

PART 3
MINIMAL IMPACT EXPLORATION OPERATION
PERMIT APPLICATION

Accompanying instructions for this permit application are available from MMD, and on MMD webpage:

<http://www.emnrd.state.nm.us/MMD/MARP/MARPAApplicationandReportingForms.htm>

Send 6 copies of the completed application to:

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

Director

Mining and Minerals Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505
Telephone: (505) 476-3400

Webpage: www.emnrd.state.nm.us/MMD/index.htm

CHECK OFF LIST TO DETERMINE YOUR PROJECT'S STATUS AS A MINIMAL IMPACT EXPLORATION OPERATION:

- Yes No My project **will exceed 1000 cubic yards of excavation**, per permit (drill pads, mud pits, and roads will not be counted in excavated materials).
- Yes No Surface disturbances for constructed roads, drill pads and mud pits **will exceed 5 acres** total for my project.
- Yes No My project is located in or is expected to have a direct surface impact on wetlands, springs, perennial or intermittent streams, lakes, rivers reservoirs or riparian areas.
- Yes No My project is located in designated critical habitat areas as determined in accordance with the federal Endangered Species Act of 1973 or in areas determined by the Department of Game and Fish likely to result in an adverse impact on an endangered species designated in accordance with the Wildlife Conservation Act, Sections 17-2-37 through 17-2-46 NMSA 1978 or by the State Forestry Division for the Endangered Plants Act, section 75-6-1 NMSA 1978.

- Yes No My project is located in an area designated as Federal Wilderness Area, Wilderness Study Area, Area of Critical Environmental Concern, or an area within the National Wild and Scenic River System.
- Yes No My project is located in a known cemetery or other burial ground.
- Yes No My project is located in an area with cultural resources listed on either the National Register of Historic Places or the State Register of Cultural Properties.
- Yes No My project will or is expected to have a direct impact on ground water that has a total dissolved solids concentration of less than 10,000 mg/L, except exploratory drilling intersecting ground water may be performed as a minimal impact operation.
- Yes No My project is expected to use or using cyanide, mercury amalgam, heap leaching or dump leaching in its operations.
- Yes No My project is expected to result in point or non-point source surface or subsurface releases of acid or other toxic substances from the permit area.
- Yes No My project requires a variance from any part of the Mining Act Rules as part of the permit application.

If you answer yes to any of the above questions, your project does not qualify as a minimal impact exploration operation.

Confidential Information

- Yes No Is any of the information submitted in this application considered by the applicant to be confidential in nature? If yes, please provide this information separately and marked as “confidential.”

Timeline

- Exploration applications must be provided no less than 45 days prior to the anticipated date of operations desired by the applicant.
- Renewal applications shall be filed at least 30 days preceding expiration of the current permit. Permits are valid for one year.
- Approved permit is valid for one year from the date of approval.

SECTION 1 – OPERATOR INFORMATION (§304.D.1)

Project Name: Black Spring Mine Section 9 Exploration

Nearest Town To Project: Ojo Encino, NM

Applicant Name and Contact Information (entity obligated under the Mining Act):

Name: Tyler Lown-Vandenburg – Menefee Mining Corporation

Address: 8144 Walnut Hill Lane, Suite 987

Dallas, Texas 75231

Office Phone: (214)750-4698 Cell Phone: (214)808-4606

Fax Number: (214)750-0263 Email: tyler.lown@menefeemining.com

Name of On-Site Contact, Representative, or Consultant:

Name: Bob Newcomer dba Toltec Mesa Resources LLC (Consultant)

Address: 7823 Quintana Dr NE

Albuquerque, New Mexico 87109

Office Phone: (505)238-4770 Cell Phone: (505)238-4770

Fax Number: none Email: newcomer.b.tmr@gmail.com

SECTION 2 – RIGHT TO ENTER INFORMATION (§302.D.1)

- A. Describe or attach copies of documents that give the applicant the right to enter the property to conduct the exploration and reclamation, include: lease agreements, access agreements, right of way agreements, surface owner agreements, and claim numbers, if applicable.

(see attached documents "Letter of Intent to BLM that includes Section 9, exclusive of tribal Trust land in the center of the section)

Attachment X

- B. List the names and addresses of surface and mineral ownership within the proposed permit area. If the mineral is federal mineral, indicate as federal mineral, but provide the name of the claim holder or lease holder.

Surface Estate Owner(s):

Name	Address	Phone #
<input checked="" type="checkbox"/> U.S. BLM	<u>6251 N. College Blvd., Ste A</u> <u>Farmington, New Mexico 87402</u>	<u>(505)564-7600</u>
<input type="checkbox"/> U.S. Forest Service	_____	_____
<input type="checkbox"/> State of NM	_____	_____
<input type="checkbox"/> Private/Corporate	_____	_____
Name: _____	_____	_____
<input type="checkbox"/> Other	_____	_____
Name: _____	_____	_____

Lease Holder(s) of Surface Estate (if applicable):

Name	Address	Phone #
_____	_____	_____
_____	_____	_____
_____	_____	_____

Mineral Estate Owner(s):

Name	Address	Phone #
<input checked="" type="checkbox"/> Bureau of Land Management	<u>same as above</u>	<u>same as above</u>
<input type="checkbox"/> US Forest Service	_____	_____
<input type="checkbox"/> State of NM	_____	_____
<input type="checkbox"/> Claim/Lease Holder	_____	_____
Name: _____	_____	_____
Claim Numbers: _____	_____	_____
<input type="checkbox"/> Claim/Lease Holder	_____	_____
Name: _____	_____	_____
Claim Numbers: _____	_____	_____
<input type="checkbox"/> Other	_____	_____

Name: _____

C. Has a Cultural Resource Survey been performed on the site?

Yes No If yes, please provide the author, title, date and report number, and include a copy of the survey with this application, if possible:

PaleoWest July 29, 2021. A Class III Archaeological Inventory of 160 acres for this Minimal Impact Exploration application and potential Black Spring Humate Mine Expansion near Papers Lake, McKinley County, New Mexico. NMCRIS Activity No. 148083 and BLM Permit no. 247-2920-20; report in review by BLM – draft attached. (Avoidance Areas identified). The portion of Section 9 with proposed boreholes is included as part of an application for a minimal impact mining permit application; also included are draft Paleontological and Ethnographic surveys.

Attachment X

D. Has a wildlife survey or vegetation survey been performed for the permit area?

Yes No If yes, please provide the author, title, date and report number, and include a copy of the survey with this application, if possible:

Rocky Mountain Ecology, LLC. May 17, 2021. Biological Assessment and Biological Evaluation for the 160 acres for this Minimal Impact Exploration application and potential Black Spring Humate Mine Expansion near Papers Lake, McKinley County, New Mexico.; draft report in review by BLM. The portion of Section 9 with proposed boreholes is included as part of a minimal impact mining permit application.

Attachment X

Coordinate system used to collect GPS data points:

- NAD83 Geographic NAD27 Geographic
 NAD83 UTM Zone 13 (or 12) NAD27 UTM Zone 13 (or 12)
 WGS 1984 Other: _____

Attachment _____ (for listing additional boreholes)

B. Maps (see application form instructions for examples of maps to be included):

Are topographic maps included with the application that show the following items:

- Yes – The boundary of the proposed exploration project Permit Area
 Yes – The proposed exploration locations (i.e., borehole locations)
 Yes – Existing roads, new roads and overland travel routes
 Yes N/A – Areas of proposed road improvement

Attachments _____ X _____

Are maps or figures included with the application showing the approximate dimensions and locations of drill pads and other disturbances:

- Yes – Drill pad dimensions and constructed drill pad locations

Attachments _____ X _____

C. Provide detailed driving directions to access the site: From Ojo Encino, NM, take Star Lake Road, which becomes Indian Service Road (ISR) 47 approximately 4.4 miles to the Black Spring mine and Ojo Encino mine entrance roads; the project area is in Section 9 generally immediately west, north, south and east of where these two roads intersect ISR 47.

SECTION 4 – EXPLORATION DESCRIPTION (§302.D.3 & 4)

A. Anticipated exploration: Start Date: April 1, 2021 End Date: June 30, 2021

B. List the mineral(s)/element(s) to be explored for: Humate

C. Proposed method(s) of exploration:

Auger drilling (split-spoon sampling):

16 # of holes 20 Depth (ft.) 8" Diameter (in.)

 # of drill pads Length (ft.) Width (ft.)

Will drill pads be graded/bladed or overland: Graded/bladed Overland

Will drill pads need some mechanical leveling (grading/blading): Yes No

Approx. Weight of Drill Rig (lbs.) 30,000 Number of Axles: 3

Total length of drill stem that can be carried on the rig: 50 feet

Is a support pipe truck anticipated? Yes No Weight (lbs.)

Weight of support compressor (lbs.): N/A Trailer mounted?

Anticipated Drilling Contractor: Geomechanics SW License No. WD-1522

Mud/fluid drilling: Not Applicable

 # of holes Depth (ft.) Diameter (in.)

 # of drill pads Length (ft.) Width (ft.)

Will drill pads be graded/bladed or overland: Graded/bladed Overland

Will drill pads need some mechanical leveling (grading/blading): Yes No

Will a closed loop system be used or will mud/fluid pits be used? _____

If mud/fluid pits are proposed:

_____ # of pits _____ Length (ft.) _____ Width (ft.) _____ Depth (ft.)

Anticipated excavating equipment: _____

How will excavating equipment be transported to the site (i.e., driven, low-boy, etc.):

Will mud pits be lined?: Yes No

If yes, proposed material to line the mud pits: _____

Approx. Weight of Drill Rig (lbs.) _____ Number of Axles: _____

Anticipated Drilling Contractor: _____ License No. _____

Test pits / exploratory trenches: Not Applicable

_____ # of pits _____ Length (ft.) _____ Width (ft.) _____ Depth (ft.)

Anticipated excavating equipment: _____

How will excavating equipment be transported to the site (i.e., driven, low-boy, etc.): _____

Other methods of exploration (i.e., cuts, shafts, tunnels, adits, declines, blasting,

etc.). Indicate method and details: _____ N/A _____

TOTAL ACREAGE TO BE DISTURBED DUE TO DRILL PADS = 0.4 acres
(to convert to acres, multiply total square footage of drill pads by 0.0000229)

D. Disposal of drill cuttings

If this exploration project is for uranium or other radioactive elements/minerals, applicant agrees to perform a gamma radiation survey at each drill site prior to, and after, exploration activities. Applicant/Owner/Operator agrees to restore gamma radiation levels at each drill site to pre-exploration levels. Yes No N/A

Will excess drill cuttings be buried at each drill site location or within a single disposal pit?
 At each drill pad location Within a single disposal pit

If a single disposal pit is proposed, please provide the following:

Description or GPS coordinates of the proposed cuttings disposal pit location:

Dimensions of the single proposed cuttings disposal pit (length, width, and depth):

_____ Length (ft.) _____ Width (ft.) _____ Depth (ft.)

TOTAL ACREAGE TO BE DISTURBED DUE TO DISPOSAL PIT = _____ acres
(to convert to acres, multiply total square footage of disposal pit by 0.0000229)

E. Other Supporting Equipment (check all that apply):

- | | | | | |
|-------------------------------------|--------------------------|----------------|---|-------|
| <input checked="" type="checkbox"/> | 4x4 Trucks/Vehicles | Quantity: | 1 @ 6,000 lbs | _____ |
| <input type="checkbox"/> | Water Truck | Weight (lbs.): | | _____ |
| <input type="checkbox"/> | Geophysical Truck | Weight (lbs.): | | _____ |
| <input type="checkbox"/> | Pipe Truck (rig support) | Weight (lbs.): | | _____ |
| <input type="checkbox"/> | Bulldozer | Type: | | _____ |
| <input type="checkbox"/> | Backhoe | Type: | | _____ |
| <input type="checkbox"/> | Trackhoe | Type: | | _____ |
| <input type="checkbox"/> | Scaper/Grader | Type: | | _____ |
| <input checked="" type="checkbox"/> | Trailers | Quantity/Type: | 1/flatbed trailer pulled by drill rig, 2000 lbs | _____ |
| <input type="checkbox"/> | Portable Toilet | Quantity: | | _____ |
| <input type="checkbox"/> | Other | List: | | _____ |

F. Roads and Overland Travel: Not Applicable

List of new roads to be constructed for this exploration project:

Description of <i>NEW</i> Roads	Length (ft.)	Width (ft.)	Total Acres (length x width x 0.0000229)
None			
TOTAL ACRES DISTURBED BY NEW ROAD CONSTRUCTION:			

Describe how new roads will be constructed: _____

List for extension or widening of existing roads: Not Applicable

Description of Modification to <i>EXISTING</i> Roads	Length (ft.)	Width (ft.)	Total Acres (length x width x 0.0000229)
Not applicable			
TOTAL ACRES DISTURBED BY ROAD IMPROVEMENTS:			

Describe how existing roads will be extended or widened: _____

List for routes of overland travel:

Description of <i>OVERLAND TRAVEL</i> Routes	Length (ft.)	Width (ft.)	Total Acres (length x width x 0.0000229)
See attached – one-way in/out access single track	2500	8	0.46
Turnarounds and vehicle pull off areas around locations	3200	8	0.74
TOTAL ACRES DISTURBED BY OVERLAND TRAVEL:			1.20

G. Support Facilities

Describe (location and size) any support facility disturbances (equipment staging, equipment and material storage and/or lay down areas, vehicle parking, temporary housing and/or trailers) to be created or situated on the site during exploration operations.

