

**RESOLUTION OF THE
RESOURCES AND DEVELOPMENT COMMITTEE
Of the 23rd Navajo Nation Council---First Year 2015**

AN ACTION

**RELATING TO RESOURCES AND DEVELOPMENT; APPROVING THE GRANTING
OF A RIGHT-OF-WAY TO MESA VERDE RESOURCES, D.B.A. REID
ENTERPRISES, LLC, TO CONSTRUCT, OPERATE AND MAINTAIN AN ACCESS
ROAD LOCATED IN PUEBLO PINTADO CHAPTER VICINITY (MCKINLEY
COUNTY, NEW MEXICO)**

BE IT ENACTED:

SECTION ONE. FINDINGS

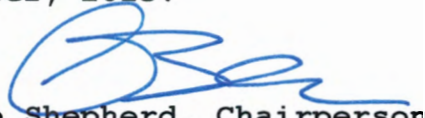
- A. Pursuant to 2 N.N.C. Section 501 (B)(2)(a), the Resources and Development Committee of the Navajo Nation Council has authority to give final approval of rights-of-way on Navajo Nation lands and unrestricted (fee) land; and
- B. Mesa Verde Resources, d.b.a. Reid Enterprises, LLC, P.O. Box 1368, Placitas, New Mexico 87043, has submitted a right-of-way application for an access road located in Pueblo Pintado Chapter vicinity on, over and across Navajo Nation Trust Lands, McKinley County, New Mexico attached hereto and incorporated herein as Exhibit A; and
- C. The proposed right-of-way consists of 0.01 acre, more or less, of Navajo Nation Trust Lands located in the northeast quarter (NE $\frac{1}{4}$) of the northeast quarter (NE $\frac{1}{4}$) of Section 9, Township 19 North, Range 6 West, NMPM, McKinley County, New Mexico and the location is more particularly described on the survey map attached hereto and incorporated herein as Exhibit B; and
- D. The Project Review Section with the Navajo Land Department has obtained the necessary consents from the affected land user (i.e. grazing permittee) and is attached hereto and made a part hereof as Exhibit C; and
- E. The environmental studies and cultural resources inventories have been completed and are attached hereto and incorporated herein by this reference.

SECTION TWO. APPROVING THE GRANTING OF A RIGHT-OF-WAY TO MESA VERDE RESOURCES, D.B.A. REID ENTERPRISES, LLC, TO CONSTRUCT, OPERATE AND MAINTAIN AN ACCESS ROAD LOCATED IN PUEBLO PINTADO CHAPTER VICINITY (MCKINLEY COUNTY, NEW MEXICO)

- A. Navajo Nation Council's Resources and Development Committee hereby approves the granting of a right-of-way to Mesa Verde Resources, d.b.a. Reid Enterprises, LLC, to construct, operate and maintain an access road located in Pueblo Pintado Chapter vicinity on, over, and across Navajo Nation Trust Lands (McKinley County, New Mexico). The location is more particularly described on the survey map attached hereto as Exhibit B.
- B. The Navajo Nation Council's Resources and Development Committee hereby approves the granting of a right-of-way to Mesa Verde Resources, d.b.a. Reid Enterprises, LLC, subject to but not limited to the terms and conditions contained in Exhibit D.
- C. The Navajo Nation Council's Resources and Development Committee hereby authorizes the President of the Navajo Nation to execute any and all documents necessary to effectuate the intent and purpose of this resolution

CERTIFICATION

I, hereby, certify that the foregoing resolution was duly considered by the Resources and Development Committee of the 23rd Navajo Nation Council at a duly called meeting at Church Rock Chapter, Navajo Nation (New Mexico), at which quorum was present and that same was passed by a vote of 3 in favor, 0 opposed, 0 abstained this 29th day of September, 2015.



**Alton Joe Shepherd, Chairperson
Resources and Development Committee
Of the 23rd Navajo Nation Council**

**Motion: Honorable Leonard Pete
Second: Honorable Davis Filfred**

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS

RIGHT-OF-WAY APPLICATION

LANDOWNER NAME: Navajo Nation Tribal Trust ALLOTMENT NUMBER: _____
LEGAL DESCRIPTION: Section 9 T19N R6W NMPM

COMES NOW THE APPLICANT Reid Enterprises, LLC dba Mesa Verde Resources of this 27th day of April, 20 15, who whereby petition(s) the Bureau of Indian Affairs and respectfully files under the terms and provisions of the Act of February 5, 1948 (62 Stat. 17; 25 USC 323-328), and Departmental Regulations 25 CFR 169, an application of a 20-year (term of years) right-of-way for the following purposes and reasons: Ingress and Egress purposes on existing road.

Across the following described restricted land (easement description): See attached survey.Said right-of-way to be 53.24 ft length, 20 ft width, and 489.7 ^{54.6+} in size (or area), as shown on attached map of definite location, attached hereto, and made a part hereof.

SAID APPLICANT UNDERSTANDS AND EXPRESSLY AGREES TO THE FOLLOWING STIPULATIONS:

1. To construct and maintain the right-of-way in a workmanlike manner.
2. To pay all damages and compensation, in addition to the deposit made pursuant to 169.4, determined by the Secretary to be due the landowners and authorized users and occupants of the land due to the survey, granting, construction and maintenance of the right-of-way.
3. To indemnify the landowners and authorized users and occupants against any liability for loss of life, personal injury and property damage arising from the construction, maintenance, occupancy or use of the lands by the applicant, his employees, contractors and their employees, or subcontractors and their employees.
4. To restore the lands as nearly as may be possible to their original condition upon the completion of construction, to the extent compatible with the purpose for which the right-of-way was granted.
5. To clear and keep clear the lands within the right-of-way to the extent compatible with the purpose of the right-of-way; and dispose of all vegetative and other material cut, uprooted or otherwise accumulated during construction and maintenance of the project.
6. To take soil and resources conservation protection measures, including weed control, on the land covered by the right-of-way.
7. To do everything reasonable within its power to prevent and suppress fires on or near the lands to be occupied under the right-of-way.
8. To build and repair such roads, fences and trails as may be destroyed or injured by construction work and to build and maintain necessary and suitable crossings for all roads and trails that intersect the works constructed, maintained, or operated under the right-of-way.
9. That upon revocation or termination of the right-of-way, the applicant shall, so far as in reasonably possible, restore the land to its original condition. The determination of "reasonably possible" is subject to Secretary's approval.
10. To at all times keep the Secretary informed of its address, and in case of corporations, of the address of its principal place of business and the names and addresses of its principal officers.
11. That the applicant will not interfere with the use of the lands by or under the authority of the landowners for any purpose not inconsistent with the primary purpose for which the right-of-way is granted.

12. During the term of this Grant of Easement, if any previously unidentified cultural resources are discovered within the easement area, work should be halted immediately and the BIA and/or Tribal Contractor should be contacted immediately.

THE APPLICANT FURTHER STIPULATES AND EXPRESSLY AGREES AS FOLLOWS:

To conform and to abide by all applicable requirements with respect to the right-of-way herein applied for. The applicant agrees to conform to and abide by the rules, regulations, and requirements contained in the *Code of Federal Regulations*, Title 25 Indians, Part 169, as amended, and by reference includes such rules, regulations and requirements as a part of this application to the same effect as if the same were herein set out in full.

DATE 4/27/15

APPLICANT Reid Enterprises, LLC dba Mesa Verde Resources

ATTEST Bruce E. [Signature]

REQUIRED SUPPORTING DOCUMENTS:

1. () Written consent of landowner (ROW Form 94-7).
2. (✓) Map (plats) of definite location (2 original mylars & 2 copies, See 25 CFR 169.6, 169.7, 169.8, 169.9, 169.10 and 169.11).
3. (✓) Deposit of estimated damages or compensation (See 169.4 and 169.14).
4. (✓) Evidence of Authority of Officers to Execute Papers (ROW Form 94-4)
5. (✓) For corporation or business, requirements of 25 CFR 169.4 and 169.5 (unless previously filed):
 - (✓) a. State certified copy of corporate charter or articles of incorporation.
 - (✓) b. Certified copy of corporate resolution, by-laws, articles of partnership or association authorizing signatory to file the application.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF INDIAN AFFAIRS

RIGHT-OF-WAY APPLICATION

LANDOWNER NAME: Navajo Nation Tribal Trust ALLOTMENT NUMBER: _____
LEGAL DESCRIPTION: Section 9 T19N R6W N40PM

COMES NOW THE APPLICANT Reid Enterprises, LLC dba Mesa Verde Resources of this 21st day of April, 20 15, who hereby petition(s) the Bureau of Indian Affairs and respectfully files under the terms and provisions of the Act of February 5, 1948 (62 Stat. 17; 25 USC 323-328), and Departmental Regulations 25 CFR 169, an application of a 20-year (term of years) right-of-way for the following purposes and reasons: Ingress and Egress purposes on existing road.

Across the following described restricted land (easement description): See attached survey.

Said right-of-way to be 53.24 ft length, 20 ft width, and 489.7 ^{sq. ft.} in size (or area), as shown on attached map of definite location, attached hereto, and made a part hereof.

SAID APPLICANT UNDERSTANDS AND EXPRESSLY AGREES TO THE FOLLOWING STIPULATIONS:

1. To construct and maintain the right-of-way in a workmanlike manner.
2. To pay all damages and compensation, in addition to the deposit made pursuant to 169.4, determined by the Secretary to be due the landowners and authorized users and occupants of the land due to the survey, granting, construction and maintenance of the right-of-way.
3. To indemnify the landowners and authorized users and occupants against any liability for loss of life, personal injury and property damage arising from the construction, maintenance, occupancy or use of the lands by the applicant, his employees, contractors and their employees, or subcontractors and their employees.
4. To restore the lands as nearly as may be possible to their original condition upon the completion of construction, to the extent compatible with the purpose for which the right-of-way was granted.
5. To clear and keep clear the lands within the right-of-way to the extent compatible with the purpose of the right-of-way, and dispose of all vegetative and other material cut, uprooted or otherwise accumulated during construction and maintenance of the project.
6. To take soil and resources conservation protection measures, including weed control, on the land covered by the right-of-way.
7. To do everything reasonable within its power to prevent and suppress fires on or near the lands to be occupied under the right-of-way.
8. To build and repair such roads, fences and trails as may be destroyed or injured by construction work and to build and maintain necessary and suitable crossings for all roads and trails that intersect the works constructed, maintained, or operated under the right-of-way.
9. That upon revocation or termination of the right-of-way, the applicant shall, so far as in reasonably possible, restore the land to its original condition. The determination of "reasonably possible" is subject to Secretary's approval.
10. To at all times keep the Secretary informed of its address, and in case of corporations, of the address of its principal place of business and the names and addresses of its principal officers.
11. That the applicant will not interfere with the use of the lands by or under the authority of the landowners for any purpose not inconsistent with the primary purpose for which the right-of-way is granted.

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To conform and to abide by all applicable requirements with respect to the right-of-way herein applied for. The applicant agrees to conform to and abide by the rules, regulations, and requirements contained in the *Code of Federal Regulations*, Title 25 Indians, Part 169, as amended, and by reference includes such rules, regulations and requirements as a part of this application to the same effect as if the same were herein set out in full.

DATE 4/27/15

APPLICANT Reid Enterprises, LLC dba Mesa Verde Resources

ATTEST Bruce E. R. S.

REQUIRED SUPPORTING DOCUMENTS:

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3. (✓) Deposit of estimated damages or compensation (See 169.4 and 169.14).
4. (✓) Evidence of Authority of Officers to Execute Papers (ROW Form 94-4)
5. (✓) For corporation or business, requirements of 25 CFR 169.4 and 169.5 (unless previously filed):
 - (✓) a. State certified copy of corporate charter or articles of incorporation.
 - (✓) b. Certified copy of corporate resolution, by-laws, articles of partnership or association authorizing signatory to file the application.

Reid Enterprises, LLC

P.O. Box 1368
Placitas, NM 87043

Tel. (505) 362-3777
Fax (505) 771-4452

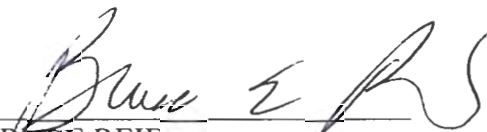
website: www.humates.com
e-mail: bruce@humates.com

CERTIFICATE OF MEMBERS

The undersigned, being all of the Members of Reid Enterprises, LLC dba Mesa Verde Resources, a New Mexico limited liability company ("Company"), certify that the following resolutions were unanimously adopted by the Members of Company on April 27, 2015:

RESOLVED, that the form, terms and provisions of the proposed Application For Right Of Way in NE/NE Section 9, T19N R6W, N.M.P.M, relating to an expansion of Company's Star Lake Mine (the "Application"), and all other documents, instruments, and agreements, and all schedules and exhibits to the Application as they may hereafter be modified, amended or extended, (together the "Application Documents"), and the Company's performance of its obligations under the Application Documents be, and hereby are, in all respects approved; and further resolved, that Bruce Reid, Member of Company, be and hereby is, authorized and directed to execute, consummate and deliver the Application Documents, in the name and on behalf of the Company, with such changes therein and modifications thereto as he shall in his discretion approve (such approval shall be conclusively evidenced by his execution thereof).

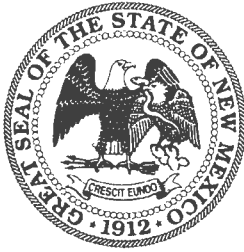
MEMBERS:



BRUCE REID



CHERYL REID



STATE OF NEW MEXICO
DIANNA J. DURAN

SECRETARY OF STATE

REID ENTERPRISES, LLC

Attention: BRUCE REID

PO BOX 1368

PLACITAS, NM 87043

April 27, 2015

RE: REID ENTERPRISES, LLC - Entity ID: 2100352

Invoice #: 155122

In accordance with your request, the following documents have been issued and the total amount is due prior to mailing or pick-up of your order request.

Fees charged in accordance with section 53-8-85 NMSA 1978, relating to category of corporations not to requested individual.

1 Certificate of Comparison	\$ 25.00
5 Pages	\$ 10.00
Total Balance Due:	\$ 35.00

Please make check payable to the Secretary of State. Your canceled check, as validated by this office is your receipt.

Please return enclosed copy of this statement with your payment. Upon receipt of payment, your request will be mailed.

Enclosure(s)

Corporations Bureau

OFFICE OF THE SECRETARY OF STATE

NEW MEXICO

CERTIFICATE OF COMPARISON

OF

REID ENTERPRISES, LLC

2100352

The Office of the Secretary of State certifies that the attached is a true and complete copy of the 5 page document on file in this office.

This Certification is in accordance with section:

53-19-69 NMSA 1978.

Dated : **April 27, 2015**

In testimony whereof, the Office of the Secretary of State has caused this certificate to be signed on this day in the city of Santa Fe, and the seal of said office to be affixed hereto.



A handwritten signature in dark ink, reading "Dianna J. Duran", is written over a horizontal line.

Dianna J. Duran
Secretary of State



OFFICE OF THE
PUBLIC REGULATION COMMISSION

CERTIFICATE OF ORGANIZATION

OF

REID ENTERPRISES, LLC.

2100352

The Public Regulation Commission certifies that the Articles of Organization, duly signed & verified pursuant to the provisions of the

LIMITED LIABILITY COMPANY ACT
(53-19-1 TO 53-19-74 NMSA 1978)

have been received by it and are found to conform to law.

Accordingly, by virtue of the authority vested in it by law, the Public Regulation Commission issues this Certificate of Organization and attaches hereto, a duplicate of the Articles of Organization.

Dated: JULY 17, 2000

In testimony whereof, the State Public Regulation Commission of the State of New Mexico has caused this certificate to be signed by its Chairman and the seal of said Commission to be affixed at the City of Santa Fe

Bill Pope
Chairman

Ann Echalar

Bureau Chief

2100352

ARTICLES OF ORGANIZATION



The undersigned acting as an Organizer of a limited liability company under the New Mexico Limited Liability Company Act adopts the following Articles of Organization for the limited liability company:

ARTICLE I

Its name will be REID ENTERPRISES, LLC.

ARTICLE II

Its initial registered office address, which is also the street address of the current principal place of business, will be 7005 Prospect Place NE, Albuquerque, NM 87110, and its initial registered agent at that address will be James C. Compton.

ARTICLE III

The latest date upon which it is to dissolve is December 31, 2050.


ARTICLE IV

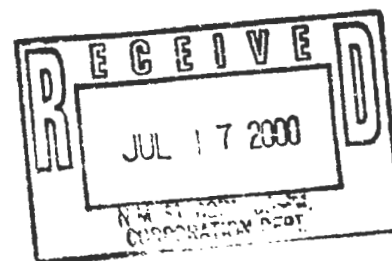
Its management will be vested in one or more managers to be selected by its members, subject to an operating agreement to be adopted and amended from time to time by a majority of its members.

ARTICLE V

It is a single member limited liability company.

DATED: July 12, 2000.


James C. Compton
7005 Prospect Place NE
Albuquerque, NM 87110



ACCEPTANCE OF APPOINTMENT
AS REGISTERED AGENT

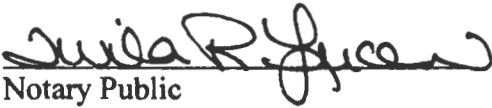
The undersigned, being duly sworn, accepts appointment as Registered Agent pursuant to the New Mexico Limited Liability Company Act for REID ENTERPRISES, LLC, a New Mexico limited liability company.


James C. Compton

STATE OF NEW MEXICO

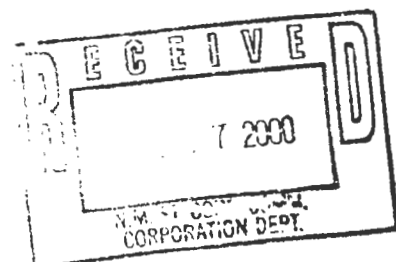
COUNTY OF BERNALILLO

This instrument was acknowledged before me on July 12, 2000, by James C. Compton.


Notary Public

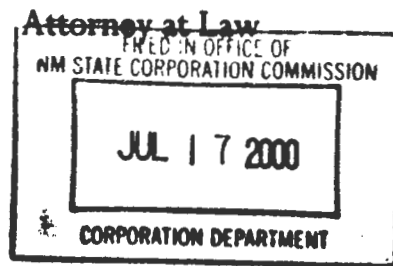
My commission expires:

12-28-03



THE BUSINESS LAW FIRM, P.C.

JAMES C. COMPTON



July 12, 2000

Office of the Public Regulation Commission
P.O. Drawer 1269
Santa Fe, NM 87504-1269

Re: REID ENTERPRISES, LLC

Ladies and Gentlemen:

We enclose for filing in your office duplicate originals of Articles of Organization for this limited liability company and our firm's check for \$50 in payment of the filing fee. Please return to our Albuquerque office the Certificate of Organization which you issue.

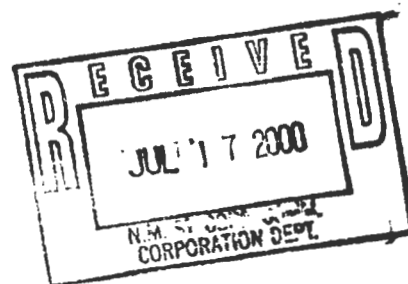
Thank you.

Very truly yours,

A handwritten signature in black ink, appearing to be "J. Compton", written over the printed name.

JAMES C. COMPTON
For the Firm

JCC:trl
enc a/s



jcompton@nmbizlaw.com
tlucero@nmbizlaw.com

NEW MEXICO PUBLIC REGULATION COMMISSION

COMMISSIONERS

DISTRICT 1 HERB H. HUGHES, VICE CHAIRMAN
DISTRICT 2 BILL POPE, CHAIRMAN
DISTRICT 3 JEROME D. BLOCK
DISTRICT 4 LYNDIA M. LOVEJOY
DISTRICT 5 TONY SCHAEFER



CORPORATIONS DEPARTMENT
1120 Paseo De Peralta / Post Office Box 1269
Santa Fe, New Mexico 87504-1269

(505) 827-4508 Front Desk

JULY 19, 2000

JAMES C. COMPTON
7005 PROSPECT PLACE NE
ALBUQUERQUE, NM 87110

RE: REID ENTERPRISES, LLC.
SCC#2100352

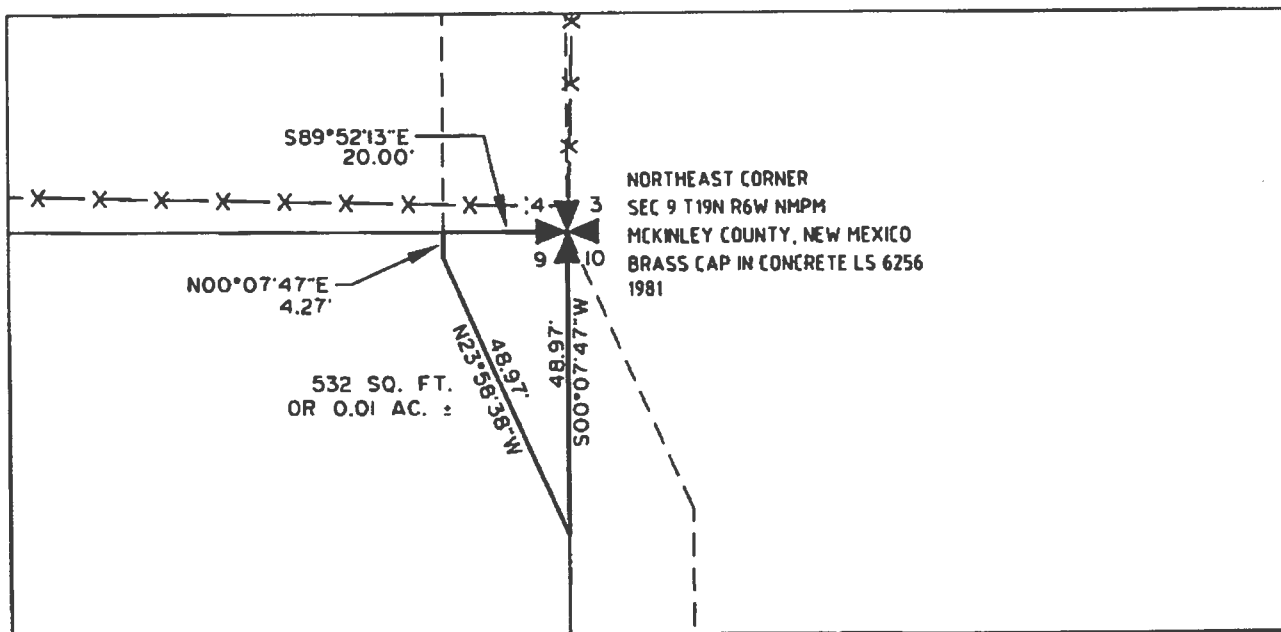
BE ADVISED THAT THIS COMMISSION HAS APPROVED AND FILED THE ARTICLES OF ORGANIZATION, FOR THE ABOVE REFERENCED ORGANIZATION EFFECTIVE JULY 17, 2000

THE ATTACHED CERTIFICATE DOES NOT CONSTITUTE AUTHORIZATION FOR THE ABOVE REFERENCED ORGANIZATION TO TRANSACT ANY BUSINESS WHICH REQUIRES COMPLIANCE WITH OTHER APPLICABLE FEDERAL OR STATE LAWS, INCLUDING, BUT NOT LIMITED TO STATE LICENSING REQUIREMENTS. IT IS THE ORGANIZATION'S SOLE RESPONSIBILITY TO OBTAIN SUCH COMPLIANCE WITH ALL LEGAL REQUIREMENTS APPLICABLE THEREOF PRIOR TO ENGAGING IN THE BUSINESS FOR WHICH IT HAS OBTAINED THE ATTACHED CERTIFICATE OF ORGANIZATION.

THE ATTACHED ARTICLES OF ORGANIZATION SHOULD BECOME A PERMANENT DOCUMENT OF THE ORGANIZATION'S RECORDS. YOUR CANCELLED CHECK, AS VALIDATED BY THE COMMISSION, IS YOUR RECEIPT. IF YOU HAVE ANY QUESTION, PLEASE CONTACT THE CHARTERED DOCUMENT DIVISION AT (505) 827-4511 FOR ASSISTANCE.

CHARTERED DOCUMENT DIVISION
JD

ROADWAY EASEMENT SURVEY
FOR MESA VERDE RESOURCES
CROSSING TRIBAL TRUST LANDS LYING IN THE
NE1/4 NE1/4 SECTION 9 T19N, R6W, N.M.P.M.
McKINLEY COUNTY, NEW MEXICO



LEGAL DESCRIPTION

A 20 (TWENTY) FEET WIDE ROADWAY EASEMENT LYING IN THE NORTHEAST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER (NE1/4 NE1/4) OF SECTION 9, T19N R6W N.M.P.M., MCKINLEY COUNTY, NEW MEXICO, BEING DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID SECTION 9;

THENCE: S00°07'47"W FOR A DISTANCE OF 48.97 FEET ALONG THE EAST LINE OF SAID SECTION 9;

THENCE: N23°58'38"W FOR A DISTANCE OF 48.97 FEET;

THENCE: N00°07'47"E FOR A DISTANCE OF 4.27 FEET;

THENCE: S89°52'13"E FOR A DISTANCE OF 20.00 FEET ALONG THE NORTH LINE OF SAID SECTION 9 TO THE POINT OF BEGINNING.

CONTAINING 532 SQ. FT. OR 0.01 AC.

CERTIFICATION

I, George T. Walters, a New Mexico Professional Surveyor certify that I conducted and am responsible for this Boundary Survey Plat, that this Boundary Survey is true and correct to the best of my knowledge and belief, and that this Boundary Plat meets the Minimum Standards for Surveying in New Mexico.

I further certify that this is a division of land as defined in the New Mexico Subdivision Act.

4-24-2015

Date

George T. Walters
Professional Land Surveyor
State of New Mexico



SCALE: 1" = 30'



SCALE IN FEET



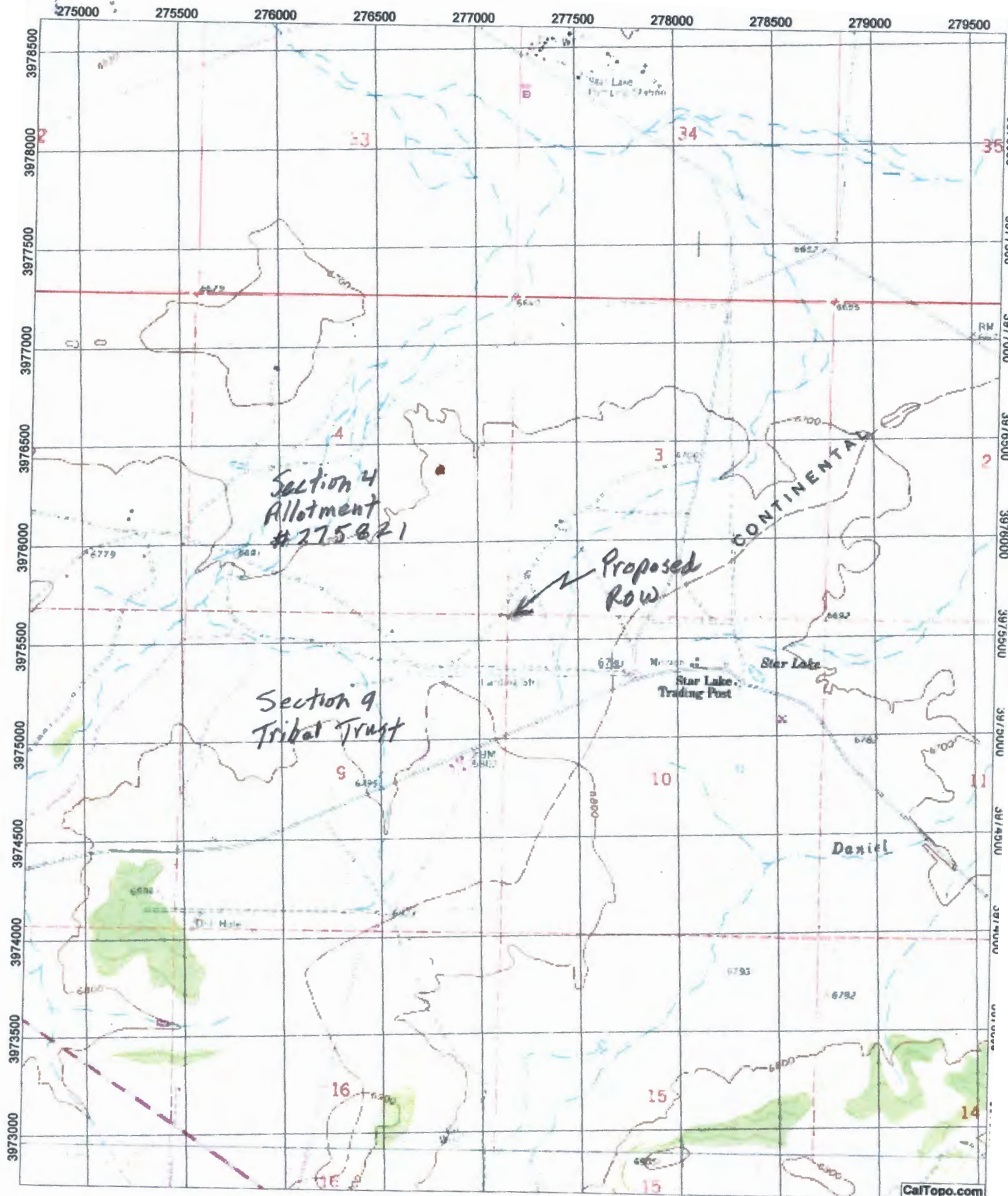
CHENEY WALTERS ECHOLS
ENGINEERS • SURVEYORS

909 W. APACHE • FARMINGTON, NEW MEXICO 87401 • (505)327-3303

ISSUE DATE: 04/24/2014

PRINTED: April 24, 2015

FILE: \\Gltw\gltw [d]\2014GTW\14505 EASE 2.dwg



Star Lake Area - Proposed ROW Sec. 9 T19N R6W

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS



Buffer Boundary

Section Line

Existing Fence

4
Allotment
275821

3
Tribal Trust ?

new
fence

Section
Corner

Proposed
Row

9
Tribal
Trust

10
Private

0 50
ft

20' Roadway

Star Lake Rd.

Row 5 Ketch

Reid Enterprises, LLC

P.O. Box 1368
Placitas, NM 87043

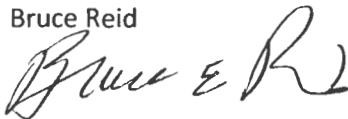
Tel. (505) 362-3777
Fax (505) 771-4452

website: www.humates.com
e-mail: bruce@humates.com

EVIDENCE OF AUTHORITY OF OFFICERS TO EXECUTE PAPERS

I solemnly swear that Bruce Reid was on the 27th day of April, 2015 the duly appointed Manager of Reid Enterprises, LLC, a Limited Liability Company organized under the laws of the State of New Mexico and doing business as Mesa Verde Resources, at which time he executed the application for Right of Way, Section 9 T19N R6W NMPM, and in behalf of said Limited Liability Company, covering certain Restricted Indian lands in the State of New Mexico; that he was fully empowered to execute said instrument and all papers in connection therewith, and that action in executing the same binds the said Limited Liability Company to full performance of all obligations there under.

Bruce Reid



Manager


Date

4/29/15

STATE OF: New Mexico

COUNTY OF: Sandoval

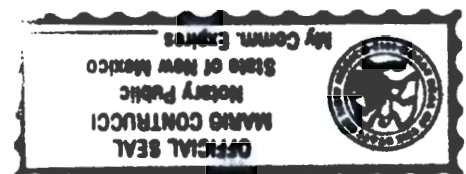
Subscribed and sworn to before me this 29th day of April, 2015.



Notary Public

My commission expires May 20, 2018.

May 20, 2018

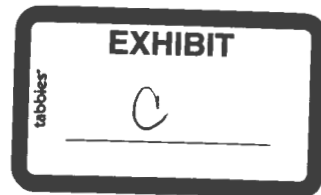




THE NAVAJO NATION

Navajo Land Department

P.O. Box # 2249 · Window Rock, Arizona 86515 · (928) 871-6401 · FAX: (928) 871-7039



MEMORANDUM

TO : Howard P. Draper, Supervisor
Project Review Section, NLD

FROM : Esther Kee
Esther Kee, R/W Agent
Project Review Section, NLD

DATE : June 17, 2015

SUBJECT: Mesa Verde Resources Access Road

Mesa Verde Resources, Post Office box 1368, Placitas, New Mexico 87043, submitted an application for right of way to construct and maintain an access road on Navajo Trust lands near the vicinity of Pueblo Pintado Chapter.

The right of way will be 532 sq. ft./0.01 acres, in Section 9, T19N, R6W, McKinley County, New Mexico.

The Navajo Nation is the only affected land user and provided the necessary consent from the District 20 Land Board member, Sherwood Willetto.

Field clearance complete, consent, map and all supporting documents are attached for your information and reference.

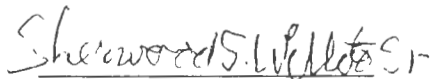
cc: Project file

June 10, 2015

TO WHOM IT MAY CONCERN

RE: Land Use Consent

I hereby give consent to Mesa Verde Resources right of way for Section 9, T19N, R6W, Pueblo Pintado, NM, this location currently is not permitted for grazing and will not affect or impact any grazing permittees. If you should require additional information I can be contacted at Pueblo Pintado Chapter 505.655.3221.

A handwritten signature in cursive script that reads "Sherwood S. Willetto".

Sherwood Willetto
District 20 Land Board Member



THE NAVAJO NATION

Navajo Land Department

P.O. Box # 2249 · Window Rock, Arizona 86515 · (928) 871-6401 · FAX: (928) 871-7039

MEMORANDUM

TO : Howard P. Draper, Supervisor
Project Review Section, NLD

FROM : Esther Kee
Esther Kee, R/W Agent
Project Review Section, NLD

DATE : June 17, 2015

SUBJECT: Mesa Verde Resources Access Road

Mesa Verde Resources, Post Office box 1368, Placitas, New Mexico 87043, submitted an application for right of way to construct and maintain an access road on Navajo Trust lands near the vicinity of Pueblo Pintado Chapter.

The right of way will be 53.24'x20'/0.024 acres, in Section 9, T19N, R6W, McKinley County, New Mexico.

The Navajo Nation is the only affected land user and provided the necessary consent from the District 20 Land Board member, Sherwood Willetto.

Field clearance complete, consent, map and all supporting documents are attached for your information and reference.

cc: Project file

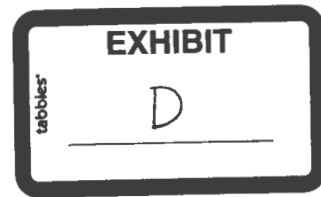


EXHIBIT “ D ”

NAVAJO NATION RIGHT-OF-WAY TERMS AND CONDITIONS

Mesa Verde Resources (GRANTEE)

Access road at Pueblo Pintado

1. The term of the right-of-way shall be for twenty (20) years, beginning on the date the right-of-way is granted by the Secretary of Interior.
2. Consideration for the right-of-way is assessed at \$ \$10,000.00 and shall be paid in full to the Controller of the Navajo Nation, in lawful money of the United States, and a copy of the receipt for such payment provided to the Navajo Nation Minerals Department, or its successor, within 10 days of approval of and consent to the grant of the right-of-way by the Navajo Nation.

