Agenda

County of Inyo Planning Commission

Board of Supervisors Room
Inyo County Administrative Center
Independence, California

FRANK STEWART	**FIRST DISTRICT**	
CAITLIN (KATE) J. MORLEY	**SECOND DISTRICT (CHAIR)**	
TODD VOGEL	**THIRD DISTRICT(VICE CHAIR)**	
CALLIE PEEK	**FOURTH DISTRICT**	
SCOTT KEMP	**FIFTH DISTRICT**	
CATHREEN RICHARDS	PLANNING DIRECTOR	
PAULA RIESEN	PROJECT COORDINATOR	
MICHAEL ERRANTE	PUBLIC WORKS DIRECTOR	
CLINT QUILTER	COUNTY ADMINISTRATOR	
GRACE CHUCHLA	DEPUTY COUNTY COUNSEL	

Inyo County Planning Commission
Post Office Drawer L
Independence, CA 93526
(760) 878-0263
(760) 872-2712 FAX
inyoplanning@inyocounty.us

NOTICE TO THE PUBLIC: In order to minimize the spread of the COVID-19 virus, Governor Newsom has issued Executive Orders that temporarily suspend certain requirements of the Brown Act. Please be advised that the Planning Commission will be conducting its hearing exclusively via videoconference by which Planning Commission Members and staff will be participating. The videoconference will be accessible to the public by computer, tablet or smartphone at:

https://us02web.zoom.us/j/82363071790?pwd=eDRaN21McjlGYnkvU0dlRzdkTG5BUT09

You can also dial in by phone at 1-669-900-6833 Meeting Id: 823 6307 1790 and then enter Passcode: 052711. Public Comment may be provided by emailing the comments prior to the meeting. All emailed comments will be read into the record, and the Planning Commission will take that feedback into consideration as it deliberates. Please send comments to: inyoplanning@inyocounty.us

Items will be heard in the order listed on the agenda unless the Planning Commission rearranges the order or the items are continued. Estimated start times are indicated for each item. The times are approximate and no item will be discussed before its listed time.
Lunch Break will be given at the Planning Commission's convenience.
The Planning Commission Chairperson will announce when public testimony can be given for items on the Agenda. The Commission will consider testimony on both the project and related environmental documents.
The applicant or any interested person may appeal all final decisions of the Planning Commission to the Board of Supervisors. Appeals must be filed in writing to the Inyo County Board of Supervisors within 15 calendar days per ICC Chapter 15 [California Environmental Quality Act (CEQA) Procedures] and Chapter 18 (Zoning), and 10 calendar days per ICC Chapter 16 (Subdivisions), of the action by the Planning Commission. If an appeal is filed, there is a fee of $300.00. Appeals and accompanying fees must be delivered to the Clerk of the Board Office at County Administrative Center Independence, California. If you challenge in court any finding, determination or decision made pursuant to a public hearing on a matter contained in this agenda, you may be limited to raising only those issues you or someone else raised at the public hearing, or in written correspondence delivered to the Inyo County Planning Commission at, or prior to, the public hearing.
Public Notice: In Compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting please contact the Planning Department at (760) 878-0263 (28 CFR 35.102-3.104 ADA Title II). Notification 72 hours prior to the meeting will enable the County to make reasonable arrangements to ensure accessibility to this meeting. Should you because of a disability require appropriate alternative formatting of this agenda, please notify the Planning Department 2 hours prior to the meeting to enable the County to make the agenda available in a reasonable alternative format (Government Code Section 54954.2).

May 26, 2021

10:00 A.M.

1. **PLEDGE OF ALLEGIANCE**.

2. **ROLL CALL –** Roll Call to be taken by staff.

3. **PUBLIC COMMENT PERIOD** – This is the opportunity for anyone in the audience to address the Planning Commission on any planning subject that is not scheduled on the Agenda.

Action Item Public Hearing

4. **AMENDMENT TO CONDITIONAL USE PERMIT (CUP-1978-09); AMENDMENT TO RECLAMATION PLAN (78-02)/TWIN MOUNTIAN ROCK VENTURE LLC -** The applicant has applied for an amendment to an existing mine site. The proposed amendments will include updating the current plans for completing mining in the main quarry and extending mining operations to the northeast section of the property, away from US 395, in order to utilize the on-site cinder reserves. Approximately 10,714,286 cubic yards of material will be extracted from the site over a 100-year timespan. A Mitigated Negative Declaration of Environmental Impact has been prepared and publicly noticed pursuant to the California Environmental Quality Act.

Informational Item

5. **Dark Sky Ordinance Update –** The Commission will receive an update on the County's efforts to develop a Dark Sky Ordinance.
New state regulations on light and glare, and how they relate to the proposed Dark Sky Ordinance, will be discussed. The Commission will also receive a summary of the feedback from community meetings.

COMMISSIONERS' REPORT/COMMENTS

Commissioners to give their report/comments to staff.

PLANNING DIRECTOR'S REPORT

Planning Director, Cathreen Richards, will update the Commission on various topics.

CORRESPONDENCE – INFORMATIONAL

Planning Department
168 North Edwards Street
Post Office Drawer L
Independence, California 93526

Phone: (760) 878-0263
FAX: (760) 872-2712
E-Mail: inyoplanning@inyocounty.us

AGENDA ITEM NO.: **4** (Action Item – Public Hearing)

PLANNING COMMISSION MEETING DATE: May 26, 2021

SUBJECT: Amendment to Conditional Use Permit (CUP) 1978-09; amendment to Reclamation Plan 78-02/Twin Mountain Rock Venture LLC**.**

EXECUTIVE SUMMARY

The applicant has applied for amendments to Conditional Use Permit (CUP)1978-09 and Mining Reclamation Plan 78-02 (Plan). The amendments are for a cinder mine located off Highway 395 south of Coso Junction. The proposed changes - include updating the mine's current plans for the completion of mining in the main quarry and extending the mining operations to the northeast away from US 395, in order to utilize the on-site cinder reserves. Approximately 10,714,286 cubic yards of material will be extracted from the site over a 100-year time span. The existing and proposed mining activities are on privately owned property of approximately 297 acres in Inyo County with a Tax Assessor Parcel Number 037-090-11.

PROJECT INFORMATION

Supervisory District: 5

Applicants: Twin Mountain Rock Venture L.L.C.

Property Owner: Angelus Block Company Inc.

Address/Community: The project (mine) site is located approximately 12 miles south of Olancha, on the east side of US 395, near Coso Junction in Inyo County, California. The mine is located within sections 30 and 31, Township 22S North, Range 38E, Mount Diablo Meridian. The

Site is accessed from US 395, east onto Cider Road approximately 1 mile to the mining site.

A.P.N.: 037-090-11

General Plan: Open Space and Recreation (OSR)

Zoning: Open Space (OS)

Surrounding Land Use:

Location:	Use:	Gen. Plan Designation	Zoning
Site	Mine	Open Space and Recreation (OSR)	Open Space with a 40 Acre minimum (OS-40)
North	Vacant Public Land	State And Federal Land (SFL)	Open Space with a 40 Acre minimum (OS-40)
East	Vacant Public Land	State And Federal Land (SFL)	Open Space with a 40 Acre minimum (OS-40)
South	Vacant Public Land	State And Federal Land (SFL)	Open Space with a 40 Acre minimum (OS-40)
West	Vacant Public Land	State And Federal Land (SFL)	Open Space with a 40 Acre minimum (OS-40)

Recommended Action:

1.) Adopt the Mitigated Negative Declaration of Environmental Impact pursuant to the California Environmental Quality Act, prepared for the amendment to Conditional Use Permit 1978-09; and amendment to Reclamation Plan 78-02/Twin Mountain Rock Venture LLC

2.) Make certain Findings with respect to, and approve, the amendment to Conditional Use Permit 1978-09; and amendment to Reclamation Plan 78-02/Twin Mountain Rock Venture LLC.

Alternatives:

1.) Deny the amendment to Conditional Use Permit (CUP) 1978-09; and amendment to Reclamation Plan 78-02/Twin Mountain Rock Venture LLC, thereby not allowing the applicant to amend its Reclamation Plan, or move forward with the proposed expansion.

2.) Continue the public hearing to a future date, providing specific direction to staff regarding what additional information and analysis is needed.

Project Planner: Ryan Standridge, Associate Planner

STAFF ANALYSIS

Background and Overview

Project Description

The applicant has applied for amendments to CUP1978-09 and to the existing approved Plan. The proposed revised Plan will include updating the current plans for completing the mining in the main quarry and extending the mining operations into the northeast section of the parcel set away from US 395 in order to utilize on-site cinder reserves. The original approval was in 1979. At that time, the site consisted of a number of unpatented mine claims on federal lands under the jurisdiction of the Bureau of Land Management (BLM). In 2000 and 2007, two claims were issued patents with a total of 297 acres. This property now privately owned by Angus Black and has the APN 037-090-11. The parcel boundary is also considered the mine boundary.

Under the approved CUP mining is currently conducted within three approved phases and can continue for up to 100 years.

- Phase 1: is the main quarry of approximately 49 acres that can have active slopes as steep as 0.5 horizontal to 1 vertical (0.5H: 1V) and will be pushed down or backfilled with non-commercial material (cinder waste) to a reclaimed slope of no more than 1H: 1V with a maximum depth of 150 feet below ground surface and a variable pit floor.
- Phase 2: mining is in a small northwestern 8.5-acre area that extends to the main quarry. It is permitted for 1.5H: 1V slopes. Mining on the west side of the main quarry is below grade, and will remain behind natural ridging as well as an approximate 10-foot high berm that will block views from US 395.
- Phase 3: of mining relocates the shop north of the entrance gate and the overburden stockpile will be pushed down into the floor of the main quarry and will be used to backfill any overly steep slopes. The raw cinders underneath will be mined to about 150 feet below ground surface.

The proposed amendments will occur during Phase 4 and mining will be initiated in the northeast quarry area located on approximately 35.5 acres. The quarry will be setback a minimum of 50 feet from the project boundaries to the east and north, and approximately 100 feet from the base of the Red Hill Cinder Cone proper. Excavations are planned at 1H:1V to a depth of 150 feet.

Inyo County Code

Surface Mining and Land Reclamation in Inyo County is governed by Chapter 7.70 of the Inyo County Code which incorporates California's Surface Mining and Reclamation Act of 1975("SMARA"), Public Resource Code Section [PRC] 271 et seq. and California Code of Regulations Section 3500 et seq.) The County is the "lead agency" (ref. PRC Section 2728) with State Mining and Geology Board-certified surface mining and reclamation Ordinance (ref. PRC Section 2774.)

Planning Staff received a notice of incomplete reclamation plan from the California Department of Mine Reclamation (DMR), dated May 14, 2020, in response to the County's request for review of the Plan amendment (attachment 3). DMR staff commented on PRC Section 2772(c)(5) stating that the reclamation plan maps submitted did not include the information or address subsections (C) (D)(F) requirements with regard to mapping requirements (see attachment 3).

DMR staff also commented on the PRC Section 2773(a) and CCR Sections 3502(b)(3). These sections relate to site specific geotechnical and geologic analysis for final slopes and state that topography must be included with the submittal. The applicant resubmitted on January 29, 2021, with new maps, and slope stability reports both prepared by a licensed professional. County staff reviewed and determined the new submittal addressees the deficiencies and forwarded it to DMR. DMR issued a letter dated March 29, 2021 stating the Plan as re-submitted is complete and did not provide additional comments. The Plan as presented meets SMARA and Inyo County code requirements.

General Plan Consistency

The proposed project is consistent with the County General Plan designation of 'Open Space Recreation' (OSR) as the OSR designation allows for mining uses, with a CUP and accompanied by a reclamation plan approved by Inyo County. The County approved the original (CUP 78-09) on May 24, 1979 with mining and excavation restricted to the southern base of the Red Hill Cinder Cone and limited to approximately 116 acres within the overall 297-acre parcel. Also, Section 08.4.4 of the General Plan's Goals and Policies states: '*protect the current and future extraction of mineral resources that are important to the County's economy while minimizing impacts on the public and the environment*'. Twin Mountain Rock Venture LLC currently plays a significant role in the County's local production of red and black cinder rock. These materials are also screened to various sizes depending on product demand for landscaping, soil amendments, de-icing of roads, and are a component of cinder blocks for construction industries.

In addition to the General Plan land use designation, the County is also responsible for ensuring that all mining projects comply with the requirements of SMARA.

Zoning Ordinance Consistency

The proposed project is consistent with the County's zoning designation of Open Space (OS) as the OS designation allows mining uses, as a conditional use. These uses include mining and processing of natural resources, including cinder pits. The proposed amendment consists of expanding the existing pit that is a continued mining use.

ENVIRONMENTAL REVIEW

Staff prepared a Draft Mitigated Negative Declaration and Initial Study (ISMND) for the amendment to CUP 1978-09 and amendment to Plan 78-02 and circulated it for a 30-day review and comment period (Attachment 4). The review period closed on May 15, 2019.To date, the Planning Department has received no comments on the ISMND. The Initial Study identified a couple of potentially significant impacts to: air quality, and biological features. The applicant provided information addressing these potential impacts and mitigation measures were

developed to reduce the potential impacts to a level of insignificance and are included as conditions of approval for the project. These include:

Air Quality

The proposed project anticipates new disturbance of large particulate greater than 10 Microns, the applicant will follow best management practices and shall be subject to Great Basin Unified Air Pollution Control District (GBUAPCD) regulations regarding dust mitigation during operations and shall be required to obtain all necessary permits from GBUAPCD.

Biological

A biological technical report was prepared by Jericho Systems Inc. for the project (Attachment 5). No sensitive species were found during the 2018 or 2020 studies, however, suitable habitat was identified outside of the project area. In response to this, the applicant proposed installing a 100 ft. habitat buffer area between the suitable habitat area and the proposed expansion. This is also included as a condition of approval for the project.

TRIBAL CONSULTATION

Prior to the environmental review, consultation invitations were sent to the: Twenty Nine Palms Band of Mission Indians; Torres Martinez Desert Cahuilla Indians; Bishop Paiute Tribe; Fort Independence Indian Community of Paiutes; Big Pine Paiute Tribe of the Owens Valley; Timbisha Shoshone Tribe; and, the Lone Pine Paiute-Shoshone Tribe per Tribal requests.

None of the Tribes requested consultation.

NOTICING

Amendment to CUP 1978-09 and amendment to Plan 78-02 was noticed in the Inyo Register and sent to all the property owners with parcels within 300-feet of the project, within the required noticing period of ten days before the Planning Commission Hearing. No public comments have been received to date.

RECOMMENDATIONS

Planning Department staff recommends the approval of the Amendment to CUP 1978-09 and the amendment to Plan 78-02 with the following Findings and Conditions of Approval:

Findings:

Amendment to CUP 1978-09 and amendment to Plan 78-02

1. Based upon the Initial Study and all oral and written comments received, adopt the Mitigate Negative Declaration of Environmental Impact and certify that the provisions of the California Environmental Quality Act have been satisfied.
   [Evidence: An ISMND were prepared and circulated for public review and comment pursuant to the provisions of the California Environmental Quality Act. The 30-day public comment period ended on May 15, 2019, the Planning Department received no comments on the ISMND and no additional

potentially significant environmental impacts from the proposed mining operation were determined in the course of the ISMND circulation. Based upon the environmental evaluation of the proposed project, the Planning Department finds that the project does not have the potential to create a significant adverse impact on flora or fauna; natural, scenic and historic resources; the local economy; public health, safety, and welfare. This constitutes a Negative Finding for the Mandatory Findings required by Section 15065 of the CEQA Guidelines.]

2. The proposed Amendments to CUP 1978-09 and Plan 78-02 is consistent with the Inyo County General Plan landuse designation of OSR.
   [Evidence: The proposed project is consistent with the County General Plan designation of OSR as it allows for mining uses, under the approval of a CUP and a reclamation plan. Also, Section 08.4.4 of the General Plan Goals and Policies states: 'protect the current and future extraction of mineral resources that are important to the County's economy while minimizing impacts on the public and the environment'. Twin Mountain Rock Ventures L.L.C. mining currently plays a role in the County production of red and black cinder rock and sands crushed and screened to various sizes and colors depending on product demand. The materials are used for landscaping, soil amendment, de-icing of roads, and other uses.

3. The proposed Amendment to CUP 1978-09 and amendment to Plan 78-02 is consistent with the Inyo County Zoning Ordinance, which permits "Mining Uses" as a conditional use in the OS zone.
   [Evidence: The proposed project is consistent with the County zoning designation of OS as it allows for mining uses, with a CUP. These uses include the mining and processing of natural resources, including cinder pits. The proposed amendment consists of expanding the existing pit that is a continued mining use.]

4. The proposed amendment to CUP 1978-09 and amendment to Plan 78-02 is necessary or desirable.
   [Evidence: General Plan Policy ED-4.1states:'Support the continued operation of existing mining activities within the County as well as new mining in appropriate areas'. This project is adding to an existing site and offers an essential service by providing materials used for landscaping, soil amendment, de-icing of roads, and other uses; therefore, this is a desirable use.]

5. The proposed amendments to CUP 1978-09 and Plan 78-02 are appropriately related to other uses and transportation and service facilities in the vicinity.
   [Evidence: The proposed expansion is located on an existing site currently used for a cinder pit and all of its related uses. The project's projection of production will remain the same dependent on product demand; therefore, the

impact on transportation facilities will remain the same.]

6. The proposed Amendments to CUP 1978-09 and Plan 78-02 would not, under all the circumstances of this case, affect adversely the health or safety of persons living or working in the vicinity or be materially detrimental to the public welfare.
   [Evidence: The proposed expansion is approximately 12 miles away from the nearest town. No chemicals or chemical processing will be used on-site only crushing and screening. There will be no chemical waste or pollution from the mining operation. The applicant shall be subject to the requirements set by the GBUAPCD during the operation of the site for dust mitigation, and subject to Certified Unified Program Agency requirements specified by the Inyo County Environmental Health Department.]
7. Operating requirements necessitate the amendment to CUP 1978-09 and the amendment to Plan 78-02 located within the OS-40 zoning district.
   [Evidence: The proposed amendment is for a substantial change to the mining area which makes this update necessary per the County's Surface Mining and Land Reclamation Ordinance.

CONDITIONS OF APPROVAL

Term of Conditional Use permit

1. The term of the CUP shall not exceed 100 years from the date of approval, or no later than May 26, 2121. The total amount of usable cinder and waste material that can be removed from this pit is 10,714,286 cubic yards. If the 10,714,286 cubic yards are removed prior to the termination date, reclamation shall proceed within six months of it. The Planning Commission may grant an extension upon the application of additional amendments to the CUP and the reclamation plan. To assure continued operation, the above application should be received prior to the expiration date.

Term of Plan and Timing of Reclamation

2. The term of the reclamation plan shall not exceed fifteen years from the date of approval, or no later than May 26, 2036. The reclamation plan shall be updated for current SMARA requirements up to every 15-years. The Planning Commission may grant an extension upon the application of an additional amendment to the reclamation plan.. To assure continued operation, the above application should be received prior to the expiration date.

Interim Management Plan

3. Throughout the 100-year life of this project, the interim management plan shall be implemented during periods of "idle" operation. If zero production occurs for a period of five consecutive years, the reclamation plan shall be implemented immediately. Mining cannot occur until an amended reclamation plan is submitted and approved by the Inyo County Planning Commission.

Mapping

4. Twin Mountain Rock Venture L.L.C. shall provide the County with a contour

map with two-foot contours, due annually prior to the required yearly SMARA inspection or on the day of the inspection.

Conditions of Mitigated Negative Declaration

5. All conditions outlined in the current Mitigated Negative Declaration shall be included as conditions of approval for these amendments to CUP 1978-09 and Reclamation Plan 78-02.
6. The 100 foot habitat buffer shall be in place prior to any ground disturbance.

Conditions of Amendment to Conditional use permit 1978-09 and Reclamation Plan 78-02

7. All buildings shall be painted an earthen color in order to blend-in with the natural surroundings. The building permits shall not be finalized until buildings are painted in accordance with this condition.
8. All mining procedures and reclamation outlined in the Red Hill Quarry Reclamation plan revised January 2021 shall be recorded by the Planning department upon approval. The recorded copy shall be the official reclamation plan that both the lead agency and operator will follow.
9. The applicant shall submit a notarized letter to the Planning Department accepting responsibility for reclaiming the mined lands as conditioned by the Planning Commission.

Financial Assurances

10. Financial assurances in the sum of $348,012.00 are required in the form of a surety bond, irrevocable letter of credit, cash or certificate of deposit. Government agencies may also use budget set asides, or pledge of revenue to post their financial assurances. Financial assurances shall be posted with the Inyo County Planning Department. Said assurances shall be made payable to the County of Inyo and the Director of the California Department of Conservation and the Bureau of Land Management (Required on patent land purchased from BLM).

Financial Assurance Recalculation

11. Financial assurances shall be recalculated each year in accordance with Section 2773. l(a)(3) of SMARA and the Inyo County Code. This shall occur at the time of annual inspection.

Release of Financial Assurances

12. As required, as reclamation standards are achieved, the portion of financial assurances covering those areas of reclamation that are completed may be released. The remainder of financial assurances covering revegetation and monitoring shall not be released until the revegetation performance standards are met.

Compliance with County Code

13. The applicant/operator shall conform to all applicable provisions of Inyo County Code, , State laws and regulations, and Federal laws and regulations.

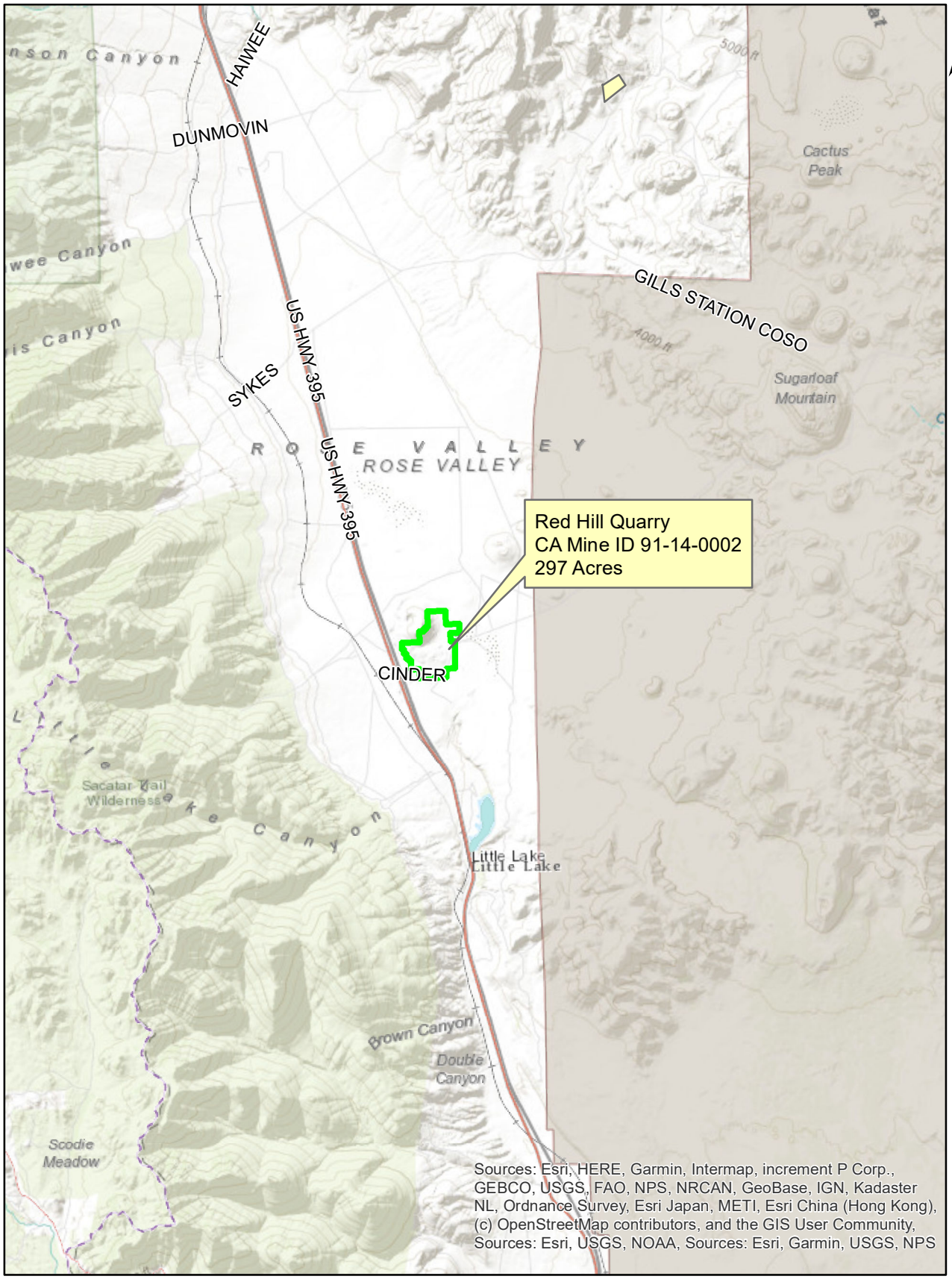
Hold Harmless

14. The applicant/operator shall defend, indemnify and hold harmless Inyo County agents, officers, and employees from any claim, action or proceeding against the County or its agents, officers, or employees to attack, set aside, void or annul an approval of the County, its advisory agencies, its appeals board, or legislative body concerning CUP 1978-09 and Reclamation Plan 78-02. The County reserves the right to prepare its own defense.

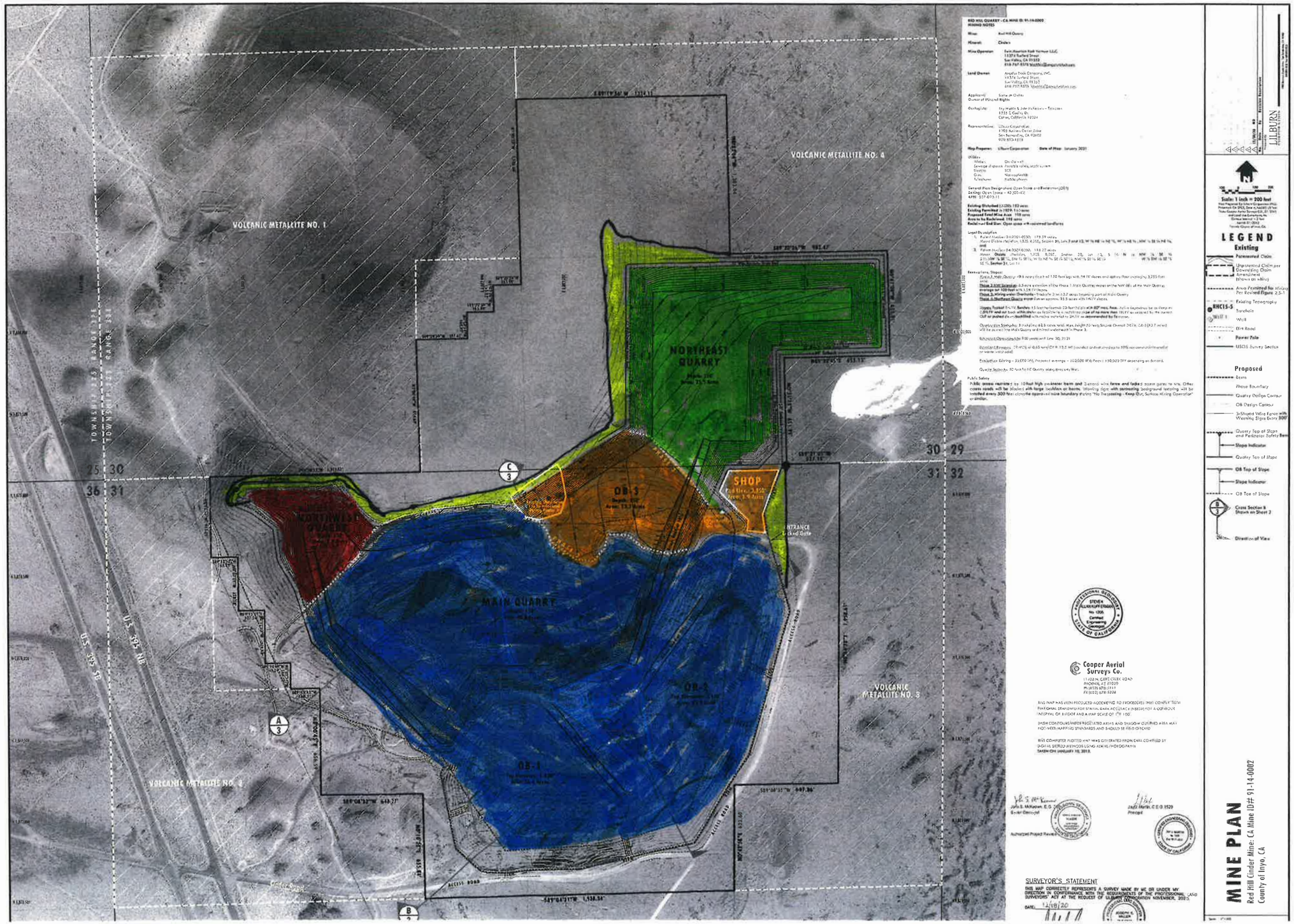
ATTACHMENTS:

1. Vicinity Map
2. Reclamation Plan Maps
3. DMR Response
4. Mitigated Negative Declaration
5. Biological studies
6. Reclamation Plan

Amendment to CUP1978-09; and REC Plan 78-02



= phase 1
= Phase 2
= phase 3
= phase 4
= 100ft Habitat Buffer



RED HILL QUARRY - CA MINE ID: 91-14-0002
MINING NOTES

Mine: Red Hill Quarry
Mineral: Cinders
Mine Operator: Twin Mountain Rock Venture LLC, 11374 Stanford Street, Sun Valley, CA 91352, 818-767-8575 lbattilo@empirerocksales.com
Land Owner: Angelus Block Company, INC, 11374 Stanford Street, Sun Valley, CA 91352, 818-767-8575 lbattilo@texasbattilos.com
Applicant/ Owner of Mineral Rights: Same as Owner
Geologists: Ivy Wallin & John Wakeman – Terracon, 1535 S Country Dr, Carson, California 92224
Representative: Ulburn Corporation, 1700 Business Center Drive, San Bernardino, CA 92408, 909.873.4878
Map Preparer: Ulburn Corporation Date of Map: January 2021
Utilities: Water: On-site well; Sewage disposal: Portable toilets, septic system; Electric: SCE; Gas: Not applicable; Telephone: Mobile phone
General Plan Designation: Open Space and Recreation (OSR); Zoning: Open Space – 40 (OS-40); APN: 037-070-11
Existing Disturbed (2020): 182 acres; Existing Permitted in 1979: 160 acres; Proposed Total Mine Area: 198 acres; Area to be Reclaimed: 198 acres; Ended Land Use: Open space with restricted landforms

Legal Description:
1. Patent Number: 04-2001-0030; 179.59 acres; Mount Diablo Meridian, 1S20, R35E, Section 31, Lots 3 and 13, W ½ NE ¼, NW ¼ NE ¼, NW ¼ SE ¼ NE ¼, and
2. Patent Number: 04-2001-0090; 18.27 acres; Mount Diablo Meridian, T2S, R35E, Section 25, Lot 13, S ½ N ½ NW ¼ SE ¼ NW ¼ SE ¼, NW ¼ SW ¼ SE ¼ NW ¼ SE ¼, W ½ NE ¼ SE ¼ SE ¼ NW ¼ SE ¼, and NW ¼ SW ¼ SE ¼ NW ¼ SE ¼, Section 31, Lot 11

Excavations, Slopes:
Existing Main Quarry: ~89.6 acres; Depth of 150 feet bgs with 1H:1V slopes and quarry floor averaging 3,250 feet amsl.
Phase 3 NW Extension: 8.5-acre extension of the Phase 1 Main Quarry west on the NW ¼ of the Main Quarry; average cut 100 feet with 1.5H:1V slopes.
Phase 3, Mining under Overburden: Mine the 3 to 13.7 acres beneath part of Main Quarry
Phase 4, Northeast Quarry: expand to an approx. 33.5 acres with 1H:1V slopes.
Slopes: Typical Bench: Benches 15 feet horizontal to 20 feet high with 80° mas. face. Inter-ramp slopes to be steep as 1.5H:1V and cut back within shelter as feasible to a maximum slope of no more than 1H:1V as required by the current Cal/OSHA Code or pushed over backfilled with native material to 2H:1V as recommended by Terracon.
Overburden Stockpile: 3 stockpiles 63.5 acres total. Max. height 50 feet; Slopes Overall 2H:1V, OB-3 (13.7 acres) will be placed into Main Quarry and mined underneath in Phase 3.
Estimated Completion Date: 100 years post June 30, 2121
Reclaimed Elevations: 18 HCIS at 6.65 acres (OB-3: 13.5 AF) (boulder and soil overlays to 10% non-combustible material or waste rock/soil)
Excavation Volume – 33,000 LPD; Proposed average – 100,000 AFB; Peaks – 150,000 TPY depending on demand.
Quarry Sequence: 30 years for NE Quarry, along Access Way.

Public Safety:
Public access restricted by 10-foot high perimeter berm and 3-strand wire fence and locked access gates to site. Other access roads will be blocked with large boulders or berms. Warning Sign with contrasting background lettering will be installed every 300 feet along the approximate mine boundary stating "No Trespassing - Keep Out, Surface Mining Operation" or similar.

Cooper Aerial Surveys Co.
11022 N. Cave Creek Road, Phoenix, AZ 85020, Ph (602) 678-3111, Fx (602) 678-3124

THIS MAP HAS BEEN PRODUCED ACCORDING TO PROCEDURES THAT COMPLY WITH NATIONAL STANDARDS FOR SPATIAL DATA ACCURACY (NSSDA) FOR A CONTOUR INTERVAL OF 5 FEET AND A MAP SCALE OF 1"= 100'.

DATA CONTOUR LINES WERE CREATED ARCHIVED AND SHOULD NOT BE USED FOR ANY HIGH-RESOLUTION MAPPING STANDARDS AND SHOULD BE FIELD CHECKED.

THIS COMPUTER PLOTTED MAP WAS COMPILED FROM DATA COMPILED BY DIGITAL STEREO METHODS USING AERIAL PHOTOGRAPHY TAKEN ON JANUARY 10, 2013.

John S. McKeown, E.G. 2[illegible] Senior Geologist
Authorized Project Reviewer

Zach Hurin, C.E.G. 1529 Principal

SURVEYOR'S STATEMENT
THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYORS' ACT AT THE REQUEST OF ULBURN CORPORATION NOVEMBER, 2019.
DATE: 12/18/20

ULBURN

Scale: 1 inch = 200 feet

LEGEND

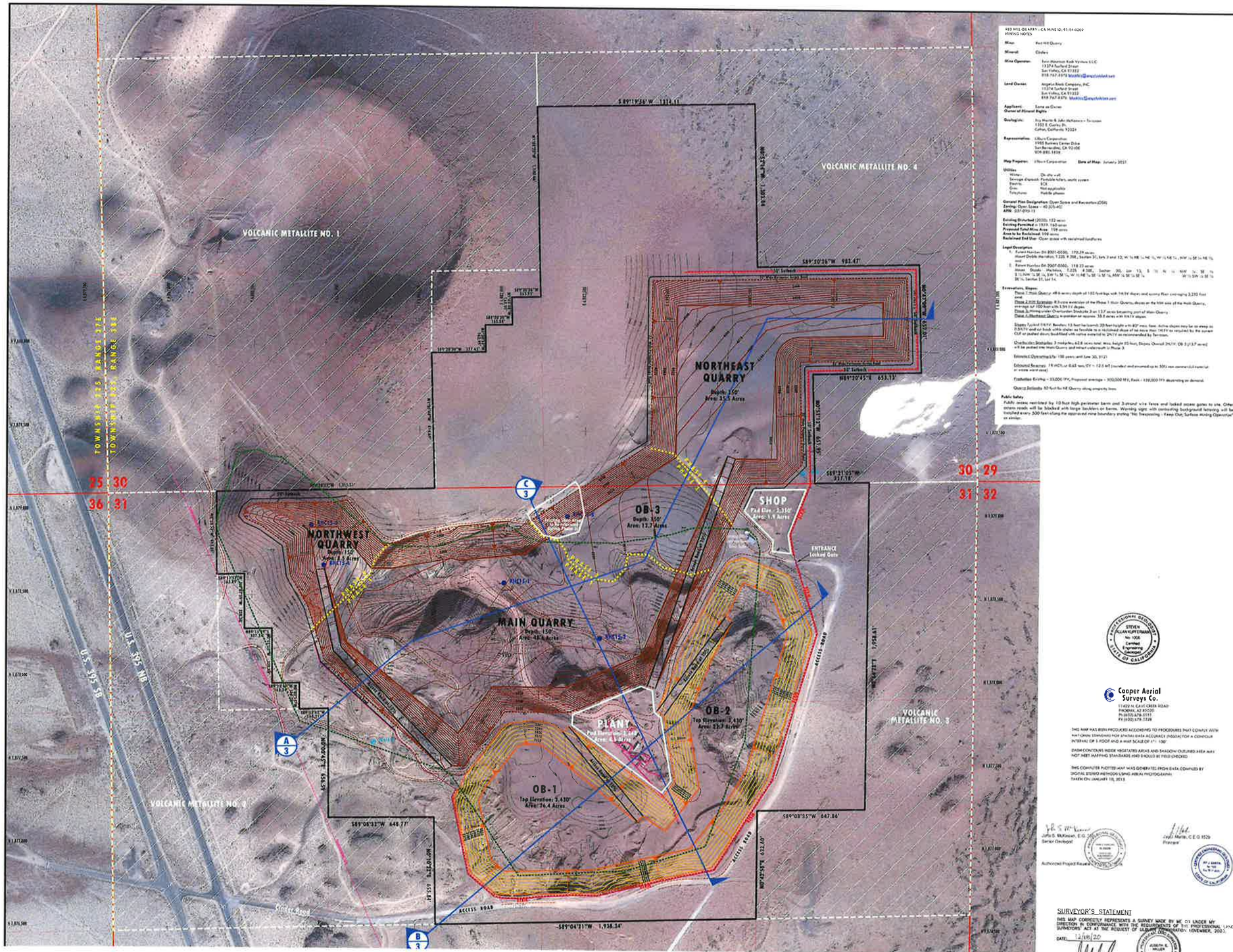
Existing
- Patented Claim
- Unpatented Claim per Ownership Claim Amendment (Blows on Hilltop)
- Area Permitted for Mining Per Revised Figure 2.5-1
- Existing Topography
- RHCIS-5 Borehole
- Well
- Dirt Road
- Power Pole
- USGS Survey Section

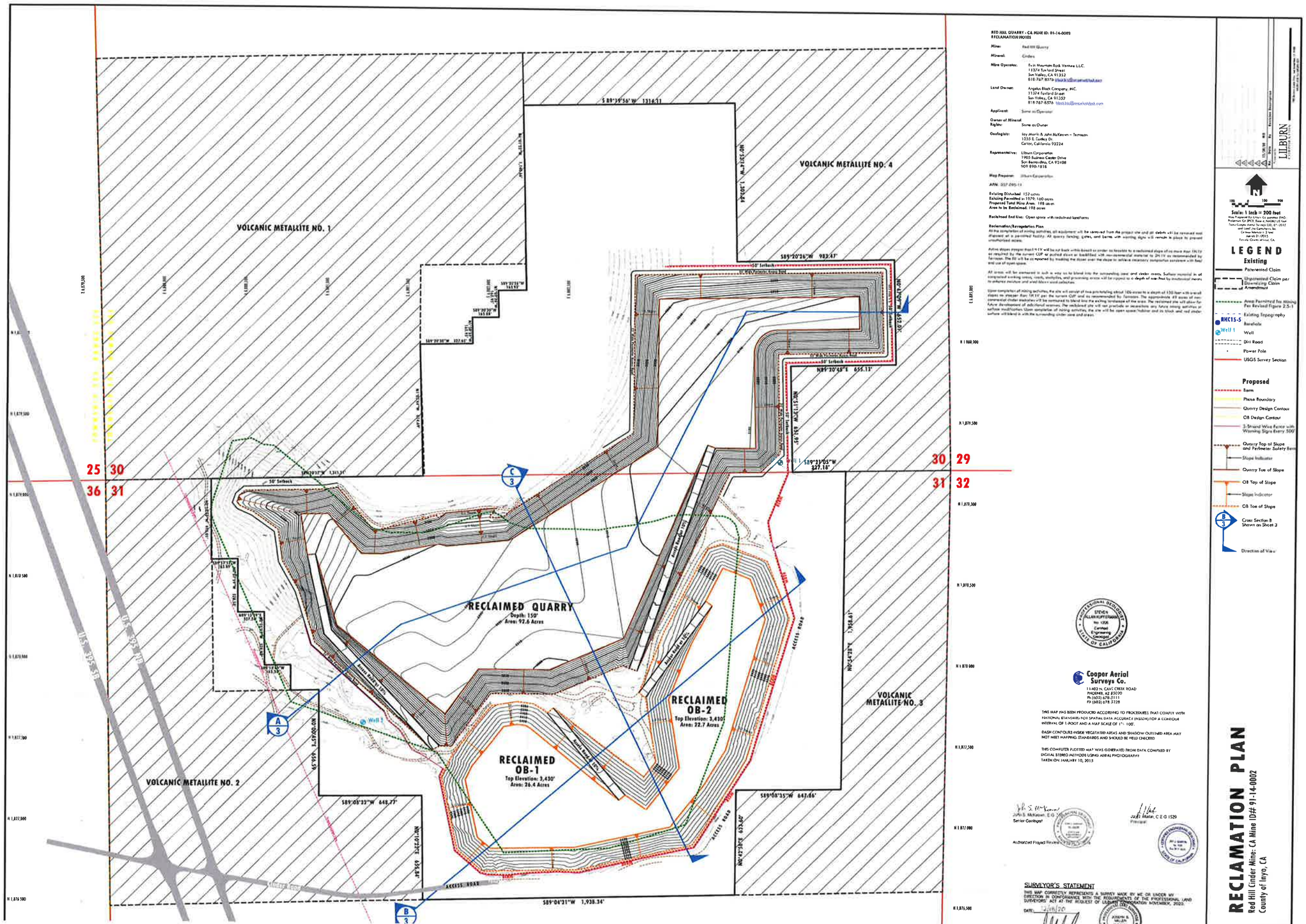
Proposed
- Berm
- Phase Boundary
- Quarry Dashed Contour
- OB Design Contour
- Shielded Wire Fence with Warning Signs Every 300'
- Quarry Top of Slope and Perimeter Safety Berm
- Slope Indicator
- Quarry Toe of Slope
- OB Top of Slope
- Slope Indicator
- OB Toe of Slope
- B/3 Cross Section B Shown on Sheet 2
- Direction of View

MINE PLAN

Red Hill Cinder Mine: CA Mine ID# 91-14-0002
County of Inyo, CA

Attachment 2





Attachment 2

RED HILL QUARRY - CA MINE ID: 91-14-0002
RECLAMATION NOTES

Mine: Red Hill Quarry

Mineral: Cinders

Mine Operator: Twin Mountain Rock Venture L.L.C.
11374 Tuxford Street
Sun Valley, CA 91352
818 767 8576 [illegible]

Land Owner: Angelus Block Company, INC.
11374 Tuxford Street
Sun Valley, CA 91352
818 767 8576 [illegible]

Applicant: Same as Operator

Owner of Mineral Rights: Same as Owner

Geologists: Jay Martin & John McKeown – Terracon
1355 E Cooley Dr
Colton, California 92324

Representative: Lilburn Corporation
1905 Business Center Drive
San Bernardino, CA 92408
909 890-1818

Map Preparer: Lilburn Corporation

APN: [illegible]

Existing Disturbed 152 acres
Existing Permitted in 1979: 160 acres
Proposed Total Mine Area: 198 acres
Area to be Reclaimed: 198 acres

Reclaimed End Use: Open space with reclaimed landforms

Reclamation/Revegetation Plan

At the completion of mining activities, all equipment will be removed from the project site and all debris will be removed and disposed at a permitted facility. All quarry fencing, gates, and berms with warning signs will remain in place to prevent unauthorized access.

Active slopes steeper than 1H:1V will be cut back [illegible] to a reclaimed slope of no more than 1H:1V as required by the current CUP or pushed down or backfilled with non-commercial material to 2H:1V as recommended by Terracon. The fill will be compacted by tracking the dozer over the slope to achieve necessary compaction consistent with final end use of open space.

All areas will be contoured in such a way as to blend into the surrounding cone and cinder areas. Surface material in all compacted working areas, roads, stockpiles, and processing areas will be ripped to a depth of one-foot by mechanical means to enhance moisture and wind blown seed collection.

Upon completion of mining activities, the site will consist of two pits totaling about 106 acres to a depth of 150 feet with overall slopes no steeper than 1H:1V per the current CUP and as recommended by Terracon. The approximate 49 acres of non-commercial cinder stockpiles will be contoured to blend into the existing landscape of the area. The reclaimed site will allow for future development of additional reserves. The reclaimed site will not preclude or [illegible] any future mining activities or surface modification. Upon completion of mining activities, the site will be open space/habitat and its black and red cinder surface will blend in with the surrounding cinder cone and areas.

LILBURN

N
100 0 100 200
Scale: 1 Inch = 200 feet

LEGEND

Existing

- Patented Claim
- Unpatented Claim per Downsizing Claim Amendment
- Area Permitted for Mining Per Revised Figure 2.5-1
- Existing Topography
- ● RHC15-5 Borehole
- Well 1 Well
- Dirt Road
- Power Pole
- USGS Survey Section

Proposed

- Berm
- Phase Boundary
- Quarry Design Contour
- OB Design Contour
- 3-Strand Wire Fence with Warning Signs Every 500'
- Quarry Top of Slope and Perimeter Safety Berm
- Slope Indicator
- Quarry Toe of Slope
- OB Top of Slope
- Slope Indicator
- OB Toe of Slope
- B/3 Cross Section B Shown on Sheet 3
- Direction of View

STEVEN ALLAN KUPFERMAN
Certified Engineering Geologist

Cooper Aerial Surveys Co.
11402 N. CAVE CREEK ROAD
PHOENIX, AZ 85020
Ph (602) 678-5111
FX (602) 678-5228

THIS MAP HAS BEEN PRODUCED ACCORDING TO PROCEDURES THAT COMPLY WITH NATIONAL STANDARD FOR SPATIAL DATA ACCURACY (NSSDA) FOR A CONTOUR INTERVAL OF 1-FOOT AND A MAP SCALE OF 1" = 100'.

DASH CONTOURS INSIDE VEGETATED AREAS AND SHADOW OUTLINED AREA MAY NOT MEET MAPPING STANDARDS AND SHOULD BE FIELD CHECKED

THIS COMPUTER PLOTTED MAP WAS GENERATED FROM DATA COMPILED BY DIGITAL STEREO METHODS USING AERIAL PHOTOGRAPHY TAKEN ON JANUARY 10, 2015

John S. McKeown
John S. McKeown, E.G.
Senior Geologist
Authorized Project Reviewer

Jay J. Martin, C.E.G 1529
Principal

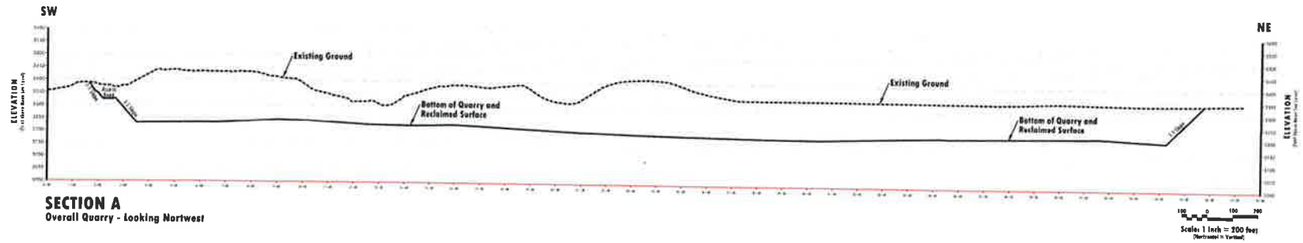
SURVEYOR'S STATEMENT

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYORS' ACT AT THE REQUEST OF LILBURN CORPORATION NOVEMBER, 2020.

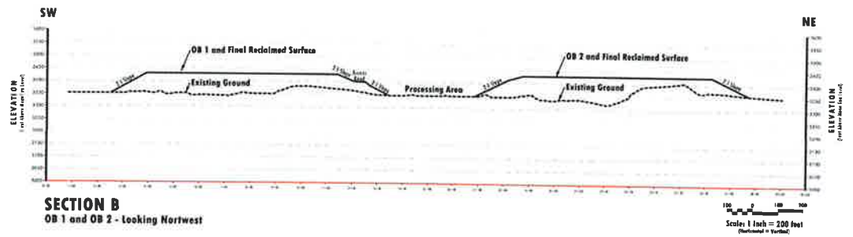
DATE: 12/16/20

JOSEPH B. MILLER

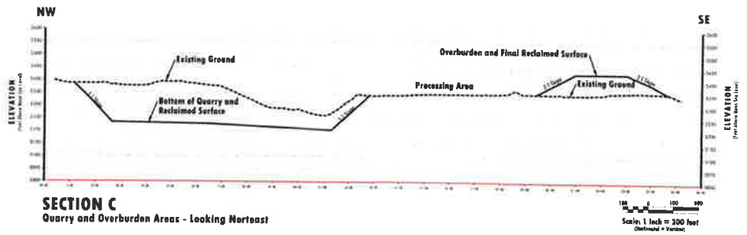
RECLAMATION PLAN
Red Hill Cinder Mine: CA Mine ID# 91-14-0002
County of Inyo, CA



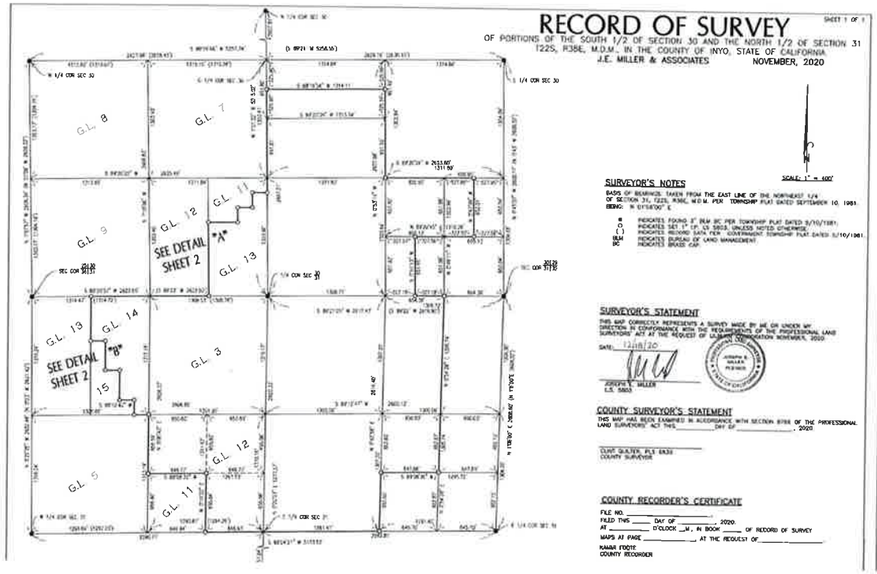
SECTION A
Overall Quarry - Looking Nortwest

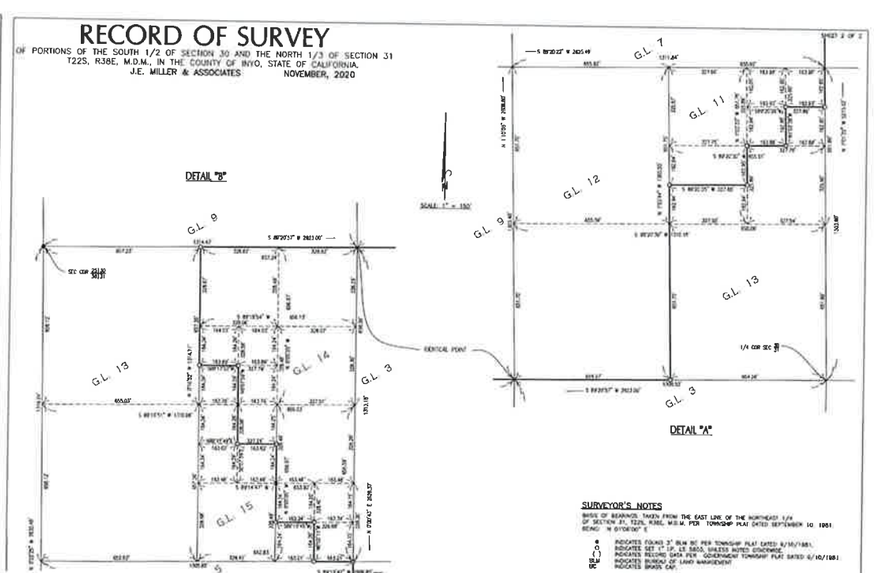


SECTION B
OB 1 and OB 2 - Looking Nortwest



SECTION C
Quarry and Overburden Areas - Looking Northeast





LILBURN
CIVIL ENGINEERING & SURVEYING

STEVEN ALAN KUPFERMAN
No. 1098
Certified Engineering Geologist
STATE OF CALIFORNIA

CROSS SECTIONS
Red Hill Cinder Mine: CA Mine ID# 91-14-0002
County of Inyo, CA

California
Department of Conservation
Division of Mine Reclamation

Gavin Newsom, Governor
David Shabazian, Director

May 14, 2020

Ms. Ryan Smith-Standridge
Inyo County Planning Department
168 N Edwards Street
Independence, CA 93526

Sent electronically to: rstandridge@inyocounty.us

Notice of Incomplete Reclamation Plan Amendment Submission
Red Hill Quarry (California Mine ID #91-14-0002)

Dear Ms. Smith-Standridge:

The Department of Conservation's Division of Mine Reclamation (Division) received a Reclamation Plan Amendment (RPA) for the Red Hill Quarry submitted by Inyo County (County) on April 20, 2020. The County is the lead agency under the Surface Mining and Reclamation Act of 1975 (SMARA; Public Resources Code (PRC) Section 2710 et seq.). Twin Mountain Rock Venture, LLC. operates this mine.

The Division determined that the submittal is incomplete pursuant to PRC Section 2772.1(b)(1):

> "An incomplete submission is one that does not meet the contents requirements of Section 2772, 2773, and 2773.3 and Article 1 (commencing with Section 3500) and Article 9 (commending with Section 3700) of Subchapter 1 of Chapter 8 of Division 2 of Title 14 of the California Code of Regulations (CCR), as applicable."

Pursuant to PRC 2772.1(b)(3), the Division's time to prepare written comments regarding the RPA will commence when the Division receives the following information or documents:

1. *Reclamation Plan Maps:* The reclamation plan maps submitted do not include the information or address several of the requirements of PRC Section 2772(c)(5).

    a. Subsection (B) requires "clearly defined and accurately drawn property lines, setbacks, and the reclamation plan boundary." Figures 3 and 5 show patented and unpatented claim boundaries, do not illustrate the

property boundaries, and lack acknowledgment that a California licensed professional prepared them.

b. Subsection (C) requires that "existing topography and final topography depicted with contour lines drawn at appropriate intervals for the site's conditions." Figures 3, 4, and 5 contain a disclaimer that states, "map prepared by: Lilburn Corporation (TAG); Projection: CA SPCS, Zone 4, NAD 83 US Feet; Topo: Cooper Aerial Surveys CO., 01/2015 and Land Use Consultants, Inc." Without clear attribution to the California License professional responsible for the preparation of the existing topography and the final topography, it is the Division's determination the RPA is incomplete.

c. Subsection (D) requires a "detailed geologic description of the area of the surface mining operation." The RPA did not include a detailed geologic map of the operation.

d. Subsection (F) states that "all maps, diagrams, or calculations that require preparation in accordance with the Professional Engineers Act (Chapter 7 (commencing with Section 6700) of Division 3 of the Business and Professions Code), the Geologist and Geophysicist Act (Chapter 12.5 (commencing with Section 7800) of Division 3 of the Business and Professions Code), or the Professional Land Surveyors' Act (Chapter 15 (commencing with Section 8700) of Division 3 of the Business and Professions Code) shall be prepared by a California-licensed professional, shall include his or her license number and name, and shall bear the signature and seal of the licensee." The County should ensure that the Reclamation Maps included in the RPA are prepared by the appropriate state-licensed professional. Existing topography and property boundaries should be attributed to a land surveyor, final topography should be attributed to a civil engineer, and site specific geologic conditions should be attributed to a geologist.

2. Site specific geotechnical and geologic analysis for final slopes and topography must be included with the RPA pursuant to PRC Section 2773(a) and CCR Sections 3502(b)(3). Without this site-specific baseline analysis, performance standards for backfilling, regrading, slope stability, and recontouring cannot be developed pursuant to CCR Section 3704.

Ms. Ryan Smith-Standridge
Red Hill Quarry
May 14, 2020

If you have any questions, please contact either of us at (916) 323-9198.