Any longer-term equipment staging, equipment material storage and/or lay down areas will be located within the existing disturbance areas of the Black Spring Mine.

H. **TOTAL ACREAGE TO BE DISTURBED BY PROJECT = 1.60 acres**
 (include all disturbed acreage from drill pads, cuttings disposal pit, new roads, improved roads and overland travel routes)

SECTION 5 – CHEMICAL USE (§302.D.4)

A. Check any and all chemicals that will be used for this project.

- | | |
|--|--|
| <input type="checkbox"/> Drilling Mud (i.e., EZ Mud) | Type/Quantity: _____ |
| <input checked="" type="checkbox"/> Diesel Fuel | Quantity: <u>Fuel in drill rig (unknown)</u> |
| <input type="checkbox"/> Down-hole Lubricants | Type/Quantity: _____ |

<input type="checkbox"/>	Lost Circulation Materials	Type/Quantity:	_____
<input type="checkbox"/>	Oils/Grease	Quantity:	_____
<input checked="" type="checkbox"/>	Gasoline	Quantity:	Fuel support vehicle (unknown)
<input type="checkbox"/>	Hydraulic Fluid	Quantity:	_____
<input type="checkbox"/>	Ethylene Glycol	Quantity:	_____
<input type="checkbox"/>	Cement	Type/Quantity:	_____
<input type="checkbox"/>	Water	Source:	_____
<input checked="" type="checkbox"/>	Bentonite	Quantity:	16, 5-gal buckets of pellets
<input type="checkbox"/>	Fertilizer	Type/Quantity:	_____
<input type="checkbox"/>	Other	Type/Quantity:	_____

B. Describe, in detail, a plan for the containment, use and disposal of all chemicals listed above:
All contained in tanks.

C. Describe where equipment fueling/refueling will occur:
Offsite

D. Describe how hazardous material spills/leaks will be handled:
Bermed, excavated and removed for disposal at an approved facility. Any spills will be managed consistent with the Stormwater Pollution Prevention Plan for the Black Spring Mine and MSGP 15617.

E. Identify spill cleanup materials that will be kept on-site (check all that apply):

- Bentonite clay or cat litter
- Adsorbent pads, rolls, mats, socks, pillows, dikes, etc.
- Drum or barrel for containing contaminated soil/adsorbent materials
- Other/list: Impacted soils will be removed and disposed of
- Other/list: _____
- Other/list: _____

F. Applicant/owner/representative agrees to immediately notify the State of New Mexico immediately of any spills of hazardous materials (see page 1 of this application for phone numbers to notify): Yes No

SECTION 6 – GROUNDWATER/SURFACE WATER INFORMATION
(§302.D.5)

A. Provide an estimate of depth to ground water and the total dissolved solids (TDS) concentration.

Depth to groundwater (ft.): >30 feet TDS concentration (mg/L): >1,000

Describe the source of this information: Ecosphere (2011) Environmental Assessment and Section 9 [T19N R5W] site elevations relative to the Black Springs southeast of the site, which do not flow. A well is now at the spring location (est. elevation of water level at Black Spring is expected to be less than 6,600 ft in the well). Elevations in proposed exploration area in Section 9 [T19N R5W] are greater than 6,630 ft; therefore, anticipate ground water level at site to be greater than 30 feet. Mining at the adjacent Black Spring Mine has not encountered ground water in any of the mine excavations either, although elevations have not been surveyed.

B. Will dewatering activities be conducted: Yes No

If yes, please describe: _____

C. Is groundwater anticipated to be encountered during exploration: Yes No

If YES:

Have you completed Form WR-07 (Application for permit to drill a well with no consumptive use of water) and mailed it to the District Office of the State Engineer? Yes

Have you completed Form WD-08 (Well plugging plan of operations) and mailed it to the District Office of the State Engineer? Yes

Attachment _____ (copies of the completed WR-07 and WD-08 forms)

D. Exploration Borehole Abandonment

Dry Boreholes

- Dry hole abandonment (option 1): 100% bentonite pellets/chips (i.e. HOLEPLUG® manufactured by Baroid Industrial Products), dropped from surface then hydrated in place according to the manufacturer's recommendations, emplaced from total depth to within 12 feet of the original ground surface, followed by 10 feet of neat cement, followed by 2 feet of topsoil/topdressing.
- Dry hole abandonment (option 2): Neat cement slurry, mixed according to the manufacturer's recommendations, emplaced with a tremie pipe from total depth to within 2 feet of the original ground surface, followed by 2 feet of topsoil/topdressing.
- Dry hole abandonment (option 3): Cement + 6% bentonite slurry, mixed according to the manufacturer's recommendations, emplaced with a tremie pipe from total depth to within 2 feet of the original ground surface, followed by 2 feet of topsoil/topdressing.
- Dry hole abandonment (option 4): High-density bentonite clay ($\geq 20\%$ active solids; i.e. QUIK-GROUT® manufactured by Baroid Industrial Products), mixed according to the manufacturer's recommendations, emplaced with a tremie pipe from total depth to within 12 feet of the original ground surface, followed by 10 feet of neat cement, followed by 2 feet of topsoil/topdressing.
- Dry hole abandonment (option 5): Other materials / describe and justify use:
Holes will be backfilled with cuttings and then 100% bentonite pellets/chips to the surface;
boreholes will be above the water table.

Wet Boreholes [If encountered]

- Wet hole abandonment (option 1): Neat cement slurry, mixed according to the manufacturer's recommendations, emplaced with a tremie pipe from total depth to within 2 feet of the original ground surface, followed by 2 feet of topsoil/topdressing.
- Wet hole abandonment (option 2): High-density bentonite clay ($\geq 20\%$ active solids; i.e. QUIK-GROUT® manufactured by Baroid Industrial Products), mixed according to the manufacturer's recommendations, emplaced with a tremie pipe from total depth to within 12 feet of the original ground surface, followed by 10 feet of neat cement, followed by 2 feet of topsoil/topdressing.
- Wet hole abandonment (option 3): Other sealing material approved by the Office of the State Engineer. Describe and include well plugging plan approval by the State Engineer:
In the unlikely event saturated conditions are encountered during drilling this method of

abandonment will be used.

- D. Applicant agrees to contain any water produced from the exploration borehole at the drill site and acknowledges that discharge of this water to a watercourse may be a violation of the Federal Clean Water Act: Yes No
- E. Is any drilling proposed to occur within the channel of any perennial, intermittent, or ephemeral streams? Yes No
- F. Is any drilling anticipated to occur within 100 feet of any perennial, intermittent, or ephemeral streams? Yes No

<p style="text-align: center;">SECTION 7 – RECLAMATION & OPERATION PLAN (§302.D.6 AND 302.I.K)</p>
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A. Salvage/Preservation of Topsoil

Before any grading/blading or similar activities occur in relation to this project, operator agrees to salvage and preserve all topsoil and topdressing for use in future reclamation of this project Yes No

Describe how topsoil will be salvaged prior to initiation of exploration activities (check all that apply):

- N/A – no construction work will occur, therefore no soil salvage is needed.
- Excavated from drill pads and stored at each drill pad
- Excavated from road improvements/construction and stored adjacent to road
- Excavated from mud/fluid pits and storage at each pit
- Other, describe: _____

B. Erosion Control

Describe the best management practices that will be implemented to control erosion:

- | | |
|--|-----------------|
| <input type="checkbox"/> Silt fencing | Location: _____ |
| <input type="checkbox"/> Straw waddles | Location: _____ |
| <input type="checkbox"/> Straw bales | Location: _____ |

- Ditches/swales Location: _____
- Berms/dikes/dams Location: _____
- Sediment basins Location: _____
- Other or N/A Type/Location: No ground disturbance beyond the drill hole and cuttings pile are expected – cuttings will be returned to the borehole and, if necessary, the disturbed surface raked

C. Wildlife Protection / Noxious Weed Prevention – NOT APPLICABLE

Will the perimeter of drill pits be fenced to prevent wildlife entrapment? Yes No

Proposed pit perimeter fence material: _____

Describe how the pit perimeter fencing will be installed and secured (i.e., T-posts, wooden stakes, etc.):

Will at least one side of the interior of the drill pits be sloped at 3:1 as a ramp for wildlife escape? Yes No

If No, will another type of constructed escape ramp be installed? Describe:

Applicant/Owner/Operator commits to pressure-washing or steam-clean all equipment prior to entering the permit area: Yes No

D. Reclamation Details – NOT APPLICABLE

Describe in general how re-contouring or re-establishment of the surface topography will be restored:

Describe how the reclamation of portals, adits, drilling fluid/mud and/or waste pits, shafts, ponds, roads and other disturbances will be performed:

Is seeding of the reclaimed areas proposed: Yes No

If no, provide a justification as to why no revegetation is needed:

Disturbed areas will be small and seeding is not anticipated

Plant mix to be used in the re-establishment of vegetation:

US Forest Service specified mix applied through broadcast at their recommended rate

BLM specified mix applied through broadcast at their recommended rate

Other:

Plant Name

Seeding Rate (lbs./acre)

Consistent with Black Spring Mine

Permit seed mix (reference:

MMD Permit MK026MN and Black

Spring Humate Mining and

Reclamation Plan)

Broadcast applied or drill-seeded: Broadcast Drill-seeded

Scarification Methods (check all that apply):

Primary tillage to greater than 6-inches depth of all constructed drill pads and roads

Secondary tillage of all constructed drill pads and roads, and/or overland travel routes

Chain drag or tire drag over seeds in areas used for overland travel

Light raking of soil in areas used for overland travel and over seeds in disturbed areas

None

Other/describe: _____

Mulch Use:

- Certified weed-free straw mulch will be placed over areas that have been tilled/disc'd or ripped at a rate of 2 tons per acre, and will be crimped in place
- No mulch is proposed

E. Reclamation Timeline

Applicant/Owner/Operator commits to reclamation of the disturbed area as soon as possible following the completion or abandonment of the exploration operation, unless the disturbed area is included within a complete permit application for a new mining permit:

- Yes No If seeding is needed

Anticipated Start of Reclamation:

- 0-30 days after completion of drilling if seeding is needed
- 31-60 days after completion of drilling
- Other/specify: _____

<p style="text-align: center;">SECTION 8 – PERMIT FEES AND FINANCIAL ASSURANCE (§302.I.2 AND 5)</p>

A. Financial assurance must be posted with Mining and Minerals Division prior to approval of this application. The acceptable forms of financial assurance are surety bonds, letters of credit, and certificates of deposit. Provide an estimate of, and an instrument for, the proposed financial assurance required by Subpart 3.

- Surety Bond
- Letter of Credit
- Cash Account / Certificate of Deposit

Estimated amount of financial assurance: _____

Or

- Applicant will provide the amount of financial assurance calculated by MMD.

B. Attach the permit fees as determined pursuant to Subpart 2. The application fee for a minimal impact exploration permit is \$500.00.

- Money Order/Cashier's Check
- Check

Check Number : _____

Financial Institution: _____

SECTION 9 – CERTIFICATION REQUIREMENT (§302.I.3 & 4)

I certify that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals responsible for obtaining the information; I believe the submitted information is true, accurate, and complete. I agree to comply with the reclamation requirements set forth in this permit application and related correspondence, the New Mexico Mining Act and the Rules. Further, I certify that I am not in violation of any other obligation under the New Mexico Mining Act or the Rules adopted pursuant to that Act and I allow the Director to enter the permit area, without delay, for the purposes of conducting inspections during exploration and reclamation.

Signature of Permittee or Authorized Agent: _____

Name (type or print): _____

Title/Position: _____

Date: _____

Proposed Drill Holes



Site Map
Menefee Mining Corporation
Black Spring Mine
McKinley County, New Mexico

Sections 9 and 4 of Township 19 North, Range 5 West
9/20/2021
New Mexico Principal Meridian in McKinley County, NM
Source: Google Satellite
<http://www.google.cn/maps/vt/tyrs=s@189&gl=cn&x={x}&y={y}&z={z}>
Map: QGIS 3.16.5-Hannover



Tyler Lown Vandenburg
Vice President
Menefee Mining Corporation
8144 Walnut Hill Lane, Suite 987
Dallas, Texas 75231

March 3, 2021

Dave Mankiewicz
Field Manager
U.S. Department of Interior
Bureau of Land Management - Farmington District
Farmington Field Office
6251 N. College Boulevard, Suite A
Farmington, New Mexico 87402

RE: Follow-on Letter of Interest to Extract and Develop Mineral Materials (Humate Resources) for Sale in Areas Near Ojo Encino, New Mexico

Dear Dave,

With the departure of Tony Gallegos, Menefee Mining Corporation (MMC) is re-affirming its interest in eventually developing humate resources for sale in all or parts of the following:

First expressed in a letter to Bureau of Land Management (BLM) dated December 4, 2017 (enclosed):

- South ½ of the Southeast ¼ of Section 4, Township 19N Range 5W;

First expressed in a letter to BLM dated June 21, 2019 (enclosed):

- Northeast ¼ of the north ½ of Section 9, Township 19N, Range 5W (excluding tribal trust land);
- Section 10, Township 19N, Range 5W;
- Section 11, Township 19N, Range 5W (excluding tribal trust land);
- South ½ of Section 2, Township 19N, Range 5W;
- North ½ of Section 15, Township 19N, Range 5W; and
- North ½ of Section 14, Township 19N, Range 5W.