If consideration has been waived, the Navajo Nation contributes the amount listed above to the project because the project serves a public purpose and will benefit Navajo residents.

3. The Grantee may develop, use and occupy the right-of-way for the purpose(s) of access road r-o-w. The Grantee may not develop, use or occupy the right-of-way for any other purpose, nor allow others to use or occupy the right-of-way for any other purpose, without the prior written approval of the Navajo Nation and the Secretary of the Interior. The approval of the Navajo Nation may be granted, granted upon conditions or withheld in the sole discretion of the Navajo Nation. The Grantee may not develop, use or occupy the right-of-way for any unlawful purpose.
4. In all activities conducted by the Grantee within the Navajo Nation, the Grantee shall abide by all laws and regulations of the Navajo Nation and of the United States, now in force and effect or as hereafter may come into force and effect, including but not limited to the following:
 - a. Title 25, Code of Federal Regulations, Part 169; subject to the terms of this right-of-way.
 - b. All applicable federal and Navajo Nation antiquities laws and regulations, with the following additional condition: In the event of a discovery all operations in the immediate vicinity of the discovery must cease and the Navajo Nation Historic Preservation Department must be notified immediately. As used herein, “discovery” means any previously unidentified or incorrectly identified cultural resources, including but not limited to archaeological deposits, human remains, or location reportedly associated with Native American religious/traditional beliefs or practices;
 - c. The Navajo Preference in Employment Act, 15 N.N.C. §§ 601 et seq., and the Navajo Nation Business Opportunity Act, 5 N.N.C. §§ 201 et seq.; and
 - d. The Navajo Nation Water Code, 22 N.N.C. § 1101 et seq. Grantee shall apply for and submit all applicable permits and information to the Navajo Nation Water Resources Department, or its successor.
5. The Grantee shall ensure that the air quality of the Navajo Nation is not jeopardized due to violation of applicable laws and regulations by its operations pursuant to the right-of-way.
6. The Grantee shall clear and keep clear the lands within the right-of-way to the extent compatible with the purpose of the right-of-way, and shall dispose of all vegetation and other materials cut, uprooted or otherwise accumulated during any surface disturbance activities.

7. The Grantee shall reclaim all surface lands disturbed related to the right-of-way, as outlined in a restoration and revegetation plan, which shall be approved by the Navajo Nation Environmental Protection Agency (NNEPA) prior to any surface disturbance. The Grantee shall comply with all provisions of such restoration and revegetation plan and shall notify the Director of the NNEPA immediately upon completion of the surface disturbance activities so that a site inspection can be made.
8. The Grantee shall at all times during the term of the right-of-way and at the Grantee's sole cost and expense, maintain the land subject to the right-of-way and all improvements located thereon and make all necessary and reasonable repairs.
9. The Grantee shall obtain prior written permission to cross existing rights-of-way, if any, from the appropriate parties.
10. The Grantee shall be responsible for and promptly pay all damages when they are sustained.
11. The Grantee shall indemnify and hold harmless the Navajo Nation and the Secretary of the Interior and their respective authorized agents, employees, landusers and occupants, against any liability for loss of life, personal injury and property damages arising from the development, use or occupancy or use of right-of-way by the Grantee.
12. The Grantee shall not assign, convey, transfer or sublet, in any manner whatsoever, the right-of-way or any interest therein, or in or to any of the improvements on the land subject to the right-of-way, without the prior written consent of the Navajo Nation and the Secretary of the Interior. Any such attempted assignment, conveyance or transfer without such prior written consent shall be void and of no effect. The consent of the Navajo Nation may be granted, granted upon conditions or withheld in the sole discretion of the Navajo Nation.
13. The Navajo Nation may terminate the right-of-way for violation of any of the terms and conditions stated herein. In addition, the right-of-way shall be terminable in whole or part by the Navajo Nation for any of the following causes:
 - a. Failure to comply with any term or condition of the grant or of applicable laws or regulations;
 - b. A non-use of the right-of-way for the purpose for which it is granted for a consecutive two year period; and
 - c. The use of the land subject to the right-of-way for any purpose inconsistent with the purpose for which the right-of-way is granted.
 - d. An abandonment of the right-of-way.
14. At the termination of this right-of-way, the Grantee shall peaceably and without legal process deliver up the possession of the premises, in good condition, usual wear and tear excepted. Upon the written request of the Navajo Nation, the Grantee shall provide the Navajo Nation, at the Grantee's sole cost and expense, with an environmental audit assessment of the premises at least sixty (60) days prior to delivery of said premises.
15. Holding over by the Grantee after the termination of the right-of-way shall not constitute a renewal or extension thereof or give the Grantee any rights hereunder or in or to the land subject to the right-of-way or to any improvements located thereon.
16. The Navajo Nation and the Secretary of the Interior shall have the right, at any reasonable time during the term of the right-of-way, to enter upon the premises, or any part thereof, to inspect the same and any improvements located thereon.

17. By acceptance of the grant of right-of-way, the Grantee consents to the full territorial legislative, executive and judicial jurisdiction of the Navajo Nation, including but not limited to the jurisdiction of the Navajo Nation, including but not limited to the jurisdiction to levy fines and to enter judgments for compensatory and punitive damages and injunctive relief, in connection with all activities conducted by the Grantee within the Navajo Nation or which have a proximate (legal) effect on persons or property within the Navajo Nation.
18. By acceptance of the grant of right-of-way, the Grantee covenants and agrees never to contest or challenge the legislative, executive or judicial jurisdiction of the Navajo Nation on the basis that such jurisdiction is inconsistent with the status of the Navajo Nation as an Indian nation, or that the Navajo Nation government is not a government of general jurisdiction, or that the Navajo Nation government does not possess full police power (i.e., the power to legislate and regulate for the general health and welfare) over all lands, persons and activities within its territorial boundaries, or on any other basis not generally applicable to a similar challenge to the jurisdiction of a state government. Nothing contained in this provision shall be construed to negate or impair federal responsibilities with respect to the land subject to the right-of-way or to the Navajo Nation.
19. Any action or proceeding brought by the Grantee against the Navajo Nation in connection with or arising out of the terms and conditions of the right-of-way shall be brought only in the Courts of the Navajo Nation, and no such action or proceeding shall be brought by the Grantee against the Navajo Nation in any court of any state.
20. Nothing contained herein shall be interpreted as constituting a waiver, express or implied, of the sovereign immunity of the Navajo Nation.
21. Except as prohibited by applicable federal law, the law of the Navajo Nation shall govern the construction, performance and enforcement of the terms and conditions contained herein.
22. The terms and conditions contained herein shall extend to and be binding upon the successors, heirs, assigns, executors, administrators, employees and agents, including all contractors and subcontractors, of the Grantee, and the term "Grantee," whenever used herein, shall be deemed to include all such successors, heirs, assigns, executors, administrators, employees and agents.
23. There is expressly reserved to the Navajo Nation full territorial legislative, executive and judicial jurisdiction over the right-of-way and all lands burdened by the right-of-way, including without limitation over all persons, including the public, and all activities conducted or otherwise occurring within the right-of-way; and the right-of-way and all lands burdened by the right-of-way shall be and forever remain Navajo Indian Country for purposes of Navajo Nation jurisdiction.
24. The Navajo Nation reserves the right to grant rights-of-way within the right-of-way referenced herein for utilities, provided that such rights-of-ways do not unreasonably interfere with the Grantee's use of the right-of-way.

EXHIBIT "D"

NAVAJO NATION RIGHT-OF-WAY TERMS AND CONDITIONS

Reid Enterprises, LLC dba Mesa Verde Resources (GRANTEE)

1. The term of the right-of-way shall be for twenty (20) years, beginning on the date the right-of-way is granted by the Secretary of Interior.
2. Consideration for the right-of-way is assessed at \$ 10,000.00 and shall be paid in full to the Controller of the Navajo Nation, in lawful money of the United States, and a copy of the receipt for such payment provided to the Navajo Nation Minerals Department, or its successor, within ten (10) days of approval of and consents to the grant of the right-of-way by the Navajo Nation.

Consideration for the grant of the right-of-way is hereby waived.

☒ NO ☐ YES

Consideration for the right-of-way is assessed at \$ N/A. The Navajo Nation contributes this amount to the project because the project will benefit Navajo residents.

3. The Grantee may develop, use and occupy the right-of-way for the purpose(s) of access road r-o-w. The Grantee may not develop, use or occupy the right-of-way for any other purpose, nor allow others to use or occupy the right-of-way for any other purpose, without the prior written approval of the Navajo Nation and the Secretary of the Interior. The approval of the Navajo Nation may be granted, granted upon conditions or withheld in the sole discretion of the Navajo Nation. The Grantee may not develop, use or occupy the right-of-way for any unlawful purpose.
4. In all activities conducted by the Grantee within the Navajo Nation, the Grantee shall abide by all laws and regulations of the Navajo Nation and of the United States, now in force and effect or as hereafter may come into force and effect, including but not limited to the following:
 - a. Title 25, Code of Federal Regulations, Part 169; subject to the terms of this right-of-way.
 - b. All applicable federal and Navajo Nation antiquities laws and regulations, with the following additional condition: In the event of a discovery all operations in the immediate vicinity of the discovery must cease and the Navajo Nation Historic Preservation Department must be notified immediately. As used herein, "discovery" means any previously unidentified or incorrectly identified cultural resources, including but not limited to archaeological deposits, human remains, or location reportedly associated with Native American religious/traditional beliefs or practices;
 - c. The Navajo Preference in Employment Act, 15 N.N.C. §§ 601 et seq., and the Navajo Nation Business Opportunity Act, 5 N.N.C. §§ 201 et seq.; and
 - d. The Navajo Nation Water Code, 22 N.N.C. § 1101 et seq.. Grantee shall apply for and submit all applicable permits and information to the Navajo Nation Water Resources Department, or its successor.
5. The Grantee shall ensure that the air quality of the Navajo Nation is not jeopardized due to violation of applicable laws and regulations by its operations pursuant to the right-of-way.

6. The Grantee shall clear and keep clear the lands within the right-of-way to the extent compatible with the purpose of the right-of-way, and shall dispose of all vegetation and other materials cut, uprooted or otherwise accumulated during any surface disturbance activities.
7. The Grantee shall reclaim all surface lands disturbed related to the right-of-way, as outlined in a restoration and revegetation plan, which shall be approved by the Navajo Nation Environmental Protection Agency (NNEPA) prior to any surface disturbance. The Grantee shall comply with all provisions of such restoration and revegetation plan and shall notify the Director of the NNEPA immediately upon completion of the surface disturbance activities so that a site inspection can be made.
8. The Grantee shall at all times during the term of the right-of-way and at the Grantee's sole cost and expense, maintain the land subject to the right-of-way and all improvements located thereon and make all necessary and reasonable repairs.
9. The Grantee shall obtain prior written permission to cross existing rights-of-way, if any, from the appropriate parties.
10. The Grantee shall be responsible for and promptly pay all damages when they are sustained.
11. The Grantee shall indemnify and hold harmless the Navajo Nation and the Secretary of the Interior and their respective authorized agents, employees, landusers and occupants, against any liability for loss of life, personal injury and property damages arising from the development, use or occupancy or use of right-of-way by the Grantee.
12. The Grantee shall not assign, convey, transfer or sublet, in any manner whatsoever, the right-of-way or any interest therein, or in or to any of the improvements on the land subject to the right-of-way, without the prior written consent of the Navajo Nation and the Secretary of the Interior. Any such attempted assignment, conveyance or transfer without such prior written consent shall be void and of no effect. The consent of the Navajo Nation may be granted, granted upon conditions or withheld in the sole discretion of the Navajo Nation.
13. The Navajo Nation may terminate the right-of-way for violation of any of the terms and conditions stated herein. In addition, the right-of-way shall be terminable in whole or part by the Navajo Nation for any of the following causes:
 - a. Failure to comply with any term or condition of the grant or of applicable laws or regulations;
 - b. A non-use of the right-of-way for the purpose for which it is granted for a consecutive two year period; and
 - c. The use of the land subject to the right-of-way for any purpose inconsistent with the purpose for which the right-of-way is granted.
 - d. An abandonment of the right-of-way.
14. At the termination of this right-of-way, the Grantee shall peaceably and without legal process deliver up the possession of the premises, in good condition, usual wear and tear excepted. Upon the written request of the Navajo Nation, the Grantee shall provide the Navajo Nation, at the Grantee's sole cost and expense, with a phase 1 environmental site assessment of the premises at least sixty (60) days prior to delivery of said premises.
15. Holding over by the Grantee after the termination of the right-of-way shall not constitute a renewal or extension thereof or give the Grantee any rights hereunder or in or to the land subject to the right-of-way or to any improvements located thereon.

16. The Navajo Nation and the Secretary of the Interior shall have the right, at any reasonable time during the term of the right-of-way, to enter upon the premises, or any part thereof, to inspect the same and any improvements located thereon.
17. By acceptance of the grant of right-of-way, the Grantee consents to the full territorial legislative, executive and judicial jurisdiction of the Navajo Nation, including but not limited to the jurisdiction of the Navajo Nation, including but not limited to the jurisdiction to levy fines and to enter judgments for compensatory and punitive damages and injunctive relief, in connection with all activities conducted by the Grantee within the Navajo Nation or which have a proximate (legal) effect on persons or property within the Navajo Nation.
18. By acceptance of the grant of right-of-way, the Grantee covenants and agrees never to contest or challenge the legislative, executive or judicial jurisdiction of the Navajo Nation on the basis that such jurisdiction is inconsistent with the status of the Navajo Nation as an Indian nation, or that the Navajo Nation government is not a government of general jurisdiction, or that the Navajo Nation government does not possess full police power (i.e., the power to legislate and regulate for the general health and welfare) over all lands, persons and activities within its territorial boundaries, or on any other basis not generally applicable to a similar challenge to the jurisdiction of a state government. Nothing contained in this provision shall be construed to negate or impair federal responsibilities with respect to the land subject to the right-of-way or to the Navajo Nation.
19. Any action or proceeding brought by the Grantee against the Navajo Nation in connection with or arising out of the terms and conditions of the right-of-way shall be brought only in the Courts of the Navajo Nation, and no such action or proceeding shall be brought by the Grantee against the Navajo Nation in any court of any state.
20. Nothing contained herein shall be interpreted as constituting a waiver, express or implied, of the sovereign immunity of the Navajo Nation.
21. Except as prohibited by applicable federal law, the law of the Navajo Nation shall govern the construction, performance and enforcement of the terms and conditions contained herein.
22. The terms and conditions contained herein shall extend to and be binding upon the successors, heirs, assigns, executors, administrators, employees and agents, including all contractors and subcontractors, of the Grantee, and the term "Grantee," whenever used herein, shall be deemed to include all such successors, heirs, assigns, executors, administrators, employees and agents.
23. There is expressly reserved to the Navajo Nation full territorial legislative, executive and judicial jurisdiction over the right-of-way and all lands burdened by the right-of-way, including without limitation over all persons, including the public, and all activities conducted or otherwise occurring within the right-of-way; and the right-of-way and all lands burdened by the right-of-way shall be and forever remain Navajo Indian Country for purposes of Navajo Nation jurisdiction.
24. The Navajo Nation reserves the right to grant rights-of-way within the right-of-way referenced herein for utilities, provided that such rights-of-ways do not unreasonably interfere with the Grantee's use of the right-of-way.

EXHIBIT " D "

NAVAJO NATION TERMS AND CONDITIONS
For Right-of-Way (ROW)

Reid Enterprises, LLC dba Mesa Verde Resources (GRANTEE)

1. The term of the right-of-way shall be for twenty (20) years, beginning on the date the right-of-way (ROW) is granted by the Secretary of Interior.

2. Consideration for the right-of-way is assessed at \$ 10,000.00 and shall be paid in full to the Controller of the Navajo Nation, in lawful money of the United States, and a copy of the receipt for such payment provided to the Navajo Nation Minerals Department, or its successor, with 10 days of approval of and consents to the grant of the right-of-way by the Navajo Nation.

Consideration for the grant of the right-of-way is hereby waived.

☒ NO

☐ YES

Consideration for the right-of-way is assessed at \$ N/A. The Navajo Nation contributes this amount to the project because the project will benefit Navajo residents.

3. The Grantee may develop, use and occupy the right-of-way for the purpose(s) of access road r-o-w. The Grantee may not develop, use or occupy the right-of-way for any other purpose without the prior written approval of the Navajo Nation and the Secretary of the Interior. The approval of the Navajo Nation may be granted, granted upon conditions or withheld in the sole discretion of the Navajo Nation. The Grantee may not develop, use or occupy the right-of-way for any unlawful purpose.

4. In all activities conducted by the Grantee within the Navajo Nation, the Grantee shall abide by all laws and regulations of the Navajo Nation and of the United States, now in force and effect or as hereafter may come into force and effect, including but not limited to the following:

a. Title 25, Code of Federal Regulations, Part 169;

b. All applicable federal and Navajo Nation antiquities laws and regulations, with the following additional condition: In the event of a discovery all operations in the immediate vicinity of the discovery must cease and the Navajo Nation Historic Preservation Department must be notified immediately. As used herein, "discovery" means any previously unidentified or incorrectly identified cultural resources, including but not limited to archaeological deposits, human remains, or location reportedly associated with Native American religious/traditional beliefs or practices;

c. The Navajo Preference in Employment Act, 15 N.N.C. §§ 601 et seq., and the Navajo Nation Business Opportunity Act, 5 N.N.C. §§ 201 et seq.; and

d. The Navajo Nation Water Code, 22 N.N.C. § 1101 et seq.. Grantee shall apply for and submit all applicable permits and information to the Navajo Nation Water Resources Department, or its successor.

5. The Grantee shall ensure that the air quality of the Navajo Nation is not jeopardized due to violation of applicable laws and regulations by its operations pursuant to the right-of-way.

6. The Grantee shall clear and keep clear the lands within the right-of-way to the extent compatible with the purpose of the right-of-way, and shall dispose of all vegetation and other materials cut, uprooted or otherwise accumulated during any surface disturbance activities.
7. The Grantee shall reclaim all surface lands disturbed related to the right-of-way, as outlined in a restoration and revegetation plan, which shall be prepared with the assistance of the Navajo Nation Environmental Protection Agency (NNEPA), and shall be submitted to and must be approved by NNEPA prior to any surface disturbance. The Grantee shall comply with all provisions of such restoration and revegetation plan and shall notify the Director of the NNEPA immediately upon completion of the surface disturbance activities so that a site inspection can be made.
8. The Grantee shall at all times during the term of the right-of-way and at the Grantee's sole cost and expense, maintain the land subject to the right-of-way and all improvements located thereon and make all necessary and reasonable repairs.
9. The Grantee shall obtain prior written permission to cross existing rights-of-way, if any, from the appropriate parties.
10. The Grantee shall be responsible for and promptly pay all damages when they are sustained.
11. The Grantee shall indemnify and hold harmless the Navajo Nation and the Secretary of the Interior and their respective authorized agents, employees, landusers and occupants against any liability for loss of life, personal injury and property damages arising from the development, use or occupancy or use of right-of-way by the Grantee.
12. The Grantee shall not assign, convey, transfer or sublet in any manner whatsoever, the right-of-way or any interest therein, or in or to any of the improvements on the land subject to the right-of-way, without the prior written consent of the Navajo Nation and the Secretary of the Interior. Any such attempted assignment, conveyance or transfer without such prior written consent shall be void and of no effect. The consent of the Navajo Nation may be granted, granted upon conditions or withheld in the sole discretion of the Navajo Nation.
13. The Navajo Nation may terminate the right-of-way for violation of any of the terms and conditions stated herein. In addition, the right-of-way shall be terminable in whole or part by the Navajo Nation for any of the following causes:
 - a. Failure to comply with any terms and conditions of the grant or of applicable laws or regulations;
 - b. A non-use of the right-of-way for the purpose for which it is granted for a consecutive two year period; and
 - c. The use of the land subject to the right-of-way for any purpose inconsistent with the purpose for which the right-of-way is granted.
14. At the termination of this right-of-way, the Grantee shall peaceably and without legal process deliver up the possession of the premises, in good condition, usual wear and tear excepted. Upon the written request of the Navajo Nation, the Grantee shall provide the Navajo Nation, at the Grantee's sole cost and expense, with an environmental audit assessment of the premises at least sixty (60) days prior to deliver of said premises.

15. Holding over by the Grantee after the termination of the right-of-way shall not constitute a renewal or extension thereof or give the Grantee any rights hereunder or in or to the land subject to the right-of-way or to any improvements located thereon.
16. The Navajo Nation and the Secretary shall have the right, at any reasonable time during the term of the right-of-way, to enter upon the premises, or any part thereof, to inspect the same and any improvements located therein.
17. By acceptance of the grant of right-of-way, the Grantee consents to the full territorial legislative, executive and judicial jurisdiction of the Navajo Nation, including but not limited to the jurisdiction of the Navajo Nation, including but not limited to the jurisdiction to levy fines and to enter judgments for compensatory and punitive damages and injunctive relief, in connection with all activities conducted by the Grantee within the Navajo Nation or which have a proximate (legal) effect on persons or property within the Navajo Nation.
18. By acceptance of the grant of right-of-way, the Grantee covenants and agrees never to contest or challenge the legislative, executive or judicial jurisdiction of the Navajo Nation on the basis that such jurisdiction is inconsistent with the status of the Navajo Nation as an Indian nation, or that the Navajo Nation government is not a government of general jurisdiction, or that the Navajo Nation government does not possess full police power (i.e., the power to legislate and regulate for the general health and welfare) over all lands, persons and activities within its territorial boundaries, or on any other basis not generally applicable to a similar challenge to the jurisdiction of a state government. Nothing contained in this provision shall be construed to negate or impair federal responsibilities with respect to the land subject to the right-of-way or to the Navajo Nation.
19. Any action or proceeding brought by the Grantee against the Navajo Nation in connection with or arising out of the terms and conditions of the right-of-way shall be brought only in the Courts of the Navajo Nation, and no such action or proceeding shall be brought by the Grantee against the Navajo Nation in any court of any state.
20. Nothing contained herein shall be interpreted as constituting a waiver, express or implied, of the sovereign immunity of the Navajo Nation.
21. Except as prohibited by applicable federal law, the law of the Navajo Nation shall govern the construction, performance and enforcement of the terms and conditions contained herein.
22. The terms and conditions contained herein shall extend to and be binding upon the successors, heirs, assigns, executors, administrators, employees and agents, including all contractors and subcontractors, of the Grantee, and the term "Grantee," whenever used herein, shall be deemed to include all such successors, heirs, assigns, executors, administrators, employees and agents.
23. There is expressly reserved to the Navajo Nation full territorial legislative, executive and judicial jurisdiction over the right-of-way and all lands burdened by the right-of-way, including without limitation over all persons, including the public, and all activities conducted or otherwise occurring within the right-of-way; and the right-of-way and all lands burdened by the right-of-way shall be and forever remain Navajo Indian Country for purposes of Navajo Nation jurisdiction.



THE NAVAJO NATION

RUSSELL BEGAYE **PRESIDENT**
JONATHAN NEZ **VICE PRESIDENT**



ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF EXECUTIVE DIRECTOR/ADMINISTRATION

OFFICE OF ENVIRONMENTAL REVIEW

PO BOX 339 WINDOW ROCK ARIZONA 86515 Office: 928/871-7188 Fax: 928/871-7996

Website: www.navajonationepa.org

M E M O R A N D U M

TO: Howard Draper, Program & Project Specialist
Project Review Office
Navajo Land Department
Division of Natural Resources

FROM:

Rita Whitehorse-Larsen, Senior Environmental Specialist
Office of Executive Director/Administration
Office of Environmental Review
NNEPA

DATE: July 30, 2015

SUBJECT: 164 EOR 004138 Mesa Verde ROW Access Road Pueblo Pintado

The Mesa Verde Resources, dba Reid Enterprises, LLC, PO Box 1368, Placitas, New Mexico, 87043, submitted a ROW for access road located in Pueblo Pintado, New Mexico. The proposed ROW consists of 0.01 acres, 53.24'x20' in width and length, on Navajo Nation Trust Lands. Navajo Nation Environmental Protection Agency (NNEPA) reviewed¹ and recommends **conditional approval** for the proposed access road for the humate mining proposed action. Mesa Verde Resources is proposing to mine approximately 65,000 and 120,000 tons of humate on Indian Allotted land in adjacent to the existing Star Lake Mine. Humate is an organic material rich in humic and fulvic acids and used primarily as commercial soil amendment. The proposed mining action will allow Mesa Verde Resources dba Reid Enterprises, LLC to mine approximately 65,000 and 120,000 tons of humate under the proposed 10-year with renewal options. The proposed mining action is located and surrounded by Navajo Nation lands, NNEPA highly recommends Mesa Verde Resources, dba Reid Enterprises, LLC, the following to meet the following and attain each required permit before commencing any construction activities.

1. *Navajo Nation Clean Water Act (CWA):*

¹ Ecosystem Management, Inc. Environmental Assessment Hot Asphalt Plant Aggregate Stockpile and Construction Yard Navajo New Mexico McKinley County New Mexico. September 2003.

- a. **Section §401 and §404:** Excavation and/or filling of waters of the US requires coverage under a US Army Corps of Engineers (No. 44 for Mining Activities) or Individual Permit that requires CWA §401 Water Quality Certification from NNEPA. Waters of the US Jurisdictional waters are defined by the presence of Ordinary High Water Mark characteristics. The two unnamed ephemeral tributaries of Chaco Wash within the proposed mining action must be verified with the US Army Corps of Engineers.
 - b. **Section §402 Multi-Sector General Permit (USEPA):** Humate/Peat mining operations are covered by the federal general permit for storm water discharges associated with industrial activities known as the Multi-Sector General Permit, under Sector J for mineral mining and dressing specifically under J2 for Miscellaneous Nonmetallic Minerals except Fuels. USEPA reissued the Multi-Sector General Permit effective June 4, 2015. Under the Multi-Sector General Permit, the discharge authorization date is 30 days after USEPA notifies Mesa Verde Resources dba Reid Enterprises LLC after it receives a complete Notice of Intent (NOI). The Storm Water Pollution Prevention Plan (SWPPP) must be prepared before submission of the NOI.
2. ***Navajo Nation Air Pollution Prevention and Control Act:***
 - a. The proposed action is not located in an attainment area.
 - b. Visibility is good to excellent.
 - c. Dust suppression must be implemented in the Best Management Practice.
 - d. The Air Quality Control Program: Activity Application must be completed and submitted to NNEPA Operating Permit Program.
3. ***Navajo Nation Safe Drinking Water Act:***
 - a. No proposed drinking water system is expected to be at the proposed access road site and the humate mining area.
 - b. No proposed domestic waste water system is expected to be at the proposed access road site and the humate mining area.
 - c. Portable toilet rentals should be provided for construction workers at the expense of Mesa Verde Resources dba Reid Enterprises, LLC. The portable toilet rentals shall be maintained and protected from vandalism during off working hours and holidays by Mesa Verde Resources dba Reid Enterprises, LLC.
4. ***Navajo Nation Solid Waste Act:***
 - a. Do not allow public to take construction waste and operating waste. Cumulatively NNEPA receives complaints and reports on illegal trash dumpings on rural areas and in the waters of the US and Navajo Nation.
 - b. The Mesa Verde Resources dba Reid Enterprises, LLC is subject to control the solid waste littering and shall provide solid waste bins for construction workers. The bins shall be maintained and protected from vandalism during off working hours and holidays by Mesa Verde Resources dba Reid Enterprises, LLC.
5. ***Navajo Nation Comprehensive, Environmental Response, Compensation and Liability Act (CERLA):***
 - a. No hazardous material will be stored, transported, generated and distributed from the proposed access road and the humate mining site.
 - b. According the Navajo CERCLA, petroleum is considered hazardous material and any spills ≥ 25 gallons should be reported to NNEPA Office of Executive Director/Administration at 928/871-7692.
6. ***Navajo Nation Storage Tank Act (NNSTA) (formerly Underground Storage Tank (UST) Act; amended February 2012):***
 - a. No storage tanks are proposed on the access road and the humate mining site.
 - b. If there are plans to install underground and/or aboveground storage tanks greater

than 100 gallons, the plans must meet the design specifications as outlined by NNEPA Storage Tank Program. The specifications must be approved by the Storage Tank Program. Contact the Storage Tank Program at 928/871-7993 for further technical assistance.

- c. NNEPA Storage Tank Program staff will need to be onsite before installing any above and underground storage tanks.
7. ***Federal Insecticide Fungicide and Rodenticide Act (FIFRA)/NN Pesticide Act:***
- a. The Mesa Verde Resources dba Reid Enterprises, LLC is subject to control and prevent the spread of invasive and noxious weeds.
 - b. Contact the NNEPA Pesticide Program at 928/871-7815/7810 before applying any pesticides and herbicides to control noxious and invasive plant species to ensure the product is in compliance and appropriately applied by a certified and licensed applicator.
 - c. Pesticide staff will also may need to be onsite to monitor during pesticide/herbicide application.

If there are any questions, you may contact Rita Whitehorse-Larsen at 928/871-7188. Thank you.

Cc: Mesa Verde Resources, dba Reid Enterprises, LLC, PO Box 1368, Placitas, New Mexico, 87043
Pueblo Pintado Chapter
Ojo Encino Chapter
Nageezi Chapter
BIA Navajo Regional Office, Gallup, New Mexico
NNEPA Water Quality; Operating Permit Program; Administration chrono file
Contact Person: Bruce Reid, phone: 505-771-4444; info@humates.com

Document No. 004138

Date Issued: 06/09/2015

DIVISION OF
NATURAL RESOURCES
JUL 1 2015

EXECUTIVE OFFICIAL REVIEW

Title of Document: MesaVerde ROW access Road Pueblo Pintado Contact Name: DRAPER, HOWARD

Program/Division: DIVISION OF NATURAL RESOURCES

Email: howarddraper@frontiernet.net Phone Number: 928/871-6447

☐ **Business Site Lease** Sufficient Insufficient

1. Division: _____ Date: _____ ☐ ☐
2. Office of the Controller: _____ Date: _____ ☐ ☐
(only if Procurement Clearance is not issued within 30 days of the initiation of the E.O. review)
3. Office of the Attorney General: _____ Date: _____ ☐ ☐

☐ **Business and Industrial Development Financing, Veteran Loans, (i.e. Loan, Loan Guarantee and Investment) or Delegation of Approving and/or Management Authority of Leasing transactions**

1. Division: _____ Date: _____ ☐ ☐
2. Office of the Attorney General: _____ Date: _____ ☐ ☐

☐ **Fund Management Plan, Expenditure Plans, Carry Over Requests, Budget Modifications**

1. Office of Management and Budget: _____ Date: _____ ☐ ☐
2. Office of the Controller: _____ Date: _____ ☐ ☐
3. Office of the Attorney General: _____ Date: _____ ☐ ☐

☐ **Navajo Housing Authority Request for Release of Funds**

1. NNEPA: _____ Date: _____ ☐ ☐
2. Office of the Attorney General: _____ Date: _____ ☐ ☐

☐ **Lease Purchase Agreements**

1. Office of the Controller: _____ Date: _____ ☐ ☐
(recommendation only)
2. Office of the Attorney General: _____ Date: _____ ☐ ☐

☐ **Grant Applications**

1. Office of Management and Budget: _____ Date: _____ ☐ ☐
2. Office of the Controller: _____ Date: _____ ☐ ☐
3. Office of the Attorney General: _____ Date: _____ ☐ ☐

☐ **Five Management Plan of the Local Governance Act, Delegation of an Approving Authority from a Standing Committee, Local Ordinances (Local Government Units), or Plans of Operation/Division Policies Requiring Committee Approval**

1. Division: _____ Date: _____ ☐ ☐
2. Office of the Attorney General: _____ Date: _____ ☐ ☐

☐ **Relinquishment of Navajo Membership**

1. Land Department: _____ Date: _____ ☐ ☐
2. Elections: _____ Date: _____ ☐ ☐
3. Office of the Attorney General: _____ Date: _____ ☐ ☐

☐ **Land Withdrawal or Relinquishment for Commercial Purposes**

Sufficient Insufficient

1. Division: _____ Date: _____ ☐ ☐
2. Office of the Attorney General: _____ Date: _____ ☐ ☐

☐ **Land Withdrawals for Non-Commercial Purposes, General Land Leases and Resource Leases**

1. NLD _____ Date: _____ ☐ ☐
2. F&W _____ Date: _____ ☐ ☐
3. HPD _____ Date: _____ ☐ ☐
4. Minerals _____ Date: _____ ☐ ☐
5. NNEPA _____ Date: _____ ☐ ☐
6. DNR _____ Date: _____ ☐ ☐
7. DOJ _____ Date: _____ ☐ ☐

☐ **Rights of Way**

1. NLD _____ Date: _____ ☐ ☐
2. F&W _____ Date: _____ ☐ ☐
3. HPD _____ Date: _____ ☐ ☐
4. Minerals _____ Date: _____ ☐ ☐
5. NNEPA _____ Date: _____ ☐ ☐
6. Office of the Attorney General: _____ Date: _____ ☐ ☐
7. OPVP _____ Date: _____ ☐ ☐

☐ **Oil and Gas Prospecting Permits, Drilling and Exploration Permits, Mining Permit, Mining Lease**

1. Minerals _____ Date: _____ ☐ ☐
2. OPVP _____ Date: _____ ☐ ☐
3. NLD _____ Date: _____ ☐ ☐

☐ **Assignment of Mineral Lease**

1. Minerals _____ Date: _____ ☐ ☐
2. DNR _____ Date: _____ ☐ ☐
3. DOJ _____ Date: _____ ☐ ☐

☒ **ROW (where there has been no delegation of authority to the Navajo Land Department to grant the Nation's consent to a ROW)**

1. NLD ~~See~~ _____ Date: June 15 ☒ ☐
2. F&W See Ltr + 3/26/15 _____ Date: 6/23/15 ☒ ☐
3. HPD _____ Date: 6/30/15 ☒ ☐
4. Minerals _____ Date: 7/8/15 ☒ ☐
5. NNEPA See memo 7/30/2015 _____ Date: 7-30-2015 ☒ ☐
6. DNR _____ Date: 8-5-15 ☒ ☐
7. DOJ (RC) _____ Date: 8/12/15 ☒ ☐
8. OPVP _____ Date: 8-13-15 ☒ ☐

☐ **OTHER:**

1. _____ Date: _____ ☐ ☐
2. _____ Date: _____ ☐ ☐
3. _____ Date: _____ ☐ ☐
4. _____ Date: _____ ☐ ☐
5. _____ Date: _____ ☐ ☐



NAVAJO NATION DEPARTMENT OF JUSTICE

DOCUMENT REVIEW REQUEST FORM

☐ RESUBMITTAL



DOJ
8/5/15 @ 3:00
DATE / TIME
<input type="checkbox"/> 7 Day Deadline
DOC #: 004138
SAS #:
UNIT: NM

*** FOR NNDOJ USE ONLY - DO NOT CHANGE OR REVISE FORM. VARIATIONS OF THIS FORM WILL NOT BE ACCEPTED. ***

CLIENT TO COMPLETE

DATE OF REQUEST:	6/9/2015	DIVISION:	Natural Resources (DNR)
CONTACT NAME:	Howard P. Draper, Kayla Bia, Vera Shurley	DEPARTMENT:	Navajo Land Dept (NLD)
PHONE NUMBER:	X-6447, 6401, 6490, 6490	E-MAIL:	howarddraper@frontiernet.net; klbia@frontier.com; verashurley@frontiernet.net
TITLE OF DOCUMENT: <i>Approving a Right-of-Way for Mesa Verde Resources to construct, operate and maintain an access road located in Pueblo Pintado Chapter vicinity, San Juan County, New Mexico.</i>			

DOJ SECRETARY TO COMPLETE

DATE RECEIVED IN UNIT:	8-5-15 3:22	REVIEWING ATTORNEY/ADVOCATE:	Erin Wheeler
DATE TIME OUT OF UNIT:	8-12-15 11:00		8/17/15

DOJ ATTORNEY / ADVOCATE COMMENTS

- Document is legally sufficient.