Sincerely,

DocuSigned by:
Carol E. Atkins
73ECCB6738194DA...

Carol E. Atkins, Manager
Environmental Services Unit

DocuSigned by:
Paul Fry
29D2BE549209416...

Paul Fry, P.G., Manager
Engineering and Geology Unit

cc (transmitted by email):
Twin Mountain Rock Venture, LLC., Benton Boyd, bboyd@angelusblock.com
Twin Mountain Rock Venture, LLC., Edward Antonini, blockbiz@angelusblock.com

Planning Department
168 North Edwards Street
Post Office Drawer L
Independence, California 93526

Phone: (760) 878-0263
FAX: (760) 872-2712
E-Mail: inyoplanning@inyocounty.us

DRAFT NEGATIVE DECLARATION OF ENVIRONMENTAL IMPACT AND INITIAL STUDY

PROJECT TITLE: Amendment to Conditional Use Permit (CUP) 1978-09; Reclamation Plan Update78-02/Twin Mountain Rock Venture LLC.

PROJECT LOCATION: The project (mine) site is located approximately 20 miles south of Olancha on the east side of US 395 in Inyo County, California. The mine is located within sections 30 and 31, Township 22S North, Range 38E, Mount Diablo Meridian. The Site is accessed from US 395, east onto Cider Road approximately 1 mile into the existing mining site on property owned by Angelus Block Company Inc., with Tax Assessor Parcel Number (APN) 037-090-11 (please see attached map).

PROJECT DESCRIPTION: The applicant has applied for an amendment to Conditional Use Permit (CUP) 1978-09 and for a revision to an existing approved Mining Reclamation Plan. The proposed revised Mining Reclamation Plan (Plan) will include updating the current plans, completing mining in the Main Quarry and extending mining to the northeast away from US 395 in order to utilize the on-site cinder reserves.

FINDINGS:
An Initial Study and Evaluation of Potential Environmental Impacts has been prepared by the Planning Department (attached). Staff finds that the proposed project will **NOT** have a significant adverse impact on the environment for the following reasons:

A. The proposed project is consistent with goals and objectives of the Inyo County General Plan.
The proposed project is consistent with the County General Plan designation of 'Open Space and Recreation (OSR) as the OSR designation allows for Mining uses with the approved Conditional Use Permit (CUP). The original (CUP 78-9) was approved by the County in May 1979 with mining and excavation restricted to the revised Phase 1 excavation area of approximately 116 acres within an overall mine site of approximately 160 acres. Section 08.4.4 of the General Plan Goals and Policies states: 'protect the current and future extraction of mineral resources that are important to the County's economy while minimizing impacts on the public and the environment'. Twin Mountain Rock Ventures L.L.C. mining currently plays a role in the County production of red and black cinder rock and sands crushed and screened to various sizes and colors depending on product demand. The materials are used for landscaping, soil amendment, de-icing of roads, and other uses.

B. The proposed project is consistent with the provisions of the Inyo County Zoning Ordinance.
The proposed project is consistent with the County Zoning Ordinance designation of 'Open Space (OS) as the OS designation allows, as a conditional use, Mining uses. These include Mining and processing of natural resources, including borrow pits. The proposed amendment consists of expanding the existing Red Hill Quarry that is a continued mining use.

C. Potential adverse environmental impacts will not exceed thresholds of significance, either individually or cumulatively.
Based on the proposed updated reclamation plan, the project is consistent with the requirements of Chapter 7.70 - Surface Mining and Land Reclamation, of the Inyo County Code and will not exceed thresholds of significance individually or cumulatively.

D. Based upon the environmental evaluation of the proposed project, the Planning Department finds that the project does not have the potential to create a significant adverse impact on flora or fauna; natural, scenic and historic resources; the local economy; or, public health, safety, and welfare. This constitutes a Negative Finding for the Mandatory Findings required by Section 15065 of the CEQA Guidelines.
Staff's assessment of the parcel describes it as being mostly uniform throughout and comprised of volcanic cinders or cinder sand. The site is completely devoid of vegetation. Most of the site is relatively undisturbed, with some evidence of off-road vehicle use. Disturbances on site are primarily due to the existing mining operations, which border the southernmost end of the project site, and include unpaved roads, temporary structures and material stockpiles, which are owned by Angelus Block.

The 45-day review period for this Negative Declaration expires on **May 15, 2019**. Inyo County is not required to respond to any comments received after this date.

Additional information is available from the Inyo County Planning Department. Please contact Project Planner Ryan Standridge (760-878-0405) if you have any questions regarding this project.

Cathreen Richards
Director, Inyo County Planning Department

3/31/20
Date

INYO COUNTY PLANNING DEPARTMENT
CEQA APPENDIX G: INITIAL STUDY & ENVIRONMENTAL CHECKLIST FORM

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 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 measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).

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 were 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) 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.

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.

Planning Department
168 North Edwards Street
Post Office Drawer L
Independence, California 93526

Phone: (760) 878-0263
FAX: (760) 872-2712
E-Mail: inyoplanning@inyocounty.us

INYO COUNTY PLANNING DEPARTMENT

APPENDIX G: CEQA INITIAL STUDY & ENVIRONMENTAL CHECKLIST FORM

1. Project title: Amendment to Conditional Use Permit (CUP) 1978-09; Reclamation Plan Update 2018-01/Twin Mountain Rock Venture LLC.

2. Lead agency name and address: Inyo County Planning Department.

3. Contact person and phone number: Ryan Standridge, Assistant Planner, (760) 878-0265

4. Project location: The project (mine) site is located approximately 12 miles south of Olancha on the east side of US 395 in Inyo County, California. The mine is located within sections 30 and 31, Township 22S North, Range 38E, Mount Diablo Meridian. The Site is accessed from US 395, east onto Cider Road approximately 1 mile into the mining site on property owned by Angelus Block Company Inc., with Tax Assessor Parcel Number (APN) 037-090-11

5. Project sponsor's name and address: Twin Mountain Rock Venture L.L.C, 11374 Tuxford Street Sun Valley, Ca 91352

6. General Plan designation: Open Space and Recreation (OSR)

7. Zoning: Open Space (OS)

8. Description of project: The applicant has applied for an amendment to Conditional Use Permit 1978-09 and for a revision to an existing approved Mining Reclamation Plan. The proposed revised Mining Reclamation Plan (Plan) will include updating the current plans for completing mining in the main quarry and extending mining operations to the northeast away from US 395 in order to utilize the on-site cinder reserves.

9. Surrounding land uses and setting: The Property is surrounded by Vacant Public lands.

Location:	Use:	Gen. Plan Designation	Zoning
Site	Mine	Open Space and Recreation (OSR)	Open Space with a 40 Acre minimum (OS-40)
North	Vacant Public Land	State And Federal Land (SFL)	Open Space with a 40 Acre minimum (OS-40)
East	Vacant Public Land	State And Federal Land (SFL)	Open Space with a 40 Acre minimum (OS-40)
South	Vacant Public Land	State And Federal Land (SFL)	Open Space with a 40 Acre minimum (OS-40)
West	Vacant Public	State And Federal Land	Open Space with a 40 Acre minimum (OS-

	Land	(SFL)	40)

10. Other public agencies whose approval is required: Department of Conservation, California Department Fish and Wildlife, Bureau of Land Management.

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 checklist on the following pages.

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

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 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been 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.

Ryan Ky Standridge 3-30-20

Date

Ryan Standridge, Assistant Planner
Inyo County Planning Department

INYO COUNTY PLANNING DEPARTMENT
ENVIRONMENTAL CHECKLIST FORM

	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?	☐	☐	☐	☒

No, the mine site is located to the south and east of the Red Hill Cinder Cone, a highly visible landmark along US 395 and the lower Owens Valley that rises approximately 600 feet in elevation. The current in-place 1979 CUP restricted mining on the Red Hill Cone proper and includes a condition that all processing activities shall be located on the eastern side of the site out of view of highway 395. The existing processing plant will remain in the southeastern area for the duration of the project, hidden from surrounding views by the perimeter berm and overburden stockpiles.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒

No, the proposed expansion will not damage scenic resources as it will not block the view of Red Hill Cinder Cone, a highly visible Landmark along US 395 as the proposed location is on the Far East side of the site, out of sight of US 395. In addition, the existing and planned mining areas will not impact the Red Hill Cone proper. Future mining will take place within the existing mine areas to the south and eventually expand to the northeast on the level volcanic sands to the east of the cone. No nearby trees or historic buildings are in the general area.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒

No, the existing processing plant will remain in the southeastern area for the duration of the project, hidden from surrounding views by the perimeter berm and overburden stockpiles. The applicant will continue to camouflage the project from the public and surrounding areas by using the perimeter berm and overburden stockpiles.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

No, the proposed expansion will not create a new source of substantial light or glare as site operations are conducted during daylight hours only four to five days a week. The existing lighting for security will be utilized with no new lighting sources.

II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including The Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology Provided in Forest Protocols adopted by the California Air Resources Board.

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	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
and Monitoring Program of the California Resources Agency, to non-agricultural use? *No, the proposed expansion will not be located on farmland.*				
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? *No, the proposed expansion will not be located on land zoned for agriculture. There are no Williamson Act contracts in Inyo County.*	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? *No, the proposed expansion will not be located on forested land.*	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use? *No, the proposed expansion will not be located on forested land.*	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use? *No, the proposed location will not cause changes to the surrounding environment that could result in any losses to farmland or agricultural uses.*	☐	☐	☐	☒
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan? *No, although there are portions of Inyo County within non-attainment areas for Federal and State PM10 (particulate matter 10 microns or less in diameter) ambient air quality standards, the primary source for this pollution is the Owens dry lake, located approximately 30-miles from the project site. The applicant will also be subject to Great Basin Unified Air Pollution Control District regulations regarding dust mitigation during operation and all processing equipment is permitted with the Great Basin Unified Air Pollution Control District.*	☐	☒	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? *No, although there are portions of Inyo County within non-attainment areas for Federal and State PM10 (particulate matter 10 microns or less in diameter) ambient air quality standards, the primary source for this pollution is the Owens dry lake, located approximately 30-miles from the project site. The applicant will also be subject to Great Basin Unified Air Pollution Control District regulations regarding dust mitigation during operation and all processing equipment is permitted with the Great Basin Unified Air Pollution Control District.*	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact

No, although there are portions of Inyo County within non-attainment areas for Federal and State PM10 (particulate matter 10 microns or less in diameter) ambient air quality standards, the primary source for this pollution is the Owens dry lake, located approximately 30-miles from the project site. The applicant will also be subject to Great Basin Unified Air Pollution Control District regulations regarding dust mitigation during operation and all processing equipment is permitted with the Great Basin Unified Air Pollution Control District..

d) Expose sensitive receptors to substantial pollutant concentrations? ☐ ☐ ☒ ☐

No, there are no sensitive receptors near the project location. The nearest community is Olancha 20 miles away.

e) Create objectionable odors affecting a substantial number of people? ☐ ☐ ☒ ☐

No, the pumice mine does not create odor affecting a substantial number of people. Also, there are no sensitive receptors near the project location. The nearest community is Olancha 20 miles away.

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 Game or U.S. Fish and Wildlife Service? ☐ ☐ ☒ ☐

No, based on staff's review of CNDDB there are no known candidate, sensitive, or threatened species on or near the site and a biological and botanical study was completed on the project area. A biological survey was also conducted on the project site. Based on the biological data collected during the study the proposed mine areas were reduced to eliminate any areas with vegetation. The proposed project footprint is completely within an un-vegetated area that consists entirely of cinder sand and gravel. Although no sensitive species were found during the studies the applicant will be utilizing a 100 ft. habitat barrier north of a10 ft. berm located at the 50ft set back (a 6-foot berm and 50-foot setback are required by SMARA regulation). The 100-foot habitat barrier will also be extended to a small section northwest of an existing access gate and run approximately 400ft south west of the gate..

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? ☐ ☐ ☒ ☐

No, the proposed mine area does not include any riparian habitat. Also, the project was designed to completely avoid any areas with vegetation and consists entirely of cinder sand and gravel. Therefore, no impacts to riparian habitat will occur due to the proposed activities.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? ☐ ☐ ☒ ☐

No, none of the three required parameters, hydrophilic vegetation, hydric soils and/or wetland hydrology, are present within the projectsite. No wetlands were identified in the study area during based of the absence of hydrophilic vegetation, hydric soil indicators and/or wetland hydrology. There are no drainages or other water features that have a definable bed and bank or associated riparian vegetation that would be subject to the jurisdiction of the CDFW, within the project site.

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? ☐ ☐ ☐ ☒

No, a biological study was completed on the project area. It determined that the level of disturbance from the existing mining operations and the general lack of suitable habitat within the immediate project vicinity, results in no interference with any native

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact

resident, 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? ☐ ☐ ☐ ☒

No, the project site itself is devoid of vegetation, consisting entirely of cinder sand and gravel; therefore, it will not affect trees or other biological resources. Also, Inyo County does not have 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? ☐ ☐ ☐ ☒

No, the project site falls within the current range of the Mojave ground squirrel but is located outside, to the east; of the Mohave ground squirrel Conservation Area set forth in the West Mojave Plan; therefore, it will not conflict with the provisions of an adopted conservation plan. The nearest recently documented Mohave ground squirrel occurrence (2010) is approximately 8 miles northeast of the project site. Although no sensitive species were found during the studies the applicant will be utilizing a 100 ft. habitat barrier north of a10 ft. berm located at the 50ft set back (a 6-foot berm and 50-foot setback are required by SMARA regulation). The 100-foot habitat barrier will also be extended to a small section northwest of an existing access gate and run approximately 400ft south west of the gate.

V. CULTURAL RESOURCES: Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5? ☐ ☐ ☒ ☐

No, the original Plan (CUP 78-9) was approved by the County in May 1979 with mining and excavation restricted to the then revised Phase 1 excavation area. This was conditioned by the County so that there would be no mining taking place on the Red Hill Cone proper nor would it be visible from US 395. An archaeological investigation was conducted in January 1979 for approximately 625 Acres of land surrounding Red Hill and determined that there are no resources that would be defined per 15064.5. In the unlikely event an historical resource is found during mining activities a condition will be included that work will be stopped until the resource can be evaluated.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? ☐ ☐ ☒ ☐

No, an archaeological investigation was conducted January 1979 for approximately 625 acres of land surrounding Red Hill and it determined that there are no resources pursuant to Section 15064.5 . In the unlikely event an archaeological resource is found during mining activities a condition will be included that work will be stopped until the resource can be evaluated.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? ☐ ☐ ☒ ☐

No, an archaeological investigation was conduct January 1979 for approximately 625 Acres of land surrounding Red Hill and it was determined in concurrence with the BLM that the Red Hill Cone proper is a unique geological feature and cultural resource and therefore it was subsequently conditioned by the County so that there would be no mining taking place on the Red Hill Cone proper or in a manner that would cause impact to it.

d) Disturb any human remains, including those interred outside of formal cemeteries? ☐ ☐ ☒ ☐

No, an archaeological investigation was conduct January 1979 for approximately 625 Acres of land surrounding Red Hill and determined that none of the sites in the investigation were found to have human remains. A condition of approval will be required in the event that human remains or related cultural material are encountered, Section 15064.5(e) of CEQA requires work to be stopped and the County Coroner notified in accordance with California Health and Safety Code 7050.5. In the unlikely event human remains are found during mining activities work will be stopped until the resource can be evaluated and appropriately handled per Chapter 9.52, Disturbance of Archaeological, Paleontological and Historical Features of the Inyo County Code.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS: Would the project: a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. *No, the project area is not located within an Alquist-Priolo Earthquake Fault Zone.*	☐	☐	☐	☒
ii) Strong seismic ground shaking? *Ground shaking may occur anywhere in the region, due to numerous earthquake faults, regardless of whether the project site is within an identified Alquist-Priolo zone or not. However, the Uniform Building Code ensures that future structures shall constructed to required seismic standards (Level IV) in order to withstand such shaking, so this potential impact is considered less than significant.*	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction? *No the project area is not within an area of soils know to be subject to liquefaction.*	☐	☐	☐	☒
iv) Landslides? *No, the project area is not subject to landslides.*	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil? *No, the approved CUP1978-09 project site is required to conform to all drainage, grading, and "Best Management Practice (BMP)" requirements as set forth by the Inyo County Public Works Department, Inyo County of Inyo Environmental Health Services Department, and other associated regulatory agencies will be written into the Conditions of Approval for the permit. As a result of this regulation, potential impacts are considered less than significant.*	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? *No, the project is not located on a geologic unit or soil that is considered unstable.*	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? *No, the project is not located on a geologic unit or soil that is considered expansive.*	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? *No, the site has portable toilets on-site and is serviced by a commercial vendor Therefore; the project will not create a need for upgrades to the existing waste disposal systems as it will not create additional waste.*	☐	☐	☐	☒
VII. GREENHOUSE GAS EMISSIONS: Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact

No, all equipment used at mining site meet California's CO2 emission requirements. The applicant has also reduced the diesel exhaust emissions by utilizing a feed hopper. Power to run the plant and for all other needs is provided by commercial power from Southern California Edison (SCE). No portable generators are used on-site.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? ☐ ☐ ☒ ☐

No, all equipment used at mining site meet California's CO2 emission requirements. The applicant has also reduced the diesel exhaust emissions by utilizing a feed hopper and all processing equipment is permitted with the Great Basin Unified Air Pollution Control District. Power to run the plant and for all other needs is provided by commercial power from Southern California Edison (SCE). No portable generators are used on-site.

VIII. 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? ☐ ☐ ☐ ☒

No, Chemicals are not used on-site; no chemical processing occurs on-site only crushing and screening. There will be no chemical waste or pollution from the mining operation.

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? ☐ ☐ ☒ ☐

No, Equipment and vehicle maintenance is conducted in the shop building on concrete floors. Maintenance and refueling complies with all rules and regulations with regard to implementing proper fueling procedures, fuel and waste oil storage, and spill control measures and employee training per their Emergency Response Plans and Procedures on file with the Inyo County Environmental Health Services (EHS). EHS is the Certified Unified Program Agency (CUPA) that oversees hazardous materials storage, use, generation and disposal. EHS will continue to permit.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? ☐ ☐ ☐ ☒

No, the project site is not within ¼-mile of a school.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? ☐ ☐ ☐ ☒

No, the project is not located on a site included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? ☐ ☐ ☐ ☒

No, the project location is neither within an airport land use plan, nor within 2-miles of a public/public use airport. The expansion will be enclosed by fencing to ensure its safety.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? ☐ ☐ ☐ ☒

No, the project location is not within the vicinity of a private air strip.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

No, the project will not interfere with the implementation of an adopted emergency plan.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

No, the proposed project location is not adjacent to any urbanized area and the surrounding area is BLM vacant land composed of volcanic cinder gravels and sands.

IX. HYDROLOGY AND WATER QUALITY: Would the project:

a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐

No, Water is supplied from an existing on-site well on the west-southwest side of the site. A second well is located to the east of the administration area. Its non-potable water is pumped into a portable 10,000-gallon water tank located at the plant site and a 5,000-gallon tank for the plant equipment's water spray dust control. Water use on-site is utilized to minimize dust generation. A water truck (currently a 2,000-gallon truck) is used for wetting down material and roads during mining activities. Approximately 12,000 gallons of water a day may be used for dust suppression activities on approximately 200 days per year which amounts to approximately 7.5 acre-feet annually. It is not anticipated that there will be any excess water from the wetting-down procedure as the sprayed water is absorbed by loose materials, or by the porous surface, or evaporates; therefore, no recycling is required or planned. Bottled water is provided for employees. Wastewater is handled with a septic system located in the administrative area and/or portable restrooms.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐

No, the current approved site will be in reclamation and the existing water policy will remain in place with the expansion. Water is supplied from an existing on-site well on the west-southwest side of the site. A second well is located to the east of the administration area. Its non-potable water is pumped into a portable 10,000-gallon water tank located at the plant site and a 5,000-gallon tank for the plant equipment's water spray dust control. Water use on-site is utilized to minimize dust generation. A water truck (currently a 2,000-gallon truck) is used for wetting down material and roads during mining activities. Approximately 12,000 gallons of water a day may be used for dust suppression activities on approximately 200 days per year which amounts to approximately 7.5 acre-feet annually.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒

No, the project site is composed of volcanic cinder gravels and sands. This material is very porous and there are no drainages or impervious surfaces on-site. Erosion is not an issue of concern on-site.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off-site?	☐	☐	☒	☐

No, the project site is composed of volcanic cinder gravels and sands. This material is very porous and there are no drainages or impervious surfaces on-site. Erosion is not a concern on-site. The mining site is required to conform to all drainage, grading, and "Best Management Practice" (BMP) requirements as set forth by the Inyo County Public Works Department, Inyo County of Inyo

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact

Environmental Health Services Department, and other associated regulatory agencies. As a result of this regulation, potential impacts are considered less than significant

e) 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? ☐ ☐ ☐ ☒
No, the project site is composed of volcanic cinder gravels and sands. This material is very porous and there are no drainages or impervious surfaces on-site. Erosion is not an issue on-site.

f) Otherwise substantially degrade water quality? ☐ ☐ ☐ ☒
No, the project site is composed of volcanic cinder gravels and sands. This material is very porous and there are no drainages or impervious surfaces on-site that cause the degrading of water quality.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? ☐ ☐ ☐ ☒
No, the project is located in a of minimal flood hazard area.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? ☐ ☐ ☐ ☒
No, no drainages or other water features were identified within the project site that would meet the definition of waters of the U.S. per the Clean Water Act. The project site is near an unnamed intermittent stream and unnamed playa to the east side of the project area. The adjacent unnamed intermittent stream and unnamed, intermittently-flooded playa, are completely outside (to the east) of the proposed project site.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? ☐ ☐ ☐ ☒
No, the project is not in an area known to be prone to flooding a result of the failure of a levee or dam.

j) Inundation by seiche, tsunami, or mudflow? ☐ ☐ ☐ ☒
No, the project is not in an area known to be prone to seiche, tsunami or mudflows.

X. LAND USE AND PLANNING: Would the project:

a) Physically divide an established community? ☐ ☐ ☐ ☒
No, the project boarders vacant land owned by BLM therefore will not divide a community.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? ☐ ☐ ☒ ☐
The proposed project is consistent with the County Zoning Ordinance designation of 'Open Space (OS) as the OS designation allows, as a conditional use, mining uses (Inyo County Code, Title 18 ,Section18.12.040 I). These include mining and processing of natural resources, including borrow pits. The proposed amendment consists of expanding the existing Red Hill Quarry that is a continued mining use. The General Plan includes policy that protects the current and future extraction of mineral resources that are important to the County's economy while minimizing impacts of this use on the public and the environment.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan? ☐ ☐ ☐ ☒
No, the project site is not located in any habitat conservation plan or natural community conservation plan..

XI. MINERAL RESOURCES: Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐

No, this project is the mining of a mineral; however, this mineral is in abundance in the area and mining this small deposit will not deplete the mineral resource. The Inyo County General Plan encourages such mining. The impact to this resource is very small considering the great quantities of it that are available within Inyo County.

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?	☐	☐	☐	☒

No, the project will have no impact on the resource.

XII. NOISE: Would the project result in the:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐

No, the mining site is surrounded by a 10 ft. berm and utilizes a conveyor belt to transport material to the plant. It will not produce noise in excess of what is in the general plan.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐

No, although the mining operation requires the use of heavy construction equipment Twin Rock Venture has cut the noise level by utilizing the conveyor belt.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒

No, although there may be some noise during operation, it will not increase the level of ambient noise in the project area above its current level, as it will be continue to use the 6 ft. berm to keep noise from carrying.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒

No, although there may be some noise during operation, it will not increase the level of ambient noise in the project area above its current level, as it will continue to use the 6 ft. berm to keep noise from carrying.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

No, the project is not located within an airport land use plan and is not within 2-miles of a public or public use airport.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

No, the project is not located in the vicinity of a private airstrip.

XIII. POPULATION AND HOUSING -- Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒

No, the project is to expand mining. It does not include housing and is not an infrastructure improvement that would cause a population increase.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? *No, the project is expansion of mining that will not result in a loss of housing units.*	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? *No, the project is an expansion of mining that will not result in the displacement of people.*	☐	☐	☐	☒

XIV. 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 other performance objectives for any of the public services:				
Fire protection? *No, the project is expansion of mining cinder. It will not cause a high demand for additional services that could result in an overall loss in service provision.*	☐	☐	☐	☒
Police protection? *No, the project is expansion of mining and is located within the jurisdiction of the Inyo County Sheriff. It will not cause a high demand for additional services that could result in an overall loss in service provision.*	☐	☐	☐	☒
Schools? *No, the project is expansion of mining and is located within the Lone Pine Unified School District. It will not cause a high demand for additional services that could result in an overall loss in service provision.*	☐	☐	☐	☒
Parks? *No, the project is expansion of mining. It will not cause a need for new or improved park facilities.*	☐	☐	☐	☒
Other public facilities? *No, the project is expansion of mining. It will not cause a need for new or improved public facilities.*	☐	☐	☐	☒

XV. 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? *No, the is expansion of mining. It will not cause an increase of use to park and recreation facilities.*	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? *No, the project is expansion of mining. It does not include plans for new or an expansion of recreational facilities.*	☐	☐	☐	☒

XVI. TRANSPORTATION/TRAFFIC -- Would the project:

a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact

street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?
No, The existing approved mining site will be in reclamation and the proposed project is an expansion of mining. It will not cause an increase to the current vehicle trips as the operation will continue be conducted four days a week with an occasional Saturday transportation due to demand of product, therefore not effecting the volume or congestion in the area.

b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways? ☐ ☐ ☐ ☒
No, the project is an expansion of mining area and existing plant will increase its hourly and daily production; however, it is expected that operational hours will generally remain at four ten hour days possibly extending to five days/week with some shipping occasionally on Saturdays. It will not cause increases to the current traffic congestion; and therefore, will not lower the level of service standard for the roads in the area.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? ☐ ☐ ☐ ☒
No, the project is an expansion of existing mining activities. It will not cause a change in air traffic patterns.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? ☐ ☐ ☐ ☒
No, the project is an expansion of mining activities with a site enclosed by fencing with a gate. It will not cause a need for any changes to the roads in the area.

e) Result in inadequate emergency access? ☐ ☐ ☐ ☒
No, the project is an expansion of a mining site. It will not create losses of emergency access.

f) Result in inadequate parking capacity? ☐ ☐ ☐ ☒
No, although the proposed project will be located in an existing mining site no parking spaces will be lost.

g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)? ☐ ☐ ☐ ☒
No, the project is an expansion of a mining site. It will have no impact on adopted transportation plans, policies or programs.

XVII. TRIBAL CULTURAL RESOURCES –

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is

i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or ☐ ☐ ☐ ☒
No, the project site is not on Tribal lands and the project, an expansion of mining activities, consists of cinder sand and the site is completely devoid of vegetation. There are no known historical resources as defined in Section 15064.5 on the site.

ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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 American tribe.	☐	☐	☒	☐

No, the proposed expansion of mining activities will not be located on Tribal land nor are there any known historical or cultural resources as defined in Section 15064.5 on the site. If cultural resources are discovered in the project area, work will be stopped and a local Tribal representative will be consulted with to determine the significance of the finding and the proper handling of the resource will be written into the Conditions of Approval for the permit.

XVII. UTILITIES AND SERVICE SYSTEMS --
Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒

No, the project is an expansion of a mine site. The company provides Bottled water for employees. Wastewater is handled with a septic system located in the administrative area and/or portable restrooms. It will not require wastewater treatment.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒

No, the project is an expansion of mining site wastewater is handled with a septic system located in the administrative area and/or portable restrooms. It will not require new or an expansion of existing water or wastewater treatment facilities.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒

No, all storm water received at this site will be contained on site or diverted into existing drainage channels and will not require new or an expansion of existing storm water drainage facilities.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒

Yes, the project is an expansion of mining site water use on-site is utilized to minimize dust generation. Water is supplied from an existing on-site well on the west-southwest side of the site and a second well is located to the east of the administration area.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒

No, the proposed project will not be serviced by a wastewater treatment facility.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒

Yes, the project is served by a county landfill that has the capacity to accommodate the project's solid waste disposal needs. All refuse is disposed into approved trash bins and removed by a commercial garbage hauler.

g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Yes, the applicant will be required to comply with federal, state and local statues and regulations related to solid waste.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVII. 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, 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?	☐	☐	☐	☒

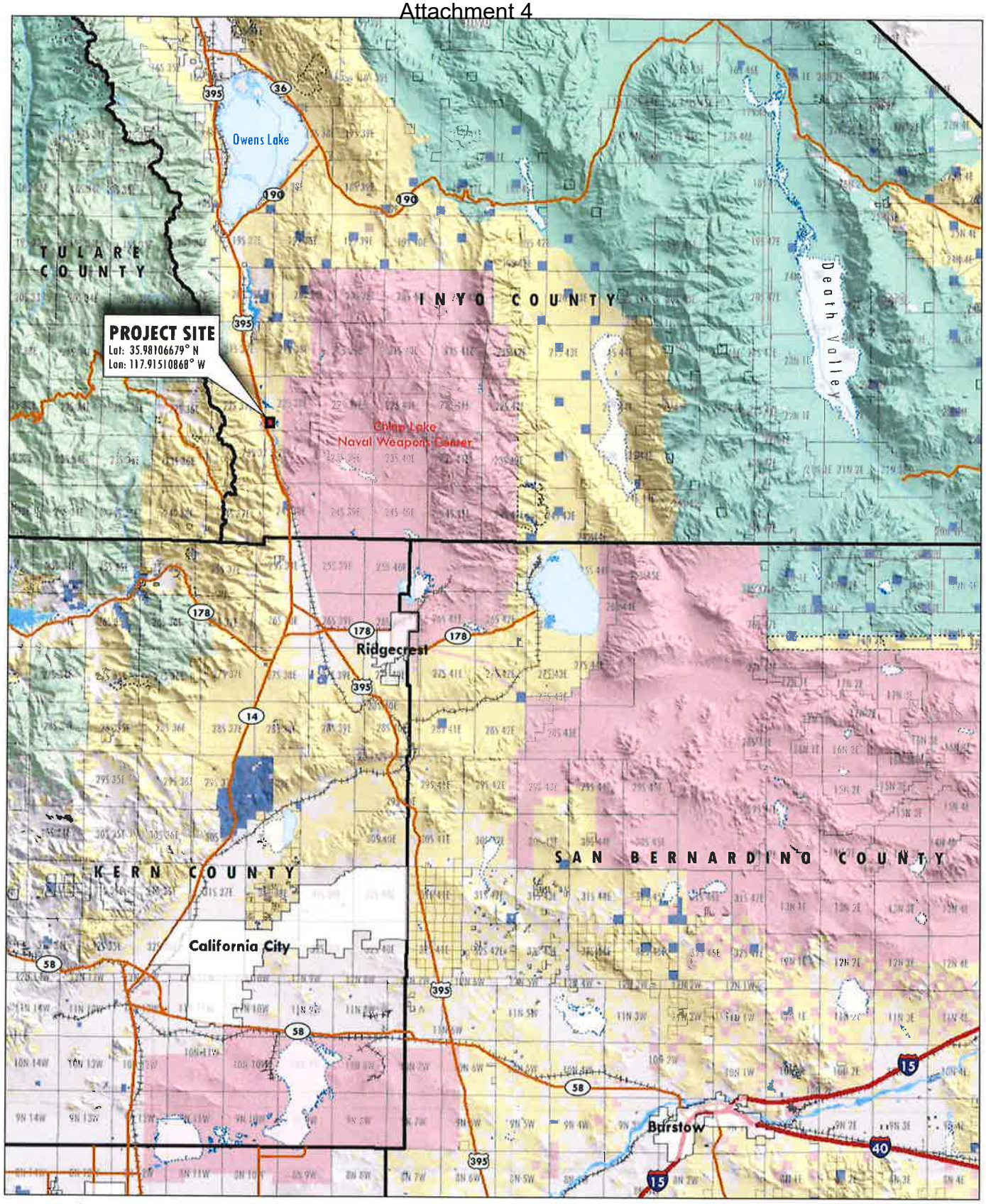
Based on the information submitted by the applicant, the project does not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. The applicant had biological, and cultural studies prepared that found no significant impacts. Upon completion of mining activities, the site will be open space/habitat and its black and red cinder surface will blend in with the surrounding cinder cone and cinder areas.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒

The proposed expansion is located in a remote location and none of the impacts of this project will be cumulatively considerable.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

No, all equipment and debris will be removed from site upon project completion. Public access to the site will be restricted by the site perimeter berm and fence and the locked access gates to the mine site. Any other access roads will be blocked with large boulders or berms. Warning signs with contrasting background lettering will be installed every 500 feet along the approved surface mine boundary stating "No Trespassing - Keep Out; Surface Mining Operation" or similar. Also, the reclaimed 1H:1V slopes will be of sufficient low gradient as not to cause a hazard to public safety if the public illegally trespasses onto the site past the berms, fences and signs.



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MILES

Prepared By:
LILBURN CORPORATION

LEGEND

- County Line
- BLM Land
- Military Land
- National Park Service Land
- CA State Land
- 27S 32W — USGS Township and Range

REGIONAL LOCATION

Red Hill Cinder Mine
County of Inyo, CA

FIGURE 1

General Biological Resources Assessment Update
Red Hill Cinder Mine Expansion Project

Unincorporated Area of Southwestern Inyo County, California
USGS – *Little Lake* Quadrangle,
Sections 30 & 31 of Township 22 South, Range 38 East

Prepared for:

Lilburn Corporation
Attn: Martin Derus
1905 Business Center Drive
San Bernardino, CA 92408

March 2020

Prepared by:

Jericho Systems, Inc.
47 1st Street, Suite 1
Redlands, CA 92373-4601

Certification

Jericho Systems, Inc.
47 1st Street, Suite 1
Redlands, CA 92373-4601
(909) 915-5900

Contact: Shay Lawrey, President and Ecologist/Regulatory Specialist

Certification: I hereby certify that the statements furnished herein, and in the attached exhibits present data and information required for this Biological Resources Repot to the best of my ability, and the facts, statements, and information presented are true and correct to the best of my knowledge and belief. This report was prepared in accordance with professional requirements and standards. Fieldwork conducted for this assessment was overseen by me. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project proponent and that I have no financial interest in the project.

Shay Lawrey, Ecologist/Regulatory Specialist

Table of Contents

1 Introduction

On behalf of Lilburn Corporation, in March 2020, Jericho Systems, Inc. (Jericho) conducted a general biological resources assessment (BRA) and habitat assessments for the burrowing owl (*Athene cunicularia*) and Mohave ground squirrel (*Xerospermophilus mohavensis*) for the Red Hill Cinder Mine Expansion Project (project). The first BRA and habitat assessments were performed in 2018 which concluded that if the site had not been disturbed by January 2019, a re-evaluation of habitat should be performed. The project has not yet proceeded, therefore, this report represents the results of the habitat re-evaluation.

The purpose of the BRA was to address potential effects of the project to designated critical habitats and/or any species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA) or species designated as sensitive by the California Department of Fish and Wildlife (CDFW [formerly California Department of Fish and Game]) and/or the California Native Plant Society (CNPS).

The project site was assessed for sensitive species known to occur locally. Attention was focused on those State- and/or federally-listed as threatened or endangered species and California Fully Protected species that have been documented in the project vicinity, whose habitat requirements are present within the vicinity of the project site. Results of the survey and habitat assessment are intended to provide sufficient baseline information to the project proponent and, if required, to federal and State regulatory agencies, including the U.S. Fish and Wildlife Service (USFWS) and CDFW, respectively, to determine if impacts will occur and to identify mitigation measures to offset those impacts.

In addition to the BRA and habitat assessments conducted in 2018,Jericho biologists Daniel Smith, Eugene Jennings and Todd White also conducted a Jurisdictional Delineation (JD) of the project site. For the March 2020 re-evaluation, Jericho biologists Christian Nordal and CJ Fotheringham also conducted an updated JD. The purpose of the JD is to determine the extent of State and federal jurisdictional waters within the project area potentially subject to regulation by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA and Porter Cologne Water Quality Control Act, and CDFW under Section 1602 of the California Fish and Game Code (FGC), respectively.

1.1 Project Description

The project will consist of expanding the existing Red Hill Quarry onto an approximately 60-acre site that is adjacent the northeast of the existing cinder mine. The expansion area is entirely within privately-owned land (Assessor Parcel Number [APN]: 03709011), surrounded by Bureau of Land Management (BLM) public lands and the Fossil Falls Scenic Area to the south. The expansion project is covered under the existing 1979 Red Hill Quarry mining permit, which is good through 2019. The project is adjacent the southeast side of Red Hill, which is a cinder cone volcano comprised of pumice and lava rock. The project will completely avoid impacts to the cinder cone itself.

1.2 Project Location

The project site is located approximately 0.75 miles east of U.S. Route 395 (US 395), adjacent the southeast side of Red Hill, approximately 5 miles south of Coso Junction and 2.4 miles north of Little Lake, near the unincorporated area of Coso, in southwestern Inyo County, California (Figure 1). The project site is situated in the northeast corner of the *Little Lake* USGS 7.5-minute series quadrangle, in Sections 30 and 31 of Township 22 South, Range 38 East, Mount Diablo Base Meridian.

The project area is accessed from US 395 by Cinder Road (Figures 1&2).

1.3 Environmental Setting

The project site is situated near Coso, in the southern end of the Rose Valley, between the Sierra Nevada Mountains to the west and the Coso Range to the east, in the western Mojave Desert. The Coso area is subject to both seasonal and annual variations in temperature and precipitation. Average annual maximum temperatures peak at 95.6 degrees Fahrenheit (° F) in July and fall to an average annual minimum temperature of 29.1° F in January. Average annual precipitation is greatest from November through March and reaches a peak in February (1.3 inches). Precipitation is lowest in the month of June (0.09 inches). Annual precipitation averages 6.5 inches. The topography of the project area is relatively flat on the eastern portion and sloped on the western portion, along the base of Red Hill. Elevation on site ranges from approximately 3,340 feet above mean sea level (amsl) in the eastern portion of the site, to 3,430 feet amsl in the westernmost portion of the site, nearest the base of the Red Hill cinder cone.

Hydrologically, the project area is located within an undefined Hydrologic Sub-Area (HSA 624.10) which comprises a 170,880-acre drainage area within the larger Indian Wells-Searles Valleys Watershed (HUC 18090205).

Soils within the project area are comprised primarily of cinder sand derived from the adjacent Red Hill cinder volcano.

The general project vicinity consists existing mining operations (Red Hill Quarry) and undeveloped open space. Habitat surrounding the project site consists primarily of *Ambrosia dumosa* Shrubland Alliance (white bursage scrub). The project site itself is devoid of vegetation, consisting entirely of cinder sand and gravel. Much of the project site is relatively undisturbed, however the south/southwestern most portion of the site is disturbed due to the existing mining operations.

2 Assessment Methodology

2.1 Biological Resources Assessment

Data regarding biological resources on the project site were obtained through literature review and field investigations. Prior to performing the surveys, available databases and documentation relevant to the project site were reviewed for documented occurrences of sensitive species in the area. The U.S. Fish and Wildlife Service (USFWS) threatened and endangered species occurrence data overlay and the most recent versions of the California Natural Diversity Database (CNDDB) and California Native Plant Society Electronic Inventory (CNPSEI) databases, as well as the BLM California Special Status Plants list, were searched for sensitive species data on the *Little Lake, Coso Junction, Cactus Peak* and *Volcano Peak* USGS 7.5-minute series quadrangles. The project site is situated in the northeastern portion of the *Little Lake* quad. The site's proximity to the *Coso Junction, Cactus Peak* and *Volcano Peak* quads lead to their inclusion in the review. These databases contain records of reported occurrences of State- and federally-listed species or otherwise sensitive species and habitats that may occur within the vicinity of the project site. Other available technical information on the biological resources of the area was also reviewed including previous surveys and recent findings. These records were revalidated on March 17, 2020.

Jericho biologists Daniel Smith, Eugene Jennings and Todd White conducted a biological resources assessment of the project area on January 29, 2018. Jericho biologists Christian Nordal and CJ

Fotheringham conducted a site re-evaluation on March 14, 2020. The survey area encompassed the entire project site and included 100 percent coverage of the site with transects spaced approximately 10 meters apart, as well as an approximately 500-foot buffer area surrounding the site. Wildlife species were detected during field surveys by sight, calls, tracks, scat, or other sign. In addition to species observed, expected wildlife usage of the site was determined per known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. The focus of the faunal species surveys was to identify potential habitat for special status wildlife within the project area.

2.2 Jurisdictional Delineation

On January 30, 2018, Jericho biologists Daniel Smith, Eugene Jennings and Todd White also evaluated the project site and adjacent areas for the presence of riverine/riparian/wetland habitat and jurisdictional waters, i.e. waters of the U.S. as regulated by the U.S. Army Corps of Engineer (USACE) and Regional Water Quality Control (RWQCB), and/or jurisdictional streambed and associated riparian habitat as regulated by the California Department Fish and Wildlife (CDFW). The project site was re-evaluated for these features on March 17, 2020 by Jericho biologists Christian Nordal and CJ Fotheringham.

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 U.S. Fish and Wildlife Service National Wetland Inventory and Environmental Protection Agency (EPA) Water Program "My Waters" data layer were also reviewed to determine whether any hydrologic features and wetland areas 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 southwestern Inyo 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. Upstream and downstream connectivity of waterways (if present) was reviewed in the field and on aerial photographs and topographic maps to determine jurisdictional status.

During the field surveys, the survey team 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.

Evaluation of potential federal jurisdiction followed the regulations set forth in 33CFR part 328 and the USACE guidance documents and evaluation of potential State jurisdiction followed guidance in the Fish and Game Code and A Review of Stream Processes and Forms in Dryland Watersheds (CDFW, 2010)..

To be considered a *jurisdictional wetland* under the federal Clean Water Act, Section 404, an area must possess three (3) wetland characteristics: hydrophytic *vegetation*, hydric *soils*, and wetland *hydrology*.

- *Hydrophytic vegetation*: Hydrophytic vegetation is plant life that grows, and is typically adapted for life, in permanently or periodically saturated soils. The hydrophytic vegetation criterion is met if more than 50 percent of the dominant plant species from all strata (tree, shrub, and herb layers) is considered hydrophytic. Hydrophytic species are those included on the 2013 National Wetland Plant List (Arid West Region) (Lichvar, 2013). Each species on the list is rated per a wetland indicator category, as shown in Table 1. To be considered hydrophytic, the species must have *wetland indicator status*, i.e., be rated as OBL, FACW or FAC.

Table 1: Wetland Indicator Vegetation Categories

Category	Probability
Obligate Wetland (OBL)	Almost always occur in wetlands (estimated probability >99%)
Facultative Wetland (FACW)	Usually occur in wetlands (estimated probability 67 to 99%)
Facultative (FAC)	Equally likely to occur in wetlands and non-wetlands (estimated probability 34 to 66%)
Facultative Upland (FACU)	Usually occur in non-wetlands (estimated probability 67 to 99%)
Obligate Upland (UPL)	Almost always occur in non-wetlands (estimated probability >99%)

- *Hydric Soil*: Soil maps from the USDA-NRCS Web Soil Survey (USDA 2016) were reviewed for soil types found within the project area. Hydric soils are saturated or inundated long enough during the growing season to develop anaerobic conditions that favor growth and regeneration of hydrophytic vegetation. There are several indirect indicators that may signify the presence of hydric soils including hydrogen sulfide generation, the presence of iron and manganese concretions, certain soil colors, gleying, and the presence of mottling. Generally, hydric soils are dark in color or may be gleyed (bluish, greenish, or grayish), resulting from soil development under anoxic (without oxygen) conditions. Bright mottles within an otherwise dark soil matrix indicate periodic saturation with intervening periods of soil aeration. Hydric indicators are particularly difficult to observe in sandy soils, which are often recently deposited soils of flood plains (entisols) and usually lack sufficient fines (clay and silt) and organic material to allow use of soil color as a reliable indicator of hydric conditions. Hydric soil indicators in sandy soils include accumulations of organic matter in the surface horizon, vertical streaking of subsurface horizons by organic matter, and organic pans.

  The hydric soil criterion is satisfied at a location if soils in the area can be inferred or observed to have a high groundwater table, if there is evidence of prolonged soil saturation, or if there are any indicators suggesting a long-term reducing environment in the upper part of the soil profile. Reducing conditions are most easily assessed using soil color. Soil colors were evaluated using the Munsell Soil Color Charts (Gretag/Macbeth, 2000). Soil pits were dug to an approximate depth of 18 inches to evaluate soil profiles for indications of anaerobic and redoximorphic (hydric) conditions in the subsurface.

- *Wetland Hydrology*: The wetland hydrology criterion is satisfied at a location based upon conclusions inferred from field observations that indicate an area has a high probability of being inundated or saturated (flooded, ponded, or tidally influenced) long enough during the growing season to develop anaerobic conditions in the surface soil environment, especially the root zone (USACE, 1987 and 2008b).

3 Results

3.1 Existing Biological and Physical Conditions

The project site consists almost entirely of undeveloped open space, occupying mostly flat to gently-sloped terrain that surrounds the Red Hill cinder cone. The topography of the site is mostly uniform throughout, comprised of volcanic cinders or cinder sand and the site is completely devoid of vegetation. Most of the site is relatively undisturbed, with some evidence of off-road vehicle use. Disturbances on site are primarily due to the existing mining operations, which border the southernmost end of the project site, and include unpaved roads, temporary structures and material stockpiles. The project to expand the mine has not yet occurred, therefore, there were no additional disturbances beyond the existing mining operations.

3.1.1 Habitat

The project site itself is devoid of vegetation, consisting entirely of cinder sand and gravel (see attached photos). The habitat surrounding the project site consists primarily of *Ambrosia dumosa* Shrubland Alliance (white bursage scrub). The white bursage scrub habitat adjacent the north/northwestern portion of the site is co-dominated by white bursage (*Ambrosia dumosa*) and allscale saltbush (*Atriplex polycarpa*). However, this habitat is more species diverse adjacent the southern/southwestern portion of the site, where it is co-dominated by white bursage, burrobush (*Ambrosia salsola*), allscale saltbush and shadscale (*Atriplex confertifolia*). Other native plant species identified within the survey area include, Devil's lettuce (*Amsinckia tessellata*), Fremont's milk vetch (*Astragalus lentiginosus* var. *fremontii*), Mojave eriastrum (*Eriastrum densifolium* ssp. *mohavense*), desert trumpet (*Eriogonum inflatum*), angle stemmed buckwheat (*E. maculatum*), yellow turbins (*E. pusillum*), kidney leaf buckwheat (*E. reniforme*), desert bush nettle (*Eucnide urens*), creosote (*Larrea tridentata*), desert star (*Monoptilon bellidiforme*), annual psathyrotes (*Psathyrotes annua*), sage thistle (*Salvia carduacea*), desert mallow (*Sphaeralcea ambigua*) and Mojave woodyaster (*Xylorhiza tortifolia*).

There has been no change in the habitat types found on site between the 2018 survey and the 2020 survey.

3.1.2 Wildlife

3.1.2.1 Amphibians and Reptiles

No amphibian species were observed or otherwise detected within the project area and none are expected to occur. The only reptile species observed within the project area was western side-blotched lizard (*Uta stansburiana elegans*). Other common species expected to occur within the project area include Great Basin whiptail (*Aspidoscellis tigris tigris*), zebra-tailed lizard (*Callisaurus draconoides*), desert banded gecko (*Coleonyx variegatus variegatus*), Panamint rattlesnake (*Crotalus stephensi*), desert iguana (*Dipsosaurus dorsalis*), California kingsnake (*Lampropeltis californiae*) and Great Basin gopher snake (*Pituophis catenifer deserticola*).

3.1.2.2 Birds

Avian species observed in the project area include northern harrier (*Circus cyaneus*), common raven (*Corvus corax*) and rock wren (*Salpinctes obsoletus*).

3.1.2.3 Mammals

Identification of mammals within the project area was generally determined by physical evidence rather than direct visual identification. This is because 1) many of the mammal species that potentially occur onsite are nocturnal and would not have been active during the survey and 2) no mammal trapping was

performed. The only mammal species observed was black-tailed jackrabbit (*Lepus californicus*). Other common species expected to occur within the project area include coyote (*Canis latrans*), Merriams' kangaroo rat (*Dipodomys merriami*), and desert cottontail (*Sylvilagus audubonii*).

Overall, there appears to be no change to the wildlife found on site from 2018 and 2020 surveys.

3.2 Special Status Species and Habitats

Per the CNDDB, CNPSEI, and other relevant literature and databases, 23 sensitive species (10 plant species, 13 animal species) have been documented in the *Little Lake, Coso Junction, Cactus Peak* and *Volcano Peak* USGS 7.5-minute series quadrangles. This list of sensitive species and habitats includes any State- and/or federally-listed threatened or endangered species, California Fully Protected species, CDFW designated Species of Special Concern (SSC), and otherwise Special Animals. "Special Animals" is a general term that refers to all the taxa the CNDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special status species." The CDFW considers the taxa on this list to be those of greatest conservation need.

There are three State- and/or federally-listed species documented within the *Little Lake, Coso Junction, Cactus Peak* and *Volcano Peak* quads. Of the three State- and/or federally-listed species, only the following two have been documented in the project vicinity (within approximately 7 miles):

- Desert tortoise (*Gopherus agassizii*)
- Mohave ground squirrel (*Xerospermophilus mohavensis*)

Although not State- or federally-listed as threatened or endangered species, the golden eagle (*Aquila chrysaetos* [GOEA]) is a CDFW Fully Protected species and BUOW are considered a State and federal SSC, and both species are protected by the international treaty under the Migratory Bird Treaty Act of 1918 and by State law under the California FGC (FGC #3513 & #3503.5). There is potentially suitable habitat for these species within the project vicinity and both species have been documented in the project vicinity. Therefore, GOEA and BUOW will be included in the discussion below.

Additionally, the following two BLM Sensitive Plant Species have been documented in the project vicinity and the environmental conditions within the habitat surrounding the project site are suitable to support these species:

- Creamy blazing star (*Mentzelia tridentata*)
- Charlotte's phacelia (*Phacelia nashiana*)

An analysis of the likelihood for occurrence of all CNDDB sensitive species documented in the *Little Lake, Coso Junction, Cactus Peak* and *Volcano Peak* quads is provided in Table 2. This analysis considers species' range as well as documentation within the vicinity of the project area and includes the habitat requirements for each species and the potential for their occurrence on the site, based on required habitat elements and range relative to the current site conditions.

3.2.1 Special Status Species

No State- and/or federally-listed threatened or endangered species, or other sensitive species, were observed on site during the reconnaissance-level field surveys performed in 2018 or 2020. However, there is some habitat adjacent the proposed project footprint that may be suitable for several sensitive species identified in the literature review (Table 2), and several sensitive species have been documented near the project site.

In addition to the general biological resources assessment, habitat suitability assessments were conducted within the project area for BUOW and Mohave ground squirrel.

Desert Tortoise – Threatened (State/Federal)

The desert tortoise is a State- and federally-listed threatened species. Throughout its range, it is threatened by habitat loss, domestic grazing, predation, collections, and increased mortality rates. The desert tortoise is typically found in creosote bush scrub. They are most often found on level or sloped ground where the substrate is firm but not too rocky. Tortoise burrows are typically found at the base of shrubs, in the sides of washes and in hillsides. Because a single tortoise may have many burrows distributed throughout its home range, it is not possible to predict exact numbers of individuals on a site based upon burrow numbers.

In 1992 the BLM issued the *California Statewide Desert Tortoise Management Policy* which included categorizing habitat into three levels of classification. The management goal for Category I areas is to maintain stable, viable populations and to increase the population where possible. The management goal for Category II areas is to maintain stable, viable populations. The management goal for Category III areas is to limit population declines to the extent feasible. In April 1993, the BLM amended the CDCA plan to delineate these three categories of desert tortoise habitat on public lands. With the adoption of the West Mojave Plan (BLM 2005), all lands that are outside Desert Wildlife Management Areas are characterized as Category 3 Habitat, which is the lowest priority management area for viable populations of the desert tortoise.

> *Findings*: Per the CNDDB, the nearest documented desert tortoise occurrence (2006) is approximately 6.4 miles northwest of the project site. There are no desert tortoise occurrences documented in the project area, and there is no suitable habitat for this species within the project site. However, some of the surrounding area adjacent portions of the project site does contain white bursage scrub habitat suitable to support desert tortoise.
>
> Per the USFWS desert tortoise Critical Habitat overlay, the project site is not within any USFWS designated desert tortoise Critical Habitat. Furthermore, the project site is not within a BLM designated Desert Wildlife Management Area (USFWS 2011). Therefore, the habitat surrounding the site would be characterized as Category 3 Habitat, per the BLM categorization of desert tortoise habitat on public lands.
>
> The assessment survey was structured, in part, to detect desert tortoise. The survey consisted of walking transects spaced approximately 10 meters apart to provide 100% visual coverage of the project site, as well as an approximately 500-foot buffer area surrounding the site. The result of the survey was that no evidence of desert tortoise was found in the survey area. No desert tortoise individuals or sign including burrows or scat were observed. Therefore, desert tortoise are considered absent from the project site.
>
> The 2020 findings are consistent with the 2018 findings.

Mohave Ground Squirrel – Threatened (State)

The Mohave ground squirrel is a State-listed threatened species. This small, grayish, diurnal ground squirrel is endemic to two million hectares in the western Mojave Desert. It typically inhabits sandy soils of alkali sink and creosote bush scrub habitat. Mohave ground squirrel forage on leaves and seeds and aestivate/hibernate for long periods of the year. Plants documented as forage for this species include: fiddleneck (*Amsinckia tessellata*), allscale (*Atriplex canescens* and *A. polycarpa*), desert holly (*A.*

hymenelytra), coreopsis (*Coreopsis* sp.), spiny hopsage (*Grayia spinosa*), winterfat (*Krascheninnikovia lanata*), wolfberry (*Lycium andersonii*), Joshua tree (*Yucca brevifolia*) and the seeds of Joshua tree. It is suspected that Mohave ground squirrel forage on the plant species with the highest water content available at the time.

Findings: Although a focused Mohave ground squirrel trapping survey was not performed, Jericho conducted a Mohave ground squirrel habitat suitability assessment of the proposed project site and adjacent habitat. The habitat assessment included a pedestrian field assessment, review of reported occurrences of the Mohave ground squirrel in the region (CNDDB 2018), and adherence to CDFW's criteria for assessing potential impacts to the Mohave ground squirrel. The criteria questions are as follows:

1. *Is the site within the range of the Mohave ground squirrel?;*
2. *Is there native habitat with a relatively diverse shrub component?; and*
3. *Is the site surrounded by development and therefore isolated from potentially occupied habitat?*

The project site falls within the current range of the MGS but is located outside, to the east, of the Mohave ground squirrel Conservation Area set forth in the West Mojave Plan (BLM 2005). Per the CNDDB, there are 21 recent and historic Mohave ground squirrel occurrences documented in the *Little Lake, Coso Junction, Cactus Peak* and *Volcano Peak* quads. The nearest historically documented occurrence (1988) for Mohave ground squirrel is approximately 2 miles north of the project site. The nearest recently documented Mohave ground squirrel occurrence (2010) is approximately 8 miles northeast of the project site.

The entire project site (approximately 60 acres) consists of unvegetated cinder sand, which would not be considered suitable to support this species due to a lack of forage plants. However, some of the surrounding area adjacent of the project site does consist of white bursage scrub habitat that would be considered suitable to support Mohave ground squirrel. This habitat is mostly restricted to the areas adjacent the western portion of the site, around the base of the cinder cone, and adjacent the northernmost portion of the project site, respectively. Furthermore, although the southern portion of the site is bordered by existing mining operations, there is undeveloped contiguous suitable habitat between the project site and documented Mohave ground squirrel occurrences to the north and east. Therefore, Mohave ground squirrel could potentially occur within areas of suitable habitat outside of but surrounding the project site.

The 2020 findings are consistent with the 2018 findings.

Golden Eagle – CDFW Fully Protected

The GOEA is a CDFW Fully Protected species. GOEA are found throughout North America, but are more common in western North America (CDFW 2017). Habitat typically consists of rolling foothills and mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes, and cliffs and rock outcrops (Polite and Pratt 1990). GOEA build large platform nests, typically on cliffs and in large trees in open areas of rugged, open habitats with canyons and escarpments (Polite and Pratt 1990). Threats include loss of foraging areas, loss of nesting habitat, pesticide poisoning, lead poisoning and collision with man-made structures such as wind turbines (CDFW 2017).

Raptors and all migratory bird species, whether listed or not, receive protection under the Migratory Bird Treaty Act (MBTA) of 1918. The MBTA prohibits individuals to kill, take, possess or sell any migratory

bird, or bird parts (including nests and eggs) except in accordance with regulations prescribed by the Secretary of the Interior Department (16 U. S. Code 7035). Additional protection is provided to all bald and golden eagles under the Bald and Golden Eagle Protection Act of 1940, as amended. State protection is extended to all birds of prey by the California FGC, Section 2503.57. No take is allowed under these provisions except through the approval of the agencies or their designated representatives.