CORPORATE OFFICE

8144 Walnut Hill Lane, Suite 987
Dallas, TX 75231
P: 214.750.4696 F: 214.750.1158

PROCESSING PLANT

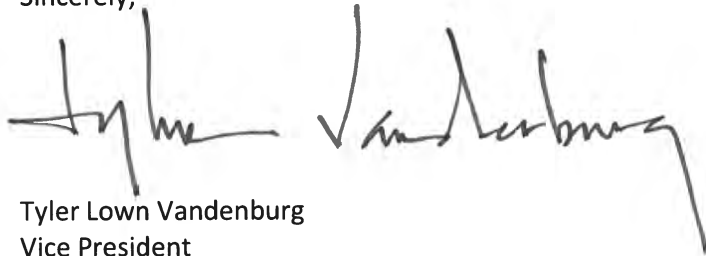
36 Duke City Road
Cuba, New Mexico 87013
P: 575.289.0259 F: 575.289.0263

This expression of interest is necessary to facilitate MMC's ongoing mineral exploration of these over the next few years. MMC is currently continuing to explore Sections 4 and 9 in more detail to delineate humate resources. These efforts are necessary to define mineable resources for the future operations. MMC expects to submit permit applications under the New Mexico Mining Act and its rules and per requirements of the BLM, outlining minimal impact exploration targets. The initial areas of interest are parts of Section 4 and 9 (listed above), subject to cultural and biological surveys.

MMC currently operates the Black Spring Mine, which is permitted as a Minimal Impact Existing Mining operation (Permit no. MK026MN) under the New Mexico Mining Act. The humate resources at the mine are produced under a Mineral Materials Sales Contract with the BLM. MMC's intent is to continue to develop other humate resources near its current operations to provide a long-term mineable resource to the company.

Please let us know if you have any questions or need additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Tyler Lown Vandenburg". The signature is written in a cursive style with a long, sweeping underline that extends to the right.

Tyler Lown Vandenburg
Vice President

CORPORATE OFFICE

8144 Walnut Hill Lane, Suite 987
Dallas, TX 75231
P: 214.750.4696 F: 214.750.1158

PROCESSING PLANT

36 Duke City Road
Cuba, New Mexico 87013
P: 575.289.0259 F: 575.289.0263



December 4, 2017

U.S. Department of Interior
Bureau of Land Management
Farmington Field Office
6251 N. College Boulevard, Suite A
Farmington, New Mexico 87402

RE: Letter of Interest to Extract and Develop Mineral Materials (Humate Resources) for Sale in Sections 4 and 5, T19N R5W near Ojo Encino, New Mexico

To whom it concerns:

With this letter, Menelee Mining Corporation (MMC) is expressing its interest in eventually developing humate resources for sale in all parts of Section 4 and 5 in Township 19 North, Range 5 West, which is about 5 miles south of Ojo Encino, New Mexico. MMC is currently mining humate in the S $\frac{1}{2}$ of the SW $\frac{1}{4}$ of Section 4 (80 acres) at the Black Spring Mine and is conducting an Environmental Assessment for a proposed expansion these operations into the S $\frac{1}{2}$ of the SE $\frac{1}{4}$ of Section 5 (80 acres). This letter addresses MMC interest in the development of humate resources in the entirety of Section 5 and the remaining portions of Section 4 (the NW $\frac{1}{4}$, NE $\frac{1}{4}$, SE $\frac{1}{4}$ and N $\frac{1}{2}$ of the SW $\frac{1}{4}$ of the Section). The additional acreage totals approximately 1,200 acres.

The Black Spring Mine is permitted as a Minimal Impact Existing Mining operation (Permit no. MK026MN) under the New Mexico Mining Act and the humate resource is being developed under a Mineral Materials Sales Contract with the Bureau of Land Management (BLM). MMC's intent is to continue to develop the other humate resources near its current operations and provide a long-term mineable resource to the company. Please let us know if you have any questions or need additional information.

Sincerely,

A handwritten signature in blue ink, appearing to read "Tyler Lown Vandenburg", is written over a horizontal line. The signature is fluid and cursive in style.

Tyler Lown Vandenburg
Vice President

CORPORATE OFFICE

8144 Walnut Hill Lane, Suite 987
Dallas, TX 75231
P: 214.750.4696 F: 214.750.1158

PROCESSING PLANT

36 Duke City Road
Cuba, New Mexico 87013
P: 575.289.0259 F: 575.289.0263



Mrs. Tyler Lown-Vandenburg
Vice President
Menefee Mining Corporation
8144 Walnut Hill Lane, Suite 987
Dallas, Texas 75231

June 21, 2019

Anthony Gallegos
U.S. Department of Interior
Bureau of Land Management
Farmington District
Farmington Field Office
6251 N. College Boulevard, Suite A
Farmington, New Mexico 87402

RE: Letter of Interest to Extract and Develop Mineral Materials (Humate Resources) for Sale in Areas Near Ojo Encino, New Mexico

Dear Tony,

With this letter, Menefee Mining Corporation (MMC) is expressing interest in eventually developing humate resources for sale in all or parts of the following:

- Northeast $\frac{1}{4}$ of the north $\frac{1}{2}$ of Section 9, Township 19N, Range 5W (excluding tribal trust land)
- Section 10, Township 19N, Range 5W
- Section 11, Township 19N, Range 5W (excluding tribal trust land)
- South $\frac{1}{2}$ of Section 2, Township 19N Range 5W
- North $\frac{1}{2}$ of Section 15, Township 19N Range 5W
- North $\frac{1}{2}$ of Section 14, Township 19N Range 5W

These areas are about 5 miles south of Ojo Encino, New Mexico and near where MMC is currently mining humate in the south $\frac{1}{2}$ of the southwest $\frac{1}{4}$ of Section 4 (80 acres) at the Black Spring Mine and has recently completed an exploration of the south $\frac{1}{2}$ of the southeast $\frac{1}{4}$ of Section 5 (80 acres), Township 19N, Range 5W.

CORPORATE OFFICE

8144 Walnut Hill Lane, Suite 987
Dallas, TX 75231
P: 214.750.4696 F: 214.750.1158

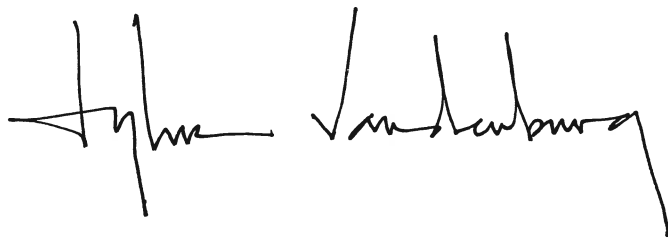
PROCESSING PLANT

36 Duke City Road
Cuba, New Mexico 87013
P: 575.289.0259 F: 575.289.0263

This expression of interest is intended to facilitate MMC's ongoing exploration efforts necessary to define mineable resources for the future of its operations. MMC expects to submit permit applications under the New Mexico Mining Act and its rules and per requirements of the Bureau of Land Management, outlining minimal impact exploration efforts to evaluate potential resources in these proposed areas.

MMC's Black Spring Mine is permitted as a Minimal Impact Existing Mining operation (Permit no. MK026MN) under the New Mexico Mining Act and the humate resources at the mine are produced under a Mineral Materials Sales Contract with the Bureau of Land Management (BLM). MMC's intent is to continue to develop other humate resources near its current operations to provide a long-term mineable resource to the company. Please let us know if you have any questions or need additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Hyman Van derburg", written in a cursive style.

CORPORATE OFFICE

8144 Walnut Hill Lane, Suite 987
Dallas, TX 75231
P: 214.750.4696 F: 214.750.1158

PROCESSING PLANT

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0103
Expires: October 31, 2017

Office

Contract Serial Number

CONTRACT FOR THE SALE OF MINERAL MATERIALS

The UNITED STATES OF AMERICA acting through the Bureau of Land Management (BLM), and Menefee Mining Corporation
you, the purchaser, make this AGREEMENT, under the authority of the Act of July 31, 1947 (61 Stat. 681), as amended at 30 U.S.C. 601 through 604, and the regulations at 43 CFR Group 3600.

We agree:

Sec 1. Contract area – Under the terms and conditions of this contract, the United States sells to you and you buy the mineral materials listed in Section 2 and contained in the following lands as shown on the map and mining plan attached to this contract:

COUNTY	STATE	TOWNSHIP	RANGE	SECTION	ALIQUOT PARTS	MERIDIAN	ACREAGE
McKinley	NM	19N	5W	4	S 1/2 of SW1/4	NM	2.50

Pit Name (if any):

BLM will check this box if this contract is in a Community Pit. Community Pit Serial Number:

Sec. 2. Amount and price of materials – The United States determines the total purchase price by multiplying the total quantity of mineral material designated by the unit price given below, or as changed through reappraisal.

KIND OF MATERIAL <i>You may list only one material commodity per contract</i>	QUANTITY <i>(Unit of Measure must be specified in next column)</i>	UNIT OF MEASURE <input type="checkbox"/> Cubic Yards OR <input checked="" type="checkbox"/> Tons <i>(Choose only 1)</i>	PRICE PER UNIT	TOTAL PRICE
Soil/Other, Peat/humus	10,000.00	Tons	\$4.25	\$42,500.00
Reclamation Fee, if in a Community Pit:				\$0.00
TOTAL PURCHASE PRICE				\$42,500.00
PERFORMANCE BOND				

BLM's determination of the amount of materials that you have taken under the contract is binding on you. You may appeal this determination as provided in Section 19.

You are liable for the total purchase price, even if the quantity of materials you ultimately extract is less than the amount shown above. You may not mine more than the quantity of materials shown in the contract.

If you pay in full in advance, BLM will check this box, and Subsections 3(a) through 3(c) do not apply to your contract.
You must pay in full for all sales of \$2,000 or less.

Sec. 3. Payments, title, and reappraisals – You may not extract the materials until you have paid in advance for them in full \$ _____, or paid the first installment of \$ 3,550.

(a) If you pay in installments, you must pay the first installment before BLM approves the contract.

(b) Once you start removing material, you must pay each subsequent installment payment monthly in an amount equal to the value of materials removed in the previous month. Payment must be made by the 15th day following the end of the month for which you are reporting. **You must pay the total purchase price not later than 60 days before the contract expires.**

(c) The United States will retain the first installment as security for your full and faithful performance and will apply it to the last installment required to make the total payment equal to the total price given in Section 2.

If you are late making an installment payment, you must not remove any more material until you have paid. Removing material you have not paid for is trespass, and for trespass you must pay at triple the appraised unit price, or at triple the reappraised unit price if BLM has made a reappraisal. To resume removal operations after you were late making payments, you must obtain BLM's written approval.

(d) You must annually produce an amount sufficient to pay to the United States a sum of money equal to the first installment identified in this section. In lieu of such production, you may make an annual payment in the amount of the first installment. If in any contract year you make production payments that are less than the first installment, you must pay the difference between the production payments and the amount of the first installment. These annual payments are due on or before each anniversary date of the contract.

(e) You receive title to the mineral materials only after you have paid for them and extracted them.

Sec. 4. Bonds - (a) You must furnish BLM with a performance bond in the amount of \$ 50000 / 10000 as a condition of issuing this contract.

(b) If you do not perform all terms of the contract, BLM will deduct an amount equal to the damages from the face amount of the bond. If the damages exceed the amount of the bond, you are liable for the excess. BLM will cancel the bond or return the cash or U.S. bonds you supplied when you have completed performance under this contract.

(c) BLM will require a new bond when it finds any bond you furnish under this contract to be unsatisfactory.

Sec. 5. Risk of loss - You assume complete risk of loss for all materials to which you have title. If material covered by this contract is damaged or destroyed before title passes, you are liable for all loss suffered if you or your agents are directly or indirectly responsible for the damages. If you are not responsible for the damage or destruction, you are liable only to the extent that the loss was caused by your failure to remove the material under the terms of this contract. You are still liable for breach of contract or any wrongful or negligent act.

Sec. 6. Liability for damage to materials not sold to you - You are liable for loss or damage to materials not sold to you if you or your agents are directly or indirectly responsible for the damage or loss. You are also liable if you fail to perform under the contract according to BLM's instructions and the United States incurs costs resulting from your breach of any contract term or your failure to use proper conservation practices. If the damage resulted from willful or gross negligence, you are liable for triple the appraised value of the damaged or destroyed materials. If the damage or destruction did not result from willful or gross negligence, you are liable for lesser charges, but not less than the appraised value of the materials.

Sec. 7. Stipulations and reserved terms - Your rights are subject to the regulations at 43 CFR Group 3600 now or hereafter in force and to any stipulations and the mining plan attached to this contract.

BLM will check this box if there are stipulations attached to this contract.

Sec. 8. Notice of operations - You must notify BLM immediately when you begin and end operations under this contract. If BLM has specified a time frame for notification, you must comply with that time frame.

Sec. 9. Assignments - You may not assign this contract without BLM's written approval.