REVIEWED BY: (Print)	Date / Time	SURNAMED BY: (Print)	Date / Time
Timie [Signature]	8/6/15	Lonnie [Signature]	8/12/15 10:18 AM
DOJ Secretary Called: Howard Draper for Document Pick Up on 8-12-15 at 11:00 By: [Signature]			
PICKED UP BY: (Print)		DATE / TIME:	

NNDOJ/DRRF-July 2013

COMPLETED



**THE
NAVAJO
NATION**

MINERALS DEPARTMENT

Post Office Box 1910

Window Rock, Arizona 86515

Phone: (928) 871-6587 • Fax: (928) 871-7095


Russell Begaye
President

Jonathan Nez
Vice-President

July 8, 2015

MEMORANDUM

TO : ALL CONCERNED

FROM : 
Akhtar Zaman, Director
Minerals Department

SUBJECT : DELEGATION OF AUTHORITY

Ms. Rowena Cheromiah, Minerals Royalty/Audit Manager, is hereby delegated to act in the capacity of the Director of the Minerals Department beginning at 9:00 A.M. on Wednesday, July 8, 2015 and ending at 5:00 P.M. on Friday, July 10, 2015.

Your cooperation with Ms. Cheromiah will be appreciated.

ACKNOWLEDGMENT



Rowena Cheromiah
Minerals Audit Department

AZ/kjs
Distribution

**PROPOSED RESOLUTION OF
THE RESOURCES and DEVELOPMENT COMMITTEE OF THE
NAVAJO NATION COUNCIL**

[Handwritten signature and red stamp]

Approving a Right-of-Way for Mesa Verde Resources to construct, operate and maintain an access road located in Pueblo Pintado Chapter vicinity, San Juan County, New Mexico.

McKubly

X

WHEREAS:

1. Pursuant to 2 N.N.C. §§ 500, the Resources and Development Committee is hereby established as a standing committee of the Navajo Nation Council; and
 2. Pursuant to 2 N.C.C. § 500 B 2(a), the Resources and Development Committee grants final approval for all land withdrawals, non-mineral leases, permits, licenses, rights of way, surface easements and bonding requirements on Navajo Nation lands and unrestricted (fee) land. This authority shall include subleases, modifications, assignments, leasehold encumbrances, transfers, renewals, and terminations; and
 3. The Mesa Verde Resources (Mesa Verde), d.b.a. Reid Enterprises, LLC, P.O. Box 1368, Placitas, New Mexico 87043, has submitted a right-of-way (ROW) for access road located in Pueblo Pintado on, over and across Navajo Nation Trust Lands, San Juan County, New Mexico attached hereto and incorporated herein as Exhibit "A"; and
 4. The proposed right-of-way (ROW) consists of 0.01 acre, more or less, of Navajo Nation Trust Lands located in the northeast quarter (NE¹/₄) of the northeast quarter (NE¹/₄) of Section 9, Township 19 North, Range 6 East, NMPM, San Juan County, New Mexico and the location is more particularly described on the survey map attached hereto and incorporated herein as Exhibit "B"; and
 5. The Project Review Section with the Navajo Land Department has obtained the necessary consents from the affected land user (i.e. grazing permittee) and is attached hereto and made a part hereof as Exhibit "C"; and
 6. The environmental and archaeological studies have been completed and are attached hereto and incorporated herein by this reference.
- McKubly
- R

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The Resources and Development Committee of the Navajo Nation Council hereby approves a Right-of-Way to Mesa Verde Resources, d.b.a. Reid Enterprises to construct, operate and maintain an access road on Navajo Nation Trust Lands in the Pueblo Pintado Chapter vicinity, ~~San Juan County, New Mexico~~. The location is more particularly described on the map attached hereto as Exhibit "B."

2. The Resources and Development Committee of the Navajo Nation Council hereby approves a right-of-way subject to, but not limited to, the following terms and conditions attached hereto and incorporated herein as Exhibit "D."

3. The Resources and Development Committee of the Navajo Nation Council hereby authorizes the President of the Navajo Nation to execute any and all documents necessary to affect the intent and purpose of this resolution.

CERTIFICATION:

I hereby certify that the foregoing resolution was duly considered by the Resources and Development Committee of the Navajo Nation Council at a duly called meeting at Window Rock, Navajo Nation (Arizona), at which a quorum was present and that the same was passed by a vote of ___ in favor, ___ opposed, and ___ abstained, this ___ day of ___, 2015.

Presiding Chairperson
Resources and Development Committee

MOTION BY:
SECONDED BY:

ENVIRONMENTAL ASSESSMENT

Mesa Verde Resources Section 4 Humate Mine Expansion Project



Prepared For:
Bureau of Indian Affairs – Navajo Region
Branch of Environmental Quality Act Compliance & Review
P.O. Box 1060
Gallup, New Mexico 87301



Prepared **September 23, 2014**
Revised **May 5, 2015**

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List of Acronyms

$\mu\text{g}/\text{m}^3$	microgram per cubic meter
AIRFA	American Indian Religious Freedom Act
amsl	above mean sea level
AQB	Air Quality Bureau (NMED)
ARMS	Archeological Records Management Section
ARPA	Archaeological Resources Protection Act
BE	Biological Evaluation
BGEPA	Bald and Golden Eagle Protection Act
BIA	Bureau of Indian Affairs (U.S.)
BISON	Biota Information System of New Mexico
BLM	Bureau of Land Management (U.S.)
BMP	Best Management Practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COA	Conditions of Approval
CWA	Clean Water Act
DOI	Department of the Interior (U.S.)
EA	Environmental Assessment
EPA	Environmental Protection Agency (U.S.)
EO	Executive Order
ESA	Endangered Species Act
FDHW	Federal Highway Administration
FCAQTF	Four Corners Air Quality Task Force
FEMA	Federal Emergency Management Agency (U.S.)
FFO	Farmington Field Office (BLM)

GAO	Government Accountability Office (U.S.)
GHG	Greenhouse Gas
IO	isolated occurrence
IPCC	Intergovernmental Panel on Climate Change
LOM	life-of-mine
MBTA	Migratory Bird Treaty Act
MMD	Mining and Minerals Division (NM)
NAAQS	National Ambient Air Quality Standard
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NESL	Navajo Endangered Species List
NHP	Natural Heritage Program (NNDFW)
NMDA	New Mexico Department of Agriculture
NMED	New Mexico Environment Department
NMDT	New Mexico Department of Transportation
NMOSE	New Mexico Office of the State Engineer
NMPM	New Mexico Prime Meridian
NMSA	New Mexico Statutes Annotated
NNDFW	Navajo Nation Department of Fish and Wildlife
NNHP	Navajo Natural Heritage Program
NNHPD	Navajo Nation Historic Preservation Division
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places
PFYC	Potential Fossil Yield Classification
PIF	Partners in Flight
PL	Public Law
ppm	parts per million
PRMP/FEIS	Proposed Resource Management Plan/Final Environmental Impact Statement
RME	Rocky Mountain Ecology, LLC
ROD	Record of Decision
SHPO	State Historic Preservation Officer
SWPPP	Stormwater Pollution Prevention Plan
TCP	traditional cultural property
TCPP	Traditional Cultural Properties Program
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VRI	Visual Resource Inventory (BLM)

1.0 INTRODUCTION

Reid Enterprises, LLC, dba Mesa Verde Resources (Mesa Verde), proposes to develop a humate mining operation in Section 4, Township 19 North, Range 6 West New Mexico Prime Meridian (NMPM). The proposed mine would be located approximately 30 miles southwest of Cuba, New Mexico, and 7 miles southwest of Ojo Encino, New Mexico, off Star Lake Road (Figure 1). The proposed Section 4 humate mine project (the Project) would require environmental clearance, as well as compliance with the National Historic Preservation Act (NHPA) and Endangered Species Act (ESA) of 85 acres for mining (the site). The Project site is on privately-owned, Indian Allotted lands held in trust by the Bureau of Indian Affairs (BIA). Because the Indian Allotted lands are within the Navajo Nation boundaries, the BIA is the lead federal agency for this Project, with cooperation from the Navajo Nation Historic Preservation Division (NNHPD), the Navajo Natural Heritage Program (NNHP), and the Bureau of Land Management (BLM) Farmington Field Office (FFO).

Mesa Verde is seeking authorization from BIA to enter into a Humate Mining Lease Agreement for the proposed Project with the 16 Allottees of Section 4, T19N, R6W NMPM (the Allottees). At the request of the Allottees the lease would include the entire section of 640 acres; however, at this time, mining would be limited to the proposed 85-acre Project site. Humate is expected to occur in an approximate 6-foot-thick seam at a depth between 1 to 15 feet below ground surface throughout the proposed Project site. Humate resources are expected to occur within the full 640 acre tract. Any future expansion of operations outside of the proposed 85-acre area would be considered under a new EA.

The proposed Project would be an expansion to Mesa Verde's current humate mining operations in McKinley County. Mesa Verde operates the existing Star Lake Mine on private (fee) surface leases, with partial mineral ownership held and administered by the BLM FFO, in Section 10 T19N, R6W N.M.P.M., adjacent to the proposed Section 4 Mine. Star Lake mine is operated under a Minimal Impact Permit (Permit No. MK007ME) under the New Mexico Mining Act regulated by the New Mexico Mining and Minerals Division (MMD). In order to maintain consistency, Mesa Verde would operate the proposed Project under the same mining and reclamation practices used at Star Lake Mine and coordinated with MMD and the BLM. A mining and reclamation plan consistent with BLM and MMD requirements for the proposed Project is included in Appendix A. The plan was developed to meet BIA and BLM regulations (25 CFR § 216.7 and 212.4 and 43 CFR Part 3600). Under the assumption that the proposed Project would be subject to the New Mexico Mining Act, Mesa Verde submitted a Permit Modification request to MMD to include the east half of Section 4 (323.1 acres) on November 1, 2013.

This Environmental Assessment (EA) evaluates the site-specific impacts of the proposed Project. The EA will be used to assist the BIA in planning and ensuring compliance with the National Environmental Policy Act (NEPA) of 1969, as amended (Public Law [PL] 91-90, 42 United States Code [USC] 4321 et seq.).

1.1 Purpose and Need

The purpose of the proposed action is to allow Mesa Verde to lease Indian Allotted land to mine approximately 65,000 and 120,000 tons of humate in Section 4 under the proposed 10-year (with renewal options) Humate Mine Lease Agreement with the 16 Allottees. Mesa Verde would operate the proposed mine in accordance with the MMD Minimal Impact Permit No. MK007ME to maintain consistent operations with the existing Star Lake Mine located adjacent to the proposed mine. Minimal Impact mining under the New Mexico Mining Act and rules limits the mining operation to no more than 10 acres disturbed at any point in time. Reclamation of disturbed ground after the mining of a specific area would be initiated as soon as possible to allow contemporaneous mining to continue in new areas and limit the disturbed land to no more than 10 acres.

The need for the Project is to mine humate, which is processed offsite and ultimately sold as a commercial soil amendment. The Project will also fulfill the request of the Allottees to develop humate resources on their property. Humate is an organic material rich in humic and fulvic acids and is primarily used as a soil amendment and conditioner. If Navajo mineral owners on Indian Allotted lands want their resources developed, the BIA is responsible for ensuring that it is done in a manner that maximizes the owner's best economic interests and minimizes adverse environmental or cultural impacts. It is also the policy U.S. Department of the Interior (DOI), in general, and the BLM, specifically, to make mineral resources available for disposal and to encourage the development of mineral resources on Indian lands to meet national, regional, and local needs, as long as adequate measures are taken to avoid, minimize, or correct damage to the environment and to public health and safety. The BIA typically defers to the BLM on issues of mining on trust lands because of its authority to supervise exploration, mining, and reclamation activities on Indian lands pursuant to 25 USC 396d and 25 CFR Parts 211, 212, and 216.

1.2 Conformance with Applicable Land Use Plan and Other Environmental Assessments

Pursuant to Title 40 Code of Federal Regulations (CFR), Sections (§) 1508.28 and 1502.21, this EA tiers into, and incorporates by reference, the information and analysis contained in the Farmington Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS; BLM 2003a), which was approved for the BLM FFO by the Record of Decision (ROD) signed September 29, 2003 (BLM, 2003b). The PRMP/FEIS and ROD are available for review at the BLM FFO, in Farmington, New Mexico, or online at http://www.nm.blm.gov/ffo/ffo_home.html. Although the PRMP/EIS does not discuss allotments, the resources are similar in nature, and therefore, impact assessment of resource development would apply. This project EA addresses site-specific resources and/or impacts that are not covered within the PRMP/FEIS, as required by the NEPA. The proposed Project would not be in conflict with any local, county, or state plans.

1.3 Federal, State, or Local Permits, Licenses, or Other Consultation Requirements

This EA is prepared under the authority of the NEPA of 1969, (42 USC § 4321-4347) and federal regulations in the Council on Environmental Quality (CEQ) Regulations (40 CFR § 1500-1508), the DOI NEPA regulations (43 CFR § 46), and the Navajo Nation's Environmental Policy Act (4 Navajo Nation Code [NNC] Chapter 9).

The BIA Navajo Region Branch of Environmental Quality Act Compliance & Review is responsible for NEPA compliance on trust lands and Indian Allotted lands. The BIA has implemented regulations for environmental guidance for surface mining in 25 CFR § 216 (Surface Exploration, Mining and Reclamation of Lands). The regulations provide for the protection and conservation of non-mineral resources during exploration and development of surface mineral resources and onsite processing under permits of leases issued by the BIA. Surface mines are required to have approved exploration and mining plans (25 CFR § 216.6 and 216.7). Additionally, the functions of the BLM regarding mining operations apply to leases and permits for the development of Indian resources (25 CFR § 212.4). The exploration, development, and disposal of mineral material resources are managed by the BLM under 43 CFR, Part 3600.

Mesa Verde has assumed the Project would be permitted, as a modification, under the existing Star Lake Mine Permit (MK007ME) from the New Mexico MMD. This would be consistent with requirements under the New Mexico Mining Act (Sections 69-36-1 through 69-36-20, New Mexico Statutes Annotated [NMSA] 1978) and associated rules 19.10.3 NMAC. The MMD of the New Mexico Energy, Minerals and Natural Resources Department is the administrative agency through which the application would be processed. The Minimal Impact Operation Permits from the MMD allows the applicant to disturb a maximum of 10 acres at one time. Mesa Verde and MMD consulted with the BIA realty Division (the appropriate land management agency) on the permit modification in 2014 (19.10.3.303.D NMAC). Additionally, the Secretary of the Environment Department (NMED) provides a written determination stating that the permit applicant has demonstrated the activities to be permitted or authorized will be expected to achieve compliance with all applicable environmental standards (19.10.303.K.(5) NMAC).

Federal law mandates protection of some surface resources that are potentially affected by the development of the proposed action. Cultural resources threatened by development are protected by:

- Antiquities Act of 1906, (PL 52-209)
- National Historic Preservation Act of 1966 (PL 89-665)
 - as amended (PL 52-209)
 - its regulations (36 CFR § 800)
- NEPA (PL 91-852)

- its regulations (40 CFR § 1500 - 1508)
- 1971 Executive Order (EO) No. 11593
- Archaeological and Historical Conservation Act of 1974 (PL 93-291)
- Archaeological Resources Protection Act (ARPA) of 1979 (PL 96-95)
 - its regulations (36 CFR § 296)
- American Indian Religious Freedom Act (AIRFA; 48 USC 1996)
- Native American Graves Protection and Repatriation Act (NAGPRA) of 1990
- Navajo Nation Cultural Resources Protection Act (19 NNC § 1001)

Compliance with Section 106 responsibilities of the National Historic Preservation Act are adhered to through consultation with NNHPD.

Under Section 402 of the Clean Water Act (CWA), as amended (33 USC § 1251 et seq.), the U.S. Environmental Protection Agency (EPA) regulates stormwater discharges for industrial and construction activities under the National Pollutant Discharge Elimination System (NPDES). Additionally, Sections 404 of the CWA (regulated by the U.S. Army Corps of Engineers), and Section 401 of the CWA (regulated by EPA to protect wetlands and waters of the U.S. Operators are required to obtain all necessary permits and approvals for projects regulated by the CWA prior to any land development or disturbance.

Surface water resources are protected from pollution sources by the Federal Water Pollution Control Act (40 CFR § 112). The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 and other federal regulations are designed to control the releases of hazardous materials into the environment and to direct the response to accidental spills.

Threatened and endangered flora and fauna species are protected under the Endangered Species Act (ESA) of 1973, as amended (PL 94-325). Additionally, the Migratory Bird Treaty Act (MBTA) (16 USC § 703-712) and the Eagle Protection Act (16 USC § 668-668d) protect other sensitive wild avian species potentially occurring in the proposed Project site. Species recognized by the Navajo Nation as being in need of protection and special management are protected under Title 17 NNC Section 507. The Natural Heritage Program (NHP) of the Navajo Nation Department of Fish and Wildlife (NNDFW) oversees the enforcement and administration of applicable Navajo and federal laws and regulations, and approve plans for the management of all resources.

EO 11312 of 1999, "Invasive Species," establishes measures to prevent the introduction of non-native, harmful and aggressive plants and animal species; and control their spread; and to minimize the economic, ecological and human health impacts that invasive species cause. The EO provides guidelines to federal agencies to manage invasive species, to create an Invasive Species Council, and to implement an Invasive Species Management Plan.

The Federal Plant Protection Act of June 2000, and the Federal Noxious Weed Act of 1974, Section 2814, regulate the handling of non-indigenous weeds that injure, or have the potential to injure, the interests of agriculture and commerce, wildlife resources, or the public health. Given that the Project is in close proximity to State governed lands, Section 2814 of the Federal Noxious Weed Act of 1974 provides for coordination between federal and State agencies, and provides that federal agencies "shall enter into cooperative agreements with State agencies to coordinate the management of undesirable plant species on Federal lands." Sections 76-7-1 through 76-7-30 NMSA 1978, the "Noxious Weed Control Act" requires the district governing body to determine, with the advice of the county agent, which noxious weeds will be subject to control; determine the method of control either by spraying, cutting, burning, tillage, or any other appropriate method; prescribe the specific areas within the district on which the control measures are to be carried out; prescribe the period within which control measures are to be carried out. Sections 76-7D-1 through 76-7D-6 NMSA 1978, the "Noxious Weed Management Act," requires the Director of the New Mexico Department of Agriculture to: select the species of weeds to be targeted as noxious weeds for control or eradication, identify the methods to be used to control noxious weeds, and develop publications to educate the public on the problem and prevention of noxious weeds.

Air quality standards in New Mexico are under the jurisdiction of NMED's Air Quality Bureau (AQB). The Environmental Improvement Act, NMSA 1978, and the Air Quality Control Act, NMSA 1978, dictate state air quality standards. Also, 40 CFR 60, "Standards of Performance for New Stationary Sources," is administered by the AQB. Crushing, screening and other processing of humate would be performed at Mesa Verde's San Ysidro Plant. Therefore, no new permits for crushing operations associated with the proposed Project would be required from the AQB.

2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

The DOI regulations (43 CFR § 46.310) require EAs to describe the environmental impacts of the proposed action and of alternative actions. For an EA where there are no unresolved conflicts regarding uses of available resources, only the proposed action needs to be considered.

2.1 Alternative A – No Action Alternative

The BIA NEPA Guidebook 59 IAM 3-H (BIA 2012) states that the No Action Alternative may also be considered as a baseline for comparison of environmental effects and demonstrates the consequences of not meeting the need of the action. The No Action Alternative to the Project would not change the current land use by the Allottees. The mine would not be developed on Indian Allotted lands and no mitigation measures would be required.

2.2 Alternative B – Proposed Action

Proposed Action Title/Type: Section 4 Humate Mine Expansion Project

County: McKinley County, New Mexico

Applicant(s): Mesa Verde Resources

Surface Owner: 16 Allottees of Section 4, T19N, R6W N.M.P.M.

Mineral Estate: 16 Allottees of Section 4, T19N, R6W N.M.P.M.

The proposed Project would allow Mesa Verde to expand current Star Lake mining operations to Section 4 and fulfill the request of the Allottees to develop mineral resources on their property. The proposed Humate Mining Lease Agreement was drafted at the request of, and with the cooperation of, the 16 Allottees. The site is located approximately 30 miles southwest of Cuba, New Mexico, and 7 miles southwest of Ojo Encino, New Mexico, off Star Lake Road (Figure 1). The mine would be developed on 85 acres in the East 1/2 of Section 4, T19, R06W NMPM in McKinley County, New Mexico (Figure 2). The proposed mine site is on the Star Lake, NM U.S. Geological Survey (USGS) 7.5-minute quadrangle, as shown on Figure 2. Mesa Verde proposed to access the proposed mine via a 20-foot-wide roadway easement through portions of Sections 4, and 9 T19N R6W NMPM (Figure 2).

A site-specific Mining and Reclamation Plan consistent with BLM and MMD requirements was prepared for the Project (Appendix A). The proposed mine plan for Section 4 includes a sequence of mining areas associated from the mineable reserves, where open pits would be developed within the constraints of the Minimal Impact Permit (less than 10 acres). Mineable reserves are expected to occur within the entire 85-acre proposed mining area. Initial mining operations would begin in the 23-acre area identified as the primary and secondary mining areas shown in Figure 3. Mining would expand to the 62-acre tertiary mining area as the mine expands. Humate is expected to occur in an approximately 3- to 5-foot-thick

continuous interval at a depth of 0 to 15 feet throughout the proposed mining areas. Overburden is expected to be thinnest in Area 1 where the Fruitland Formation crops out.

Areas 1 through 3 would be mined first (Figure 3). Area 1 is approximately 5.9 acres, Area 2 is approximately 4.5 acres, and Area 3 is approximately 4.0 acres. Mining would then progress to Area 4 (4.0 acres) and Area 5 (5.5 acres) and eventually to the tertiary area as the mine expands.

Mesa Verde estimates the total in situ humate within Areas 1 through 5 are between 65,000 and 120,000 tons. The specific in situ humate estimate for each mining area is as follows:

- Area 1: 17,000 to 32,000 tons
- Area 2: 13,000 to 22,000 tons
- Area 3: 9,000 to 20,000 tons
- Area 4: 10,000 to 19,000 tons
- Area 5: 16,000 to 27,000 tons

Humate would be mined from open pits at the proposed mining areas in phases. A typical mining sequence for the proposed mine plan is illustrated on Figure 4. The active open pit size is usually restricted to between 1 and 3 acres at any one time. Mining begins with stripping overburden to open the pit and expose the humate. Overburden materials are stockpiled in designated areas within the active mining area; the thin and poorly developed topsoil horizons would not be segregated as the entire soil profile is suitable as reclamation growth media for native reclamation plant species and to minimize the potential spread of Halogeton (*Halogeton glomeratus*). The humate would be removed using a front-end loader or trackhoe, then loaded into a dump truck for delivery to the processing facilities in San Ysidro, New Mexico. The existing processing facility is leased on Zia Indian Reservation. An estimated eight truckloads of humate per day would be delivered, similar to the existing Star Lake Mine operations. The proposed Project would employ three full-time employees working 8-hour shifts, five to six days a week, depending on weather, and excluding holidays. Work would occur during daylight hours only. All mine vehicles would be restricted to haul roads and designated staging areas on the current active mine area.

Reclamation would be performed contemporaneously with mining activities. As new pits are developed for mining, the overburden removed is used to backfill and reclaim previously mined pits. The contemporaneous reclamation shown on Figure 4 is considered preliminary reclamation which consists of backfilling the pit and recontouring the surface to tie in with surrounding undisturbed topography. This reclamation pattern, concurrently closing old pits with overburden removed to create new pits, would continue through the entire mining operation. Contemporaneous reclamation enables Mesa Verde to limit the ground disturbance areas to less than 10 acres in accordance with the Minimal Impact Permit.

Once 10 acres of land, including the active open pit (1 to 3 acres) and preliminary reclaimed pits (9 to 7 acres), has been disturbed, Mesa Verde would initiate final reclamation of the preliminary reclaimed pits. Final reclamation goal is to return the permitted areas to a grazing post-mining land use. Each 10-acre ground disturbance area would be re-contoured to tie in with the surrounding landscape and allow positive drainage. Reclaimed slopes would not exceed 3H:1V. After final reclamation is the complete, the ground surface is estimated to be within approximately 0 to 6 feet of the pre-mining grade. The site would then be revegetated with the BIA- and MMD-approved seed mix. Once a 10-acre permitted disturbance area has been reclaimed and seeded, Mesa Verde may submit a permit modification to MMD to have the area inspected. All reclamation areas within the Project site would be monitored for revegetation success, as specified in the reclamation plan (Appendix A). Mesa Verde assumes that BIA and MMD (per MK007ME) would determine reclamation success separately.

2.3 Alternatives Considered But Not Analyzed in Detail

No other alternatives were identified during pre- and post-onsite analysis that would create fewer disturbances and still achieve the purpose and need of the proposed Project.

3.0 DESCRIPTION OF HUMAN ENVIRONMENT

This section describes the human environment that would be affected by implementation of the alternatives (the Project) described in Section 2.0. The principal components of the environment described in this section are the relevant major resources or issues. Only the components that could be potentially affected environment by the proposed action are described, as specified in the BIA NEPA Guidebook 59 IAM 3-H (BIA 2012). Elements that do not exist in the proposed Project site or that do not have potential to be impacted are eliminated from further analysis as indicated in the table. Those elements potentially impacted by the proposed action or alternatives are described in the following sections.

Field resource investigations of the 85 acres of the proposed Project were conducted on July 9 and July 23, 2014, by biologists from Rocky Mountain Ecology, LLC (RME). PaleoWest Archaeology (PaleoWest) performed three cultural resource surveys for the project on May 28, 2014, July 23, 2014 and April 22, 2015. The residents currently use the area for grazing sheep, goats, and horses.

Table 1: Components of the Human Environment and Basis for Determination of No Further Analysis

COMPONENTS OF THE HUMAN ENVIRONMENT				
Resources	Affected by the Proposed Action	Not Affected by the Proposed Action	Further Analysis Presented in Text	Basis for Determination
Land Resources				
Topography/Surface Geology	X			The Project site is on private Indian Allotted lands.
Soils	X			The Project site is on private Indian Allotted lands.
Mineral Resources	X		X	
Paleontology		X	X	The Project site is on private Indian Allotted lands.
Water Resources				
Water Quality, Surface/Ground ¹	X		X	
Wild and Scenic Rivers ¹		X		There are no wild and scenic rivers in or near the Project site.
Floodplains ¹		X	X	
Air Resources				
Air Resources ¹	X		X	
Climate Change (Greenhouse gases)	X		X	
Living Resources				
Wildlife	X			The Project site is on private Indian Allotted lands.
Wild Horses and Burros		X		The Project site is on private Indian Allotted lands.
Migratory Birds	X		X	
Bald and Golden Eagles		X	X	
Threatened or Endangered Species ¹		X	X	
Vegetation, Forestry	X			The Project site is on private Indian Allotted lands.
Invasive, Non-native Species	X		X	
Wetlands/Riparian Zones ¹		X		No wetlands/riparian areas are located in the Project site.
Ecosystems and Biological Communities	X			The Project site is on private Indian Allotted lands.
Livestock Grazing	X			The Project site is on private Indian Allotted lands.
Farmlands, Prime or Unique ¹		X		No prime or unique farmlands in or near the Project site.
Cultural Resources				
Cultural Resources ¹	X		X	
Native American Religious Concerns ¹		X	X	

Socioeconomic Conditions				
Employment and Income	X			The Allottees would earn income from the Project under the lease agreement.
Demographic trends		X		
Lifestyle and Cultural Values		X		
Community Infrastructure		X		
Environmental Justice ¹		X		No measurable or disproportionate adverse impacts to minority populations.
Resource Use Patterns				
Hunting, Fishing, Gathering		X		The Project site is on private Indian Allotted lands.
Timber Harvesting		X		No merchantable timber present
Agriculture		X		The soils in the Project site have severe limitations that make them generally unsuitable for cultivation and restrict their use to pasture, grazing, or wildlife habitat.
Mineral Extraction	X		X	The proposed Project involves mineral extraction (discussed in Section 4.1.2, Mineral Resources).
Recreation		X		The Project site is on private Indian Allotted lands.
Transportation Networks		X		The Project site is on private Indian Allotted lands.
Land Use Plans		X		The Project site is on private Indian Allotted lands.
Other Values				
Wilderness ¹		X		There are no designated Wilderness Areas within a 25-mile radius of the proposed Project.
Noise and light	X		X	The Project site is on private Indian Allotted lands.
Visual Resources	X		X	The Project site is on private Indian Allotted lands.
Public Health and Safety	X			The Project site is on private Indian Allotted lands.
BIA Trust Assets	X			The Project site is on Indian Allotted lands held in trust by the BIA and would benefit the Allottees.
Hazardous Materials		X		
Areas of Critical Environmental Concern ¹ (ACECs)		X		The Project is not within any Areas of Critical Environmental Concerns.

Note: 1= Critical environmental component under BLM policy (H- 1790-1, NEPA Handbook) as specified by statute, regulations, or Executive Order (EO).

3.1 Land Resources

The Project site is on the Colorado Plateau physiographic region in northeastern McKinley County, New Mexico. Elevations within the Project site range from about 6,690 to 6,760 feet above mean sea level (amsl). The mean annual temperature at the Star Lake meteorological station ranges from approximately 30° to 64° Fahrenheit (Western Regional Climate Center, 2014). Mean annual precipitation is about 9 inches per year.

Surface geology within the Project site includes Quaternary Alluvium and Eolian Sands and Cretaceous Fruitland formation and Pictured Cliffs sandstone formations (Scott et al., 1980). The soils within the Project site primarily consist of deep, well drained soils formed in coarse-textured to moderately fine-textured alluvium or eolian deposits derived from sandstone or shale (Soil Survey Staff, 2014).

3.1.1 Paleontology

The proposed Project site is within the paleontological rich area of the San Juan Basin of northern New Mexico. No paleontological resources are known to exist within the Project site; however, a variety of paleontological resources exists in the BLM FFO planning area (BLM, 2003a). The late Cretaceous-age Fruitland Formation hosts the humate deposit in the Project site.

The BLM uses the Potential Fossil Yield Classification (PFYC) system to identify areas with a high potential to produce significant fossil resources (BLM 2007). This system has ranked all lands within the FFO management area as a Class 5 designation, described as being Very High Potential paleontological resource areas, thus requiring an assessment at the project level (BLM 2007).

Paleontological resources on Indian Allotted lands belong to the Allottees. No persons may excavate or remove any imbedded fossil from Indian Lands without permission from the Allottees and a permit issued under the authority of the BIA per 25 CFR 162.100.

3.1.2 Mineral Resources

The proposed Project would access salable minerals from the allottee's mineral estate. Salable minerals include common materials such as sand, gravel, rock, other fill material, humate, and coal. There are no coal mines near the Project site; however, there are other humate and sandstone (flagstone) mines within 10 miles. The surrounding area has been subject to a minor amount of oil and gas development.

Humate is defined geologically as weathered coal or mudstone, which is rich in humic acid (HA) and fulvic acid (FA). It is defined chemically as a salt of humic acid. Humate material is formed by weathering of organic material in coal, lignite, or mudstone. At the Project site, the humate is associated primarily with weathered coal within the Fruitland Formation. The humate deposits are associated with the weathered and more detrital-sediment rich parts of coal deposits within the Star Lake coal field in the Fruitland

Formation. The Star Lake field is the smallest of the Fruitland Formation coal fields. The Star Lake field lies stratigraphically and geographically between the northern boundary of the field, as defined by the Fruitland contact with the overlying Kirtland Formation, and the southern boundary of field, which is defined by the Fruitland contact with the underlying Pictured Cliffs Sandstone (McLemore et al., 1986).

3.2 Water Resources

3.2.1 Water Quality, Surface and Groundwater

The proposed Project is in the San Juan Basin at surface elevations from approximately 6,690 to 6,760 feet amsl. The Project site is in the upper reaches of the Chaco sub-watershed within the Upper San Juan Watershed. The Chaco watershed is drained by Chaco Wash, an ephemeral stream, which flows northwest to the intermittent Chaco River (approximately 36 miles downstream), a tributary of the San Juan River (approximately 120 miles downstream). The primary source of water for all purposes in the San Juan Hydrologic Unit is surface water (New Mexico Office of the State Engineer [NMOSE], 2003). Chaco watershed contributes approximately 4,300 acre-feet of surface water annually to the San Juan River.

Two unnamed ephemeral tributaries of Chaco Wash run through Section 4. The tributaries drain local surface water north to Chaco Wash. The tributaries are headwater alluvial channels that share the same floodplain. There are no perennial surface water resources in the form of rivers, lakes, ponds, or streams, nor any wetlands, springs, or riparian habitats within the proposed Project site.

The occurrence of groundwater resources in the San Juan Basin is generally within sandstone aquifers in Cretaceous, Jurassic, and Triassic aged sandstones (NMOSE, 2003) as well as in Quaternary valley-fill sedimentary deposits and Tertiary sedimentary units. The NMOSE has indicated the nearest bedrock aquifer beneath the Project site is the Picture Cliffs formation, estimated at more than 100 feet below ground surface (NMOSE, 2013). The Picture Cliffs formation lies below the Fruitland Formation (the humate host rock) in the stratigraphic column (McLemore et al., 1986).