> *Findings*: Per the CNDDB, the nearest recently documented GOEA nesting occurrence (2009) is approximately 8.7 miles north of the project site, near the Haiwee Powerhouse, south of the South Haiwee Dam. Additionally, there are several historically documented GOEA nesting occurrences (1974-77) located south of Little Lake, approximately 3.7 to 6.6 miles south of the project site. There are no GOEA occurrences documented in the project area. Although the area surrounding the project site likely provides suitable foraging habitat for GOEA, there are no tall trees in the project area and very little cliffside habitat that could provide potential GOEA nest sites. Furthermore, no GOEA were observed within the project area during the reconnaissance-level survey. The surrounding hillsides, particularly the upper half of the adjacent Red Hill cinder cone, were surveyed using binoculars and no GOEA or nest sites were detected. Given the level of disturbance from the existing mining operations and the general lack of suitable nest sites within the immediate project vicinity, the project site and surrounding area is likely not considered suitable to support nesting GOEA.

Burrowing Owl – SSC

The BUOW is a ground dwelling owl typically found in arid prairies, fields, and open areas where vegetation is sparse and low to the ground. The BUOW is heavily dependent upon the presence of mammal burrows, with ground squirrel burrows being a common choice, in its habitat to provide shelter from predators, inclement weather and to provide a nesting place (Coulombe 1971). They are also known to make use of human-created structures, such as cement culverts and pipes, for burrows. BUOW spend a great deal of time standing on dirt mounds at the entrance to a burrow or perched on a fence post or other low to the ground perch from which they hunt for prey. They feed primarily on insects such as grasshoppers, June beetles and moths, but will also take small rodents, birds, and reptiles. They are active during the day and night, but are considered a crepuscular owl; generally observed in the early morning hours or at twilight. The breeding season for BUOW is February 1 through August 31.

BUOW have disappeared from significant portions of their range in the last 15 years and, overall, nearly 60% of the breeding groups of owls known to have existed in California during the 1980s had disappeared by the early 1990s (Burrowing Owl Consortium 1993). The BUOW is not listed under the State or federal ESA, but is considered both a State and federal SSC. The BUOW is a migratory bird protected by the international treaty under the Migratory Bird Treaty Act of 1918 and by State law under the California FGC (FGC #3513 & #3503.5).

> *Findings*: Per the CNDDB, the nearest documented BUOW occurrence (2007) is approximately 4.3 miles north of the project site, less than 1 mile east of Coso Junction. There are no BUOW occurrences documented in the project area.
>
> The assessment survey was structured, in part, to detect BUOW. The survey consisted of walking transects spaced to provide 100% visual coverage of the project site, including an approximately 500-foot buffer area around the project site. The result of the survey was that no evidence of BUOW was found in the survey area. No BUOW individuals or sign including pellets, feathers or white wash were observed.

Per the definition provided in the *2012 CDFG Staff Report on Burrowing Owl Mitigation*, "Burrowing owl habitat generally includes, but is not limited to, short or sparse vegetation (at least at some time of year), presence of burrows, burrow surrogates or presence of fossorial mammal dens, well-drained soils, and abundant and available prey." Therefore, although the project site does contain friable soils, it would not be considered suitable for BUOW because the site is devoid of vegetation and no appropriately sized burrows or burrow surrogates were detected within the project area.

The 2020 findings are consistent with the 2018 findings.

BLM Sensitive Plant Species

The project site is surrounded by BLM managed lands. The BLM manages species that is considers sensitive, regardless of their State or federal listing status. The following two BLM Sensitive Plan Species have been documented in the project vicinity: creamy blazing star (*Mentzelia tridentata*) and Charlotte's phacelia (*Phacelia nashiana*).

Findings: Per the CNDDB, the nearest documented creamy blazing star occurrence is on the west slopes of Red Hill, approximately 0.3 miles west of the project site, and the nearest documented Charlotte's phacelia occurrence is approximately 3 miles southwest of the project site. Neither species was detected during survey. However, it should be noted that given that the survey was conducted in January, many of the annual species were not in bloom at the time of survey. The bloom period for creamy blazing star is typically March through May and the bloom period for Charlotte's phacelia is March through June, respectively (Calflora 2020). Although neither species was detected during survey, the soils and habitat types adjacent the western and northernmost portions of the project site are suitable for these species to occur in.

The 2020 findings are consistent with the 2018 findings.

3.2.2 Jurisdictional Delineation

The project site is within an undefined Hydrologic Sub-Area (HSA 624.10) which comprises a 170,880-acre drainage area within the larger Indian Wells-Searles Valleys Watershed (HUC 18090205). This watershed encompasses an approximately 2,019-square-mile area, partially within southern Inyo County, northeastern Kern County and northwestern San Bernardino County, respectively. The Indian Wells-Searles Valleys Watershed is bound on the north by the Owens Lake Watershed, on the west by the South Fork Kern Watershed, on the east by the Panamint Valley Watershed and on the south by the Antelope-Fremont Valleys and Coyote-Cuddeback Lakes Watersheds. The Indian Wells-Searles Valleys Watershed is bordered on the west by the southernmost foothills of the Eastern Sierra Nevada and encompasses portions of the Coso Range and Argus Range mountains to the north, as well as China Lake and Searles Lake playas. These two dry lakes, which are the major receiving waters of the hydrogeomorphic features within the Indian Wells-Searles Valleys Watershed, were once fed by the Pleistocene Owens River system. The project site is situated in the northern portion of the Indian Wells-Searles Valleys Watershed, adjacent (to the west of) an unnamed intermittent stream and unnamed playa that were once part of the Pleistocene Owens River system.

Waters of the U.S.

The USACE has authority to permit the discharge of dredged or fill material in waters of the U.S. under Section 404 CWA. WoUS are defined as: "All waters used in interstate or foreign commerce; all interstate

waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent and ephemeral streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, where the use, degradation, or destruction of which could affect interstate commerce; impoundments of these waters; tributaries of these waters; or wetlands adjacent to these waters" (Section 404 of the CWA; 33 CFR 328.3 (a). CWA jurisdiction exists over the following:

1. all traditional navigable waters (TNWs);
2. all wetlands adjacent to TNWs;
3. non-navigable tributaries of TNWs that are relatively permanent waters (RPWs) i.e., tributaries that typically flow year-round or have continuous flow at least seasonally; and
4. every water body determined to have a significant nexus with TNWs.

No drainages or other water features were identified in the 2018 or 2020 survey within the project site that would meet the definition of WoUS, and no new drainages developed since the time of the 2018 survey. The project site is near an unnamed intermittent stream and unnamed playa, which are both adjacent the east side of the project area. These two intermittently-flooded features are both part of what was once the Pleistocene Owens River system and the unnamed playa was inundated at the time the survey was conducted (see attached photos). The unnamed intermittent stream originates approximately 12 miles north (upstream) of the project area, at the south end of South Haiwee Reservoir, and terminates approximately 18 miles southeast of the project area, in an area approximately 9 miles northwest of China Lake.

The adjacent unnamed intermittent stream and unnamed, intermittently-flooded playa are completely outside (to the east) of the proposed project site. Furthermore, these features would be considered isolated waters as they do not have a significant nexus to a TNW and would be not be considered jurisdictional WoUS. Therefore, no water features were identified within the project site that would meet the definition of WoUS.

USACE Wetlands

Areas meeting all three parameters would be designated as USACE wetlands. None of the three required parameters, hydrophitic vegetation, hydric soils and/or wetland hydrology, are present within the project site. Therefore, no wetlands were identified in the study area during the 2018 investigation or 2020 investigation based of the absence of hydrophitic vegetation, hydric soil indicators and/or wetland hydrology.

State Lake/Streambed

The project site is situated near the base of the Red Hill cinder cone, and habitat within the project area is comprised of white bursage scrub habitat. There are no drainages or other water features that have a definable bed and bank or associated riparian vegetation that would be subject to the FGC under the jurisdiction of the CDFW, within the project site. The adjacent unnamed intermittent stream and unnamed, intermittently-flooded playa would likely be considered CDFW jurisdictional features, however they are entirely outside of the proposed project site. The 2020 findings are consistent with the 2018 findings. Any new roadways planned would need to be evaluated to determine if crossing the unnamed intermittent stream is required, in which a permit would be also be required.

4 Conclusions and Recommendations

4.1 Sensitive Biological Resources

No State- and/or federally-listed threatened or endangered species were observed on site during the field survey and due to the lack of suitable habitat on site, none are expected to occur within the proposed project footprint. The entire project site is unvegetated, consisting of cinder sand and gravel. There is white bursage scrub habitat adjacent the western portion of the site, around the base of the cinder cone, as well as adjacent the northernmost portion of the site, that could potentially be suitable to support several sensitive species. However, the project will not impact any sensitive species or habitats that may potentially support sensitive species, including the State- and federally-listed as threatened desert tortoise or the State-listed as threatened Mohave ground squirrel.

The proposed project footprint originally included approximately 29 acres of white bursage scrub habitat within the project boundary, primarily along the northern and western portions of the current proposed project footprint. However, to avoid all potential impacts to sensitive species that could potentially occur within this habitat, the project proponent modified the project boundary to avoid disturbing any of the adjacent white bursage scrub habitat. The current proposed project footprint is completely within an unvegetated area that consists entirely of cinder sand and gravel. Therefore, the project will not impact any of the adjacent white bursage scrub habitat or sensitive species identified as potentially occurring within this habitat.

According to protocol and standard practices, the results of the habitat assessment surveys will remain valid for the period of one year, or until January 29, 2021, after which time, if the site has not been disturbed in the interim, another survey may be required to determine the persisting absence of desert tortoise, BUOW and other sensitive flora and fauna on-site. Regardless of survey results and conclusions given herein, desert tortoise, BUOW and Mohave ground squirrel are protected by applicable State and/or federal laws, including but not exclusive to the CESA and Federal ESA. As such, if a desert tortoise, BUOW or Mohave ground squirrel are found on-site during work activities, all activities likely to affect the animal(s) should cease immediately and regulatory agencies should be contacted to determine appropriate management actions. Importantly, nothing given in this report, including any recommended avoidance, minimization and mitigation measures, is intended to authorize the incidental take of desert tortoise or Mohave ground squirrel or any other listed species during project activities. Such authorization must come from the appropriate regulatory agencies, including CDFW (i.e., authorization under section 2081 of the FGC) and USFWS. Additionally, it should be noted that desert tortoise may be handled only by a qualified biologist who has been given authorization by the appropriate agencies (i.e. USFWS and CDFW).

Desert Tortoise

No evidence of desert tortoise was found in the project area during survey and the nearest documented desert tortoise occurrence is approximately 6.4 miles northwest of the project site. No desert tortoise individuals or sign including burrows or scat were observed on site. Furthermore, the project site does not contain any habitat that would be considered suitable to support this species. Therefore, desert tortoise are considered absent from the project site and immediate surrounding area. No further focused surveys for this species are warranted or recommended. However, because there is potentially suitable white bursage scrub habitat for desert tortoise within some of the adjacent areas surrounding portions of the project site, it is recommended that a 100-foot buffer area be established between the proposed project footprint and any adjacent suitable habitat, to avoid any potential project-related impacts to this species. The adjacent habitat, including the 100-foot buffer area, should be clearly marked prior to any ground disturbing activities and avoided.

Mohave Ground Squirrel

Although there is no suitable Mohave ground squirrel habitat within the project site, there is potentially suitable habitat for Mohave ground squirrel adjacent some portions of the project site and the nearest documented Mohave ground squirrel is approximately 2 miles north of the project site. No focused protocol-level Mohave ground squirrel trapping surveys were conducted, so it is currently not known if Mohave ground squirrel occur within the suitable white bursage scrub habitat surrounding the project site. Therefore, as for desert tortoise (above), it is recommended that a 100-foot buffer area be established between the proposed project footprint and any adjacent suitable habitat, to avoid any potential project-related impacts to Mohave ground squirrel or any other sensitive species that may occur within the adjacent white bursage scrub habitat. As stated above, the adjacent habitat, including the 100-foot buffer area, should be clearly marked prior to any ground disturbing activities and avoided.

Burrowing Owl

A BUOW habitat suitability assessment was conducted, which included 100% visual coverage of the project site and approximately 500-foot buffer area around the project site. The result of the BUOW habitat assessment is that the project site and surrounding area are not considered suitable to support BUOW, due to the absence of vegetation on site, as well as the absence of appropriately sized burrows or burrow surrogates within the survey area. No BUOW individuals or sign including pellets, feathers or white wash were observed within the project site or surrounding area and this species is currently considered absent from the project area. Due to the absence of suitable habitat and BUOW sign, the project is not likely to impact his species and protocol-level BUOW surveys are not warranted or recommended at this time.

Sensitive Plant Species

There are no State- or federally-listed plant species documented in the project vicinity. However, several sensitive plant species, including two BLM Sensitive Plants (creamy blazing star and Charlotte's phacelia) have been documented in the project vicinity. As previously discussed, the project site is completely unvegetated, consisting entirely of cinder sand and gravel, and all adjacent white bursage scrub habitat will be completely avoided. Therefore, the project will not impact any sensitive plant species that may occur within adjacent habitat communities.

Nesting Birds

There is white bursage scrub habitat adjacent the project site that is suitable to support nesting birds. However, the project site is entirely within an area devoid of vegetation and will completely avoid disturbing any adjacent habitat. Therefore, the project is not likely to impact nesting birds.

4.2 Jurisdictional Waters

No jurisdictional features subject to the CWA or FGC under the jurisdictions of the USACE, RWQCB, or CDFW exist within the project site. The project site is located entirely outside of any jurisdictional areas and no permanent or temporary impacts to jurisdictional features will result from the project. Therefore, no permits or authorizations from the USACE, RWQCB, or CDFW will be required unless the site plan will create new access roads and cross drainages.

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ADDITIONAL TABLES

Table 2. CNDDB Species and Habitats Documented Within the *Little Lake, Coso Junction, Cactus Peak* and *Volcano Peak* USGS 7.5-minute Quadrangles

Scientific Name	Common Name	Listing Status Federal/ State	Other Lists	Habitat	Occurrence Potential
Aliciella ripleyi	Ripley's aliciella	None/ None	G3; S2; CNPS: 2B.3	Mojavean desert scrub. On limestone; rocky slopes, rock/cliff bases, and rock crevices. 300-1950 m.	The soil types this species is associated with (limestone) is not present within the project area. Occurrence potential is **low**.
Antrozous pallidus	pallid bat	None/ None	G5; S3; CDFW: SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Although there is little to no roosting habitat within the project site, there are some rocky outcrops adjacent the site that could potentially provide roosting habitat for this species. However, the nearest documented occurrence is approx. 8.8 miles NE of the project site and there is a significant level of human disturbance in the area, due to the existing quarry. Occurrence potential is **low**.
Aquila chrysaetos	golden eagle	None/ None	G5; S3; CDFW: FP	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Given the level of disturbance from the existing mining operations and the general lack of suitable nest sites within the immediate project vicinity, the project site and surrounding area is likely not considered suitable to support nesting GOEA. Occurrence potential is **low.**
Astragalus atratus var. *mensanus*	Darwin Mesa milk-vetch	None/ None	G4G5T2; S2; CNPS: 1B.1	Great Basin scrub, Joshua tree woodland, pinyon and juniper woodland. Dry desert slopes and mesas, often sheltering under and entangled in shrubs, in volcanic clay and gravel. 1705-2320 m.	The project area is outside the elevation range for this species. Occurrence potential is **low**.
Athene cunicularia	burrowing owl	None/ None	G4; S3; CDFW: SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	No appropriately sized burrows or burrow surrogates were detected within the project area, which is devoid of vegetation. Occurrence potential is **low.**
Bombus crotchii	Crotch bumble bee	None/ None	G3G4; S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia,* and *Eriogonum.*	Although there are some food plants for this species within the project area, the nearest documented occurrence is approx. 13.7 miles N of the project site. Occurrence potential is **low**.

Attachment 5

Scientific Name	Common Name	Listing Status Federal/ State	Other Lists	Habitat	Occurrence Potential
Canbya candida	white pygmy-poppy	None/ None	G3G4; S3S4; CNPS: 4.2	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Gravelly, sandy, granitic places. 600-1460 m.	There is some habitat this species is associated with present adjacent the project site and the nearest documented occurrence for this species is approx. 0.8 miles S of the project site. However, the project site is entirely devoid of vegetation and the project will not disturb any adjacent habitat. Occurrence potential is **low.**
Clarkia xantiana ssp. *parviflora*	Kern Canyon clarkia	None/ None	G4T3T4; S3S4; CNPS: 4.2	Chaparral, cismontane woodland, Great Basin scrub, valley and foothill grassland. Often seen on sandy, sometimes rocky, slopes. Sometimes on roadsides. 700-1750 m.	There is some habitat this species is associated with present adjacent the project site, but the nearest documented occurrence for this species is approx. 7.4 miles NW of the project site. Occurrence potential is **low.**
Corynorhinus townsendii	Townsend's big-eared bat	None/ None	G3G4; S2; CDFW: SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	No suitable roosting habitat for this species exists in the project area and there is a significant level of human disturbance in the area, due to the existing quarry. Occurrence potential is **low**.
Eremothera boothii ssp. *boothii*	Booth's evening-primrose	None/ None	G5T4; S2; CNPS: 2B.3	Joshua tree woodland, pinyon and juniper woodland. 290-2410 m.	The habitats this species is associated with are not present within the project area. Occurrence potential is **low**.
Eriastrum sparsiflorum	Great basin eriastrum	None/None	G5; S4; CNPS: 4.3	Great Basin scrub, Mojave desert scrub, cismontane woodland, pinyon and juniper woodland, Joshua tree woodland, chaparral. Granitic soils; mostly in openings. 1075-1710 m.	Granitic soils are not found within the project area. Occurrence potential is **low.**
Gopherus agassizii	desert tortoise	Threatened/ Threatened	G3; S2S3	Most common in desert scrub, desert wash, and Joshua tree habitats; occurs in almost every desert habitat. Require friable soil for burrow and nest construction. Creosote bush habitat with large annual wildflower blooms preferred.	No desert tortoise individuals or sign including burrows or scat were observed during survey and there is no suitable habitat for this species within the proposed project footprint. Furthermore, the nearest documented occurrence is approx. 6.4 miles NW of the project site. Occurrence potential is **low.**

Attachment 5

Scientific Name	Common Name	Listing Status Federal/ State	Other Lists	Habitat	Occurrence Potential
Gymnogyps californianus	California condor	Endangered/ Endangered	G1; S1; CDFW: FP CDF: S	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.	No populations of this species occur near the project site, and suitable habitat is not on site. Occurrence potential is **low**.
Lasionycteris noctivagans	silver-haired bat	None/ None	G5; S3S4	Primarily a coastal and montane forest dweller, feeding over streams, ponds and open brushy areas. Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes, and rarely under rocks. Needs drinking water.	Although there are some rocky outcrops adjacent the site that could potentially provide roosting habitat for this species, there are no suitable roosting trees within the project area. Additionally, the nearest documented occurrence is approx. 6 miles N of the project site. Occurrence potential is **low**.
Mentzelia tridentata	creamy blazing star	None/ None	G3; S3; CNPS: 1B.3	Mojavean desert scrub. 545-1100 m.	There is some habitat this species is associated with present adjacent the project site and the nearest documented occurrence for this species is approx. 0.3 miles W of the project site, on the W side of Red Hill. However, the project site is entirely devoid of vegetation and the project will not disturb any adjacent habitat. Occurrence potential is **low.**
Microtus californicus vallicola	Owens Valley vole	None/ None	G5T3; S3; CDFW: SSC	Found in wetlands and lush grassy ground in the Owens Valley. Needs friable soil for burrowing. Eats grasses, sedges and herbs. Clips grass to make runways leading from burrows.	No suitable habitat for this species exists in the project area. Occurrence potential is **low**.
Penstemon fruticiformis var. *amargosae*	Amargosa beardtongue	None/ None	G4T3; S2; CNPS: 1B.3	Mojavean desert scrub. Sandy or gravelly washes and drainages. 940-1890 m.	There is some habitat this species is associated with present adjacent the project site, but the nearest documented occurrence for this species is approx. 9.2 miles NE of the project site. Occurrence potential is **low.**

Attachment 5

Scientific Name	Common Name	Listing Status Federal/ State	Other Lists	Habitat	Occurrence Potential
Phacelia nashiana	Charlotte's phacelia	None/ None	G3; S3; CNPS: 1B.2	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Granitic soils; sandy or rocky areas on steep slopes or flats. 335-2180 m.	There is some habitat this species is associated with present adjacent the project site and the nearest documented occurrence for this species is approx. 3 miles SW of the project site. However, the project site is entirely devoid of vegetation and the project will not disturb any adjacent habitat. Occurrence potential is **low.**
Pyrgulopsis wongi	Wong's springsnail	None/ None	G2; S2	Owens Valley. Along east side from Pine Creek to Little Lake, and along west side from French Spring to Marble Creek. Seeps and small-moderate size spring-fed streams. Common in watercress and/or on small bits of travertine and stone.	The habitats this species is associated with are not present within the project area. Occurrence potential is **low.**
Rhinichthys osculus ssp. 2	Owens speckled dace	None/ None	G5T1T2Q; S1S2; CDFW: SSC	Small streams and springs in Owens Valley. Occupies a variety of habitats. Rarely found in water > 29° C.	No suitable habitat for this species exists in the project area. Occurrence potential is **low**.
Sidalcea covillei	Owens Valley checkerbloom	None/ Endangered	G2; S2; CNPS: 1B.1	Meadows and seeps, chenopod scrub. Moist alkaline meadows and freshwater seeps, fine sandy loam soil, one occurrence in stony calcareous soil. 1090-1420 m.	The habitats this species is associated with are not present within the project area. Occurrence potential is **low**.
Toxostoma lecontei	Le Conte's thrasher	None/ None	G4; S3; CDFW: SSC	Desert resident; primarily of open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats. Commonly nests in a dense, spiny shrub or densely branched cactus in desert wash habitat, usually 2-8 feet above ground.	There is some potentially suitable habitat for this species adjacent the northern and western portions of the project site. Occurrence potential is **moderate** in the area surrounding the project site.
Xerospermophilus mohavensis	Mohave ground squirrel	None/ Threatened	G2G3; S2S3	Open desert scrub, alkali scrub and Joshua tree woodland. Also feeds in annual grasslands. Restricted to Mojave Desert. Prefers sandy to gravelly soils, avoids rocky areas. Uses burrows at base of shrubs for cover. Nests are in burrows.	There is some potentially suitable habitat for this species adjacent the northern and western portions of the project site and the nearest documented occurrence for this species is approx. 2 miles N of the site. However, there is no suitable habitat for this species within the proposed project footprint and the project will completely avoid disturbing any adjacent habitat. Occurrence potential is **low.**

Attachment 5

Coding and Terms

E = Endangered T = Threatened C = Candidate FP = Fully Protected SSC = Species of Special Concern R = Rare

State Species of Special Concern: An administrative designation given to vertebrate species that appear to be vulnerable to extinction because of declining populations, limited acreages, and/or continuing threats. Raptor and owls are protected under section 3502.5 of the California Fish and Game code: "It is unlawful to take, possess or destroy any birds in the orders Falconiformes or Strigiformes or to take, possess or destroy the nest or eggs of any such bird."

State Fully Protected: The classification of Fully Protected was the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians and reptiles. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Global Rankings (Species or Natural Community Level):

G1 = Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
G2 = Imperiled – At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
G3 = Vulnerable – At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
G4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
G5 = Secure – Common; widespread and abundant.

Subspecies Level: Taxa which are subspecies or varieties receive a taxon rank (T-rank) attached to their G-rank. Where the G-rank reflects the condition of the entire species, the T-rank reflects the global situation of just the subspecies. For example: the Point Reyes mountain beaver, *Aplodontia rufa* ssp. *phaea* is ranked G5T2. The G-rank refers to the whole species range i.e., *Aplodontia rufa.* The T-rank refers only to the global condition of ssp. *phaea*.

State Ranking:

S1 = Critically Imperiled – Critically imperiled in the State because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the State.
S2 = Imperiled – Imperiled in the State because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the State.
S3 = Vulnerable – Vulnerable in the State due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the State.
S4 = Apparently Secure – Uncommon but not rare in the State; some cause for long-term concern due to declines or other factors.
S5 = Secure – Common, widespread, and abundant in the State.

California Rare Plant Rankings (CNPS List):

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 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 (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Attachment 5

FIGURES

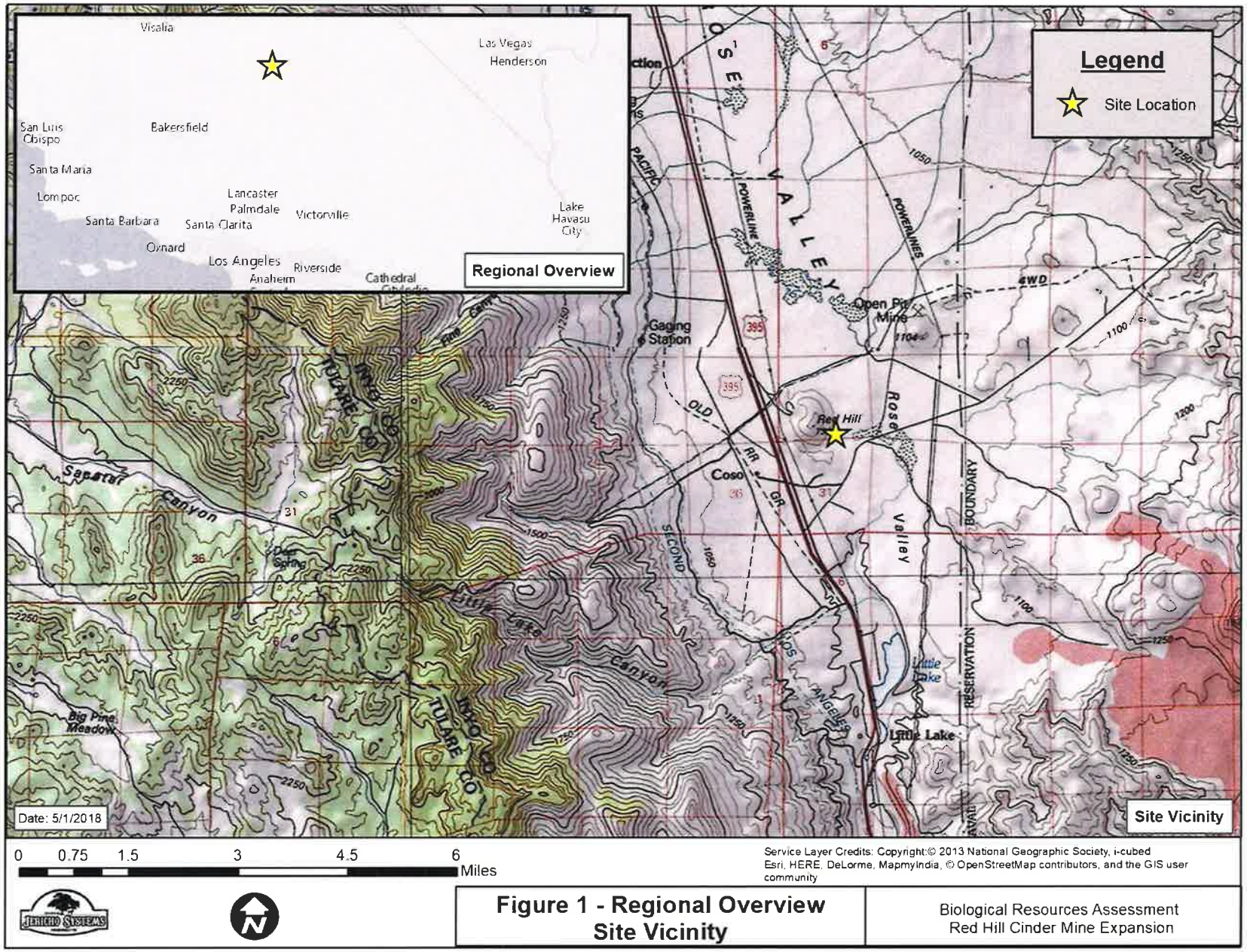
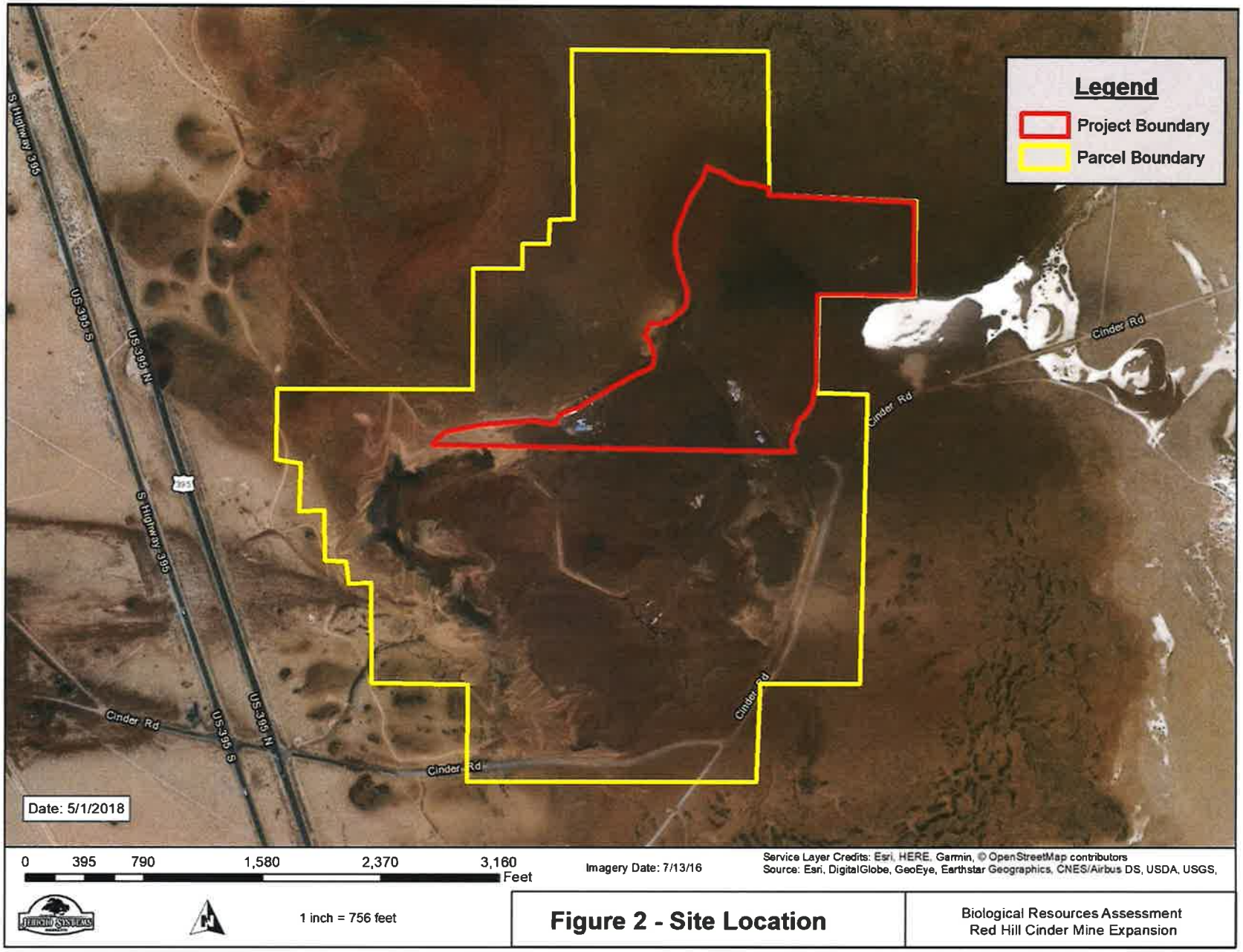


Figure 1 - Regional Overview Site Vicinity

Biological Resources Assessment
Red Hill Cinder Mine Expansion

Attachment 5



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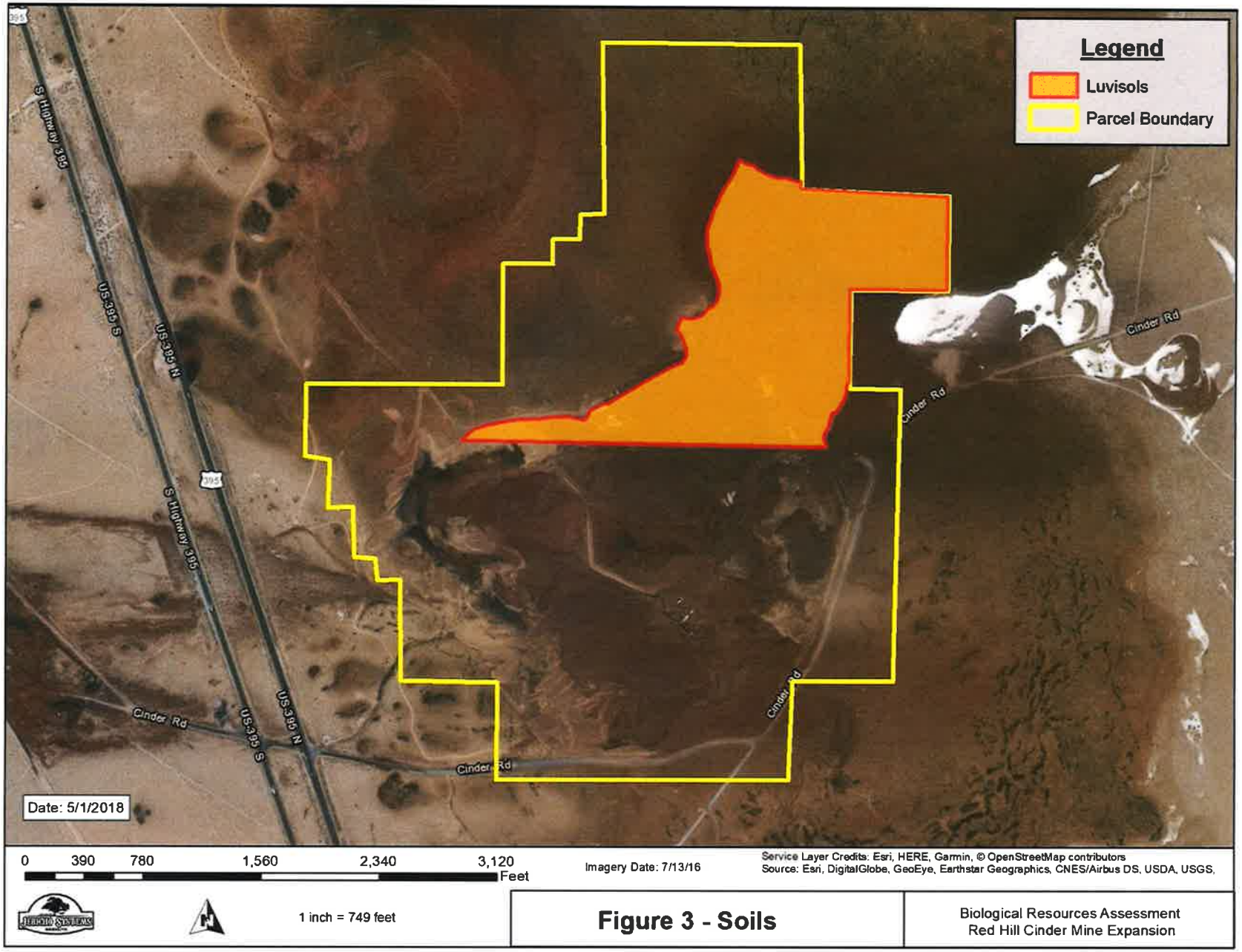
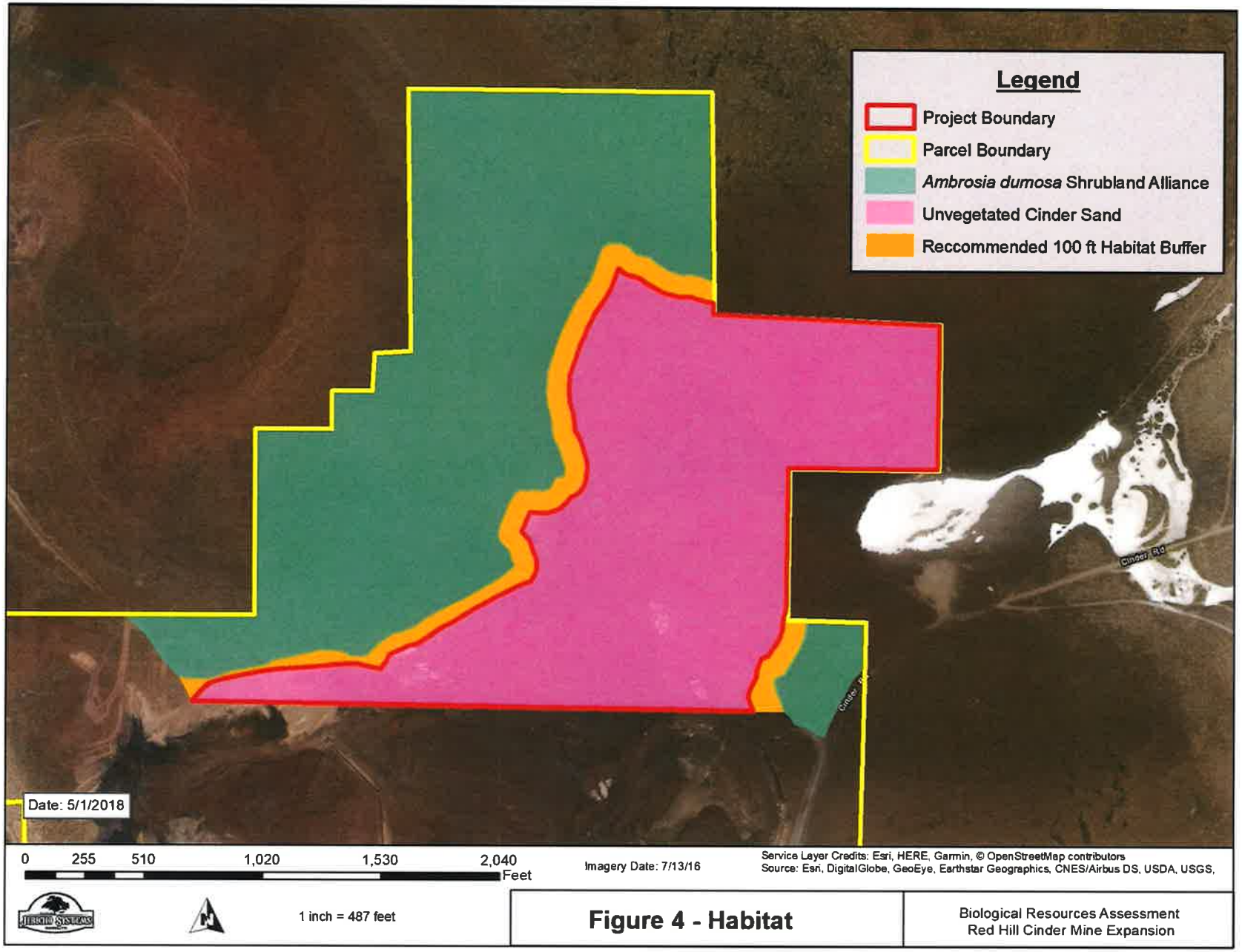


Figure 3 - Soils

Biological Resources Assessment
Red Hill Cinder Mine Expansion

Attachment 5



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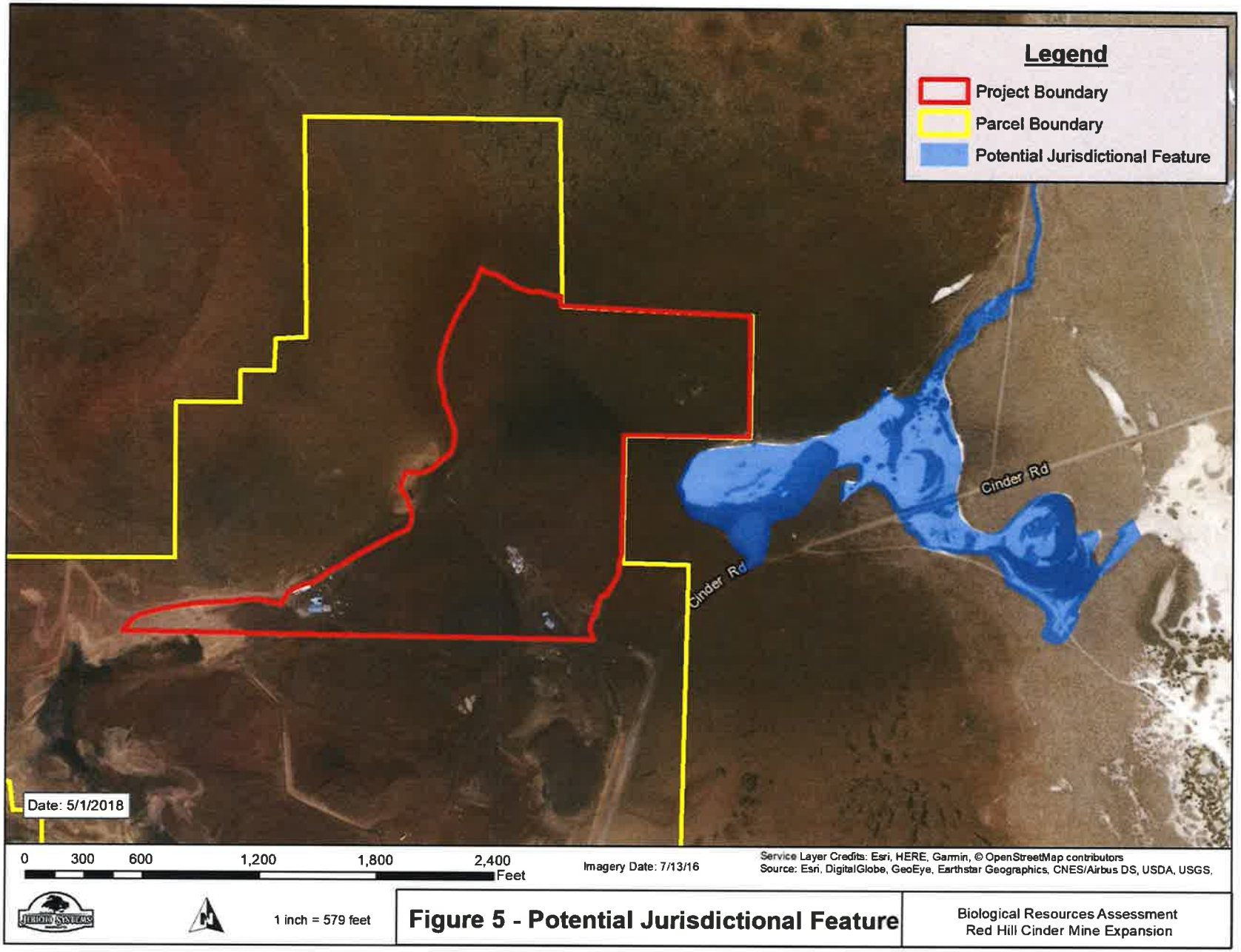

Attachment 5

SITE PHOTOGRAPHS

Photo 1. Looking west at the south westernmost portion of the project site from the southern slope of Red Hill; adjacent the existing mining operation.

2018 Top
2020 Bottom

Photo 2. Looking south at the southern portion of the project site from the eastern slope of Red Hill. Existing mining operation in the far ground, south of the project site.

2018 Top
2020 Bottom

Photo 3. Looking east at the middle of the project site from the eastern slope of Red Hill. The inundated playa visible in the far ground is outside (east) of the eastern boundary of the project site.

2018 Top
2020 Bottom

Photo 4. Looking east (2018) and northeast (2020) at the northernmost portion of the project site and adjacent habitat from the eastern slope of Red Hill.

2018 Top
2020 Bottom

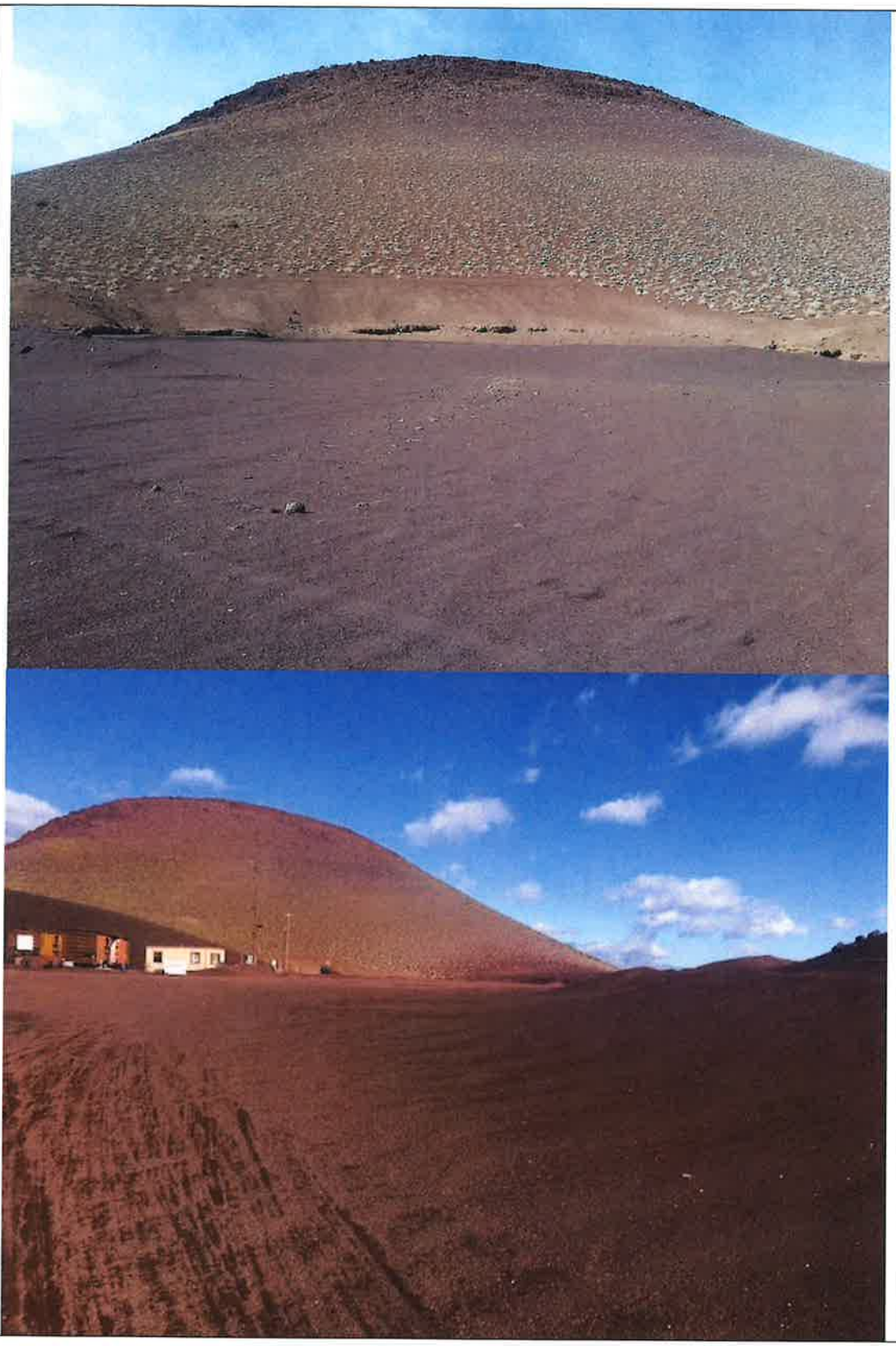

Photo 5. Looking west at Red Hill and the westernmost portion of the project site, which is situated along the lower slope of Red Hill.

2018 Top
2020 Bottom

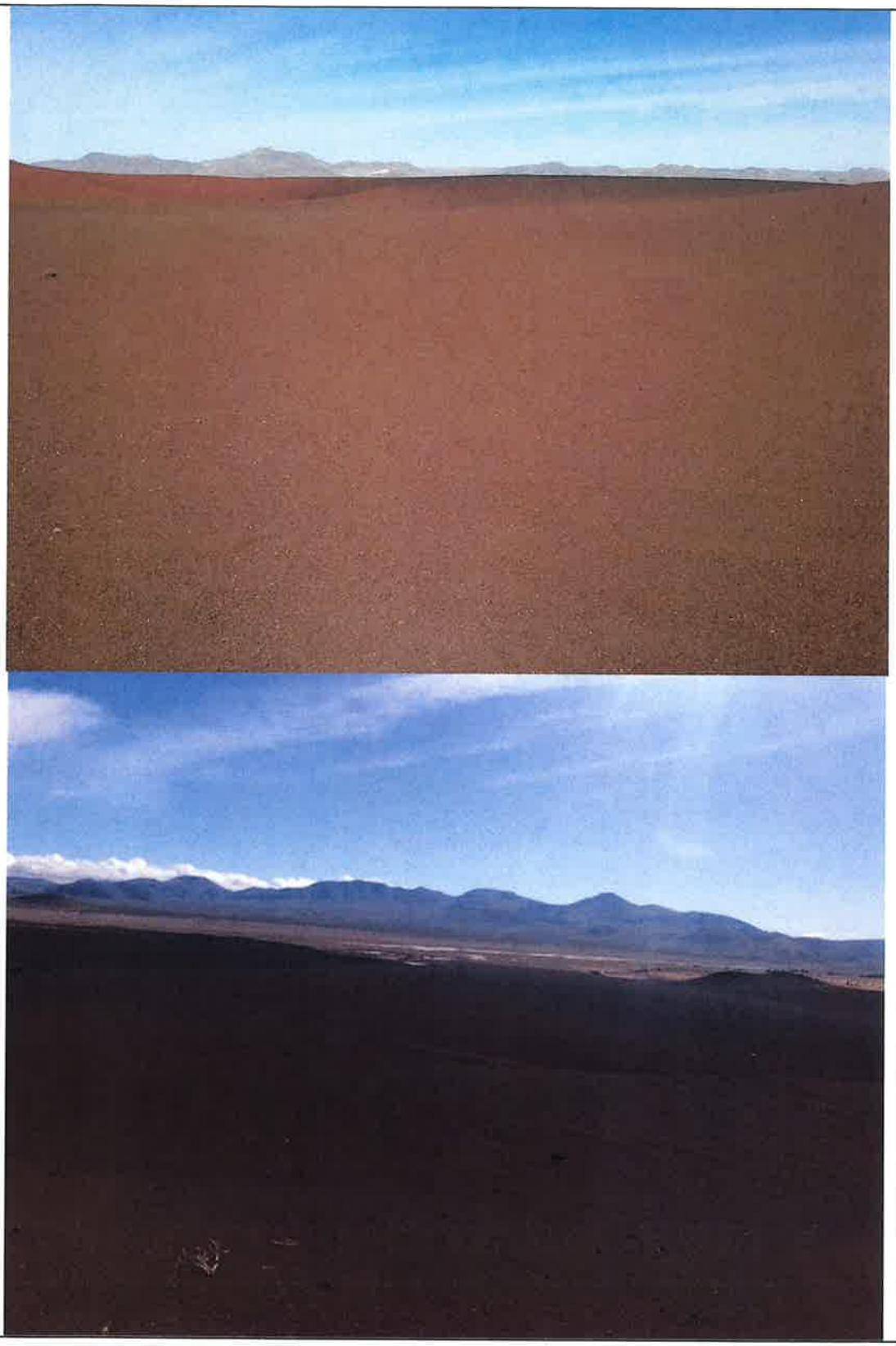

Photo 6.
Unvegetated middle portion of the project site.

2018 Top
2020 Bottom

Appendix A

Regulatory Framework

Federal Endangered Species Act (ESA)

The U.S. Fish and Wildlife Service (USFWS) administers the federal ESA of 1973. The ESA provides a legal mechanism for listing species as either threatened or endangered, and a process of protection for those species listed. Section 9 of the ESA prohibits "take" of threatened or endangered species. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. "Take" can include adverse modification of habitats used by a threatened or endangered species during any portion of its life history. Under the regulations of the ESA, the USFWS may authorize "take" when it is incidental to, but not the purpose of, an otherwise lawful act. Take authorization can be obtained under Section 7 or Section 10 of the act.

California Endangered Species Act (CESA)

The CDFW, formerly Fish and Game, administers the State CESA. The State of California considers an endangered species one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is one present in such small numbers throughout its range that it is likely to become an endangered species soon, in the absence of special protection or management. And a rare species is one present in such small numbers throughout its range that it may become endangered if its present environment worsens. Rare species applies to California native plants. Further, all raptors and their nests are protected under Section 3503.5 of the California Fish and Game Code (FGC). Species that are California fully protected include those protected by special legislation for various reasons, such as the California condor. Species of Special Concern (SSC) is an informal designation used by CDFW for some declining wildlife species that are not proposed for listing as threatened or endangered. This designation does not provide legal protection, but signifies that these species are recognized as sensitive by CDFW.

Migratory Bird Treaty Act (MBTA)

Nesting birds are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C 703-711). The MBTA provides protection for nesting birds that are both residents and migrants whether or not they are considered sensitive by resource agencies. The MBTA prohibits take of nearly all native birds. The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The direct injury or death of a migratory bird, due to construction activities or other construction-related disturbance that causes nest abandonment, nestling abandonment, or forced fledging would be considered take under federal law. The USFWS, in coordination with the CDFW administers the MBTA. CDFW's authoritative nexus to MBTA is provided in FGC Sections 3503.5 which protects all birds of prey and their nests and FGC Section 3800 which protects all non-game birds that occur naturally in the State.

Clean Water Act (CWA)

The CWA is the principal federal law that governs pollution in the nation's lakes, rivers, and coastal waters. Originally enacted in 1972 as a series of amendments to the Federal Water Pollution Control Act of 1948, the Act was last amended in 1987. The overriding purpose of the CWA is to "restore and maintain the chemical, physical and biological integrity of the nation's waters." The statute employs a variety of regulatory and non-regulatory tools to eliminate the discharge of pollutants into the nation's waters and achieve water quality that is both "swimmable and fishable".

Under Section 404 of the CWA, the Corps has primary federal responsibility for administering regulations

that concern the discharge of dredged or fill material into WoUS (including wetlands). WoUS are defined as: "All waters used in interstate or foreign commerce; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent and ephemeral streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, where the use, degradation, or destruction of which could affect interstate commerce; impoundments of these waters; tributaries of these waters; or wetlands adjacent to these waters" (Section 404 of the CWA; 33 CFR 328).

The limit of the Corps jurisdiction for non-tidal waters (including non-tidal perennial and intermittent watercourses and tributaries to such watercourses) in the absence of adjacent wetlands is defined by the ordinary high water mark (OHWM). The OHWM is defined as: "The 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" (Section 404 of the CWA; 33 CFR 328). Wetlands are defined as: "Those areas that are inundated or saturated by surface or ground water 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" (Section 404 of the CWA; 33 CFR 328).

Porter-Cologne Water Quality Control Act (Porter-Cologne)

The Porter-Cologne Water Quality Control Act (Porter-Cologne) is the principal State law that governs water protection efforts in California. Porter-Cologne establishes the State Water Resources Control Board (SWRCB) and each of the nine Regional Water Quality Control Boards (RWQCBs) as the principal state agencies for coordinating and controlling water quality in California. The RWQCB's regulatory jurisdiction is pursuant to Section 401 of the Federal CWA. The RWQCB typically regulates discharges of dredged or fill material into WoUS. However, they also have regulatory authority over waste discharges into Waters of the State, which may be isolated, under Porter-Cologne. In the absence of a nexus with the Corps, the RWQCB requires the submittal of a Waste Discharge Requirement (WDR) application, which must include a copy of the project Storm Water Pollution Prevention Plan (SWPPP) and a copy of the project Water Quality Management Plan (WQMP), otherwise called a Standard Urban Stormwater Management Plan (SUSMP). The RWQCB's role is to ensure that disturbances in the stream channel do not cause water quality degradation.

California Fish and Game Code (FGC)

Sections 1600 to 1616 of the California FGC require any person, state, or local government agency or public utility to notify the CDFW before beginning any activity that will substantially modify a river, stream, or lake. If it is determined that the activity could substantially adversely impact an existing fish and wildlife resource, then a Lake or Streambed Alteration Agreement is required.

Like the Corps and RWQCB, the CDFW also regulates discharges of dredged or fill material. The regulatory jurisdiction of CDFW is much broader however, than Corps or RWQCB jurisdictions. CDFW regulates **all** activities that alter streams and lakes and their associated habitats. The CDFW, through provisions of the FGC Sections 1601-1603 is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. Streams (and rivers) are defined by the presence of a channel bed and banks and at least an intermittent flow of water. The CDFW typically extends the limits of their jurisdiction laterally beyond the channel banks for streams that support riparian vegetation. In these situations, the outer edge of the riparian vegetation is generally used as the lateral extent of the stream and CDFW jurisdiction. CDFW regulates wetland areas only to the extent that those wetlands are a part of a river, stream, or lake as defined by CDFW.