Sec. 10. Modification of the Approved Mining or Reclamation Plan - You or BLM may initiate modification of these plans to adjust for changed conditions, or to correct any oversight. The conditions for BLM requiring you to modify these plans, or approving your request for modification are found in the regulations at 43 CFR 3601.44.

Sec. 11. Expiration of contract - This contract will expire 5 years, 0 months, 0 days from its approval date, unless BLM extends the term or renews the contract.

Sec. 12. Extensions of time - BLM may grant you an extension of time in which to comply with contract provisions under the regulations at 43 CFR 3602.27. For contracts with terms over 90 days, you must apply in writing no less than 30 or more than 90 days before your contract expires. For contracts with terms of 90 days or less you must apply no later than 15 days before your contract expires.

BLM will check this box if this contract is a renewable competitive contract.

Sec. 13. Renewal of renewable competitive contract - BLM will renew your renewable competitive contract if you apply in writing no less than 90 days before your contract expires and you meet the conditions in the regulations at 43 CFR 3602.47.

Sec. 14. Time for removing personal property - You have 90 days (not to exceed 90) from the date this contract expires to remove your equipment, improvements, and other personal property from United States lands or rights-of-way. You may leave in place improvements such as roads, culverts, and bridges if BLM consents. Any property remaining after this period ends, including extracted materials, becomes the property of the United States. You will remain liable for any costs of removing and disposing of the property and restoring the site.

Sec. 15. Violations and cancellations - (a) If you violate any terms or provisions of this contract, BLM may cancel your contract following the regulations at 43 CFR 3601.60 et seq., and recover all damages suffered by the United States, including applying any advance payments you made under this contract toward the payment of the damages.

(b) If you extract any mineral materials sold under this contract during a suspension period, or after the contract has expired or been canceled, you have committed, and may be charged with, willful trespass.

Sec. 16. Responsibility for damages suffered or costs incurred by the United States - If you, your contractors, subcontractors or employees breach this contract or commit any wrongful or negligent act, you are liable for any resulting damages suffered or costs incurred by the United States. You must pay the United States within 30 days after receiving a written demand from BLM.

Sec. 17. Equal opportunity clause - The actions you take in hiring must comply with the provisions of Executive Order No. 11246 of Sept. 24, 1965, as amended, which describe the non-discrimination clauses. You may get a copy of this order from BLM.

Sec. 18. *Effective date* - This contract becomes effective as indicated below.

If this contract becomes effective on the date BLM signs the contract, BLM will check this box.

If this contract becomes effective only after certain conditions are met, BLM will check this box, list the conditions below, and indicate the effective date.

request for contract to begin September 1, 2019 once existing contract expires.

Sec. 19. *Appeal* - You may appeal any decision that BLM makes in regard to this contract under Parts 4 and 1840 of Title 43 of the Code of Federal Regulations.

The following parties have executed this contract as of:

PURCHASER

Menefee Mining Corporation

(Individual or Firm Name)

8144 Walnut Hill Lane, Suite 987; Dallas, TX 75231

(Address)

(214) 750-4696

(Phone Number - include area code)

(Signature)

(Signature)

THE UNITED STATES OF AMERICA

By

(Print Name of BLM Official)

(Signature of BLM Official)

(Title)

(Date)

If you are a corporation, affix corporate seal here:

Title 18 U.S.C. 1001, makes it a crime for any person knowingly or willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction, subject to a fine of up to \$10,000 and imprisonment up to 5 years.

NOTICES

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 601 et seq.; 43 CFR Group 3600

PRINCIPAL PURPOSE: BLM uses this information to identify the parties entering into contracts for disposing of mineral materials.

ROUTINE USES: BLM will transfer information from the record or the record itself to appropriate Federal, State, local, or foreign agencies, when relevant to criminal, civil, or regulatory investigations or prosecutions.

EFFECT OF NOT PROVIDING INFORMATION: If you do not provide this information to BLM, we will not be able to process your application for a contract.

The Paperwork Reduction Act requires us to inform you that:

The BLM is collecting this information to process your application and effect a binding contract.

The BLM will use this information to identify and communicate with applicants.

You must respond to this request to get a benefit.

You do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average about 1 hour per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. You may submit comments regarding the burden estimate or any other aspect of this form to: U.S. Department of the Interior, Bureau of Land Management (1004-0103), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Room 2134LM, Washington, D.C. 20240.

Cultural Resources Report – Confidential

Redacted from Application Package



MENEFEE MINING CORPORATION BLACK SPRING HUMATE MINE EXPANSION

Final Paleontological Resources Survey Report
June 4, 2021



**MENEFEE MINING CORPORATION
BLACK SPRING HUMATE MINE EXPANSION**

PALEONTOLOGICAL RESOURCE SURVEY SUMMARY REPORT

Prepared by:

Kate Zeigler, Ph.D., CPG

Prepared for:

Toltec Mesa Resources and Menefee Mining Corporation

Technical Report No. 21-0250

PaleoWest

200 Oak Street NE, Suite 3
Albuquerque, NM 87106
(602) 261-7253

July 8, 2021

ABSTRACT

Menefee Mining Corporation intends to conduct exploratory drilling for potential eastward expansion of the existing Black Spring Humate Mine, located south of the village of Ojo Encino in the southern San Juan Basin. Current humate extraction is occurring in low exposures of the upper Fruitland Formation, which also is known to host numerous scientifically important paleontological resources throughout northwestern and western New Mexico. Due to the presence of these fossil resources in other locations, survey for vertebrate, invertebrate, trace and/or plant fossil material is required. Pedestrian survey for fossil resources was conducted in early May over 160 acres surrounding the proposed drill sites and returned a negative finding.

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INTRODUCTION

Menefee Corporation is considering expansion for the Black Spring Humate Mine, and as a part of the expansion plan, they propose to drill exploratory test holes on Bureau of Land Management (BLM) administered land south of Ojo Encino, New Mexico. The surrounding landscape includes broad, low badland exposures of the Upper Cretaceous Fruitland and Kirtland Formations, which are well known for hosting scientifically important fossil resources throughout western New Mexico. The area to be targeted includes the southeast $\frac{1}{4}$ of section 4 and the northeast $\frac{1}{4}$ of section 9, Township 19 N, Range 05 W (New Mexico Prime Meridian). Under the Minimal Impact Exploration permit, expansion would not disturb more than five acres and no new roads would be developed. If expansion of the existing mine is deemed to be feasible, new mining would be limited to less than 10 acres of disturbance, including any access roads. The Fruitland-Kirtland Formations have been designated a Potential Fossil Yield Class (PFYC, see Appendix I) 5 area, which is high risk for paleontological resources. As such, a pedestrian survey of the 160-acre area encompassing the proposed exploratory drill sites is required.

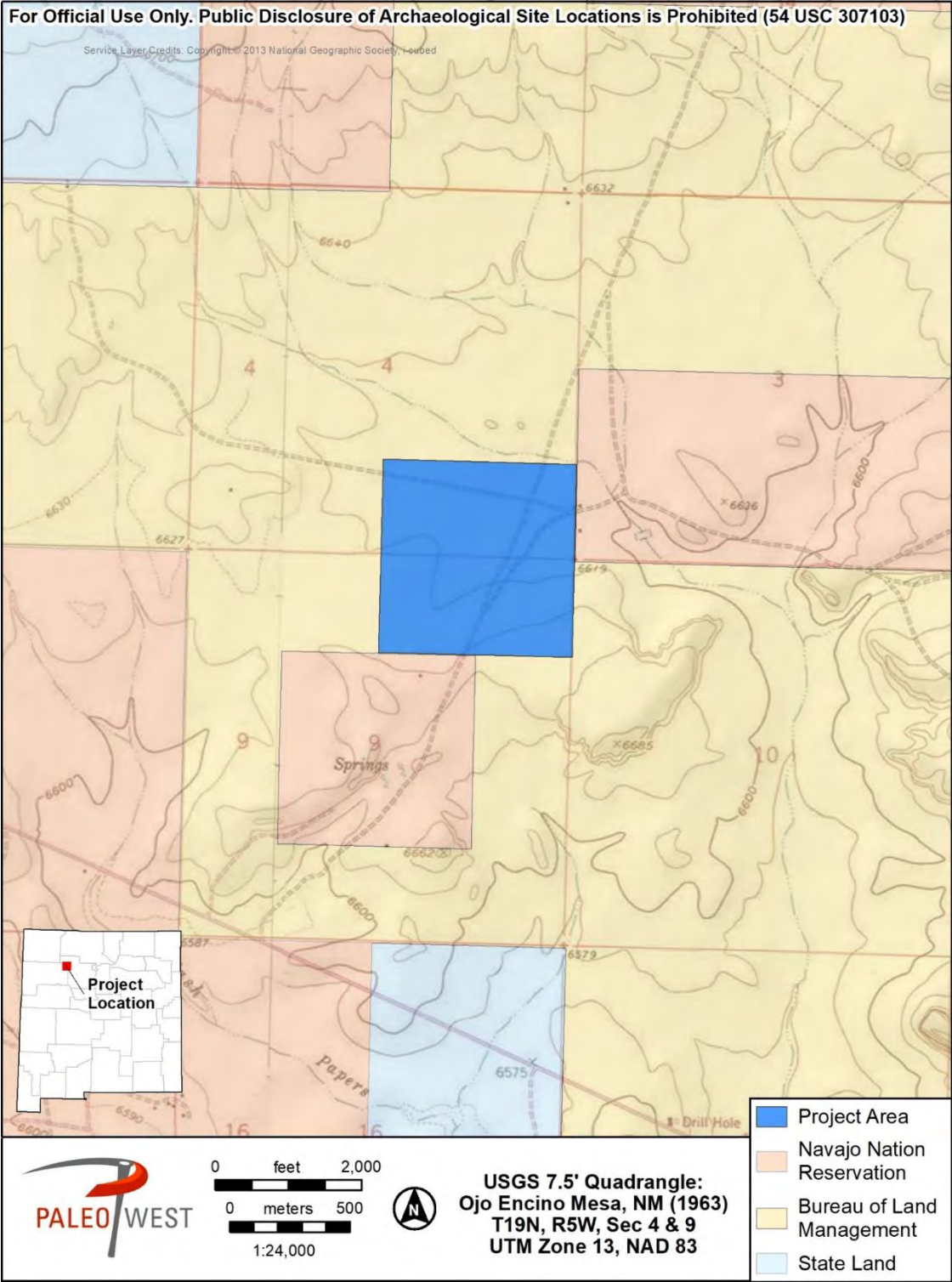


Figure 1. Map of the project area with topography and land status.



Figure 2. Google Earth satellite imagery showing the project area with geologic interpretation annotations for the area surveyed.

BACKGROUND GEOLOGY

The San Juan Basin is a large, asymmetric syncline in northwestern New Mexico (Figure 3) that is bounded by the Hogback monocline to the northwest, the Archuleta anticlinorium to the northeast, the Nacimiento Uplift to the east and the Chaco homocline (or slope) to the south (Cather, 2004). It hosts some of the state's most critical extractive resources, including oil, natural gas, coal, coal-bed methane, and humate. Strata preserved in the San Juan Basin range in age from Late Triassic along the outer margins to Eocene in the center. In the vicinity of Ojo Encino, Cretaceous sedimentary rocks include the Upper Cretaceous Pictured Cliffs Sandstone, Kirtland-Fruitland Formation, and overlying Paleocene Ojo Alamo Sandstone (Figure 4). The strata record the final retreat of the Cretaceous Interior Seaway as the landscape transitioned from marine to nearshore (Pictured Cliffs Sandstone) to mixed deltaic and estuarine (Kirtland-Fruitland Formation) to entirely terrestrial (Ojo Alamo Sandstone).

