regional Board prior to project implementation. The application fee is based on the extent of project impacts and the permit will not be issued until all fees are paid to the Regional Board. It should also be noted that the Regional Board requires that California Environmental Quality Act (CEQA) compliance be obtained prior to issuance of the Report of Waste Discharge permit.

8.2 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Pursuant to Section 1602 of the California Fish and Game Code, the CDFW regulates any activity that will divert or obstruct the natural flow or alter the bed, channel, or bank (which may include associated biological resources) of a river or stream. Therefore, any impacts to the on-site jurisdictional areas may require a Section 1602 Streambed Alteration Agreement from the CDFW prior to project implementation, if the project will have a substantial adverse impact on an existing fish or wildlife resource. The notification fee is based on the term and cost of a project. The Section 1602 Streambed Alteration Agreement will not be issued until all fees are paid to the CDFW.

8.3 RECOMMENDATIONS

It is recommended that this delineation be forwarded to the regulatory agencies for their review and concurrence. The concurrence/receipt would solidify findings noted within this report.

Section 9 References

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Appendix A Site Photographs



Photograph 1: Looking south along Drainage 1.



Photograph 2: Looking southeast along Drainage 2 near the northern boundary of the project site.



Photograph 3: Looking west along Drainage 2 near the eastern boundary of the project site.



Photograph 4: Looking south near the top of Drainage 3.



Photograph 5: Looking southeast along Drainage 4.



Photograph 6: Looking southeast along Drainage 5.



Photograph 7: Looking east along Drainage 6.



Photograph 8: Looking east along Drainage 7.



Photograph 9: Looking southeast along Drainage 8.



Photograph 10: Looking northwest along Drainage 9.

Appendix B Documentation

U.S. Fish and Wildlife Service
National Wetlands Inventory

Gem Hill



October 22, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Flood Hazard Layer FIRMette

FEMA

118°13'20"W 34°55'22"N



118°12'43"W 34°54'53"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

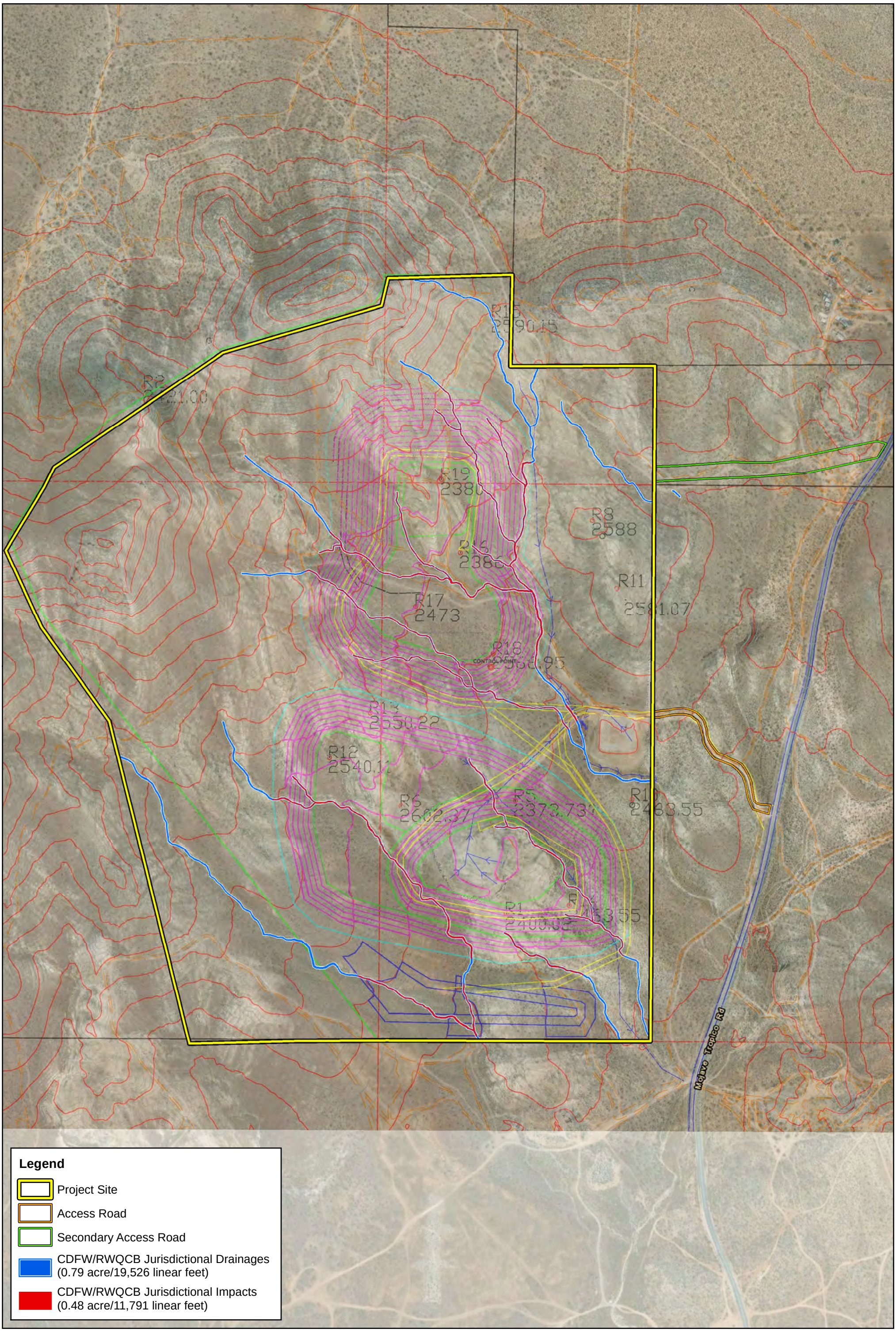
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 10/22/2020 at 1:31 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Appendix C Alternative Impact Analysis