General Biological Resources Assessment
For the Red Hill Cinder Mine Expansion Project

Unincorporated Area of Southwestern Inyo County, California
USGS – *Little Lake* Quadrangle,
Sections 30 & 31 of Township 22 South, Range 38 East

Prepared for:

Lilburn Corporation
Attn: Martin Derus
1905 Business Center Drive
San Bernardino, CA 92408

Prepared April 2018

Prepared by:

Jericho Systems, Inc.
47 1st Street, Suite 1
Redlands, CA 92373-4601

Certification

Jericho Systems, Inc.
47 1st Street, Suite 1
Redlands, CA 92373-4601
(909) 915-5900

Contact: Shay Lawrey, President and Ecologist/Regulatory Specialist

Certification: I hereby certify that the statements furnished herein, and in the attached exhibits present data and information required for this Biological Resources Repot to the best of my ability, and the facts, statements, and information presented are true and correct to the best of my knowledge and belief. This report was prepared in accordance with professional requirements and standards. Fieldwork conducted for this assessment was performed by me. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project proponent and that I have no financial interest in the project.

Shay Lawrey, Ecologist/Regulatory Specialist

Table of Contents

1 Introduction

On behalf of Lilburn Corporation, Jericho Systems, Inc. (Jericho) conducted a general biological resources assessment (BRA) and burrowing owl (*Athene cunicularia*) and Mohave ground squirrel (*Xerospermophilus mohavensis*) habitat suitability assessments for the Red Hill Cinder Mine Expansion Project (project). The purpose of the BRA was to address potential effects of the project to designated critical habitats and/or any species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA) or species designated as sensitive by the California Department of Fish and Wildlife (CDFW [formerly California Department of Fish and Game]) and/or the California Native Plant Society (CNPS).

The project site was assessed for sensitive species known to occur locally. Attention was focused on those State- and/or federally-listed as threatened or endangered species and California Fully Protected species that have been documented in the project vicinity, whose habitat requirements are present within the vicinity of the project site. Results of the survey and habitat assessment are intended to provide sufficient baseline information to the project proponent and, if required, to federal and State regulatory agencies, including the U.S. Fish and Wildlife Service (USFWS) and CDFW, respectively, to determine if impacts will occur and to identify mitigation measures to offset those impacts.

In addition to the BRA and habitat assessments, Jericho biologists Daniel Smith, Eugene Jennings and Todd White conducted a Jurisdictional Delineation (JD) of the project site. The purpose of the JD is to determine the extent of State and federal jurisdictional waters within the project area potentially subject to regulation by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA and Porter Cologne Water Quality Control Act, and CDFW under Section 1602 of the California Fish and Game Code (FGC), respectively.

1.1 Project Description

The project will consist of expanding the existing Red Hill Quarry onto an approximately 60-acre site that is adjacent the northeast of the existing cinder mine. The expansion area is entirely within privately-owned land (Assessor Parcel Number [APN]: 03709011), surrounded by Bureau of Land Management (BLM) public lands and the Fossil Falls Scenic Area to the south. The expansion project is covered under the existing 1979 Red Hill Quarry mining permit, which is good through 2019. The project is adjacent the southeast side of Red Hill, which is a cinder cone volcano comprised of pumice and lava rock. The project will completely avoid impacts to the cinder cone itself.

1.2 Project Location

The project site is located approximately 0.75 miles east of U.S. Route 395 (US 395), adjacent the southeast side of Red Hill, approximately 5 miles south of Coso Junction and 2.4 miles north of Little Lake, near the unincorporated area of Coso, in southwestern Inyo County, California (Figure 1). The project site is situated in the northeast corner of the *Little Lake* USGS 7.5-minute series quadrangle, in Sections 30 and 31 of Township 22 South, Range 38 East, Mount Diablo Base Meridian. The project area is accessed from US 395 by Cinder Road (Figures 1&2).

1.3 Environmental Setting

The project site is situated near Coso, in the southern end of the Rose Valley, between the Sierra Nevada Mountains to the west and the Coso Range to the east, in the western Mojave Desert. The Coso area is subject to both seasonal and annual variations in temperature and precipitation. Average annual maximum

temperatures peak at 95.6 degrees Fahrenheit (° F) in July and fall to an average annual minimum temperature of 29.1° F in January. Average annual precipitation is greatest from November through March and reaches a peak in February (1.3 inches). Precipitation is lowest in the month of June (0.09 inches). Annual precipitation averages 6.5 inches. The topography of the project area is relatively flat on the eastern portion and sloped on the western portion, along the base of Red Hill. Elevation on site ranges from approximately 3,340 feet above mean sea level (amsl) in the eastern portion of the site, to 3,430 feet amsl in the westernmost portion of the site, nearest the base of the Red Hill cinder cone.

Hydrologically, the project area is located within an undefined Hydrologic Sub-Area (HSA 624.10) which comprises a 170,880-acre drainage area within the larger Indian Wells-Searles Valleys Watershed (HUC 18090205).

Soils within the project area are comprised primarily of cinder sand derived from the adjacent Red Hill cinder volcano.

The general project vicinity consists existing mining operations (Red Hill Quarry) and undeveloped open space. Habitat surrounding the project site consists primarily of *Ambrosia dumosa* Shrubland Alliance (white bursage scrub). The project site itself is devoid of vegetation, consisting entirely of cinder sand and gravel. Much of the project site is relatively undisturbed, however the south/southwestern most portion of the site is disturbed due to the existing mining operations.

2 Assessment Methodology

2.1 Biological Resources Assessment

Data regarding biological resources on the project site were obtained through literature review and field investigations. Prior to performing the surveys, available databases and documentation relevant to the project site were reviewed for documented occurrences of sensitive species in the area. The U.S. Fish and Wildlife Service (USFWS) threatened and endangered species occurrence data overlay and the most recent versions of the California Natural Diversity Database (CNDDB) and California Native Plant Society Electronic Inventory (CNPSEI) databases, as well as the BLM California Special Status Plants list, were searched for sensitive species data on the *Little Lake, Coso Junction, Cactus Peak* and *Volcano Peak* USGS 7.5-minute series quadrangles. The project site is situated in the northeastern portion of the *Little Lake* quad. The site's proximity to the *Coso Junction, Cactus Peak* and *Volcano Peak* quads lead to their inclusion in the review. These databases contain records of reported occurrences of State- and federally-listed species or otherwise sensitive species and habitats that may occur within the vicinity of the project site. Other available technical information on the biological resources of the area was also reviewed including previous surveys and recent findings.

Jericho biologists Daniel Smith, Eugene Jennings and Todd White conducted a biological resources assessment of the project area on January 29, 2018. The survey area encompassed the entire project site and included 100 percent coverage of the site with transects spaced approximately 10 meters apart, as well as an approximately 500-foot buffer area surrounding the site. Wildlife species were detected during field surveys by sight, calls, tracks, scat, or other sign. In addition to species observed, expected wildlife usage of the site was determined per known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. The focus of the faunal species surveys was to identify potential habitat for special status wildlife within the project area.

2.2 Jurisdictional Delineation

On January 30, 2018, Jericho biologists Daniel Smith, Eugene Jennings and Todd White also evaluated the

project site and adjacent areas for the presence of riverine/riparian/wetland habitat and jurisdictional waters, i.e. waters of the U.S. as regulated by the U.S. Army Corps of Engineer (USACE) and Regional Water Quality Control (RWQCB), and/or jurisdictional streambed and associated riparian habitat as regulated by the California Department Fish and Wildlife (CDFW).

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 U.S. Fish and Wildlife Service National Wetland Inventory and Environmental Protection Agency (EPA) Water Program "My Waters" data layer were also reviewed to determine whether any hydrologic features and wetland areas 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 southwestern Inyo 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. Upstream and downstream connectivity of waterways (if present) was reviewed in the field and on aerial photographs and topographic maps to determine jurisdictional status.

During the field surveys, the survey team 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.

Evaluation of potential federal jurisdiction followed the regulations set forth in 33CFR part 328 and the USACE guidance documents and evaluation of potential State jurisdiction followed guidance in the Fish and Game Code and A Review of Stream Processes and Forms in Dryland Watersheds (CDFW, 2010)..

To be considered a *jurisdictional wetland* under the federal Clean Water Act, Section 404, an area must possess three (3) wetland characteristics: hydrophytic *vegetation*, hydric *soils*, and wetland *hydrology*.

- *Hydrophytic vegetation*: Hydrophytic vegetation is plant life that grows, and is typically adapted for life, in permanently or periodically saturated soils. The hydrophytic vegetation criterion is met if more than 50 percent of the dominant plant species from all strata (tree, shrub, and herb layers) is considered hydrophytic. Hydrophytic species are those included on the 2013 National Wetland Plant List (Arid West Region) (Lichvar, 2013). Each species on the list is rated per a wetland indicator category, as shown in Table 1. To be considered hydrophytic, the species must have *wetland indicator status*, i.e., be rated as OBL, FACW or FAC.

Table 1: Wetland Indicator Vegetation Categories

Category	Probability
Obligate Wetland (OBL)	Almost always occur in wetlands (estimated probability >99%)
Facultative Wetland (FACW)	Usually occur in wetlands (estimated probability 67 to 99%)
Facultative (FAC)	Equally likely to occur in wetlands and non-wetlands (estimated probability 34 to 66%)
Facultative Upland (FACU)	Usually occur in non-wetlands (estimated probability 67 to 99%)

Obligate Upland (UPL)	Almost always occur in non-wetlands (estimated probability >99%)

- *Hydric Soil*: Soil maps from the USDA-NRCS Web Soil Survey (USDA 2016) were reviewed for soil types found within the project area. Hydric soils are saturated or inundated long enough during the growing season to develop anaerobic conditions that favor growth and regeneration of hydrophytic vegetation. There are several indirect indicators that may signify the presence of hydric soils including hydrogen sulfide generation, the presence of iron and manganese concretions, certain soil colors, gleying, and the presence of mottling. Generally, hydric soils are dark in color or may be gleyed (bluish, greenish, or grayish), resulting from soil development under anoxic (without oxygen) conditions. Bright mottles within an otherwise dark soil matrix indicate periodic saturation with intervening periods of soil aeration. Hydric indicators are particularly difficult to observe in sandy soils, which are often recently deposited soils of flood plains (entisols) and usually lack sufficient fines (clay and silt) and organic material to allow use of soil color as a reliable indicator of hydric conditions. Hydric soil indicators in sandy soils include accumulations of organic matter in the surface horizon, vertical streaking of subsurface horizons by organic matter, and organic pans.

  The hydric soil criterion is satisfied at a location if soils in the area can be inferred or observed to have a high groundwater table, if there is evidence of prolonged soil saturation, or if there are any indicators suggesting a long-term reducing environment in the upper part of the soil profile. Reducing conditions are most easily assessed using soil color. Soil colors were evaluated using the Munsell Soil Color Charts (Gretag/Macbeth, 2000). Soil pits were dug to an approximate depth of 18 inches to evaluate soil profiles for indications of anaerobic and redoximorphic (hydric) conditions in the subsurface.

- *Wetland Hydrology*: The wetland hydrology criterion is satisfied at a location based upon conclusions inferred from field observations that indicate an area has a high probability of being inundated or saturated (flooded, ponded, or tidally influenced) long enough during the growing season to develop anaerobic conditions in the surface soil environment, especially the root zone (USACE, 1987 and 2008b).

3 Results

3.1 Existing Biological and Physical Conditions

The project site consists almost entirely of undeveloped open space, occupying mostly flat to gently-sloped terrain that surrounds the Red Hill cinder cone. The topography of the site is mostly uniform throughout, comprised of volcanic cinders or cinder sand and the site is completely devoid of vegetation. Most of the site is relatively undisturbed, with some evidence of off-road vehicle use. Disturbances on site are primarily due to the existing mining operations, which border the southernmost end of the project site, and include unpaved roads, temporary structures and material stockpiles.

3.1.1 Habitat

The project site itself is devoid of vegetation, consisting entirely of cinder sand and gravel (see attached photos). The habitat surrounding the project site consists primarily of *Ambrosia dumosa* Shrubland Alliance (white bursage scrub). The white bursage scrub habitat adjacent the north/northwestern portion of the site is co-dominated by white bursage (*Ambrosia dumosa*) and allscale saltbush (*Atriplex polycarpa*). However, this habitat is more species diverse adjacent the southern/southwestern portion of the site, where it is co-dominated by white bursage, burrobush (*Ambrosia salsola*), allscale saltbush and shadscale (*Atriplex*

confertifolia). Other native plant species identified within the survey area include, Devil's lettuce (*Amsinckia tessellata*), Fremont's milk vetch (*Astragalus lentiginosus* var. *fremontii*), Mojave eriastrum (*Eriastrum densifolium* ssp. *mohavense*), desert trumpet (*Eriogonum inflatum*), angle stemmed buckwheat (*E. maculatum*), yellow turbins (*E. pusillum*), kidney leaf buckwheat (*E. reniforme*), desert bush nettle (*Eucnide urens*), creosote (*Larrea tridentata*), desert star (*Monoptilon bellidiforme*), annual psathyrotes (*Psathyrotes annua*), sage thistle (*Salvia carduacea*), desert mallow (*Sphaeralcea ambigua*) and Mojave woodyaster (*Xylorhiza tortifolia*).

3.1.2 Wildlife

3.1.2.1 Amphibians and Reptiles

No amphibian species were observed or otherwise detected within the project area and none are expected to occur. The only reptile species observed within the project area was western side-blotched lizard (*Uta stansburiana elegans*). However, the survey was conducted during the winter brumation period for many herp species and temperatures were relatively cool (62°-71° F) during the survey. Other common species expected to occur within the project area include Great Basin whiptail (*Aspidoscellis tigris tigris*), zebra-tailed lizard (*Callisaurus draconoides*), desert banded gecko (*Coleonyx variegatus variegatus*), Panamint rattlesnake (*Crotalus stephensi*), desert iguana (*Dipsosaurus dorsalis*), California kingsnake (*Lampropeltis californiae*) and Great Basin gopher snake (*Pituophis catenifer deserticola*).

3.1.2.2 Birds

Avian species observed in the project area include northern harrier (*Circus cyaneus*), common raven (*Corvus corax*) and rock wren (*Salpinctes obsoletus*).

3.1.2.3 Mammals

Identification of mammals within the project area was generally determined by physical evidence rather than direct visual identification. This is because 1) many of the mammal species that potentially occur onsite are nocturnal and would not have been active during the survey and 2) no mammal trapping was performed. The only mammal species observed was black-tailed jackrabbit (*Lepus californicus*). Other common species expected to occur within the project area include coyote (*Canis latrans*), Merriams' kangaroo rat (*Dipodomys merriami*), and desert cottontail (*Sylvilagus audubonii*).

3.2 Special Status Species and Habitats

Per the CNDDB, CNPSEI, and other relevant literature and databases, 21 sensitive species (9 plant species, 12 animal species) have been documented in the *Little Lake, Coso Junction, Cactus Peak* and *Volcano Peak* USGS 7.5-minute series quadrangles. This list of sensitive species and habitats includes any State- and/or federally-listed threatened or endangered species, California Fully Protected species, CDFW designated Species of Special Concern (SSC), and otherwise Special Animals. "Special Animals" is a general term that refers to all the taxa the CNDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special status species." The CDFW considers the taxa on this list to be those of greatest conservation need.

There are three State- and/or federally-listed species documented within the *Little Lake, Coso Junction, Cactus Peak* and *Volcano Peak* quads. Of the three State- and/or federally-listed species, only the following two have been documented in the project vicinity (within approximately 7 miles):

- Desert tortoise (*Gopherus agassizii*)
- Mohave ground squirrel (*Xerospermophilus mohavensis*)

Although not State- or federally-listed as threatened or endangered species, the golden eagle (*Aquila chrysaetos* [GOEA]) is a CDFW Fully Protected species and BUOW are considered a State and federal SSC and both species are protected by the international treaty under the Migratory Bird Treaty Act of 1918 and by State law under the California FGC (FGC #3513 & #3503.5). There is potentially suitable habitat for these species within the project vicinity and both species have been documented in the project vicinity. Therefore, GOEA and BUOW will be included in the discussion below.

Additionally, the following two BLM Sensitive Plant Species have been documented in the project vicinity and the environmental conditions within the habitat surrounding the project site are suitable to support these species:

- Creamy blazing star (*Mentzelia tridentata*)
- Charlotte's phacelia (*Phacelia nashiana*)

An analysis of the likelihood for occurrence of all CNDDB sensitive species documented in the *Little Lake, Coso Junction, Cactus Peak* and *Volcano Peak* quads is provided in Table 2. This analysis considers species' range as well as documentation within the vicinity of the project area and includes the habitat requirements for each species and the potential for their occurrence on the site, based on required habitat elements and range relative to the current site conditions.

3.2.1 Special Status Species

No State- and/or federally-listed threatened or endangered species, or other sensitive species were observed on site during the reconnaissance-level field survey. However, there is some habitat adjacent the proposed project footprint that may be suitable for several sensitive species identified in the literature review (Table 2) and several sensitive species have been documented near the project site. In addition to the general biological resources assessment, habitat suitability assessments were conducted within the project area for BUOW and Mohave ground squirrel.

Desert Tortoise – Threatened (State/Federal)

The desert tortoise is a State- and federally-listed threatened species. Throughout its range, it is threatened by habitat loss, domestic grazing, predation, collections, and increased mortality rates. The desert tortoise is typically found in creosote bush scrub. They are most often found on level or sloped ground where the substrate is firm but not too rocky. Tortoise burrows are typically found at the base of shrubs, in the sides of washes and in hillsides. Because a single tortoise may have many burrows distributed throughout its home range, it is not possible to predict exact numbers of individuals on a site based upon burrow numbers.

In 1992 the BLM issued the *California Statewide Desert Tortoise Management Policy* which included categorizing habitat into three levels of classification. The management goal for Category I areas is to maintain stable, viable populations and to increase the population where possible. The management goal for Category II areas is to maintain stable, viable populations. The management goal for Category III areas is to limit population declines to the extent feasible. In April 1993, the BLM amended the CDCA plan to delineate these three categories of desert tortoise habitat on public lands. With the adoption of the West Mojave Plan (BLM 2005), all lands that are outside Desert Wildlife Management Areas are characterized as Category 3 Habitat, which is the lowest priority management area for viable populations of the desert tortoise.

> *Findings*: Per the CNDDB, the nearest documented desert tortoise occurrence (2006) is approximately 6.4 miles northwest of the project site. There are no desert tortoise occurrences documented in the project area and there is no suitable habitat for this species within the project

site. However, some of the surrounding area adjacent portions of the project site does contain white bursage scrub habitat suitable to support desert tortoise.

Per the USFWS desert tortoise Critical Habitat overlay, the project site is not within any USFWS designated desert tortoise Critical Habitat. Furthermore, the project site is not within a BLM designated Desert Wildlife Management Area (USFWS 2011). Therefore, the habitat surrounding the site would be characterized as Category 3 Habitat, per the BLM categorization of desert tortoise habitat on public lands.

The assessment survey was structured, in part, to detect desert tortoise. The survey consisted of walking transects spaced approximately 10 meters apart to provide 100% visual coverage of the project site, as well as an approximately 500-foot buffer area surrounding the site. The result of the survey was that no evidence of desert tortoise was found in the survey area. No desert tortoise individuals or sign including burrows or scat were observed. Therefore, desert tortoise are considered absent from the project site.

Mohave Ground Squirrel – Threatened (State)

The Mohave ground squirrel is a State-listed threatened species. This small, grayish, diurnal ground squirrel is endemic to two million hectares in the western Mojave Desert. It typically inhabits sandy soils of alkali sink and creosote bush scrub habitat. Mohave ground squirrel forage on leaves and seeds and aestivate/hibernate for long periods of the year. Plants documented as forage for this species include: fiddleneck (*Amsinckia tessellata*), allscale (*Atriplex canescens* and *A. polycarpa*), desert holly (*A. hymenelytra*), coreopsis (*Coreopsis* sp.), spiny hopsage (*Grayia spinosa*), winterfat (*Krascheninnikovia lanata*), wolfberry (*Lycium andersonii*), Joshua tree (*Yucca brevifolia*) and the seeds of Joshua tree. It is suspected that Mohave ground squirrel forage on the plant species with the highest water content available at the time.

Findings: Although a focused Mohave ground squirrel trapping survey was not performed, Jericho conducted a Mohave ground squirrel habitat suitability assessment of the proposed project site and adjacent habitat. The habitat assessment included a pedestrian field assessment, review of reported occurrences of the Mohave ground squirrel in the region (CNDDB 2018), and adherence to CDFW's criteria for assessing potential impacts to the Mohave ground squirrel. The criteria questions are as follows:

1. *Is the site within the range of the Mohave ground squirrel?;*
2. *Is there native habitat with a relatively diverse shrub component?; and*
3. *Is the site surrounded by development and therefore isolated from potentially occupied habitat?*

The project site falls within the current range of the MGS but is located outside, to the east, of the Mohave ground squirrel Conservation Area set forth in the West Mojave Plan (BLM 2005). Per the CNDDB, there are 21 recent and historic Mohave ground squirrel occurrences documented in the *Little Lake, Coso Junction, Cactus Peak* and *Volcano Peak* quads. The nearest historically documented occurrence (1988) for Mohave ground squirrel is approximately 2 miles north of the project site. The nearest recently documented Mohave ground squirrel occurrence (2010) is approximately 8 miles northeast of the project site.

The entire project site (approximately 60 acres) consists of unvegetated cinder sand, which would not be considered suitable to support this species due to a lack of forage plants. However, some of the surrounding area adjacent portions of the project site does consist of white bursage scrub habitat

that would be considered suitable to support Mohave ground squirrel. This habitat is mostly restricted to the areas adjacent the western portion of the site, around the base of the cinder cone, and adjacent the northernmost portion of the site, respectively. Furthermore, although the southern portion of the site is bordered by existing mining operations, there is undeveloped contiguous suitable habitat between the project site and documented Mohave ground squirrel occurrences to the north and east. Therefore, Mohave ground squirrel could potentially occur within areas of suitable habitat surrounding the project site.

Golden Eagle – CDFW Fully Protected

The GOEA is a CDFW Fully Protected species. GOEA are found throughout North America, but are more common in western North America (CDFW 2017). Habitat typically consists of rolling foothills and mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes, and cliffs and rock outcrops (Polite and Pratt 1990). GOEA build large platform nests, typically on cliffs and in large trees in open areas of rugged, open habitats with canyons and escarpments (Polite and Pratt 1990). Threats include loss of foraging areas, loss of nesting habitat, pesticide poisoning, lead poisoning and collision with man-made structures such as wind turbines (CDFW 2017).

Raptors and all migratory bird species, whether listed or not, receive protection under the Migratory Bird Treaty Act (MBTA) of 1918. The MBTA prohibits individuals to kill, take, possess or sell any migratory bird, or bird parts (including nests and eggs) except in accordance with regulations prescribed by the Secretary of the Interior Department (16 U. S. Code 7035). Additional protection is provided to all bald and golden eagles under the Bald and Golden Eagle Protection Act of 1940, as amended. State protection is extended to all birds of prey by the California FGC, Section 2503.57. No take is allowed under these provisions except through the approval of the agencies or their designated representatives.

Findings: Per the CNDDB, the nearest recently documented GOEA nesting occurrence (2009) is approximately 8.7 miles north of the project site, near the Haiwee Powerhouse, south of the South Haiwee Dam. Additionally, there are several historically documented GOEA nesting occurrences (1974-77) located south of Little Lake, approximately 3.7 to 6.6 miles south of the project site. There are no GOEA occurrences documented in the project area. Although the area surrounding the project site likely provides suitable foraging habitat for GOEA, there are no tall trees in the project area and very little cliffside habitat that could provide potential GOEA nest sites. Furthermore, no GOEA were observed within the project area during the reconnaissance-level survey. The surrounding hillsides, particularly the upper half of the adjacent Red Hill cinder cone, were surveyed using binoculars and no GOEA or nest sites were detected. Given the level of disturbance from the existing mining operations and the general lack of suitable nest sites within the immediate project vicinity, the project site and surrounding area is likely not considered suitable to support nesting GOEA.

Burrowing Owl – SSC

The BUOW is a ground dwelling owl typically found in arid prairies, fields, and open areas where vegetation is sparse and low to the ground. The BUOW is heavily dependent upon the presence of mammal burrows, with ground squirrel burrows being a common choice, in its habitat to provide shelter from predators, inclement weather and to provide a nesting place (Coulombe 1971). They are also known to make use of human-created structures, such as cement culverts and pipes, for burrows. BUOW spend a great deal of time standing on dirt mounds at the entrance to a burrow or perched on a fence post or other low to the ground perch from which they hunt for prey. They feed primarily on insects such as grasshoppers, June beetles and moths, but will also take small rodents, birds, and reptiles. They are active

during the day and night, but are considered a crepuscular owl; generally observed in the early morning hours or at twilight. The breeding season for BUOW is February 1 through August 31.

BUOW have disappeared from significant portions of their range in the last 15 years and, overall, nearly 60% of the breeding groups of owls known to have existed in California during the 1980s had disappeared by the early 1990s (Burrowing Owl Consortium 1993). The BUOW is not listed under the State or federal ESA, but is considered both a State and federal SSC. The BUOW is a migratory bird protected by the international treaty under the Migratory Bird Treaty Act of 1918 and by State law under the California FGC (FGC #3513 & #3503.5).

> *Findings*: Per the CNDDB, the nearest documented BUOW occurrence (2007) is approximately 4.3 miles north of the project site, less than 1 mile east of Coso Junction. There are no BUOW occurrences documented in the project area.
>
> The assessment survey was structured, in part, to detect BUOW. The survey consisted of walking transects spaced to provide 100% visual coverage of the project site, including an approximately 500-foot buffer area around the project site. The result of the survey was that no evidence of BUOW was found in the survey area. No BUOW individuals or sign including pellets, feathers or white wash were observed.
>
> Per the definition provided in the *2012 CDFG Staff Report on Burrowing Owl Mitigation*, "Burrowing owl habitat generally includes, but is not limited to, short or sparse vegetation (at least at some time of year), presence of burrows, burrow surrogates or presence of fossorial mammal dens, well-drained soils, and abundant and available prey." Therefore, although the project site does contain friable soils, it would not be considered suitable for BUOW because the site is devoid of vegetation and no appropriately sized burrows or burrow surrogates were detected within the project area.

BLM Sensitive Plant Species

The project site is surrounded by BLM managed lands. The BLM manages species that is considers sensitive, regardless of their State or federal listing status. The following two BLM Sensitive Plan Species have been documented in the project vicinity: creamy blazing star (*Mentzelia tridentata*) and Charlotte's phacelia (*Phacelia nashiana*).

> *Findings*: Per the CNDDB, the nearest documented creamy blazing star occurrence is on the west slopes of Red Hill, approximately 0.3 miles west of the project site, and the nearest documented Charlotte's phacelia occurrence is approximately 3 miles southwest of the project site. Neither species was detected during survey. However, it should be noted that given that the survey was conducted in January, many of the annual species were not in bloom at the time of survey. The bloom period for creamy blazing star is typically March through May and the bloom period for Charlotte's phacelia is March through June, respectively (Calflora 2018). Although neither species was detected during survey, the soils and habitat types adjacent the western and northernmost portions of the project site are suitable for these species to occur in.

3.2.2 Jurisdictional Delineation

The project site is within an undefined Hydrologic Sub-Area (HSA 624.10) which comprises a 170,880-acre drainage area within the larger Indian Wells-Searles Valleys Watershed (HUC 18090205). This watershed encompasses an approximately 2,019-square-mile area, partially within southern Inyo County, northeastern Kern County and northwestern San Bernardino County, respectively. The Indian Wells-

Searles Valleys Watershed is bound on the north by the Owens Lake Watershed, on the west by the South Fork Kern Watershed, on the east by the Panamint Valley Watershed and on the south by the Antelope-Fremont Valleys and Coyote-Cuddeback Lakes Watersheds. The Indian Wells-Searles Valleys Watershed is bordered on the west by the southernmost foothills of the Eastern Sierra Nevada and encompasses portions of the Coso Range and Argus Range mountains to the north, as well as China Lake and Searles Lake playas. These two dry lakes, which are the major receiving waters of the hydrogeomorphic features within the Indian Wells-Searles Valleys Watershed, were once fed by the Pleistocene Owens River system. The project site is situated in the northern portion of the Indian Wells-Searles Valleys Watershed, adjacent (to the west of) an unnamed intermittent stream and unnamed playa that were once part of the Pleistocene Owens River system.

Waters of the U.S.

The USACE has authority to permit the discharge of dredged or fill material in waters of the U.S. under Section 404 CWA. WoUS are defined as: "All waters used in interstate or foreign commerce; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent and ephemeral streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, where the use, degradation, or destruction of which could affect interstate commerce; impoundments of these waters; tributaries of these waters; or wetlands adjacent to these waters" (Section 404 of the CWA; 33 CFR 328.3 (a). CWA jurisdiction exists over the following:

1. all traditional navigable waters (TNWs);
2. all wetlands adjacent to TNWs;
3. non-navigable tributaries of TNWs that are relatively permanent waters (RPWs) i.e., tributaries that typically flow year-round or have continuous flow at least seasonally; and
4. every water body determined to have a significant nexus with TNWs.

No drainages or other water features were identified within the project site that would meet the definition of WoUS. The project site is near an unnamed intermittent stream and unnamed playa, which are both adjacent the east side of the project area. These two intermittently-flooded features are both part of what was once the Pleistocene Owens River system and the unnamed playa was inundated at the time the survey was conducted (see attached photos). The unnamed intermittent stream originates approximately 12 miles north (upstream) of the project area, at the south end of South Haiwee Reservoir, and terminates approximately 18 miles southeast of the project area, in an area approximately 9 miles northwest of China Lake.

The adjacent unnamed intermittent stream and unnamed, intermittently-flooded playa are completely outside (to the east) of the proposed project site. Furthermore, these features would be considered isolated waters as they do not have a significant nexus to a TNW and would be not be considered jurisdictional WoUS. Therefore, no water features were identified within the project site that would meet the definition of WoUS.

USACE Wetlands

Areas meeting all three parameters would be designated as USACE wetlands. None of the three required parameters, hydrophitic vegetation, hydric soils and/or wetland hydrology, are present within the project site. Therefore, no wetlands were identified in the study area during this investigation based of the absence of hydrophitic vegetation, hydric soil indicators and/or wetland hydrology.

State Lake/Streambed

The project site is situated near the base of the Red Hill cinder cone and habitat within the project area is comprised of white bursage scrub habitat. There are no drainages or other water features that have a definable bed and bank or associated riparian vegetation that would be subject to the FGC under the jurisdiction of the CDFW, within the project site. The adjacent unnamed intermittent stream and unnamed, intermittently-flooded playa would likely be considered CDFW jurisdictional features, however they are entirely outside of the proposed project site.

4 Conclusions and Recommendations

4.1 Sensitive Biological Resources

No State- and/or federally-listed threatened or endangered species were observed on site during the field survey and due to the lack of suitable habitat on site, none are expected to occur within the proposed project footprint. The entire project site is unvegetated, consisting of cinder sand and gravel. There is white bursage scrub habitat adjacent the western portion of the site, around the base of the cinder cone, as well as adjacent the northernmost portion of the site, that could potentially be suitable to support several sensitive species. However, the project will not impact any sensitive species or habitats that may potentially support sensitive species, including the State- and federally-listed as threatened desert tortoise or the State-listed as threatened Mohave ground squirrel.

The proposed project footprint originally included approximately 29 acres of white bursage scrub habitat within the project boundary, primarily along the northern and western portions of the current proposed project footprint. However, to avoid all potential impacts to sensitive species that could potentially occur within this habitat, the project proponent modified the project boundary to avoid disturbing any of the adjacent white bursage scrub habitat. The current proposed project footprint is completely within an unvegetated area that consists entirely of cinder sand and gravel. Therefore, the project will not impact any of the adjacent white bursage scrub habitat or sensitive species identified as potentially occurring within this habitat.

According to protocol and standard practices, the results of the habitat assessment surveys will remain valid for the period of one year, or until January 29, 2019, after which time, if the site has not been disturbed in the interim, another survey may be required to determine the persisting absence of desert tortoise, BUOW and other sensitive flora and fauna on-site. Regardless of survey results and conclusions given herein, desert tortoise, BUOW and Mohave ground squirrel are protected by applicable State and/or federal laws, including but not exclusive to the CESA and Federal ESA. As such, if a desert tortoise, BUOW or Mohave ground squirrel are found on-site during work activities, all activities likely to affect the animal(s) should cease immediately and regulatory agencies should be contacted to determine appropriate management actions. Importantly, nothing given in this report, including any recommended avoidance, minimization and mitigation measures, is intended to authorize the incidental take of desert tortoise or Mohave ground squirrel or any other listed species during project activities. Such authorization must come from the appropriate regulatory agencies, including CDFW (i.e., authorization under section 2081 of the FGC) and USFWS. Additionally, it should be noted that desert tortoise may be handled only by a qualified biologist who has been given authorization by the appropriate agencies (i.e. USFWS and CDFW).

Desert Tortoise

No evidence of desert tortoise was found in the project area during survey and the nearest documented desert tortoise occurrence is approximately 6.4 miles northwest of the project site. No desert tortoise individuals or sign including burrows or scat were observed on site. Furthermore, the project site does not

CDFW exist within the project site. The project site is located entirely outside of any jurisdictional areas and no permanent or temporary impacts to jurisdictional features will result from the project. Therefore, no permits or authorizations from the USACE, RWQCB, or CDFW will be required.

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REVISED
MINE RECLAMATION PLAN
FOR THE
RED HILL QUARRY
CA MINE ID: 91-14-0002

Prepared For:
Twin Mountain Rock Ventures L.L.C.
11374 Tuxford Street
Sun Valley, CA 91352

Submitted To:
County of Inyo
Planning Department
168 North Edwards Street
Independence, California 93526

Prepared By:
Lilburn Corporation
1905 Business Center Drive
San Bernardino, California 92408

Updated
January 2021

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APPENDICES

MAP SHEETS (attached)

PROFESSIONAL CERTIFICATIONS

Slope Stability (Appendix B)

The California Professional Geologist/Certified Engineering Geologist and the California Certified Engineering Geologist, *Slope Stability Evaluation Report for the Amended Reclamation Plan for Red Hill Quarry* prepared by Terracon Consultants, Inc. (June 2020) (attached as Appendix B) for Angeles Block Company and Lilburn Corporation.

John S. McKeown, E.G. 2[illegible]
Senior Geologist

PROFESSIONAL GEOLOGIST
JOHN S. McKEOWN
No. EG2356
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

Authorized Project Review[illegible]

Jay J. Martin, C.E.G.1529
Principal

CERTIFIED ENGINEERING GEOLOGIST
JAY J. MARTIN
No. 1529
Exp 08-31-2020
STATE OF CALIFORNIA

Land Survey (Appendix C and Sheet 3 of3)

California Professional Land Surveyor (PLS) – Joseph E. Miller L.S. 5803:

SURVEYOR'S STATEMENT

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYORS' ACT AT THE REQUEST OF LILBURN CORPORATION NOVEMBER, 2020.

DATE: 12/18/20

JOSEPH E. MILLER
L.S. 5803

PROFESSIONAL LAND SURVEYOR
JOSEPH E. MILLER
PLS 5803
STATE OF CALIFORNIA

Aerial Mapping/Topography

Cooper Aerial Surveys Co.

11402 N. CAVE CREEK ROAD
PHOENIX, AZ 85020
Ph (602) 678-5111
FX (602) 678-5228

THIS MAP HAS BEEN PRODUCED ACCORDING TO PROCEDURES THAT COMPLY WITH NATIONAL STANDARD FOR SPATIAL DATA ACCURACY (NSSDA) FOR A CONTOUR INTERVAL OF 1-FOOT AND A MAP SCALE OF 1"= 100'.

DASH CONTOURS INSIDE VEGETATED AREAS AND SHADOW OUTLINED AREA MAY NOT MEET MAPPING STANDARDS AND SHOULD BE FIELD CHECKED

THIS COMPUTER PLOTTED MAP WAS GENERATED FROM DATA COMPILED BY DIGITAL STEREO METHODS USING AERIAL PHOTOGRAPHY TAKEN ON JANUARY 10, 2015.

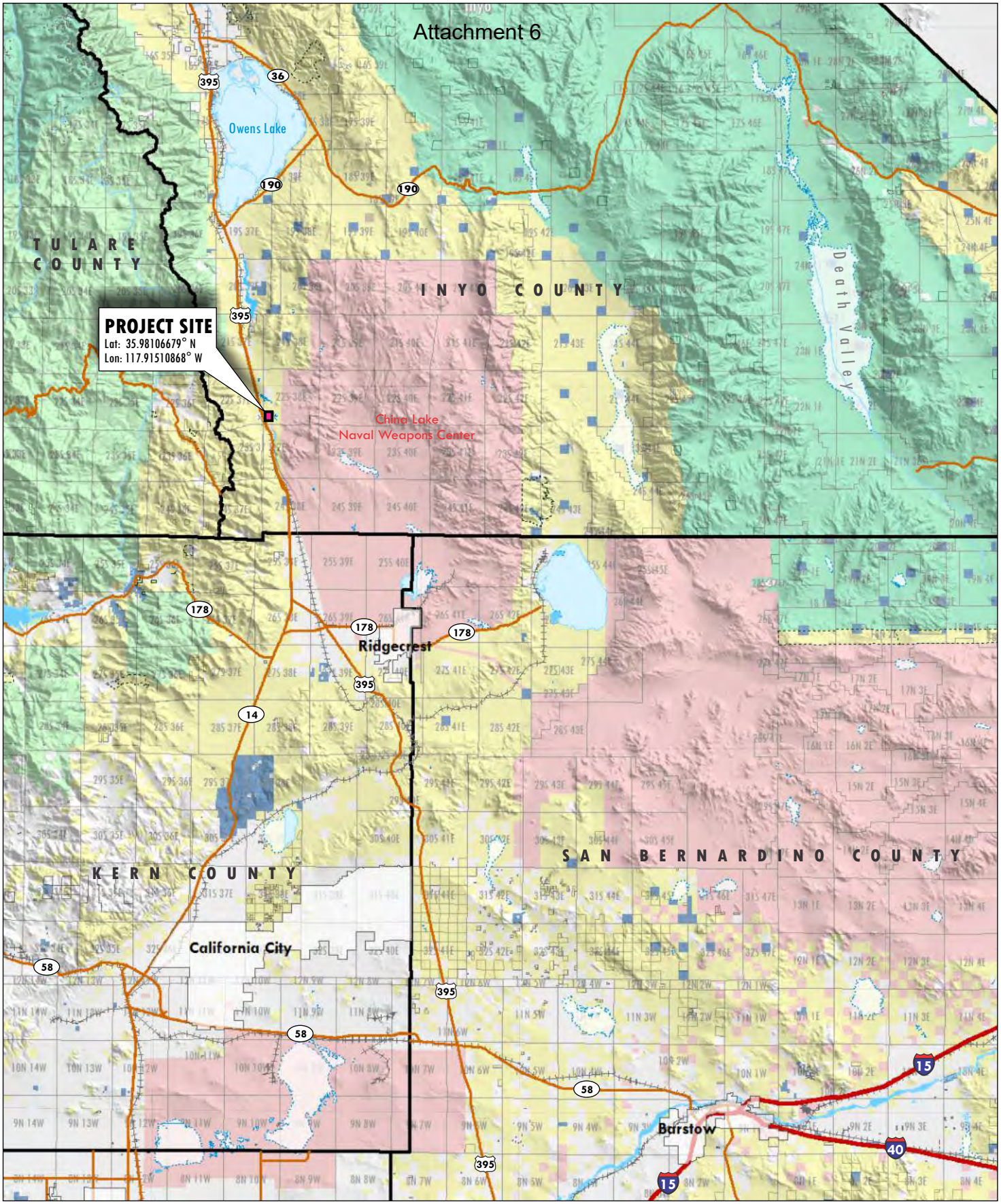
REVISED MINING RECLAMATION PLAN
FOR THE RED HILL QUARRY
CUP 78-9; CA MINE ID No. 91-14-0002

INTRODUCTION AND BACKGROUND

Twin Mountain Rock Venture L.L.C. (TMRV) is submitting an application for a revision to an existing approved Mining Reclamation Plan (Conditional Use Permit - CUP 78-9) for the Red Hill Quarry (CA Mine ID No. 91-14-0002). Red Hill Quarry is owned in its entirety by Angelus Block Company since 2015 and TMRV is the mine operator. The proposed revised Mining Reclamation Plan (Plan) will include updating the current plans, completing mining in the Main Quarry and extending mining to the northeast away from US 395 in order to utilize the on-site cinder reserves. The existing and proposed mining activities are and will be undertaken on its privately-owned property of approximately 297 acres; patented in the years 2000 and 2007. The Plan will include updated reclamation methods per the California Surface Mining and Reclamation Act (SMARA) implemented by the County of Inyo (County) within County Code Chapter 7.70 Surface Mining and Land Reclamation.

Red Hill Quarry is located approximately 12 miles south of Olancha on the east side of US 395 in Inyo County, California (see Figure 1 - Regional Location Map). The mine is within Sections 30 and 31, Township 22S North, Range 38E, Mount Diablo Meridian. The site is accessed from US 395, east onto Cinder Road approximately one mile to the mine site gate on the east side of the site (see Figure 2 - Vicinity Map). Red Hill Quarry produces red and black cinder rock and sands crushed and screened to various sizes, densities, and colors depending on product demand. The sized cinder materials are mostly trucked to its Angelus Block facilities in southern California as a component of cinder blocks used for construction. In addition, materials are used for landscaping, soil amendment, de-icing of roads, and other uses. Production has averaged around 55,000 tons per year and is increasing.

The original Plan (CUP 78-9) was approved by the County in May 1979 with mining and excavation restricted to the then revised Phase 1 excavation area of approximately 116 acres within an overall mine site of approximately 160 acres. This was conditioned by the County so that there would be no mining taking place on the Red Hill Cone proper nor would it be visible from US 395. Currently approximately 152 acres are reported as disturbed requiring future reclamation. The current land owner, Angelus Block, purchased 100% of the site in 2015 and the operator under the land owner is Twin Mountain Rock Venture. The mining operation is in good standing with the County and state having submitted annual reports and annual updated Financial Assurance Cost Estimates (FACEs) to cover reclamation costs. A Financial Assurance Mechanism (FAM) of $338,860 is on file with the County and State. The County annually inspects the site and no violations have been noted.



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MILES

Prepared By:
LILBURN CORPORATION

LEGEND

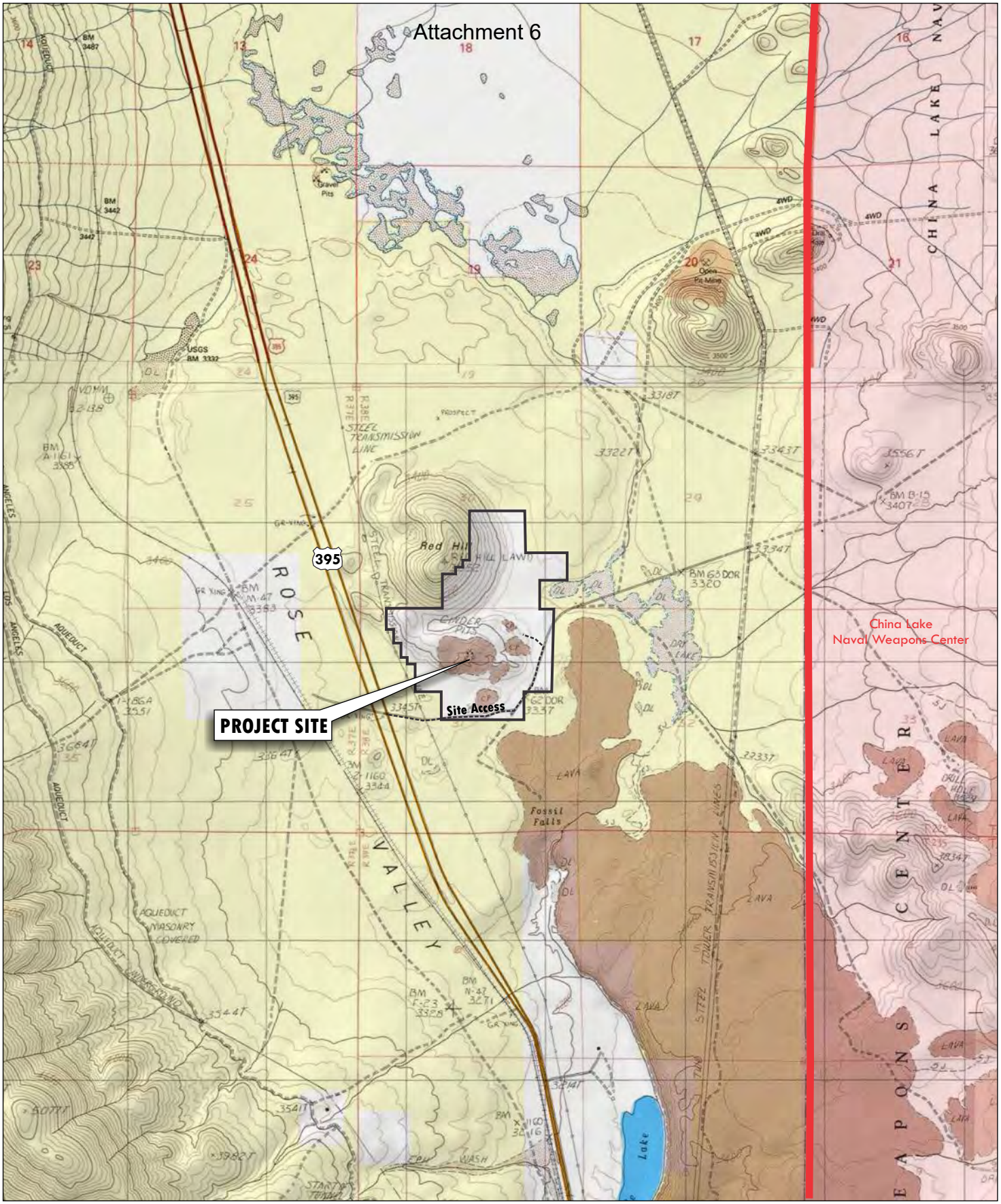
- County Line
- BLM Land
- Military Land
- National Park Service Land
- CA State Land
- 22S 32W USGS Township and Range

REGIONAL LOCATION

Red Hill Cinder Mine
County of Inyo, CA

FIGURE 1

Attachment 6



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FEET

LEGEND

- Property Boundary
- BLM Land
- Military Land
- Private Land

Prepared By:
LILBURN CORPORATION

PROJECT VICINITY

Red Hill Cinder Mine
County of Inyo, CA

FIGURE 2

At the time of the original approval in 1979, the site consisted of a number of unpatented claims on public federal lands under the jurisdiction of the Bureau of Land Management (BLM). In the years 2000 and 2007, two claims were issued patents on a total of 297 acres. The Assessor's Parcel Number (APN) for the entire private property is 037-090-11. These areas are now privately held lands owned by Angelus Block and are considered the overall property boundary. In addition, Angelus Block holds 330 acres of unpatented claims on Federal lands surrounding the patented areas. The patented and unpatented claims are listed below and are shown on Figure 3, Mine Plan.

Patented Claim Legal Land Description and Acreage (see Figure 3):

1. Patent Number 04-2001-0030 178.59 acres

   Mount Diablo Meridian, T.22S. R.38E., Section 31, Lots 3 and 12, W ½ NE ¼ NE ¼, W ½ NE ¼ , NW ¼ SE ¼ NE ¼

2. Patent Number 04-2007-0002 118.22 acres

   Mount Diablo Meridian, T.22S. R.38E., Section 30, Lot 13, S ½ N ½ NW ¼ SE ¼ S ½ NW ¼ SE ¼, SW ¼ SE ¼, W ½ NE ¼ SE ¼ SE ¼, NW ¼ SE ¼ SE ¼ W ½ SW ¼ SE ¼ SE ¼. Section 31, Lot 14.

Unpatented Placer Claims

There are four unpatented placer claims, Volcanic Metallite 1, 2, 3, & 4, that surround the west, north, and east sides of the Red Hill Quarry site. No operations take place or are proposed on unpatented claims on public federal lands managed by the BLM.

1. CAMC 38426 – Volcanic Metallite 1; SW¼ Section 30; Location Date: 9/15/48; 140 ac
2. CAMC 38427 – Volcanic Metallite 2; NW¼ Section 31; Location Date: 9/15/48; 70 ac
3. CAMC 38428 – Volcanic Metallite 3; NE¼ Section 31: Location Date: 9/15/48; 50 ac
4. CAMC 38429 – Volcanic Metallite 4: SE¼ Section 30: Location Date: 9/15/48; 70 ac

The 1979 Mining Conditional Use Permit and Reclamation Plan (CUP 78-9) contemplated approximately 40 years of mining within Phase 1. This current application and Plan is requesting the continuation of operations and concurrent and subsequent reclamation for up to 100 years to extend mining to 2121 and reclamation to 2123. Production was not limited in the 1979 CUP. Recent production has averaged approximately 55,000 tons per year (tpy). This Plan proposes an average permitted production level of 75,000 to 125,000 tpy with a maximum of 150,000 tpy based on approximately 750 tons per day (tpd), 200 days per year.

The mine site is located on the south and east side of the Red Hill Cinder Cone. County approvals in 1979 restricted any mining activities on the Red Hill Cone proper to limit visual impacts. The proposed revisions have incorporated the existing restrictions into its future plan. No new mining or mining activities will take place on the cone proper per the existing CUP 78-9 nor will additional mining be seen from US 395.

Attachment 6

RED HILL QUARRY - CA MINE ID: 91-14-0002
MINING NOTES

Mine: Red Hill Quarry

Mineral: Cinders

Mine Operator: Twin Mountain Rock Venture L.L.C.
11374 Tuxford Street
Sun Valley, CA 91352
818-767-8576 blockbiz@angelusblock.com

Land Owner: Angelus Block Company, INC.
11374 Tuxford Street
Sun Valley, CA 91352
818-767-8576 blockbiz@angelusblock.com

Applicant/ Owner of Mineral Rights: Same as Owner

Geologists: Jay Martin & John McKeown – Terracon
1355 E. Cooley Dr.
Colton, California 92324

Representative: Lilburn Corporation
1905 Business Center Drive
San Bernardino, CA 92408
909-890-1818

Map Preparer: Lilburn Corporation **Date of Map:** January 2021

Utilities
Water: On-site well
Sewage disposal: Portable toilets, septic system
Electric: SCE
Gas: Not applicable
Telephone: Mobile phones

General Plan Designation: Open Space and Recreation (OSR)
Zoning: Open Space – 40 (OS-40)
APN: 037-090-11

Existing Disturbed (2020): 152 acres
Existing Permitted in 1979: 160 acres
Proposed Total Mine Area: 198 acres
Area to be Reclaimed: 198 acres
Reclaimed End Use: Open space with reclaimed landforms

Legal Description
1. Patent Number 04-2001-0030; 178.59 acres.
Mount Diablo Meridian, T.22S. R.38E., Section 31, Lots 3 and 12, W ½ NE ¼ NE ¼, W ½ NE ¼, NW ¼ SE ¼ NE ¼; and
2. Patent Number 04-2007-0002; 118.22 acres
Mount Diablo Meridian, T.22S. R.38E., Section 30, Lot 13, S ½ N ½ NW ¼ SE ¼ S ½ NW ¼ SE ¼, SW ¼ SE ¼, W ½ NE ¼ SE ¼ SE ¼, NW ¼ SE ¼ SE ¼ W ½ SW ¼ SE ¼ SE ¼. Section 31, Lot 14.

Excavations, Slopes:
Phase 1 Main Quarry: 48.6 acres; depth of 150 feet bgs with 1H:1V slopes and quarry floor averaging 3,250 feet amsl.
Phase 2 NW Extension: 8.5-acre extension of the Phase 1 Main Quarry; slopes on the NW side of the Main Quarry; average cut 100 feet with 1.5H:1V slopes.
Phase 3: Mining under Overburden Stockpile 3 on 13.7 acres becoming part of Main Quarry
Phase 4: Northeast Quarry expansion on approx. 35.5 acres with 1H:1V slopes.

Slopes: Typical 1H:1V. Benches: 15 feet horizontal: 20 feet height with 80° max. face. Active slopes may be as steep as 0.5H:1V and cut back within cinder as feasible to a reclaimed slope of no more than 1H:1V as required by the current CUP or pushed down/backfilled with native material to 2H:1V as recommended by Terracon.

Overburden Stockpiles: 3 stockpiles; 62.8 acres total. Max. height 50 feet; Slopes: Overall 2H:1V. OB-3 (13.7 acres) will be pushed into Main Quarry and mined underneath in Phase 3.

Estimated Operating Life: 100 years until June 30, 2121

Estimated Reserves: 19 MCY; at 0.65 tons/CY = 12.5 MT (rounded and assumed up to 50% non-commercial material or waste worst case).

Production: Existing – 55,000 TPY; Proposed average – 100,000 TPY; Peak - 150,000 TPY depending on demand.

Quarry Setbacks: 50 feet for NE Quarry along property lines.

Public Safety
Public access restricted by 10-foot high perimeter berm and 3-strand wire fence and locked access gates to site. Other access roads will be blocked with large boulders or berms. Warning signs with contrasting background lettering will be installed every 500 feet along the approved mine boundary stating "No Trespassing - Keep Out; Surface Mining Operation" or similar.

Scale: 1 inch = 200 feet

LEGEND

Existing
Patented Claim
Unpatented Claim per Downsizing Claim Amendment (shown as white)
Area Permitted for Mining Per Revised Figure 2.5-1
Existing Topography
Borehole
Well
Dirt Road
Power Pole
USGS Survey Section

Proposed
Berm
Phase Boundary
Quarry Design Contour
OB Design Contour
3-Strand Wire Fence with Warning Signs Every 500'
Quarry Top of Slope and Perimeter Safety Berm
Slope Indicator
Quarry Toe of Slope
OB Top of Slope
Slope Indicator
OB Toe of Slope
Cross Section B Shown on Sheet 3
Direction of View

Prepared By:
LILBURN CORPORATION

MINE PLAN

Red Hill Cinder Mine: CA Mine ID# 91-14-0002
County of Inyo, CA

FIGURE 3

Operator: Twin Mountain Rock Venture L.L.C.
11374 Tuxford Street
Sun Valley, CA 91352
818-767-8576 blockbiz@angelusblock.com

Land Owner: Angelus Block Company, INC.
11374 Tuxford Street
Sun Valley, CA 91352
818-767-8576 blockbiz@angelusblock.com

Representative: Jack Patel
Angelus Block Company
11374 Tuxford Street
Sun Valley, CA 91352
818-767-8576 jpatel@angelusblock.com

Lilburn Corporation (mining consultant)
Martin Derus
1905 Business Center Drive
San Bernardino, California 92408
909/890-1818 marty@lilburncorp.com

General Plan Designation: Open Space and Recreation (OSR)

Zoning: OS-40

APN: 037-090-11

Existing Disturbed (2020): 152 acres

Existing Permitted in 1979: 160 acres

Proposed Total Mine Area: 198 acres

Area to be Reclaimed: 198 acres

Start-Up Date: In operation under existing permits

Estimated Operating Life: 100 years (or until June 30, 2121)

Estimated Mining Termination Date: June 30, 2121

Estimated Reclamation Completion: June 30, 2123

Reclaimed End Uses: Open space with reclaimed landforms

Project Objectives

TMRV's objectives for this revised mining project is to continue to provide cinders to supply raw material for its cinder block production and to research other uses for the cinder and cinder sand for landscaping. The following objectives have been incorporated into the revised Plan:

1) To develop the cinder resource that meets County Code Chapter 7.70 Surface Mining and Land Reclamation (SMARA) and conditions currently within the existing CUP 78-9;
2) To mine the cinder resource to the south and east of the Red Hill Cinder Cone without impacting the cone proper and to screen mining activities from viewers on US 395;
3) To secure cinder reserves in order to provide a reliable and economic source for its cinder block production needs (off-site), highway paving, road de-icing, landscaping, soil amendment, and other uses;
4) To provide for an average permitted production level of 75,000 to 125,000 tpy with a maximum of 150,000 tpy based on approximately 750 tpd, 200 days per year for up to 100 years;
5) To reclaim the site for a post-mining use of open space habitat;
6) To contour mining features and revegetate disturbed areas to minimize aesthetic and erosional impacts; and
7) To reclaim and maintain the site as necessary to eliminate hazards to public health and safety.