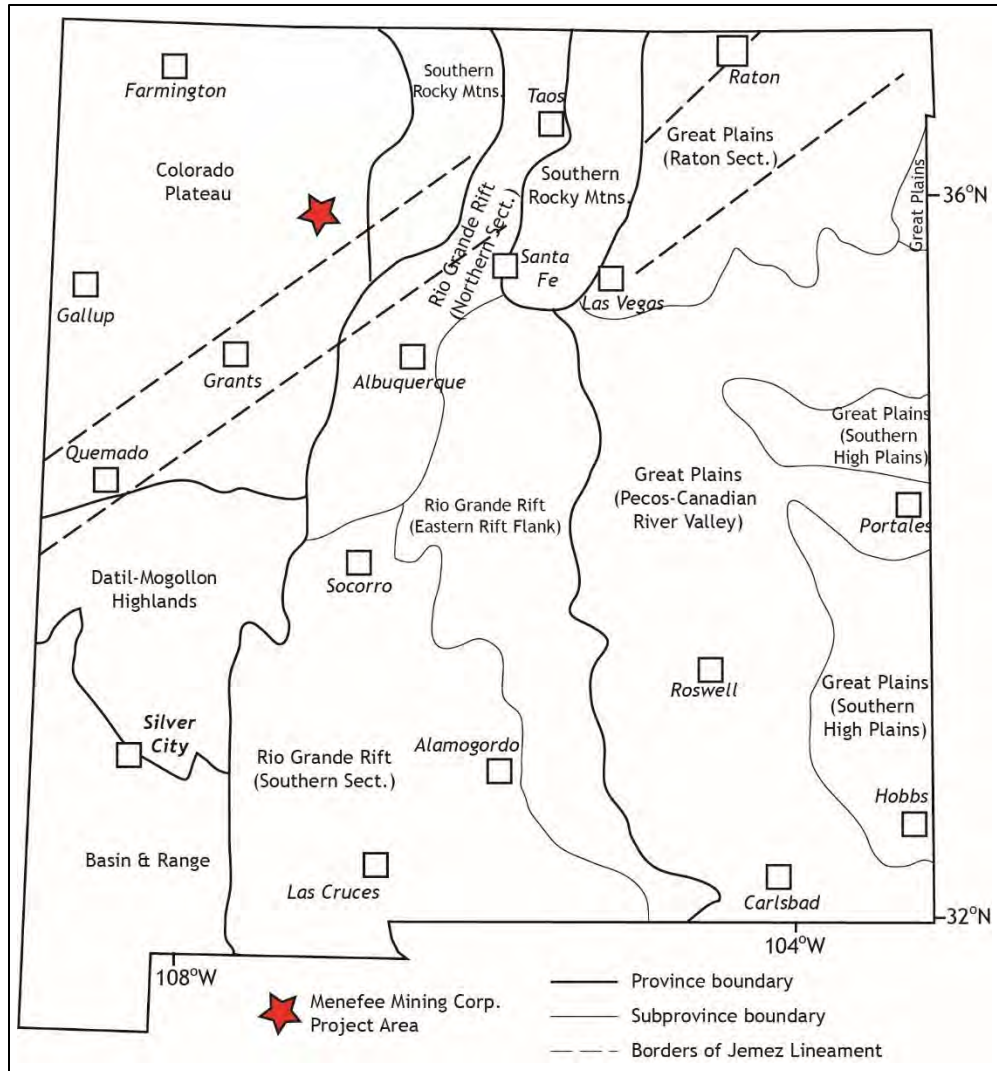


Figure 3. Physiographic provinces of New Mexico (after Pazzaglia and Hawley, 2004).

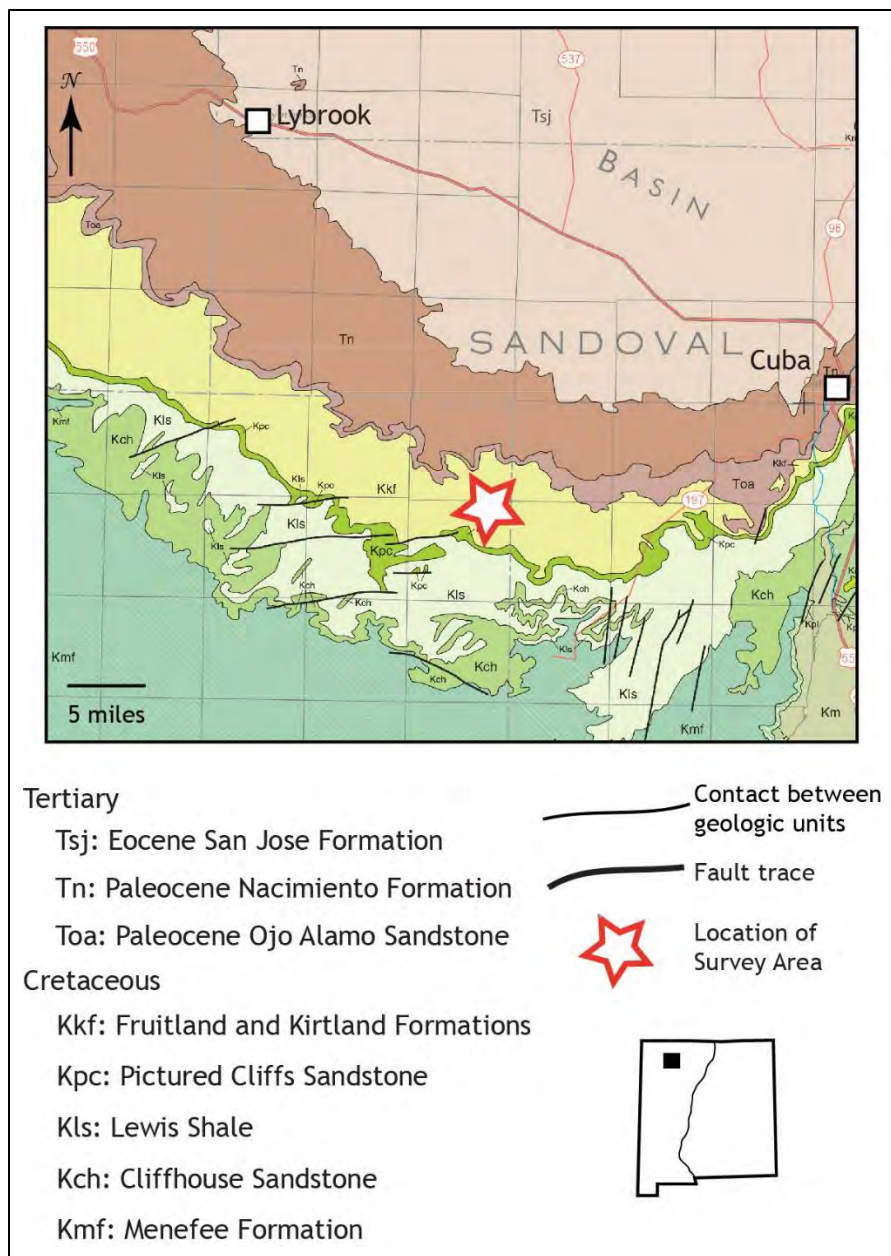


Figure 4. General geologic map of the southern San Juan Basin (Anderson and Jones, 2003).

The Fruitland-Kirtland Formations together represent deposition that began in deltaic, nearshore and estuarine environments before progressing to fluvial deposition (Bauer, 1916; Reeside, 1924; Baltz, 1967; Erpenbeck, 1979; Hunt, 1992; Hunt and Lucas, 1992). The Fruitland Formation is predominantly fine-grained extra channel deposits that locally include coal, carbonaceous shale, and dark gray mudstone and the coal-bearing units within the Fruitland Formation are among the largest coal reserves in New Mexico.

BACKGROUND PALEONTOLOGY

The San Juan Basin is renowned not only for its extractive resources, but also for its long and storied history of producing a wide variety of fossil material, ranging from invertebrates to plants to dinosaur fossils, as well as some of the most critical early mammalian fossil material. The first fossils discovered in the Basin were found by E.D. Cope in 1874 at Arroyo Blanco and consisted of mammal, turtle, and crocodile remains, although Cope mentions scraps of dinosaur bone in 1885 (Simpson, 1981). The first dinosaurian material was collected by G.H. Pepper in 1902, and Barnum Brown subsequently undertook a collecting expedition in 1904 that resulted in a small collection of hadrosaur material (Simpson, 1981). From further expeditions and numerous critical discoveries, the Fruitland and Kirtland Formations are known for producing a wide variety of scientifically important fossil material including plants, invertebrates, microvertebrates and macrovertebrates (Simpson, 1981; Hunt and Lucas, 1992)

Of the two units, the Fruitland Formation has proven to be the most productive in terms of fossil material. Invertebrate faunas include bryozoans and crabs (Kues, 1983), gastropods, and a variety of both saltwater and brackish water-adapted pelecypods, and freshwater clams (Hunt and Lucas, 1992). Vertebrate fossil material pertains to a variety of fish, amphibians, reptiles, and early mammals (Clemens, 1973; Armstrong-Ziegler, 1978; Simpson, 1981; Sullivan, 1981; Hunt and Lucas, 1992, 1993). Dinosaur remains from the Fruitland Formation include fossil material from ornithomimids, dromaeosaurids, troodontids, tyrannosaurids, nodosaurids and ankylosaurids, pachycephalosaurids, hypsilodontosaurids, lambeosaurids, and hadrosaurids (Hunt and Lucas, 1993). Particularly famous dinosaur genera from the unit include the frilled dinosaur *Pentaceratops* (Lull, 1933; Rowe et al., 1981), the tyrannosaurid *Bistahieversor* ("the Bisti Beast", Carr and Williamson, 2010) and the crested duckbill dinosaur *Parasaurolophus* (Wiman, 1931; Ostrom, 1961, 1963; Mateer, 1981).

METHODS

A preliminary desktop survey for the project area reviewed the Ojo Encino and Star Lake 1:24,000 scale geologic maps of the area (Scott et al., 1980a, b; Figure 5), which show expanses of the following map units in the project area (in ascending age order): Fruitland Formation (Kf), Kirtland Formation (Kk), Picture Cliffs Sandstone (Kpc, Kpct), and the "Naha" alluvial unit (Qn). A review of the New Mexico Museum of Natural History and Science database did not return any known localities in or near the survey area. However, a review of the literature indicates that significant scientifically important fossil material has been discovered in the Fruitland Formation to the northwest and west. Pedestrian survey was conducted by traversing a 160-acre area encompassing all proposed drill sites in a non-linear manner such that both the proposed drill sites and a wide buffer area were visually inspected.

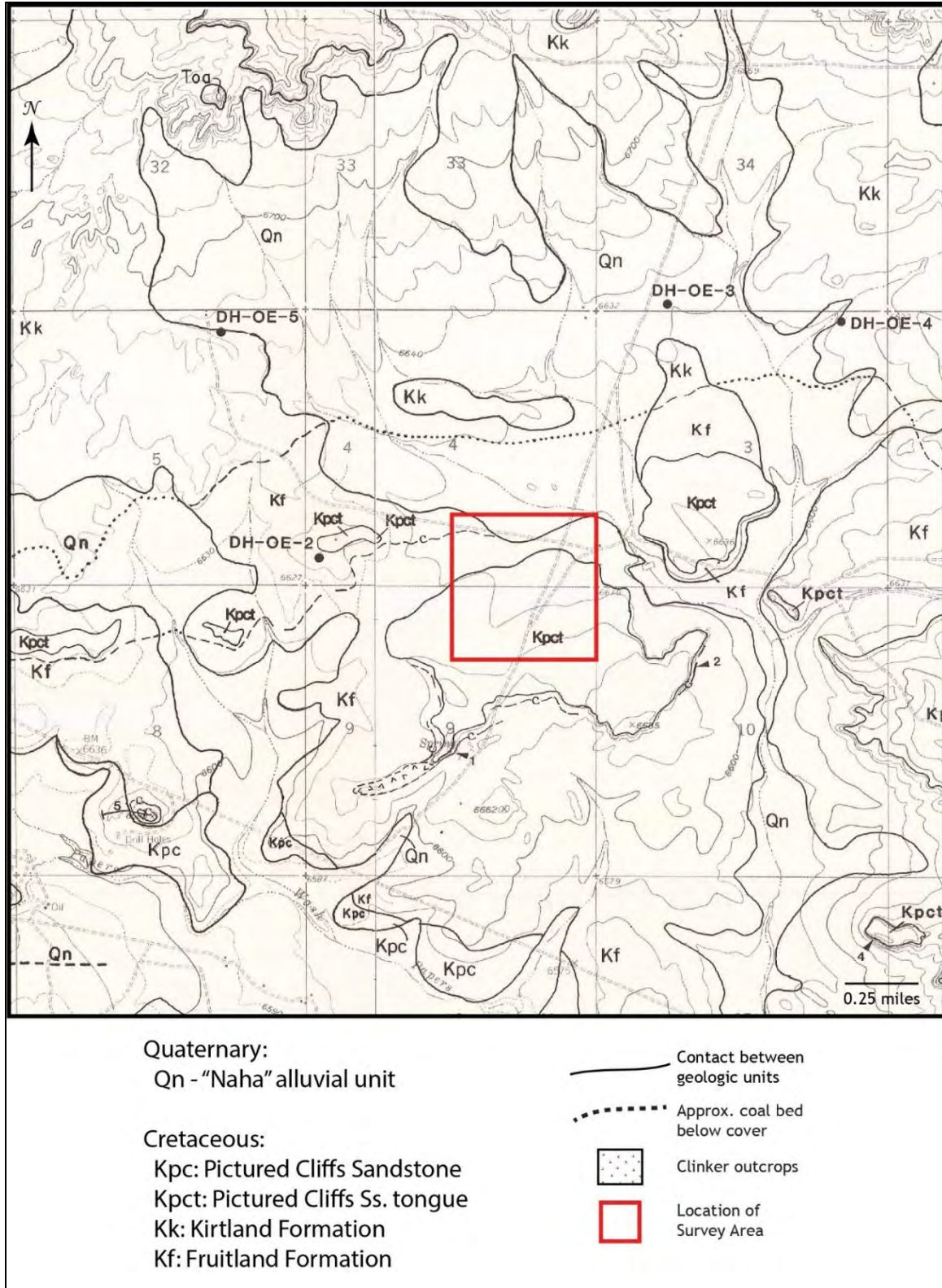


Figure 5. Geologic map of the project area, compiled from Scott et al. (1980a, b).

The BLM has developed a Potential Fossil Yield Classification (PFYC) system (2007, 2016) to evaluate the potential for significant fossil resources to be located in an area. Occurrences of paleontological resources are closely tied to the geologic units (i.e., formations, members, or beds) that contain them. The probability for finding paleontological resources can be broadly predicted from the geologic units present at or near the surface. For that reason, geologic mapping can be used for assessing the potential for the occurrence of paleontological resources.