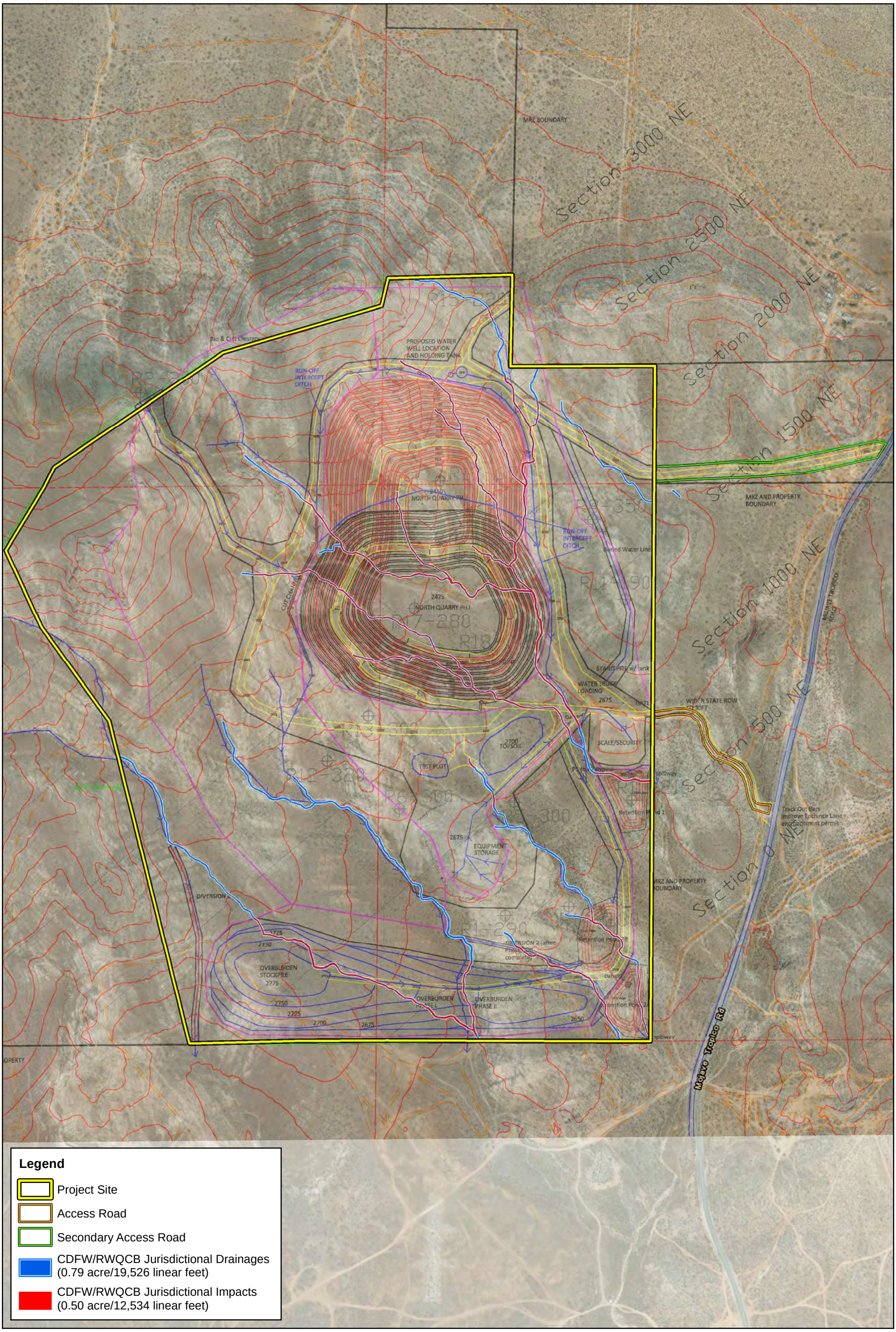


GEM HILL

DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Jurisdictional Impacts (Alternative 1)

Exhibit 7a



Legend

- Project Site
- Access Road
- Secondary Access Road
- CDFW/RWQCB Jurisdictional Drainages (0.79 acre/19,526 linear feet)
- CDFW/RWQCB Jurisdictional Impacts (0.50 acre/12,534 linear feet)

ELMT CONSULTING

0 250 500 1,000 Feet

Source: ESRI Aerial Imagery, Kern County

GEM HILL

DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Jurisdictional Impacts (Alternative 2)

Exhibit 7b

PARCEL 1
APN: 345-294-17
GROSS ACRES: 57.04

PARCEL 2
APN: 345-032-31
GROSS ACRES: 80.91 AC.

NORTH QUARRY
Phase 2
Bottom Elevation: 2450'

NORTH QUARRY
Phase 1
Bottom Elevation: 2475'

NORTH OVERBURDEN
Height: 60'

SOUTH OVERBURDEN
Height: 100'

Proposed Below Ground Water Line

Proposed Above Ground Water Line

Proposed Water Well Location and Holding Tank

Stand Pipe with Tank

Water Truck Loading

Gate

Scale and Security

Topsoil Stockpiles 2700

Test Plot

Phase 1 to Phase 2 Bypass

Inlet

Retention Pond 1

Retention Pond 2B

Retention Pond 2A

Equipment Storage 2675

Depressed Drainage Crossing

Spillway

Culvert

Catch Basin

Mojave-Tropico Rd

S89°46'35"E 1992.13'

N89°43'47"W

N89°54'38"W 1325.15'

N00°27'05"W 2658.14'

[2634.89'] R4

APN: 345-294-12
OWNER(S): KONG

APN: 345-294-13
OWNER(S): FOSTER FAMILY TRUST

APN: 345-294-14
OWNER(S): VACANT LAND OUTS LLC

APN: 345-294-15
OWNER(S): PENTELL FAMILY TRUST

APN: 345-032-02
OWNER(S): U.S.A.

Legend

- Project Site
- Access Road
- Secondary Access Road