1.0 MINING PLAN

1.1 MINING OPERATIONS

Please refer to Figures 3 and 4 and Sheets 1 and 3 to review the Mine Plan and Cross Sections and Table 1 for a listing of the phases and facilities' existing and proposed areas. Mining operations will be undertaken in four phases with time frames dependent on production needs and material quality and quantity. Phases 1, 2 and 3 are essentially implementing the existing 1979 CUP and its conditions of approval. Phase 4 will extend mining to the northeast by 35.5 acres; east of the cinder cone proper in the future. Total area expansion will be approximately 46 acres. The conditions of approval relevant to ongoing and future operations being implemented by TMRV include among others:

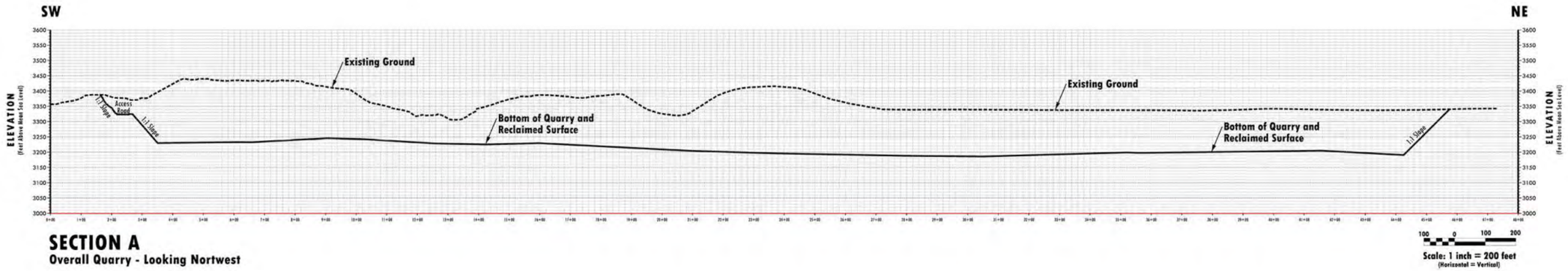
2. ***All processing plant activities shall be located on the eastern side of the site.***
   The processing plant including a cinder aggregate crushing/screening operation will remain in the southeastern area for the duration of the project, hidden from surrounding views by the perimeter berm and overburden stockpiles. The office area and scale (and eventually the shop) are located on the far east side of the site, out of sight of US 395.

4. ***A security fence shall be constructed around the perimeter of the Phase 1 area. Said fence shall at a minimum be 3-strand barbed wire construction.***
   Fencing consisting of 4-strand smooth wire, is located on the west, south, and east sides of the mine site with a locked gated entrance on the east side of the property. In addition, TMRV has warning signs along the said fence approximately every 500 feet. The fencing will be extended to surround the Phases 2 and 4 mining perimeters.

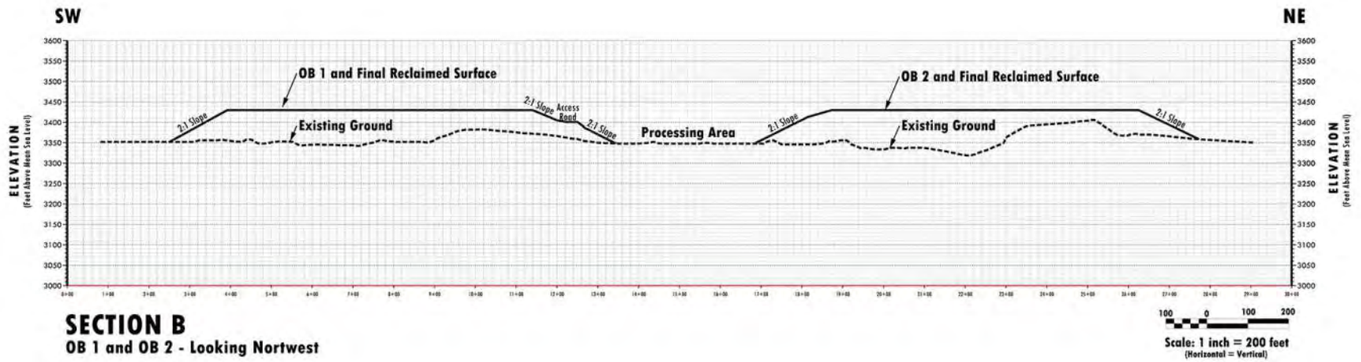
5. ***A periphery berm shall be constructed in accordance with the specifications in the FEIR. The berm is to be an irregular feature which incorporates to the greatest extent possible existing partially revegetated debris piles from former mining operations.***
   The berm is generally constructed from the southwest area around the southern perimeter to near the east side access gate. The berm will be maintained per this condition. In addition, the perimeter berm will be extended from north of the access gate for approximately 500 feet prior to re-locating the shop to this location in Phase 3.

6. ***Areas which are not disturbed and that contain any top soil shall be scraped and the top soil spread on the top and sides of the berms to promote revegetation.***
   This will continue to be implemented. However, all proposed mining in this Plan will be located on existing mining areas and on barren volcanic sands with no top soil or vegetation.

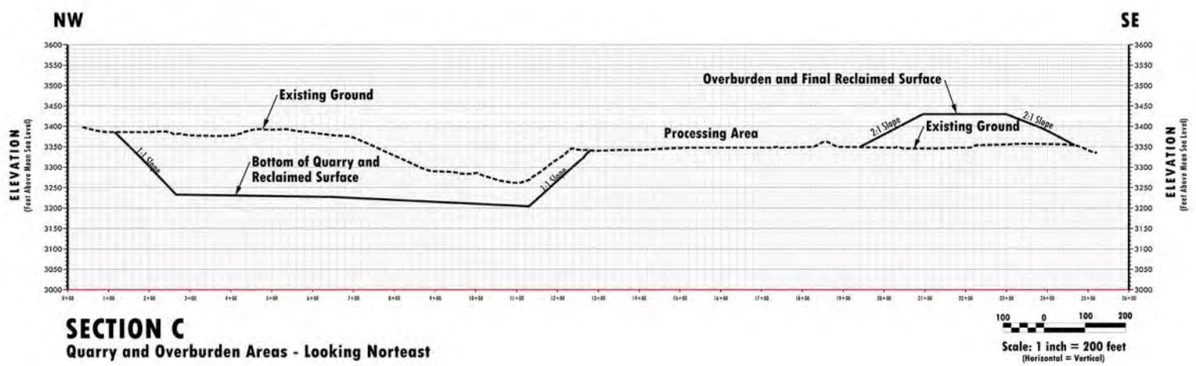
7. ***The sides of the open pit shall be maintained at a slope of 1:1 or less except in those areas being mined.***
   This will continue to be implemented. Open pits will be reclaimed or mined at 1:1 or less steep within cinder; where existing cut slopes are steeper than 1:1, slopes shall be flattened to 1:1 in cinder or backfilled to 2:1 per the findings of the slope stability evaluation (Terracon 2020).



SECTION A
Overall Quarry - Looking Nortwest



SECTION B
OB 1 and OB 2 - Looking Nortwest



SECTION C
Quarry and Overburden Areas - Looking Norteast

Prepared By:
LILBURN CORPORATION

CROSS SECTIONS

Red Hill Cinder Mine: CA Mine ID# 91-14-0002
County of Inyo, CA

FIGURE 4

Currently mining is taking place within the Phase 1 Main Quarry of approximately 49 acres as approved in the 1979 CUP and will continue for up to 60 years. Active slopes may be as steep as 0.5 horizontal to 1 vertical (0.5H:1V) and cut back within cinder as feasible to a reclaimed slope of no more than 1H:1V as required by the current CUP or pushed down or backfilled with non-commercial material to 2H:1V as recommended by Terracon. Maximum depth will be approximately 150 feet below ground surface (bgs) with a variable pit floor averaging approximately 3,250 feet above mean sea level (amsl). Phase 2 mining is planned in a small northwestern 8.5-acre extension of the Main Quarry with 1.5H:1V slopes connecting to the Main Quarry. Mining on the west side of the Main Quarry will be below grade, remain behind natural ridging and further blocked by views from US 395 by an approximate 10-foot high berm along the west areas as shown on the Mine Plan and as required by the existing CUP.

During Phase 3, Overburden Stockpile 3 of about 14 acres and approximately 50 feet in height will be pushed down into the floor of the Main Quarry and the raw cinders underneath will be mined to about 150 feet bgs. Mining of the site is achieved with a dozer that pushes the cinder from higher to lower levels where a loader operates at the active quarry floor or bench. The cinder is stockpiled by the dozer and the loader transfers material from the temporary stockpiles or directly from mined material and loads it into the feeder hopper for initial crushing and screening. The screened material is transported by conveyor out of the pit to the process plant area for further crushing and screening. In the past, large off-road mine haul trucks moved the material out to of the pit to the plant and resulted in excessive diesel exhaust emissions and noise; in addition, the costs for operating and maintaining the trucks was excessive.

The mining and loading of material on-site is conducted by the following equipment which may change over time: one dozer, two loaders, dump truck, and a 3,000-gallon water truck (see Table 2). No additional equipment is needed to increase production in the future. Note that the primary crusher and screen and conveyors are portable and are moved within the quarry to be adjacent to the active mining area. Processing equipment is permitted with the Great Basin Unified Air Pollution Control District (GBUAPCD) as required.

Material mined, crushed and screened in the quarry and at the processing plant is sorted into stockpiles of various sizes and color and loaded directly into street-legal 27-ton haul trucks (or similar) for shipment off-site. Non-spec or non-commercial material, that is, unwanted material that does not meet various product specifications, is conveyed into overburden stockpiles. Overburden Stockpile 1 (OB1) is located in the southcentral portion of the site on about 26 acres. Material is stockpiled up to about 50 feet with 2H:1V slopes, is colored red to black, and will be contoured to blend into the overall area. Overburden material will also be used to backfill the Overburden Stockpile 2 (OB2) area of approximately 23 acres, which was partially mined in the past and consists of a series of cuts and ridges. Overburden will fill the site and may reach up to 50 feet from the existing surface with 2H:1V slopes. The overburden will be colored red to black and will be contoured to blend into the overall area.

Overburden Stockpile 3 (OB3) is located to the northeast of the Main Quarry on about 14 acres. As mining is completed on the northeast side of the Main Quarry, the overburden material will be pushed into the Main Quarry for permanent storage and reclamation. This will be completed in Phase 3 followed by mining of the cinder under OB3. Eventually OB3 will be eliminated and

Table 1
Red Hill Quarry
Planned Mine Site Areas (acres) and Phases

Mine Facility	Phase 1	Phase 2	Phase 3	Phase 4
Offices/Scales	1.6	1.6	1.6	1.6
Plant & Product Stockpiles	4.6	4.6	4.6	4.6
Shop Area	2.1	2.1	-2.1 (to be mined) +1.9 (relocated)	1.9
Main Quarry	48.6	48.6	50.7	50.7
Overburden Stockpile 1 (OB1)	26.4	26.4	26.4	26.4
Overburden Stockpile 2 (OB2)	22.7	22.7	22.7	22.7
Overburden Stockpile 3 (OB3)	13.7	13.7	0 (-13.7)	0
Main Quarry NW Extension	---	8.5	8.5	8.5
Main Quarry NE Extension (former OB3)	---	---	13.7 (new mining under OB3)	13.7
Northeast Quarry	---	---	---	35.5
Other Operational Areas / Setbacks / Roads / Berms (not entirely impacted)	32.4	32.4	32.4	32.4
Subtotal of Developed Areas	152	160.5	162.4	197.9 (+45.9 expansion)
Areas to Remain Undisturbed	145	136.5	134.6	99.1
Total Overall Project Area	297	297	297	297

Source: TMRV, Lilburn May 2018

Table 2
Typical Quarry and Plant Mobile Equipment

Equipment	Typical Number	Purpose
Dozers	1	Removal of topsoil and overburden. Construction and maintenance of access roads.
Off-road haul or Dump Trucks	1	Transportation of material on-site from quarry to plant or overburden stockpiles.
Motor Grader	1	Maintain roads on-site.
Front-End Loaders	2-3	Loading cinders into feed hopper at excavation and loading street-legal haul trucks for off-site transfer
Water Truck	1	Water for spraying, haul roads, stockpiles, and general dust suppression at site.

Source: TMRV Red Hill, 2018

the area will become part of the Main Quarry. In addition, the existing shop area would be removed and relocated to the north of the administration area.

During Phase 4, mining will be initiated in the Northeast Quarry area located on approximately 35.5 acres. The quarry will be setback a minimum of 50 feet on the project boundaries to the east and north and setback about 100 feet from the base of the Red Hill Cinder Cone proper and from vegetated areas as mapped by the biological consultant. Safety berms 10-feet high with warning signs every 500 feet will be established on the west, north, and east sides for public safety. The pit will be mined and reclaimed with 1H:1V slopes to a depth of approximately 150 feet below ground surface (bgs) or 3,180 feet amsl.

Terracon prepared a *Slope Stability Evaluation Report for the Red Hill Quarry (June 2020)* (see Appendix B*)* to assess the cut and fill slopes at the quarry. The results of global slope stability analyses determined that slopes in native cut at 1H:1V up to 160 feet and overburden slopes of 2H:1V up to 60 feet are sufficient to meet factors of safety (FS) in excess of 1.5 static and seismic factors of safety at or greater than 1.1 (see Table 3).

Table 3
Summary of Global Stability Results

Model	Materials	Slope Configuration	Static Factor of Safety	Seismic Factor of Safety (k=0.2)
Native Cut	cinder	160 feet @ 1(h) to 1(v) 45 deg.	1.90	1.42
Backfill Slope	Waste rock	60 feet @ 1(h) to 1(v) 45 deg.	1.00	0.73
Backfill Slope (Recommended)	Waste rock	60 feet @ 2(h) to 1(v) 27 deg.	1.68	1.14
Overburden Stockpile	Mixed OB	60 feet @ 27 deg. Fill slope	1.71	1.12

Source: *Slope Stability Evaluation Report for Red Hill Quarry, Appendix B, page 7. Terracon June 2020*

The planned backfill slope configured at 1(H):1(V) does not exhibit sufficient Factors of Safety under static and seismic conditions for use in reclamation according to DMR. Therefore, an alternative model using backfill at 2(H:1(V) was analyzed and determined to meet recommended factors of safety. Therefore, any final quarry slopes that cannot be flattened to 1H:1V by cutting into native basalt and cinder shall be backfilled at 2H:1(V).

The Terracon report reported that static groundwater was encountered at approximately 187 feet bgs in a drill hole located near the western site boundary in 2015. Information available in California Department of Water Resources Water Data Library indicates a well located about 1 mile east of the site with Local ID 18-28 GTH. Measured water levels between October 2011 and March 2020 in this well were steady near elevation 3,194 feet that correlates to a depth to water of about 172 feet bgs. Based on the 150-foot depth of planned mining, groundwater is not anticipated to occur within the depth of the proposed mining excavations.

Site operations are typically conducted from 5 a.m. to 3:30 p.m., four to five days a week but could occur for longer hours depending on demand during daylight hours only. No nighttime, Sunday, or holiday operations will be conducted. Shipping is limited to Monday morning at 5 a.m. to Friday afternoon at 3:30 p.m. with occasional shipping on Saturdays.

Production for the past few years has averaged approximately 50,000 to 55,000 tpy. This amounts to approximately 250 tpd, 200 days/ year and 10 trucks per day carrying 25 to 27 tons each. Angelus Block is planning to eventually produce up an average of 75,000 to 125,000 tons per year with a maximum of 150,000 tpy based on approximately 750 tpd, 200 days per year and 30 trucks per day. Based on the large volume of available material (approximately 19 million cubic yards or 12.5 million tons), TMRV is requesting to permit operations for up to 100 years.

On occasion, a dozer or grader may be used on-site for road maintenance. To minimize dust generation, a water truck is retained for use during mining, stockpiling and loading of haul trucks prior to them departing from the site. The mine operator shall water spray working mine areas and access roads on a regular basis and more frequently as needed during windy conditions. Water used for dust control is pumped from an on-site well. Un-surfaced haul roads and access roads shall be maintained with water sprays or covered with road base material as needed. In general, the on-site roads graded into the volcanic gravels and sands are not highly erosive. All refuse is disposed into approved trash bins and removed by a commercial vendor. Portable toilets are used on-site and serviced by a commercial vendor.

Note that the perimeter road known as Cinder Road on the south and east of the site is utilized by haul trucks partially within the site's private property. It is paved on public lands for approximately 0.25 miles east of US 395 then is within Angelus Block's private land until the road passes the mine site's entrance on the east. This road is open to the public to access public lands managed by the BLM including the Fossil Falls Scenic Area. During mining operations, TMRV maintains that portion of the road within its property that visitors utilize to access Fossil Falls Scenic Area as well as recreational areas to the east.

1.2 MINE WASTE

Tailings or waste from mineral processing are not produced on-site. Overburden is really non-spec material, that is, unwanted material that does not meet various product specifications. Approximately 50% of the excavated material is non-spec material to be placed in the overburden stockpiles and filled into completed sections of the Main Quarry. It is conveyed either directly into the overburden stockpiles or from the crushing/screening plant. Equipment and vehicle maintenance is conducted in the shop building on concrete floors. Maintenance and refueling complies with all rules and regulations with regard to implementing proper fueling procedures, fuel and waste oil storage, and spill control measures and employee training per their Emergency Response Plans and Procedures on file with the Inyo County Environmental Health Services (EHS). EHS is the Certified Unified Program Agency (CUPA) that oversees hazardous materials storage, use, generation and disposal.

1.3 ORE PROCESSING

The cinder material is loaded into a feeder at the active mining location directly and conveyed to the crushing/screening plant located in the southeastern portion of the site. The processing facility and product stockpiles are located on about 8.5 acres that may vary with product stockpile areas. The processing plant consists of 2 cone crushers, 3 screens, 16 conveyors, 5 stacker conveyors, and a 5,000-gallon water tank for dust suppression. The plant is permitted with the GBUAPCD with a set of conditions including among others, limiting production to no more 190 tons/hour, use of a water spray fog system, and speed limits of 25 mph. The site also has a 2,000-gallon aboveground gasoline tank and a 12,000-gallon diesel fuel tank located on a concrete pad with a containment berm permitted with the GBUAPCD at the shop site in the existing north central area. An administration site is located on the east central side at the access gate with three office structures (two converted rail cars) used for administration, employee facility, and storage and a truck scale, and vehicle and equipment parking areas. Refer to Table 4 for a general list of on-site facilities.

Table 4
Typical Process Plant Equipment (or equivalent)

Plant Equipment	Number (Approx.)	Purpose
Crushing and screening plant	1	2 Nordberg cone crushers and 3 screens. Crushes and sizes material; permitted with GBUAPCD #559-03-15
Conveyors/stackers	16 conveyors; 5 stackers	Conveys sized material within plant and into stockpiles; part of air permit above.
Metal shop	1	70’ x 40’
Storage containers	2	40’ x 10’ metal
Fuel tanks	2	1-12,000 gal. diesel & 1-2,000 gal. gasoline located on concrete pad approx. 90’ x 25’
Portable water tanks	1	1 - 10,000 gallons; 1 attached to plant 5,000 gallons
Truck Scale	1	Weighs trucks
Office trailers (2 converted rail cars)	4	Adm., employees’ breakroom, storage

Note that listed plant equipment is typical and will change with time.

The portable crushing and screening plant currently processes and is permitted to process up to 190 tons/hour. The current daily rate for one 10-hour shift is an average of approximately 250 tons/day (tpd), 200 days/year for a total of approximately 50,000 tons/year. The finished product is loaded by loaders into street-legal 25 to 27-ton haul trucks for transportation off-site.

This Revision proposes to mine and process up to an average of 750 tpd, 200 days/year to produce 150,000 tpy 4 days per week, 200 days/year. The existing plant will increase its hourly and daily production; however, it is expected that operational hours will generally remain at four-ten hour days possibly extending to five days/week with some shipping occasionally on Saturdays. Operations will not be conducted on Sundays and holidays. Plant and equipment maintenance may be conducted outside normal operating hours.

Power to run the plant and for all other needs is provided by commercial power from Southern California Edison (SCE). No portable generators are used on-site.

1.4 PRODUCTION WATER

Water is supplied from an existing on-site well on the west-southwest side of the site. A second well is located to the east of the administration area. Its non-potable water is pumped into a portable 10,000-gallon water tank located at the plant site and a 5,000-gallon tank for the plant equipment's water spray dust control. Water use on-site is utilized to minimize dust generation. A water truck is used for wetting down material and roads during mining activities. Approximately 12,000 gallons of water a day may be used for dust suppression activities on approximately 200 days per year which amounts to approximately 7.5 acre-feet annually. It is not anticipated that there will be any excess water from the wetting-down procedure as the sprayed water is absorbed by loose materials, or by the porous surface, or evaporates; therefore, no recycling is required or planned. Bottled water is provided for employees. Wastewater is handled with a septic system located in the administrative area and/or maintained portable restrooms.

1.5 EROSION AND SEDIMENTATION CONTROL

The project site is composed of volcanic cinder gravels and sands. This material is very porous and there are no drainages or impervious surfaces on-site. Erosion has never been an issue of concern on-site.

If erosion is evident on-site, the operator will implement measures to control surface runoff to protect surrounding lands in a manner commensurate with modern engineering practice. They may include, but not limited to, larger rock, drainage ditches, straw mulch, hay bales, sediment containment basins, and localized control and maintenance measures to intercept and control disturbed area drainage. If any rills or gullies in excess of 8 square inches in cross sectional area and more than 10 linear feet form on final slopes, they shall be arrested using larger volcanic rock, rock mulch, and any damage to the drainage system will be repaired within one month of observation. Access roads and mined surfaces will be sprayed as necessary to reduce wind erosion.

1.6 BLASTING

There is and will be no blasting conducted on this project site, therefore, no explosives will be used or stored on site.

2.0 RECLAMATION PLAN

2.1 LAND USE

The Red Hill Quarry is located approximately 12 miles south of Olancha on the east side of US 395 in Inyo County, California Red Hill Quarry is located on 297 acres of privately held lands. Approximately 152 acres are disturbed by past mining operations. The proposed mining would mostly be in currently disturbed areas and would eventually extend to the northeast onto barren volcanic sands on about 35 acres, up to 150 feet deep. The mining areas range in elevations from 3,250 to 3,480 amsl. The surface of the entire site mined and to be mined is cinder void of vegetation with no overburden or top soil.

The surrounding land uses are as follows:

North — Public lands managed by the BLM and consist of vacant high desert open space. Directly northwest is Red Hill Cinder Cone.

South — Public lands consisting of Fossil Falls Scenic Area managed by the BLM. Unique geologic site and campground. Shares access road which crosses mine property.

East — Public lands managed by the BLM and consists of vacant high desert open space with dry sandy playas.

West — Public lands managed by the BLM and consists of vacant high desert open space. US 395 is located less than 0.25 miles west.

2.2 VISIBILITY

The mine site is located to the south and east of the Red Hill Cinder Cone, a highly visible landmark along US 395 and the lower Owens Valley that rises approximately 600 feet in elevation. The current in-place 1979 CUP restricted mining on the Red Hill Cone proper and includes a condition that all processing plant activities shall be located on the eastern side of the site. The existing processing plant will remain in the southeastern area for the duration of the project, hidden from surrounding views by the perimeter berm and overburden stockpiles. The office area and scale (and eventually the shop building) are located on the far east side of the site, out of sight of US 395. In addition, the existing and planned mining areas will not impact the Red Hill Cone proper. Future mining will take place within the existing mine areas to the south and eventually expand to the northeast on the level volcanic sands to the east of the cone.

2.3 VEGETATION

Jericho Systems Inc. conducted biological surveys on the project area. Refer to Appendix A for additional detailed information on vegetation. Upon review of the biological data and the potential to disturb Mojave ground squirrel *(Xerospermophilus mohavensis*) habitat, the planned mine areas were reduced and eliminated any areas with vegetation. New planned mining will

only be proposed to the northeast on 35.5 acres on an area of volcanic sands devoid of vegetation. The existing mining area and facilities are also mostly devoid of vegetation.

The general project vicinity consists of the existing mining operations (Red Hill Quarry) and undeveloped open space. The planned project area itself is devoid of vegetation, consisting entirely of cinder sand and gravel. Habitat surrounding the project site consists primarily of *Ambrosia dumosa* Shrubland Alliance (white bursage scrub). The scrub habitat within the property site outside of the existing and planned mining areas is dominated by allscale saltbush (*A. polycarpa*), where this habitat is present in the northern portion of the property site. However, this habitat is more species diverse toward the southern/southwestern portion of the property site where it is co-dominated by allscale saltbush, white bursage (*Ambrosia dumosa*) and cheesebush (*Ambrosia salsola*). Other native plant species identified within the property area include Devil's lettuce (*Amsinckia tessellata*), Fremont's milk vetch (*Astragalus lentiginosus* var. *fremontii*), shadescale (*Atriplex confertifolia*), Mojave eriastrum (*Eriastrum densifolium* ssp. *mohavense*), desert trumpet (*Eriogonum inflatum*), angle stemmed buckwheat (*E. maculatum*), yellow turbins (*E. pusillum*), kidney leaf buckwheat (*E. reniforme*), desert bush nettle (*Eucnide urens*), creosote (*Larrea tridentata*), desert star (*Monoptilon bellidiforme*), annual psathyrotes (*Psathyrotes annua*), sage thistle (*Salvia carduacea*), desert mallow (*Sphaeralcea ambigua*) and Mojave woodyaster (*Xylorhiza tortifolia*). Additionally, the following two BLM Sensitive Plant Species have been documented in the project vicinity: creamy blazing star (*Mentzelia tridentata*) and Charlotte's phacelia (*Phacelia nashiana*).

Per the relevant literature and databases including the California Natural Diversity Database (CNDDB), nine sensitive plant species have been documented in the Little Lake, Coso Junction, Cactus Peak and Volcano Peak USGS 7.5-minute series quadrangles. This list of sensitive species and habitats includes any State- and/or federally-listed threatened or endangered species, California Fully Protected species, California Department of Fish and Wildlife (CDFW) designated Species of Special Concern (SSC), and otherwise Special Animals. All potential habitats for these species were evaluated on the property and a determination was made for the probability of presence (refer to Table 2 in Appendix A).

There are no State- or federally-listed plant species documented in the project vicinity. However, several sensitive plant species, including two BLM Sensitive Plants (creamy blazing star and Charlotte's phacelia) have been documented in the project vicinity. As previously discussed, the project site is generally unvegetated, consisting entirely of cinder sand and gravel, and all adjacent white bursage scrub habitat will be completely avoided. Therefore, the project will not impact any sensitive plant species that may occur within adjacent habitat communities.

2.4 WILDLIFE

Jericho Systems Inc. conducted biological surveys on the project area. Refer to Appendix A for additional detailed information on wildlife. Upon review of the biological data and the potential to disturb Mojave ground squirrel habitat, the planned mine areas were reduced and eliminated any areas with vegetation. New planned mining will only be proposed to the northeast on 35.5 acres on an area of volcanic sands devoid of vegetation. The existing mining area and facilities are also mostly devoid of vegetation.

Per the CNDDB and other relevant literature and databases, 12 sensitive animal species have been documented in the Little Lake, Coso Junction, Cactus Peak and Volcano Peak USGS 7.5-minute series quadrangles. This list of sensitive species and habitats includes any State- and/or federally-listed threatened or endangered species, California Fully Protected species, CDFW designated SSC, and otherwise Special Animals. An analysis of the likelihood for occurrence of all CNDDB sensitive species documented in the area is provided in Appendix A, Table 2. This analysis considers species' range as well as documentation within the vicinity of the project area and includes the habitat requirements for each species and the potential for their occurrence on the site, based on required habitat elements and range relative to the current site conditions.

To avoid all potential impacts to sensitive species that could potentially occur within white bursage habitat, the planned project was modified to avoid disturbing any of the adjacent white bursage scrub habitat. The current proposed project footprint is completely within an unvegetated area that consists entirely of cinder sand and gravel. Therefore, the project will not impact any of the adjacent white bursage scrub habitat or sensitive species identified as potentially occurring within this habitat.

Threatened, Endangered, and Sensitive Animals

Two State- and/or federally-listed animal species have been documented in the project vicinity (within approximately 7 miles): Desert tortoise (*Gopherus agassizii*) and Mohave ground squirrel. Although not State- or federally-listed as threatened or endangered species, the golden eagle (*Aquila chrysaetos* [GOEA]) is a CDFW Fully Protected species and burrowing owl (*Athene cunicularia* [BUOW]) are considered a State and federal SSC and both species are protected by the international treaty under the Migratory Bird Treaty Act of 1918 and by State law under the California FGC (FGC #3513 & #3503.5). These four species are discussed below.

Desert Tortoise - Threatened (State/Federal)

The desert tortoise is a federally and state Threatened species. The desert tortoise is typically found in creosote bush scrub, desert washes, and Joshua tree habitats. The project site is not within any United States Fish and Wildlife Service (USFWS) designated desert tortoise Critical Habitat nor within a BLM designated Desert Wildlife Management Area. Per the CNDDB, the nearest documented desert tortoise occurrence (2006) is approximately 6.4 miles northwest of the project site. There are no past desert tortoise occurrences documented in the project area and there is no suitable habitat for this species within the project site.

The result of the survey was that no evidence of desert tortoise was found in the survey area. No desert tortoise individuals or sign including burrows or scat were observed. Therefore, desert tortoise are considered absent from the project site.

Mohave Ground Squirrel - Threatened (State)

The Mohave ground squirrel is a state Threatened species. It typically inhabits sandy soils of alkali sink and creosote bush scrub habitat. A Mohave ground squirrel habitat suitability assessment of the proposed project site and adjacent habitat was conducted. The habitat assessment included a pedestrian field assessment, review of reported occurrences of the Mohave

ground squirrel in the region (CNDDB 2018), and adherence to CDFW's criteria for assessing potential impacts to the Mohave ground squirrel. The criteria questions are as follows:

1. Is the site within the range of the Mohave ground squirrel?;
2. Is there native habitat with a relatively diverse shrub component?; and
3. Is the site surrounded by development and therefore isolated from potentially occupied habitat?

The project site falls within the current range of the MGS but is located outside, to the east, of the Mohave ground squirrel Conservation Area set forth in the West Mojave Plan (BLM 2005). Per the CNDDB, there are 21 recent and historic Mohave ground squirrel occurrences documented in the Little Lake, Coso Junction, Cactus Peak and Volcano Peak quads. The nearest historically documented occurrence (1988) for Mohave ground squirrel is approximately 2 miles north of the project site. The nearest recently documented Mohave ground squirrel occurrence (2010) is approximately 8 miles northeast of the project site.

The planned project site consists of unvegetated cinder sand, which would not be considered suitable to support this species due to a lack of forage plants. However, some of the surrounding area adjacent portions of the project site does consist of white bursage scrub habitat that would be considered suitable to support Mohave ground squirrel. This habitat is mostly restricted to the areas adjacent the western portion of the site, around the base of the cinder cone, and adjacent the northernmost portion of the site, respectively. Furthermore, although the southern portion of the site is bordered by existing mining operations, there is undeveloped contiguous suitable habitat between the project site and documented Mohave ground squirrel occurrences to the north and east. Therefore, Mohave ground squirrel could potentially occur within areas of suitable habitat surrounding the project site, but there is no habitat on-site.

<u>Golden Eagle - CDFW Fully Protected</u>

The GOEA is a CDFW Fully Protected species. GOEA are found throughout North America, but are more common in western North America (CDFW 2017). Habitat typically consists of rolling foothills and mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes, and cliffs and rock outcrops.

Per the CNDDB, the nearest recently documented GOEA nesting occurrence (2009) is approximately 8.7 miles north of the project site near the Haiwee Powerhouse. Additionally, there are several historically documented GOEA nesting occurrences (1974-77) located south of Little Lake, approximately 3.7 to 6.6 miles south of the project site. There are no GOEA occurrences documented in the project area. Although the area surrounding the project site likely provides suitable foraging habitat for GOEA, there are no tall trees in the project area and very little cliffside habitat that could provide potential GOEA nest sites. Furthermore, no GOEA were observed within the project area during the reconnaissance-level survey. The surrounding hillsides, particularly the upper half of the adjacent Red Hill cinder cone, were surveyed using binoculars and no GOEA or nest sites were detected. Given the level of disturbance from the existing mining operations and the general lack of suitable nest sites within the immediate

project vicinity, the project site and surrounding area is likely not considered suitable to support nesting GOEA.

Burrowing Owl – SSC

The BUOW is a ground dwelling owl typically found in arid prairies, fields, and open areas where vegetation is sparse and low to the ground. The BUOW is heavily dependent upon the presence of mammal burrows, with ground squirrel burrows being a common choice, in its habitat to provide shelter from predators, inclement weather and to provide a nesting place.

Per the CNDDB, the nearest documented BUOW occurrence (2007) is approximately 4.3 miles north of the project site, less than 1 mile east of Coso Junction. There are no BUOW occurrences documented in the project area. The result of the survey was that no evidence of BUOW was found in the survey area. No BUOW individuals or sign including pellets, feathers or white wash were observed.

Per the definition provided in the 2012 CDFG Staff Report on Burrowing Owl Mitigation, "Burrowing owl habitat generally includes, but is not limited to, short or sparse vegetation (at least at some time of year), presence of burrows, burrow surrogates or presence of fossorial mammal dens, well-drained soils, and abundant and available prey." Therefore, although the project site does contain friable soils, it would not be considered suitable for BUOW because the site is devoid of vegetation and no appropriately sized burrows or burrow surrogates were detected within the project area.

Nesting Birds

There is white bursage scrub habitat adjacent the project site that is suitable to support nesting birds. However, the project site is entirely within an area devoid of vegetation and will completely avoid disturbing any adjacent habitat. Therefore, the project is not likely to impact nesting birds.

Jurisdictional Drainages

No drainages, wetlands or other water features were identified within the project site that would meet the definition of waters of the US. No jurisdictional features subject to the Clean Water Act or Fish & Game Code (FGC) under the jurisdictions of the US Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), or CDFW exist within the project site. The project site is located entirely outside of any jurisdictional areas and no permanent or temporary impacts to jurisdictional features will result from the project. Therefore, no permits or authorizations from the USACE, RWQCB, or CDFW will be required.

2.5 RECLAMATION

The intent of 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."

The objectives of this Reclamation Plan are to:

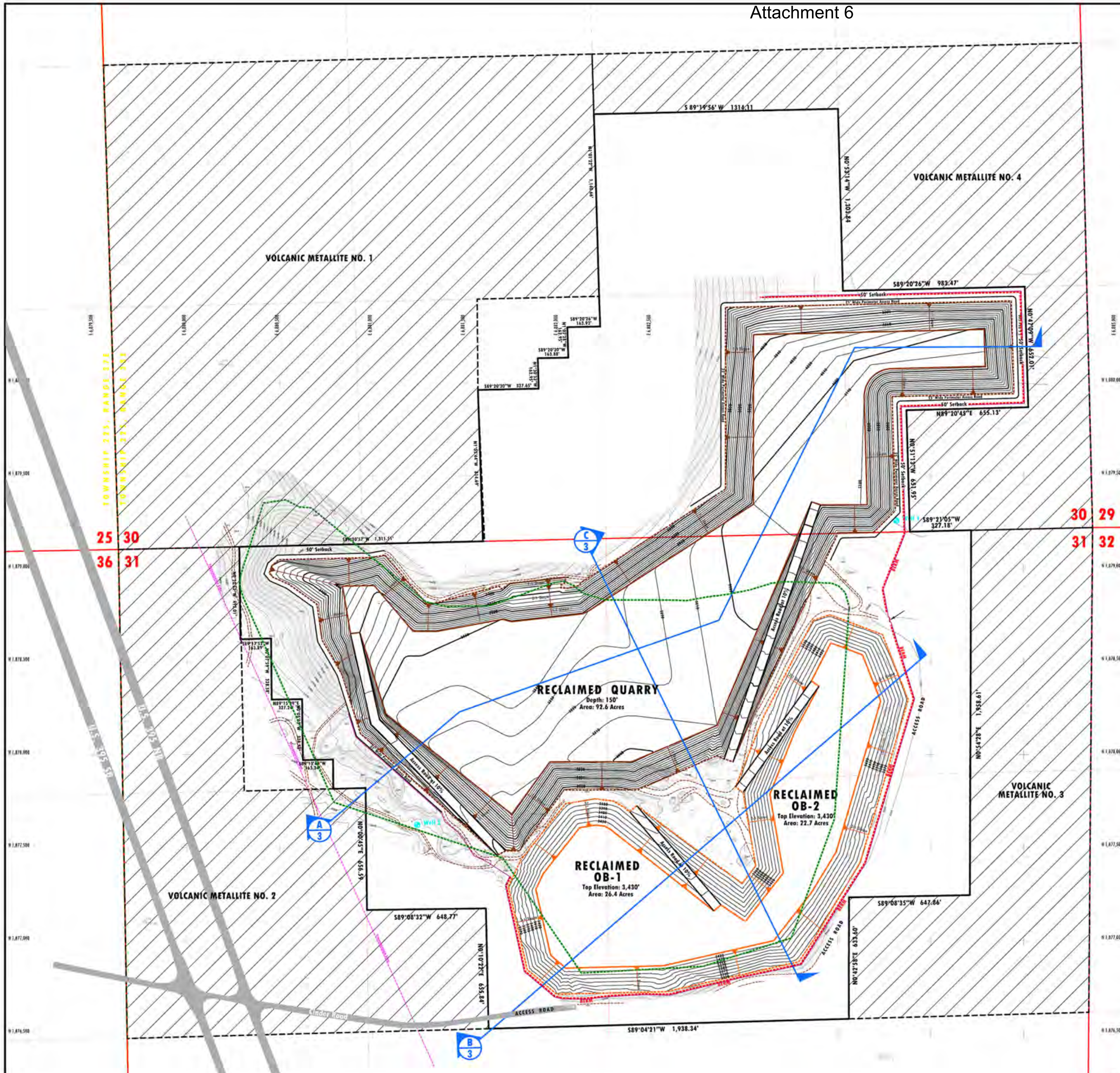
- Eliminate or reduce environmental impacts from mining operations;
- Reclaim in a usable condition for post-mining end uses which will include open space/habitat;
- Reshape mining features and disturbed areas to minimize aesthetic impacts; and
- Reclaim the site as necessary to eliminate hazards to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

Please refer to Figure 5 and/or Sheet 2 to review the Reclamation Plan. Reclamation of the mine will be undertaken concurrently with the mining operations. Final reclamation will occur upon termination of excavation activities. Any over-steepened pit slopes will be backfilled or recontoured to 1H:1V per the current CUP. All areas will be contoured in such a way as to blend into the surrounding cone and cinder areas. Active slopes may be as steep as 0.5 horizontal to 1 vertical (0.5H:1V) and cut back within cinder as feasible to a reclaimed slope of no more than 1H:1V as required by the current CUP and Terracon recommendations or pushed down or backfilled with non-commercial material to 2H:1V as recommended by Terracon. Fill material will be non-spec or overburden cinder materials pushed down the steeper slopes to create 2H:1V. The fill will be compacted by tracking the dozer over the slope to achieve necessary compaction consistent with final end use of open space. Surface material in all compacted working areas, roads, stockpiles, and processing areas will be ripped to a depth of 1-foot by mechanical means.

The existing and planned mine areas are devoid of vegetation. There is no top soil or alluvium on-site and no vegetation, therefore no formal revegetation will be undertaken. Any precipitation that falls quickly percolates into the porous sand and gravel cinders. Some vegetation does exist adjacent to the mining areas on the cone itself and on areas with some alluvium soils. Revegetation activities will be undertaken to promote natural wind-blown seeds to possibly grow on the sands as has occurred on some areas of the cinders.

Note that the perimeter road known as Cinder Road on the south and east of the site is within Angelus Block's private land. It is paved on public lands for approximately 0.25 miles east of US 395 then is within Angelus Block's private land until the road passes the mine site's entrance

Attachment 6



RED HILL QUARRY - CA MINE ID: 91-14-0002
RECLAMATION NOTES

Mine: Red Hill Quarry

Mineral: Cinders

Mine Operator: Twin Mountain Rock Venture L.L.C.
11374 Tuxford Street
Sun Valley, CA 91352
818-767-8576 blockbiz@angelesblock.com

Land Owner: Angeles Block Company, INC.
11374 Tuxford Street
Sun Valley, CA 91352
818-767-8576 blockbiz@angelesblock.com

Applicant: Same as Operator

Owner of Mineral Rights: Same as Owner

Geologists: Jay Martin & John McKeown – Terracon
1355 E. Cooley Dr.
Colton, California 92324

Representative: Lilburn Corporation
1905 Business Center Drive
San Bernardino, CA 92408
909-890-1818

Map Preparer: Lilburn Corporation

APN: 037-090-11

Existing Disturbed: 152 acres
Existing Permitted in 1979: 160 acres
Proposed Total Mine Area: 198 acres
Area to be Reclaimed: 198 acres

Reclaimed End Use: Open space with reclaimed landforms

Reclamation/Revegetation Plan
At the completion of mining activities, all equipment will be removed from the project site and all debris will be removed and disposed at a permitted facility. All quarry fencing, gates, and berms with warning signs will remain in place to prevent unauthorized access.

Active slopes steeper than 1H:1V will be cut back within basalt or cinder as feasible to a reclaimed slope of no more than 1H:1V as required by the current CUP or pushed down or backfilled with non-commercial material to 2H:1V as recommended by Terracon. The fill will be compacted by tracking the dozer over the slope to achieve necessary compaction consistent with final end use of open space.

All areas will be contoured in such a way as to blend into the surrounding cone and cinder areas. Surface material in all compacted working areas, roads, stockpiles, and processing areas will be ripped to a depth of one-foot by mechanical means to enhance moisture and wind-blown seed collection.

Upon completion of mining activities, the site will consist of two pits totaling about 106 acres to a depth of 150 feet with overall slopes no steeper than 1H:1V per the current CUP and as recommended by Terracon. The approximate 49 acres of non-commercial cinder stockpiles will be contoured to blend into the exiting landscape of the area. The reclaimed site will allow for future development of additional reserves. The reclaimed site will not preclude or necessitate any future mining activities or surface modification. Upon completion of mining activities, the site will be open space/habitat and its black and red cinder surface will blend in with the surrounding cinder cone and areas.

Scale: 1 inch = 200 feet

LEGEND

Existing
- Patented Claim
- Unpatented Claim per Downsizing Claim Amendment
- Area Permitted for Mining Per Revised Figure 2.5-1
- Existing Topography
- RHC15-5 Borehole
- Well 1 Well
- Dirt Road
- Power Pole
- USGS Survey Section

Proposed
- Berm
- Phase Boundary
- Quarry Design Contour
- OB Design Contour
- 3-Strand Wire Fence with Warning Signs Every 500'
- Quarry Top of Slope and Perimeter Safety Berm
- Slope Indicator
- Quarry Toe of Slope
- OB Top of Slope
- Slope Indicator
- OB Toe of Slope
- Cross Section B Shown on Sheet 3
- Direction of View

Prepared By:
LILBURN CORPORATION

RECLAMATION PLAN

Red Hill Cinder Mine: CA Mine ID# 91-14-0002
County of Inyo, CA

FIGURE 5

on the east. This road is open to the public to access public lands managed by the BLM including the Fossil Falls Scenic Area as well as recreational areas to the east.

2.6 REVEGETATION

Existing Conditions

The existing mine areas and those areas to the northeast proposed for future mining consist of mostly non-vegetated cinder gravels and sands. The planned new mining is planned explicitly to avoid vegetated areas due to possible effects to Mojave ground squirrel habitat. Habitat surrounding the project site consists primarily of Ambrosia dumosa Shrubland Alliance (white bursage scrub) which is discussed under Section 2.3 above.

Revegetation

Each year, beginning in the late fall, any areas greater than approximately 10 acres that will not be impacted by future mining activities will be reclaimed. This timing sequence will continue until final reclamation of all disturbed areas is completed. Upon termination of mining, all remaining disturbed slopes will be reclaimed within one year of discontinuation of excavating operations.

After the disturbed areas have been graded to blend into the surrounding area, the disturbed surface in compacted working areas, stockpile, and processing areas will be loosened by mechanical means to a depth of one-foot. The surface will be graded to leave rills that will enhance the collection of precipitation and natural wind-blown seeds. Any additional revegetation efforts above what may occur naturally could change the overall unique landscape of the barren cinder areas.

With no revegetation proposed, there will be no test plots, irrigation, fertilizer, and revegetation monitoring.

2.7 CLEANUP

Within 12 months of the completion of mining activities, all equipment will be removed from the project site. All debris will be removed and disposed at a permitted facility. All quarry fencing, gates, and berms with warning signs will remain in place to prevent unauthorized access.

Upon final reclamation, the two onsite well will be either be capped and locked for possible future use or closed or destroyed in accordance with the California Department of Water Resources Bulletin 74-91 as revised in 1988 or the latest revision and the County regulations and in such a manner that will no longer be a hazard to the health and safety of people and wildlife.

2.8 POST RECLAMATION AND FUTURE MINING

Upon completion of mining activities, the site will consist of two pits totaling about 106 acres to a depth of 150 feet with overall slopes no steeper than 1H:1V per the current CUP. The

approximate 49 acres of overburden will be contoured to blend into the exiting landscape of the area. The reclaimed site will allow for future development of additional reserves. The reclaimed site will not preclude or necessitate any future mining activities or surface modification. Upon completion of mining activities, the site will be open space/habitat and its black and red cinder surface will blend in with the surrounding cinder cone and cinder areas.

2.9 SLOPE AND SLOPE TREATMENT

Stabilization of the mine slopes will be accomplished concurrently as mining areas area completed and during the final excavations. Active slopes may be as steep as 0.5 horizontal to 1 vertical (0.5H:1V) and cut back within cinder as feasible to a reclaimed slope of no more than 1H:1V as required by the current CUP and Terracon or pushed down or backfilled with non-commercial material to 2H:1V as recommended by Terracon.

As discussed in Section 1.1 above, Terracon prepared a *Slope Stability Evaluation Report* to assess the cut and fill slopes at the quarry. The results of global slope stability analyses determined that slopes in native cut at 1H:1V up to 160 feet and overburden slopes of 2H:1V up to 60 feet are sufficient to meet factors of safety (FS) in excess of 1.5 static and seismic factors of safety at or greater than 1.1 (refer to Table 3). Backfilled slopes will be configured at 2(H):1(V) to meet recommended factors of safety. Therefore, any final quarry slopes that cannot be flattened to 1H:1V by cutting into native basalt and cinder shall be backfilled at 2H:1(V). Slope stabilization will improve the aesthetics of the site; reduce slope sliding; and eliminate hazards such as un-safe drop-offs.

The fill will be compacted by tracking the dozer over the slope to achieve appropriate compaction consistent with the final end use of open space. No water erosion is expected as the cinders are very porous and rarely forms any runoff channeling or slope erosion.

2.10 PONDS, WASTES

There are no ponds on-site either natural or constructed. Chemicals are not used on-site; no chemical processing occurs on-site only crushing and screening. There will be no chemical waste or pollution from the mining operation.

2.11 SOILS

Soils within the project area are comprised primarily of cinder sand derived from the adjacent Red Hill cinder volcano. No top soil or organic material occurs on the barren cinder sand and gravels.

2.12 DRAINAGE AND EROSION CONTROLS

The project site is composed of volcanic cinder gravels and sands. This material is very porous; there are no drainages or impervious surfaces on-site. Erosion has never been an issue on-site.

If erosion is evident on-site, the operator will implement adequate measures to control surface runoff to protect surrounding lands in a manner commensurate with modern engineering practice. They may include, but not limited to, larger rock, drainage ditches, straw mulch, hay bales, sediment containment basins, and localized control and maintenance measures to intercept and control disturbed area drainage.

If any rills or gullies in excess of 8 square inches in cross sectional area and more than 10 linear feet form on final slopes, they shall be arrested using larger volcanic rock, rock mulch, and any damage to the drainage system will be repaired within one month of observation.

2.13 PUBLIC SAFETY

All equipment and debris will be removed from site upon project completion. Public access to the site will be restricted by the site perimeter berm and fence and the locked access gates to the mine site. Any other access roads will be blocked with large boulders or berms. Warning signs with contrasting background lettering will be installed every 500 feet along the approved surface mine boundary stating “No Trespassing - Keep Out; Surface Mining Operation” or similar.

The reclaimed slopes will be of sufficient low gradient as not to cause a hazard to public safety if the public illegally trespasses onto the site past the berms, fences and signs.

2.14 MONITORING AND MAINTENANCE

The County, as the lead agency that implements SMARA, requires annual reporting of Mining and Reclamation activities. The reports are filed with the State Division of Mine Reclamation (DMR) and the County. Monitoring and maintenance of reclamation is an ongoing responsibility of TMRV and Angelus Block, the land owner, who will be responsible to maintain fencing, gates, and signs and remove illegal dumping.

2.15 RECLAMATION ASSURANCE

The reclamation assurance shall be reviewed by the Lead Agency annually as required by the SMARA. Inyo County is the lead agency for SMARA compliance and will review the reclamation FACE and inspect the mine site annually.

In addition to the monitoring through inspections and reporting, the operator is required to assure reclamation of the site in accordance with the approved Reclamation Plan in compliance with Section 2773.1 of SMARA. TMRV currently has an irrevocable letter of credit in-place in the amount of approximately $338,860 and shall continue to post reclamation assurance mechanisms in an amount sufficient to pay for the cost of reclamation as outlined in Section 2. The financial assurances must be approved by and payable to the County and the California Department of Conservation.

3.0 GEOLOGY

The Red Hill Cinder Cone is a prominent cinder cone that rises approximately 600 feet to an elevation of 3,952 feet amsl. Red Hill lies in the Coso Volcanic Field and has the distinction of being the youngest volcano in this area, estimated to have been active 10,000 years ago. A cinder cone, also called a scoria cone, is a volcano composed of volcanic cinders (scoria), or small, rough particles of hardened lava. When lava that is highly charged with gas bubbles erupts from a vent under pressure, it tends to shoot straight up into the air. Blobs of the frothy lava break apart, cool quickly, and fall relatively close to the vent. Over time, a cone-shaped hill builds up around a circular crater.

The geology of the local area is defined in the Geologic Map of the Coso Volcanic Field and Adjacent Areas, Inyo County, California: U.S. Geological Survey, Duffield, W.A., and Bacon, C.R., 1981, Miscellaneous Investigations Series Map I-1200, scale 1:50,000. A portion of said map was reproduced as Figure 6 – Geologic Map of Red Hill Cinder Cone. The Basalt of Red Hill is defined as "*moderately porphyritic basalt containing plagioclase, olivine, and clinopyroxene phenocrysts; xenoliths of granitic rocks common locally. Divided into two parts:*

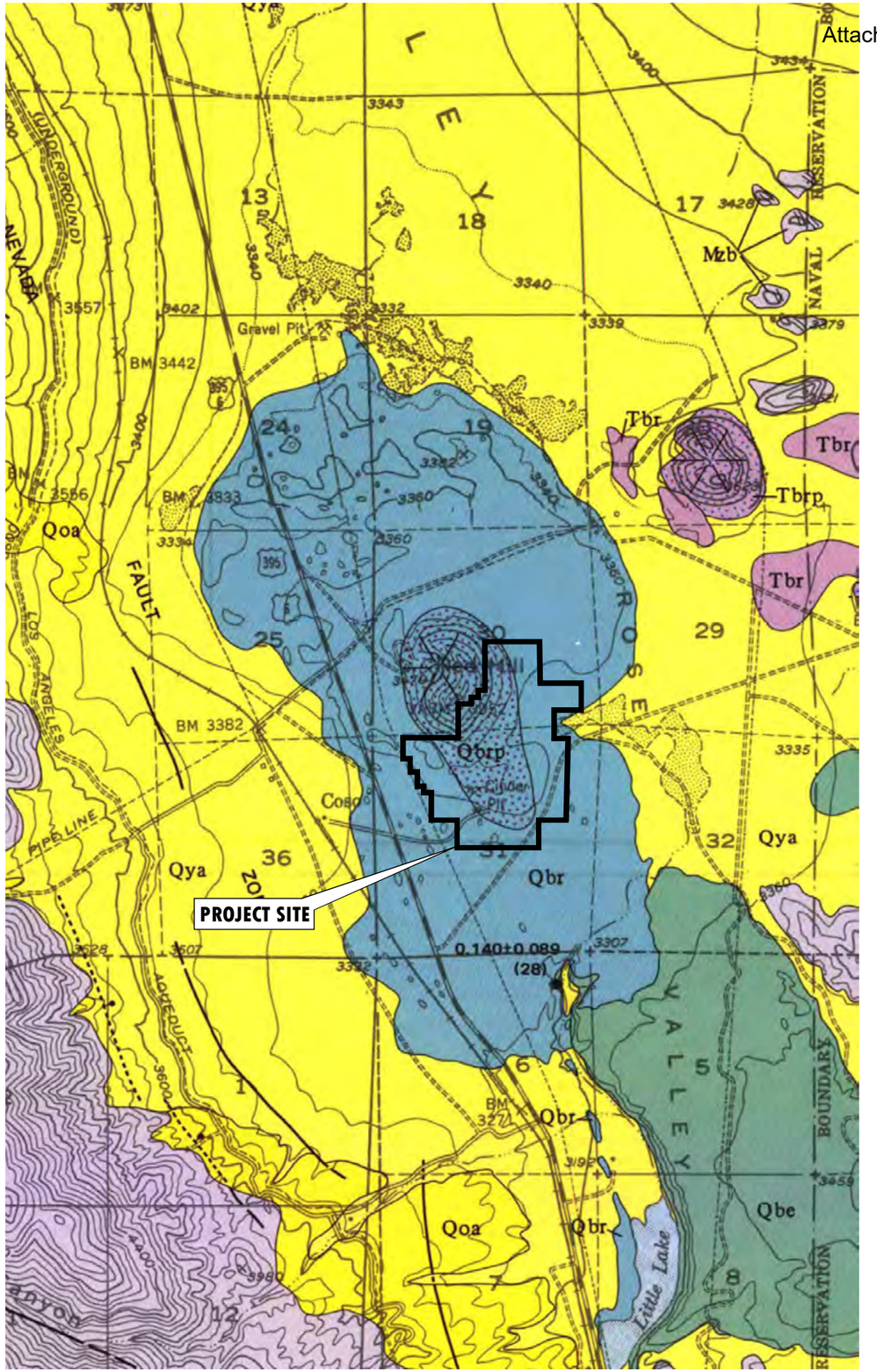
Qbr – Intracanyon flow of Owens River 94 – 10 meters thick
Qbrp - Pyroclstic deposits: cinder cone and adjacent cinder mantle"

The area is surrounded by "*Qya – Younger alluvium – Alluvial fan deposits, stream deposits of gravel, sand, and silt, windblown sand, and deposits of silt and clay in closed depressions*."

The following summary of the Site Geology is from Terracon June 2020 (Appendix B):

The mine utilizes cinder-size material emplaced as cone-erupted deposits from nearby Red Hill that overlay basalt flows of pahoehoe- and aa-type lavas. Cinders vary from black to red color and are sourced from localized eruption centers that changed location during emplacement activity. Native soils of light brown silty sandy alluvium overlie areas around the margin of the cinder deposits. Granitic basement rock underlies the volcanic pile. The cinders are very rough, angular clasts of abrasive siliceous rock material and are strongly interlocked by rough and angular contact. In cut slopes cinders stand at steep angles and exhibit planar joints that penetrate to depths up to 30 feet from native surface. Joints are locally filled with whitish caliche material. Cinders are not welded as in some volcanic piles and can be separated easily with a rock hammer; however, the material exhibits an effective cohesion from the rough and interlocked clast contacts.

Bedding planes exposed in limited cut slopes within the main pit area were measured to dip northward and eastward at angles of 50 to 60 degrees and 20 degrees, respectively. East dipping bedding was measured on a formerly-buried lava flow resting in contact with a cone flank. Bedding can be anticipated to vary throughout the site as construction of a volcanic pile is a somewhat random process that includes liquid material flow and air-fall actions. A northeast striking, steeply dipping joint set dominated the structure of the north highwall area. A 70-degree southward dipping joint system was also noted. The cinder material is anticipated to exhibit relatively homogeneous materials properties at the proposed 1H:1V cut slope angle.



Source: Geologic Map of the Coso volcanic field and adjacent areas, Inyo County, California: U.S. Geological Survey, Duffield, W.A., and Bacon, C.R., 1981, Miscellaneous Investigations Series Map I-1200, scale 1:50,000.

LEGEND

BASALT OF RED HILL – Moderately porphyritic basalt containing plagioclase, olivine, and clinopyroxene phenocrysts; xenoliths of granitic rocks common locally. Divided into two parts:

- **Qbr** – Intracanyon flow of Owens River (Duffield and Smith, 1978), 4-10 m thick
- **Qbrp** – Pyroclastic deposits: cinder cone and adjacent cinder mantle

BASALT SOUTH OF VOLCANO PEAK – Moderately porphyritic basalt containing plagioclase, olivine, and clinopyroxene phenocrysts. Divided into two parts:

- **Qbs** – Flow 2-6 m thick
- **Qbsp** – Pyroclastic deposits: cinder cones and adjacent cinder mantles

BASALT EAST OF LITTLE LAKE – Sparsely porphyritic basalt containing plagioclase and olivine phenocrysts. Divided into two parts:

- **Qbe** – Intracanyon flow of Owens River (Duffield and Smith, 1978), 5-70 m thick; K-Ar age, 0.140±0.089 m.y. (28)
- **Qbep** – Pyroclastic deposits: cinder cone

- **Qya** – YOUNGER ALLUVIUM – Alluvial fan deposits, stream deposits of gravel, sand, and silt, windblown sand, and deposits of silt and clay in closed depressions

GEOLOGIC MAP of RED HILL CINDER CONE

Red Hill Cinder Mine: CA Mine ID# 91-14-0002

County of Inyo, CA

FIGURE 6

Prepared By:
LILBURN CORPORATION

4.0 HYDROLOGY

The project site is within an undefined Hydrologic Sub-Area (HSA 624.10) which comprises a 170,880-acre drainage area within the larger Indian Wells-Searles Valleys Watershed (HUC 18090205). This watershed encompasses an approx. 2,019-sq-mile area, partially within southern Inyo County, northeastern Kern County and northwestern San Bernardino County. The Indian Wells-Searles Valley Watershed is bound on the north by the Owens Lake Watershed, on the west by the South Fork Kern Watershed, on the east by the Panamint Valley Watershed and on the south by the Antelope-Fremont Valleys and Coyote-Cuddeback Lakes Watersheds. The Indian Wells-Searles Valleys Watershed is bordered on the west by the southern foothills of the Eastern Sierra Nevada and encompasses portions of the Coso and Argus Range mountains to the north, as well as China Lake and Searles Lake playas. These two dry lakes, which are the major receiving waters of the hydrogeomorphic features within the Indian Wells-Searles Valleys Watershed, were once fed by the Pleistocene Owens River system. The project site is situated in the northern portion of the Indian Wells-Searles Valleys Watershed, adjacent (to the west of) an unnamed intermittent stream and unnamed playa that were once part of the Pleistocene Owens River system.