Very few well records are available for the Project site. A search of the NMOSE Water Administration and Technical Engineering Resource System (WATERS) database for the proposed Project site and vicinity (4-mile radius) was performed. There are four recorded wells within 5 miles of the proposed Project site. The average depth of the wells is listed between 120 and 255 feet (NMOSE, 2014).

3.2.2 Floodplains

Areas subject to inundation by the 1-percent-annual-chance flood event are limited to the active floodplain of the unnamed ephemeral tributaries. These areas are classified as Zone A (no base flood determined) by the Federal Emergency Management Administration (FEMA). The Project site is outside the floodplain.

3.3 Air Resources

The proposed Project is located in McKinley County, New Mexico. Additional general information on air quality in that area is in Chapter 3 of the Farmington PRMP/FEIS (BLM, 2003a). In addition to that air quality information, new information about greenhouse gases (GHGs) and their effects on national and global climatic conditions has emerged since the PRMP was prepared. The potential impacts of GHG emissions such as carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), water vapor, and several trace gases on global climate is being identified by ongoing scientific research. Through complex interactions on a global scale, GHG emissions might cause a net warming effect of the atmosphere, primarily by decreasing the amount of heat energy radiated by the earth back into space. Although GHG levels have varied for millennia (along with corresponding variations in climatic conditions), industrialization and burning of fossil carbon sources have caused GHG concentrations to increase measurably, and might contribute to overall climatic changes, typically referred to as global warming.

The 2003 PRMP discussed ozone in the Baseline Air Quality and Impact Assessment sections. The National Ambient Air Quality Standard (NAAQS) at the time was 0.084 parts per million (ppm). In March 2008, the EPA announced a new primary 8-hour standard of 0.075 ppm (Federal Register, 2008).

In addition, the EPA, on October 17, 2006, issued a final ruling on the lowering of the NAAQS for particulate matter ranging from 2.5 micron or smaller particle size. This ruling became effective on December 18, 2006, stating that the 24-hour standard for PM_{2.5}, was lowered to 35 µg/m³ from the previous standard of 65 µg/m³. This revised daily NAAQS was promulgated to better protect the public from short-term particle exposure.

3.3.1 Air Quality

The proposed Project site is considered a Class II air quality area. A Class II area allows moderate amounts of air-quality degradation. The primary sources of air pollution are dust from blowing wind over disturbed or exposed soil and exhaust emissions from motorized equipment.

Air quality in the area near the proposed Project site is generally good and the Project site is not in any of the areas designated by the EPA as "non-attainment areas" for any listed pollutants regulated by the Clean Air Act. During the summers of 2000 through 2002, ozone levels in nearby San Juan County were approaching non-attainment levels. Alpine Geophysics, LLC and Environ International Corporations, Inc. conducted additional modeling and monitoring, in 2003 and 2004, respectively. Results of the modeling suggest the episodes recorded in 2000 through 2002 were attributable to regional transport and high natural biogenic source emissions. The model also predicted that the region would not violate the ozone NAAQS through 2007, and that the trends in the 8-hour ozone concentrations in the region will be decreasing in the future. Currently McKinley County is in attainment of all federal NAAQS.

The EPA under the Clean Air Act does not regulate greenhouse gases, including carbon dioxide and methane. However, climate has the potential to influence renewable and non-renewable resource management. The EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks found that in 2006, U.S. GHG emissions were over 6 billion metric tons and that U.S. GHG emissions have increased by 14.1 percent from 1990 to 2005. The report also noted that GHG emissions fell by 1.5 percent from 2005 to 2006. This decrease was, in part, attributed to the increased use of natural gas and other alternatives to burning coal in electric power generation.

The concentrations of these GHGs are expected to continue increasing. The rate of increase is expected to slow as greater awareness of the potential environmental and economic costs associated with increased levels of GHGs result in behavioral and industrial adaptations.

3.3.2 Climate Change

Global mean surface temperatures have increased nearly 1.0°C (1.8°F) from 1890 to 2006 (Goddard Institute for Space Studies, 2007). However, observations and predictive models indicate that average temperature changes are likely to be greatest in the Northern Hemisphere. Without additional meteorological monitoring systems, it is difficult to determine the spatial and temporal variability and change of climatic conditions, but increasing concentrations of GHGs are likely to accelerate the rate of climate change.

In 2007, the Intergovernmental Panel on Climate Change (IPCC) predicted a warming of about 0.2°C per decade for the next two decades, and then a further warming of about 0.1°C per decade (IPCC, 2007). The National Academy of Sciences (2006) supports these predictions, but has also acknowledged that there are uncertainties regarding how climate change may affect different regions. Computer model predictions indicate that increases in temperature will not be equally distributed, but are likely to be accentuated at higher latitudes. Warming during the winter months is expected to be greater than during the summer, and increases in daily minimum temperatures are more likely than increases in daily maximum temperatures.

A 2007 U.S. Government Accountability Office (GAO) Report on Climate Change found that, "federal land and water resources are vulnerable to a wide range of effects from climate change, some of which are already occurring. These effects include, among others: 1) physical effects such as droughts, floods, glacial melting, and sea level rise; 2) biological effects, such as increases in insect and disease infestations, shifts in species distribution, and changes in the timing of natural events; and 3) economic and social effects, such as adverse impacts on tourism, infrastructure, fishing, and other resource uses." It is not, however, possible to predict with any certainty regional or site-specific effects on climate relative to the proposed action and subsequent actions.

3.4 Living Resources

The predominant vegetation community in this region is Great Basin Desert Scrub (Dick-Peddie, 1993). Arid shrubs such as big sagebrush (*Artemisia tridentata*), greasewood (*Sarcobatus vermiculatus*) and shadescale dominate the vegetation community (*Atriplex confertifolia*). The private landowners currently use the area to graze sheep, goats, and horses.

RME conducted a biological investigation of the 85 acres of land for Mesa Verde under subcontract to Golder. The field work was performed in accordance with a NNDFW Permit on June 26, 2014, and July 23, 2014. In order to fulfil Navajo Nation Environmental Policy Act (NNC Title 2, Chapter 9) a Biological Evaluation (BE) was prepared by RME and submitted to the Navajo NNHP on September 2, 2014. The NNHP maintains guidelines for biological evaluations. The BE, provided as Appendix B, addresses the impacts of the proposed Project on biological resources. The evaluation was performed with consultation from the NNDFW and the U.S. Fish & Wildlife Service (USFWS). The NESL and federally listed species were evaluated and reviewed. The living resources in the Project site are described in the following sections using information presented in the BE. The purpose of this survey was to adhere to the ESA of 1973, and the Navajo Nation requirement for species of concern (17 NNC § 507).

3.4.1 Threatened and Endangered Species

Under Section 7 of the ESA of 1973, as amended, the BIA is required to consult with the USFWS on any proposed action decision that may affect federally listed threatened or endangered species or species proposed for listing. According to the USFWS, there are six federally listed threatened, endangered, or candidate species with the potential to occur in McKinley County, New Mexico.

The BE addresses the potential for federally listed species to occur in the Project site. Table 2 summarizes the habitat descriptions and potential presence of federally listed species in the Project site. None of the species listed were observed during the biological field surveys.

Table 2: Habitat Descriptions and Presence of USFWS-Listed Threatened (T), Endangered (E), Proposed Threatened (P), or Candidate (C) species with Potential to Occur in McKinley County, New Mexico

Species	Status	Habitat Descriptions	Presence
Black-footed ferret (<i>Mustela nigripes</i>)	E	Open grasslands with year-round prairie dog colonies.	NP
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	E	Breeds in dense, shrubby riparian habitats, usually in close proximity to surface water or saturated soil.	NP
Yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	C	Nests in cottonwood/willow riparian habitat with dense understory along rivers; rare in the San Juan Valley.	NP
Mexican spotted owl (<i>Strix occidentalis lucida</i>)	T	Nests in caves, cliffs, or trees in steep-walled canyons of mixed conifer forests.	NP
Zuni bluehead sucker (<i>Catostomus discobolus yarrowii</i>)	C	Occurs in shady, cobbled and bedrock perennial streams with frequent runs and pools.	NP
Zuni fleabane (<i>Erigeron rhizomatus</i>)	T	Piñon-juniper woodlands on steep, easily eroded sandstone slopes and clay banks, usually in close association with the Chinle and Baca formations. (7,200-8,300 feet amsl).	NP

Notes:

K = Known, documented observation within the Project site

NP = Habitat not present and species unlikely to occur within the Project site

NS = Habitat suitable but species is not suspected to occur within the Project site

S = Habitat suitable and species suspected to occur within the Project site

Because the Project site is within the Navajo Nation boundaries, the species on the NESL were also considered, pursuant to 17 NNC § 507. NESL data for land-use actions was furnished by NNDFW and is included as Appendix B of the BE. NESL contains taxa from the entire Navajo Nation; however, only the species whose distribution includes the Project site are included in Table 3. The Navajo Nation has two species in common with the USFWS list: southwestern willow flycatcher (*Empidonax traillii extimus*) and black-footed ferret (*Mustela nigripes*).

Table 3: Habitat Descriptions and Presence of Navajo Nation-listed Species with Potential to Occur in McKinley County, New Mexico

Species	Status	Habitat Descriptions	Presence
Burrowing owl (<i>Athene cunicularia</i>)	G4	Rarely dig their own burrows and are typically associated with prairie dog colonies.	NS
Ferruginous hawk (<i>Buteo regalis</i>)	G4	Flat or rolling terrain in grasslands, shrub-steppes, and deserts; may occur in the periphery of piñon-juniper or other forests. Badlands. Prefers elevated nest sites (e.g., buttes, utility poles, trees) but also nests on the ground.	NS
Golden eagle (<i>Aquila chrysaetos</i>)	G3	Mostly open habitats in mountainous canyon terrain. Nests in mountain cliffs or canyons and escarpments; rimrock terrain adjacent to open desert or grassland; trees or man-made structures may also provide nests.	NS
Mountain plover (<i>Charadrius montanus</i>)	G2	Breeds in flat, open grasslands; often associated with prairie dog colonies and intensive grazing.	NS
American Peregrine falcon (<i>Falco peregrinus anatum</i>)	G4	Rugged terrain with rocky cliffs and canyons (30-1,000+ feet high), adjacent to rivers, lakes, or streams. Urban areas with towers and buildings are also inhabited.	NP
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	G2	Breeds in dense, shrubby riparian habitats, usually in close proximity to surface water or saturated soil.	NP
Black-footed ferret (<i>Mustela nigripes</i>)	G2	Open grasslands with year-round prairie dog colonies.	NP
Kit fox (<i>Vulpes macrotis</i>)	G4	Desert scrub and plains, desert grasslands, and occasionally coniferous woodlands. Prefers sandy soils for digging dens.	NS
Aztec gilia (<i>Aliciella formosa</i>)	G4	Salt desert scrub communities or soils associated with the Nacimiento Formation and elevations between 5,000 and 6,400 feet amsl.	NP
Brack hardwall cactus (<i>Sclerocactus cloveriae</i> ssp. <i>Brackii</i>)	G4	Sandy clay strata within sparse shadescale scrub in the Nacimiento Formation and elevations between 5,000 and 6,400 feet amsl.	NP
San Juan milkweed (<i>Asclepias sanjuanensis</i>)	G4	Sandy loam soils usually in disturbed areas in juniper savanna and Great Basin Scrub; elevations between 5,000 and 5,500 feet amsl.	NP

Notes:

G1 = no longer present on Navajo Nation

G2 = "Endangered" = prospects of survival and recruitment unlikely

G3 = "Endangered" = prospects of survival and recruitment likely in jeopardy in the future

G4 = NNDFWL lacks sufficient data to make a determination of listing in G2 or G3

NP= Habitat not present and species unlikely to occur within the Project site

NS= Habitat suitable but species is not suspected to occur within the Project site

S = Habitat suitable and species suspected to occur within the Project site

3.4.2 Migratory Birds

Under the MBTA (16 USC § 703-712) and EO 13186, federal agencies are required to consider management impacts to migratory birds. While all migratory songbirds are protected by law, certain species have been determined to be at greater risk than others. There are more than 200 avian species in McKinley County and the surrounding regions listed under the MBTA (BISON, 2014). Data collected through breeding bird surveys coordinated by the USFWS, as well as other private sector efforts, have supported the Partners in Flight (PIF) organization to develop bird "Watch Lists" and the USFWS's "Birds of Conservation Concern List." The proposed Project site contains one of the habitat types included in these documents: Great Basin Desert Shrub (sagebrush grassland). A sampling of some of the birds listed as Highest Priority by the PIF includes gray vireo (*Vireo vicinior*), gray flycatcher (*Empidonax wrightii*), sage sparrow (*Amphispiza belli*), and sage thrasher (*Oreoscoptes montanus*). The USFWS' list of Birds of Conservation Concern includes the gray vireo and sage sparrow.

Sagebrush grassland habitats support a unique suite of avian species. Birds that may nest in desert-grassland habitats in McKinley County include: horned lark (*Eremophila alpestris*), sage thrasher (*Oreoscoptes montanus*), vesper sparrow (*Poocetes gramineus*), Brewer's sparrow (*Spizella breweri*), sage sparrow, and western meadowlark (*Stumella neglecta*). Other species may utilize desert-grassland habitats during the non-breeding season and may include: mourning dove (*Zenaida macroura*), Gambel's quail (*Callipepla gambelii*), mountain bluebird (*Sialia currucoides*), lark sparrow (*Chondestes grammacus*), and dark-eyed junco (*Juncus hyemalis*). The open grasslands at and near the Project site also offer potential foraging habitat for several raptor species such as golden eagle (*Aquila chrysaetos*), red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus*), and prairie falcon (*Falco mexicanus*); however, there are no suitable nest substrates in or near the Project site. No raptors or signs of raptor use were observed during the biological field surveys (Appendix B).

3.4.3 Bald and Golden Eagles

The 1940 Bald and Golden Eagle Protection Act (BGEPA) (16 USC § 668-668c), prohibits "take" without a permit, of bald eagles, including their parts, nests, or eggs. The bald eagle is no longer on the Endangered Species List, but it is protected by the Eagle Act and the MBTA. It is also the policy of the Navajo Nation to provide protection for golden and bald eagles (17 NNC § 505).

The open grasslands at and near the Project site also offer potential foraging habitat for several raptor species such as golden eagle (*Aquila chrysaetos*). No eagles were observed within the project area during the field surveys. The closest cliffs that could provide marginally suitable nesting sites are 3 miles away.

Bald eagles (*Haliaeetus leucocephalus*) prefer mature or old-growth forested areas and adjacent to lakes or rivers for forage of waterfowl and fish. The Project site does not include habitat for bald eagles.

3.4.4 Invasive, Non-Native Species

Halogeton (*Halogeton glomeratus*) is a poisonous introduced noxious weed that was observed within the Project site during the biological field surveys. This species is listed as a New Mexico Department of Agriculture (NMDA) Class B species (2009). It is highly toxic to both sheep and cattle; however, the toxicity potential for harm can depend on livestock health, site conditions and plant maturity (USDA, 2014).

A complete list of plants found at the Project site during the biological field surveys is included in the BE (Appendix B).

3.5 Cultural Resources

There are several pieces of legislation or Executive Orders that should be considered when evaluating Native American religious concerns. These govern access and use of sacred sites, possession of sacred items, protection and treatment of human remains, and the protection of archaeological resources ascribed with religious or historic importance. These include: AIRFA, 42 USC § 1996, PL 95-431 Stat. 469; EO 13007 (May 24, 1996); NAGPRA, 25 USC § 3001, PL 101-601; and ARPA, 16 USC § 470, PL 96-95.

The Project is within the archeologically rich San Juan Basin of northwestern New Mexico, immediately northwest of Star Lake, and less than 30 miles southeast of Chaco Culture National Historical Park. In general, the prehistory of the region can be divided into six major periods: PaleoIndian (ca. 10000 B.C. to 5500 B.C.), Archaic (ca. 5500 BC to A.D. 1000), Basketmaker II-III (1000 B.C. to A.D. 750), Pueblo I-IV (A.D. 750 to 1400), Protohistoric (ca. A.D. 1400 to 1868), and the historic (A.D. 1868 to present), which includes Native American as well as later Hispanic and Euro-American settlers. A detailed description of these various periods and select phases within each period is provided in the Farmington PRMP/FEIS (BLM, 2003a) and the Cultural Resource Inventory Report submitted to NNHPD (PaleoWest Archaeology [PaleoWest], 2014).

PaleoWest conducted a Class III level (100 percent) survey and inventory report was prepared and submitted to the NNHPD. The entire area of potential affect for the proposed Project was surveyed and inventoried by PaleoWest for archaeological and historic resources on under NNHPD Permit No. B14267 on May 28, 2014, and July 23, 2014. Ethnographic work was also completed on May 28, 2014.

The Project site is within the boundaries of the Navajo Nation, in the Pueblo Pintado Chapter, Eastern Navajo Agency. Because the proposed Project site is on Navajo tribal allotment, the cultural resource work had to comply with NNHPD requirements. In addition to what is required by federal agencies, the NNHPD requires: 1) ethnographic research, interviews, and reporting to identify Traditional Cultural Properties (TCPs), Jischchaa' (places of death), and burials in and near the Project site; and 2) in-field recording of certain kinds of sites (e.g., abandoned hogans, shrines) that are less than 50 years old.

The inventory included an onsite field survey, literature search, ethnographic study, and agency consultation. An online literature search of the Archeological Records Management Section (ARMS) and the NNHPD cultural resource files was conducted to determine if any sites had been recorded within 1/4 mile of the Project site. A search of the National Register of Historic Places (NRHP) and State Register of Cultural Properties was also conducted. In addition, PaleoWest consulted with Mr. Tim Begay of the Traditional Cultural Properties Program (TCPP) of the NNHPD, reviewed literature on the area, contacted the Pueblo Pintado Chapter, and interviewed the family that owns the Project site.

The results of the literature search found that five previous archeological inventories had been conducted and nine previously recorded sites had been documented within 1/4 mile of the project; LA13972, LA13981, LA13982, LA13983, LA13985, LA14054, LA14055/SL-20-26, LA14055, LA14068, and LA176089.

The Class III archaeological survey and ethnographic inventories identified 3 new sites, 1 re-recorded site, and 17 isolated occurrences (IOs). PaleoWest updated a segment of site LA176089, the PNM transmission line, which was first recorded in 2013.

Three archaeological sites and one in-use site were recorded in or within 100 meters south of the Project site. They include a historic can dump (NM-R-5-16), pre-historic lithic scatter (NM-R-5-17), pre-historic lithic scatter and historic structural (NM-R-18), and a transmission line (LA176089). Based on criteria established by the National Park Service (NPS), PaleoWest recommends all of these sites not eligible to the National Register and do not qualify under ARPA.

Seventeen 17 IOs, ranging in age from modern to unknown prehistoric were found during the Class III survey. All but one of the IOs were in the northern two-thirds of the Project site in a variety of topographic settings; one was near the southern edge of the Project site. PaleoWest recommends all 17 IOs not eligible for the National Register and not eligible for protection under ARPA.

Traditional Cultural Prosperities (TCPs) is a term that has emerged in historic preservation management and the consideration of Native American religious concerns. TCPs are places that have cultural values that transcend, for instance, the values of scientific importance that are normally ascribed to cultural resources such as archaeological sites. The NPS (Parker and King, 1998) has defined TCPs as follows:

A traditional cultural property can be defined generally as one (a property) that is eligible for the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community. (National Register Bulletin 38.)

Paleowest did not identify TCPs or other locations of stated tribal significance within or near the Project site. PaleoWest consulted with the TCPP of the NNHPD, reviewed literature on the area, contacted the Pueblo Pintado Chapter, and interviewed the family that owns the Project site. Additionally, PaleoWest consulted with the TCPP (Mr. Tim Begay). A review of existing information compiled during previous land-use planning efforts, existing studies, or via direct consultation indicates the proposed action is not within a known TCP.

3.6 Other Values

3.6.1 Visual Resources

The Project site is within the San Juan Basin, an area visually characterized by steep colorful escarpments, mesas, plains, dunes, and sheer-walled canyons. The Chaco Slope forms the most extensive structural feature in the McKinley County area. The Project site is in a broad valley bounded on the north by Sisnathel Mesa (14 miles north) and the south by Chaco Mesa (7 miles south). The general landforms consist of mesa, cuesta, retreating escarpment, and associated valleys. In general, slopes of the Project site range from 1 to 8 percent of the valley slopes and stable eolian sand dunes. Along the western edge of the Project site, the terrain consists of relatively gentle slopes of the ephemeral stream channel of the valley floor. Dissected badlands occur in the central and northwest Project site, exposing Cretaceous age sandstones and siltstones.

The BLM uses the Visual Resource Inventory (VRI) process to determine visual values of the landscape. In 2009, an updated VRI was completed for the FFO planning area, and updated again in 2013. The updated VRI did not consider tribal lands and Chaco Culture National Historic Park. However, the mapping of visual resources in the region presented in the *Farmington Field Office visual resource management plan proposed resource management plan amendment* (BLM 2013), indicate that the Project site is in a Class IV VRM-designated area. Class IV visual resources are of the least value. Management objectives for the Class IV VRM are to manage activities that require major modification of the existing character of the landscape and the level of change can be high.

3.6.2 Noise

The existing noise levels at the Project site have not been measured, but are assumed to be relatively low given the rural location of the property. Some urban noises that represent the range of noise levels that are commonly heard are listed in Table 4. There is an existing homestead southwest of the proposed Project site. The mine would operate outside of a 500-foot buffer from the homestead. Noise level in the Project site are expected to peak at a maximum near 85 decibels (dBA) during operating hours.

Table 4: Example of General Noise Levels in Common Activity Areas

Noise Generator	General Noise Level (dBA)
Construction Site	85
Caterpillar D8T Bulldozer	86 ¹
Caterpillar D7F Bulldozer	80 ¹
Hyundai 760 Wheel Loader	84
Caterpillar 950F Wheel Loader	84 ¹
Trojan 3500Z Wheel Loader	84 ¹
Caterpillar Road Grader	85 ¹
Pick-up Truck	80
Automobile	65
Residential Area (daytime)	50
Residential Area (nighttime)	45
Rural Area (nighttime)	35
Hearing Threshold	20

Notes:

dBA = decibels

1 = average noise level readings recorded at 15 meters (Federal Highway Administration [FHWA], 2010)

4.0 ENVIRONMENTAL IMPACTS

Environmental resources can be affected in many ways during implementation of the proposed action (the Project). The effect, or impact, is defined as any change or alteration in the pre-existing condition of the environment produced by the proposed action, either directly or indirectly. This chapter analyzes the environmental consequences of the proposed action (Alternative B) according to CEQ guidelines (40 CFR § 1500-1508). The potential environmental impacts and proposed mitigation measures for this Project are described in the following sections.

Impacts can be either long-term (permanent, residual) or short-term (incidental, temporary). Short-term impacts affect the environment for only a limited time, and the environment usually reverts rapidly to the pre-Project condition. Long-term impacts are substantial and permanent alterations to the pre-Project environment that endure more than five years. Impacts may be irreversible or residual, and the affected resources irretrievable.

For this EA, potential impacts have been divided into three levels:

- **High** - impacts that are substantial in severity and therefore should receive the greatest attention in decision making.
- **Moderate** - impacts that cause a degree of change that is easy to detect but do not meet the criteria for significant impacts.
- **Low** - impacts that are not easily detected and cause little change in the existing environment.

Where applicable, BLM mitigation measures are suggested for resource development to maintain consistency with the Star Lake Mine EA (Ecosphere 2012).

4.1 Land Resources

4.1.1 *Paleontology*

The Fruitland Formation is known to contain paleontological resources; however, no known sources occur within the Project site.

4.1.1.1 Direct and Indirect Effects

Direct impacts of the proposed Project to fossil localities could result from the ground-disturbing activities or the disturbance of the stratigraphic context in which they are located. An increase in human activity in the area could increase the possibility of unauthorized removal or other third-party alterations to paleontological resources in the area. Potential impacts to paleontological resources as a result of the proposed Project would be low and long-term.

4.1.1.2 Mitigation Measures

Paleontological resources are considered to be part of the surface estate, which is owned by the 16 Allottees. Paleontological resources are also considered trust resources on tribal lands. No persons may excavate or remove any imbedded fossil from Indian Lands without permission from the Allottees and a permit issued under the authority the Secretary of the Interior. Measures to mitigate impacts would be implemented at the allottee's direction and according to the BIA Division of Environmental and Cultural Resources Management Paleontological Resources Policy which would require a permit to excavate the resource.

4.1.2 Mineral Resources

The proposed surface mining would extract the mineral resource humate, which would be sold commercially by Mesa Verde.

4.1.2.1 Direct and Indirect Impacts

Impacts to salable mineral resources through the mining of humate would be low to moderate. The proposed Project would allow the extraction, sale, and use of the minerals from the Project site, which would be an irretrievable commitment of resources.

4.1.2.2 Potential Mitigation

No mitigation measures for mineral resources are recommended.

4.2 Water Resources

4.2.1 Water Quality, Surface and Groundwater

There are no perennial surface-water resources, seeps, springs, or wetlands within the Project region. Key factors that influence the surface-water quality in the Chaco watershed sub-basin include some or all of the following: sparse vegetative cover, highly erosive and saline soils, rapid runoff, livestock grazing, and mineral resources development. Two unnamed ephemeral tributaries of Chaco Wash drain the proposed Project site.

Mineral extraction would not degrade or adversely affect groundwater quality in the uppermost aquifer beneath the Project site, based on the estimated overburden and humate thickness and depth to the uppermost aquifer.

4.2.1.1 Direct and Indirect Effects

The proposed Project could, over the life-of-mine (LOM) period, expose a maximum of approximately 85 acres of soil for mining. However, the actual ground disturbances would be limited to no more than 10 acres at time under the MMD Minimal Impact Permit, and reclamation will be performed contemporaneously with mining. Overburden would be removed in 1-acre increments, with no more than

2 acres of excavated overburden stockpiled at any given time. Each 10-acre disturbance area would re-contoured to tie in with the surrounding landscape and allow positive drainage. Reclaimed slopes would not exceed 4H:1V. After final reclamation is complete, the ground surface of the former pit areas is estimated to be within approximately 0 to 6 feet of the pre-mining grade.

Impacts to water quality would primarily be associated with runoff following storm events. The impacts to surface water quality due to increased sediment would be low and short-term, as the surface water near the Project site is ephemeral. Impacts to water quality would persist for the LOM, until the all ground-disturbance areas are fully reclaimed.

4.2.1.2 Mitigation Measures

A Stormwater Pollution Prevention Plan (SWPPP), a requirement of the NPDES that regulates water quality when associated with construction or industrial activities, will be implemented to control erosion and subsequent impacts to surface water quality.

4.2.2 Floodplains

The Project site is not within the 100-year floodplain as defined in current Federal Emergency Management Administration (FEMA) maps (FEMA, 2010).

4.3 Air Resources

The following equipment would be used throughout the Project: Caterpillar D7F Dozer, Caterpillar D8T Dozer, Caterpillar 950F Wheel Loader, Hyundai 760 Wheel Loader, Trojan 3500Z Wheel Loader, and dump trucks. Since the Project would only employ three people, a maximum of three pieces of equipment would be operated at a time, throughout an 8-hour day, five to six days a week. No processing equipment would be located on site. Traffic would increase by approximately eight vehicle trips per day from the proposed Project site.

4.3.1 Air Quality

4.3.1.1 Direct and Indirect Effects

Air quality would be directly impacted with pollution from exhaust emissions and dust generation. There would not be emissions from power generation. Air pollution from the motorized equipment and dust dissemination would continue for the LOM and for reclamation activities. Impacts from emissions and dust would generally be localized to the Project site. Other factors that currently affect air quality in the area include dust from livestock herding, dust from recreational use, dust from use of dirt roads by vehicles, and emissions from oil and gas production. The significant threshold for particulate matter of 35 $\mu\text{g}/\text{m}^3$ daily $\text{PM}_{2.5}$ NAAQS is not expected to be exceeded by the proposed Project. Impacts to air quality attributable to this Project would be low and short-term.

4.3.1.2 Mitigation Measures

The FFO has been a participant of the Four Corners Air Quality Task Force (FCAQTF) since its inception in 2002, when it was known as the Four Corners Ozone Task Force. Because of the uncertainties raised by the modeling in 2003 and 2004 (Section 3.3.1.1), FCAQTF has continued to monitor air quality issues in the Four Corners region. The FCAQTF is comprised of a broad base of representatives including federal, state, tribal, and local governments, as well as industry, interest groups, and concerned community members. FCAQTF developed a mitigation options report, which was completed in December 2007). FCAQTF also has several working groups that serve as a resource and guide to the regulatory agencies. The responsible agencies could use the 2007 report as the basis for developing air quality management plans for the region. This could include developing new and revising existing regulations, supporting new legislation, developing new outreach and information programs, and developing and/or expanding voluntary programs for emission reductions.

The BLM's regulatory jurisdiction over authorized activities on federal lands has resulted in the development of "Best Management Practices" (BMPs) designed to reduce impacts to air quality. Although the BLM RMP does not specifically discuss Indian Allotments, the BLM BMPs will be adopted for the project. Typical BMPs could include: vapor recovery systems being maintained and functional where petroleum liquids are stored; revegetating disturbed land, and watering dirt roads during high use to reduce fugitive dust emissions. Project operations will occur only during daylight hours. Minimal amounts of equipment will be used for mining operations and the reclamation will be performed contemporaneously with mining.

4.3.2 Climate

No impacts to the climate are anticipated as a result of this Project.

4.4 Living Resources

4.4.1 Threatened and Endangered Species

The NESL and USFWS-listed species were evaluated and reviewed. No USFWS-listed species, or potential habitats, were found at or near the proposed Project site. No NESL were observed during the field survey; however, ferruginous hawks, golden eagles, prairie falcons, and mountain plover have the potential to occur in the proposed Project region. The potential for these species to occur within the Project site is based on evaluation of the habitat, the known habitat associations of the species, and the proximity to documented nests and habitat.

The BE (Appendix B) was submitted to the NNHP to meet the requirements of Section 7 of the ESA (19 USC § 1536 [c], 50 CFR § 402.12 [F], and 402.14 [c]).

4.4.1.1 Direct and Indirect Effects

Direct and indirect effects on threatened or endangered species were evaluated in the BE (Appendix B). The BE determined that no indirect or direct effects would be incurred by USFWS-listed species from the proposed Project due to lack of habitat. The proposed Project would not result in a change in listing status to NESLs with the potential to occur within the Project site. However, direct and indirect effects to the burrowing owl, ferruginous hawk, golden eagle, mountain plover, American peregrine falcon, and kit fox are possible due to destruction of potential habitat or changes in foraging behavior. No population- or species-level impacts are anticipated due to the small amount of habitat loss.

Direct impacts to burrowing owls, ferruginous hawks, golden eagles, and American peregrine falcons as a result of the proposed Project would include the removal and modification of a maximum of 85 acres (if the entire mine area is developed) of potential foraging habitat, all of which would eventually be reclaimed. The proposed Project would not result in any disturbance or modification of potential nesting habitat. Impacts would be reduced through contemporaneous reclamation. Impacts from loss, modification, and avoidance of foraging habitat would be low and short term. Raptor species may also be directly impacted during operations due to increased noise, humans, and vehicles; these disruptions could cause raptors to avoid the area. This avoidance would also be low and short-term. Indirect impacts could include a change in the vegetation species' composition and density due to the ground disturbance and reclamation, which could affect the raptor's prey base. Indirect impacts would be low and long term.

During mining and reclamation, mountain plovers would likely avoid the Project site and surrounding area. Direct impacts from avoidance would be low and short-term. The proposed Project would result in removal and modification of potential plover nesting habitat. Impacts to habitat would be low and short-term, given the amount of habitat available in the area and the relatively short duration of mining. Indirect effects could occur following reclamation, as potential habitat for mountain plovers could be increased by re-contouring the land to be relatively flat, and minimal vegetation until reclamation success has been achieved. Indirect impacts would be low and long term.

4.4.1.2 Mitigation Measures

No mitigation measures for USFWS-listed threatened and endangered species have been identified.

Mitigation measures for NESLs include:

- Limiting heavy equipment operation to the most open areas available to minimize disturbance of native vegetation and terrestrial habitats
- using only existing roads for access (where feasible) to minimize disturbance to vegetation

Adherence to stipulations provided by the BLM and the NNHP will minimize effects to all raptors that may use the Project site for foraging and the mountain plovers that could potentially use the Project site for breeding and nesting. Should any nesting raptors be identified during mining, the BIA and NNHP biologist will be immediately contacted to evaluate whether additional resource protection measures are warranted. Mountain plover is not suspected to occur in the Project site; however, if vegetation clearing is proposed between April 1 and July 30, the Project site should be surveyed within one week prior to identify and flag bird nests for avoidance.

4.4.2 Migratory Birds

Effects to migratory birds can include disturbance from increased noise and humans, temporary and permanent removal of nesting or foraging habitat, or destroying nests or eggs. Migratory bird species that may occur in the Project site are listed in Table 5.

Table 5: Migratory Bird Species of Concern Occurring within the BLM FFO Region and Potential Impacts

Species	Habitat Type	Effects	Impact Rating None/Low/ Moderate/High
Grasshopper sparrow (<i>Ammodramus savannarum</i>)	Sage-grass	May be positively affected in long term due to conversion to grassland.	Low
Sage sparrow ¹ (<i>Amphispiza belli</i>)	Sage-grass	Minor short-term loss of nesting and brood rearing habitat.	Low
Burrowing owl (<i>Athene cunicularia</i>)	Sage-grass	Little effect, nests in abandoned prairie dog burrows.	Low
Ferruginous hawk (<i>Buteo regalis</i>)	Sagegrass/pifon-juniper interface	Short-term loss of nesting and foraging habitat; decrease in prey (small mammals) abundance likely.	None
Mountain plover (<i>Charadrius montanus</i>)	Sage-grass	May be positively affected in long term due to conversion to grassland; may produce more prey (i.e., arthropods)	Low
Long-billed curlew (<i>Numenius americanus</i>)	Sage-grass	May be positively affected in long term due to conversion to grassland.	Low
Sage thrasher ¹ (<i>Oreoscoptes montanus</i>)	Sage-grass	May be some short-term loss of sage/nesting habitat.	Low
Bendire's thrasher (<i>Toxostoma bendirei</i>)	Sage-grass	Little effect anticipated some short-term loss of nesting habitat; increase in prey (i.e., arthropods) likely.	Low

Note: 1 = bird species that are listed on the NMPIF "Highest Priority" birds of conservation concern list but not on the USFWS "Birds of Conservation Concern 2008" list.

4.4.2.1 Direct and Indirect Effects

Determining effects on birds is not clear-cut, since activities that result in the loss of habitat for one species may improve conditions for another. Scrub habitat provides a source of food, security, and escape cover and a nesting substrate for some migratory bird species. Direct effects could include the short-term modification of up to 85 acres of ground and shrub-nesting habitat. There would be disturbance to individual birds from increased noise and humans during mining operations, which would likely cause avoidance of the area.