- CDFW/RWQCB Jurisdictional Drainages (0.79 acre/19,526 linear feet)
- CDFW/RWQCB Jurisdictional Impacts (0.36 acre/10,077 linear feet)

ELMT CONSULTING

0 250 500 1,000 Feet

Source: ESRI Aerial Imagery, Kern County

GEM HILL
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Jurisdictional Impacts (Alternative 3)

Exhibit 7c

Appendix D Methodology

WATERS OF THE UNITED STATES

Since 1972, the Corps and EPA have jointly regulated the filling of waters of the United States, including wetlands, pursuant to Section 404 of the CWA. The Corps has regulatory authority over the discharge of dredged or fill material into the waters of the United States under Section 404 of the CWA. The Corps and EPA define "fill material" to include any "material placed in waters of the United States where the material has the effect of: (i) replacing any portion of a water of the United States with dry land; or (ii) changing the bottom elevation of any portion of the waters of the United States." Examples include, but are not limited to, the placement of sand, rock, clay, construction debris, wood chips, and "materials used to create any structure or infrastructure in the waters of the United States."

In April of 2020, the Corps and the EPA provided a new definition for *waters of the United States* [Federal Register, Vol. 85, No. 77 (April 21, 2020)] which encompass:

- The territorial seas and traditional navigable waters;
- Perennial and intermittent tributaries that contribute surface water flow to such waters;
- Certain lakes, ponds, and impoundments of jurisdictional waters; and
- Wetlands adjacent to other jurisdictional waters.