No drainages or other water features were identified within the project site that would meet the definition of waters of the U.S. per the Clean Water Act. The project site is near an unnamed intermittent stream and unnamed playa to the east side of the project area. The adjacent unnamed intermittent stream and unnamed, intermittently-flooded playa are completely outside (to the east) of the proposed project site. The unnamed intermittent stream originates approximately 12 miles north (upstream) of the project area, at the south end of South Haiwee Reservoir, and terminates approximately 18 miles southeast of the project area.

Areas meeting all three parameters would be designated as USACE wetlands. None of the three required parameters for US Army Corps of Engineers designated wetlands, hydrophitic vegetation, hydric soils and/or wetland hydrology, are present within the project site. Therefore, no wetlands were identified in the study area during this investigation.

The project site is situated near the base of the Red Hill cinder cone and habitat within the project area is comprised of white bursage scrub habitat on the periphery and barren mine areas and cinder sands. There are no drainages or other water features that have a definable bed and bank or associated riparian vegetation that would be subject to the FGC under the jurisdiction of the CDFW, within the project site. The adjacent unnamed intermittent stream and unnamed, intermittently-flooded playa would likely be considered CDFW jurisdictional features, however they are entirely outside of the proposed project site.

Static groundwater was encountered at approximately 187 feet bgs in a drill hole located near the western site boundary in 2015. Information available in California Department of Water Resources Water Data Library indicates a well located about 1 mile east of the site with Local ID 18-28 GTH. Measured water levels between October 2011 and March 2020 in this well were steady near elevation 3,194 feet that correlates to a depth to water of about 172 feet bgs. Based on the 150-foot depth of planned mining, groundwater is not anticipated to occur within the depth of the proposed mining (Terracon June 2020).

REFERENCES

Annual Mine Inspection Report. Inyo County Planning Dept., June 2017.

Conditional Use Permit (CUP) No. 78-9 for Twin Mountain Rock Company. Inyo County Planning Dept. May 1979.

Environmental Impact Report Red Hill Cinder Mining Project. County of Inyo and VTN Consolidated. 1978.

General Biological Resources Assessment for the Red Hill Cinder Mine Expansion Project. Jericho Systems, Inc., April 2018.

Geologic Map of the Coso volcanic field and adjacent areas, Inyo County, California: U.S. Geological Survey, Duffield, W.A., and Bacon, C.R., 1981, Miscellaneous Investigations Series Map I-1200, scale 1:50,000.

Permits to Operate 559-03-14 7 932-01-15. Great Basin Unified Air Pollution Control District, June 2020.

Record of Survey. J. E. Miller & Associates, November 2020.

Slope Stability Evaluation Report - Amended Reclamation Plan for Red Hill Quarry (CA Mine ID 91-14-0002). Terracon Consultants, Inc., June 2020.

ACRONYMS

amsl	above mean sea level
APN	assessor's parcel number
bgs	below ground surface
BLM	Bureau of Land Management
BMP	Best Management Practices
BUOW	burrowing owl
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
CUP	Conditional Use Permit
CUPA	County EHS is the Certified Unified Program Agency that oversees hazardous materials
cy	cubic yards
DMR	Division of Mine Reclamation (State)
DOC	Department of Conservation (State)
EHS	Environmental Health Services

EIR	Environmental Impact Report
FACE	Financial Assurance Cost Estimates
FAM	Financial Assurance Mechanism
FGC	Fish & Game Code
GBUAPCD	Great Basin Unified Air Pollution Control District
GOEA	Golden eagle
H: V	Slope description (x height to x vertical; typically in feet)
mcy	million cubic yards
msl	mean sea level
OS-40	Open Space with one dwelling unit per 40 acres (County zoning designation)
OSR	Open Space and Recreation (County General Plan designation)
RWQCB	Regional Water Quality Control Board (Lahontan Region)
SCE	Southern California Edison
SMARA	Surface Mining and Reclamation Act
SPCC	Spill Prevention, Control, and Counter-measure
SSC	Species of Special Concern
SWPPP	Stormwater Pollution Prevention Program
TMRV	Twin Mountain Rock Venture
tpd	tons per day
tpy	tons per year
USACE	US Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

CROSS REFERENCE MATRIX

Red Hill Quarry Mine Reclamation Plan (CUP 79-8), Surface Mining and Reclamation Act of 1975 (SMARA) & California Code of Regulations (CCR Title 14)

Prepared by Lilburn Corporation – January 2021

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 PRACTIVE. 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.		6	Intro
SMARA 2772 (c) (2)	Quantity & type of minerals to be mined.		13	1.1
SMARA 2772 (c) (3)	Initiation and termination date.		6	Intro
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.		8-13	1.1
SMARA 2772 (c) (6)	Mining plan and time schedule for reclamation (concurrent or phased reclamation).		8-13; 21	1.1; 2.6
SMARA 2772 (c) (7)	Proposed subsequent use.		23-24	2.8
SMARA 2772 (c) (8)	Description of reclamation measures adequate for proposed end use.		20-24	2.5-2.8

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
SMARA 2772 (c) (8) (a)	Description of containment control and mine waste disposal.		13	1.2
SMARA 2772 (c) (8) (b)	Rehabilitation of stream banks/beds to minimize erosion	X	---	---
SMARA 2772 (c) (9)	Impact of reclamation on future mining.		23-24	2.8
SMARA 2772 (c) (10)	Applicant statement accepting responsibility for reclamation per the reclamation plan.		24	2.15
SMARA 2773 (a)	Water quality monitoring plan specific to property.	X	---	---
SMARA 2773 (a)	Sediment and erosion control monitoring plan specific to property.		15, 24	1.5; 2.12
SMARA 2773 (a)	Revegetation plan specific to property. Monitoring Plan.		23	2.6
SMARA 2773.1	Performance (financial) assurances.		Currently In-Place; on file with County	
SMARA 2777	Amended reclamation plans required prior to substantial deviations to approved plans.	X	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.).		16-20	2.1-2.4
CCR 3502 (b) (2)	Public health and safety (exposure).		25	2.13
CCR 3502 (b) (3)	Slopes: critical gradient, consider physical properties and landscaping.		12; 24	1.1; 2.9
CCR 3502 (b) (4)	Fill materials in conformance with current engineering practice.	X	---	---
CCR 3502 (b) (5)	Disposition of old equipment		23	2.7
CCR 3502 (b) (6)	Temporary stream and water diversions shown.	X	---	---

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.		8-13	1.1
CCR 3503 (a) (2)	Overburden stockpiles managed to minimize water and wind erosion.		8-13	1.1
CCR 3503 (a) (3)	Erosion control facilities (dikes, ditches, etc.) as necessary.		15	1.5
CCR 3503 (b) (1)	Settling ponds (sedimentation and water quality).	X	---	---
CCR 3503 (b) (2)	Prevent siltation of groundwater recharge areas.	X	---	---
CCR 3503 (c)	Protection of fish and wildlife habitat (all reasonable measures).		16-20	2.3-2.4
CCR 3503 (d)	Disposal of mine waste and overburden (stable-no natural drainage restrictions without suitable provisions for diversion).		8-13	1.1
CCR 3503 (e)	Erosion and drainage (grading to drain to natural courses or interior basins).		15	1.5
CCR 3503 (f)	Resoiling (fine material on top plus mulches).	X		
CCR 3503 (g)	Revegetation and plant survival (use available research).	X		
CCR 3703 (a)	Sensitive species conserved or mitigated		16-20	2.3-2.4
CCR 3703 (b)	Wildlife habitat at least as good as pre-project, if approved end use is habitat.		20-23	2.5-2.6
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		
CCR 3704 (b)	For resource conservation, compare to standard for that end use		20-23	2.5-2.6
CCR 3704 (c)	Mine waste stockpiled to		8-13	1.1

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
	facilitate phased reclamation and separate from growth media.			
CCR 3704 (d)	Final reclamation fill slopes not exceed 2:1, except when engineering and revegetation analysis allow.		12, 24	1.1; 2.9
CCR 3704 (e)	Final landforms or fills conform with surrounding topography or end use.		20-23	2.5
CCR 3704 (f)	Cut slopes have minimum factor of safety for end use and conform with surrounding topography.		12, 24	1.1; 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.	X	---	---
CCR 3705 (b)	Test plots if success has not been proven previously	X	---	---
CCR 3705 (c)	Decompaction of site.		21	2.5
CCR 3705 (d)	Roads stripped of road base materials, resoiled and revegetated, unless exempted.		21	2.5
CCR 3705 (e)	Soil altered or other than native topsoil, required soil analysis. Amend if necessary.	X	---	---
CCR 3705 (f)	Temporary access not bladed. Barriers installed.		25	2.13
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,	X	----	---

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
	fencing, caging.			
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.	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 3706 (c)	Erosion and sedimentation controlled during all phases as per RWQCB/SWRCB.		15; 24	1.5; 2.4
CCR 3706 (d)	Surface runoff and drainage controlled and methods designed for not less than 20 year/1 hour intensity storm event.		15; 24	1.5;2.4
CCR 3706 (e)	Altered drainages shall not cause increased erosion or sedimentation.	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.	X	---	---
CCR 3707 (a)	Return prime ag to prime ag, unless exempted.	X	---	---
CCR 3707 (b)	Segregate and replace topsoil by horizon.	X	---	---
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	X	---	---

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
	crops of area.			
CCR 3709 (a)	Equipment stored in designated area and waste disposed of according to ordinance.		8-13; 23	1.1; 2.7
CCR 3709 (b)	Structures and equipment dismantled and removed.		23	2.7
CCR 3710 (a)	Surface and groundwater protected.		15; 24	1.5; 2.12
CCR 3710 (a)	Surface and groundwater projected in accordance with Porter Cologne and Clean Water Acts (RWQCB/SWRCB).		15; 24	1.5; 2.12
CCR 3710 (b)	In-stream in accordance with CFG 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, 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 not proceed 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	---	---

SMARA/CCR SECTION	DESCRIPTION	N/A	PAGE(S)	SECTION(S)
MINING OPERATIONS AND CLOSURE				
CCR 3711 (c)	Soil salvage and phases set forth in plan, minimize disturbance, designed to achieve revegetation success.	X	---	---
CCR 3711 (d)	Topsoiling phased ASAP. Stockpiles not to 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.	X	---	---
CCR 3712	Waste and tailings, and waste disposal governed by SWRCB (Article 7, Chapter 15, Title 23, CCR).		13	1.2
CCR 3713 (a)	Drill holes, water wells, monitoring wells abandoned in accordance with laws.		23	2.7
CCR 3713 (b)	All portals, shafts, tunnels, or openings, gated or protected from public entry, but preserve access for wildlife.	X		

APPENDIX A
BIOLOGICAL RESOURCE ASSESSMENT
JERICHO SYSTEMS INC.
APRIL 2018

General Biological Resources Assessment
For the Red Hill Cinder Mine Expansion Project

Unincorporated Area of Southwestern Inyo County, California
USGS – *Little Lake* Quadrangle,
Sections 30 & 31 of Township 22 South, Range 38 East

Prepared for:

Lilburn Corporation
Attn: Martin Derus
1905 Business Center Drive
San Bernardino, CA 92408

Prepared April 2018

Prepared by:

Jericho Systems, Inc.
47 1st Street, Suite 1
Redlands, CA 92373-4601

Certification

Jericho Systems, Inc.
47 1st Street, Suite 1
Redlands, CA 92373-4601
(909) 915-5900

Contact: Shay Lawrey, President and Ecologist/Regulatory Specialist

Certification: I hereby certify that the statements furnished herein, and in the attached exhibits present data and information required for this Biological Resources Repot to the best of my ability, and the facts, statements, and information presented are true and correct to the best of my knowledge and belief. This report was prepared in accordance with professional requirements and standards. Fieldwork conducted for this assessment was performed by me. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project proponent and that I have no financial interest in the project.

_____
Shay Lawrey, Ecologist/Regulatory Specialist

Table of Contents

1 Introduction

On behalf of Lilburn Corporation, Jericho Systems, Inc. (Jericho) conducted a general biological resources assessment (BRA) and burrowing owl (*Athene cunicularia*) and Mohave ground squirrel (*Xerospermophilus mohavensis*) habitat suitability assessments for the Red Hill Cinder Mine Expansion Project (project). The purpose of the BRA was to address potential effects of the project to designated critical habitats and/or any species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA) or species designated as sensitive by the California Department of Fish and Wildlife (CDFW [formerly California Department of Fish and Game]) and/or the California Native Plant Society (CNPS).

The project site was assessed for sensitive species known to occur locally. Attention was focused on those State- and/or federally-listed as threatened or endangered species and California Fully Protected species that have been documented in the project vicinity, whose habitat requirements are present within the vicinity of the project site. Results of the survey and habitat assessment are intended to provide sufficient baseline information to the project proponent and, if required, to federal and State regulatory agencies, including the U.S. Fish and Wildlife Service (USFWS) and CDFW, respectively, to determine if impacts will occur and to identify mitigation measures to offset those impacts.

In addition to the BRA and habitat assessments, Jericho biologists Daniel Smith, Eugene Jennings and Todd White conducted a Jurisdictional Delineation (JD) of the project site. The purpose of the JD is to determine the extent of State and federal jurisdictional waters within the project area potentially subject to regulation by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA and Porter Cologne Water Quality Control Act, and CDFW under Section 1602 of the California Fish and Game Code (FGC), respectively.

1.1 Project Description

The project will consist of expanding the existing Red Hill Quarry onto an approximately 60-acre site that is adjacent the northeast of the existing cinder mine. The expansion area is entirely within privately-owned land (Assessor Parcel Number [APN]: 03709011), surrounded by Bureau of Land Management (BLM) public lands and the Fossil Falls Scenic Area to the south. The expansion project is covered under the existing 1979 Red Hill Quarry mining permit, which is good through 2019. The project is adjacent the southeast side of Red Hill, which is a cinder cone volcano comprised of pumice and lava rock. The project will completely avoid impacts to the cinder cone itself.

1.2 Project Location

The project site is located approximately 0.75 miles east of U.S. Route 395 (US 395), adjacent the southeast side of Red Hill, approximately 5 miles south of Coso Junction and 2.4 miles north of Little Lake, near the unincorporated area of Coso, in southwestern Inyo County, California (Figure 1). The project site is situated in the northeast corner of the *Little Lake* USGS 7.5-minute series quadrangle, in Sections 30 and 31 of Township 22 South, Range 38 East, Mount Diablo Base Meridian. The project area is accessed from US 395 by Cinder Road (Figures 1&2).

1.3 Environmental Setting

The project site is situated near Coso, in the southern end of the Rose Valley, between the Sierra Nevada Mountains to the west and the Coso Range to the east, in the western Mojave Desert. The Coso area is subject to both seasonal and annual variations in temperature and precipitation. Average annual maximum

temperatures peak at 95.6 degrees Fahrenheit (° F) in July and fall to an average annual minimum temperature of 29.1° F in January. Average annual precipitation is greatest from November through March and reaches a peak in February (1.3 inches). Precipitation is lowest in the month of June (0.09 inches). Annual precipitation averages 6.5 inches. The topography of the project area is relatively flat on the eastern portion and sloped on the western portion, along the base of Red Hill. Elevation on site ranges from approximately 3,340 feet above mean sea level (amsl) in the eastern portion of the site, to 3,430 feet amsl in the westernmost portion of the site, nearest the base of the Red Hill cinder cone.

Hydrologically, the project area is located within an undefined Hydrologic Sub-Area (HSA 624.10) which comprises a 170,880-acre drainage area within the larger Indian Wells-Searles Valleys Watershed (HUC 18090205).

Soils within the project area are comprised primarily of cinder sand derived from the adjacent Red Hill cinder volcano.

The general project vicinity consists existing mining operations (Red Hill Quarry) and undeveloped open space. Habitat surrounding the project site consists primarily of *Ambrosia dumosa* Shrubland Alliance (white bursage scrub). The project site itself is devoid of vegetation, consisting entirely of cinder sand and gravel. Much of the project site is relatively undisturbed, however the south/southwestern most portion of the site is disturbed due to the existing mining operations.

2 Assessment Methodology

2.1 Biological Resources Assessment

Data regarding biological resources on the project site were obtained through literature review and field investigations. Prior to performing the surveys, available databases and documentation relevant to the project site were reviewed for documented occurrences of sensitive species in the area. The U.S. Fish and Wildlife Service (USFWS) threatened and endangered species occurrence data overlay and the most recent versions of the California Natural Diversity Database (CNDDB) and California Native Plant Society Electronic Inventory (CNPSEI) databases, as well as the BLM California Special Status Plants list, were searched for sensitive species data on the *Little Lake, Coso Junction, Cactus Peak* and *Volcano Peak* USGS 7.5-minute series quadrangles. The project site is situated in the northeastern portion of the *Little Lake* quad. The site's proximity to the *Coso Junction, Cactus Peak* and *Volcano Peak* quads lead to their inclusion in the review. These databases contain records of reported occurrences of State- and federally-listed species or otherwise sensitive species and habitats that may occur within the vicinity of the project site. Other available technical information on the biological resources of the area was also reviewed including previous surveys and recent findings.

Jericho biologists Daniel Smith, Eugene Jennings and Todd White conducted a biological resources assessment of the project area on January 29, 2018. The survey area encompassed the entire project site and included 100 percent coverage of the site with transects spaced approximately 10 meters apart, as well as an approximately 500-foot buffer area surrounding the site. Wildlife species were detected during field surveys by sight, calls, tracks, scat, or other sign. In addition to species observed, expected wildlife usage of the site was determined per known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. The focus of the faunal species surveys was to identify potential habitat for special status wildlife within the project area.

2.2 Jurisdictional Delineation

On January 30, 2018, Jericho biologists Daniel Smith, Eugene Jennings and Todd White also evaluated the

project site and adjacent areas for the presence of riverine/riparian/wetland habitat and jurisdictional waters, i.e. waters of the U.S. as regulated by the U.S. Army Corps of Engineer (USACE) and Regional Water Quality Control (RWQCB), and/or jurisdictional streambed and associated riparian habitat as regulated by the California Department Fish and Wildlife (CDFW).

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 U.S. Fish and Wildlife Service National Wetland Inventory and Environmental Protection Agency (EPA) Water Program "My Waters" data layer were also reviewed to determine whether any hydrologic features and wetland areas 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 southwestern Inyo 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. Upstream and downstream connectivity of waterways (if present) was reviewed in the field and on aerial photographs and topographic maps to determine jurisdictional status.

During the field surveys, the survey team 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.

Evaluation of potential federal jurisdiction followed the regulations set forth in 33CFR part 328 and the USACE guidance documents and evaluation of potential State jurisdiction followed guidance in the Fish and Game Code and A Review of Stream Processes and Forms in Dryland Watersheds (CDFW, 2010)..

To be considered a *jurisdictional wetland* under the federal Clean Water Act, Section 404, an area must possess three (3) wetland characteristics: hydrophytic *vegetation*, hydric *soils*, and wetland *hydrology*.

- *Hydrophytic vegetation*: Hydrophytic vegetation is plant life that grows, and is typically adapted for life, in permanently or periodically saturated soils. The hydrophytic vegetation criterion is met if more than 50 percent of the dominant plant species from all strata (tree, shrub, and herb layers) is considered hydrophytic. Hydrophytic species are those included on the 2013 National Wetland Plant List (Arid West Region) (Lichvar, 2013). Each species on the list is rated per a wetland indicator category, as shown in Table 1. To be considered hydrophytic, the species must have *wetland indicator status*, i.e., be rated as OBL, FACW or FAC.

Table 1: Wetland Indicator Vegetation Categories

Category	Probability
Obligate Wetland (OBL)	Almost always occur in wetlands (estimated probability >99%)
Facultative Wetland (FACW)	Usually occur in wetlands (estimated probability 67 to 99%)
Facultative (FAC)	Equally likely to occur in wetlands and non-wetlands (estimated probability 34 to 66%)
Facultative Upland (FACU)	Usually occur in non-wetlands (estimated probability 67 to 99%)

Obligate Upland (UPL)	Almost always occur in non-wetlands (estimated probability >99%)

- *Hydric Soil*: Soil maps from the USDA-NRCS Web Soil Survey (USDA 2016) were reviewed for soil types found within the project area. Hydric soils are saturated or inundated long enough during the growing season to develop anaerobic conditions that favor growth and regeneration of hydrophytic vegetation. There are several indirect indicators that may signify the presence of hydric soils including hydrogen sulfide generation, the presence of iron and manganese concretions, certain soil colors, gleying, and the presence of mottling. Generally, hydric soils are dark in color or may be gleyed (bluish, greenish, or grayish), resulting from soil development under anoxic (without oxygen) conditions. Bright mottles within an otherwise dark soil matrix indicate periodic saturation with intervening periods of soil aeration. Hydric indicators are particularly difficult to observe in sandy soils, which are often recently deposited soils of flood plains (entisols) and usually lack sufficient fines (clay and silt) and organic material to allow use of soil color as a reliable indicator of hydric conditions. Hydric soil indicators in sandy soils include accumulations of organic matter in the surface horizon, vertical streaking of subsurface horizons by organic matter, and organic pans.

  The hydric soil criterion is satisfied at a location if soils in the area can be inferred or observed to have a high groundwater table, if there is evidence of prolonged soil saturation, or if there are any indicators suggesting a long-term reducing environment in the upper part of the soil profile. Reducing conditions are most easily assessed using soil color. Soil colors were evaluated using the Munsell Soil Color Charts (Gretag/Macbeth, 2000). Soil pits were dug to an approximate depth of 18 inches to evaluate soil profiles for indications of anaerobic and redoximorphic (hydric) conditions in the subsurface.

- *Wetland Hydrology*: The wetland hydrology criterion is satisfied at a location based upon conclusions inferred from field observations that indicate an area has a high probability of being inundated or saturated (flooded, ponded, or tidally influenced) long enough during the growing season to develop anaerobic conditions in the surface soil environment, especially the root zone (USACE, 1987 and 2008b).

3 Results

3.1 Existing Biological and Physical Conditions

The project site consists almost entirely of undeveloped open space, occupying mostly flat to gently-sloped terrain that surrounds the Red Hill cinder cone. The topography of the site is mostly uniform throughout, comprised of volcanic cinders or cinder sand and the site is completely devoid of vegetation. Most of the site is relatively undisturbed, with some evidence of off-road vehicle use. Disturbances on site are primarily due to the existing mining operations, which border the southernmost end of the project site, and include unpaved roads, temporary structures and material stockpiles.

3.1.1 Habitat

The project site itself is devoid of vegetation, consisting entirely of cinder sand and gravel (see attached photos). The habitat surrounding the project site consists primarily of *Ambrosia dumosa* Shrubland Alliance (white bursage scrub). The white bursage scrub habitat adjacent the north/northwestern portion of the site is co-dominated by white bursage (*Ambrosia dumosa*) and allscale saltbush (*Atriplex polycarpa*). However, this habitat is more species diverse adjacent the southern/southwestern portion of the site, where it is co-dominated by white bursage, burrobush (*Ambrosia salsola*), allscale saltbush and shadscale (*Atriplex*

confertifolia). Other native plant species identified within the survey area include, Devil's lettuce (*Amsinckia tessellata*), Fremont's milk vetch (*Astragalus lentiginosus* var. *fremontii*), Mojave eriastrum (*Eriastrum densifolium* ssp. *mohavense*), desert trumpet (*Eriogonum inflatum*), angle stemmed buckwheat (*E. maculatum*), yellow turbins (*E. pusillum*), kidney leaf buckwheat (*E. reniforme*), desert bush nettle (*Eucnide urens*), creosote (*Larrea tridentata*), desert star (*Monoptilon bellidiforme*), annual psathyrotes (*Psathyrotes annua*), sage thistle (*Salvia carduacea*), desert mallow (*Sphaeralcea ambigua*) and Mojave woodyaster (*Xylorhiza tortifolia*).

3.1.2 Wildlife

3.1.2.1 Amphibians and Reptiles

No amphibian species were observed or otherwise detected within the project area and none are expected to occur. The only reptile species observed within the project area was western side-blotched lizard (*Uta stansburiana elegans*). However, the survey was conducted during the winter brumation period for many herp species and temperatures were relatively cool (62°-71° F) during the survey. Other common species expected to occur within the project area include Great Basin whiptail (*Aspidoscellis tigris tigris*), zebra-tailed lizard (*Callisaurus draconoides*), desert banded gecko (*Coleonyx variegatus variegatus*), Panamint rattlesnake (*Crotalus stephensi*), desert iguana (*Dipsosaurus dorsalis*), California kingsnake (*Lampropeltis californiae*) and Great Basin gopher snake (*Pituophis catenifer deserticola*).

3.1.2.2 Birds

Avian species observed in the project area include northern harrier (*Circus cyaneus*), common raven (*Corvus corax*) and rock wren (*Salpinctes obsoletus*).

3.1.2.3 Mammals

Identification of mammals within the project area was generally determined by physical evidence rather than direct visual identification. This is because 1) many of the mammal species that potentially occur onsite are nocturnal and would not have been active during the survey and 2) no mammal trapping was performed. The only mammal species observed was black-tailed jackrabbit (*Lepus californicus*). Other common species expected to occur within the project area include coyote (*Canis latrans*), Merriams' kangaroo rat (*Dipodomys merriami*), and desert cottontail (*Sylvilagus audubonii*).

3.2 Special Status Species and Habitats

Per the CNDDB, CNPSEI, and other relevant literature and databases, 21 sensitive species (9 plant species, 12 animal species) have been documented in the *Little Lake, Coso Junction, Cactus Peak* and *Volcano Peak* USGS 7.5-minute series quadrangles. This list of sensitive species and habitats includes any State- and/or federally-listed threatened or endangered species, California Fully Protected species, CDFW designated Species of Special Concern (SSC), and otherwise Special Animals. "Special Animals" is a general term that refers to all the taxa the CNDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special status species." The CDFW considers the taxa on this list to be those of greatest conservation need.

There are three State- and/or federally-listed species documented within the *Little Lake, Coso Junction, Cactus Peak* and *Volcano Peak* quads. Of the three State- and/or federally-listed species, only the following two have been documented in the project vicinity (within approximately 7 miles):

- Desert tortoise (*Gopherus agassizii*)
- Mohave ground squirrel (*Xerospermophilus mohavensis*)

Although not State- or federally-listed as threatened or endangered species, the golden eagle (*Aquila chrysaetos* [GOEA]) is a CDFW Fully Protected species and BUOW are considered a State and federal SSC and both species are protected by the international treaty under the Migratory Bird Treaty Act of 1918 and by State law under the California FGC (FGC #3513 & #3503.5). There is potentially suitable habitat for these species within the project vicinity and both species have been documented in the project vicinity. Therefore, GOEA and BUOW will be included in the discussion below.

Additionally, the following two BLM Sensitive Plant Species have been documented in the project vicinity and the environmental conditions within the habitat surrounding the project site are suitable to support these species:

- Creamy blazing star (*Mentzelia tridentata*)
- Charlotte's phacelia (*Phacelia nashiana*)

An analysis of the likelihood for occurrence of all CNDDB sensitive species documented in the *Little Lake, Coso Junction, Cactus Peak* and *Volcano Peak* quads is provided in Table 2. This analysis considers species' range as well as documentation within the vicinity of the project area and includes the habitat requirements for each species and the potential for their occurrence on the site, based on required habitat elements and range relative to the current site conditions.

3.2.1 Special Status Species

No State- and/or federally-listed threatened or endangered species, or other sensitive species were observed on site during the reconnaissance-level field survey. However, there is some habitat adjacent the proposed project footprint that may be suitable for several sensitive species identified in the literature review (Table 2) and several sensitive species have been documented near the project site. In addition to the general biological resources assessment, habitat suitability assessments were conducted within the project area for BUOW and Mohave ground squirrel.

Desert Tortoise – Threatened (State/Federal)

The desert tortoise is a State- and federally-listed threatened species. Throughout its range, it is threatened by habitat loss, domestic grazing, predation, collections, and increased mortality rates. The desert tortoise is typically found in creosote bush scrub. They are most often found on level or sloped ground where the substrate is firm but not too rocky. Tortoise burrows are typically found at the base of shrubs, in the sides of washes and in hillsides. Because a single tortoise may have many burrows distributed throughout its home range, it is not possible to predict exact numbers of individuals on a site based upon burrow numbers.

In 1992 the BLM issued the *California Statewide Desert Tortoise Management Policy* which included categorizing habitat into three levels of classification. The management goal for Category I areas is to maintain stable, viable populations and to increase the population where possible. The management goal for Category II areas is to maintain stable, viable populations. The management goal for Category III areas is to limit population declines to the extent feasible. In April 1993, the BLM amended the CDCA plan to delineate these three categories of desert tortoise habitat on public lands. With the adoption of the West Mojave Plan (BLM 2005), all lands that are outside Desert Wildlife Management Areas are characterized as Category 3 Habitat, which is the lowest priority management area for viable populations of the desert tortoise.

> <u>*Findings*</u>: Per the CNDDB, the nearest documented desert tortoise occurrence (2006) is approximately 6.4 miles northwest of the project site. There are no desert tortoise occurrences documented in the project area and there is no suitable habitat for this species within the project

site. However, some of the surrounding area adjacent portions of the project site does contain white bursage scrub habitat suitable to support desert tortoise.

Per the USFWS desert tortoise Critical Habitat overlay, the project site is not within any USFWS designated desert tortoise Critical Habitat. Furthermore, the project site is not within a BLM designated Desert Wildlife Management Area (USFWS 2011). Therefore, the habitat surrounding the site would be characterized as Category 3 Habitat, per the BLM categorization of desert tortoise habitat on public lands.

The assessment survey was structured, in part, to detect desert tortoise. The survey consisted of walking transects spaced approximately 10 meters apart to provide 100% visual coverage of the project site, as well as an approximately 500-foot buffer area surrounding the site. The result of the survey was that no evidence of desert tortoise was found in the survey area. No desert tortoise individuals or sign including burrows or scat were observed. Therefore, desert tortoise are considered absent from the project site.

Mohave Ground Squirrel – Threatened (State)

The Mohave ground squirrel is a State-listed threatened species. This small, grayish, diurnal ground squirrel is endemic to two million hectares in the western Mojave Desert. It typically inhabits sandy soils of alkali sink and creosote bush scrub habitat. Mohave ground squirrel forage on leaves and seeds and aestivate/hibernate for long periods of the year. Plants documented as forage for this species include: fiddleneck (*Amsinckia tessellata*), allscale (*Atriplex canescens* and *A. polycarpa*), desert holly (*A. hymenelytra*), coreopsis (*Coreopsis* sp.), spiny hopsage (*Grayia spinosa*), winterfat (*Krascheninnikovia lanata*), wolfberry (*Lycium andersonii*), Joshua tree (*Yucca brevifolia*) and the seeds of Joshua tree. It is suspected that Mohave ground squirrel forage on the plant species with the highest water content available at the time.

<u>*Findings*</u>: Although a focused Mohave ground squirrel trapping survey was not performed, Jericho conducted a Mohave ground squirrel habitat suitability assessment of the proposed project site and adjacent habitat. The habitat assessment included a pedestrian field assessment, review of reported occurrences of the Mohave ground squirrel in the region (CNDDB 2018), and adherence to CDFW's criteria for assessing potential impacts to the Mohave ground squirrel. The criteria questions are as follows:

1. *Is the site within the range of the Mohave ground squirrel?;*
2. *Is there native habitat with a relatively diverse shrub component?; and*
3. *Is the site surrounded by development and therefore isolated from potentially occupied habitat?*

The project site falls within the current range of the MGS but is located outside, to the east, of the Mohave ground squirrel Conservation Area set forth in the West Mojave Plan (BLM 2005). Per the CNDDB, there are 21 recent and historic Mohave ground squirrel occurrences documented in the *Little Lake, Coso Junction, Cactus Peak* and *Volcano Peak* quads. The nearest historically documented occurrence (1988) for Mohave ground squirrel is approximately 2 miles north of the project site. The nearest recently documented Mohave ground squirrel occurrence (2010) is approximately 8 miles northeast of the project site.

The entire project site (approximately 60 acres) consists of unvegetated cinder sand, which would not be considered suitable to support this species due to a lack of forage plants. However, some of the surrounding area adjacent portions of the project site does consist of white bursage scrub habitat

that would be considered suitable to support Mohave ground squirrel. This habitat is mostly restricted to the areas adjacent the western portion of the site, around the base of the cinder cone, and adjacent the northernmost portion of the site, respectively. Furthermore, although the southern portion of the site is bordered by existing mining operations, there is undeveloped contiguous suitable habitat between the project site and documented Mohave ground squirrel occurrences to the north and east. Therefore, Mohave ground squirrel could potentially occur within areas of suitable habitat surrounding the project site.

Golden Eagle – CDFW Fully Protected

The GOEA is a CDFW Fully Protected species. GOEA are found throughout North America, but are more common in western North America (CDFW 2017). Habitat typically consists of rolling foothills and mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes, and cliffs and rock outcrops (Polite and Pratt 1990). GOEA build large platform nests, typically on cliffs and in large trees in open areas of rugged, open habitats with canyons and escarpments (Polite and Pratt 1990). Threats include loss of foraging areas, loss of nesting habitat, pesticide poisoning, lead poisoning and collision with man-made structures such as wind turbines (CDFW 2017).

Raptors and all migratory bird species, whether listed or not, receive protection under the Migratory Bird Treaty Act (MBTA) of 1918. The MBTA prohibits individuals to kill, take, possess or sell any migratory bird, or bird parts (including nests and eggs) except in accordance with regulations prescribed by the Secretary of the Interior Department (16 U. S. Code 7035). Additional protection is provided to all bald and golden eagles under the Bald and Golden Eagle Protection Act of 1940, as amended. State protection is extended to all birds of prey by the California FGC, Section 2503.57. No take is allowed under these provisions except through the approval of the agencies or their designated representatives.

Findings: Per the CNDDB, the nearest recently documented GOEA nesting occurrence (2009) is approximately 8.7 miles north of the project site, near the Haiwee Powerhouse, south of the South Haiwee Dam. Additionally, there are several historically documented GOEA nesting occurrences (1974-77) located south of Little Lake, approximately 3.7 to 6.6 miles south of the project site. There are no GOEA occurrences documented in the project area. Although the area surrounding the project site likely provides suitable foraging habitat for GOEA, there are no tall trees in the project area and very little cliffside habitat that could provide potential GOEA nest sites. Furthermore, no GOEA were observed within the project area during the reconnaissance-level survey. The surrounding hillsides, particularly the upper half of the adjacent Red Hill cinder cone, were surveyed using binoculars and no GOEA or nest sites were detected. Given the level of disturbance from the existing mining operations and the general lack of suitable nest sites within the immediate project vicinity, the project site and surrounding area is likely not considered suitable to support nesting GOEA.

Burrowing Owl – SSC

The BUOW is a ground dwelling owl typically found in arid prairies, fields, and open areas where vegetation is sparse and low to the ground. The BUOW is heavily dependent upon the presence of mammal burrows, with ground squirrel burrows being a common choice, in its habitat to provide shelter from predators, inclement weather and to provide a nesting place (Coulombe 1971). They are also known to make use of human-created structures, such as cement culverts and pipes, for burrows. BUOW spend a great deal of time standing on dirt mounds at the entrance to a burrow or perched on a fence post or other low to the ground perch from which they hunt for prey. They feed primarily on insects such as grasshoppers, June beetles and moths, but will also take small rodents, birds, and reptiles. They are active

during the day and night, but are considered a crepuscular owl; generally observed in the early morning hours or at twilight. The breeding season for BUOW is February 1 through August 31.

BUOW have disappeared from significant portions of their range in the last 15 years and, overall, nearly 60% of the breeding groups of owls known to have existed in California during the 1980s had disappeared by the early 1990s (Burrowing Owl Consortium 1993). The BUOW is not listed under the State or federal ESA, but is considered both a State and federal SSC. The BUOW is a migratory bird protected by the international treaty under the Migratory Bird Treaty Act of 1918 and by State law under the California FGC (FGC #3513 & #3503.5).

> *Findings*: Per the CNDDB, the nearest documented BUOW occurrence (2007) is approximately 4.3 miles north of the project site, less than 1 mile east of Coso Junction. There are no BUOW occurrences documented in the project area.
>
> The assessment survey was structured, in part, to detect BUOW. The survey consisted of walking transects spaced to provide 100% visual coverage of the project site, including an approximately 500-foot buffer area around the project site. The result of the survey was that no evidence of BUOW was found in the survey area. No BUOW individuals or sign including pellets, feathers or white wash were observed.
>
> Per the definition provided in the *2012 CDFG Staff Report on Burrowing Owl Mitigation*, "Burrowing owl habitat generally includes, but is not limited to, short or sparse vegetation (at least at some time of year), presence of burrows, burrow surrogates or presence of fossorial mammal dens, well-drained soils, and abundant and available prey." Therefore, although the project site does contain friable soils, it would not be considered suitable for BUOW because the site is devoid of vegetation and no appropriately sized burrows or burrow surrogates were detected within the project area.

BLM Sensitive Plant Species

The project site is surrounded by BLM managed lands. The BLM manages species that is considers sensitive, regardless of their State or federal listing status. The following two BLM Sensitive Plan Species have been documented in the project vicinity: creamy blazing star (*Mentzelia tridentata*) and Charlotte's phacelia (*Phacelia nashiana*).

> *Findings*: Per the CNDDB, the nearest documented creamy blazing star occurrence is on the west slopes of Red Hill, approximately 0.3 miles west of the project site, and the nearest documented Charlotte's phacelia occurrence is approximately 3 miles southwest of the project site. Neither species was detected during survey. However, it should be noted that given that the survey was conducted in January, many of the annual species were not in bloom at the time of survey. The bloom period for creamy blazing star is typically March through May and the bloom period for Charlotte's phacelia is March through June, respectively (Calflora 2018). Although neither species was detected during survey, the soils and habitat types adjacent the western and northernmost portions of the project site are suitable for these species to occur in.

3.2.2 Jurisdictional Delineation

The project site is within an undefined Hydrologic Sub-Area (HSA 624.10) which comprises a 170,880-acre drainage area within the larger Indian Wells-Searles Valleys Watershed (HUC 18090205). This watershed encompasses an approximately 2,019-square-mile area, partially within southern Inyo County, northeastern Kern County and northwestern San Bernardino County, respectively. The Indian Wells-

Searles Valleys Watershed is bound on the north by the Owens Lake Watershed, on the west by the South Fork Kern Watershed, on the east by the Panamint Valley Watershed and on the south by the Antelope-Fremont Valleys and Coyote-Cuddeback Lakes Watersheds. The Indian Wells-Searles Valleys Watershed is bordered on the west by the southernmost foothills of the Eastern Sierra Nevada and encompasses portions of the Coso Range and Argus Range mountains to the north, as well as China Lake and Searles Lake playas. These two dry lakes, which are the major receiving waters of the hydrogeomorphic features within the Indian Wells-Searles Valleys Watershed, were once fed by the Pleistocene Owens River system. The project site is situated in the northern portion of the Indian Wells-Searles Valleys Watershed, adjacent (to the west of) an unnamed intermittent stream and unnamed playa that were once part of the Pleistocene Owens River system.

Waters of the U.S.

The USACE has authority to permit the discharge of dredged or fill material in waters of the U.S. under Section 404 CWA. WoUS are defined as: "All waters used in interstate or foreign commerce; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent and ephemeral streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, where the use, degradation, or destruction of which could affect interstate commerce; impoundments of these waters; tributaries of these waters; or wetlands adjacent to these waters" (Section 404 of the CWA; 33 CFR 328.3 (a). CWA jurisdiction exists over the following:

1. all traditional navigable waters (TNWs);
2. all wetlands adjacent to TNWs;
3. non-navigable tributaries of TNWs that are relatively permanent waters (RPWs) i.e., tributaries that typically flow year-round or have continuous flow at least seasonally; and
4. every water body determined to have a significant nexus with TNWs.

No drainages or other water features were identified within the project site that would meet the definition of WoUS. The project site is near an unnamed intermittent stream and unnamed playa, which are both adjacent the east side of the project area. These two intermittently-flooded features are both part of what was once the Pleistocene Owens River system and the unnamed playa was inundated at the time the survey was conducted (see attached photos). The unnamed intermittent stream originates approximately 12 miles north (upstream) of the project area, at the south end of South Haiwee Reservoir, and terminates approximately 18 miles southeast of the project area, in an area approximately 9 miles northwest of China Lake.

The adjacent unnamed intermittent stream and unnamed, intermittently-flooded playa are completely outside (to the east) of the proposed project site. Furthermore, these features would be considered isolated waters as they do not have a significant nexus to a TNW and would be not be considered jurisdictional WoUS. Therefore, no water features were identified within the project site that would meet the definition of WoUS.

USACE Wetlands

Areas meeting all three parameters would be designated as USACE wetlands. None of the three required parameters, hydrophitic vegetation, hydric soils and/or wetland hydrology, are present within the project site. Therefore, no wetlands were identified in the study area during this investigation based of the absence of hydrophitic vegetation, hydric soil indicators and/or wetland hydrology.

State Lake/Streambed

The project site is situated near the base of the Red Hill cinder cone and habitat within the project area is comprised of white bursage scrub habitat. There are no drainages or other water features that have a definable bed and bank or associated riparian vegetation that would be subject to the FGC under the jurisdiction of the CDFW, within the project site. The adjacent unnamed intermittent stream and unnamed, intermittently-flooded playa would likely be considered CDFW jurisdictional features, however they are entirely outside of the proposed project site.

4 Conclusions and Recommendations

4.1 Sensitive Biological Resources

No State- and/or federally-listed threatened or endangered species were observed on site during the field survey and due to the lack of suitable habitat on site, none are expected to occur within the proposed project footprint. The entire project site is unvegetated, consisting of cinder sand and gravel. There is white bursage scrub habitat adjacent the western portion of the site, around the base of the cinder cone, as well as adjacent the northernmost portion of the site, that could potentially be suitable to support several sensitive species. However, the project will not impact any sensitive species or habitats that may potentially support sensitive species, including the State- and federally-listed as threatened desert tortoise or the State-listed as threatened Mohave ground squirrel.

The proposed project footprint originally included approximately 29 acres of white bursage scrub habitat within the project boundary, primarily along the northern and western portions of the current proposed project footprint. However, to avoid all potential impacts to sensitive species that could potentially occur within this habitat, the project proponent modified the project boundary to avoid disturbing any of the adjacent white bursage scrub habitat. The current proposed project footprint is completely within an unvegetated area that consists entirely of cinder sand and gravel. Therefore, the project will not impact any of the adjacent white bursage scrub habitat or sensitive species identified as potentially occurring within this habitat.

According to protocol and standard practices, the results of the habitat assessment surveys will remain valid for the period of one year, or until January 29, 2019, after which time, if the site has not been disturbed in the interim, another survey may be required to determine the persisting absence of desert tortoise, BUOW and other sensitive flora and fauna on-site. Regardless of survey results and conclusions given herein, desert tortoise, BUOW and Mohave ground squirrel are protected by applicable State and/or federal laws, including but not exclusive to the CESA and Federal ESA. As such, if a desert tortoise, BUOW or Mohave ground squirrel are found on-site during work activities, all activities likely to affect the animal(s) should cease immediately and regulatory agencies should be contacted to determine appropriate management actions. Importantly, nothing given in this report, including any recommended avoidance, minimization and mitigation measures, is intended to authorize the incidental take of desert tortoise or Mohave ground squirrel or any other listed species during project activities. Such authorization must come from the appropriate regulatory agencies, including CDFW (i.e., authorization under section 2081 of the FGC) and USFWS. Additionally, it should be noted that desert tortoise may be handled only by a qualified biologist who has been given authorization by the appropriate agencies (i.e. USFWS and CDFW).

Desert Tortoise

No evidence of desert tortoise was found in the project area during survey and the nearest documented desert tortoise occurrence is approximately 6.4 miles northwest of the project site. No desert tortoise individuals or sign including burrows or scat were observed on site. Furthermore, the project site does not

contain any habitat that would be considered suitable to support this species. Therefore, desert tortoise are considered absent from the project site and immediate surrounding area. No further focused surveys for this species are warranted or recommended. However, because there is potentially suitable white bursage scrub habitat for desert tortoise within some of the adjacent areas surrounding portions of the project site, it is recommended that a 100-foot buffer area be established between the proposed project footprint and any adjacent suitable habitat, to avoid any potential project-related impacts to this species. The adjacent habitat, including the 100-foot buffer area, should be clearly marked prior to any ground disturbing activities and avoided.

Mohave Ground Squirrel

Although there is no suitable Mohave ground squirrel habitat within the project site, there is potentially suitable habitat for Mohave ground squirrel adjacent some portions of the project site and the nearest documented Mohave ground squirrel is approximately 2 miles north of the project site. No focused protocol-level Mohave ground squirrel trapping surveys were conducted, so it is currently not known if Mohave ground squirrel occur within the suitable white bursage scrub habitat surrounding the project site. Therefore, as for desert tortoise (above), it is recommended that a 100-foot buffer area be established between the proposed project footprint and any adjacent suitable habitat, to avoid any potential project-related impacts to Mohave ground squirrel or any other sensitive species that may occur within the adjacent white bursage scrub habitat. As stated above, the adjacent habitat, including the 100-foot buffer area, should be clearly marked prior to any ground disturbing activities and avoided.

Burrowing Owl

A BUOW habitat suitability assessment was conducted, which included 100% visual coverage of the project site and approximately 500-foot buffer area around the project site. The result of the BUOW habitat assessment is that the project site and surrounding area are not considered suitable to support BUOW, due to the absence of vegetation on site, as well as the absence of appropriately sized burrows or burrow surrogates within the survey area. No BUOW individuals or sign including pellets, feathers or white wash were observed within the project site or surrounding area and this species is currently considered absent from the project area. Due to the absence of suitable habitat and BUOW sign, the project is not likely to impact his species and protocol-level BUOW surveys are not warranted or recommended at this time.

Sensitive Plant Species

There are no State- or federally-listed plant species documented in the project vicinity. However, several sensitive plant species, including two BLM Sensitive Plants (creamy blazing star and Charlotte's phacelia) have been documented in the project vicinity. As previously discussed, the project site is completely unvegetated, consisting entirely of cinder sand and gravel, and all adjacent white bursage scrub habitat will be completely avoided. Therefore, the project will not impact any sensitive plant species that may occur within adjacent habitat communities.

Nesting Birds

There is white bursage scrub habitat adjacent the project site that is suitable to support nesting birds. However, the project site is entirely within an area devoid of vegetation and will completely avoid disturbing any adjacent habitat. Therefore, the project is not likely to impact nesting birds.

4.2 Jurisdictional Waters

No jurisdictional features subject to the CWA or FGC under the jurisdictions of the USACE, RWQCB, or

CDFW exist within the project site. The project site is located entirely outside of any jurisdictional areas and no permanent or temporary impacts to jurisdictional features will result from the project. Therefore, no permits or authorizations from the USACE, RWQCB, or CDFW will be required.

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Attachment 6

ADDITIONAL TABLES

Table 2. CNDDB Species and Habitats Documented Within the *Little Lake, Coso Junction, Cactus Peak* and *Volcano Peak* USGS 7.5-minute Quadrangles

Scientific Name	Common Name	Listing Status Federal/ State	Other Lists	Habitat	Occurrence Potential
Aliciella ripleyi	Ripley's aliciella	None/ None	G3; S2; CNPS: 2B.3	Mojavean desert scrub. On limestone; rocky slopes, rock/cliff bases, and rock crevices. 300-1950 m.	The soil types this species is associated with (limestone) is not present within the project area. Occurrence potential is **low**.
Antrozous pallidus	pallid bat	None/ None	G5; S3; CDFW: SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Although there is little to no roosting habitat within the project site, there are some rocky outcrops adjacent the site that could potentially provide roosting habitat for this species. However, the nearest documented occurrence is approx. 8.8 miles NE of the project site and there is a significant level of human disturbance in the area, due to the existing quarry. Occurrence potential is **low**.
Aquila chrysaetos	golden eagle	None/ None	G5; S3; CDFW: FP	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Given the level of disturbance from the existing mining operations and the general lack of suitable nest sites within the immediate project vicinity, the project site and surrounding area is likely not considered suitable to support nesting GOEA. Occurrence potential is **low.**
Astragalus atratus var. *mensanus*	Darwin Mesa milk-vetch	None/ None	G4G5T2; S2; CNPS: 1B.1	Great Basin scrub, Joshua tree woodland, pinyon and juniper woodland. Dry desert slopes and mesas, often sheltering under and entangled in shrubs, in volcanic clay and gravel. 1705-2320 m.	The project area is outside the elevation range for this species. Occurrence potential is **low**.

Scientific Name	Common Name	Listing Status Federal/ State	Other Lists	Habitat	Occurrence Potential
Athene cunicularia	burrowing owl	None/ None	G4; S3; CDFW: SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	No appropriately sized burrows or burrow surrogates were detected within the project area, which is devoid of vegetation. Occurrence potential is **low.**
Bombus crotchii	Crotch bumble bee	None/ None	G3G4; S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia,* and *Eriogonum*.	Although there are some food plants for this species within the project area, the nearest documented occurrence is approx. 13.7 miles N of the project site. Occurrence potential is **low**.
Canbya candida	white pygmy-poppy	None/ None	G3G4; S3S4; CNPS: 4.2	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Gravelly, sandy, granitic places. 600-1460 m.	There is some habitat this species is associated with present adjacent the project site and the nearest documented occurrence for this species is approx. 0.8 miles S of the project site. However, the project site is entirely devoid of vegetation and the project will not disturb any adjacent habitat. Occurrence potential is **low.**
Clarkia xantiana ssp. *parviflora*	Kern Canyon clarkia	None/ None	G4T3T4; S3S4; CNPS: 4.2	Chaparral, cismontane woodland, Great Basin scrub, valley and foothill grassland. Often seen on sandy, sometimes rocky, slopes. Sometimes on roadsides. 700-1750 m.	There is some habitat this species is associated with present adjacent the project site, but the nearest documented occurrence for this species is approx. 7.4 miles NW of the project site. Occurrence potential is **low.**

Scientific Name	Common Name	Listing Status Federal/ State	Other Lists	Habitat	Occurrence Potential
Corynorhinus townsendii	Townsend's big-eared bat	None/ None	G3G4; S2; CDFW: SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	No suitable roosting habitat for this species exists in the project area and there is a significant level of human disturbance in the area, due to the existing quarry. Occurrence potential is **low**.
Eremothera boothii ssp. *boothii*	Booth's evening-primrose	None/ None	G5T4; S2; CNPS: 2B.3	Joshua tree woodland, pinyon and juniper woodland. 290-2410 m.	The habitats this species is associated with are not present within the project area. Occurrence potential is **low**.
Gopherus agassizii	desert tortoise	Threatened/ Threatened	G3; S2S3	Most common in desert scrub, desert wash, and Joshua tree habitats; occurs in almost every desert habitat. Require friable soil for burrow and nest construction. Creosote bush habitat with large annual wildflower blooms preferred.	No desert tortoise individuals or sign including burrows or scat were observed during survey and there is no suitable habitat for this species within the proposed project footprint. Furthermore, the nearest documented occurrence is approx. 6.4 miles NW of the project site. Occurrence potential is **low.**
Lasionycteris noctivagans	silver-haired bat	None/ None	G5; S3S4	Primarily a coastal and montane forest dweller, feeding over streams, ponds and open brushy areas. Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes, and rarely under rocks. Needs drinking water.	Although there are some rocky outcrops adjacent the site that could potentially provide roosting habitat for this species, there are no suitable roosting trees within the project area. Additionally, the nearest documented occurrence is approx. 6 miles N of the project site. Occurrence potential is **low**.

Scientific Name	Common Name	Listing Status Federal/ State	Other Lists	Habitat	Occurrence Potential
Mentzelia tridentata	creamy blazing star	None/ None	G3; S3; CNPS: 1B.3	Mojavean desert scrub. 545-1100 m.	There is some habitat this species is associated with present adjacent the project site and the nearest documented occurrence for this species is approx. 0.3 miles W of the project site, on the W side of Red Hill. However, the project site is entirely devoid of vegetation and the project will not disturb any adjacent habitat. Occurrence potential is **low.**
Microtus californicus vallicola	Owens Valley vole	None/ None	G5T3; S3; CDFW: SSC	Found in wetlands and lush grassy ground in the Owens Valley. Needs friable soil for burrowing. Eats grasses, sedges and herbs. Clips grass to make runways leading from burrows.	No suitable habitat for this species exists in the project area. Occurrence potential is **low**.
Penstemon fruticiformis var. *amargosae*	Amargosa beardtongue	None/ None	G4T3; S2; CNPS: 1B.3	Mojavean desert scrub. Sandy or gravelly washes and drainages. 940-1890 m.	There is some habitat this species is associated with present adjacent the project site, but the nearest documented occurrence for this species is approx. 9.2 miles NE of the project site. Occurrence potential is **low.**
Phacelia nashiana	Charlotte's phacelia	None/ None	G3; S3; CNPS: 1B.2	Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland. Granitic soils; sandy or rocky areas on steep slopes or flats. 335-2180 m.	There is some habitat this species is associated with present adjacent the project site and the nearest documented occurrence for this species is approx. 3 miles SW of the project site. However, the project site is entirely devoid of vegetation and the project will not disturb any adjacent habitat. Occurrence potential is **low.**

Scientific Name	Common Name	Listing Status Federal/ State	Other Lists	Habitat	Occurrence Potential
Pyrgulopsis wongi	Wong's springsnail	None/ None	G2; S2	Owens Valley. Along east side from Pine Creek to Little Lake, and along west side from French Spring to Marble Creek. Seeps and small-moderate size spring-fed streams. Common in watercress and/or on small bits of travertine and stone.	The habitats this species is associated with are not present within the project area. Occurrence potential is **low**.
Rhinichthys osculus ssp. 2	Owens speckled dace	None/ None	G5T1T2Q; S1S2; CDFW: SSC	Small streams and springs in Owens Valley. Occupies a variety of habitats. Rarely found in water > 29° C.	No suitable habitat for this species exists in the project area. Occurrence potential is **low**.
Sidalcea covillei	Owens Valley checkerbloom	None/ Endangered	G2; S2; CNPS: 1B.1	Meadows and seeps, chenopod scrub. Moist alkaline meadows and freshwater seeps, fine sandy loam soil, one occurrence in stony calcareous soil. 1090-1420 m.	The habitats this species is associated with are not present within the project area. Occurrence potential is **low**.
Toxostoma lecontei	Le Conte's thrasher	None/ None	G4; S3; CDFW: SSC	Desert resident; primarily of open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats. Commonly nests in a dense, spiny shrub or densely branched cactus in desert wash habitat, usually 2-8 feet above ground.	There is some potentially suitable habitat for this species adjacent the northern and western portions of the project site. Occurrence potential is **moderate** in the area surrounding the project site.

Scientific Name	Common Name	Listing Status Federal/ State	Other Lists	Habitat	Occurrence Potential
Xerospermophilus mohavensis	Mohave ground squirrel	None/ Threatened	G2G3; S2S3	Open desert scrub, alkali scrub and Joshua tree woodland. Also feeds in annual grasslands. Restricted to Mojave Desert. Prefers sandy to gravelly soils, avoids rocky areas. Uses burrows at base of shrubs for cover. Nests are in burrows.	There is some potentially suitable habitat for this species adjacent the northern and western portions of the project site and the nearest documented occurrence for this species is approx. 2 miles N of the site. However, there is no suitable habitat for this species within the proposed project footprint and the project will completely avoid disturbing any adjacent habitat. Occurrence potential is **low.**

Attachment 6

Coding and Terms

E = Endangered T = Threatened C = Candidate FP = Fully Protected SSC = Species of Special Concern R = Rare

State Species of Special Concern: An administrative designation given to vertebrate species that appear to be vulnerable to extinction because of declining populations, limited acreages, and/or continuing threats. Raptor and owls are protected under section 3502.5 of the California Fish and Game code: "It is unlawful to take, possess or destroy any birds in the orders Falconiformes or Strigiformes or to take, possess or destroy the nest or eggs of any such bird."