Other effects could include nest abandonment in adjacent areas during mining operations; degradation of habitat from invasive-species introduction; and decreased mammal prey base for raptors due to modification of habitat. Due to the size of the proposed ground disturbance and the amount of suitable habitat in the surrounding area, long-term reproductive effects to migratory birds (including raptors) on a population level are not expected.

4.4.2.2 Mitigation Measures

Mining activities will be limited to the proposed Project site to minimize ground disturbances. Work will be performed during daylight hours. Should vegetation clearing activities occur between April 1 and August 31 (i.e., during the avian breeding and nesting period), a migratory bird survey is recommended within one week prior to identify and flag bird nests for avoidance. Following mining, the disturbed ground will be re-contoured and reclaimed. Any bird nests found within the proposed Project site will be reported to a BIA and NNHP biologist for appropriate mitigation prior to mining activities.

4.4.3 Bald and Golden Eagles

Human land-use practices may have a variety of types of impacts to nesting eagles and their habitats, including temporary or permanent disturbance to nesting or foraging habitats. Protection of occupied and unoccupied nests is important not all eagle pairs breed each year and not all breeding areas are used for breeding each year. The proposed Project is considered "Loud Activities" by the Navajo Nation (NNHP, 2008).

Marginal foraging habitat for golden eagles occurs within the Project site; however no nests or indicators of a breeding area were found during the biological survey. The Project site does not contain potential habitat (foraging or nesting) for bald eagles.

4.4.3.1 Direct and Indirect Effects

Similar to migratory birds, effects to golden eagles could include nest abandonment in adjacent areas during mining operations; degradation of habitat from invasive-species introduction; and decreased mammal prey base for due to modification of habitat. However, no known nest occur within the Project site. The closest cliffs that could provide marginally suitable nesting sites are 3 miles away. Due to the

size of the proposed ground disturbance and the amount of suitable habitat in the surrounding area, long-term reproductive effects to golden eagles on a population level are not expected.

4.4.3.2 Mitigation Measures

Adherence to Navajo Nation Golden and Bald Eagle Nest Protection Regulations (NNHP, 2008) will minimize impacts to bald and golden eagles. Protection requirements relevant to the proposed Project include:

- Loud activities are not allowed within 0.75 miles of and active nest between February 1st and July 15th
- Limit disturbance size
- Reclaim disturbed areas
- Mitigate unavoidable losses of active nests, occupied breeding areas, or potential habitat

4.4.4 Invasive, Non-Native Species

Halogeton is a poisonous introduced noxious weed that was observed within the Project site during the biological field surveys. This species is listed as a New Mexico Department of Agriculture (NMDA) Class B species. "Class B species are limited to portions of the state. In areas with severe infestations, management should be designed to contain the infestation and stop any further spread" (NMDA, 2009).

4.4.4.1 Direct and Indirect Effects

The proposed Project could disturb up to 85 acres. Ground-disturbing activities associated with the proposed Project could encourage establishment and/or spread of invasive, non-native, noxious weeds. These invasive species can outcompete and displace native vegetation, resulting in altered wildlife habitat.

4.4.4.2 Mitigation Measures

Noxious weed control measures will minimize the potential introduction or spread of weeds into the Project site. Proper seeding and monitoring of the disturbed ground will reduce the potential for halogeton to spread into the Project site. Washing vehicles entering and exiting the Project site will reduce the potential for invasive and non-native plant species infestations. Adherence to BLM FFO and MMD reclamation requirements will reduce impacts from invasive, non-native species. Continued monitoring for invasive plants and appropriate control/eradication measures will be done in accordance with standard and project-specific MMD stipulations.

4.5 Cultural Resources

Three newly discovered and one re-recorded archeological site were identified within the survey area during the May and June 2014 surveys. PaleoWest did not discover additional sites during the April 22,

2015 survey of the proposed access road. The cultural resources reports were submitted to the BIA under the separate report cover (PaleoWest, 2014 and 2015).

PaleoWest recommends that the 3 newly recorded sites, the segment of the 1 previously recorded site, and all 19 IOs are Not Eligible for the National Register because they meet none of the criteria for listing. Although two prehistoric sites/site components are more than 100 years old, PaleoWest recommends that they are not protected under ARPA because of their lack of significance. Therefore, PaleoWest has recommended the proposed Project receive a determination of No Effect (PaleoWest, 2014 and 2015).

The proposed Project is not known to physically threaten any TCPs, prevent access to sacred sites, prevent the possession of sacred objects, or interfere or otherwise hinder the performance of traditional ceremonies and rituals pursuant to AIRFA or EO 13007. There are currently no known remains under the purview of NAGPRA or ARPA.

4.5.1 Direct and Indirect Effects

Direct effects normally include alterations to the physical integrity of a cultural resource. If a cultural resource is significant for other than its scientific information, direct effects may also include the introduction of audible, atmospheric, or visual elements that are out of character for the cultural site. A potential indirect effect from the proposed Project is the increase in human activity and/or access to the area with the increased potential of unauthorized removal or other alteration to cultural resources in the area. A cultural resources determination of effect for the proposed Project would be issued by BIA and NNHPD archaeologists. This determination would be included in the BIA cultural resources stipulations attached to the Conditions of Approval (COA).

4.5.2 Mitigation Measures

Effects to significant cultural sites will be avoided by adherence to BIA and NNHPD cultural resources stipulations, based on the archaeological survey report recommendations and the results of the BIA and NNHPD review. These stipulations would be detailed in the Cultural Resource Record of Review, attached to the COAs. No mining will be permitted until the Cultural Resource Record of Review is completed. These stipulations may include, but are not limited to, temporary or permanent fencing or other physical barriers, monitoring of earth-disturbing construction, Project area reduction and/or specific construction avoidance zones, and employee education. All employees, contractors, and sub-contractors of the Project would be informed by the Project proponent that cultural sites are to be avoided by all personnel, personal vehicles, and company equipment, and that it is illegal to collect, damage, or disturb cultural resources, and that such activities are punishable by criminal and or administrative penalties under the provisions of the ARPA (16 USC § 470aa-mm).

4.6 Other Resources

4.6.1 Visual Resources

4.6.1.1 Direct and Indirect Effects

During mining, the effects of disturbed ground, vehicle emissions, and the presence of the equipment would result in low to moderate short-term visual impacts. During mining operations of the proposed Project, low long-term visual impacts would occur.

4.6.1.2 Mitigation Measures

Because the Project is on privately owned, Indian Allotted lands, the visual resource mitigation measures would be determined by the Allottees. At this time, the surface landowner has not suggested any visual resources mitigation measures.

4.6.2 Noise

4.6.2.1 Direct and Indirect Effects

The increased noise levels would be localized to the mine site and would decrease with increasing distance from the source. Impacts to area noise levels would be low and short-term.

4.6.2.2 Mitigation Measures

Mining will be limited to daytime hours, five days a week. A minimal amount of equipment would be used on site. All equipment would comply with industry and NMDT standards.

4.7 Cumulative Effects

CEQ NEPA regulations require that cumulative impacts of a proposed project be addressed when the cumulative impacts are expected to be significant (14 CCR § 15130 [a], 40 CFR § 1508.25 [a] [2]). Cumulative effects are impacts on the environment that result from the incremental effects of the proposed action when added to other past, present, and reasonably foreseeable future actions (14 CCR 15355 [b], 40 CFR § 1508.7). These impacts can result from individually minor, but collectively significant actions over time. Cumulative impacts are presented in terms of how project-specific impacts from the proposed action would add to baseline data derived from development activity in this specific area.

The surrounding area, within a 5-mile radius of the Project site, contains approximately 73 oil and gas wells and associated access roads. A few residences are also within this radius. Residential development is not expected to increase substantially and no other reasonably foreseeable developments are expected in the area. Additional humate and sandstone mines in the area have been and may continue to be developed. Mesa Verde could, over time, mine additional land, resulting in low cumulative impacts to the area. Because the maximum amount of acreage for mine development is limited and monitored by the

MMD, the cumulative impacts the proposed action in conjunction with other mining and development in the area would be low.

The proposed Project would cumulatively impact air quality, surface water quality, soils and topography, vegetation, wildlife and wildlife habitat, NESLs, and migratory birds. Overall, cumulative impacts as a result of the proposed Project are expected to be low and long-term.

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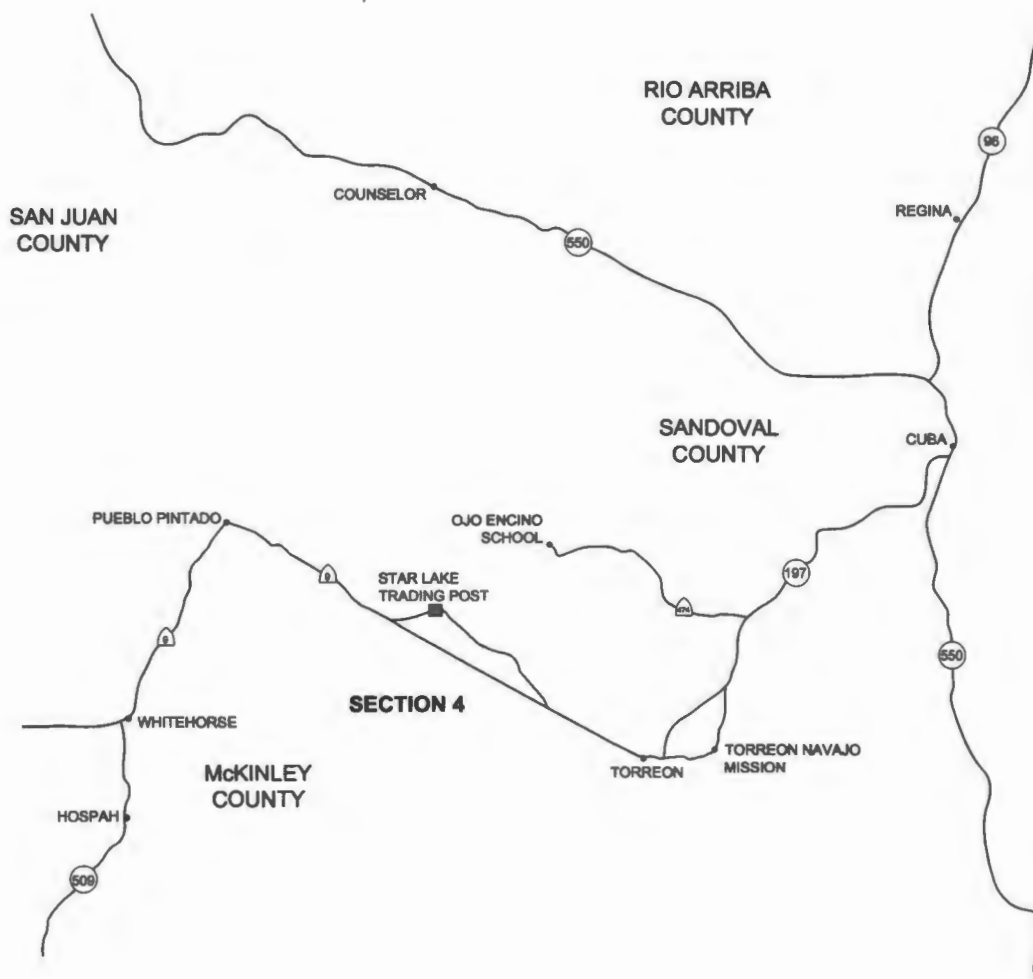
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FIGURES



TITLE
PROJECT LOCATION

CONSULTANT

YYYY-MM-DD 2015-05-05

PREPARED	PDC
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DESIGN	EC
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REVIEW EC

APPROVED BN

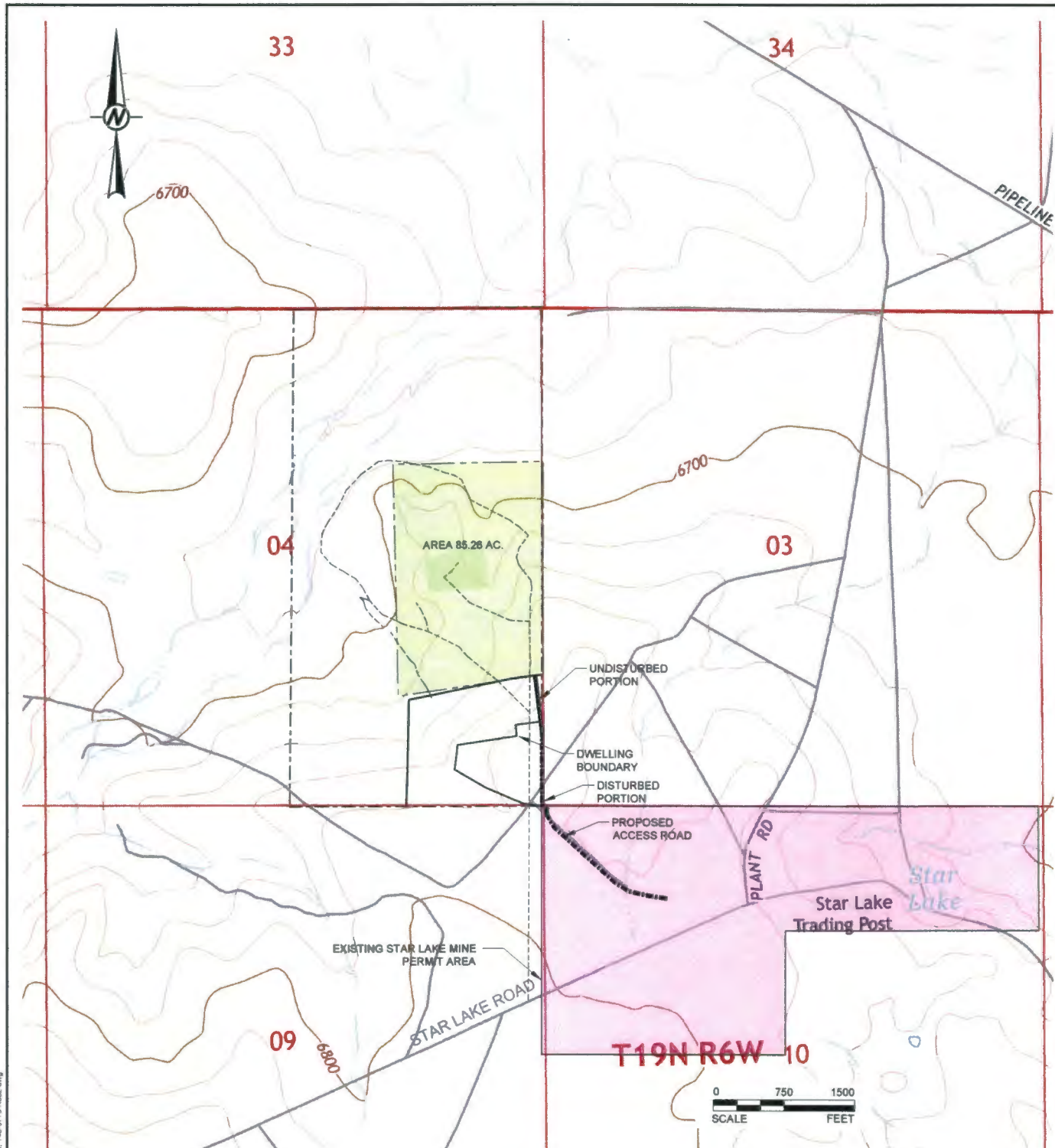


PROJECT No
140-3773

PHASE.
07

Rev.
0

FIGURE 1



LEGEND

- EXISTING ACCESS ROAD
- MINE EXPANSION AREA
- EXISTING STAR LAKE MINE PERMIT AREA
- PROPOSED ACCESS ROAD (DISTURBED)
- PROPOSED ACCESS ROAD (UNDISTURBED)

REFERENCE

1. U.S. GEOLOGICAL SURVEY US TOPO 7.5-MINUTEMAP FOR STAR LAKE, NM 2013.

PROJECT

MESA VERDE RESOURCES
SECTION 4 MINE EXPANSION-ENVIRONMENTAL ASSESSMENT
MCKINLEY COUNTY, NEW MEXICO

TITLE

PROPOSED MINE EXPANSION AREA

CONSULTANT



YYYY-MM-DD 2015-05-05

PREPARED PDC

DESIGN EC

REVIEW EC

APPROVED BN

PROJECT No.
140-3773

PHASE.
07

Rev.
0

FIGURE
2



LEGEND

- EXISTING ACCESS ROAD
- MINE EXPANSION AREA
- PROPOSED PRIMARY MINING AREAS 1-3
- PROPOSED SECONDARY MINING AREAS 4-5
- PROPOSED TERTIARY MINING AREAS
- PROPOSED ACCESS ROAD (DISTURBED)
- PROPOSED ACCESS ROAD (UNDISTURBED)

REFERENCE

AERIAL PHOTOGRAPH OBTAINED FROM RGIS ON SEPTEMBER 12, 2014 AND IS DATED MAY 13, 2009.

PROJECT

MESA VERDE RESOURCES
SECTION 4 MINE EXPANSION-ENVIRONMENTAL ASSESSMENT
McKINLEY COUNTY, NEW MEXICO

TITLE

PROPOSED MINING AREAS

CONSULTANT



YYYY-MM-DD 2015-05-05

PREPARED PDC

DESIGN EC

REVIEW EC

APPROVED BN

PROJECT No.
140-3773

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FIGURE
3



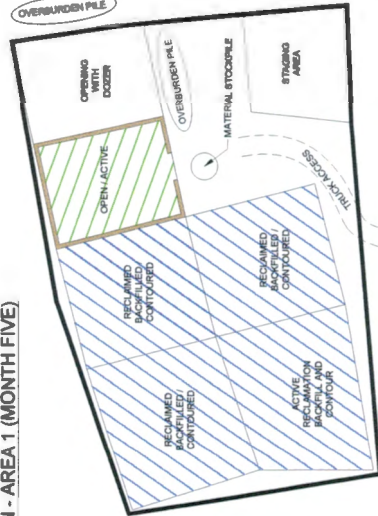
MINE PLAN - AREA 1 (MONTH ONE)



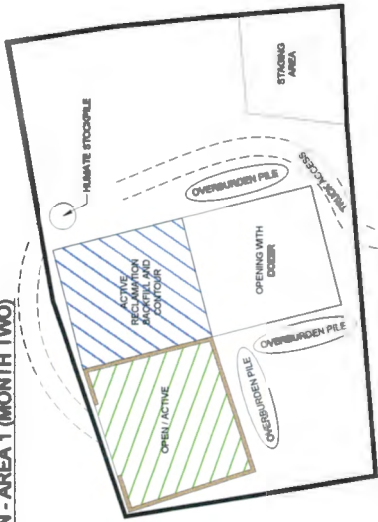
MINE PLAN - AREA 1 (MONTH THREE)



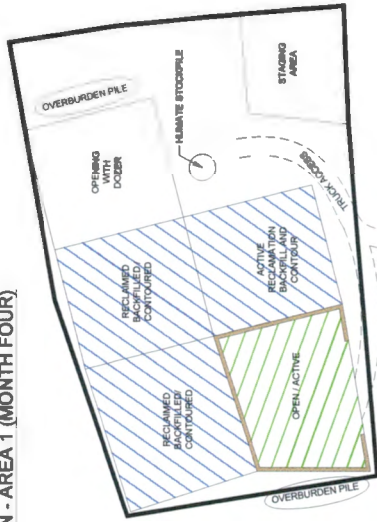
MINE PLAN - AREA 1 (MONTH FIVE)



MINE PLAN - AREA 1 (MONTH TWO)



MINE PLAN - AREA 1 (MONTH FOUR)



LEGEND

TYPICAL ACCESS ROAD
HUMATE

NOTE: FINAL RECLAMATION WOULD COMMENCE ONCE 10 ACRES (APPROXIMATELY 10 FT) HAVE BEEN BACKFILLED AND CONTOURED. FINAL RECLAMATION INCLUDES FINAL CONTOURING AND SEEDING OPERATIONS.



CLIENT
MESA VERDE RESOURCES

PROJECT
SECTION 4 MINE EXPANSION - ENVIRONMENTAL ASSESSMENT
MCKINLEY COUNTY, NEW MEXICO

CONSULTANT	YYY-MM-DD	2015-05-03
DESIGN	PREPARED	POC
REVIEW	DESIGN	EC
APPROVED	BN	BN



TITLE
PROPOSED TYPICAL MINING AND CONTEMPORANEOUS
RECLAMATION SEQUENCE

140-3773
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APPENDIX A
Mining and Reclamation Plan

APPENDIX A
Mining and Reclamation Plan



PLAN

MINING AND RECLAMATION PLAN

Mesa Verde Resources

Section 4 Humate Mine Expansion Project

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Distribution: BIA – 1 Paper Copy and 1 CD
BLM – 1 Paper Copy and 1 CD
Mesa Verde Resources – 1 Paper Copy and 1 CD
Golder Associates Inc. – 2 Copies

May 5, 2015

Project No. 140-3773 rev. 1





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1.0 MINING PLAN

1.1 Introduction

Reid Enterprises, LLC, dba Mesa Verde Resources (Mesa Verde) contracted Golder Associates Inc. (Golder) to prepare a mining and reclamation plan for the Section 4 humate mine expansion project in McKinley County, New Mexico (the plan). This plan is largely an update to the 2011 Star Lake Mine mining and reclamation plan prepared for the existing Star Lake Mine operated by Mesa Verde in Section 10 Township 19 North, Range 6 West New Mexico Prime Meridian NMPM. (Ecosphere Environmental Services [Ecosphere], 2011). Mesa Verde proposes to expand the Star Lake Mine operations to Section 4, Township 19 North, Range 6 West NMPM (the Project site). The Project site is approximately 30 miles southwest of Cuba and 7 miles southwest of Ojo Encino, New Mexico, off Star Lake Road (Figure 1). The Project would mine humate on 85 acres located in the east 1/2 of Section 4 (Figure 2). Mesa Verde proposed to access the proposed mine via a 20-foot-wide roadway easement through portions of Sections 4, 9, and 10 T19N R6W NMPM (Figure 2). The existing mine, which is adjacent to the proposed mine expansion, has been in operation 16 years, since 1998.

Mesa Verde operates the existing Star Lake Mine under a Minimal Impact Permit with the New Mexico Mining and Minerals Division (MMD) — Permit No. MK007ME. The existing mine is in Section 10, on private (fee) surface leases with partial mineral ownership held and administered by the Bureau of Land Management Farmington Field Office (BLM/FFO). The mineral rights on the East ¼ of Section 10 are privately owned, while the mineral rights of remaining West ¾ of the section are owned by the BLM. Mesa Verde submitted a Permit Modification request to MMD to include the east half of Section 4 (323.1 acres) on November 1, 2013.

The proposed Project is on allotted land held in trust by the Bureau of Indian Affairs (BIA). A Humate Mining Lease Agreement for the Project was entered into between Mesa Verde and the 16 Allottees of Section 4, T19N, R6W NMPM. on October 17, 2013. The lease includes the entire section of 640 acres; however, mining operations would be limited to the proposed 85-acre development area at this time. Humate is expected to vary from a 3- to 5-foot-thick seam at a depth of between 0 to 10 feet throughout the proposed development area.

This plan conforms to BIA and BLM regulations. Surface mines are required to have approved mining plans (25 CFR § 216.7 and 212.4). The exploration, development, and disposal of mineral material resources is managed by the BLM under 43 CFR Part 3600. This plan is consistent with the BLM Solid Minerals Reclamation Handbook H-3042-1 (BLM, 1992).



1.2 General Environment

The existing environment of the Project site is described in the Environmental Assessment to which this plan is appended, and in the Star Lake Mine mining and reclamation plan (Ecosphere, 2011). This plan is an update to the Star Lake Mine plan. Thus, a brief discussion of the general environment in Section 4, notably where conditions are different, is included in the following sections. Landownership is one of the primary differences. Section 4 is on allotted land within the Navajo Nation boundaries. The allottees currently use the area for grazing sheep, goats, and horses.

1.2.1 Physiography

The Project site is within the Colorado Plateau physiographic region in northeastern McKinley County, New Mexico. The proposed 85-acre development area is located on the U.S. Geological Survey (USGS) 7.5-minute quadrangle for Star Lake, New Mexico (Figure 2). Elevations within the Project site range from about 6,690 to 6,760 feet above mean sea level (amsl). The mean annual temperature for the Star Lake meteorological station ranges from approximately 30° to 64° Fahrenheit (Western Regional Climate Center, 2014). Mean annual precipitation is about 9 inches per year.

The general landforms consist of mesa, cuesta, retreating escarpment, and associated valleys. In general, slopes of the Project site range from 1 to 8 percent of the valley slopes and stable eolian sand dunes. Along the western edge of the Project site, the terrain consists of relatively gentle slopes of the ephemeral stream channel of the valley floor. Dissected badlands occur in the central and north west Project area, exposing Cretaceous age sandstones and siltstones.

The soils within the Project site primarily consist of deep, well drained soils formed in coarse-textured to moderately fine-textured alluvium or eolian deposits derived from sandstone or shale (Soil Survey Staff, 2014).

1.2.2 Geology and Humate Deposits

Surface geology within the Project site is shown on Figure 3 and includes Quaternary Eolian Sands and Cretaceous Fruitland Formation and Pictured Cliffs sandstone formations (Scott et al., 1980). The Cretaceous rocks in the Project site represent the last two regressive phases and the intermediate transgressive phase along the western margin of the Late Cretaceous seaway and include, from older to younger, the Lewis Shale, Pictured Cliffs Sandstone, Fruitland Formation, and Kirtland Shale. The Fruitland Formation, which hosts the humate deposits in the area, is a shale- and silt-dominated unit. It is a regressive non-marine unit, which characteristically contains several coal beds. An outcrop of coal bed occurs in the northwest section of the 85-acre development area (Figure 3). The Fruitland Formation sequence in the area weathers to a badlands topography and is obscured locally by eolian sand deposits.



The humate deposits at the Project site are associated with the weathered and more detrital-sediment rich parts of coal deposits within the Star Lake coal field in the Fruitland Formation. The Star Lake coal field is a continuation of the Bisti coal field eastward and covers an area occupied by the Late Cretaceous-age Fruitland Formation (Nickelson, 1988). The Star Lake coal field is the smallest of the Fruitland Formation coal fields. The Star Lake field lies stratigraphically and geographically between the northern boundary of the field as defined by the Fruitland contact with the overlying Kirtland Formation and the southern boundary of field, which is defined by the Fruitland contact with the underlying Pictured Cliffs Sandstone (McLemore et al., 1986). There are few faults known in the western portion of the Star Lake coal field, and the regional dip of the Fruitland Formation is less than 5 degrees to the northeast. According to Beaumont and Hoffman (1992), the typical coal section in the Fruitland Formation in the Star Lake coal field contains as many as seven coal seams (defined as being more than 2.5 feet thick) that average about 6.5 feet thick and reach thicknesses of 20 feet.

Humate is defined geologically as weathered coal or mudstone, which is rich in humic acid (HA) and fulvic acid (FA). It is defined chemically as a salt of humic acid, with non-hydrogen cations in the exchange sites. Humate material is formed by weathering of organic material in coal, lignite, or mudstone. In the Project site, the humate is associated primarily with weathered coal within the Fruitland Formation. There are no known potentially hazardous materials that could be exposed during the extraction of the humate material.

1.2.3 Flora and Fauna

The predominant vegetation community in this region is Great Basin Desert Scrub (Dick-Peddie, 1993). The vegetation community is dominated by arid shrubs such as big sagebrush (*Artemisia tridentata*), greasewood (*Sarcobatus vermiculatus*) and shadescale saltbush (*Atriplex confertifolia*), and grasses including blue grama (*Bouteloua gracilis*) and galleta grass (*Pleuraphis jamesii*). Estimated canopy cover is 20 to 30 percent. Plants identified within the proposed Project site are listed in Table 1.



Table 1: Existing Project Site Plant List

Scientific Name	Common Name
Grasses	
<i>Achnatherum hymenoides</i>	Indian ricegrass
<i>Aristida purpurea</i>	Purple threeawn
<i>Bouteloua gracilis</i>	Blue grama
<i>Bouteloua hirsuta</i>	Hairy grama
<i>Elymus elymoides</i>	Squirreltail
<i>Pleuraphis jamseii</i>	Galleta
<i>Sporobolus cryptandrus</i>	Sand dropseed
<i>Sporobolus airoides</i>	Alkali sacaton
Forbs	
<i>Abronia fragrans</i>	Snowball sand verberna
<i>Astragalus ceramicus</i>	Painted milkvetch
<i>Astragalus mollissimus</i>	Woolly locoweed
<i>Chaetopappa ericoides</i>	Rose heath
<i>Chamaesyce prostrate</i>	Sandmat
<i>Chenopodium incanum</i>	Mealy goosefoot
<i>Cryptantha crassiseppala</i>	Thicksepal diddenflower
<i>Descurainia pinnata</i>	Western tansy mustard
<i>Erigeron spp.</i>	Fleabane
<i>Halogeton glomeratus</i>	Halogeton
<i>Ipomopsis pumila</i>	Dwarf ipomopsis
<i>Linum puberulum</i>	Plains flax
<i>Mirabilis multiflora</i>	Wild four o'clock
<i>Orobancha fasciculata</i>	Clustered broomrape
<i>Phacelia coerulea</i>	Blue Scorpionweed
<i>Salsola tragus</i>	Russian thistle
<i>Sphaeralcea coccinea</i>	Scarlet globemallow
<i>Tridens spp.</i>	Tridens
<i>Townsendia annua</i>	Annual Townsend daisy
Trees, shrubs, and cacti	
<i>Artemisia tridentata</i>	Big sagebrush
<i>Atriplex confertifolia</i>	Shadescale saltbush
<i>Chrysothamnus viscidiflorus</i>	Green rabbitbrush
<i>Ericameria nauseosa var. bigelovii</i>	Rubber rabbitbrush
<i>Gutierrezia spp.</i>	Snakeweed
<i>Hymenoxys richardsonii</i>	Rubberweed
<i>Krascheninnikovia lanata</i>	Winterfat
<i>Lycium pallidum</i>	Pale wolfberry
<i>Opuntia polyacantha</i>	Plains pricklypear
<i>Sarcobatus vermiculatus</i>	Greasewood



The Great Basin desert scrub community supports a variety of wildlife, including mammals, birds, and reptiles. Wildlife typical of the general area include coyotes (*Canis latrans*), desert cottontails (*Sylvilagus audubonii*), common ravens (*Corvus corax*), turkey vultures (*Cathartes aura*), swallows (*Hirundo* spp.), mourning doves (*Zenaida macroura*), red-tailed hawks (*Buteo jamaicensis*), bull snakes (*Pituophis catenifer sayi*), and whiptail lizards (*Cnemidophorus* spp.). Wildlife observed during the site visit include turkey vultures, common ravens, black-tailed jackrabbits (*Lepus californicus*), and desert cottontails.

1.2.4 Watershed, Surface, and Ground Water

The proposed Project site is in the San Juan Basin at surface elevations from approximately 6,690 to 6,760 feet amsl. The Project site is in the upper reaches of the Chaco sub-watershed within the Upper San Juan Watershed. The Chaco watershed is drained by Chaco Wash, an ephemeral stream, which flows northwest to become the intermittent Chaco River, a tributary of the San Juan River. Two unnamed ephemeral tributaries of Chaco Wash drain local surface water north through Section 4. There are no perennial surface water resources in the form of rivers, lakes, ponds, or streams, nor any wetlands, springs, or riparian habitats within the proposed Project site.

Groundwater is expected to occur at depths greater than 100 feet. Mineral extraction would not expose or contact groundwater based on the estimated overburden and humate thickness. There are no plans to develop a water well on the site.

1.2.5 Historical, Archaeological, and Cultural Sites

PaleoWest Archaeology (PaleoWest) conducted a Class III level (100-percent) survey, and an inventory report was prepared and submitted to the Navajo Nation Historic Preservation Department (NNHPD). Paleowest did not identify traditional cultural properties (TCPs) or other locations of stated tribal significance within or near the Project site. No sites found during the survey are eligible for the National Register, or eligible for protection under Archaeological Resources Protection Act of 1979 (ARPA; 16 USC § 470, Public Law 96-95).

1.2.6 Access Roads

The proposed Project site would be accessed via the existing Star Lake Mine and the proposed 20-foot roadway easement (Figure 2). The total length of the access road that is proposed in Sections 4 and 9 is about 1,424 feet. The segment of the alignment proposed in Section 10 occurs on private land. Approximately, 50 feet of the road easement would be in Section 9 (Navajo Nation land). The portion of the road in Section 9 is previously disturbed by vehicle traffic (Figure 4). The rest of the proposed road alignment continues into Section 4 (Indian Allotted Land). Approximately 600 feet of the land the proposed access road alignment would cross in in Section 4 is undisturbed where the road alignment deviates from the existing fence line (Figure 2). The remaining road alignment in Section 4 would be in an area considered disturbed from the installation of the fence and from the activities of the land owners. The



proposed mining areas are all accessible from existing, private, dirt access roads within the property. The remainder of the mining areas are undisturbed.

1.2.7 Traffic Conditions

Star Lake Road is used by local residents, oil and gas workers, mining traffic, and travelers between Ojo Encino and Thoreau or Grants, New Mexico. Star Lake Road is a dirt road with little maintenance, (i.e., not plowed during snowstorms, few installed culverts). The proposed Project would have approximately eight haul-truck-trips per day delivering the humate from the mine to the processing facility. Light vehicles would be used to transport the employees to and from the site in the mornings and evenings. Traffic on Star Lake Road during site visits was observed at approximately 1 to 2 cars per hour, with the majority of the traffic being local residents (Ecosphere, 2012).

1.3 Proposed Operations

The proposed mine plan for Section 4 includes a sequence of mining areas, associated with the mineable reserves, where open pits would be excavated within the constraints of the Minimal Impact Permit (mining related disturbances less than 10 acres at a time). Mineable reserves are expected to occur within the 85-acre proposed mining area shown in Figure 4. Mesa Verde estimates that the mineable humate reserve within the proposed 85-acre mining area is approximately 3 to 5 feet thick and continuous. Approximately 0 to 10 feet of overburden is expected to be removed in 1- to 3-acre increments as the pit progresses through each mining area. Overburden thickness is expected to be thinnest in Area 1 where the Fruitland Formation outcrops at the surface. Overburden would be salvaged separately, and placed in designated stockpile areas next to the pit for use in reclamation.

Areas 1 through 3 would be developed first (Figure 4). Area 1 is approximately 5.9 acres, Area 2 is approximately 4.5 acres and Area 3 is approximately 4.0 acres. Future mining would progress to Areas 4 (4.0 acres) and Area 5 (5.5 acres) as the mine expands. As Area 1-5 reserves are exhausted, mining would move either north or south within the 85-acre area, depending on the presence and thickness of humates.