The PFYC system classifies geologic units based on the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils, and their sensitivity to adverse impacts. For this system, a higher class number (1-5) indicates a higher potential for significant fossil presence and/or adverse impact. This classification is applied to the geologic formation, member, or other distinguishable unit, preferably at the most detailed map level. The relative abundance of significant localities is intended to be the major determinant for the class assignment.

The PFYC system is meant to provide baseline guidance for predicting, assessing, and mitigating paleontological resources. The classification should be considered an intermediate point in the analysis and should be used to assist in determining the need for further mitigation assessment or actions. The following descriptions are taken from BLM IM 2016-124 (USDI BLM 2016):

Class 1 – Very Low: Geologic units that are not likely to contain recognizable paleontological resources. Units assigned to Class 1 typically have one or more of the following characteristics:

- Geologic units are igneous or metamorphic, (excluding air-fall and reworked volcanic ash units).
- Geologic Units are Precambrian in age.

Class 2 – Low. Geologic units unlikely to contain paleontological resources. Units assigned to Class 2 typically have one or more of the following characteristics:

- Field surveys have verified that significant paleontological resources are not present or are very rare.
- Units are generally younger than 10,000 years before present.
- Recent aeolian deposits.
- Sediments exhibit significant physical and chemical changes (i.e., diagenetic alteration) that make fossil preservation unlikely.

Class 3 – Moderate. Sedimentary geologic units where fossil content varies in significance, abundance, and predictable occurrence. Units assigned to Class 3 have some of the following characteristics:

- Marine in origin with sporadic known occurrences of paleontological resources.
- Paleontological resources may occur intermittently, but abundance is known to be low.
- Units may contain significant paleontological resources, but these occurrences are widely scattered.

- The potential for an authorized land use to impact a significant paleontological resource is known to be low-to-moderate.

Class 4– High. Geologic units that are known to contain a high occurrence of paleontological resources. Units assigned to Class 4 typically have the following characteristics:

- Significant paleontological resources have been documented but may vary in occurrence and predictability.
- Surface disturbing activities may adversely affect paleontological resources.
- Rare or uncommon fossils, including non-vertebrate (such as soft body preservation) or unusual plant fossils, may be present.
- Illegal collecting activities may impact some areas.

Class 5– Very High. Highly fossiliferous geologic units that consistently and predictably produce significant paleontological resources. Units assigned to Class 5 have some or all of the following characteristics:

- Significant paleontological resources have been documented and occur consistently.
- Paleontological resources are highly susceptible to adverse impacts from surface disturbing activities.
- Unit is frequently the focus of illegal collecting activities.

Class U– Unknown Potential. Geologic units that cannot receive an informed PFYC assignment. Characteristics of Class U may include:

- Geological units may exhibit features or preservational conditions that suggest significant paleontological resources could be present, but little information about the actual paleontological resources of the unit or area is known.
- Geological units represented on a map are based on lithologic character or basis of origin but have not been studied in detail.
- Scientific literature does not exist or does not reveal the nature of paleontological resources.
- Reports of paleontological resources are anecdotal or have not been verified.
- Area or geologic unit is poorly or under-studied.
- BLM staff has not yet been able to assess the nature of the geologic unit.

The Scott et al. (1980a, b) maps show expansive areas of Fruitland and Kirtland Formation outcrops surrounding the project area. The discovery of numerous scientifically important fossil resources from the Fruitland Formation indicated that this area would be classified as PFYC 5.

RESULTS OF PEDESTRIAN SURVEY

On May 8, a professional paleontologist conducted pedestrian survey throughout the 160-acre proposed project area. Survey was focused more heavily on outcrops of Fruitland Formation in the northwest quarter of the project area. These outcrops consist of weathered coal (humate) overlain by a poorly exposed gray sandy mudstone (Figures 6 and 7). Local small

gravel lags were observed in low spots among outcrops that include siliceous pebbles and small fragments of petrified wood. The remainder of the area is covered with moderately thick eolian sheetsand and small dunes anchored by abundant sagebrush (Figure 8). In the southwestern corner, localized exposures of fine to medium-grained buff colored sandstone suggest either a sandstone lens in the Kirtland Formation or a Pictured Cliffs Sandstone tongue in the immediate subsurface (Figure 9). In addition, the Star Lake Road and several smaller roads cut across the project area. No fossil material was observed during survey, but the abundance of scientifically important fossil material recovered from the Fruitland Formation elsewhere indicates monitoring should take place for all ground-disturbing activities related to the mine expansion. An “unanticipated discoveries plan” should also be developed in coordination with Menefee Mining Corporation.



Figure 6. Low mounds of humate in the northwestern corner of the survey area. View to the northwest. Photograph taken at 35° 54' 2.6" N, 107° 22' 15.2" W.



Figure 7. Low outcrop of gray mudstone with gravel lag on deflationary surfaces. View to the east. Photograph taken at 35° 54' 1.1" N, 107° 22', 3.1" W.



Figure 8. Eolian sheetsand with sagebrush that covers much of the eastern and southern survey area. View to the southeast. Photograph taken at 35° 54' 4.0" N, 107° 21' 45.3" W.



Figure 9. Thin-bedded fine to medium-grained sandstone locally exposed in the southwestern corner of the survey area. View to the northeast. Photograph taken at 35° 53' 44.7" N, 107° 21' 57.7" W.

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For General Inquiries:

T: 886.563.2536

T: 602.254.6280

info@paleowest.com

Phoenix, Arizona

T: 602.261.7253

319 East Palm Lane

Phoenix, AZ 85004

info@paleowest.com



BIOLOGICAL EVALUATION

PROPOSED EXPANSION OF THE BLACK SPRING HUMATE MINE

Prepared for:

Menefee Mining Corporation
36 Duke City Road | Cuba, NM 87013

Prepared by:

Rocky Mountain Ecology, LLC
P.O. Box 45193 | Rio Rancho, NM 87174



Signed By: _____
Clayton P. Bowers – Rocky Mountain Ecology LLC

Date: May 10, 2021

Approved By: _____
John Kendall –BLM Farmington Field Office Wildlife Biologist

Date: _____

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I. Introduction and Proposed Action

Menefee Mining Corporation (MMC) proposes to expand mining operations at the existing Black Spring Humate Mine. The mine is currently operating and permitted within the south half of the southwest quarter of Section 4, Township 19 N North, Range 5 West, New Mexico Principal Meridian (NMPM) in McKinley County, New Mexico (Figure 1). MMC proposes to permit 160 acres (ac) of additional land for mining activities within the south half of the southeast quarter of Section 4, and the north half of the northwest quarter of Section 9, Township 19 N North, Range 5 West, NMPM (Figures 2 & 3). MMC intends to apply for the permit with the New Mexico Mining and Minerals Division at the conclusion of environmental and cultural due diligence.

Following permitting, MMC would enter into a Mineral Materials Sales Contract with the Bureau of Land Management (BLM), Farmington Field Office (FFO) for the extraction and sale of mineral humate. Humate is an organic material contained within the Menefee geological formation (Shomaker and Hiss 1974). The project area land surface and mineral estates are located within McKinley County, New Mexico (NM), and are managed by the BLM/FFO. The project area would be located approximately 25 miles southwest of Cuba, NM and five miles south of Ojo Encino, NM.

Rocky Mountain Ecology, LLC (RME) has been contracted to prepare this Biological Evaluation (BE) 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 laws and regulations. This BE discloses and analyzes impacts associated with access routes and mining operations as proposed by MMC.

Project Location

The Black Spring Humate Mine is located 25 miles southwest of Cuba, NM and five miles south of Ojo Encino, NM. The current Black Spring Humate Mine is within the south half of the southwest quarter of Section 4, Township 19 North, Range 5 West in McKinley County, New Mexico. The proposed mine expansion occurs in the south half of the southeast quarter of Section 4, and the north half of the northwest quarter of Section 9, Township 19 N North, Range 5 West, directly east of and adjacent to the currently permitted mine. The project area can be located on the Ojo Encino Mesa, NM U.S. Geological Survey 7.5-minute topographic map.

Mining Activities

The purpose of the Proposed Action is to allow MMC to expand the permit area in which they mine humate. MMC operates the Black Spring Humate Mine under an existing Minimal Impact Permit with the New Mexico Mining and Minerals Division (MMD); the proposed mine expansion would be covered within this existing permit. The existing mine is located on a parcel of federal ownership with surface and mineral rights administered by the BLM/FFO.

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. It is 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. The FFO is authorized to issue contracts and permits for the removal of mineral materials under the Mineral Materials Act of 1947 (30 USC § 601 et seq.) and the Federal Land Policy and Management Act of 1976 (FLPMA), as amended (43 USC § 1701 et seq.).

This BE has been prepared to analyze impacts and determine effects of the Proposed Action on federally proposed, threatened and endangered species, and on BLM sensitive species. Specifically, this BE would provide knowledge regarding protected species, 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 BLM sensitive species or federal candidate species on the Endangered Species Act of 1973 as amended.

II. Methods

The Endangered Species Act of 1973 (ESA) requires the evaluation of potential impacts on federally-listed species and their critical habitat. The USFWS, the New Mexico Department of Game and Fish (NMDGF), the BLM - FFO and the NM Rare Plant Technical Council (NMRPTC) databases were reviewed to determine potential occurrence of BLM sensitive and federal proposed, threatened, and endangered species in the project area. Specifically, the USFWS New Mexico Ecological Services website (<http://ecos.fws.gov/>) was verified for federally-listed flora and fauna species (Consultation Tracking No. 02ENNM00-2021-SLI-0926 – Appendix B; USDI 2021). The BLM sensitive species list was searched for sensitive flora and fauna species. The NM Rare Plants website (<http://nmrareplants.unm.edu>) was searched for information on potential BLM sensitive flora species within McKinley County (NMRPTC 1999). Habitat associations and species descriptions for the targeted species were derived from these websites, and their habitat requirements were then compared to the habitat found in the project area to identify which species were likely to occur. Species considered unlikely to occur and for which suitable habitat does not exist within the project area, were removed from further consideration. A list of target species—those species that are likely to occur or have potential habitat within the project area—was developed from these comprehensive lists prior to the biological survey.

A 100-percent pedestrian biological survey of the project area was conducted by Clay Bowers, a RME qualified biologist (hereafter referred to as the biological survey). The biological survey was conducted on April 29, 2021 from 7:30 am to 2:00 pm Mountain Daylight Time (MDT). During the survey, air temperature was 50 degrees Fahrenheit (°F) with clear skies and calm winds. During the biological survey, searches for the presence of noxious weeds as defined by the New Mexico Department of Agriculture (NMDA) and for the presence of potential wetlands and waters of the U.S. as defined by the U.S. Army Corps of Engineers (USACE) were also conducted.

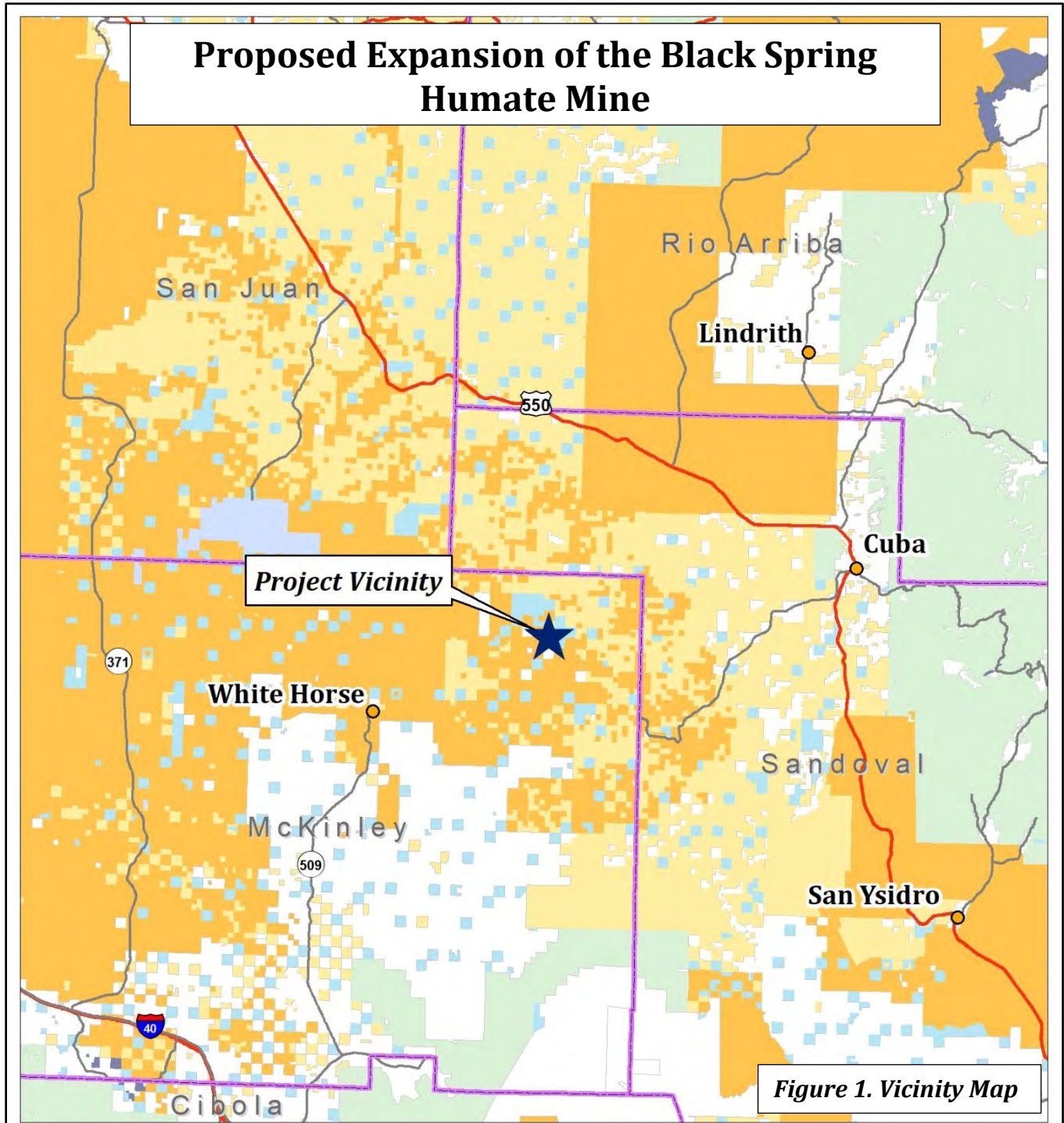
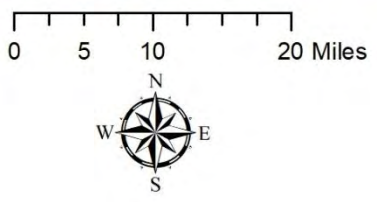