State Fully Protected: The classification of Fully Protected was the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians and reptiles. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Global Rankings (Species or Natural Community Level):

G1 = Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
G2 = Imperiled – At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
G3 = Vulnerable – At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
G4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
G5 = Secure – Common; widespread and abundant.

Subspecies Level: Taxa which are subspecies or varieties receive a taxon rank (T-rank**)** attached to their G-rank. Where the G-rank reflects the condition of the entire species, the T-rank reflects the global situation of just the subspecies. For example: the Point Reyes mountain beaver, *Aplodontia rufa* ssp. *phaea* is ranked G5T2. The G-rank refers to the whole species range i.e., *Aplodontia rufa.* The T-rank refers only to the global condition of ssp. *phaea*.

State Ranking:

S1 = Critically Imperiled – Critically imperiled in the State because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the State.
S2 = Imperiled – Imperiled in the State because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the State.
S3 = Vulnerable – Vulnerable in the State due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the State.
S4 = Apparently Secure – Uncommon but not rare in the State; some cause for long-term concern due to declines or other factors.
S5 = Secure – Common, widespread, and abundant in the State.

California Rare Plant Rankings (CNPS List):

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 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 (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Attachment 6

FIGURES

Attachment 6

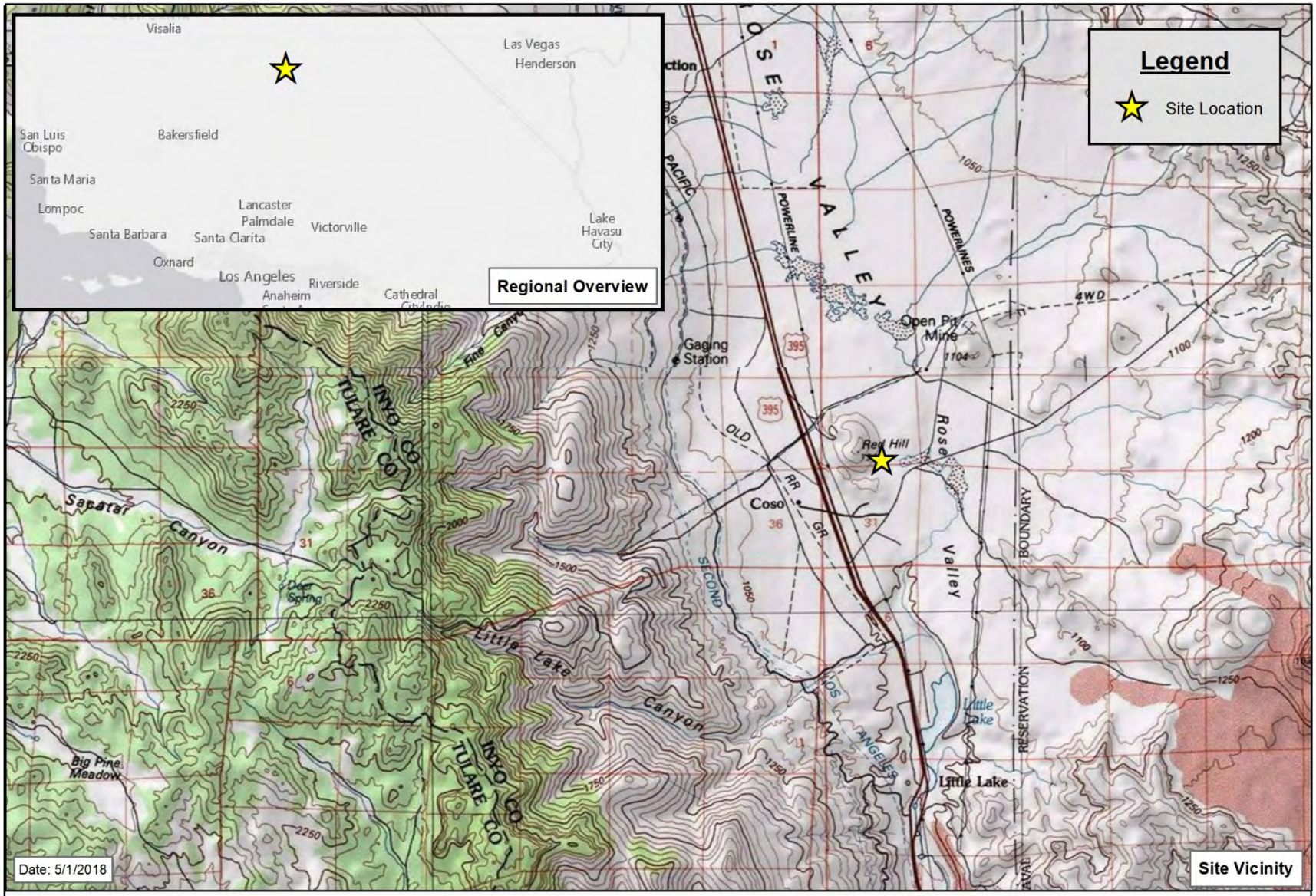


Figure 1 - Regional Overview Site Vicinity

Biological Resources Assessment
Red Hill Cinder Mine Expansion

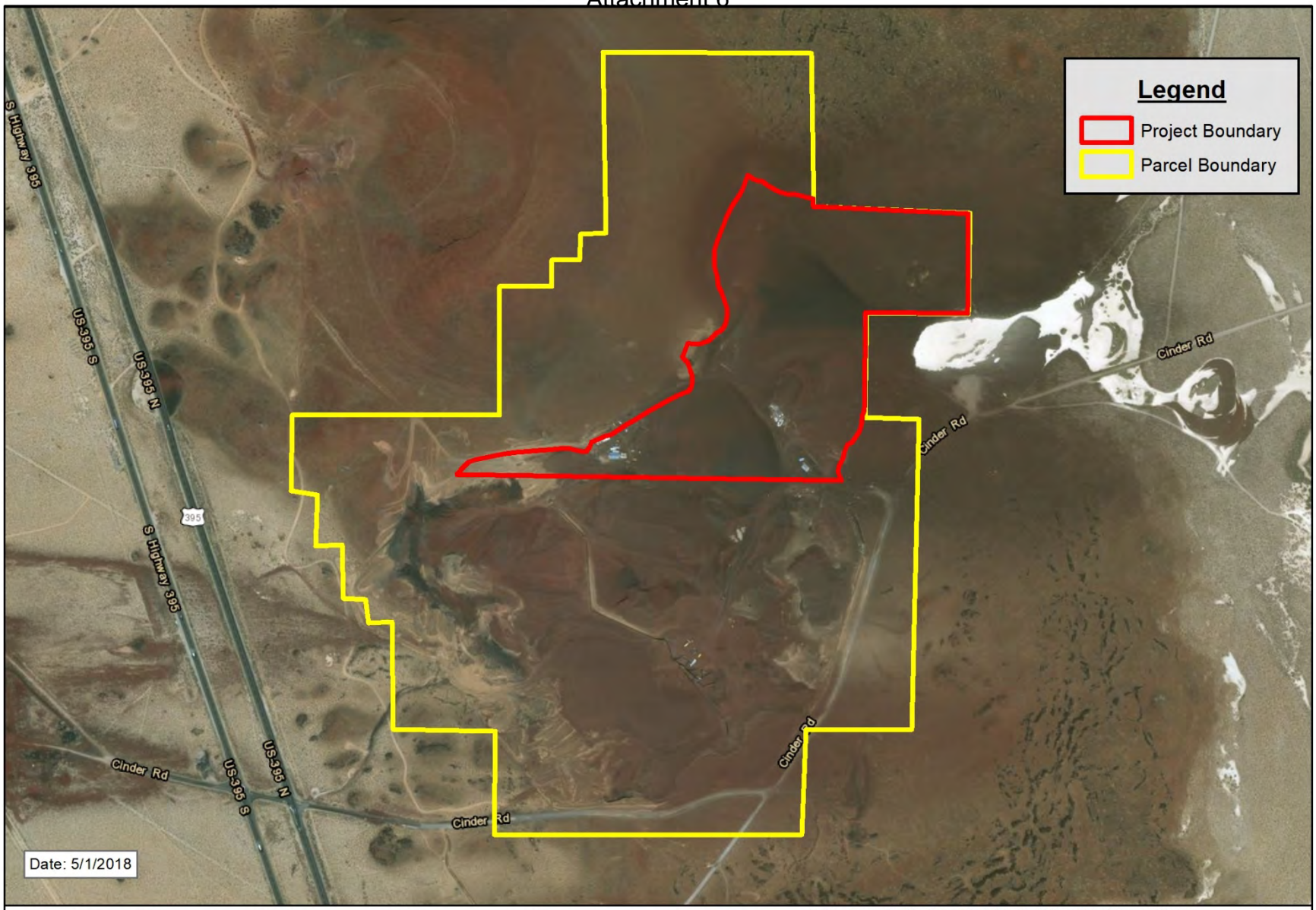


Figure 2 - Site Location

Biological Resources Assessment
Red Hill Cinder Mine Expansion

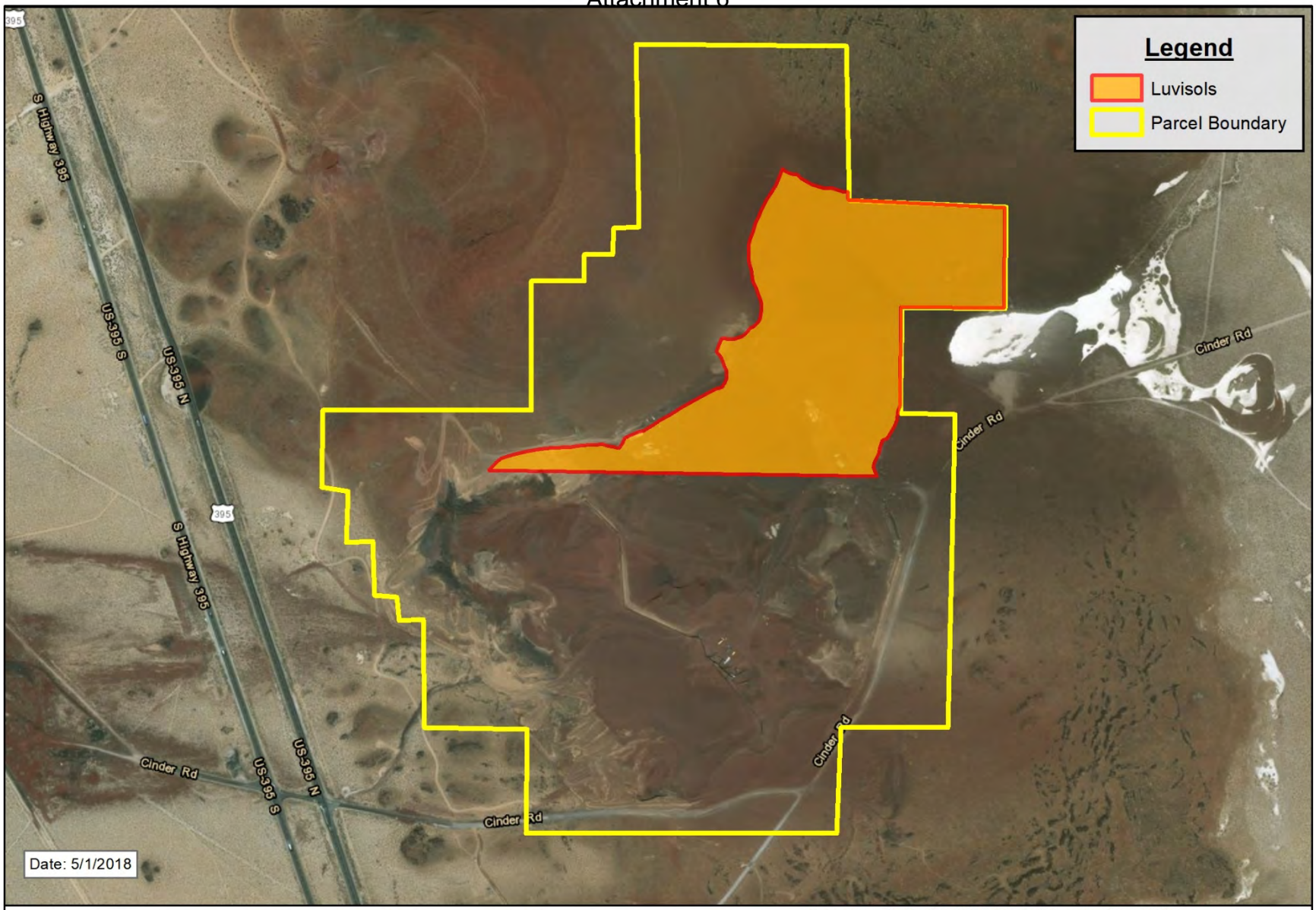


Figure 3 - Soils

Biological Resources Assessment
Red Hill Cinder Mine Expansion

Attachment 6

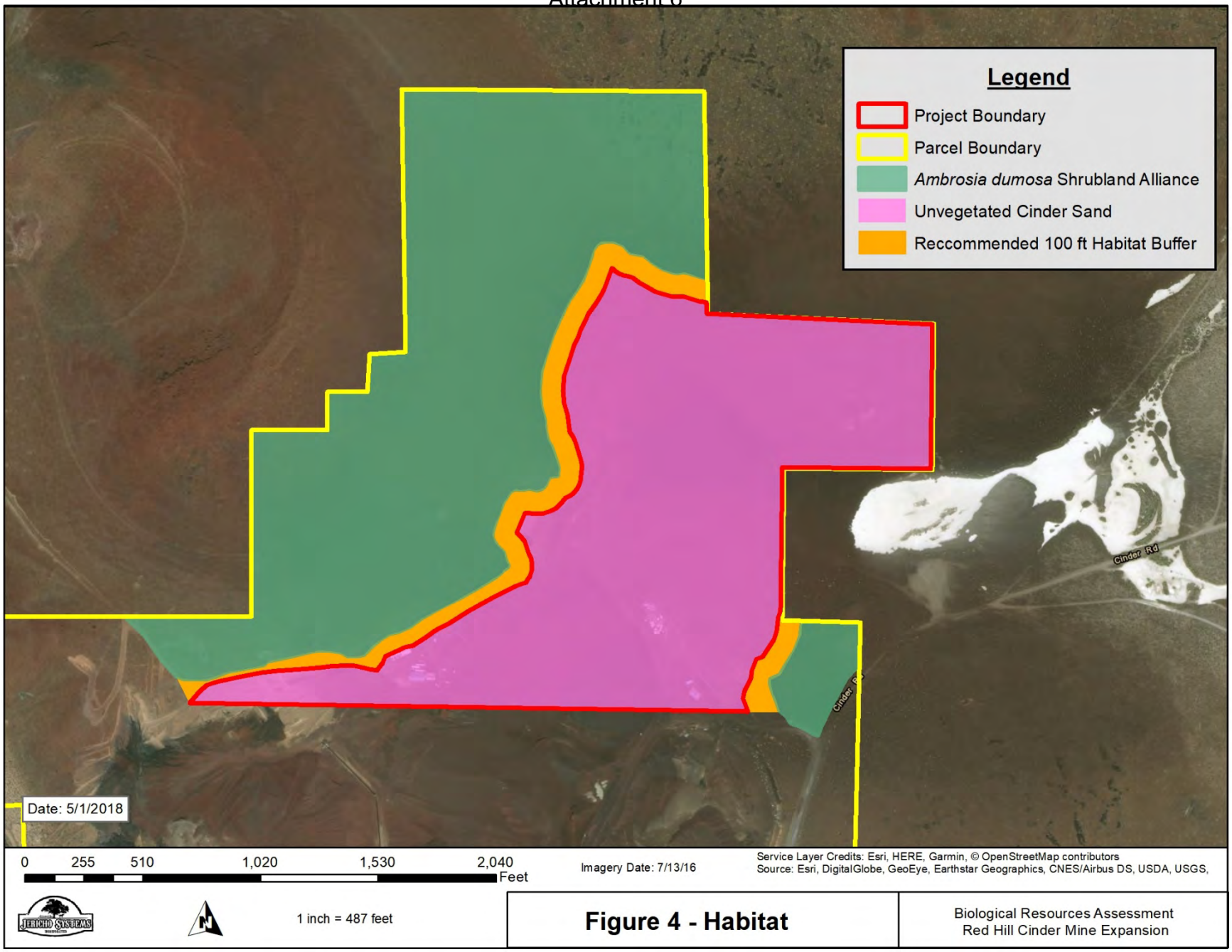
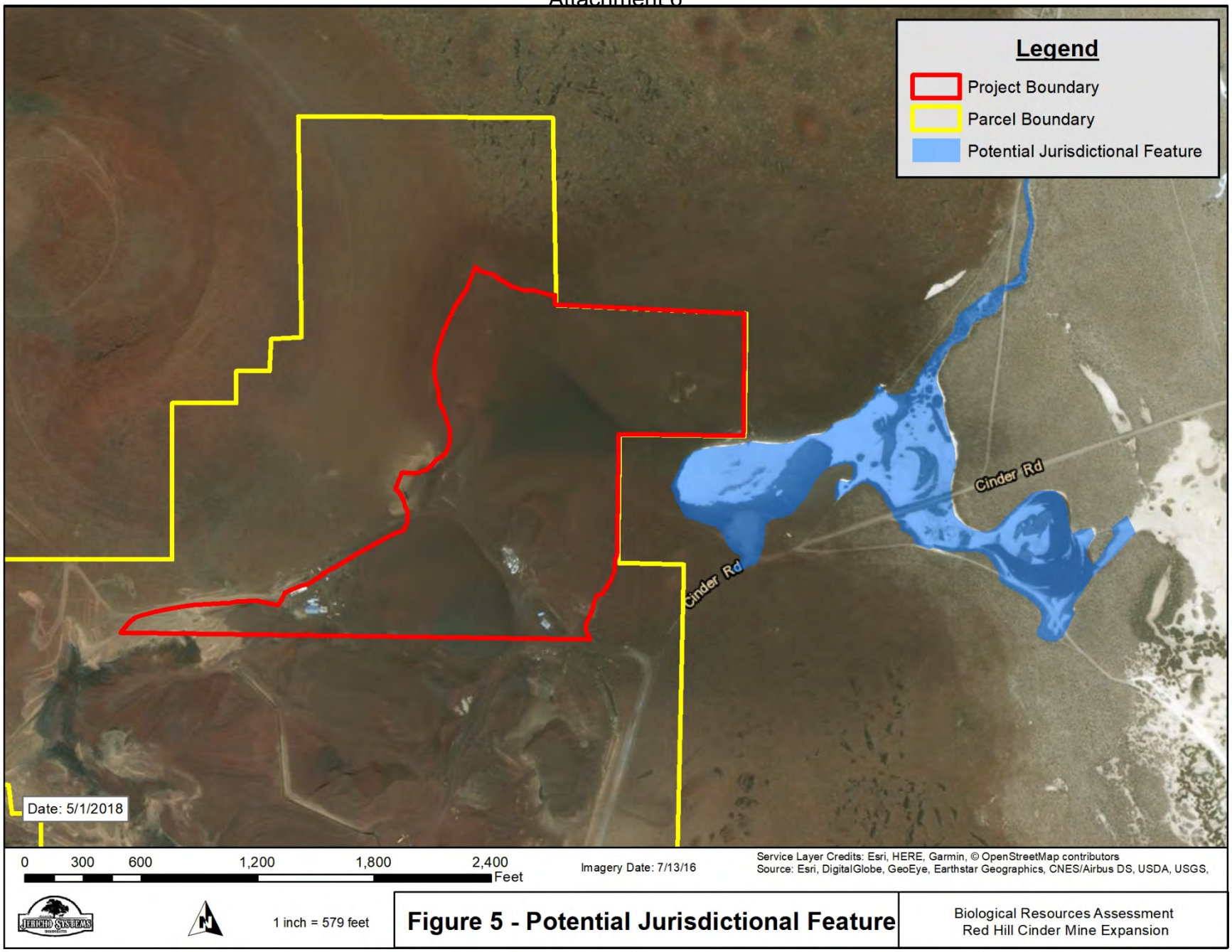


Figure 4 - Habitat

Biological Resources Assessment
Red Hill Cinder Mine Expansion


Legend
Project Boundary
Parcel Boundary
Potential Jurisdictional Feature
Cinder Rd
Cinder Rd
Date: 5/1/2018
0 300 600 1,200 1,800 2,400
Feet
Imagery Date: 7/13/16
Service Layer Credits: Esri, HERE, Garmin, © OpenStreetMap contributors
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,
1 inch = 579 feet
Figure 5 - Potential Jurisdictional Feature
Biological Resources Assessment
Red Hill Cinder Mine Expansion

Attachment 6

SITE PHOTOGRAPHS

Photo 1. Looking west at the south westernmost portion of the project site from the southern slope of Red Hill; adjacent the existing mining operation.

Photo 2. Looking south at the southern portion of the project site from the eastern slope of Red Hill. Existing mining operation in the far ground, south of the project site.

Photo 3. Looking east at the middle of the project site from the eastern slope of Red Hill. The inundated playa visible in the far ground is outside (east) of the eastern boundary of the project site.

Photo 4. Looking east at the northernmost portion of the project site and adjacent habitat from the eastern slope of Red Hill.

Photo 5. Looking west at Red Hill and the westernmost portion of the project site, which is situated along the lower slope of Red Hill.

Photo 6. Unvegetated middle portion of the project site.

Appendix A

Regulatory Framework

Federal Endangered Species Act (ESA)

The U.S. Fish and Wildlife Service (USFWS) administers the federal ESA of 1973. The ESA provides a legal mechanism for listing species as either threatened or endangered, and a process of protection for those species listed. Section 9 of the ESA prohibits "take" of threatened or endangered species. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. "Take" can include adverse modification of habitats used by a threatened or endangered species during any portion of its life history. Under the regulations of the ESA, the USFWS may authorize "take" when it is incidental to, but not the purpose of, an otherwise lawful act. Take authorization can be obtained under Section 7 or Section 10 of the act.

California Endangered Species Act (CESA)

The CDFW, formerly Fish and Game, administers the State CESA. The State of California considers an endangered species one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is one present in such small numbers throughout its range that it is likely to become an endangered species soon, in the absence of special protection or management. And a rare species is one present in such small numbers throughout its range that it may become endangered if its present environment worsens. Rare species applies to California native plants. Further, all raptors and their nests are protected under Section 3503.5 of the California Fish and Game Code (FGC). Species that are California fully protected include those protected by special legislation for various reasons, such as the California condor. Species of Special Concern (SSC) is an informal designation used by CDFW for some declining wildlife species that are not proposed for listing as threatened or endangered. This designation does not provide legal protection, but signifies that these species are recognized as sensitive by CDFW.

Migratory Bird Treaty Act (MBTA)

Nesting birds are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C 703-711). The MBTA provides protection for nesting birds that are both residents and migrants whether or not they are considered sensitive by resource agencies. The MBTA prohibits take of nearly all native birds. The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The direct injury or death of a migratory bird, due to construction activities or other construction-related disturbance that causes nest abandonment, nestling abandonment, or forced fledging would be considered take under federal law. The USFWS, in coordination with the CDFW administers the MBTA. CDFW's authoritative nexus to MBTA is provided in FGC Sections 3503.5 which protects all birds of prey and their nests and FGC Section 3800 which protects all non-game birds that occur naturally in the State.

Clean Water Act (CWA)

The CWA is the principal federal law that governs pollution in the nation's lakes, rivers, and coastal waters. Originally enacted in 1972 as a series of amendments to the Federal Water Pollution Control Act of 1948, the Act was last amended in 1987. The overriding purpose of the CWA is to "restore and maintain the chemical, physical and biological integrity of the nation's waters." The statute employs a variety of regulatory and non-regulatory tools to eliminate the discharge of pollutants into the nation's waters and achieve water quality that is both "swimmable and fishable".

Under Section 404 of the CWA, the Corps has primary federal responsibility for administering regulations

that concern the discharge of dredged or fill material into WoUS (including wetlands). WoUS are defined as: "All waters used in interstate or foreign commerce; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent and ephemeral streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes or natural ponds, where the use, degradation, or destruction of which could affect interstate commerce; impoundments of these waters; tributaries of these waters; or wetlands adjacent to these waters" (Section 404 of the CWA; 33 CFR 328).

The limit of the Corps jurisdiction for non-tidal waters (including non-tidal perennial and intermittent watercourses and tributaries to such watercourses) in the absence of adjacent wetlands is defined by the ordinary high water mark (OHWM). The OHWM is defined as: "The 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" (Section 404 of the CWA; 33 CFR 328). Wetlands are defined as: "Those areas that are inundated or saturated by surface or ground water 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" (Section 404 of the CWA; 33 CFR 328).

Porter-Cologne Water Quality Control Act (Porter-Cologne)

The Porter-Cologne Water Quality Control Act (Porter-Cologne) is the principal State law that governs water protection efforts in California. Porter-Cologne establishes the State Water Resources Control Board (SWRCB) and each of the nine Regional Water Quality Control Boards (RWQCBs) as the principal state agencies for coordinating and controlling water quality in California. The RWQCB's regulatory jurisdiction is pursuant to Section 401 of the Federal CWA. The RWQCB typically regulates discharges of dredged or fill material into WoUS. However, they also have regulatory authority over waste discharges into Waters of the State, which may be isolated, under Porter-Cologne. In the absence of a nexus with the Corps, the RWQCB requires the submittal of a Waste Discharge Requirement (WDR) application, which must include a copy of the project Storm Water Pollution Prevention Plan (SWPPP) and a copy of the project Water Quality Management Plan (WQMP), otherwise called a Standard Urban Stormwater Management Plan (SUSMP). The RWQCB's role is to ensure that disturbances in the stream channel do not cause water quality degradation.

California Fish and Game Code (FGC)

Sections 1600 to 1616 of the California FGC require any person, state, or local government agency or public utility to notify the CDFW before beginning any activity that will substantially modify a river, stream, or lake. If it is determined that the activity could substantially adversely impact an existing fish and wildlife resource, then a Lake or Streambed Alteration Agreement is required.

Like the Corps and RWQCB, the CDFW also regulates discharges of dredged or fill material. The regulatory jurisdiction of CDFW is much broader however, than Corps or RWQCB jurisdictions. CDFW regulates **all** activities that alter streams and lakes and their associated habitats. The CDFW, through provisions of the FGC Sections 1601-1603 is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be adversely affected. Streams (and rivers) are defined by the presence of a channel bed and banks and at least an intermittent flow of water. The CDFW typically extends the limits of their jurisdiction laterally beyond the channel banks for streams that support riparian vegetation. In these situations, the outer edge of the riparian vegetation is generally used as the lateral extent of the stream and CDFW jurisdiction. CDFW regulates wetland areas only to the extent that those wetlands are a part of a river, stream, or lake as defined by CDFW.

APPENDIX B
SLOPE STABILITY EVALUATION REPORT
TERRACON CONSULTANTS INC.

Attachment 6

Slope Stability Evaluation Report

Amended Reclamation Plan for Red Hill Quarry (CA Mine ID 91-14-0002)
Rose Valley Area, California
June 29, 2020
Terracon Project No. CB205065

Prepared for:
Lilburn Corporation
San Bernardino, California

Prepared by:
Terracon Consultants, Inc.
Colton, California

June 29, 2020

Lilburn Corporation
1905 Business Center Drive
San Bernardino, California 92408

Attn: Mr. Marty Derus – President
P: (909) 890-1818
E: marty@lilburncorp.com

Re: Slope Stability Evaluation Report
Amended Reclamation Plan for Red Hill Quarry (CA Mine ID 91-14-0002)
Quarry Road Area
Rose Valley Area, California
Terracon Project No. CB205065

Dear Mr. Derus:

We have completed the Slope Stability Evaluation services for the above referenced project. This study was performed in general accordance with Terracon Proposal No. PCB205065, dated May 26, 2020. This report presents the findings of the site reconnaissance and provides recommendations concerning slope design for the proposed reclamation project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,
Terracon Consultants, Inc.

John S. McKeown, E.G. 2396
Senior Geologist

Jay J. Martin, C.E.G.1529
Principal

Authorized Project Reviewer: Brian Williams

REPORT TOPICS

Note: This report was originally delivered in a web-based format. **Orange Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the ***GeoReport*** logo will bring you back to this page. For more interactive features, please view your project online at client.terracon.com.

ATTACHMENTS

Note: Refer to each individual Attachment for a listing of contents.

Slope Stability Evaluation Report

Amended Reclamation Plan for Red Hill Quarry (CA Mine ID 91-14-0002)

Rose Valley Area, California

Terracon Project No. CB205065

June 29, 2020

INTRODUCTION

This report presents the results of our geologic reconnaissance and slope evaluation services performed for the proposed mine reclamation located in the Rose Valley Area, California. The purpose of these services is to provide information and geotechnical engineering recommendations for reclaimed cut and fill slopes at the quarry.

The Scope of Services for this project included review of documents, site reconnaissance**,** and evaluation of stable slope configurations for the planned reclamation. Our services were requested in part as a response to reclamation plan review by California Department of Conservation – Division of Mine Reclamation (DMR) dated May 14, 2020. The DMR review indicates a need for site-specific geotechnical and geologic analysis for final slopes and topography. This report provides the information related to the DMR request.

Maps showing the site location and configuration are shown in the **Site Location** and **Site Map** sections, respectively. The results of our evaluation, together with our conclusions and recommendations, are presented in this report.

PLANNED RECLAMATION

Item	Description
Information Provided	Various emails were received from you providing project information. These materials include the reclamation plan document, a due diligence report that includes drilling and testing information, and Notice letter from Inyo County regarding a reclamation plan submittal. The County noted several items to be addressed in the reclamation document.
Project Description	The existing Main Quarry is proposed to expand northwest by 8.5 acres and northeast by 13.7 acres**,** eventually expanding further northeast into the Northeast Quarry of about 35.5 acres along with associated access roads, processing areas, and two overburden stockpiles encompassing about 49 acres. Backfill of part of the quarry is proposed with material from the existing OB-3 stockpile. The resource at this quarry is volcanic cinder rock.

Item	Description
Mining/Reclamation Slopes	Mining is currently conducted within the Phase 1 Main Quarry of approximately 49 acres as approved in the 1979 Conditional Use Permit (CUP) and will continue for up to 60 years. Active slopes may be as steep as 0.5 horizontal to 1 vertical (0.5H:1V) and will be pushed down or backfilled with non-commercial material to a reclaimed slope of no more than 1H:1V as required by the current CUP. Maximum depth will be approximately 150 feet below ground surface (bgs) with a variable pit floor elevation averaging approximately 3,250 feet amsl. Phase 2 mining is planned in a small northwestern 8.5-acre extension of the Main Quarry with 1.5H:1V slopes connecting to the Main Quarry. Mining on the west side of the Main Quarry will be below grade, and will remain behind natural ridging and be further blocked by views from US 395 by an approximate 10-foot high berm along the west areas as shown on the Mine Plan and as required by the existing CUP. During Phase 3, Overburden Stockpile 3 of about 14 acres in area and approximately 50 feet in height, will be pushed down into the floor of the Main Quarry and will be used to backfill any over steepened slopes. The raw cinders underneath will be mined to about 150 feet bgs. During Phase 4, mining will be initiated in the Northeast Quarry area located on approximately 35.5 acres. The quarry will be setback a minimum of 50 feet on the project boundaries to the east and north and setback about 100 feet from the base of the Red Hill Cinder Cone proper. Excavations are planned at 1H:1V to a depth of 150 feet.
Estimated Start of Excavation	Mining is ongoing

SCOPE OF SERVICES

We performed a slope stability investigation to address the stability of the proposed reclaimed slope configurations proposed to be formed in the volcanic rock units and stockpile fill materials**.** The slope stability analyses were also employed as the basis for recommendations for required stable slopes according to the Surface Mining and Reclamation Act (SMARA). Planned slope configurations were provided in the revised reclamation plan dated December 2018 as described above. A due diligence report by Steve Cortner dated February 15, 2015 provides drill log and groundwater level data for the site.

We reviewed the project-related documents and available aerial imagery to identify areas of interest for slope evaluation. We visited the site on June 4, 2020 and met with Mr. Ben Boyd who provided site safety and operations information. We collected field measurements of representative geologic structure in selected areas and examined the geologic materials for strength properties.

We established the strength characteristics of rock and stockpile materials based on our database of UCS tests, laboratory testing**,** and slope stability application-based utilities. The Description of Site Conditions is derived from our site visit and review of available geologic and topographic maps.

We performed kinematic evaluation of characteristic geologic structure using stereonet plots for an existing cut slope and performed whole-slope global stability analyses of the tallest rock and stockpile slope configurations (representative) for static and seismic conditions in the proposed slope areas. Stockpile materials strengths were estimated from our experience with similar materials. The results of mapping and analysis, our findings of suitability of the proposed slope configurations, and recommendations for modifications of slope geometry, where warranted by analytical results, are presented in this report.

PRIOR INVESTIGATIONS

Steve Cortner, Land Use Consultants, Inc.**,** performed a due diligence study dated February 23, 2015. This study evaluated site land title information/status**,** and included a drilling/sampling program for evaluation of reserve materials, groundwater, and depth of cinder deposits. Static groundwater was encountered at approximately 187 feet below ground surface (bgs) in a drill hole located near the western site boundary. Sand-and-gravel alluvium was encountered in this drill hole at 280 feet bgs.

The reclamation plan document dated December 2018 specifies the following slope configurations:

- Cut slopes in native cinders at ratio of 1(h) to 1(v) or flatter
- Backfill of steepened cut slopes to 1(h) to 1(v) with non-commercial material
- Fill slopes (stockpiles) at ratio of 2(h) to 1(v)
- Final quarry depth at 150 feet below surrounding grade

SITE DESCRIPTION

AERIAL PHOTOGRAPH REVIEW

Aerial imagery dated from May 1994 to July 2017 were examined for indications of past site usage and slope information. A highwall cut is visible along the northwest side of the main pit in 1994 and continuing to 2017. Additional cuts are visible in the southwest portion of the mine. The majority of cut slopes appear as relatively low-angle push-down-type slope created by top-down dozer work. Based on the recent field reconnaissance, it is evident that some prior cut areas are now partially backfilled. A small area of slope ravel is visible in the north highwall cut in imagery dated 2013 and 2017. This feature was noted during our field examination and is formed in a

steep native cut in cinder material. We measured the cut slope angle in this area to be approximately 75- to 80-degrees locally. This slope is planned for backfill to the stockpile fill angle of 2H:1V upon reclamation.

FIELD RECONNAISSANCE

We examined site conditions on June 4, 2020. The mine consists of a primary pit area surrounded by low-angle slopes created by push-down dozer work and stockpile areas. A highwall, that was measured to be approximately 75- to 82-degrees locally and exhibited localized raveling, was present along the northwestern pit. We measured joint structure in this slope for localized kinematic evaluation. Some prior cut areas along this highwall are now partially backfilled. Stockpiles of sand and small gravel size material with slope modified by wind action were noted. Power poles were observed to be partially buried by migration of some stockpile areas.

SITE GEOLOGY

The mine utilizes cinder-size material emplaced as cone-erupted deposits from nearby Red Hill that overlay basalt flows of pahoehoe- and aa-type lavas. Cinders vary from black to red color and are sourced from localized eruption centers that changed location during emplacement activity. Native soils of light brown silty sandy alluvium overlie areas around the margin of the cinder deposits. Granitic basement rock underlies the volcanic pile. The cinders are very rough, angular clasts of abrasive siliceous rock material and are strongly interlocked by rough and angular contact. In cut slopes cinders stand at steep angles and exhibit planar joints that penetrate to depths up to 30 feet from native surface. Joints are locally filled with whitish caliche material. Cinders are not welded as in some volcanic piles and can be separated easily with a rock hammer; however, the material exhibits an effective cohesion from the rough and interlocked clast contacts.

Bedding planes exposed in limited cut slopes within the main pit area were measured to dip northward and eastward at angles of 50 to 60 degrees and 20 degrees, respectively. East dipping bedding was measured on a formerly-buried lava flow resting in contact with a cone flank. Bedding can be anticipated to vary throughout the site as construction of a volcanic pile is a somewhat random process that includes liquid material flow and air-fall actions. A northeast striking, steeply-dipping joint set dominated the structure of the north highwall area. A 70-degree southward dipping joint system was also noted. The cinder material is anticipated to exhibit relatively homogeneous materials properties at the proposed 1(h) to 1(v) cut slope angle.

SEISMIC CONSIDERATIONS

The site is situated 1.9 kilometers east of the mapped trace of the southern Sierra Nevada fault zone in a relatively high seismic region of southern California. Deaggregated peak ground

acceleration for a 2,475-year return period based on the USGS Hazard Tool web-based application is 0.76g.

The ground-shaking hazard at the site was also evaluated from a deterministic standpoint for use as a guide to formulate an appropriate seismic coefficient for use in slope stability analysis. The deterministic calculation of peak ground acceleration (PGA) was made using attenuation relations of Abrahamson and others (2014), Boore and others (2014), Campbell and Bozorgnia (2014) and Chiou and Youngs (2014). For the southern Sierra Nevada fault with a magnitude 7.5 at a distance of 1.9 kilometers, the estimated PGA is 0.59g.

The simplified procedure of Bray and Travasarou (2009) for selection of critical acceleration (Kh) as one-half PGA is commonly used for slope stability calculations for *habitable structures*. Their method is not typically required or applicable for quarry slope design. Given the project location in an area of moderate to high seismic potential, we used Kh = 0.20, consistent with Bray and Travasarou (2007), to approximate slightly less than one-half the value of PGA from the deterministic calculation for the closest fault and considering the purpose of the site.

GROUNDWATER

Static groundwater was encountered at approximately 187 feet bgs in a drill hole located near the western site boundary in 2015. Information available in California Department of Water Resources Water Data Library indicates a well located about 1 mile east of the site with Local ID 18-28 GTH. Measured water levels between October 2011 and March 2020 in this well were steady near Elevation 3,194 feet that correlates to a depth to water of about 172 feet bgs. Based on the 150-foot depth of planned mining, groundwater is not anticipated to occur within the depth of the proposed mining.

SLOPE STABILITY

Slope stability calculations of proposed reclamation slopes and kinematic analysis of potential failure geometries in the existing highwall cut were performed for this evaluation. The kinematic data include the measured geologic structures from limited site mapping. Global slope stability was evaluated along cross sections representing the tallest and steepest proposed slopes with consideration of the geologic units and materials strengths as they potentially affect the overall stability. A discussion and summary of these analyses are presented below. The slope stability data and calculations are attached.

EXISTING HIGHWALL

An existing highwall area (approximately 82-degree cut angle) is formed along the northern pit and provides a cinder exposure. No slopes at this inclination are planned for reclamation. This area is a temporary working face planned for phased backfill to achieve a 2(h) to (1) fill slope ratio

(27-degree slope). We measured joints developed in the cut face and plotted these for kinematic evaluation. Kinematic data indicate that cut slopes in cinder material are kinematically stable at the planned 1(h) to 1(v) [45-degree] slope angle. This slope is representative of the native cinder materials anticipated to be exposed in reclaimed cut slopes planned with an angle of 45 degrees or flatter. Stereonet plots for this area are attached. Based on these data, we conclude that the planned cut slopes in native material configured at a slope ratio of 1(h) to 1(v) [45 degrees] are kinematically stable and suitable for reclamation.

GLOBAL STABILITY CALCULATIONS

The global stability of proposed reclamation slopes, as depicted on the reclamation plan, was analyzed using Spencer's method under both static and seismic conditions for rotational and composite failure surfaces using the SLIDE computer program, version 8.029 (Rocscience., 2019). Selection of the slope configurations for the analysis, which includes the tallest anticipated slope, is a most-conservative approach.

The whole rock strength of the geologic units was determined in part by reference to UCS values presented by Del Potro and Hurlimann (2008), reference to our database of unconfined compressive strength (UCS) tests, and reference to a database of Generalized Hoek-Brown rock strength parameters included in the SLIDE software application. Values used in analysis are summarized in the following table.

Red Hill Volcanics – Strength Parameters		
	Value	**Source**
Unit Weight (pcf*)	80	reported drill data
Intact UCS[1] (psf**)	1.00 x10^5	Del Porto and Hurlimann (2008) and Rocscience tables
Geological Strength Index	50	Rocscience tables
Intact Rock Constant (mi***)	13	Rocscience tables
Disturbance Factor	0.7	Mechanical excavation

* pcf = pounds per cubic foot
** psf = pounds per square foot
*** mi = unitless constant

Global slope stability calculations were performed on representative cut slopes modeled as 1(h) to 1(v) [45-degree] slopes up to 160 feet high. Mining may locally expose zones of flow-type lavas below cinders. Since these lavas are stronger and denser than cinder deposits, we use cinder strengths to represent the reclamation slope in calculations as a conservative modelling. The strength of stockpile fill and slope backfill was determined using the results of prior shear tests for similar stockpile material. The strength parameter values for slope backfill and stockpile fill are presented in the attached slope stability calculations.

The results of global slope stability analyses are summarized below. Details of stability calculations**,** including material type boundaries, strength parameters, and the minimum factor of safety and critical slip surface**,** are attached.

Summary of Global Stability Results				
Model	**Materials**	**Slope Configuration**	**Static Factor of Safety**	**Seismic Factor of Safety (k=0.2)**
Native Cut	cinder	160 feet @ 1(h) to 1(v) 45 deg.	1.90	1.42
Backfill Slope	Waste rock	60 feet @ 1(h) to 1(v) 45 deg.	1.00	0.73
Backfill Slope (Recommended)	Waste rock	60 feet @ 2(h) to 1(v) 27 deg.	1.68	1.14
Overburden Stockpile	Mixed OB	60 feet @ 27 deg. fill slope	1.71	1.12

The Backfill Slope configured at 1(h) to 1(v) does not exhibit sufficient Factors of Safety under static and seismic conditions for use in reclamation according to Office of Mine Reclamation (OMR). Therefore, we analyzed an alternative model using backfill at 2(h) to 1(v). 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 (OMR) criteria—were indicated for the modeled 'Native Cut' slope, 'OB Stockpile' slopes and 'Recommended Backfill' slope configurations.

FINDINGS AND CONCLUSIONS

Based on our geologic field observations and results of our slope stability analysis, it is the opinion of this firm that the proposed rock and OB stockpile reclamation slopes are feasible with respect to slope stability from a geotechnical standpoint. Cut slopes formed in the cinder unit are stable by calculation at angles of 45 degrees or flatter utilizing slopes up to 160 feet high.

Where existing cuts slopes are steeper than 1(h) to 1(v), they should be flattened to the reclamation cut angle (45 degrees) where space allows OR backfilled to 2(h) to 1(v) [27 degrees] or flatter.

The following slope heights/angles versus materials are considered feasible for reclamation:

- Rock materials including basalt and cinder – 1(h) to 1(v) [45 degrees] up to 160 feet in height

- Overburden Stockpile (OB) fill—2(h) to 1(v) [27 degrees] up to 60 feet in height
- Quarry backfill - 2(h) to 1(v) [27 degrees] up to 60 feet in height

Based on the elevation of the proposed pit bottom, groundwater is not anticipated to occur within the maximum mined depth.

Moderate to severe seismic shaking of the site can be expected to occur during the lifetime of the proposed mining and reclamation. This potential has been considered in our analyses and evaluation of slope stability.

The proposed rock slope configurations are considered suitably stable under static and seismic conditions as reclaimed slopes. Inclusion of horizontal safety benches or ramps in final slope design is feasible if required and will reduce overall slope angle. Slopes may be protected with berms as necessary to prevent slope erosion in areas where overland flow is directed toward slopes.

The rock mass within the mine area is competent and capable of forming stable slopes at the proposed slope angles for reclamation. The rock structure includes bedding and joint systems that have been characterized by mapping and analysis to yield suitably stable rock slopes. At such time and locations as reclamation slopes are excavated, a qualified professional should examine the slope conditions to determine conformance with the reclamation plan.

Adjustment of near-surface slope angles OR removal of unconsolidated surface alluvium along pit margins will mitigate long-term raveling and erosion in this material.

Slow raveling processes during and after quarry operation, with time, may result in deposition of limited talus on slopes. Talus left on the slopes can facilitate revegetation and lend a more natural appearance to the reclaimed slopes. It is anticipated that rock fragments will be small, angular and relatively resistant to rolling. Therefore, rockfall hazard is not anticipated for properly excavated and prepared rock slopes.

Visual inspection of reclamation slopes should be performed to address the potential for unknown or newly exposed discontinuities/geologic conditions. If raveling or instability is evident due to features in the geologic structure, the slope angle may be decreased or a bench added to decrease the overall slope angle.

Mechanical excavation is suitable for developing interim and final mine slopes. When reclaimed slope faces are reached, excavation should be planned and controlled so that final slopes are constructed in accordance with the approved reclamation plan and to avoid excess disturbance to finished surfaces.

Provision of terraces and/or berms to convey surface drainage away from slope faces in overburden stockpile slopes may be considered for reclamation stockpile slopes.

This report is intended to address the proposed reclamation and is not applicable to working mine (interim) slopes which may be steeper and/or of different configuration than the reclamation plan.

GENERAL COMMENTS

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Natural variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence or collaboration through this system are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client, and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly impact excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety, and cost estimating including, excavation support, and dewatering requirements/design are the responsibility of others. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

REFERENCES

GEOLOGIC REFERENCES

Del Potro, R. and Hurlimann, M. 2008, Geotechnical Classification and Characterisation of Materials for Stability Analysis of large Volcanic Slopes, Engineering Geology, volume 98, no.1.

Bray, J. D. and Travasarou, T.,. 2009 Pseudostatic Coefficient for Use in Simplified Seismic Slope Stability Evaluation, J. of Geotechnical and Geoenv. Engineering, ASCE, 135(9), 1336-1340.

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Rocscience, Inc., 2018, Dips computer software program, ver. 7.014: Graphical and statistical analysis of Orientation data.

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Seed, H. B., 1979, "Considerations in the Earthquake-Resistant Design of Earth and Rockfill Dams", Geotechnique, v. 29, no. 3, pp. 215-263.

AERIAL IMAGERY EXAMINED

Google Earth, 2019, web-based software application, aerial imagery dated May 27, 1994; June 3, 2004; December 31, 2004; August 15, 2007; May 25, 2009; May 25, 2013; and July 1, 2017.

ATTACHMENTS

SITE LOCATION

Contents:

Site Location Plan

Site Map

Slope Stability Calculations

Note: All attachments are one page unless noted above.

SITE LOCATION

Amended Reclamation Plan for Red Hill Quarry (CA Mine ID 91-14-0002) ■ Rose Valley Area, Ca
June 29, 2020 ■ Terracon Project No. CB205065

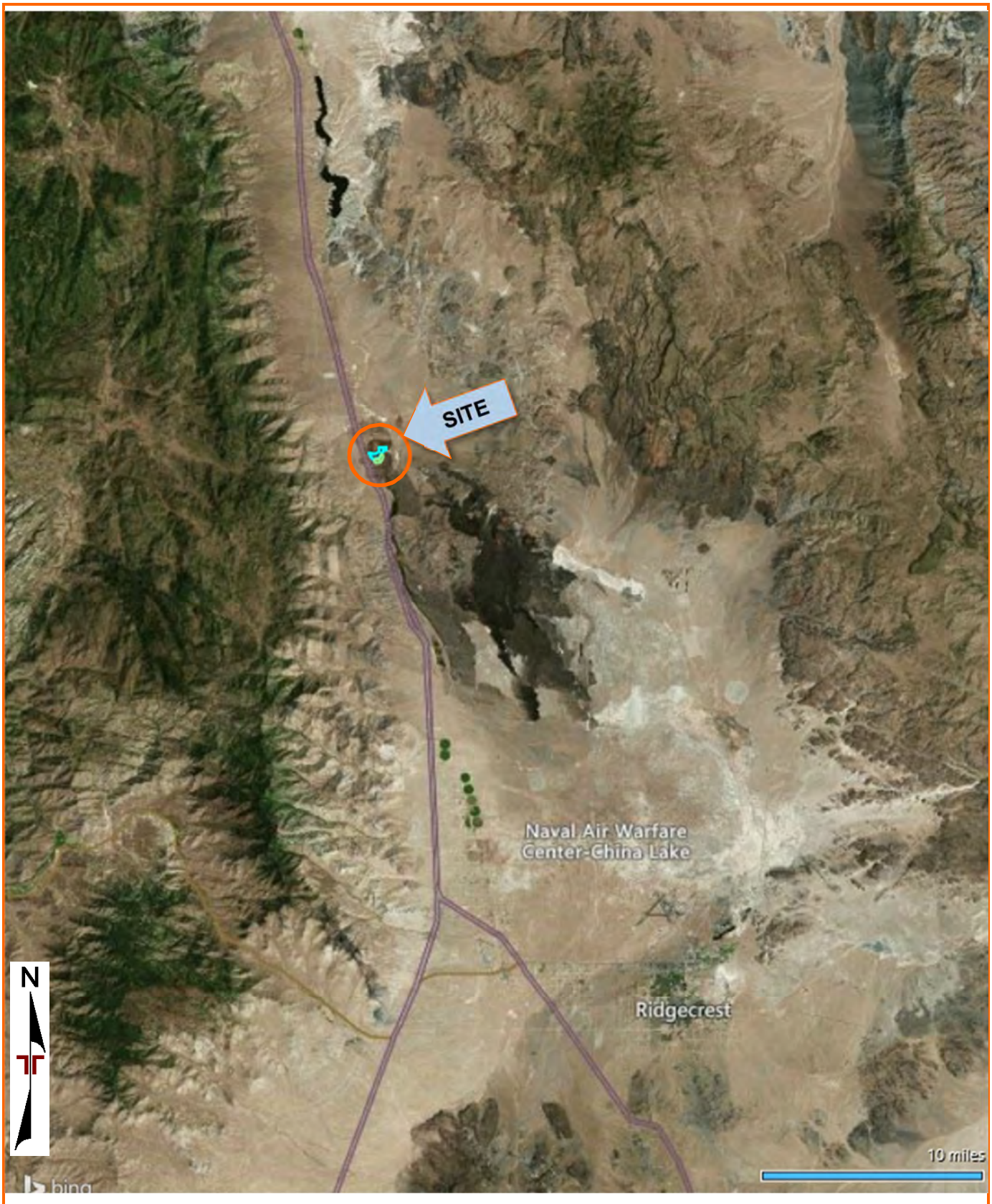


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

SITE PLAN

Amended Reclamation Plan for Red Hill Quarry (CA Mine ID 91-14-0002) ■ Rose Valley Area, California

June 23, 2020 ■ Terracon Project No. CB205065

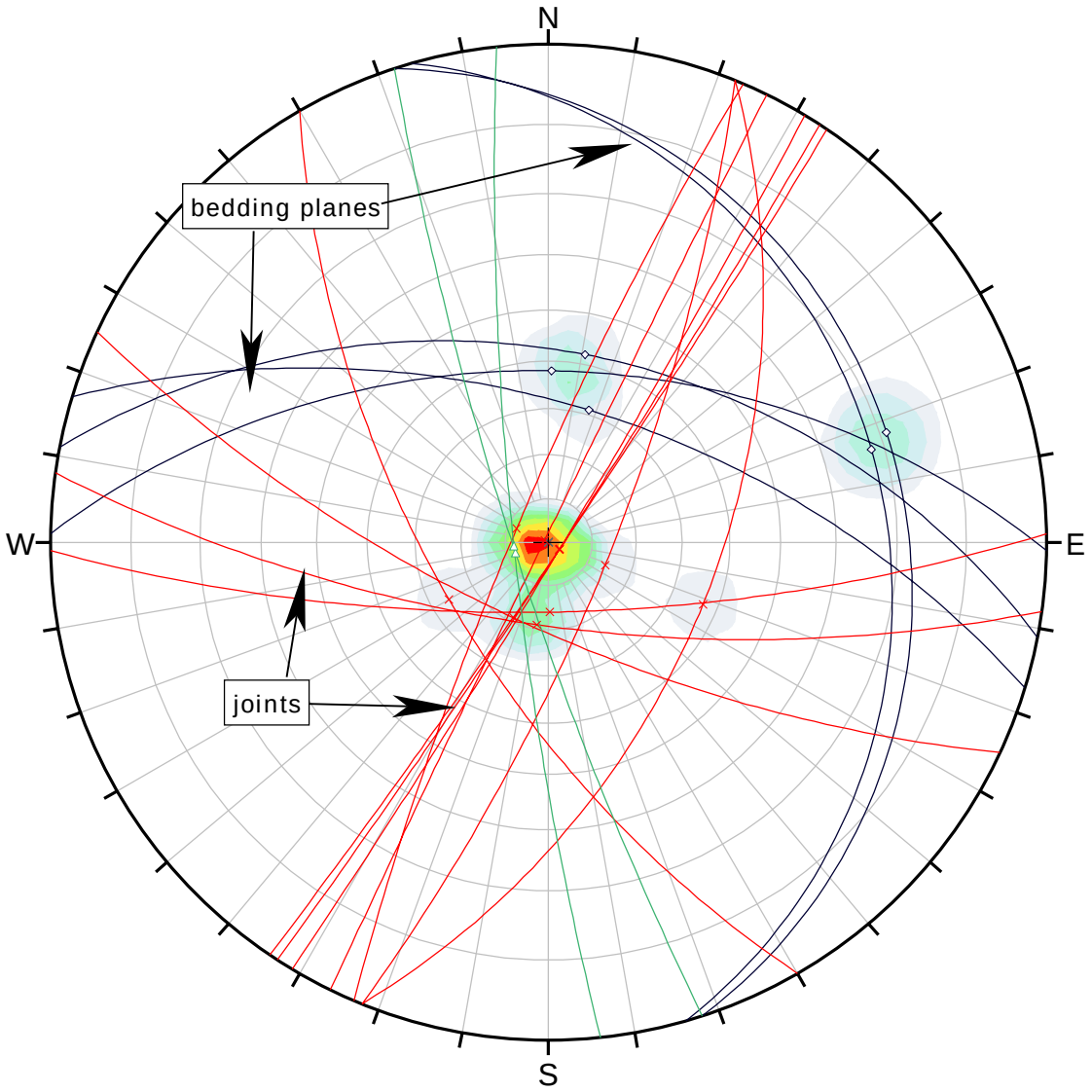
DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

Attachment 6

Red Hill Mine North Highwall - Geological Structural Data				
No.	Dip	Dip Direction	Continuity	Type
1	59	017	2	Bedding
2	52	001	2	Bedding
3	48	011	2	Bedding
4	22	074	3	Bedding
5	19	072	3	Bedding
6	74	179	3	Joint
7	71	188	3	Joint
8	71	205	3	Joint
9	89	296	1	Joint
10	82	293	1	Joint
11	64	240	2	Joint
12	87	121	1	Joint
13	53	112	3	Joint
14	76	112	1	Joint
15	87	123	1	Joint
16	87	124	1	Joint
17	82	252	3	Joint
18	82	264	3	Joint

* C1 - discontinuous (less than 3 ft.); C2 - slightly continuous (3 to 10 feet); C3 - moderately continuous (10 to 30 feet); C4 - highly continuous (30 to 100 feet); C5 - very continuous (greater than 100 feet).
Based on Department of the Interior - Bureau of Reclamation, Engineering Geology Field Manual (2nd edition 1998)



Symbol	TYPE	Quantity
◇	Bedding	5
×	Joint	11
△	Plane Type 1	2

Color	Density Concentrations
	0.00 - 3.20
	3.20 - 6.40
	6.40 - 9.60
	9.60 - 12.80
	12.80 - 16.00
	16.00 - 19.20
	19.20 - 22.40
	22.40 - 25.60
	25.60 - 28.80
	28.80 - 32.00