Additionally, the new definition identifies 12 categories of those waters and features that are excluded from the definition of ''waters of the United State, such as features that only contain water in direct response to rainfall (e.g., ephemeral features), groundwater, many ditches, prior converted cropland, and waste treatment systems. The final rule excludes from the definition of ''waters of the United States'' all waters or features not mentioned above. In addition to this general exclusion, the final rule specifically clarifies that waters of the United States do not include the following:

- Groundwater, including groundwater drained through subsurface drainage systems;
- Ephemeral features that flow only indirect response to precipitation, including ephemeral streams, swales, gullies, rills, and pools;
- Diffuse stormwater runoff and directional sheet flow over upland;
- Ditches that are not traditional navigable waters, tributaries, or that are not constructed in adjacent wetlands, subject to certain limitations;
- Prior converted cropland;
- Artificially irrigated areas that would revert to upland if artificial irrigation ceases;
- Artificial lakes and ponds that are not jurisdictional impoundments and that are constructed or excavated in upland or non-jurisdictional waters;

- Water-filled depressions constructed or excavated in upland or in non-jurisdictional waters incidental to mining or construction activity, and pits excavated in upland or in non jurisdictional waters for the purpose of obtaining fill, sand, or gravel;
- Stormwater control features constructed or excavated in upland or in non-jurisdictional waters to convey, treat, infiltrate, or store stormwater runoff;
- Groundwater recharge, water reuse, and wastewater recycling structures constructed or excavated in upland or in non-jurisdictional waters; and
- Waste treatment systems.

WETLANDS

For this project location, Corps jurisdictional wetlands are delineated using the methods outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Corps 2008). This document is one of a series of Regional Supplements to the Corps Wetland Delineation Manual (Corps 1987). The identification of wetlands is based on a three-parameter approach involving indicators of hydrophytic vegetation, hydric soil, and wetland hydrology. In order to be considered a wetland, an area must exhibit at least minimal characteristics within these three (3) parameters. The Regional Supplement presents wetland indicators, delineation guidance, and other information that is specific to the Arid West Region. In the field, vegetation, soils, and evidence of hydrology are examined using the methodology listed below and documented on Corps wetland data sheets, when applicable. It should be noted that both the Regional Board and the CDFW jurisdictional wetlands encompass those of the Corps.

Vegetation

Nearly 5,000 plant types in the United States may occur in wetlands. These plants, often referred to as hydrophytic vegetation, are listed in regional publications by the U.S. Fish and Wildlife Service (USFWS). In general, hydrophytic vegetation is present when the plant community is dominated by species that can tolerate prolonged inundation or soil saturation during growing season. Hydrophytic vegetation decisions are based on the assemblage of plant species growing on a site, rather than the presence or absence of particular indicator species. Vegetation strata are sampled separately when evaluating indicators of hydrophytic vegetation. A stratum for sampling purposes is defined as having 5 percent or more total plant cover. The following vegetation strata are recommended for use across the Arid West:

- *Tree Stratum:* Consists of woody plants 3 inches or more in diameter at breast height (DBH), regardless of height;
- *Sapling/shrub stratum:* Consists of woody plants less than 3 inches DBH, regardless of height;
- *Herb stratum:* Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size; and,

- *Woody vines:* Consists of all woody vines, regardless of size.

The following indicator is applied per the test method below.[1] Hydrophytic vegetation is present if any of the indicators are satisfied.

Indicator 1 – Dominance Test

Cover of vegetation is estimated and is ranked according to their dominance. Species that contribute to a cumulative total of 50% of the total dominant coverage, plus any species that comprise at least 20% (also known as the "50/20 rule") of the total dominant coverage, are recorded on a wetland data sheet. Wetland indicator status in California (Region 0) is assigned to each species using the *National Wetland Plant List, version 2.4.0* (Corps 2012). If greater than 50% of the dominant species from all strata were Obligate, Facultative-wetland, or Facultative species, the criteria for wetland vegetation is considered to be met. Plant indicator status categories are described below:

- *Obligate Wetland (OBL):* Plants that almost always occur in wetlands;
- *Facultative Wetland (FACW):* Plants that usually occur in wetlands, but may occur in non-wetlands;
- *Facultative (FAC):* Plants that occur in wetlands and non-wetlands;
- *Facultative Upland (FACU):* Plants that usually occur in non-wetlands, but may occur in wetlands; and,
- *Obligate Upland (UPL):* Plants that almost never occur in wetlands.