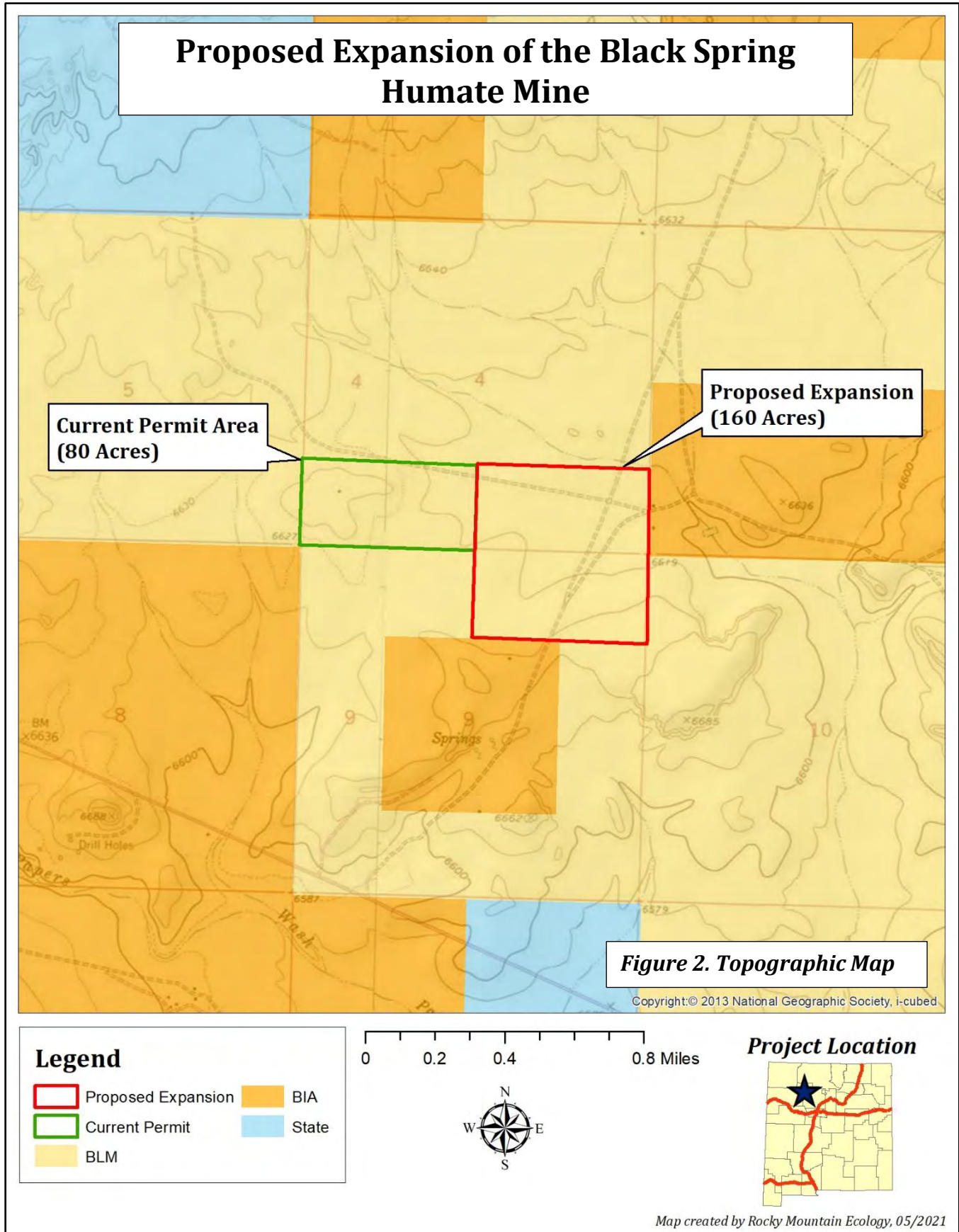
Figure 1. Vicinity Map

Legend

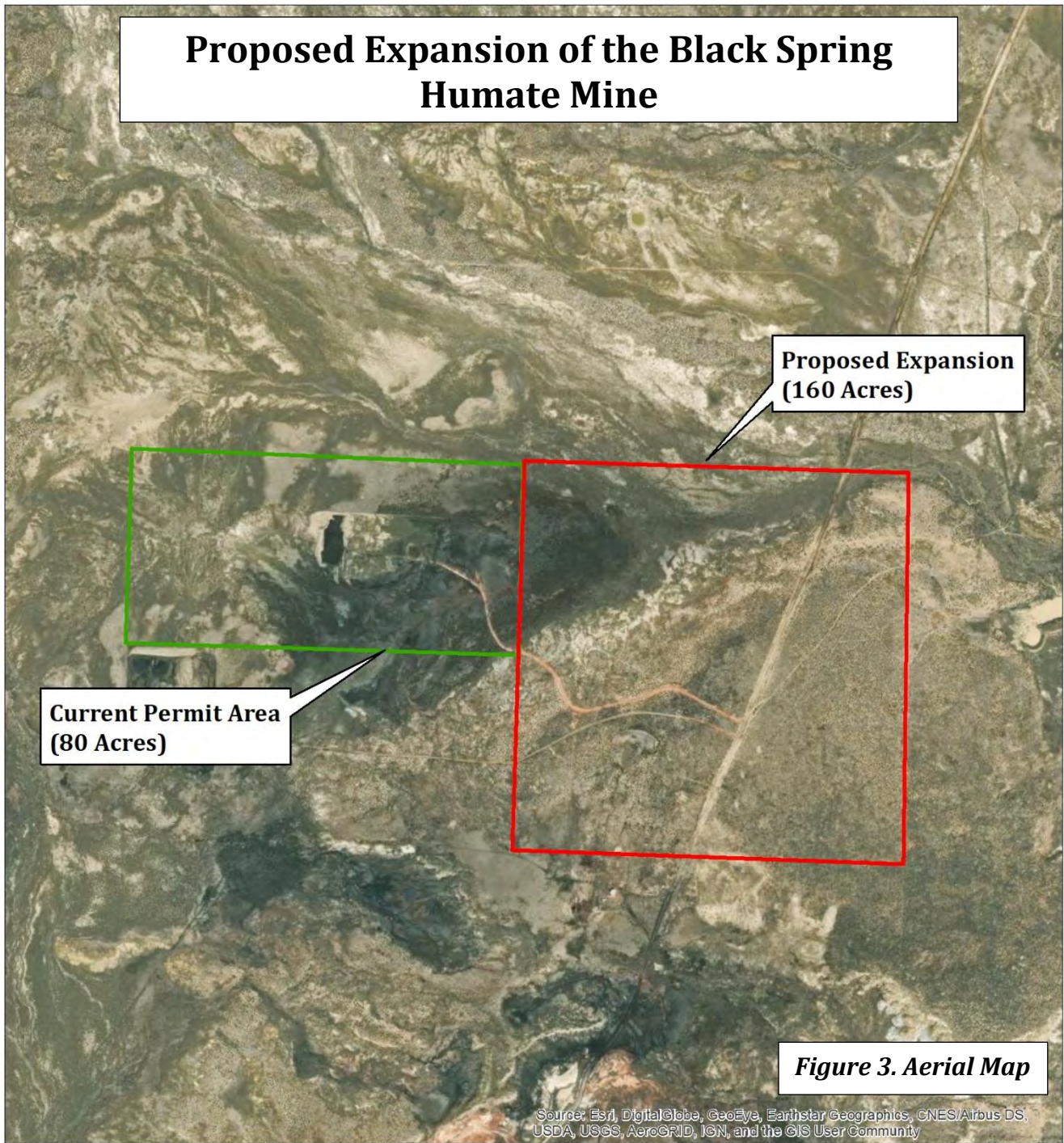
County Boundaries	USFWS
Interstates	BIA
NM State Highways	NPS
US Highways	Private
BLM	State
Forest Service	State Park



Map created by Rocky Mountain Ecology, 05/2021



Proposed Expansion of the Black Spring Humate Mine



Legend

- Proposed Expansion
- Current Permit

0 0.1 0.2 0.4 Miles



Project Location



Map created by Rocky Mountain Ecology, 05/2021

III. Environment and Existing Conditions

The elevation of the project area ranges from approximately 6,620 to 6,660 feet above sea level. Generally, topography throughout the project area is mildly undulating with a slight northeast aspect of slopes ranging from 0-3 percent. Average temperatures in the general area range from a minimum of 10.4 °F in January to a maximum of 87.3 °F in July. Annual precipitation averages 9.4 inches (WRCC 2021). There are no outstanding geographic features within the project area.

Physiogeography

The project area is located on the Colorado Plateau in northeastern McKinley County, New Mexico. Specifically, it occurs within the San Juan/Chaco Tablelands and Mesas sub-region of the Arizona/New Mexico Plateau ecoregion (Griffith et al. 2006), which includes plateaus, valleys and canyons formed from gentle dipping sedimentary rocks. Erosion in this sub-region is common due to topography, geology, and human influences. The surrounding area has been subject to a minor amount of oil and gas development.

Soils

The project area occurs in the Kirtland-Fruitland geological formation (Anderson et al. 1997). Soil types were identified as determined by the Natural Resource Conservation Service (NRCS) Web Soil Survey (NRCS 2021). Soils in the proposed project area are classified as three major types: Councilor-Eslendo-Calladito complex (42 percent of area), Starlake clay (39 percent of area), and Badland (19 percent of area). The composition of these respective soils is as follows. The Councilor series is comprised of highly permeable soils, formed from sandstone/shale parent materials, and occurring in alluvial depositions of 0 – 30 percent slopes. Councilor soils are classified as course-loamy, mixed, superactive, calcareous, mesic, Ustic Torriorthents. The Calladito series consists of highly porous soils derived from sandstone parent material occurring on alluvial and wind depositional features with slopes ranging from 1 – 8 percent. The Calladito series are classified as mixed, mesic Ustic Torripsammets. The Eslendo series consist of permeable soils, derived from sandstone/siltstone/shale parent material, and occurring in slope alluvium/colluvium of 1 – 17 percent gradient. The Eslendo series are classified as loamy, mixed, superactive, calcareous, mesic, shallow Ustic Torriorthents. The Starlake series consist of very slowly permeable soils, derived from sandstone/shale parent material, and occurring in alluvial depositions of 0 – 5 percent slopes. The Starlake series are classified as fine, mixed, superactive, mesic Ustic Natrargids. Badlands are denuded areas of exposed shale bedrock generally void of vegetation (NRCS 2021).

Vegetation

The project area is located within two main vegetation communities; Desert Grassland and Great Basin Desert Scrub (Dick-Peddie 1993). The Desert grassland community consists of blue grama (*Bouteloua gracilis*), galleta grass (*Pleuraphis jamesii*) with scattered saltbush (*Atriplex obovata*), with an estimated ground cover of 10-25 percent. Areas defined as Great Basin Desert Scrub are dominated by big sagebrush (*Artemisia tridentata*) with an understory of spiny muhley (*Muhlenbergia pungens*) and Greene's rabbitbrush

(*Chrysothamnus greenii*), with an approximate 35-40 percent cover. Shad scale (*Atriplex canescens*), burrograss (*Scleropogon*), and threeawn (*Aristida purpurea*) were also noted within the project area during the biological survey. The majority of the 160-acre parcel is within Great Basin Desert Scrub community and has little herbaceous component due to heavy grazing pressure and ongoing drought. Areas of bare ground occur throughout the project area. The Desert Grassland vegetation type is primarily found in the north central project area and contains an abundance of bare ground with extremely sparse and low-growing herbaceous component.

Noxious and Invasive Weeds

No state listed noxious weeds, as defined by the NMDA were identified within the 160-acre parcel (NMDA 2016). Surface disturbance activities associated with the proposed project create potential for the establishment and spread of noxious weeds and invasive, non-native species. Invasive, non-native species can outcompete and displace native vegetation resulting in altered wildlife habitat use.