Mesa Verde estimates the total in situ humate within Areas 1 through 5 are between 65,000 and 120,000 tons. The specific in situ humate estimate for each mining area is as follows:

- Area 1: 17,000 to 32,000 tons
- Area 2: 13,000 to 22,000 tons
- Area 3: 9,000 to 20,000 tons
- Area 4: 10,000 to 19,000 tons
- Area 5: 16,000 to 27,000 tons



Mesa Verde proposes to operate the mine Monday through Friday and occasionally Saturday from 7:30 am to 3:00 pm during year, with the exception of holidays (New Year's Day, Easter, Memorial Day, July 4, Labor Day, Thanksgiving, and Christmas). The proposed Project would employ three full-time employees working 8-hour shifts, operating two front-end wheel loaders and one dozer. Approximately two to four semi-trailer trucks (end dump trailers) operated by contract carriers would haul the humate to Mesa Verde's processing plant in San Ysidro, New Mexico. A detailed equipment list is included in Section 1.4.

1.3.1 Stage I: Initial Mine Operation Setup

Step 1: Protection of Natural Resources

The EA did not identify any potential significant impacts to the natural resources in the Project site. The Project site is not located within any federally defined specially designated area such as a Wilderness Area, Wilderness Study Area, or an Area of Critical Environmental Concern. Construction would cease in the location if migratory bird, mountain plover or golden eagle nesting, is observed during mining and the US Fish and Wildlife Service (USFWS), BIA and NNPH biologist would be notified. The Class III Cultural Resource Inventory Report did not identify any cultural sites eligible for listing on the National Register. If previously undocumented cultural sites are encountered during mining, all activities will stop near the discovery, and the BIA and NNHPD will be immediately notified. The site would then be evaluated. Mitigation measures such as data recovery may be required by the BIA and NNHPD to prevent impacts to newly identified cultural resources.

Step 2: Designation of the Initial Staging and Stockpile Area

A 1.5-acre initial staging and stockpile area would be located in Area 1 during the first phase of mining. A staging area large enough to accommodate storage of personnel vehicles, mining equipment, materials, and supplies, and a secondary containment area for storage of fuel and hazardous materials would be designated. The remainder of the area would be designated for stockpiling of overburden from the mining operations. Relocation of the staging/stockpile area during mining and reclamation operations would be minimized as much as possible; however, as mining and reclamation activities progress, the staging area would be moved at least once to allow for extraction of the humate beneath that staging area.

1.3.2 Stage II: Mining

Humate would be mined from open pits in the proposed mining areas in phases, as described below. The active open pit size is usually restricted to about 1 to 3 acres at any one time. A typical mining sequence for the proposed mine plan is illustrated on Figure 5.

**Step 1: Removal of Overburden**

Overburden would be removed using a bulldozer and stockpiled in the designated location adjacent to the active pit, for reuse during reclamation. Overburden would be removed in 1/2-acre increments within each mining area, with no greater than 2 to 4 acres of excavated overburden stockpiled at any given time. Topsoil would not be segregated.

The soils in proposed mining area generally have thin and poorly developed A horizons (topsoil). In many locations wind and water erosion have completely removed A horizon. These conditions make it operationally difficult to salvage topsoil separately from subsoil materials. Additionally, surface soils may be a seed source for Halogeton, a non-native, invasive, noxious plant species that occurs in the project area and is harmful to livestock. The use of topsoil as a final topdressing has the potential to increase spread Halogeton. For these reasons, topsoil will not be salvaged separately from other overburden materials.

Stockpiles would be located and protected so that wind and water erosion are minimized and reclamation potential is maximized. The overburden would be stockpiled at angle of repose and left undisturbed until reclamation activities commence to limit susceptibility to wind erosion. Berms would be used as necessary to control stormwater runoff and run-on. Erosion control and slope stabilization measures for the stockpiles would be implemented according to the Stormwater Pollution Prevention Plan (SWPPP) in place for Mesa Verde's Star Lake Mine. The SWPPP has been amended to include the proposed Project (Appendix A).

Step 2: Removal of the Humate

Active open pits would be developed by removing overburden to expose the ore zone. The pits would be benched and limited in extent and height. Humate would be mined using a front-end loader and 36-foot end-dump trailers. During mining, berms and grading would be used around the pit to control stormwater run-on. Berms would be used as slope stabilization devices to control runoff within the proposed mine area. Constructed berms would be approximately 1- to 3-feet high and about 3- to 5-feet wide. The berms would surround the active open pit except for the ingress/egress road (Figure 5).

Step 3: Product Verification & Delivery of the Humate

Humate would be delivered to Mesa Verde's processing facility in San Ysidro, New Mexico, for processing. Daily production rates would be determined based on weight logs recorded for each load at truck scales to be installed within (near the southeast corner of) the 85-acre proposed mining area. Copies of all records would be kept at the Mesa Verde's processing facility office in San Ysidro, New Mexico.

**Step 4: Reclamation**

Reclamation would be performed contemporaneously with mining. As new pits are developed for mining, the overburden removed is used to backfill previously mined pits. The contemporaneous reclamation as shown on Figure 5 is considered preliminary reclamation which consists of backfilling the pit and recontouring the surface to tie is with the surrounding topography. This reclamation pattern, concurrently closing old pits with overburden removed to create new pits, would continue through the entire mining operation. Contemporaneous reclamation enables Mesa Verde to limit the ground disturbance areas and open pits in accordance with the Minimal Impact Permit. More detail of reclamation is provided in Section 2.0 – Reclamation Plan.

1.3.3 Stage III: Reclamation/Final Closure of Project Site**Step 1: Final Mine Activity: Reclamation**

Once 10 acres of disturbed land, including the active open pit (1 to 3 acres) and preliminary reclaimed pits (9 to 7 acres), has been disturbed, Mesa Verde would initiate final reclamation of the preliminary reclaimed pits. Final reclamation of each 10-acre mining area would include (see Reclamation Plan for details):

- All remaining mine areas, stockpile areas, and staging areas would be re-contoured to approximate natural contours and to promote positive drainage to the surrounding undisturbed landscape.
- Reclaimed slopes would not exceed 3H:1V.
- The re-contoured surfaces would be re-vegetated using the MMD approved reclamation seed mix.

Step 2: Monitoring and Maintenance

- All reclamation areas within the Project site would be monitored for re-vegetation success.
- Re-seeding would occur as necessary to achieve re-vegetation success.
- Invasive/noxious weed species would be monitored and treated.

Step 4: Final Closure

When reclamation success has been determined by the landowner and MMD, each 10-acre mined area would be considered Closed. Once the a 10-acre permitted disturbance area has been reclaimed and seeded, Mesa Verde Resources submits a permit modification to MMD to have the area inspected before moving on to the next 10-acre ground disturbance area.



1.4 Equipment and Personnel Information

The proposed Project would employ three full-time employees working 8-hour shifts, five to six days a week (Monday through Saturday), excluding holidays. Work would occur from 7:30 a.m. to 3:00 p.m. The employees execute all mine operations, including two front-end wheel loaders and one dozer. All vehicles would be restricted to the existing and proposed access roads and active mining operations. No vehicles would be operated on the reclaimed areas except for reclamation maintenance or rehabilitation activities. The following equipment for each phase of the Project would be operated by the employees or contractors:



Table 2: Equipment Required for Mining Operations

Equipment	Stage I (Initial Setup)	Stage II (Operation)	Stage III (Reclamation/closure)
2 x Front-End Wheel Loaders (Caterpillar 950F, Hyundai 760, or Trojan 3500)		X	X
1 x Bulldozer (Caterpillar D8T or Caterpillar D7F)	X	X	X
2 to 4 Semi-Trailer Truck with 36-foot End Dump Trailer (operated by contract carriers)		X	X
Portable Toilet	X	X	X

1.5 Committed Procedures

The following procedures would be abided by to prevent degradation or destruction to the listed resources.

1.5.1 Roads, Residence, Bridges, Etc.

The travel route between the mine site and the processing plant in San Ysidro, New Mexico, is expected to follow Star Lake Road to State Highway 197 west to US Highway 550 and south to San Ysidro. Speed limits would be followed and use would be limited to only necessary travel (e.g., partial loads would not be transported). The maximum weight on bridges would not be exceeded. When encountered, right-of-way would be given to the nearby residents. Loads would be covered according to New Mexico Department of Transportation (DOT) standards to avoid damage to other vehicle's windshields, etc.

1.5.2 Post-Mining Land Use

The ground disturbances within the 85-acre development area would be properly reclaimed and returned to a grazing post-mining land use for livestock and wildlife.

1.5.3 Surface and Ground Waters

A SWPPP would be implemented and maintained through the life of the Project and following — until final reclamation has been achieved. The Star Lake Mine SWPPP has been amended to include the Project (Appendix A). Hazardous materials in the form of fuel and lubricants for the mining equipment and vehicles would be contained in designated areas, and within secondary containment.

1.5.4 Vegetation and Wildlife

All mining operations would be restricted to the boundaries of the proposed development area. Extreme care would be taken to avoid all wildlife or livestock on the roads and surrounding area.



1.5.5 Air Quality (dust and emissions control), Noise, Light, and Vibration

Mining and reclamation would occur only during regular working, daylight hours. Minimal equipment would be used to accomplish the mining.

1.5.6 Visual Resources

Visual resources can be impacted by ground disturbance; amount and types of equipment, machinery, and vehicles; and infrastructure. Siting and design considerations to reduce, avoid, or mitigate visual impacts at the Project site would include:

- Minimizing all ground disturbances for roads and staging areas.
- Not storing equipment on high land features and along "skylines" that are readily visible from nearby residences, to the extent practicable.
- Keeping equipment and vehicles within the limits of the initially disturbed areas.
- Avoiding impacts to public road right-of-ways. Existing vegetation and topography within the right-of-ways would be left undisturbed.
- Regularly performing maintenance of the Project site while mining. Inoperative equipment and poor housekeeping, in general, creates a poor image of the Project in the eyes of the public.
- Minimizing vehicular and human activities, as practicable, during regular hours of mine operations. Vehicular and human activities would not occur outside of daylight hours to minimize disturbance to neighboring landowners.

1.5.7 Safety

Mining and reclamation operations would be designed and operated to safeguard employees and the public. Signs with "Caution" and "Unauthorized Personnel-Keep Out" would be posted at the site entrances. Pit side slopes would be benched and limited in height and extent. During mining, berms and grading would be used around the pit to control stormwater run-on. Berms would be used slope-stabilization measures to control stormwater runoff within the proposed Project site. Final slopes of all reclaimed areas would not be steeper than 3H:1V. Shafts, adits, and tunnels are not part of the humate mining process, and therefore would not endanger personnel or the public. All mine vehicles would be required to follow posted speed limits, and all vehicles would adhere to load limits outlined by the New Mexico and Navajo DOT. Right-of-way would be given to the residents and other non-commercial traffic. Loads would be covered according to New Mexico DOT standards to avoid damage to windshields, etc.



2.0 RECLAMATION PLAN

2.1 Objectives

The reclamation objective for the Project is to reclaim the ground disturbances to a condition as good as or better than the pre-mining surface. The reclaimed mine areas would be a self-sustaining ecosystem matching the undisturbed characteristics surrounding the mine areas. Pre-mining land use is livestock grazing and wildlife habitat. Post-mining land use is expected to be the same or similar.

The objective is to return the ground disturbances to a stable landscape by minimizing erosion and re-establishing vegetation. Current requirements presented in the 2011 Star Lake Mine mining and reclamation plan (Ecosphere, 2011) includes preventing the following conditions:

- Large rills or gullies (greater than 3 inches wide or deep)
- Perceptible soil movement or head cutting in any drainage
- Slope instability on or adjacent to the reclaimed area

2.1.1 Visual Resource Standards

The reclaimed landscape would approximate the visual quality of adjacent and surrounding areas with regard to surface contouring, drainage patterns, and vegetation. Disturbed ground, staging areas, access roads, and the Project site would be re-graded to restore as near-natural contours as feasible. All ground disturbances would be re-vegetated using the MMD approved seed-mix (Table 3).

2.1.2 Reclamation Sequence

Contemporaneous reclamation enables Mesa Verde to limit the ground disturbance and open pits in accordance with the minimal impact permit. As new pits are developed for mining, the overburden removed is used to backfill previously mined pits. Once a pit has been completely backfilled, preliminary reclamation would be initiated. Preliminary reclamation includes backfilling and recontouring. This reclamation pattern, concurrently closing old pits with overburden removed to create new pits, would continue through the entire excavation portion of the mining operation. Final reclamation is initiated once 10-acres of land, including the active open pit and preliminary reclaimed areas, has been disturbed. Final reclamation includes additional contouring, furrowing, and seeding.

The estimated disturbance and reclaimed area by year are listed in Table 3. These values are estimated, Mesa Verde will not know exact areas until mining commences. Since Mesa Verde operates under a Minimal Impact Permit with MMD, no more than 10 acres of land would be disturbed at any one time. As discussed previously, the active pit areas are limited to 1 to 3 acres of open disturbance at one time. Once the humate resource has been mined, the active pit area is backfilled and contoured, and then seeded once final reclamation commences. Therefore, the disturbance values and reclamation values



listed on Table 3 are cumulative values. The active pit, backfill and seeding areas are the cumulative value of disturbance and reclamation expected to occur in each year.

Table 3: Areas Disturbed and Reclaimed by Year in Acres

Mine Operation Component	2015		2016		2017	
	Disturbed	Reclaimed	Disturbed	Reclaimed	Disturbed	Reclaimed
Roads	0.65	0	0.65	0	0.65	0
Staging	1	1	1	2	1	3
Overburden	1	1	1	2	1	3
Pits, Backfill, Seeding	11	11	9	20	7	27

Note: The proposed access road would be disturbed the first year and would remain active until mining ceases. Truck haul roads adjacent to the pit are included in the active pit area.

The mining and reclamation work described here does not include weather contingencies, but reclamation activities that cannot be completed due to weather should be completed as soon as the weather allows, limiting the exposure of non-reclaimed surfaces.

2.2 Reclamation Activities

2.2.1 Surface Recontouring

Open pit areas would be backfilled with stockpiled overburden as the mine progresses. Soils would then be contoured (graded) to match original slopes as closely as practicable, providing a level or convex-free draining surface. Depressions where water could collect would be allowed, per landowner request, and overall drainage patterns of final grading would match the pre-mining patterns.

2.2.2 Seedbed Preparation

Compacted soils would be ripped to a depth of 12 inches before contouring furrows for seeding. Contour furrows create a rough soil surface that reduces stormwater runoff and increases soil water storage. Water erosion is common to the arid southwest especially during intense precipitation events common with the summer monsoons. As stormwater control is a critical path to ensuring reclamation success, Mesa Verde prefers to use contour furrows to protect the seedbed and minimize erosion by reducing stormwater runoff. Irregular surface roughness not performed on the contour would leave the reclaimed slopes susceptible to concentrated water flow and could ultimately lead to rilling. Secondly, the depression created by the furrows collects precipitation and increases soil water content in the seedbed.

2.2.3 Seeding

Seed would be sowed across the mine reclamation areas by broadcasting at an application rate of 22.1 pounds pure live seed. Seeded areas would then be cultivated using the teeth of the wheel loader to ensure bare seed is covered to the extent possible. Hydroseeding is not recommended for native seeds



due to poor seed-soil contact percentage, and the tendency of the seed to self-sort by weight and size, and therefore resulting in uneven application distribution.

Table 3: Seed Mix to be used at Project Site

Species	Variety	Percent of Seed Mix
Indian ricegrass (<i>Achnatherum hymenoides</i>)	Paloma or Rimrock	8.3
Blue grama (<i>Bouteloua gracilis</i>)	Alma	16.7
Mountain Bromegrass (<i>Bromus marginatus</i>)	Bromar	25.0
Galleta grass (<i>Pleuraphis jamesii</i>)	Viva	8.3
Western wheatgrass (<i>Pascopyrum smithii</i>)	Arriba	16.7
Lewis Blue Flax (<i>Linum Lewisii</i>)	Appar	4.1
Mexican Cliffrose (<i>Purshia Mexicana</i>)	VNS	4.1
Mexican Hat (<i>Ratibida columnifera</i>)	Red	4.1
Fourwing saltbush (<i>Atriplex canescens</i>)	High Elev	12.6
Total		100

2.2.4 Reclamation Protection

During and after reclamation, Mesa Verde would monitor and protect the reclaimed landscape to help ensure reclamation success to the landowners' and MMD's requirements. Berms or other erosion-control features may be utilized to protect reclaimed surfaces until vegetation is established.

2.3 Invasive/Noxious Species Control

Noxious weed control is a BLM-required compliance action for surface reclamation. The objective of the BLM/FFO weed management program is to detect invasive plant populations, prevent the introduction of new invasive populations, control the spread of existing populations using the tools of integrated weed management, and eradicate invasive populations using the safest environmental methods available. Preventing the introduction of noxious weeds into an area is the most effective and economical means of weed control and management.

The BLM/FFO's invasive, non-native plant species of concern, and the management protocol for each, is provided in Table 4. Only one of the listed species was observed during the biological survey, Halogeton (*Halogeton glomeratus*) was identified.

**Table 4: Invasive, Non-Native Plant Species of Concern to the BLM/FFO**

Common Name	Scientific Name	Management Class
Camelthorn	<i>Alhagi maurorum</i>	A - Prevent and eliminate
Woollyleaf bursage	<i>Ambrosia grayi</i>	A - Prevent and eliminate
Onionweed	<i>Asphodelus fistulosus</i>	A - Prevent and eliminate
Diffuse knapweed	<i>Centaurea diffusa</i>	A - Prevent and eliminate
Spotted knapweed	<i>Centaurea maculosa</i>	A - Prevent and eliminate
Malta star thistle	<i>Centaurea solstitialis</i>	A - Prevent and eliminate
Yellow starthistle	<i>Centaurea solstitialis</i>	A - Prevent and eliminate
Houndstongue	<i>Cynoglossum officinale</i>	A - Prevent and eliminate
Dyer's woad	<i>Isatis tinctoria</i>	A - Prevent and eliminate
Tall whitetop (perennial pepperweed)	<i>Lepidium latifolium</i>	A - Prevent and eliminate
Dalmatian toadflax	<i>Linaria dalmatica</i>	A - Prevent and eliminate
Yellow toadflax	<i>Linaria vulgaris</i>	A - Prevent and eliminate
Purple loosestrife	<i>Lythrum salicaria</i>	A - Prevent and eliminate
African rue	<i>Peganum harmala</i>	A - Prevent and eliminate
Jointed goatgrass	<i>Aegilops cylindrica</i>	B - Contain and prevent
Canada thistle	<i>Cirsium arvense</i>	B - Contain and prevent
Leafy spurge	<i>Euphorbia esula</i>	B - Contain and prevent
Black henbane	<i>Hyoscyamus niger</i>	B - Contain and prevent
Scotch thistle	<i>Onopordum acanthium</i>	B - Contain and prevent
Hoary cress (whitetop)	<i>Cardaria draba</i>	C - Manage and suppress
Musk thistle	<i>Carduus nutans</i>	C - Manage and suppress
Russian knapweed	<i>Centaurea repens</i>	C - Manage and suppress
Bull thistle	<i>Cirsium vulgare</i>	C - Manage and suppress
Russian olive	<i>Elaeagnus angustifolia</i>	C - Manage and suppress
Saltcedar	<i>Tamarix spp.</i>	C - Manage and suppress

Halogeton is listed as a New Mexico Department of Agriculture (NMDA) Class B species (2009). "Class B species are limited to portions of the state. In areas with severe infestations, management should be designed to contain the infestation and stop any further spread" (NMDA, 2009). It is highly toxic to both sheep and cattle; however, the toxicity potential for harm can depend on livestock health, site conditions and plant maturity (USDA, 2014).



Mesa Verde would take all reasonable precautions to prevent the introduction, establishment, and spread of Halogeton and any other noxious weeds found in and around the Project site. Mesa Verde may implement the following control measures for Halogeton:

- Physically remove small localized infestations.
- Re-vegetate with perennials (Halogeton is a poor competitor).
- Treat affected areas with 2,4-D (2,4-dichlorophenoxyacetic acid) LV ester at 1 to 2 pounds of acid equivalent per acre when plants are actively growing, before flowering (USDA, 2014).

General noxious weed treatment and control would be repeated, as necessary, to promote re-vegetation with native plants and prevent the spread of noxious weeds. Control measures would be implemented before, during, and after mining and reclamation prevent the introduction of undesirable plant species, and to reduce the spread of noxious weeds. These control measures could include:

- Removing all mud, dirt, and plant parts from all off-road equipment used at other locations before moving them into the Project site
- Using only defined and established access roads to minimize ground disturbance
- Using only certified weed-seed-free straw mulch during reclamation

Mesa Verde would be responsible for weed control on disturbed ground and reclaimed areas within the limits of the Project site and associated access roads. Mesa Verde would be responsible for consulting with the BLM and/or local authorities for acceptable weed control measures. During mining operations, any noxious or invasive plants observed within the Project site would be treated consistent with the BLM/FFO and the McKinley County Noxious Weed Management Program (2010) standards.

Use of pesticides and herbicides shall comply with applicable federal/state laws. Pesticides and herbicides shall be used only in accordance with their registered uses and within limitations imposed by the Secretary of the Interior.



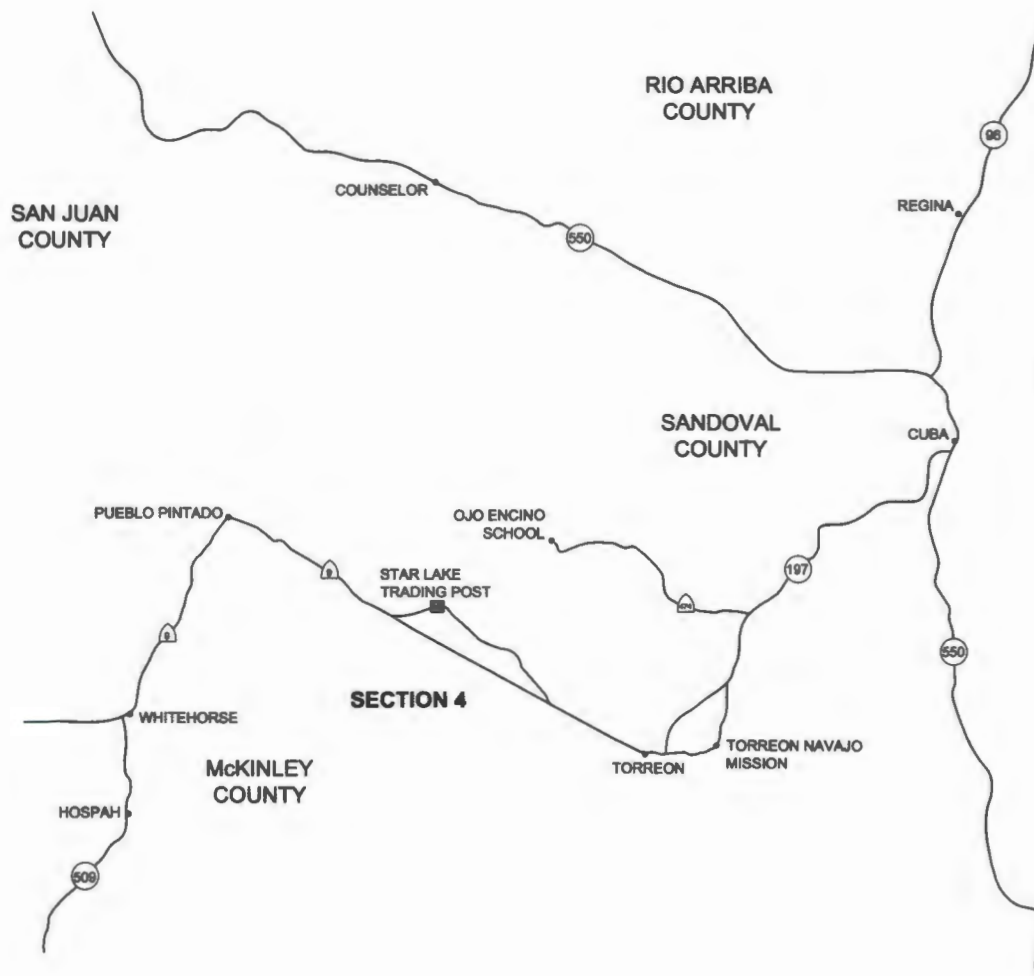
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FIGURES



PROJECT
MESA VERDE RESOURCES
SECTION 4 MINE EXPANSION-MINING AND RECLAMATION PLAN
McKINLEY COUNTY, NEW MEXICO

TITLE
PROJECT LOCATION

CONSULTANT



YYYY-MM-DD 2015-05-05

PREPARED PDC

DESIGN EC

REVIEW EC

APPROVED BN

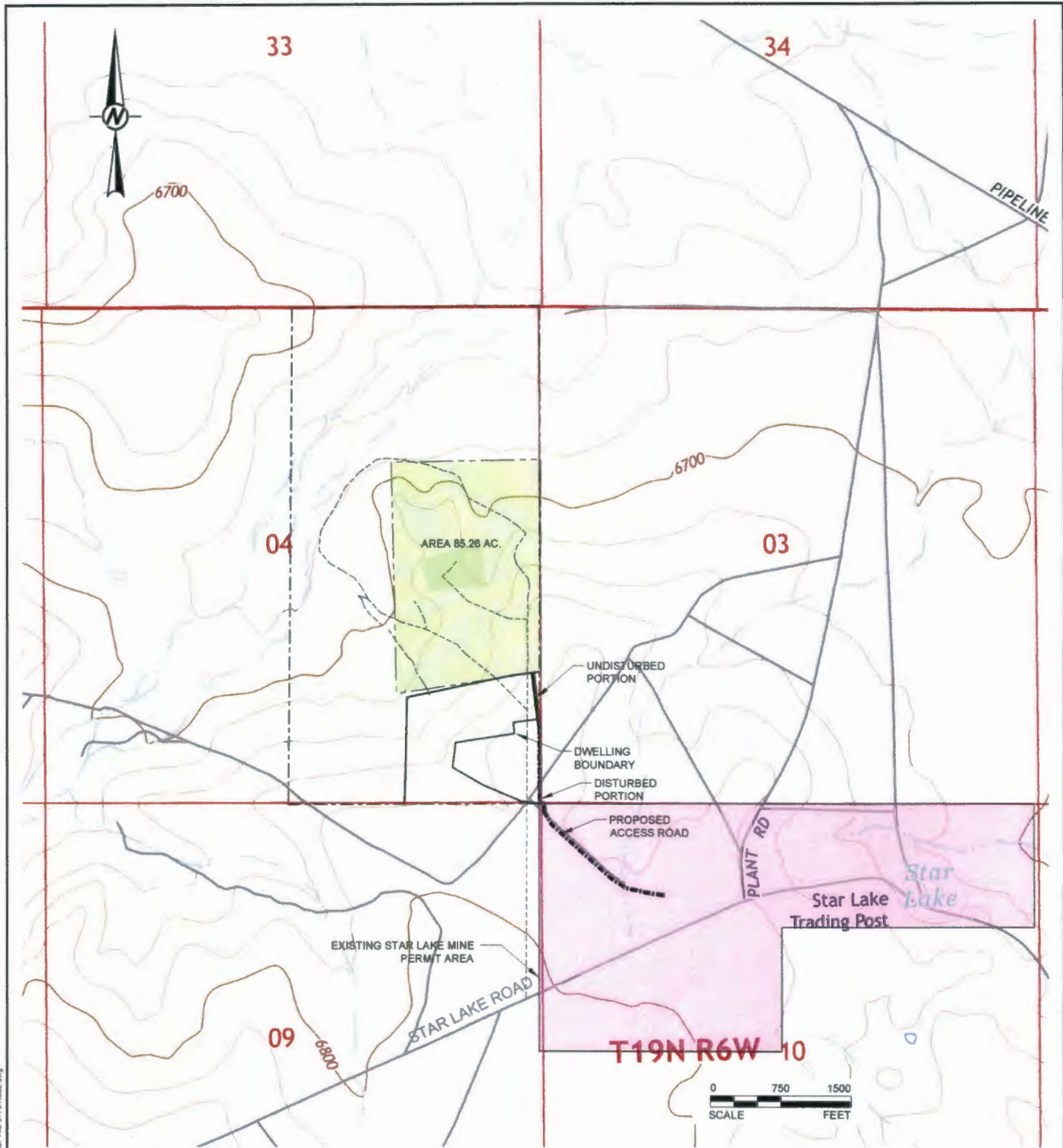
PROJECT No.
140-3773

PHASE.
07

Rev
0

FIGURE:
1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM A4.



LEGEND

- EXISTING ACCESS ROAD
- MINE EXPANSION AREA
- EXISTING STAR LAKE MINE PERMIT AREA
- ... PROPOSED ACCESS ROAD (DISTURBED)
- PROPOSED ACCESS ROAD (UNDISTURBED)

REFERENCE

1. U.S. GEOLOGICAL SURVEY US TOPO 7.5-MINUTEMAP FOR STAR LAKE, NM 2013.

PROJECT

MESA VERDE RESOURCES
SECTION 4 MINE EXPANSION-MINING AND RECLAMATION PLAN
McKINLEY COUNTY, NEW MEXICO

TITLE

PROPOSED MINE EXPANSION AREA

CONSULTANT



YYYY-MM-DD 2015-05-05

PREPARED PDC

DESIGN EC

REVIEW EC

APPROVED BN

PROJECT No.
140-3773

PHASE
07

Rev
0

FIGURE
2



LEGEND

- EXISTING ACCESS ROAD
- MINE EXPANSION AREA
- PROPOSED PRIMARY MINING AREAS 1-3
- PROPOSED SECONDARY MINING AREAS 4-5
- PROPOSED TERTIARY MINING AREAS
- PROPOSED ACCESS ROAD (DISTURBED)
- PROPOSED ACCESS ROAD (UNDISTURBED)

REFERENCE

AERIAL PHOTOGRAPH OBTAINED FROM RGIS ON SEPTEMBER 12, 2014 AND IS DATED MAY 13, 2009.

PROJECT

MESA VERDE RESOURCES
SECTION 4 MINE EXPANSION-MINING AND RECLAMATION PLAN
McKINLEY COUNTY, NEW MEXICO

TITLE

PROPOSED MINING AREAS

CONSULTANT



YYYY-MM-DD 2015-05-05

PREPARED PDC

DESIGN EC

REVIEW EC

APPROVED BN

PROJECT No.
140-3773

PHASE
07

Rev
0

FIGURE
4



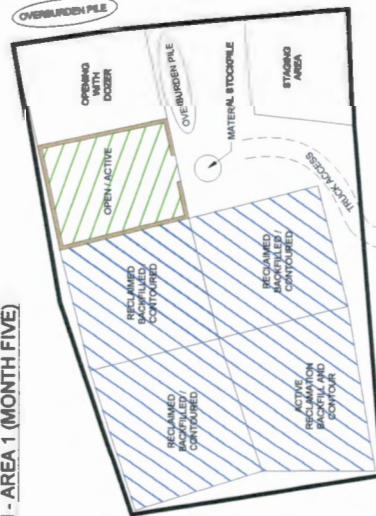
MINE PLAN - AREA 1 (MONTH ONE)



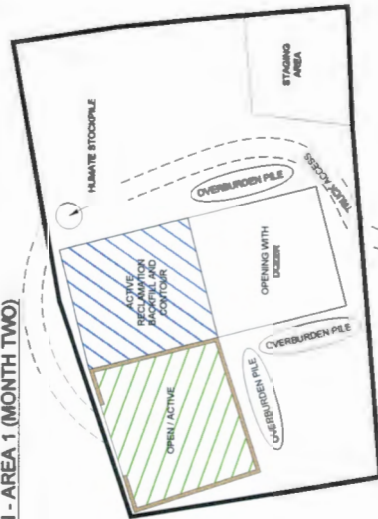
MINE PLAN - AREA 1 (MONTH THREE)



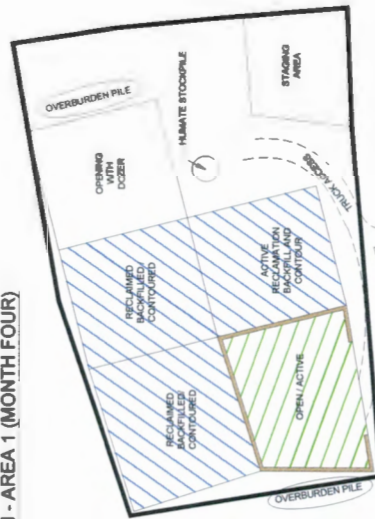
MINE PLAN - AREA 1 (MONTH FIVE)



MINE PLAN - AREA 1 (MONTH TWO)



MINE PLAN - AREA 1 (MONTH FOUR)



LEGEND

--- TYPICAL ACCESS ROAD

--- FIRM

NOTE: FINAL RECLAMATION WOULD COMMENCE ONCE 10 ACRES (APPROXIMATELY 10 PFTS) HAVE BEEN BACKFILLED AND CONTOURED. FINAL RECLAMATION INCLUDES FINAL CONTOURING AND SEEDING OPERATIONS.