Hydrology

Wetland hydrology indicators are presented in four (4) groups, which include:

Group A – Observation of Surface Water or Saturated Soils

Group A is based on the direct observation of surface water or groundwater during the site visit.

Group B – Evidence of Recent Inundation

Group B consists of evidence that the site is subject to flooding or ponding, although it may not be inundated currently. These indicators include water marks, drift deposits, sediment deposits, and similar features.

Group C – Evidence of Recent Soil Saturation

[1] Although the Dominance Test is utilized in the majority of wetland delineations, other indicator tests may be employed. If one indicator of hydric soil and one primary or two secondary indicators of wetland hydrology are present, then the Prevalence Test (Indicator 2) may be performed. If the plant community satisfies the Prevalence Test, then the vegetation is hydric. If the Prevalence Test fails, then the Morphological Adaptation Test may be performed, where the delineator analyzes the vegetation for potential morphological features.

Group C consists of indirect evidence that the soil was saturated recently. Some of these indicators, such as oxidized rhizospheres surrounding living roots and the presence of reduced iron or sulfur in the soil profile, indicate that the soil has been saturated for an extended period.

Group D – Evidence from Other Site Conditions or Data

Group D consists of vegetation and soil features that indicate contemporary rather than historical wet conditions, and include shallow aquitard and the FAC-neutral test.

If wetland vegetation criteria is met, the presence of wetland hydrology is evaluated at each transect by recording the extent of observed surface flows, depth of inundation, depth to saturated soils, and depth to free water in the soil test pits. The lateral extent of the hydrology indicators are used as a guide for locating soil pits for evaluation of hydric soils and jurisdictional areas. In portions of the stream where the flow is divided by multiple channels with intermediate sand bars, the entire area between the channels is considered within the OHWM and the wetland hydrology indicator is considered met for the entire area.

Soils

A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper 16-20 inches.[2] The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. Soils that are sufficiently wet because of artificial measures are included in the concept of hydric soils. It should also be noted that the limits of wetland hydrology indicators are used as a guide for locating soil pits. If any hydric soil features are located, progressive pits are dug moving laterally away from the active channel until hydric features are no longer present within the top 20 inches of the soil profile.

Once in the field, soil characteristics are verified by digging soil pits along each transect to an excavation depth of 20 inches; in areas of high sediment deposition, soil pit depth may be increased. Soil pit locations are usually placed within the drainage invert or within adjoining vegetation. At each soil pit, the soil texture and color are recorded by comparison with standard plates within a *Munsell Soil Chart* (2009). Munsell Soil Charts aid in designating color labels to soils, based by degrees of three simple variables – hue, value, and chroma. Any indicators of hydric soils, such as organic accumulation, iron reduction, translocation, and accumulation, and sulfate reduction, are also recorded.

Hydric soil indicators are present in three groups, which include:

All Soils

"All soils" refers to soils with any United States Department of Agriculture (USDA) soil texture. Hydric soil indicators within this group include histosol, histic epipedon, black histic, hydrogen sulfide, stratified layers, 1 cm muck, depleted below dark surface, and thick dark surface.

[2] According to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0 (Corps 2008), growing season dates are determined through on-site observations of the following indicators of biological activity in a given year: (1) above-ground growth and development of vascular plants, and/or (2) soil temperature.

Sandy Soils

"Sandy soils" refers to soil materials with a USDA soil texture of loamy fine sand and coarser. Hydric soil indicators within this group include sandy mucky mineral, sandy gleyed matrix, sandy redox, and stripped matrix.

Loamy and Clayey Soils

"Loamy and clayey soils" refers to soil materials with a USDA soil texture of loamy very fine sand and finer. Hydric soil indicators within this group include loamy mucky mineral, loamy gleyed matrix, depleted matrix, redox dark surface, depleted dark surface, redox depressions, and vernal pools.

SWANCC WATERS

The term "isolated waters" is generally applied to waters/wetlands that are not connected by surface water to a river, lake, ocean, or other body of water. In the presence of isolated conditions, the Regional Board and CDFW take jurisdiction through the application of the OHWM/streambed and/or the 3 parameter wetland methodology utilized by the Corps.