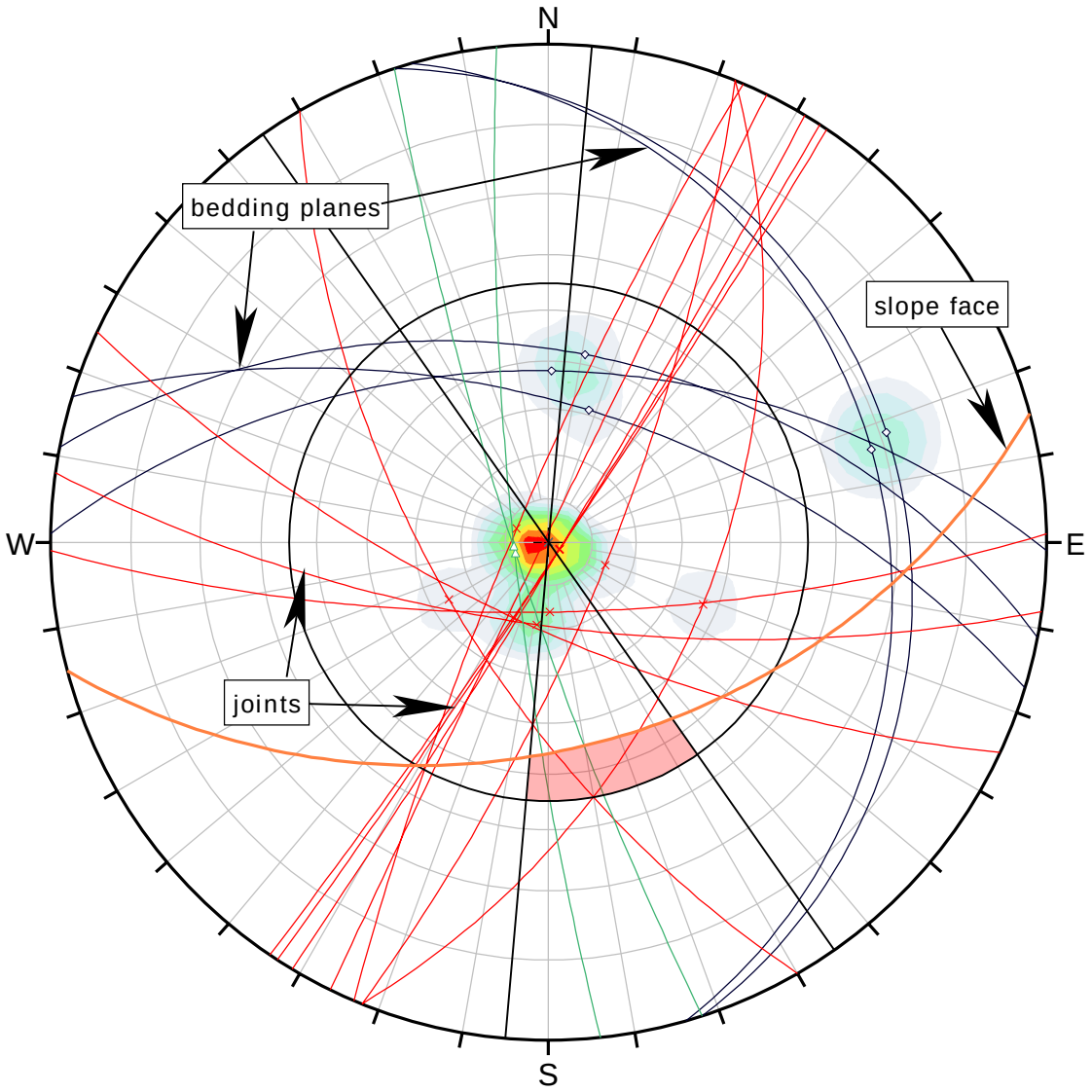
Contour Data	Dip Vectors
Maximum Density	31.72%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Plot Mode	Dip Vectors
Vector Count	18 (18 Entries)
Hemisphere	Lower
Projection	Equal Angle

Terracon

DIPS 7.014

Project	Red Hill Quarry		
Analysis Description	Kinematic North Cut		
Drawn By	Terracon	*Author*	JMc
File Name	Dips Data.dips7	*Date*	6/10/2020



Symbol	TYPE	Quantity
◇	Bedding	5
×	Joint	11
△	Plane Type 1	2

Color	Density Concentrations
	0.00 - 3.20
	3.20 - 6.40
	6.40 - 9.60
	9.60 - 12.80
	12.80 - 16.00
	16.00 - 19.20
	19.20 - 22.40
	22.40 - 25.60
	25.60 - 28.80
	28.80 - 32.00

Contour Data	Dip Vectors
Maximum Density	31.72%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Planar Sliding
Slope Dip	45
Slope Dip Direction	165
Friction Angle	35°
Lateral Limits	20°

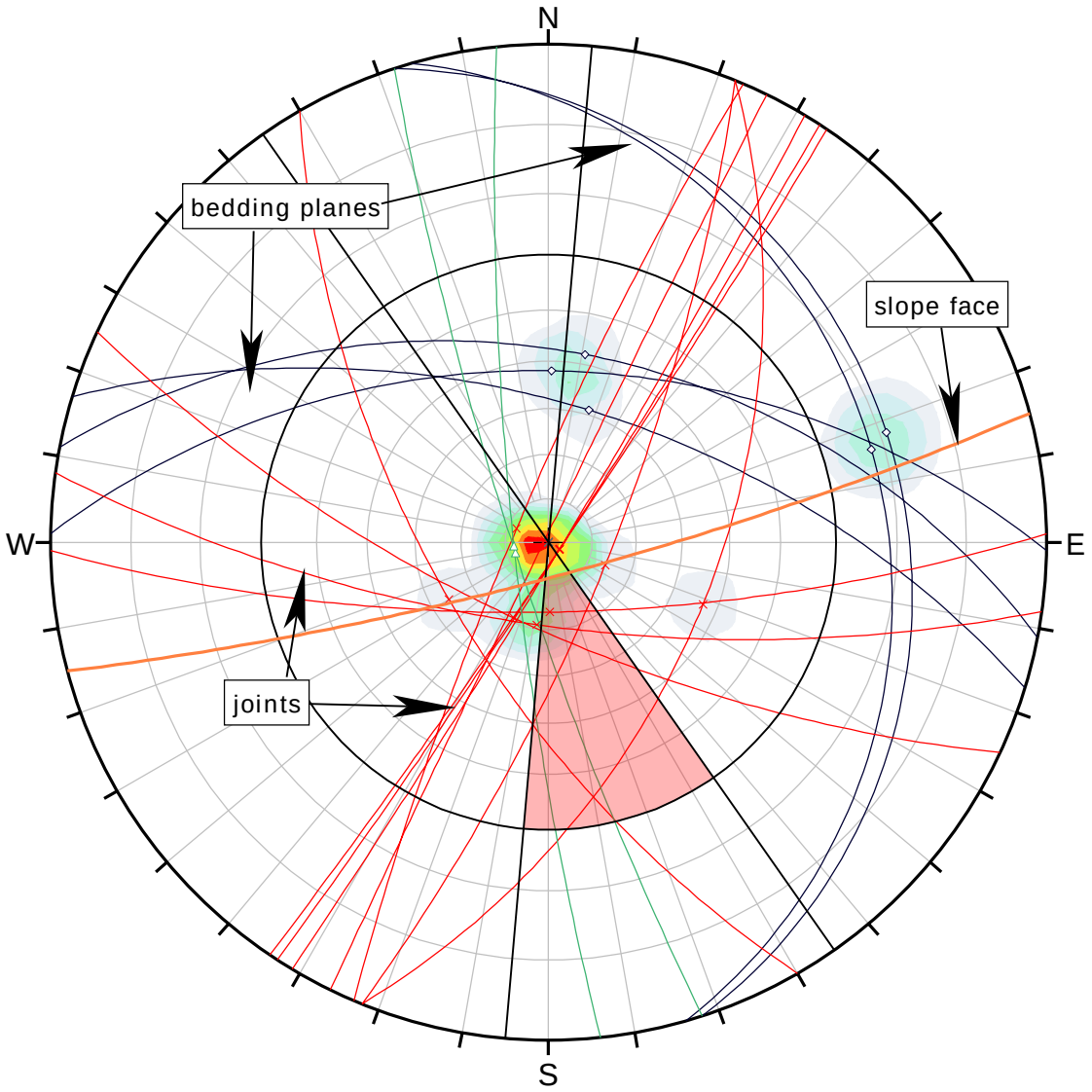
	Critical	Total	%
Planar Sliding (All)	0	18	0.00%

Plot Mode	Dip Vectors
Vector Count	18 (18 Entries)
Hemisphere	Lower
Projection	Equal Angle

Terracon

DIPS 7.014

Project	Red Hill Quarry		
Analysis Description	1(h) to 1(v) slope angle		
Drawn By	Terracon	*Author*	JMc
File Name	1to1 planar Dips Data.dips7	*Date*	6/17/2020



Symbol	TYPE	Quantity
◇	Bedding	5
×	Joint	11
△	Plane Type 1	2

Color	Density Concentrations
	0.00 - 3.20
	3.20 - 6.40
	6.40 - 9.60
	9.60 - 12.80
	12.80 - 16.00
	16.00 - 19.20
	19.20 - 22.40
	22.40 - 25.60
	25.60 - 28.80
	28.80 - 32.00

Contour Data	Dip Vectors
Maximum Density	31.72%
Contour Distribution	Fisher
Counting Circle Size	1.0%

Kinematic Analysis	Planar Sliding
Slope Dip	82
Slope Dip Direction	165
Friction Angle	30°
Lateral Limits	20°

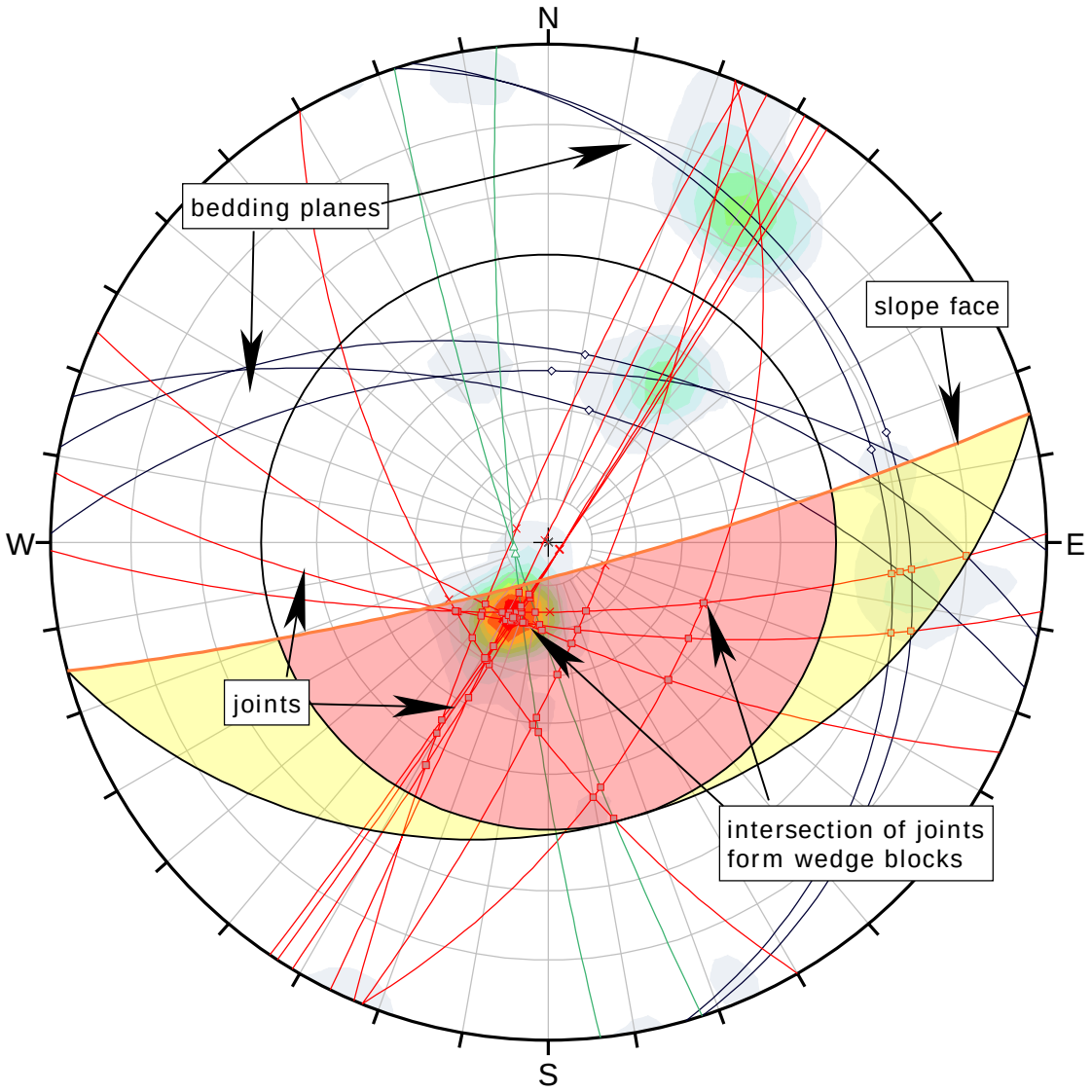
	Critical	Total	%
Planar Sliding (All)	1	18	5.56%
Planar Sliding (Set 3)	1	3	33.33%

Plot Mode	Dip Vectors
Vector Count	18 (18 Entries)
Hemisphere	Lower
Projection	Equal Angle

Terracon

DIPS 7.014

Project	Red Hill Quarry		
Analysis Description	Kinematic North Cut		
Drawn By	Terracon	*Author*	JMc
File Name	planar Dips Data.dips7	*Date*	6/10/2020



Symbol	TYPE	Quantity
◇	Bedding	5
×	Joint	11
△	Plane Type 1	2
Symbol	Feature	
▫	Critical Intersection	

Color	Density Concentrations
	0.00 - 1.90
	1.90 - 3.80
	3.80 - 5.70
	5.70 - 7.60
	7.60 - 9.50
	9.50 - 11.40
	11.40 - 13.30
	13.30 - 15.20
	15.20 - 17.10
	17.10 - 19.00

Contour Data	Intersections
Maximum Density	18.58%
Contour Distribution	Fisher
Counting Circle Size	1.0%

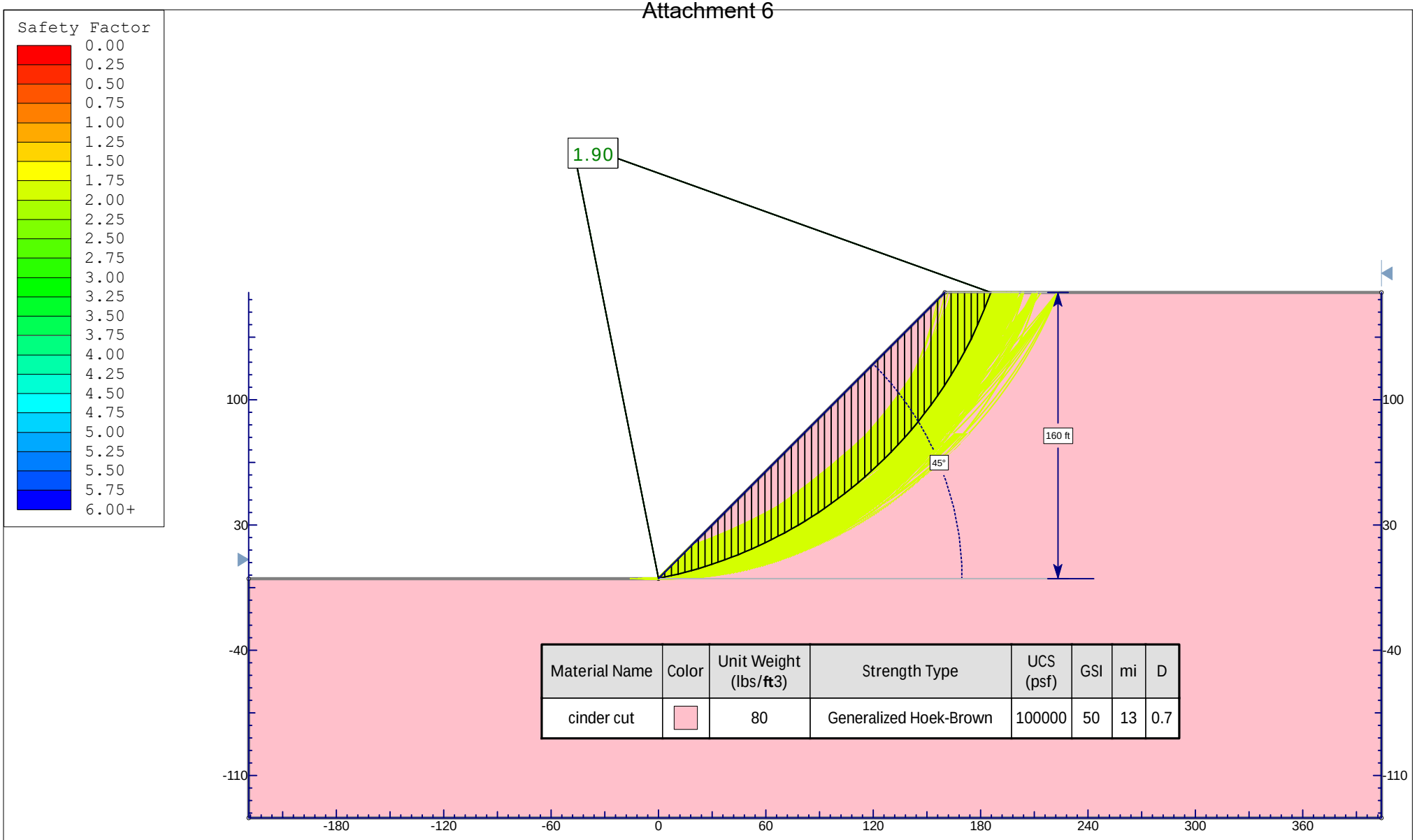
Kinematic Analysis	Wedge Sliding		
Slope Dip	82		
Slope Dip Direction	165		
Friction Angle	30°		
	Critical	Total	%
Wedge Sliding	63	153	41.18%

Plot Mode	Dip Vectors
Vector Count	18 (18 Entries)
Intersection Mode	Grid Data Planes
Intersections Count	153
Hemisphere	Lower
Projection	Equal Angle

DIPS 7.014

Project	Red Hill Quarry		
Analysis Description	Kinematic North Cut		
Drawn By	Terracon	*Author*	JMc
File Name	wedge Dips Data.dips7	*Date*	6/10/2020

Attachment 6



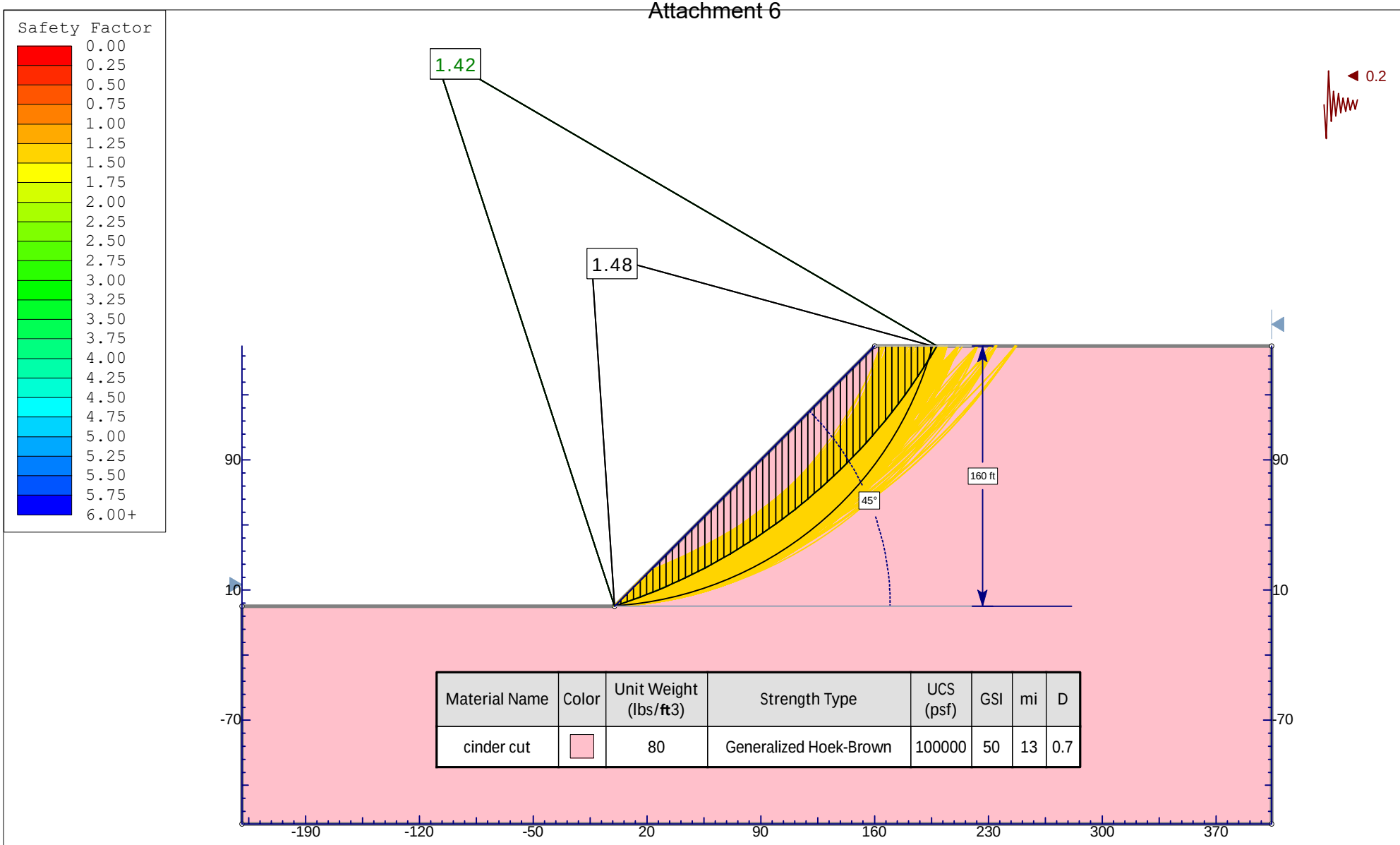
Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	UCS (psf)	GSI	mi	D
cinder cut		80	Generalized Hoek-Brown	100000	50	13	0.7

Terracon

SLIDEINTERPRET 8.029

Project	Red Hill Cinder Mine		
Analysis Description	Reclaimed Cut Slope		
Drawn By	JMc	*Company*	Terracon
Date		*File Name*	red hill rec slope cut.slmd

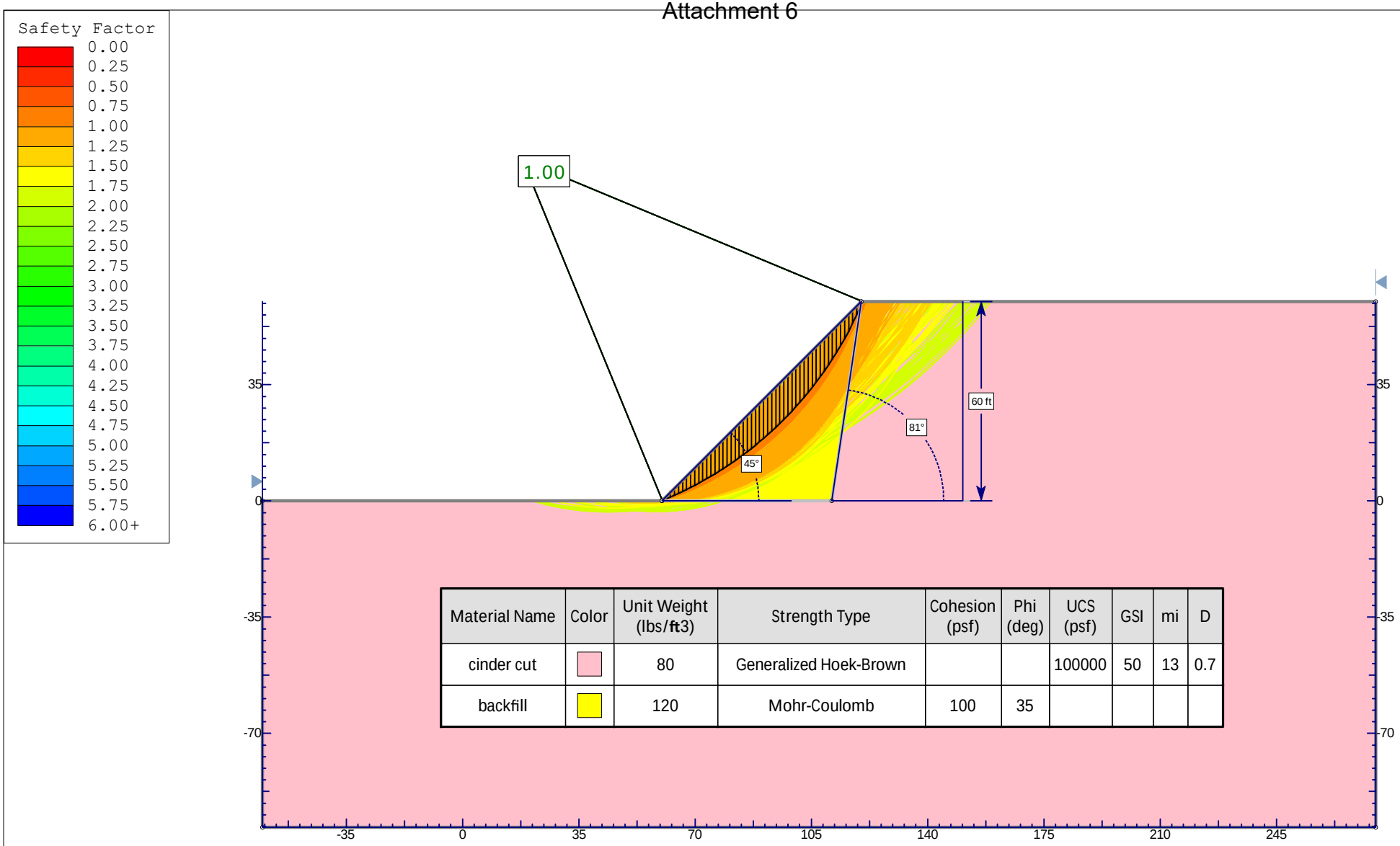
Attachment 6



Terracon	Project	Red Hill Cinder Mine	
	Analysis Description	Reclaimed Cut Slope	
	Drawn By	JMc	Company: Terracon
	Date		File Name: red hill rec slope cut.slmd

SLIDEINTERPRET 8.029

Attachment 6

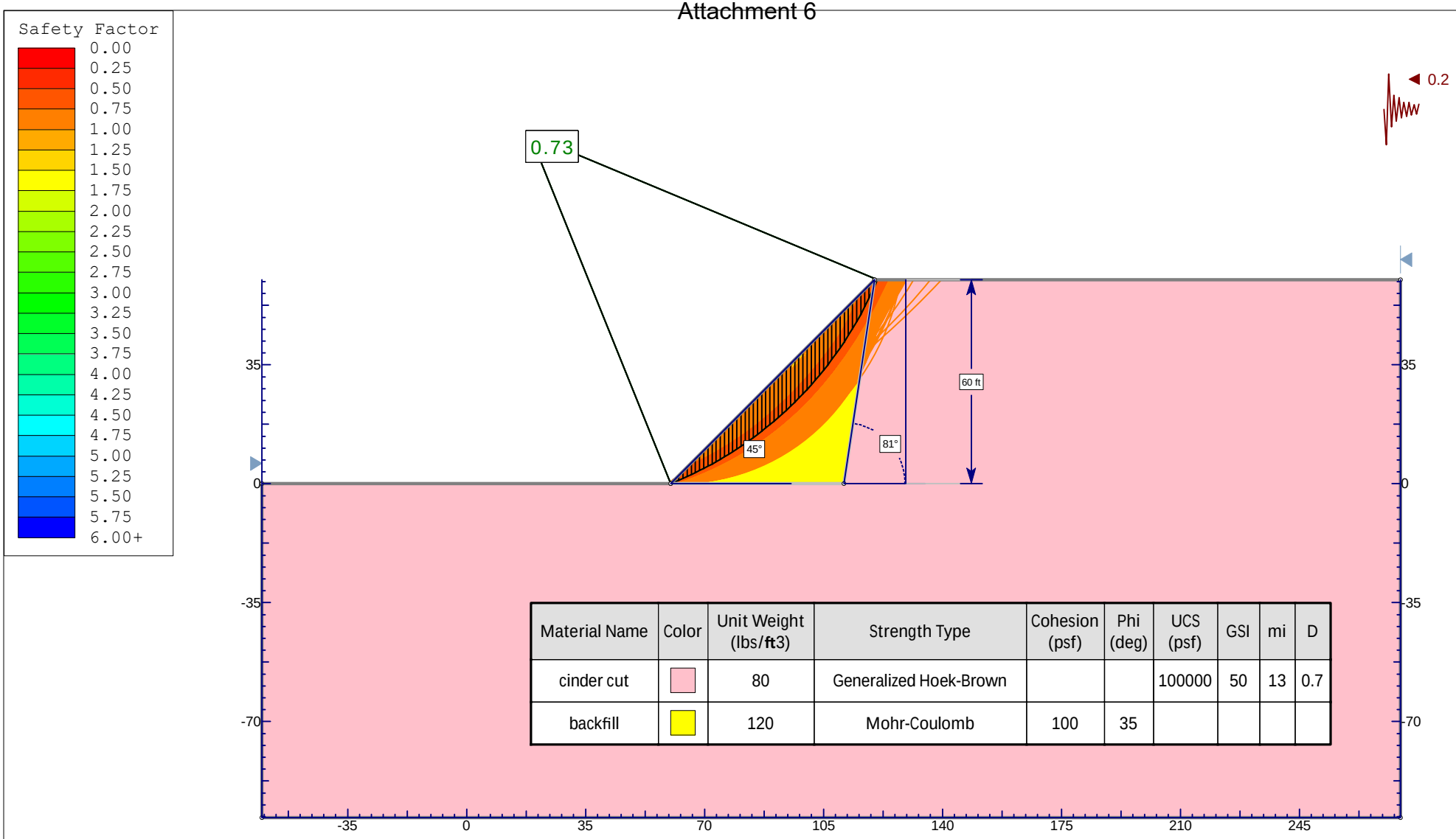


Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	UCS (psf)	GSI	mi	D
cinder cut		80	Generalized Hoek-Brown			100000	50	13	0.7
backfill		120	Mohr-Coulomb	100	35				

Terracon	Project	Red Hill Cinder Mine	
	Analysis Description	Backfill Slope	
	Drawn By	JMc	Company: Terracon
	Date		File Name: red hill rec slope 1to1 fill against cut.slmd

SLIDEINTERPRET 8.029

Attachment 6

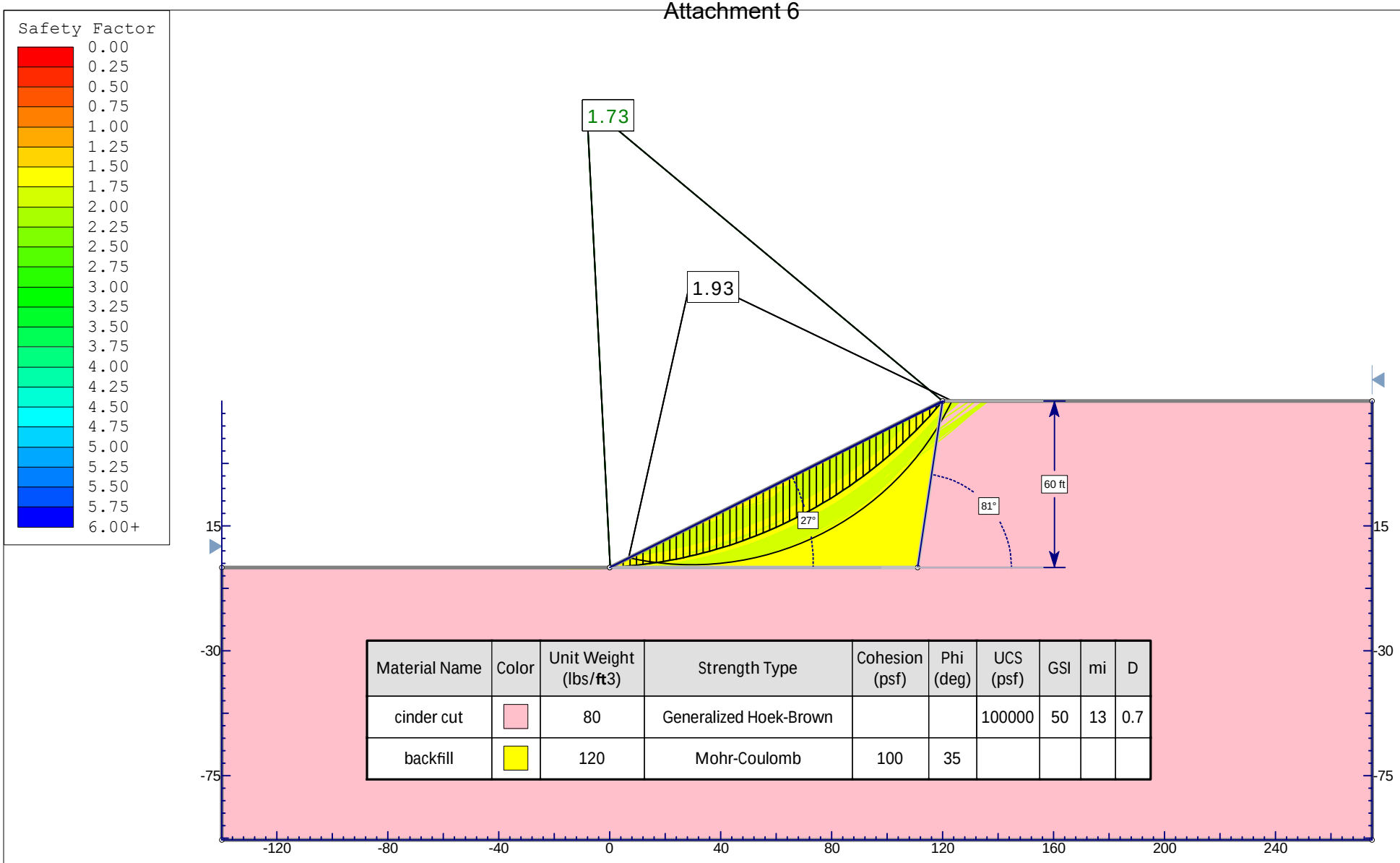


Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	UCS (psf)	GSI	mi	D
cinder cut		80	Generalized Hoek-Brown			100000	50	13	0.7
backfill		120	Mohr-Coulomb	100	35				

Terracon	Project	Red Hill Cinder Mine	
	Analysis Description	Backfill Slope	
	Drawn By	JMc	Company: Terracon
	Date		File Name: red hill rec slope 1to1 fill against cut.slmd

SLIDEINTERPRET 8.029

Attachment 6

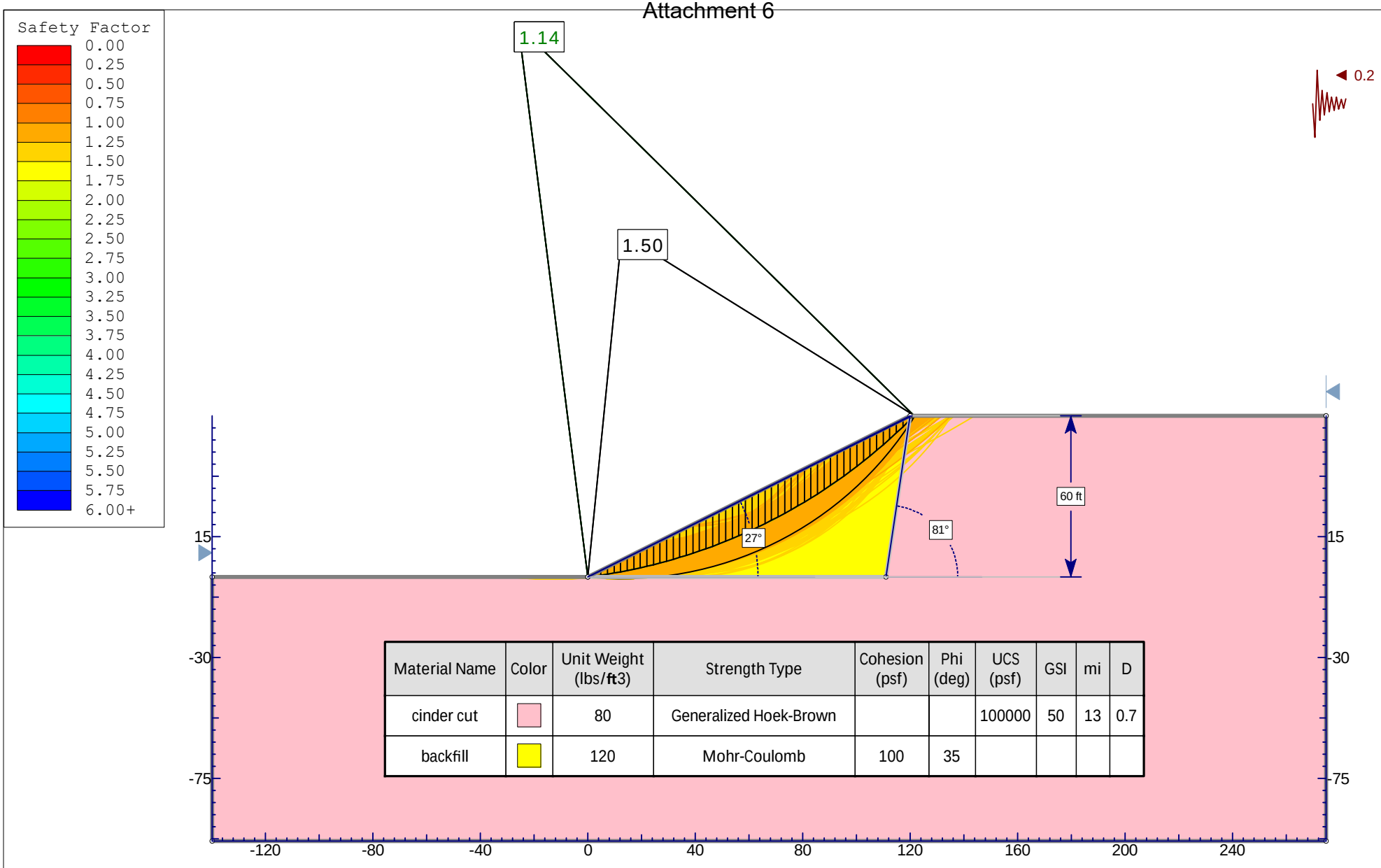


Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	UCS (psf)	GSI	mi	D
cinder cut		80	Generalized Hoek-Brown			100000	50	13	0.7
backfill		120	Mohr-Coulomb	100	35				

Terracon	Project	Red Hill Cinder Mine	
	Analysis Description	Backfill Slope	
	Drawn By	JMc	Company: Terracon
	Date		File Name: red hill rec slope fill against cut.slmd

SLIDEINTERPRET 8.029

Attachment 6



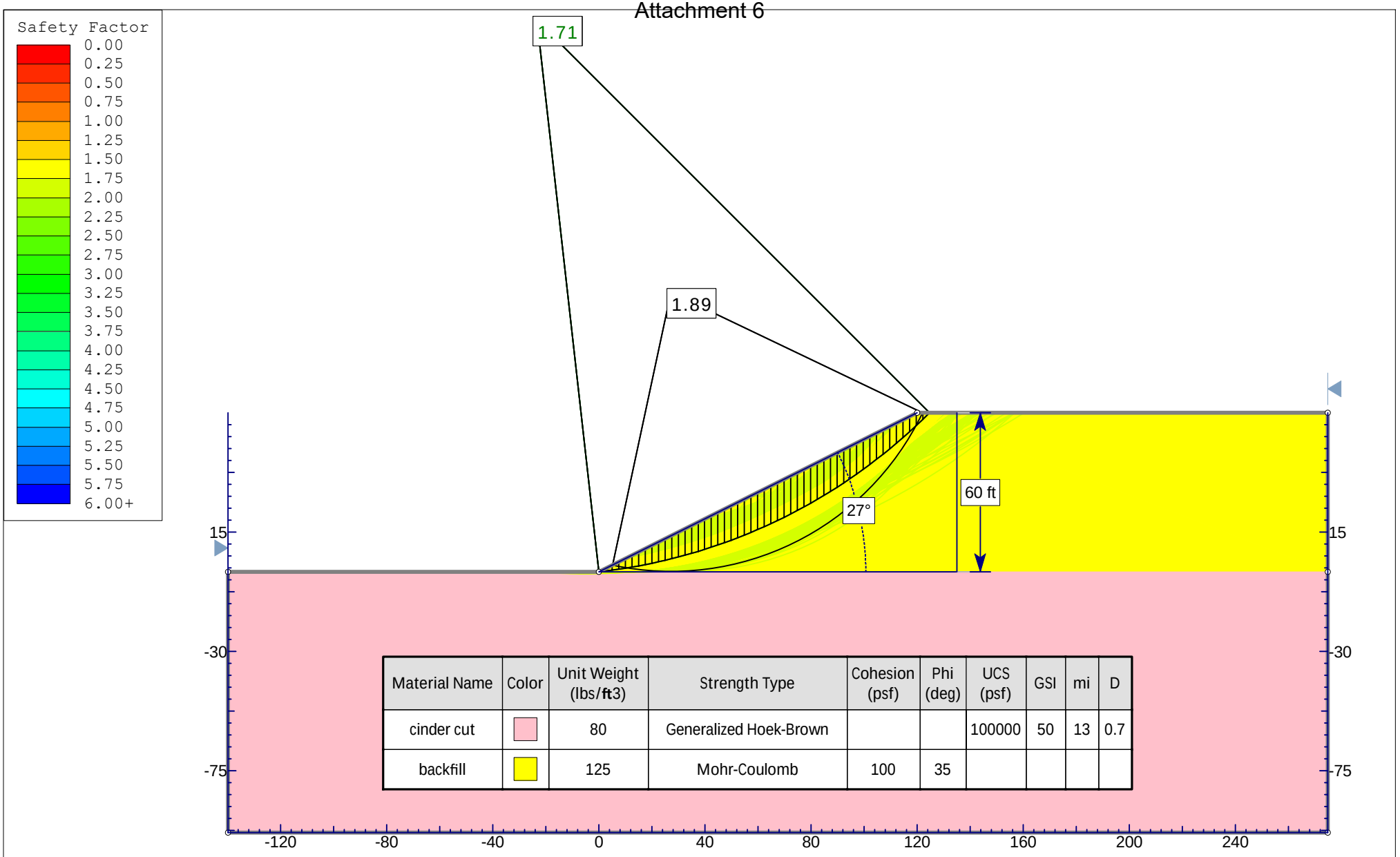
Material Name	Color	Unit Weight (lbs/**ft**3)	Strength Type	Cohesion (psf)	Phi (deg)	UCS (psf)	GSI	mi	D
cinder cut		80	Generalized Hoek-Brown			100000	50	13	0.7
backfill		120	Mohr-Coulomb	100	35				

Terracon

SLIDEINTERPRET 8.029

Project	Red Hill Cinder Mine		
Analysis Description	Backfill Slope		
Drawn By	JMc	*Company*	Terracon
Date		*File Name*	red hill rec slope fill against cut.slmd

Attachment 6



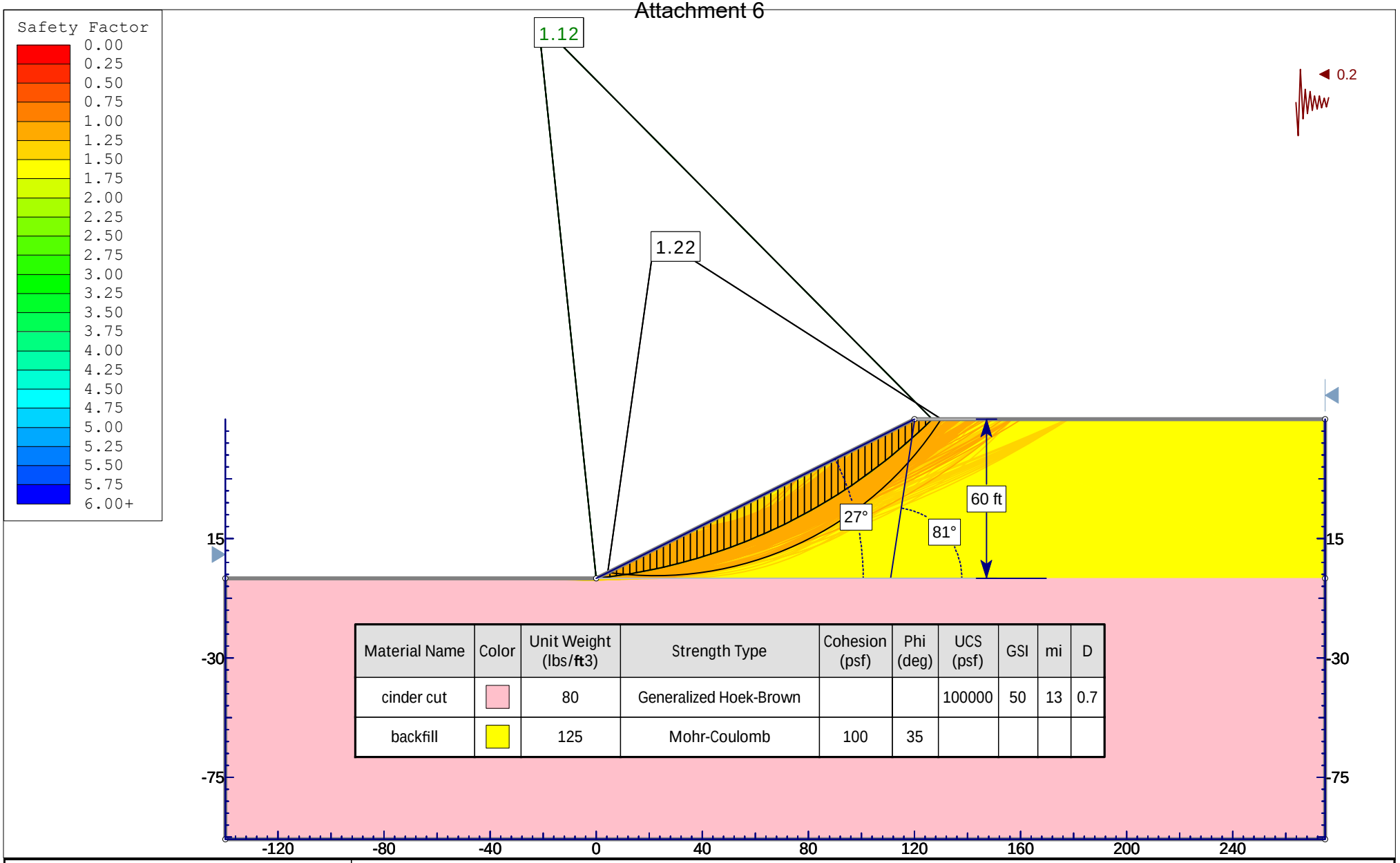
Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	UCS (psf)	GSI	mi	D
cinder cut		80	Generalized Hoek-Brown			100000	50	13	0.7
backfill		125	Mohr-Coulomb	100	35				

Terracon

SLIDEINTERPRET 8.029

Project	Red Hill Cinder Mine		
Analysis Description	OB Stockpile Slope		
Drawn By	JMc	Company	Terracon
Date		File Name	red hill rec slope OB stockpile.slmd

Attachment 6



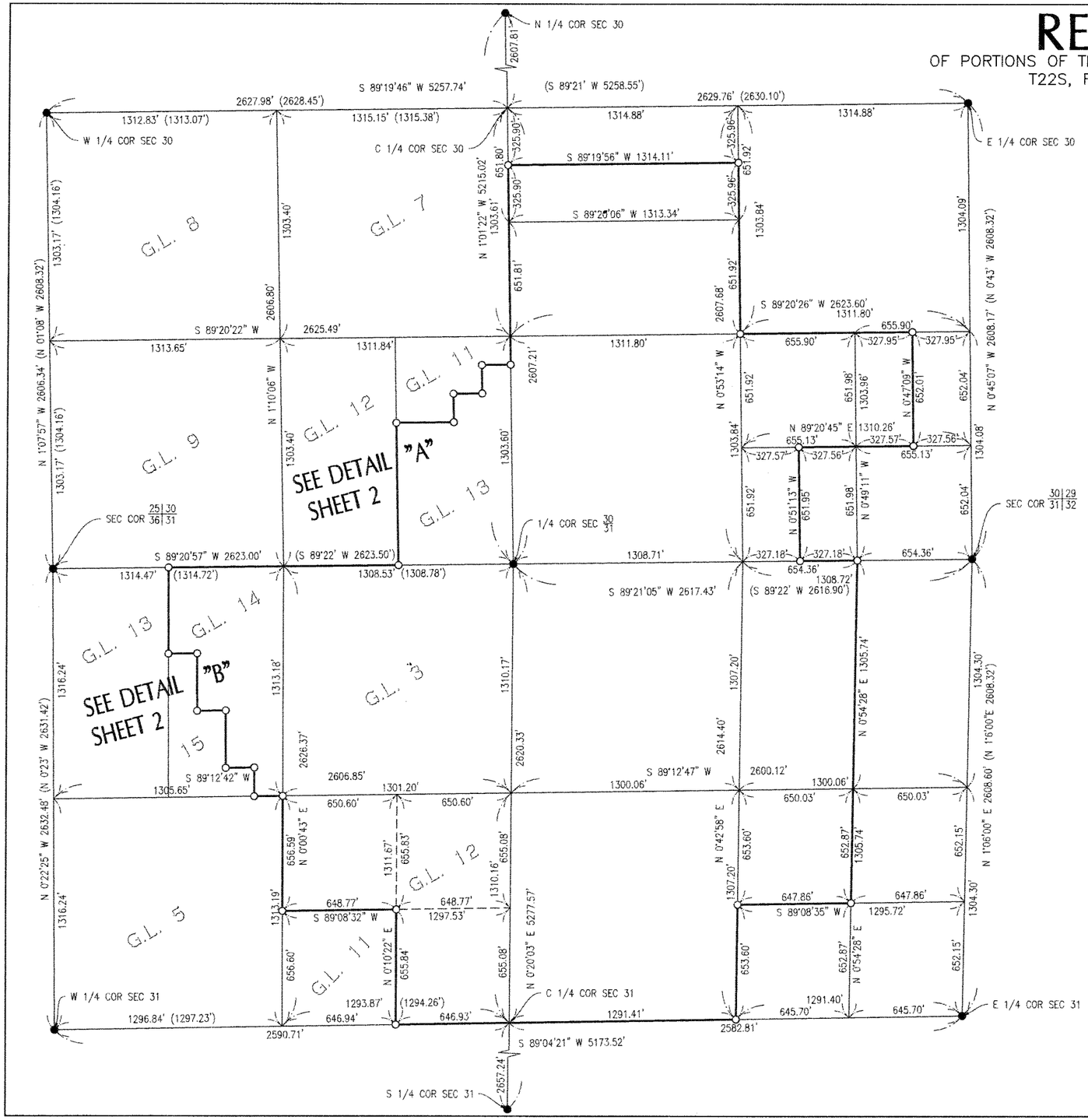
Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	UCS (psf)	GSI	mi	D
cinder cut		80	Generalized Hoek-Brown			100000	50	13	0.7
backfill		125	Mohr-Coulomb	100	35				

Terracon	Project	Red Hill Cinder Mine	
	Analysis Description	OB Stockpile Slope	
	Drawn By	JMc	Company: Terracon
	Date		File Name: red hill rec slope OB stockpile.slmd

SLIDEINTERPRET 8.029

APPENDIX C
RECORD OF SURVEY
J.E. MILLER & ASSOCIATES

Attachment 6



RECORD OF SURVEY

OF PORTIONS OF THE SOUTH 1/2 OF SECTION 30 AND THE NORTH 1/2 OF SECTION 31
T22S, R38E, M.D.M., IN THE COUNTY OF INYO, STATE OF CALIFORNIA.

J.E. MILLER & ASSOCIATES NOVEMBER, 2020

SCALE: 1" = 400'

SURVEYOR'S NOTES

BASIS OF BEARINGS: TAKEN FROM THE EAST LINE OF THE NORTHEAST 1/4 OF SECTION 31, T22S, R38E, M.D.M. PER TOWNSHIP PLAT DATED SEPTEMBER 10, 1981.
BEING: N 01°06'00" E

- ● INDICATES FOUND 3" BLM BC PER TOWNSHIP PLAT DATED 9/10/1981.
- O INDICATES SET 1" I.P. LS 5803, UNLESS NOTED OTHERWISE.
- ( ) INDICATES RECORD DATA PER GOVERNMENT TOWNSHIP PLAT DATED 9/10/1981.
- BLM INDICATES BUREAU OF LAND MANAGEMENT
- BC INDICATES BRASS CAP.

SURVEYOR'S STATEMENT

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYORS' ACT AT THE REQUEST OF LILBURN CORPORATION NOVEMBER, 2020.

DATE: 12/18/20

JOSEPH E. MILLER
L.S. 5803

PROFESSIONAL LAND SURVEYOR
JOSEPH E. MILLER
PLS 5803
STATE OF CALIFORNIA

COUNTY SURVEYOR'S STATEMENT

THIS MAP HAS BEEN EXAMINED IN ACCORDANCE WITH SECTION 8766 OF THE PROFESSIONAL LAND SURVEYORS' ACT THIS _____ DAY OF _____, 2020.

CLINT QUILTER, PLS 6839
COUNTY SURVEYOR

COUNTY RECORDER'S CERTIFICATE

FILE NO. _____,
FILED THIS _____ DAY OF _____, 2020.
AT _____ O'CLOCK _.M., IN BOOK _____ OF RECORD OF SURVEY
MAPS AT PAGE _____, AT THE REQUEST OF_____.

KAMMI FOOTE
COUNTY RECORDER

BY_____
DEPUTY COUNTY RECORDER

Planning Department
168 North Edwards Street
Post Office Drawer L
Independence, California 93526

Phone: (760) 878-0263
FAX: (760) 872-2712
E-Mail: inyoplanning @ inyocounty.us

AGENDA ITEM NO.:	**5** (Presentation)
PLANNING COMMISSION MEETING DATE:	May 26, 2021
SUBJECT:	Staff will update the Commission on issues related to night time light pollution and potential regulation of exterior lighting.

EXECUTIVE SUMMARY

Since staff conducted a workshop with the Planning Commission in February of 2019, staff has worked with the Dark Skies working group to gain a better understanding of the elements that are currently regulated by the California Building Standards, and the issues that the County may consider regulating beyond current State regulation. Staff will present some elements that could be incorporated into a County ordinance, based on community feedback and the public presentations to the Commission.

BACKGROUND

Since 2002, the Chapter 8.8 of the Inyo County General Plan, Visual Resources has addressed outdoor lighting through Policy VIS-1.6, which reads:

Control of Light and Glare
The County shall require that all outdoor light fixtures including street lighting, externally illuminated signs, advertising displays and billboards use low-energy, shielded light fixtures which direct light downward (i.e. lighting shall not emit higher than a horizontal level) and which are fully shielded. Where public safety would not be compromised, the County shall encourage the use of low-pressure sodium lighting for all outdoor light fixtures.

This policy has never been reflected in any ordinances in the Inyo County Code

In June of 2018, after presentations from the Inyo County Dark Sky Group (ICDSG) and the Planning Department Staff to the Board of Supervisors, the Board directed staff to continue research and conduct community workshops to get local input on the issues of dark skies and exterior lighting. In October of 2018, staff conducted three public workshops. Then, in February of 2019, staff conducted a workshop with the Planning Commission, where staff went over the public input received, as well as giving the Commission and any public in attendance an overview of the issues and opportunities relating to exterior lighting. Finally, in November 2019, staff had compiled the key points that the public expressed interest in, but this is essentially where the process stopped.

To summarize, based on community workshops in Bishop, Lone Pine, and Independence, the public was very interested in preserving the resource of Inyo County's dark skies, both for the enjoyment of our residents and as a potential tourist attraction. Issues of glare, light trespass and the intensity of LED lighting at the bluer end of the spectrum were some of the primary concerns raised at the public meeting and echoed at the Planning Commission workshop. It became evident at this meeting, and based on further research, that Staff needed to get a more complete understanding of exactly what was covered by California Building Standards, and then make proposals that related to just the areas that were unregulated by State law. Following the February 2019 Planning Commission meeting, staff held two more working group meetings and completed research on how State law already regulates Inyo County. Staff has also developed basic recommendations for areas that could be regulated locally as ways the County could be a leader in non-code related dark sky policy.

Today's Planning Commission Presentation will cover the following:

- An brief recap of the issues, terminology and challenges of light pollution
- Current Dark Skies/Exterior Lighting regulation at the State level. Most of the State regulations pertaining to lighting, are aimed at controlling indoor lighting in commercial, industrial, and residential areas. In addition these specifications focus on energy efficiency rather than light pollution.
- Potential local regulation by Inyo County of areas not covered by State code
    - Cut-off light requirement for residential construction
    - Light trespass prohibition for residential construction
    - Lighting nuisance defined and code modifications so lighting nuisances can be treated as Zoning Violations
    - Thresholds for light temperatures for both Residential and Non-Residential exterior lighting
- Other possible ways beyond regulation that the County might be able to help reduce light pollution and preserve night-time dark skies.
    - Public education and outreach
    - Programs to encourage and/or incentivize upgrading of exterior lighting fixtures to minimize light pollution
    - County to adopt and implement internal dark-skies exterior lighting policies for County facilities
    - County to work with other public agencies (SCE, DWP, Caltrans, Schools, etc) to encourage adoption and implementation of dark-sky friendly policies.
    - County to take a leadership role in encouraging dark-sky related tourism.

NEXT STEPS

Planning Staff is looking to the Commission for any comments and recommendations before bringing a similar presentation to the Board of Supervisors. Staff will update the Board and see if they concur with the Commission's recommendations, and whether they wish to provide direction for actual policy development. Should the Board direct staff to develop regulations and policy, draft code revisions will be brought back to the Planning Commission for further review and potentially a recommendation for adoption by the Board of Supervisors. Staff will work to implement any non-code change related policies as directed by the Board.