CLIENT
MESA VERDE RESOURCES

CONSULTANT

DATE	2015-09-05
PREPARED	POC
DESIGN	EC
REVIEW	BN
APPROVED	BN



PROJECT
SECTION 4 MINE EXPANSION - MINING AND RECLAMATION PLAN

MARKINLEY COUNTY, NEW MEXICO

TITLE
PROPOSED TYPICAL MINING AND CONTEMPORANEOUS RECLAMATION SEQUENCE

PROJECT NO
140-3773

PHASE
07

REV
0

APPENDIX A
Stormwater Pollution Prevention Plan(s) Updated Pages

SWPPP Amendment Log

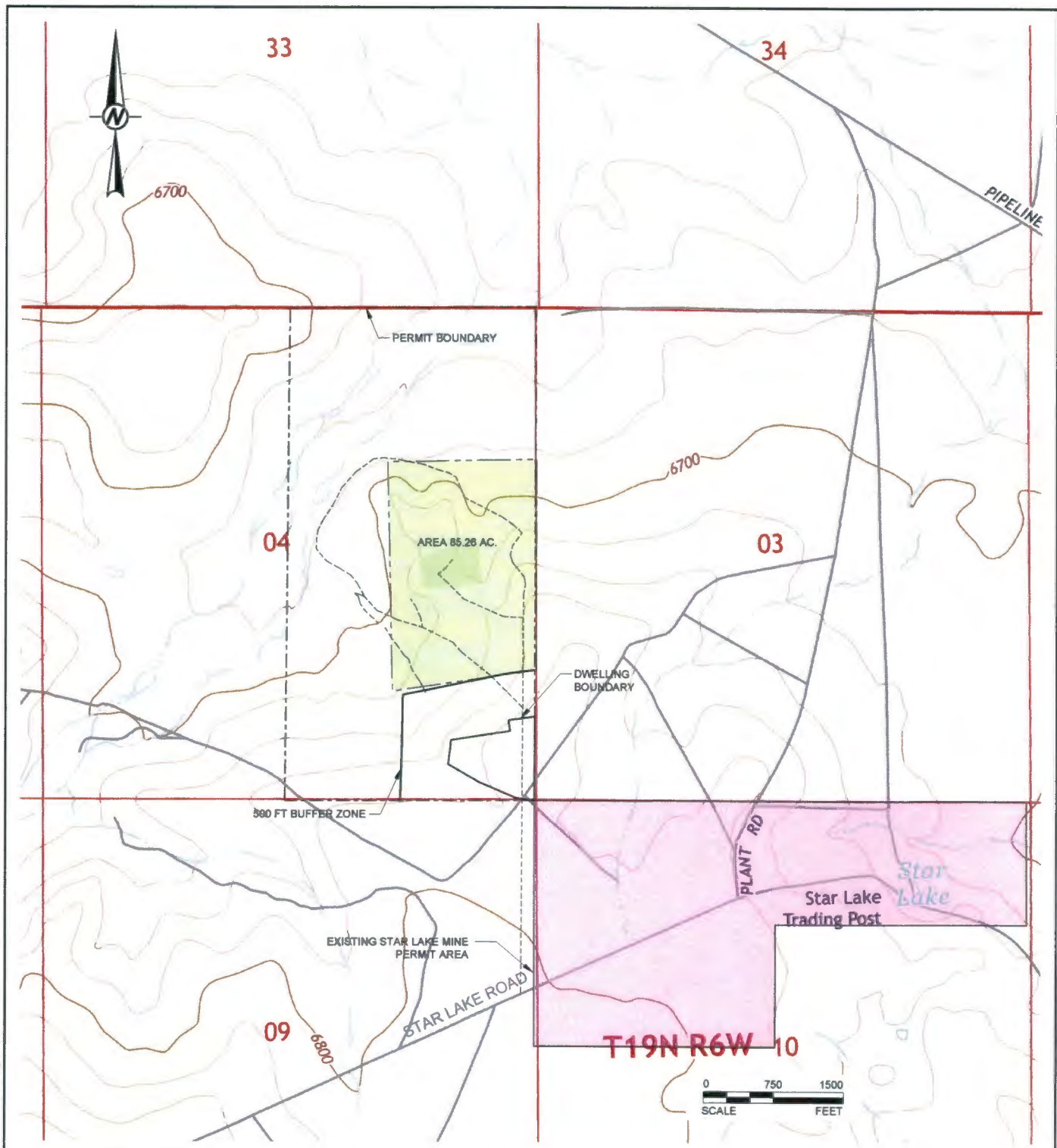
Appendix G

Instructions:

Include in your records:

- A log of the date and description of any amendments to your SWPPP.

Amend. No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]
1	Update maps to include Section 4 mine expansion. Section 4 is located on Indian Lands and surface waters drain to Chaco Wash.	September 2014	E. Clark, Golder Associates Inc.
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			



LEGEND

- EXISTING ACCESS ROAD
- MINE EXPANSION AREA (AMENDMENT COVERAGE AREA)
- EXISTING STAR LAKE MINE PERMIT AREA

REFERENCE

1. U.S. GEOLOGICAL SURVEY US TOPO 7.5-MINUTEMAP FOR STAR LAKE, NM 2013.

PROJECT
MESA VERDE RESOURCES
STAR LAKE HUMATE MINE
MCKINLEY COUNTY, NEW MEXICO

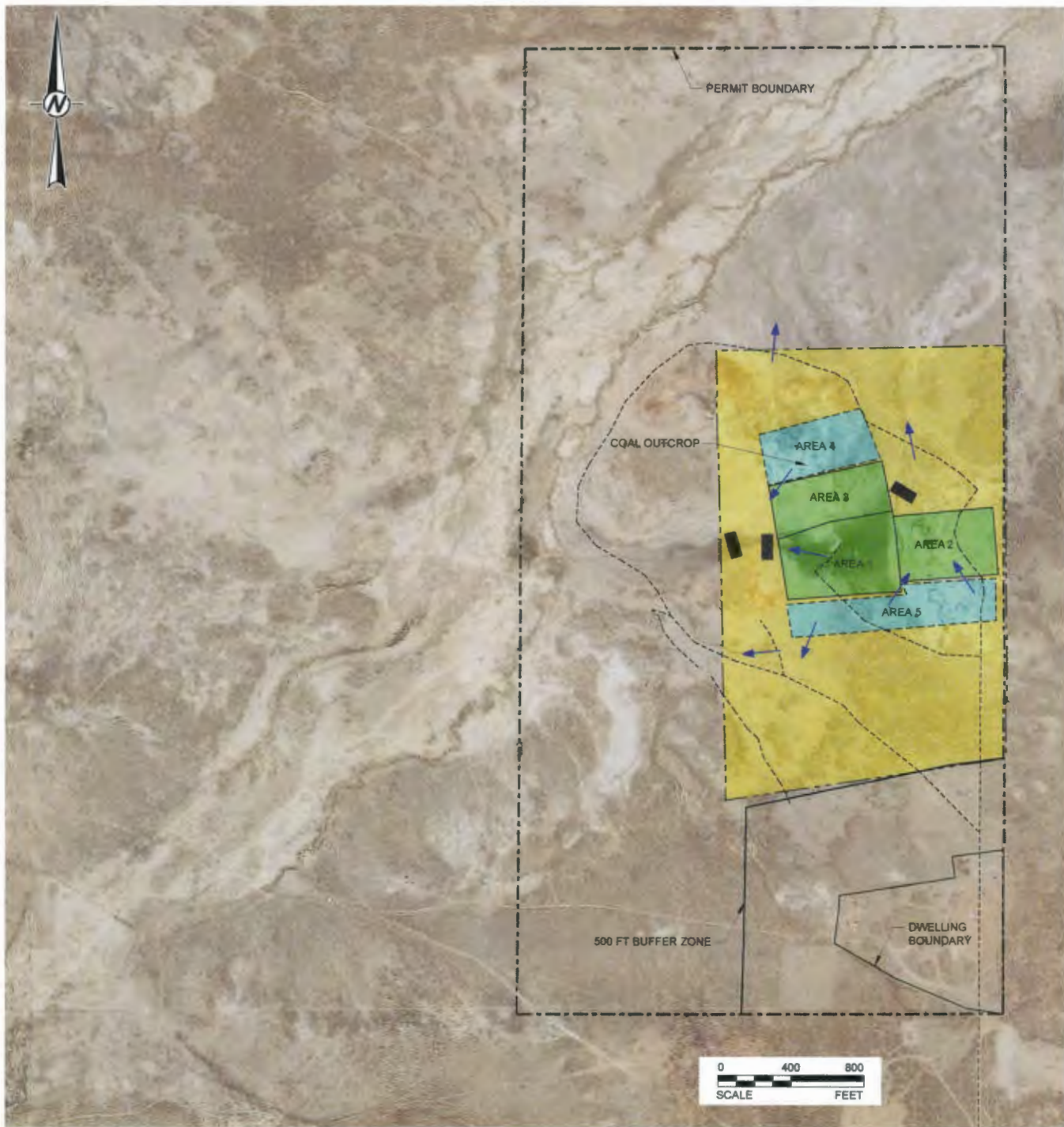
TITLE
**PROJECT AREA MAP
SECTIONS 04 AND 10
T19N R6W**

CONSULTANT



YYYY-MM-DD	2014-08-12
PREPARED	PDC
DESIGN	EC
REVIEW	EC
APPROVED	BN

PROJECT No 140-3773	PHASE 07	Rev. 0	FIGURE 1
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LEGEND

- EXISTING ACCESS ROAD
- MINE EXPANSION AREA (AMENDED COVERAGE AREA)
- PROPOSED PRIMARY MINING AREAS 1-3
- PROPOSED SECONDARY MINING AREAS 4-5
- PROPOSED TERTIARY MINING AREA
- DRAINAGE DIRECTION
- POTENTIAL WADDLE/BERM LOCATION

REFERENCE

AERIAL PHOTOGRAPH OBTAINED FROM RGIS ON SEPTEMBER 12, 2014 AND IS DATED MAY 13, 2009.

PROJECT
MESA VERDE RESOURCES
STAR LAKE HUMATE MINE
McKINLEY COUNTY, NEW MEXICO
TITLE
DRAINAGE AND BMP MAP

CONSULTANT



YYYY-MM-DD 2014-09-12

PREPARED PDC

DESIGN EC

REVIEW EC

APPROVED BN

PROJECT No
140-3773

PHASE
07

Rev.
0

FIGURE
2

APPENDIX B
Biological Evaluation

**BIOLOGICAL RESOURCES COMPLIANCE FORM
NAVAJO NATION DEPARTMENT OF FISH AND WILDLIFE
P.O. BOX 1480, WINDOW ROCK, ARIZONA 86515-1480**

It is the Department's opinion the project described below, with applicable conditions, is in compliance with Tribal and Federal laws protecting biological resources including the Navajo Endangered Species and Environmental Policy Codes, U.S. Endangered Species, Migratory Bird Treaty, Eagle Protection and National Environmental Policy Acts. This form does not preclude or replace consultation with the U.S. Fish and Wildlife Service if a Federally-listed species is affected.

PROJECT NAME & NO.: The Mesa Verde Resources Section 4 Humate Mine

DESCRIPTION: Reid Enterprises, LLC, d.b.a. Mesa Verde Resources (Mesa Verde) propose an 88.9-acre expansion of the existing Star Lake mining operation. Initial activities will consist of constructing new roads in order to perform shallow exploration drilling at 12-13 borehole sites. The project includes a 2,777-ft. long x 20-ft. wide access road easement. Mining related disturbances would be limited to 10 acres/year.

LOCATION: E½ of Section 4, T19N, R06W (Mine Expansion) and Sections 4, 9, & 10, T19N, R06W (Access Road Easement), NMPM, Pueblo Pintado Chapter, McKinley County, New Mexico

REPRESENTATIVE: Emily Clark & Bob Newcomer, Golder Associates Inc.

ACTION AGENCY: Bureau of Indian Affairs & Navajo Nation

B.R. REPORT TITLE / DATE / PREPARER: BE/BA - The Mesa Verde Resources Section 4 Project/AUG 2014/Rocky Mountain Ecology, LLC.

SIGNIFICANT BIOLOGICAL RESOURCES FOUND: Area 3. BURE nesting substrates (transmission structures) are present in the project area. BE/BA did not indicate if nests were present on the transmission structures.

POTENTIAL IMPACTS

NESL SPECIES POTENTIALLY IMPACTED: [1] *Charadrius montanus* (Mountain Plover), G4, MBTA; [2] *Buteo regalis* (Ferruginous Hawk), G3, MBTA, FHMG.

FEDERALLY-LISTED SPECIES AFFECTED: NA

OTHER SIGNIFICANT IMPACTS TO BIOLOGICAL RESOURCES: NA

AVOIDANCE / MITIGATION MEASURES: [1] Trash dumpsters will be designed to prevent wildlife access and entrapment; [2] Ensure project sites are secure when not in operation; [3] The operator will implement a post-mining reclamation, revegetation, and monitoring plan.

CONDITIONS OF COMPLIANCE*: [1] Pursuant to the Migratory Bird Treaty Act (U.S. Code Title 16, Chapter 7, 703-712), migratory birds not listed under the NESL or ESA are prohibited from take by federal law. Nesting habitat is present within the project area. Initial road construction and land clearing activities must avoid the Migratory Bird breeding season of 01 APR- 31 AUG or surveys shall precede ground-disturbing activities. If active nesting is observed during the surveys, activities will cease and the USFWS shall be notified.

FORM PREPARED BY / DATE: Pamela A. Kyselka/07 OCT 2014; addendum for road easement 26 MAR 2015

C:\old_pc2010\My Documents\NNHP\BRCF_2015\14ROKE-01A.doc

COPIES TO: (add categories as necessary)



BIA



2 NTC § 164 Recommendation:

Signature

Date

☐ Approval

☒ Conditional Approval (with memo)

☐ Disapproval (with memo)

☐ Categorical Exclusion (with request letter)

☐ None (with memo)

Gloria M. Tom
Gloria M. Tom, Director, Navajo Nation Department of Fish and Wildlife

3/27/15

*I understand and accept the conditions of compliance, and acknowledge that lack of signature may be grounds for the Department not recommending the above described project for approval to the Tribal Decision-maker.

Representative's signature

Date



PRESIDENT
BEN SHELLY
VICE PRESIDENT
REX LEE JIM

NAVAJO FISH AND WILDLIFE P.O. BOX 1480 WINDOW ROCK, AZ 86515

26 March 2015

14ROKE-01A

Emily Clark, CPSS, Project Manager
Bob Newcomer, CPG, R.G., Associate
Golder Associates Inc.
5200 Pasadena Avenue Northeast, Suite C
Albuquerque, New Mexico 87113

Dear Ms. Clark & Mr. Newcomer,
The Navajo Nation Department of Fish and Wildlife (NNDFW) reviewed the Biological Evaluation & Assessment for Mesa Verde's proposed 2,777-ft. access road easement and 88.9-acre mine expansion of the existing Star Lake mining operation located approximately 10.8 miles eastsoutheast of Pueblo Pintado, New Mexico. The purpose of this letter is to inform you that we are granting the proposed project a Conditional Approval. The project is approved with the following condition:

[1] Pursuant to the Migratory Bird Treaty Act (U.S. Code Title 16, Chapter 7, 703-712), migratory birds not listed under the NESL or ESA are prohibited from take by federal law. Nesting habitat is present within the project area. Initial road construction and land clearing activities must avoid the Migratory Bird breeding season of 01 APR- 31 AUG or surveys shall precede ground-disturbing activities. If active nesting is observed during the surveys, activities will cease and the USFWS shall be notified.

Please contact me at 928-871-7065 with any questions that you have concerning the review of this project.

Sincerely,

Pamela A. Kyselka, Wildlife Biologist
Navajo Natural Heritage Program
Department of Fish and Wildlife

CONCURRENCE

Gloria Tom, Director
Department of Fish and Wildlife

3/27/15
Date

xc: CONS-100-15
 BIA

BIOLOGICAL EVALUATION & ASSESSMENT
OF
**THE MESA VERDE RESOURCES SECTION 4 PROJECT – SECTION
4, T19N, R6W N.M.P.M, MCKINLEY COUNTY, NEW MEXICO**

PREPARED BY:
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DURANGO, CO 81301
(505) 992-6150
KNOX@ROCKYMOUNTAINECOLOGY.COM

PREPARED FOR:
GOLDER ASSOCIATES INC.
5200 PASADENA NE,
ALBUQUERQUE, NM 87113



AUGUST 2014

BIOLOGICAL EVALUATION & ASSESSMENT
OF
**THE MESA VERDE RESOURCES SECTION 4 PROJECT – SECTION
4, T19N, R6W N.M.P.M, MCKINLEY COUNTY, NEW MEXICO**


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PREPARED FOR:
GOLDER ASSOCIATES INC.
5200 PASADENA NE,
ALBUQUERQUE, NM 87113

AUGUST 2014

INVESTIGATOR:

SHAWN C. KNOX
CO-OWNER, ROCKY MOUNTAIN ECOLOGY, LLC



Signature

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1.0 INTRODUCTION

1.1 Summary

Reid Enterprises, LLC, dba Mesa Verde Resources (Mesa Verde), proposes to expand the existing Star Lake mining operation to Section 4, Township 19 North, Range 6 West, of the New Mexico Prime Meridian (N.M.P.M.) (Figures 1 – 3; Appendix A. Photographs). The proposed Section 4 mine expansion project (Project) would require clearance of 88.9 acres for the future mining. The Project is located on allotted land held in trust by the Bureau of Indian Affairs (BIA). Because the private land is located within the boundaries of the Navajo Nation, the BIA is acting as lead agency for this project, with cooperation from the Navajo Nation Historic Preservation Division (NNHPD), the State Historic Preservation Officer (SHPO), the Navajo Nation Natural Heritage Program (NNHP) and the Bureau of Land Management (BLM) Farmington Field Office (FFO).

Mesa Verde operates the Star Lake Mine under an existing Minimal Impact Permit with the New Mexico Mining and Minerals Division (MMD)—Permit No. MK007ME. The existing mine is located on private (fee) surface leases with partial mineral ownership held and administered by the BLM/FFO in Section 10 T19N, R6W N.M.P.M (Figure 2). Humate reserves for the proposed development in Section 4 have yet to be explored.

A Humate Mining Lease Agreement for the Project was entered into between Mesa Verde and the 16 Allottees of Section 4, T19N, R6W N.M.P.M. on October 17, 2013. The lease includes the entire section of 640.76 acres. Pursuant to 25 CFR 211.56/212.56, Mesa Verde applied for a Geological Permit on October 28, 2013 with the BIA to perform exploration drilling operations to determine the mineable humate reserves across 88.9 acres. Mesa Verde also submitted a Permit Modification request to MMD to include the east half of Section 4 (323.1 acres) to the existing Permit No. MK007ME. Following the approval of both MMD and BIA, Mesa Verde will begin exploration drilling operations.

Rocky Mountain Ecology, LLC (RME) was contracted to prepare this Biological Evaluation and Assessment (BE/BA) in compliance with Section 7 of the Endangered Species Act (ESA) (19 U.S.C. 1536 (c), 50 CFR 402.12 (F) and 402.14 (c)) and other relevant Federal, State and Tribal laws and regulations. This BE/BA discloses and analyzes impacts associated with exploratory boreholes, associated access routes, and mining operations as proposed by Mesa Verde Resources.

1.2 Purpose & Need

The purpose of the Proposed Action is to allow Mesa Verde Resources to mine humate in the allotted land in Section 4, under the Humate Mine Lease Agreement and Minimal Impact Permit No. MK007ME.

The need for the action is to develop the humate resource, which is rich in humic and fulvic acid and used as a soil amendment. The BIA is responsible for ensuring that Indian mineral owners desiring to have their resources developed, are assured that they will be developed in a manner that maximizes their best economic interests and minimizes any adverse environmental impacts or cultural impacts resulting from such development. It is also the policy of the BLM to make mineral resources available for disposal and to encourage development of mineral resources to meet national, regional, and local needs while ensuring development is carried out in an environmentally responsible manner.

This BE/BA has been prepared to analyze impacts and determine effects of the Proposed Action on federally proposed, threatened, endangered, candidate, and species of concern, and on species listed on the Navajo Endangered Species List (NESL). Specifically, this BE/BA would provide knowledge regarding protected, and assist the proponent in determining if formal consultation with the U.S. Fish and Wildlife Service (USFWS) is prudent. This document would also aid in determining if the Proposed Action would lead toward the federal listing of any candidate species on the Endangered Species Act of 1973 as amended. This BE/BA adheres to requirements specified in Section 7 of the Endangered Species Act (ESA) (19 U.S.C. 1536 (c), 50 CFR 402.12 (F) and 402.14 (c)).

2.0 METHODS & CONSULTATION

The USFWS list of proposed, threatened, endangered and candidate species was evaluated prior to fieldwork using the USFWS Information, Planning and Conservation (IPaC) System website (ecos.fws.gov/ipac) (Table 2). Moreover, NESL species were evaluated and reviewed in correspondence with the Navajo Nation Department of Fish and Wildlife (NNDFW) (Appendix B. Consultation/ Navajo Species List). Effect Determinations were made for federally listed species based on analysis of habitat requirements, and field verification (Table 2). A Determination of Impacts was made for NESL species, also based on analysis of habitat requirements, and field verification (Table 3).

RME staff conducted field reconnaissance of the project area on 10 June and 23 July 2014. All global positioning system (GPS) coordinates were collected using the Universal Transverse Mercator (UTM) system in the North American Datum 1983 (NAD 83) projection. The area surveyed totaled approximately 96 acres, which included the 88.9-acre

project area plus, an additional 50-ft buffer. Habitat suitability for all species listed within Tables 2 and 3, was ascertained in the field. Dominant vegetation communities and common plant and animal species noted within the project area are described in Section 3.0. Photographs of the area are included in Appendix A.

3.0 DESCRIPTION OF ANALYSIS AREA

The project area is located on the Colorado Plateau in northeastern McKinley County, New Mexico. Elevations within the project area range from 6,680 to 6,670 feet above sea level, with annual precipitation of 9 to 10 inches. Mean annual temperatures are approximately 46° to 49° degrees Fahrenheit (The Weather Channel 2014).

The project area occurs in the Kirtland-Frutiland geological formation (Anderson et al. 1997). The following soil types were identified as determined by the Natural Resource Conservation Service (NRCS) Web Soil Survey (NRCS 2014). Major soil types within the greater project area are derived from eolian deposits over alluvium formations of sandstone and shale, such as the Calladito-Elias association and Doakum-Betonnies complex soil types. Both major soil types have medium to high runoff characteristics and are well drained.

The predominant vegetation community in this region is Great Basin Desert Scrub (Dick-Peddie 1993). The vegetation community is dominated by arid shrubs such as big sagebrush (*Artemisia tridentata*), greasewood (*Sarcobatus vermiculatus*) and shadscale saltbush (*Atriplex confertifolia*) (Dick-Peddie 1993).

Plants noted within the project area are listed in Table 1.

Table 1. Plant Species Located Within or Near the Project Area.

Common Name	Scientific name
Annual Townsend daisy	<i>Townsendia annua</i>
Alkali sacaton	<i>Sporobolus airoides</i>
Big sagebrush	<i>Artemisia tridentata</i>
Blue grama	<i>Bouteloua gracilis</i>
Blue Scorpionweed	<i>Phacelia coerulea</i>
Clustered broomrape	<i>Orobancha fasciculata</i>
Dwarf ipomopsis	<i>Ipomopsis pumila</i>
Fleabane	<i>Erigeron</i> spp.
Galleta	<i>Pleuraphis jamseii</i>
Greasewood	<i>Sarcobatus vermiculatus</i>
Green rabbitbrush	<i>Chrysothamnus viscidiflorus</i>
Hairy grama	<i>Bouteloua hirsuta</i>
Halogeton	<i>Halogeton glomeratus</i>

Indian ricegrass	<i>Achnatherum hymenoides</i>
Mealy goosefoot	<i>Chenopodium incanum</i>
Pale wolfberry	<i>Lycium pallidum</i>
Plains flax	<i>Linum puberulum</i>
Plains pricklypear	<i>Opuntia polyacantha</i>
Painted milkvetch	<i>Astragalus ceramicus</i>
Purple threeawn	<i>Aristida purpurea</i>
Rose heath	<i>Chaetopappa ericoides</i>
Rubber rabbitbrush	<i>Ericameria nauseosa</i> var. <i>bigelovii</i>
Rubberweed	<i>Hymenoxys richardsonii</i>
Russian thistle	<i>Salsola tragus</i>
Sandmat	<i>Chamaesyce prostrate</i>
Sand dropseed	<i>Sporobolus cryptandrus</i>
Scarlet globemallow	<i>Sphaeralcea coccinea</i>
Shadescale saltbush	<i>Atriplex confertifolia</i>
Snakeweed	<i>Gutierrezia</i> spp.
Snowball sand verbena	<i>Abronia fragrans</i>
Squirreltail	<i>Elymus elymoides</i>
Tridens	<i>Tridens</i> spp.
Thicksepal diddenflower	<i>Cryptantha crassisejala</i>
Western tansy mustard	<i>Descurainia pinnata</i>
Wild four o'clock	<i>Mirabilis multiflora</i>
Winterfat	<i>Krascheninnikovia lanata</i>
Woolly locoweed	<i>Astragalus mollissimus</i>

Halogeton is widespread across the project area. It listed as a New Mexico Department of Agriculture (NMDA) Class B species (NMDA 2009). "Class B species are limited to portions of the state. In areas with severe infestations, management should be designed to contain the infestation and stop any further spread" (NMDA 2009).

Wildlife in the vicinity of the project area includes various small mammals, diverse avifauna, reptiles, amphibians, and big game species (Brown and Lowe 1980). Wildlife typical of the general area include coyotes (*Canis latrans*), desert cottontails (*Sylvilagus audubonii*), common ravens (*Corvus corax*), turkey vultures (*Cathartes aura*), swallows (*Hirundo* spp.), mourning doves (*Zenaida macroura*), red-tailed hawks (*Buteo jamaicensis*), bull snakes (*Pituophis catenifer sayi*), and whiptail lizards (*Cnemidophorus* spp.). Wildlife observed during the site visit include turkey vultures, common ravens, black-tailed jackrabbits (*Lepus californicus*), and desert cottontails.

4.0 DESCRIPTION OF PROPOSED PROJECT

4.1 Project Location

The project area is located on the Navajo Nation near Star Lake in McKinley County, New Mexico. The area is within the US Geological Survey (USGS) 7.5-minute Star Lake

quadrangle. The subject property is located in McKinley County, New Mexico, Legal Description: Section 4, Township 19 North, and Range 6 West. Center coordinates are provided in the Universal Transverse Mercator system, in North American Datum 1983, Zone 13: 276971 E, 3976364 N. The project is mapped on the Star Lake, NM USGS 7.5 minute quadrangle (Figures 1 – 3).

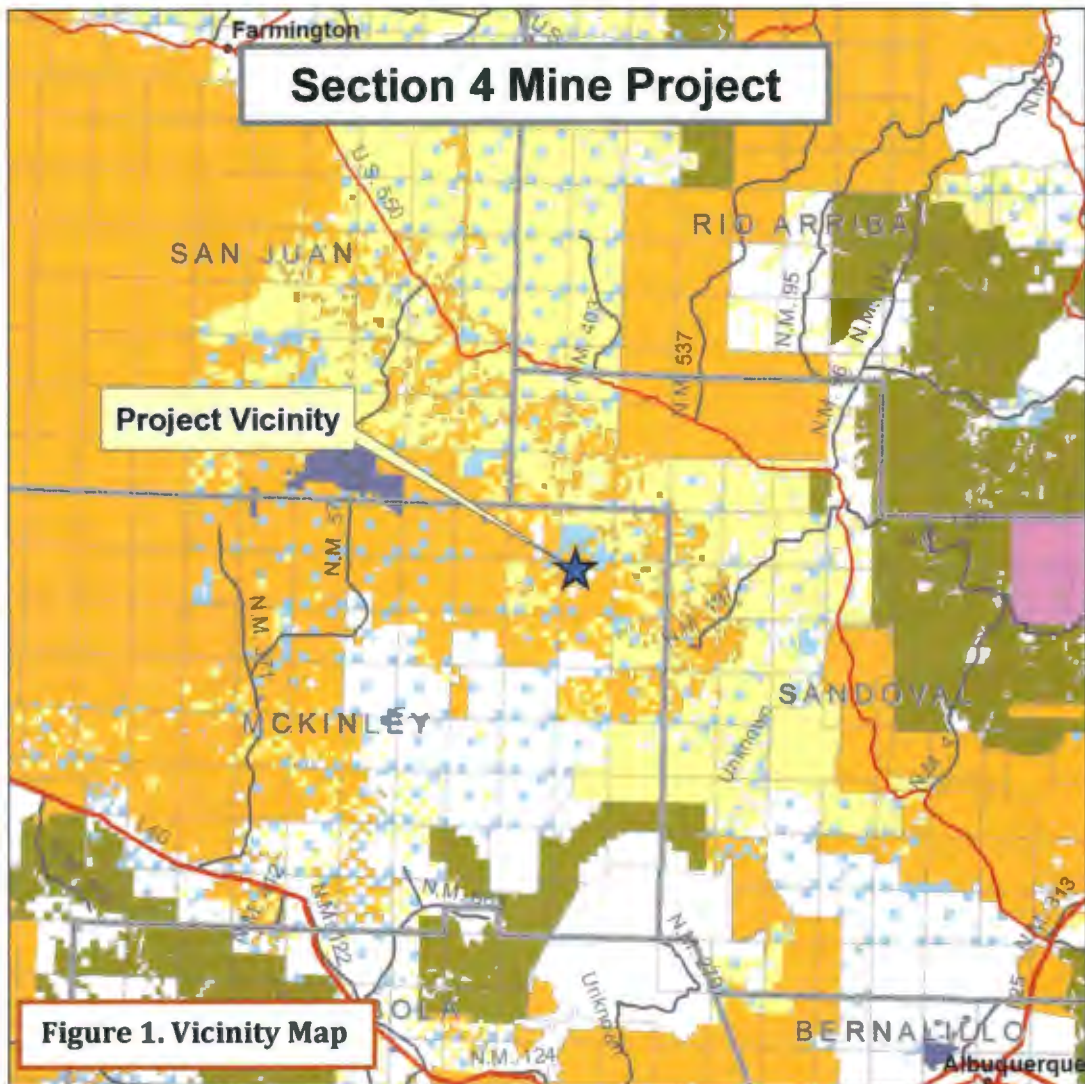
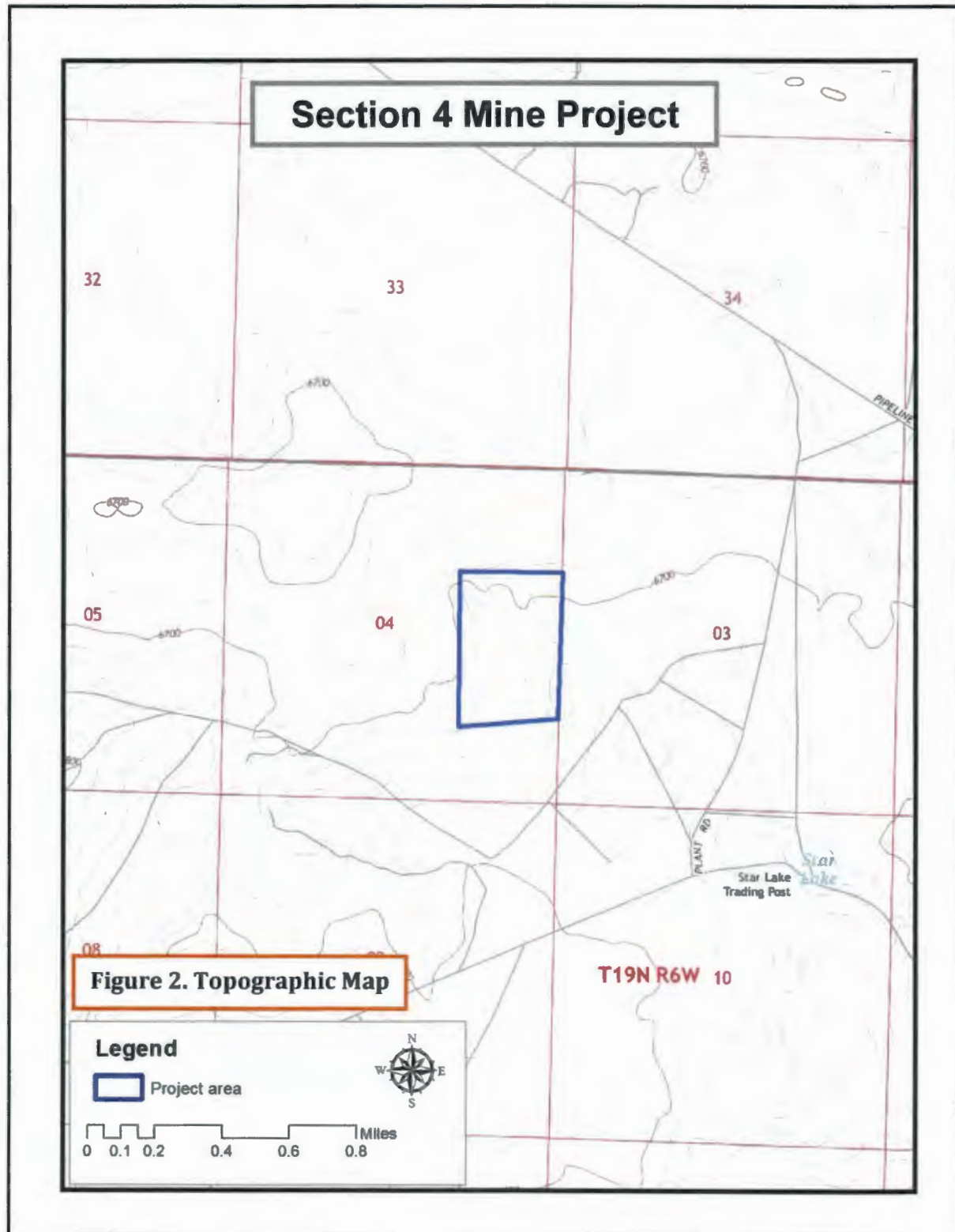


Figure 1. Vicinity Map







4.2 Proposed Action

The mineable reserves have yet to be determined, but the proposed Project area covers 88.9 acres. Initial operations will consist of a shallow exploration drilling program of 12 - 13 boreholes, to locate and evaluate humate reserves. Moreover, access roads will be constructed off of the existing ranch roads to access the borehole sites. The scope of work includes the drilling of 5 1/8-diameter holes using a truck-mounted rig to air-drill at the sampling sites, and the construction of seven new access routes. Further, humate would be mined at certain locales throughout, based on results of the borehole sampling. Approaching drilling sites via the same access roads will minimize surface disturbance. Work for the borehole sampling is estimated to occur over a three-day period with a staff of four, including a three-person drill crew and one oversight geologist. Samples will be collected. Holes will be less than 50 feet deep and will be plugged to the total depth using bentonite cement.

Mesa Verde operates under a minimal impact MMD permit which allows them to mine up to 10 acres per year. After the drilling program is complete, Mesa Verde will develop a mine plan for the 88.9 acre area. The mine plan will be based on 10-acre disturbances of the humate reserves. Mined reserves are usually restricted to a minimum thickness of 1 foot at a maximum overburden thickness less than 30 feet. Mining proceeds with removal of overburden to develop an open pit, and the pit size is usually restricted to about 1-3 acres. Overburden is stockpiled in designated areas on-site. The humate is then extracted and hauled to the San Ysidro Plant for processing. The pit is backfilled with the overburden once the humate reserves have been exhausted and a new pit is developed.

5.0 FEDERAL PROPOSED, THREATENED, ENDANGERED AND CANDIDATE SPECIES EVALUATED

Based on the field survey and verification with the master species list for McKinley County (Table 2), no suitable habitat exists for federal proposed, endangered, threatened, or candidate species within the project area. All species listed on the USFWS IPAC consultation letter (Appendix B) for McKinley County were analyzed in Table 2, below.

Table 2. Federal Threatened, Endangered, Proposed and Candidate Species Master List for McKinley County, New Mexico
 (Source: <http://ecos.fws.gov/ipac/wizard/trustResourceList.prepare.action; Appendix B>)

Birds	Status	Critical Habitat	Habitat Present	Habitat Requirements	Affected Habitat Description & Effects (Indirect, Direct, Cumulative)	Effect Determination
Mexican Spotted owl (<i>Strix occidentalis lucida</i>) Population: Entire	T	Final designated critical habitat	No	Mexican spotted owls prefer dense old growth mixed-conifer forests located on steep slopes, and/or mixed-conifer, pine-oak, and evergreen oak forests or canyonlands.	The project area is void of forests and none of the aforementioned habitat types are near the project area. The closest Critical Habitat is 40 miles away. No direct, indirect or cumulative effects to populations or individuals of this species are anticipated from the Proposed Action, due to the lack of habitat.	No effect – The Proposed Action will have no effect on the Mexican Spotted Owl, or on Critical Habitat.
Southwestern Willow flycatcher (<i>Empidonax traillii extimus</i>) Population: Entire	E	Final designated critical habitat	No	This species prefers multi-layered riparian zones (BISON-M 2014). Flycatchers are known to form territories and nest in very dense riparian vegetation ranging in height from about 12 to 29 feet. These habitats are most frequently dominated by willow but may also contain cottonwood, Russian olive and/or saltcedar. The primary habitat requirement is for very dense twig structure at the 12- to 29-foot height, plus proximity to water.	The project area does not contain any of the habitat structural or functional features. Specifically, there is no riparian habitat component within the project area. The closest Critical Habitat is 40 miles away. No indirect, direct or cumulative effects would be incurred from the Proposed Action, due to the lack of habitat.	No effect – The Proposed Action is will have no effect on the Southwestern Willow Flycatcher, or on Critical Habitat.
Yellow-Billed Cuckoo (<i>Coccyzus americanus</i>) Population: Western U.S. DPS	PT	No	No	Western cuckoos breed in large blocks of riparian habitats, particularly woodlands with cottonwoods (<i>Populus fremontii</i>) and willows (<i>Salix</i> sp.). Dense understory foliage appears to be an important factor in	The project area does not contain any of the habitat structural or functional features. Specifically, there is no riparian habitat component within the project	Not Likely to Jeopardize – The Proposed Action is not likely to jeopardize the continued existence of the Yellow-billed cuckoo.

				nest site selection. This species occurs along waterways in lowland deciduous woods and thickets throughout New Mexico (BISON-M 2014).	area. No indirect, direct or cumulative effects would be incurred from the Proposed Action, due to the lack of habitat.	
Fishes						
Zuni bluehead sucker (<i>Castostomus discobolus varrowi</i>)	PE	Proposed	No	Zuni bluehead suckers occur within perennial streams of the Southwestern U.S. They are known to occur in McKinley County, within the Zuni River, Rio Nutrias, Cebolla Creek and Rio Pescado (BISON-M 2014).	The project area does not contain any of the habitat structural or functional features described above (i.e., perennial water). The closest Proposed Critical Habitat is approximately 50 miles away to the Southwest. No indirect, direct or cumulative effects would be incurred from the Proposed Action, due to the lack of habitat.	No effect - The Proposed Action will have no effect on the Zuni bluehead sucker, or on Proposed Critical Habitat.
Flowering Plants						
Zuni fleabane (<i>Erigeron rhizomatus</i>)	T	No	No	"This species is typically located in north or east-facing slopes within piñon-juniper woodlands at elevations of 7,300-8,000ft" (NMRPTC 1999).	The project area elevation is below the typical habitat requirements for the species. Specifically, the project area does not harbor piñon-juniper habitat. No indirect, direct or cumulative effects would be incurred from the Proposed Action, due to the lack of habitat.	No effect - The Proposed Action will have no effect on the Zuni fleabane.

E = US Endangered PE = US Proposed C = US Candidate
T = US Threatened PT = US Proposed

6.0 NAVAJO-LISTED SPECIES

NESL species data for land-use actions was furnished by NNDFW (Appendix B). NESL contains taxa from the entire Navajo Nation. NESL species whose distribution includes the project area were analyzed for impacts in Table 3, below.

Table 3. Navajo-Listed Species from the Navajo Endangered Species List
(Source : Consultation Responses – Appendix B)

Birds	Status	Critical Habitat	Habitat Present	Habitat Requirements	Affected Habitat Description & Impacts (Indirect, Direct, Cumulative)	Determination of Impacts
Burrowing owl (<i>Athene cunicularia</i>)	G4	NA	Yes	This species inhabits both grassland and scrubland habitat types from elevations of 3,000 to 9,000 ft in elevation (BISON-M 2014). Specifically, burrowing owls inhabit dry, open, shortgrass, treeless plains, often associated with burrowing mammals.	<p>Marginal habitat exists within the scrub habitat at the project area; however no burrows or burrowing owls were located during the field surveys.</p> <p>Potential direct effects: No direct impacts are expected.</p> <p>Potential indirect effects: Indirect impacts could include loss of up to 90 acres of habitat for owls that could otherwise inhabit the landscape in the future.</p> <p>Potential cumulative effects: Cumulative effects could consist of habitat degradation from other mining projects, road construction projects, or livestock grazing activities in the surrounding area. However, suitable foraging habitat exists adjacent to the project area and burrowing owls in the vicinity are</p>	Individuals of this species would not be negatively impacted, and the Proposed Action is not likely to result in a trend toward federal listing or loss of population viability.

Ferruginous hawk (<i>Buteo regalis</i>)	G4	NA	Yes	<p>The preferred habitat of this species included open grasslands, steppes, and desert (BISON-M 2014). Loss of nesting areas, reduction in prey populations, and human disturbance may impact species (BISON-M 2014).</p>	<p>expected to forage in those locales.</p> <p>Moreover, Environmental Commitments discussed in Section 9.0 would be implemented to avoid or minimize any potential effects.</p>	<p>Individuals of this species would not be negatively impacted, and the Proposed Action is not likely to result in a trend toward federal listing or loss of population viability.</p>
				<p>Suitable foraging habitat does occur within the project area within the Great Basin Desert Scrub and grassland areas. Suitable nesting habitat exists within the power poles that cross the project area.</p> <p><u>Potential direct effects:</u> No direct effects are anticipated. However, unexpected direct effects could include changes in foraging behavior based on presence of heavy equipment during construction. No population- or species-level impacts are anticipated.</p> <p><u>Potential indirect effects:</u> No indirect effects are anticipated. However loss of the 90 acres could remove potential foraging habitat or future foraging expansion habitat, which could impact individual ferruginous hawks. No population- or species-level impacts are anticipated based on the small amount of habitat that would be lost.</p> <p><u>Potential cumulative effects:</u> Cumulative effects could consist of habitat degradation from other mining projects,</p>		

Golden eagle (<i>Aquila chrysaetos</i>)	G3	NA	Yes	<p>"During the breeding season, golden eagles occur primarily in areas of mountain cliffs or canyons. In the West, it is often associated with rimrock terrain adjacent to open desert or grassland areas. Suitable nesting sites may exist within a variety of surrounding habitats, from desert to mountain areas, although dense forests tend to be avoided. In Utah, Golden Eagles nest in grass, shrub, pinyon-juniper, and aspen-conifer habitats. In Arizona, the species prefers desert grasslands and chaparral habitats. Most common nesting areas in New Mexico are steep-walled mountain canyons. Although cliffs are the most common nesting substrate, trees or man-made structures are also sometimes used. Many nests have a wide view of surrounding area or are on prominent escarpments. Proximity to hunting grounds is an important factor in nest-site</p>	<p>road construction projects, or livestock grazing activities in the surrounding area. However, suitable foraging habitat exists adjacent to the project area and ferruginous hawks in the vicinity are expected to forage in those locales.</p> <p>Moreover, Environmental Commitments discussed in Section 9.0 would be implemented to avoid or minimize any potential effects.</p>	
					<p>Marginal habitat exists within the scrub habitat at the project area; however no steep cliffs exist within or near then project area that would provide nesting habitat. No eagles were observed during the field surveys.</p> <p><u>Potential direct effects:</u> No direct impacts are expected.</p> <p><u>Potential indirect effects:</u> Indirect impacts could include loss of up to 90 acres of foraging habitat for eagles that could otherwise inhabit the landscape in the future.</p> <p><u>Potential cumulative effects:</u> Cumulative effects could consist of foraging habitat degradation from other mining projects, road construction projects, or livestock grazing activities in the surrounding area. However, suitable foraging habitat exists adjacent to the project area and</p>	Individuals of this species would not be negatively impacted, and the Proposed Action is not likely to result in a trend toward federal listing or loss of population viability.

Mountain Plover (<i>Charadrius montanus</i>)	G2	NA	Yes	<p>selection.</p> <p>Golden Eagles typically forage in open grassland or shrubland habitat, and tend to avoid agricultural areas. Although capable of killing large prey, including small ungulates and young domestic livestock, this species subsists primarily on rabbits, hares, ground squirrels, and prairie dogs", (New Mexico Avian Conservation Partners (NMACP) 2014).</p> <p>"The breeding range of the Mountain Plover includes prairie grassland and open mesa portions of southern Canada, Montana, Wyoming, Colorado, and the northern half of New Mexico. The range may have formerly extended into southern New Mexico, and isolated breeding records exist for west Texas and the central Mexican Plateau. Most of the species population winters in central and southern California, but some birds winter in northern and central Mexico and southern Arizona.</p> <p>In New Mexico, the species breeds primarily in the northeast quadrant, from Las Vegas and Mosquero north in Harding and Union Counties and north of Tres Piedras in Taos County. It also breeds occasionally at Santo Domingo Pueblo and sporadically in the western half of the state from the Plains of San Agustin west to Quemado and north to the Farmington area Mountain Plovers may be</p>	<p>golden eagles in the vicinity are expected to forage in those locales.</p> <p>Moreover, Environmental Commitments discussed in Section 9.0 would be implemented to avoid or minimize any potential effects.</p>	<p>Individuals of this species would not be negatively impacted, and the Proposed Action is not likely to result in a trend toward federal listing or loss of population viability.</p>
				<p>Foraging and nesting habitat exists within the grassland habitat components of the project area; however no mountain plovers were located during the field surveys.</p> <p><u>Potential direct effects:</u> No direct impacts are expected.</p> <p><u>Potential indirect effects:</u> Indirect impacts could include loss of up to 90 acres of habitat for mountain plovers that could otherwise inhabit the landscape in the future.</p> <p><u>Potential cumulative effects:</u> Cumulative effects could consist of habitat degradation from other mining projects, road construction projects, or livestock grazing activities in the surrounding area. However, suitable foraging habitat exists adjacent to the project area and mountain plovers in the vicinity are expected to forage in those locales.</p>		

American Peregrine Falcon (<i>Falco peregrinus anatum</i>)	G4	NA	Yes	<p>encountered widely across the state in appropriate habitat during spring and fall migration. Mountain plovers tend to be strongly associated with prairie dog colonies" (NMACP 2014).</p> <p>"Peregrine Falcons inhabit open spaces usually associated with high cliffs and bluffs overlooking rivers and coasts. Recently, many cities with tall buildings have become home to some peregrines. Some populations are migratory and travel great distances (as their Latin name implies)" (BISON-M 2014).</p>	<p>Moreover, Environmental Commitments discussed in Section 9.0 would be implemented to avoid or minimize any potential effects.</p> <p>Suitable foraging habitat does occur within the project area; suitable nesting habitat does not. Steep areas that may provide marginally suitable nesting strata are present within three miles of the project area.</p> <p><u>Potential direct effects:</u> No direct impacts are expected.</p> <p><u>Potential indirect effects:</u> Indirect impacts could include loss of up to 90 acres of foraging habitat for falcons that could otherwise inhabit the landscape in the future.</p> <p><u>Potential cumulative effects:</u> Cumulative effects could consist of foraging habitat degradation from other mining projects, road construction projects, or livestock grazing activities in the surrounding area. However, suitable foraging habitat exists adjacent to the project area and peregrine falcons in the vicinity are expected to forage in those locales.</p> <p>Moreover, Environmental Commitments discussed in Section 9.0 would be implemented to avoid or minimize any</p>	<p>Individuals of this species would not be negatively impacted, and the Proposed Action is not likely to result in a trend toward federal listing or loss of population viability.</p>
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					potential effects.	
Southwestern Willow flycatcher (<i>Empidonax traillii extimus</i>)	G2	Final designated critical habitat	No	See Table 2, above	See Table 2, above	See Table 2, above
Mammals						
Black-footed ferret (<i>Mustela nigripes</i>)	G2	NA	No	<p>Ferrets historically occurred in grasslands throughout the Western U.S. "The distribution of the black-footed ferret is closely sympatric with that of prairie dogs (exclusive of Mexican prairie dog, <i>Cynomys mexicanus</i> and Utah prairie dog, <i>Cynomys parvidens</i>; and all viable breeding populations have been associated with prairie dog colonies which they use for food and shelter" (BISON-M 2014).</p>	<p>Currently extirpated from historical habitat in New Mexico. Re-introduced ferrets occur in private land in northern New Mexico. No prairie dog colonies exist within the Project area. No indirect, direct or cumulative effects would be incurred from the Proposed Action, due to the lack of habitat, and absence of the species.</p>	<p>Individuals of this species would not be negatively impacted, and the Proposed Action is not likely to result in a trend toward federal listing or loss of population viability</p>
Kit fox (<i>Vulpes macrotis</i>)	G4	NA	Yes	<p>"Kit foxes primarily inhabit deserts scrub and plains and desert grasslands but may occasionally be found in Coniferous Woodland" (BISON-M 2014). "Kit foxes prefer sandy soils where they can dig their dens. These are found in soft, alluvial soils, sand dunes, or easily diggable clay soils, most often in desert scrub or desert grassland" (BISON-M 2014).</p>	<p>The project area harbors marginal habitat for this species in the desert scrub components.</p> <p>Potential direct effects: Direct impacts to kit foxes could include harassment from heavy equipment or presence of construction workers. Den abandonment could occur.</p> <p>Potential indirect effects: Indirect impacts could include loss of up to 90 acres of habitat for kit foxes that could otherwise inhabit the landscape in the future.</p>	<p>Individuals of this species would not be negatively impacted, and the Proposed Action is not likely to result in a trend toward federal listing or loss of population viability.</p>

					<p>Potential cumulative effects: Cumulative effects could consist of habitat degradation from other mining projects, road construction projects, or livestock grazing activities in the surrounding area. However, suitable denning and foraging habitat exists adjacent to the project area and kit foxes in the vicinity are expected to forage in those locales.</p> <p>Moreover, Environmental Commitments discussed in Section 9.0 would be implemented to avoid or minimize any potential effects.</p>
Flowering Plants					
Aztec gilia (<i>Aliciella formosa</i>)	G4	NA	No	<p>The range of this species is restricted to "Salt desert scrub communities soils associated with the Nacimientto Formation and elevations between 5,000-6,400 ft" (NMRPTC 1999).</p>	<p>Aztec gilia was not observed within the project area during field surveys. Moreover, the project area occurs within the Fruitland & Kirtland geological formations, and beyond the known elevation range of this species. No indirect, direct or cumulative effects would be incurred from the Proposed Action, due to the lack of habitat.</p> <p>This species would not be negatively impacted, and the Proposed Action is not likely to result in a trend toward federal listing of loss or population viability</p>
Brack hardwall cactus (<i>Sclerocactus cloveriae</i> ssp. <i>Brackii</i>)	G4	NA	No	<p>The range of this species is restricted to sandy clay strata within sparse shadscale scrub, in the Nacimientto Formation and at elevations between 5,000-6,400 ft (NMRPTC 1999).</p>	<p>Brack hardwall cactus was not observed within the project area during field surveys. Moreover, the project area occurs within the Fruitland & Kirtland geological formations, and beyond the known elevation range of this species. No indirect, direct or cumulative effects would be incurred from the Proposed</p> <p>This species would not be negatively impacted, and the Proposed Action is not likely to result in a trend toward federal listing of loss or population viability.</p>

					Action, due to the lack of habitat.	Individuals of this species would not be negatively impacted, and the Proposed Action is not likely to result in a trend toward federal listing of loss or population viability.
San Juan milkweed (<i>Asclepias sanjuanensis</i>)	G4	NA	No	The range of this species is restricted to sandy loam soils, usually in disturbed sites in juniper savanna and Great Basin desert scrub, between 5,000-5,500 ft above sea level (NMRPTC 1999).	San Juan milkweed was not observed within the project area during field surveys. Moreover, the project area occurs within the Fruitland & Kirtland geological formations, and beyond the known elevation range of this species. No indirect, direct or cumulative effects would be incurred from the Proposed Action, due to the lack of habitat.	

G1 = No longer occur on Navajo Nation, G2 "Endangered" = prospects of survival and recruitment unlikely, G3 "Endangered" = prospects of survival and recruitment likely in jeopardy in future, G4 = NNDFWL lacks sufficient data to make determination of listing in G2 or G3.

7.0 Migratory Birds

Due to the Executive Order 13186, signed on January 10, 2001 by President Clinton, emphasis has been placed on conservation of migratory birds, as defined by the Migratory Bird Treaty Act of 1918. Should vegetation clearance activities be proposed between 1 March and 31 August (i.e., during the avian breeding and nesting period), a migratory bird survey is recommended within one week of vegetation clearance activities to identify and flag bird nests for avoidance.

8.0 Bald and Golden Eagles

The 1940 Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668c), prohibits "take" without a permit, of bald eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." Disturbance means: "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." Other impacts covered under the Act include human-induced alterations around a previously used nest when eagles are not present. If these alterations agitate or bother an eagle (upon its return) such that breeding, feeding or sheltering habitats are disturbed or interrupted, and injury, death or nest abandonment occur, this shall be considered "take."

No eagles were observed within the project area during the field surveys. The closest cliffs that could provide marginally suitable nesting sites are 3 miles away.

9.0 Environmental Commitments

- 1) Impacts to terrestrial habitats would be minimized by limiting heavy equipment operation to the most open area available, and all efforts would be made to minimize damage to native vegetation.
- 2) To avoid direct impacts to migratory birds protected by the Migratory Bird Treaty Act (16 United States Code [USC] 703, et seq.), a migratory/ nesting bird survey would be conducted within one week of commencing vegetation clearance (should work occur during the avian nesting period of 1 April – 31 August) to locate and flag any active birds nests for avoidance. Construction would cease in the location if migratory bird

nesting, is observed during the survey and the USFWS and/or Navajo Nation would be notified.

- 3) All stormwater discharges would be evaluated for compliance with National Pollutant Discharge Elimination System (NPDES) guidance, an NPDES permit, and/or a Stormwater Pollution Prevention Plan.
- 7) Existing roads would be used for access (where feasible) to minimize disturbance to vegetation.

10.0 Personnel

Shawn C. Knox

- Principal – Rocky Mountain Ecology, LLC
- Seventeen years of experience in natural resource surveys, environmental compliance and management

Clayton P. Bowers

- Senior Project Manager – Rocky Mountain Ecology, LLC
- Eight years of experience in natural resource surveys, environmental compliance and management

11.0 Consultation/ Coordination

This section includes individuals from the interdisciplinary team that were consulted during the development of this document.

Table 4 - Summary of agencies contacted during preparation of this document.

Organization
Navajo Natural Heritage Program
US Fish and Wildlife Service, Albuquerque Ecological Services
Golder Associates, Inc.

11.0 References

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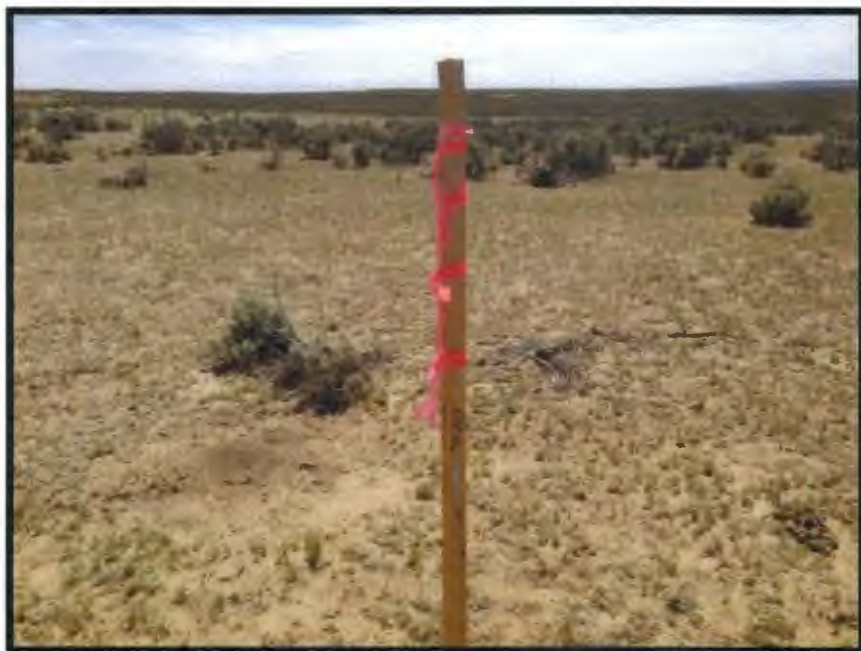
APPENDICES

Appendix A. Photographs

Photograph 1. Representative view from drill hole 1 - facing northwest, depicting the Great Basin Desert Scrub habitat.



Photograph 2. Representative view from drill hole 2 - facing northwest, depicting the grassland areas located within the desert scrub habitat matrix.



Photograph 3. Representative view from drill hole 3 - facing west.



Photograph 4. Representative view from drill hole 12 - facing west.



Photograph 5. Representative view of halogeton - the plant is widespread in disturbed areas throughout.



Photograph 6. Representative view from drill hole 8 - facing north.



Appendix. B. Consultation Responses/ Species Lists



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 OSUNA ROAD NE
ALBUQUERQUE, NM 87113
PHONE: (505)346-2525 FAX: (505)346-2542
URL: www.fws.gov/southwest/es/NewMexico/

Consultation Tracking Number: 02ENNM00-2014-SLI-0344

June 24, 2014

Project Name: Mesa Verde Resources Mining Project

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project.

To Whom It May Concern:

Thank you for your recent request for information on federally listed species and important wildlife habitats that may occur in your project area. The U.S. Fish and Wildlife Service (Service) has responsibility for certain species of New Mexico wildlife under the Endangered Species Act (ESA) of 1973 as amended (16 USC 1531 et seq.), the Migratory Bird Treaty Act (MBTA) as amended (16 USC 701-715), and the Bald and Golden Eagle Protection Act (BGEPA) as amended (16 USC 668-668c). We are providing the following guidance to assist you in determining which federally imperiled species may or may not occur within your project area and to recommend some conservation measures that can be included in your project design.

FEDERALLY-LISTED SPECIES AND DESIGNATED CRITICAL HABITAT

Attached is a list of endangered, threatened, and proposed species that may occur in your project area. Your project area may not necessarily include all or any of these species. Under the ESA, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the Service further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the Service, to make "no effect" determinations. If you determine that your proposed action will have "no effect" on threatened or endangered species or their respective critical habitat, you do not need to seek concurrence with the Service. Nevertheless, it is a violation of Federal law to harm or harass any federally-listed threatened or endangered fish or wildlife species without the appropriate permit.

If you determine that your proposed action may affect federally-listed species, consultation with the Service will be necessary. Through the consultation process, we will analyze information contained in a biological assessment that you provide. If your proposed action is associated with Federal funding or permitting, consultation will occur with the Federal agency under section

7(a)(2) of the ESA. Otherwise, an incidental take permit pursuant to section 10(a)(1)(B) of the ESA (also known as a habitat conservation plan) is necessary to harm or harass federally listed threatened or endangered fish or wildlife species. In either case, there is no mechanism for authorizing incidental take "after-the-fact." For more information regarding formal consultation and HCPs, please see the Service's Consultation Handbook and Habitat Conservation Plans at www.fws.gov/endangered/esa-library/index.html#consultations.

The scope of federally listed species compliance not only includes direct effects, but also any interrelated or interdependent project activities (e.g., equipment staging areas, offsite borrow material areas, or utility relocations) and any indirect or cumulative effects that may occur in the action area. The action area includes all areas to be affected, not merely the immediate area involved in the action. Large projects may have effects outside the immediate area to species not listed here that should be addressed. If your action area has suitable habitat for any of the attached species, we recommend that species-specific surveys be conducted during the flowering season for plants and at the appropriate time for wildlife to evaluate any possible project-related impacts.

Candidate Species and Other Sensitive Species

A list of candidate and other sensitive species in your area is also attached. Candidate species and other sensitive species are species that have no legal protection under the ESA, although we recommend that candidate and other sensitive species be included in your surveys and considered for planning purposes. The Service monitors the status of these species. If significant declines occur, these species could potentially be listed. Therefore, actions that may contribute to their decline should be avoided.

Lists of sensitive species including State-listed endangered and threatened species are compiled by New Mexico state agencies. These lists, along with species information, can be found at the following websites:

Biota Information System of New Mexico (BISON-M): www.bison-m.org

New Mexico State Forestry. The New Mexico Endangered Plant Program:
www.emnrd.state.nm.us/SFD/ForestMgt/Endangered.html

New Mexico Rare Plant Technical Council, New Mexico Rare Plants: nmrareplants.unm.edu

Natural Heritage New Mexico, online species database: nhnm.unm.edu

WETLANDS AND FLOODPLAINS

Under Executive Orders 11988 and 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and floodplains, and preserve and enhance their natural and beneficial values. These habitats should be conserved through avoidance, or mitigated to ensure that there would be no net loss of wetlands function and value.

We encourage you to use the National Wetland Inventory (NWI) maps in conjunction with ground-truthing to identify wetlands occurring in your project area. The Service's NWI program

website, www.fws.gov/wetlands/Data/Mapper.html integrates digital map data with other resource information. We also recommend you contact the U.S. Army Corps of Engineers for permitting requirements under section 404 of the Clean Water Act if your proposed action could impact floodplains or wetlands.

MIGRATORY BIRDS

The MBTA prohibits the taking of migratory birds, nests, and eggs, except as permitted by the Service's Migratory Bird Office. To minimize the likelihood of adverse impacts to migratory birds, we recommend construction activities occur outside the general bird nesting season from March through August, or that areas proposed for construction during the nesting season be surveyed, and when occupied, avoided until the young have fledged.

We recommend review of Birds of Conservation Concern at website www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html to fully evaluate the effects to the birds at your site. This list identifies birds that are potentially threatened by disturbance and construction.

BALD AND GOLDEN EAGLES

The bald eagle (*Haliaeetus leucocephalus*) was delisted under the ESA on August 9, 2007. Both the bald eagle and golden eagle (*Aquila chrysaetos*) are still protected under the MBTA and BGEPA. The BGEPA affords both eagles protection in addition to that provided by the MBTA, in particular, by making it unlawful to "disturb" eagles. Under the BGEPA, the Service may issue limited permits to incidentally "take" eagles (e.g., injury, interfering with normal breeding, feeding, or sheltering behavior nest abandonment). For information on bald and golden eagle management guidelines, we recommend you review information provided at www.fws.gov/midwest/eagle/guidelines/bgepa.html.

On our web site www.fws.gov/southwest/es/NewMexico/SBC_intro.cfm, we have included conservation measures that can minimize impacts to federally listed and other sensitive species. These include measures for communication towers, power line safety for raptors, road and highway improvements, spring developments and livestock watering facilities, wastewater facilities, and trenching operations.

We also suggest you contact the New Mexico Department of Game and Fish, and the New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division for information regarding State fish, wildlife, and plants.

Thank you for your concern for endangered and threatened species and New Mexico's wildlife habitats. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area. For further consultation on your proposed activity, please call 505-346-2525 or email nmesfo@fws.gov and reference your Service Consultation Tracking Number.

Attachment



United States Department of Interior
Fish and Wildlife Service

Project name: Mesa Verde Resources Mining Project

Official Species List

Provided by:

New Mexico Ecological Services Field Office
2105 OSUNA ROAD NE
ALBUQUERQUE, NM 87113
(505) 346-2525
<http://www.fws.gov/southwest/es/NewMexico/>

Consultation Tracking Number: 02ENNM00-2014-SLI-0344

Project Type: Mining

Project Description: Mesa Verde Resources proposes to drill 12 boreholes (< 50 ft. deep) within a ~90 acre area using a truck-mounted rig to air-drill (5 1/8- diameter holes). Samples will be collected. All holes will be plugged to the total depth. Development includes 7 new access routes off of existing roads and eventual humate mining of the area.



United States Department of Interior
Fish and Wildlife Service

Project name: Mesa Verde Resources Mining Project

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-107.6288547 35.9992964, -107.3102512 35.9965188, -107.3102512 35.8157642, -107.6199283 35.8285697, -107.6288547 35.9992964)))

Project Counties: McKinley, NM



United States Department of Interior
Fish and Wildlife Service

Project name: Mesa Verde Resources Exploration Drilling Project

Endangered Species Act Species List

There are a total of 5 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed on the **Has Critical Habitat** lines may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Mexican Spotted owl (*Strix occidentalis lucida*)

Population: Entire

Listing Status: Threatened

Has Critical Habitat: Final designated

Southwestern Willow flycatcher (*Empidonax traillii extimus*)

Population: Entire

Listing Status: Endangered

Has Critical Habitat: Final designated

Yellow-Billed Cuckoo (*Coccyzus americanus*)

Population: Western U.S. DPS

Listing Status: Proposed Threatened

Zuni Bluehead Sucker (*Catostomus discobolus yarrowi*)

Listing Status: Proposed Endangered

Has Critical Habitat: Proposed

Zuni fleabane (*Erigeron rhizomatus*)

Listing Status: Threatened



United States Department of Interior
Fish and Wildlife Service

Project name: Mesa Verde Resources Exploration Drilling Project

Critical habitats that lie within your project area

There are no critical habitats within your project area.



NAVAJO NATION
Department of Fish & Wildlife
Navajo Natural Heritage Program
P.O. Box 1480
Window Rock, AZ 86515



Phone: 928.871.6472 • Fax: 928.871.7603 • <http://nnhp.nndfw.org>

Ben Shelly, President

Rex Lee Jim, Vice-President

07 August 2014

File#14R0K1-01

Shawn C. Knox, Co Owner Director
Rocky Mountain Ecology LLC
306 Rosalie Drive
Durango, CO 81301

NAVAJO ENDANGERED SPECIES LIST (NESL) INFORMATION FOR:

PROJECT PROPOSED STAR LAKE BORE HOLE S WITHIN 88.9 ACRL TRACT
UTM COORDINATES 276971E, 3976364N
STAR LAKE, MCKINLEY COUNTY, NM

Mr. Knox,

The following information on species of concern¹ is provided in response to your 11 June 2014 request concerning the subject project, which consists of the proposed 12 bore hole sampling sites and access roads on land near Star Lake. The 88.9 acre tract is located in Legal Description Sections 3 & 4, T19N, R6W, Center Coordinates: 276971E, 3976364N, Star Lake, McKinley County, NM.

Species of concern **known** to occur on or near the project site(s) include

1. *Lepus arizonae montanus*

Species of concern with **potential** to occur on the 7.5 minute **Star Lake, NM** quadrangle(s) containing the project boundaries include the following. Potential is based primarily on quadrangle wide coarse habitat characteristics and species range information. Your project biologist should determine habitat suitability at the project site(s).

	SCIENTIFIC NAME	COMMON NAME	NESL STATUS	FEDERAL STATUS AND OR MBIA
1	<i>Aquila chrysaetos</i>	Golden Eagle	G3	MBIA

¹"Species of concern" include protected, candidate, and other rare or otherwise sensitive species, including certain native species and species of economic or cultural significance. For each species, the following tribal and federal statuses are indicated: Navajo Endangered Species List (NESL), federal Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), and Eagle Protection Act (EPA). No legal protection is afforded species with only ESA candidate or NESL group 4 status; please be aware of these species during surveys and inform the NHD of observations. Documentation that these species are more numerous or widespread than currently known, and addressing these species in project planning and management is important for conservation and may contribute to ensuring they will not be uplisted in the future. Species without ESA or NESL legal protection (e.g., NESL group 4 species) are only included in responses on a regular basis and may not be included in this response. Please refer to the NESL for a list of group 4 species; contact me if you need a copy.

2.	<i>Athene curricularia</i>	Burrowing Owl	G4	MBTA
3.	<i>Buteo regalis</i>	Ferruginous Hawk	G3	MBTA
4.	<i>Charadrius montanus</i>	Mountain Plover	G4	ESA Proposed Threatened; MBTA.
5.	<i>Empidonax traillii eximius</i>	Southwestern Willow Flycatcher	G2	ESA Endangered; MBTA.
6.	<i>Falco peregrinus</i>	Peregrine Falcon	G4	MBTA
7.	<i>Mustela nigripes</i>	Black-footed Ferret	G2	ESA Endangered
8.	<i>Vulpes macrotis</i>	Kit Fox	G4	
9.	<i>Alicia formosa</i>	Aztec Gilia	G4	
10.	<i>Asclepias sanjuansensis</i>	San Juan Milkweed	G4	
11.	<i>Sclerocactus cloveriae</i> ssp. <i>brackii</i>	Brack Hardwall Cactus	G4	

*MBTA = Migratory Bird Treaty Act

Potential for the black-footed ferret should be evaluated if prairie-dog towns of sufficient size (per NFWD guidelines) occur in the project area.

Potential for *Puccinellia parishi* should be evaluated if wetland conditions exist that contain white alkaline crusts.

Biological surveys need to be conducted during the appropriate season to ensure they are complete and accurate please refer to NN Species Accounts.⁴ Further questions pertaining to surveys should be referred to Species Account. Surveyors on the Navajo Nation must be permitted by the Director, NFWD. Contact Jeff Cole at (928) 871-6595 for permitting procedures. Questions pertaining to surveys should be directed to the NFWD Zoologist (Chad Smith) for animals at 871-7070 and Botanist (Andrea Hazelton) for plants at (928) 523-3221. Questions regarding biological evaluations should be directed to Pamela Kyselka (Acting Environmental Reviewer) at 871-7065.

Any settling or evaporation pits that could hold contaminants should be lined and covered. Covering pits, with a net or other material, will deter waterfowl and other migratory bird use. Lining pits will protect ground water quality.

Potential impacts to wetlands should also be evaluated. The U.S. Fish & Wildlife Service's National Wetlands Inventory (NWI) maps should be examined to determine whether areas classified as wetlands are located close enough to the project site(s) to be impacted. In cases where the maps are inconclusive (e.g., due to their small scale), field surveys must be completed. For field surveys, wetlands identification and delineation methodology contained in the 'Corps of Engineers Wetlands Delineation Manual' (Technical Report Y-87-1) should be used. When wetlands are present, potential impacts must be addressed in an environmental assessment and the Army Corps of Engineers, Phoenix office, must be contacted. NWI maps

⁴ Available free of charge on our website at <http://nnhp.navajofishandwildlife.org/>

are available for examination at the NFWD's Natural Heritage Program (NHP) office, or may be purchased through the U.S. Geological Survey (order forms are available through the NHP). The NHP has complete coverage of the Navajo Nation, excluding Utah, at 1:100,000 scale; and coverage at 1:24,000 scale in the southwestern portion of the Navajo Nation.

The information in this report was identified by the NFWD's biologists and computerized database, and is based on data available at the time of this response. If project planning takes more than two (02) years from the date of this response, verification of the information provided herein is strongly recommended. It should not be regarded as the final statement on the occurrence of any species, nor should it substitute for on-site surveys. Also, because the NFWD's information is continually updated, any given information response is only wholly appropriate for its respective request.

For a list of sensitive species on the Navajo Nation in addition to the species listed on the Navajo Endangered Species List (NESL) please refer to our website at www.nndfw.org.

An invoice for this information is attached.

If you have any questions I may be reached at (928) 871-6472.



Sonja Detsoi, Wildlife Tech.
Natural Heritage Program
Department of Fish and Wildlife

xc: file/chrono