Rare Plants

No New Mexico rare plants as listed by the NMRPTC were located during the biological survey.

Wildlife

Overall vertebrate species were not abundant at the project area during the biological survey. Wildlife typical of the general area include coyotes (*Canis latrans*), desert cottontails (*Sylvilagus audubonii*), common ravens (*Corvus corax*), turkey vultures (*Cathartes aura*), mourning doves (*Zenaida macroura*), bull snakes (*Pituophis catenifer sayi*), and whiptail lizards (*Cnemidophorus* spp.). Wildlife observed during the biological survey include black-tailed jackrabbits (*Lepus californicus*), common ravens and horned larks (*Eremophila alpestris*). No raptors or signs of raptor use were observed during the biological survey. No bird nests or ground burrows were observed during the biological survey.

Wetlands and Waterways

The Clean Water Act (CWA) of 1972 regulates activities that have the potential to impact Waters of the U.S. (WOUS). Section 404 of the CWA regulates discharge of dredged and fill materials within the ordinary high water mark (OHWM) of WOUS, and is administered by the USACE. Section 401 of the CWA regulates water quality and, for the purposes of the project, is administered by the New Mexico Environment Department (NMED), Surface Water Quality Bureau (SWQB).

Prior to the biological survey, the National Wetland Inventory (NWI) website was accessed to determine potential wetland presence within the project area, and indicated that no wetlands occur in the project area. During the biological survey, the project area was evaluated for the presence of wetland indicators (e.g., hydrophytic vegetation or wetland hydrology). No wetlands were located. Furthermore, no waterways were observed in the project area. 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 mine expansion area.

IV. Threatened, endangered, and proposed species being considered

Federally listed species (Table 1) from the project area were obtained from the USFWS Information, Planning, and Conservation System (IPAC; USFWS 2021). The project area does not contain critical habitat for any federally listed species. Potential effects of the Proposed Action on threatened, endangered, and proposed species are analyzed in this section.

Table 1. Federally listed species for the project area, as of 4 May, 2021.

Species	Legal Status	Habitat Present	Habitat not Present	Habitat Present but not Affected	Does not Occur in Area	Comments
Birds (3)						
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	Endangered		X			Riparian habitat requirement not present at project site. <u>No further analysis required.</u>
Mexican spotted owl (<i>Strix occidentalis lucida</i>)	Threatened		X			Mixed-conifer or pine-oak woodland habitat not present within project area. <u>No further analysis required.</u>
Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	Threatened		X			Riparian woodland habitat not present at project site. <u>No further analysis required.</u>
Fish (1)						
Zuni bluehead sucker (<i>Catostomas discobolus yarrowi</i>)	Endangered		X			Project area does not contain aquatic habitats. <u>No further analysis required.</u>
Plants (1)						
Zuni fleabane (<i>Erigeron rhizomatus</i>)	Threatened				X	Herbaceous perennial that prefers clay hillsides with shale soils in piñon-juniper woodlands from 7,300 to 8,000 feet elevation (USFWS 1988). The project area occurs below the

Species	Legal Status	Habitat Present	Habitat not Present	Habitat Present but not Affected	Does not Occur in Area	Comments
						lower elevational threshold for the species. Further, no individuals were located during the biological survey. <u>No further analysis required.</u>

V. Special status species being considered

Special status species (Table 2) include BLM sensitive species as identified by the BLM/FFO. Potential effects on BLM/FFO listed sensitive species of the Proposed Action are analyzed in this section.

Table 2. Special status species for the project area.

Species	Legal Status	Habitat Present	Habitat not Present	Habitat Present but not Affected	Does not Occur in Area	Comments
Mammals (1)						
Gunnison’s prairie dog (<i>Cynomys gunnisoni</i>)	BLM Sensitive	X				<u>Analysis required.</u>
Birds (3)						
Bendire’s thrasher (<i>Toxostoma bendirei</i>)	BLM Sensitive		X			Typically found in open to dense shrubs, with a significant component of low trees and succulents, most often in Chihuahuan Desert Scrub. Also found in desert arroyo riparian and annual grasslands. No habitat is present in the project area. No further analysis is required.
Burrowing owl – western (<i>Athene cumicularia hypugaea</i>)	BLM Sensitive	X				<u>Analysis Required.</u>

Species	Legal Status	Habitat Present	Habitat not Present	Habitat Present but not Affected	Does not Occur in Area	Comments
Mountain plover (<i>Charadrius montanus</i>)	BLM Watch List	X				<u>Analysis required.</u>
Plants (3)						
Cactus, Bracks Hardwall (<i>Sclerocactus cloverae</i> ssp. <i>brackii</i>)	BLM Sensitive		X			Bracks hardwall was not noted within the project area during the biological survey. Bracks hardwall is not known to occur within McKinley County, NM (NMRPTC 1999). Furthermore, Bracks hardwall is known to prefer soils of the Nacimiento formation found within the San Juan basin of Northwestern New Mexico. The project area contains Counselor Estendo Calladito, Starlake clay, and Badland soils types. Suitable habitat for Bracks hardwall does not exist within the project area. There will be no impacts to habitat or populations from the Proposed Action. <u>No further analysis required.</u>
Parish's Alkaligrass (<i>Puccinellia parishii</i>)	BLM Sensitive		X			Parish's Alkaligrass was not observed within the project area during the biological survey. Parish's Alkaligrass is dependent upon perpetually saturated soils and is usually found near seeps or springs. These types of hydric soils do not occur within the project area. There would be no impacts to Parish's Alkaligrass habitat or populations from the Proposed Action. <u>No further analysis required.</u>
Aztec Gilia (<i>Aliciella formosa</i>)	BLM Sensitive		X			Aztec Gilia was not observed within the project area during the biological survey. Aztec

Species	Legal Status	Habitat Present	Habitat not Present	Habitat Present but not Affected	Does not Occur in Area	Comments
						Gilia is known to occur exclusively in the San Juan basin, specifically in the vicinity of Aztec and Bloomfield, NM (NMRTPC 1999). Aztec Gilia is not known to occur in McKinley County, NM and relies upon the Nacimiento formation soil type, which does not occur within the project area. There would be no impacts from the Proposed Action to habitat or the species. <u>No further analysis required.</u>

VI. Potential for Effects

Federally endangered, threatened, and proposed species

Due to the lack of federal critical habitat, general habitat or occurrence within the project area, there was a no effect determination for the federally endangered, threatened, and proposed species analyzed in the BA section (Table 1). Those species include: Southwestern willow flycatcher, Mexican spotted owl, Western yellow-billed cuckoo, Zuni bluehead sucker and Zuni fleabane.

Special status species

Due to the lack of general habitat or occurrence within the project area, four of the seven BLM/FFO listed sensitive species received a no impact determination. Those species include: Bendire’s thrasher, Bracks hardwall cactus, Parish’s alkaligrass, and Aztec gilia.

The following BLM/FFO listed species require further analysis:

- Gunnison’s prairie dog
- Western burrowing owl
- Mountain plover

Gunnison’s prairie dog

The Gunnison’s prairie dog is known to occupy a wide range of habitat types primarily in New Mexico and Arizona. Known habitat types range from shortgrass and midgrass

prairies, grass-shrub habitats to Pinyon-Juniper woodland and montane meadows interspersed throughout pine-Douglas fir forest (BISON-M, 2021). Prairie dogs nest in underground burrows organized in ‘towns’ (multiple burrows in close proximity to each other). The prairie dog diet is principally herbivorous with a strong emphasis on grasses, sedges, and forbs, however some individuals have been known to incorporate limited insect foraging (Hoffmeister, 1986). Prairie dogs rely upon stores of grasses and forage for roots in the winter. Gunnison’s prairie dogs breed in the spring and birth their young in the summer in litters of two to six pups (Longhurst, 1944).

Gunnison’s prairie dog population has been in decline as a consequence of human efforts to eradicate the species from rangelands as they are perceived to be in direct competition for forage with cattle (Hoffmeister, 1986). Additionally, their towns are viewed as a hazard for domesticated ungulates. Other limiting factors include Plague which at times can eradicate prairie dogs from large areas (Hoffmeister, 1986).

Prairie dogs are considered to benefit a host of other species, including big sagebrush, rabbitbrush, several species of aves including the Western burrowing owl and many species of reptile.

Analysis of Effects

No burrows of any kind, including prairie dog burrows were located in the 160 ac project area during the biological survey. However, prairie dogs are known to be within adjacent areas, as they were incidentally observed during previous survey efforts to the west. The Proposed Action would not significantly impact prairie dog habitat or forage opportunities within the project vicinity. The Proposed Action indicates that no more than five acres at a time will be disturbed by mining activities and that reclamation of native habitats would happen as mining activity moves throughout the project area. Furthermore, the timeframe associated with the mining activities is indicated to be 8-10 years. Therefore, the implementation of the Proposed Action allows for the recovery of local vegetative communities within the timeframe of reclamation. Although up to 160 ac would ultimately be mined, at any given time there would be no greater impact than 5 ac of mining activities. This would allow for the persistence of potential prairie dog communities throughout the duration of mining activities. The project area is located within a much larger continuous expanse of similar habitat type; the effects of sustained use of five acres within the project area would have negligible impacts upon the availability of suitable prairie dog habitat within the greater vicinity. An additional field survey for any newly established burrows could be conducted before the commencement of mining activity at the discretion of the BLM/FFO. Therefore, given the above information, implementation of the Proposed Action may impact individuals, but would not impact regional habitat or Gunnison’s prairie dog population trends.

Western burrowing owl

Western burrowing owls exhibit wide ranging habitat suitability with extensive distribution across the American desert southwest. Specifically, burrowing owl populations have been observed within Mexican highlands/Shrub steppe, Chihuahuan desert (Grass-Tobosa/Tarbrush-Creosote bush), Rocky mountain forest (Ponderosa pine/Douglas fir forest), and Colorado plateau (Grass-Galleta steppe/Juniper-Pinyon woodland mosaic) ecoregions (USFS, 1991). Burrowing owls nest in abandoned burrows of a variety of other animals including prairie dogs, ground squirrels, woodchucks, foxes, badgers, armadillos, etc. (Terres, 1982). Western burrowing owls are general carnivores and prey upon small mammals, aves, reptiles, amphibians, and invertebrates and will scavenge carrion when necessary (Bent, 1938). Burrowing owls migrate between locations in Canada and the United States in the summer and areas of the southern United States and Mexico in the winter. Burrowing owls breed during the summer at the northern end of their migratory range (USFWS, 2003).

Analysis of Effects

No burrowing owls or suitable burrows were observed during the biological survey, therefore, nesting habitat is not present in the project area and would not be impacted by the Proposed Action. Any burrows that may occur adjacent to the project area could harbor nesting owls that may utilize portions of the project area for foraging. Therefore, foraging habitat within the project area could be impacted by the disturbance of soils and substrate and the temporary loss of biota from the disturbed surface. Mining activity could cause the dislocation of mammals, reptiles, and invertebrates upon which the burrowing owl relies for forage. However, the project area represents a small fraction of the available habitat within the greater vicinity, which is relatively intact and observes a scarcity of human presence. It is expected that any owls present within the project area would relocate to adjacent, suitable undisturbed habitat. Although up to 160 acres could ultimately be mined, the Proposed Action outlines an approach of constraining mining activity to a maximum of five acres area at any given time, and that reclamation of native habitats would happen as mining activity moves throughout the project area. Further, the timeframe for project implementation is projected to be 8 – 10 years, allowing for the recovery of habitat within reclaimed acres while mining activity is ongoing. An additional field survey to detect potential burrowing owls could be conducted at the discretion of the BLM/FFO immediately prior to implementation of the Proposed Action. Any impacts sustained to burrowing owl habitat within the project area as a consequence of the Proposed Action would be negligible comparative to the expansive suitable habitat within the greater vicinity. Therefore, given the above information, implementation of the Proposed Action may impact individuals, but would not impact regional habitat or Western burrowing owls population trends.

Mountain Plover

Mountain plovers inhabit grasslands, scrublands, and grassland/Pinyon-Juniper mosaic habitat types (Graul, 1975). Plovers are carnivores preferring insects and other arthropods and forage primarily in grassland habitat types. Plovers are closely associated with grazing animals including bison and prairie dogs, and likely benefit from the disturbance of the substrate and exposure of dirt they affect (Finch 1992). Nesting usually occurs on disturbed surfaces and is often located near an object of prominence (Graul, 1975). Breeding happens primarily in short-grass prairie habitat types during late spring – early summer (Finch 1992). Plovers occur in New Mexico from early March, where they return for breeding and rearing of fledglings, to October, when they migrate south to winter (Sager 1996). Plovers are known to inhabit heavily disturbed areas including agricultural fields and active rangeland, although historic conversion of shortgrass prairie and rangelands to agricultural/mineral development uses is thought to have affected overall population declines for the mountain plover (Finch, 1992).

Analysis of Effects

A species-specific survey for plovers was carried out the morning of April 29, 2021. Suitable plover habitat occurs in the north central portion of the project area and spans across approximately 20 acres. The survey consisted of driving transects within this area while carefully scanning the ground for avian activity. Numerous horned larks (*Eremophila alpestris*) were observed however no plovers were detected. However, it is possible plovers could occupy the 20-acre parcel prior to earth moving activities. Individuals nesting in the area could be impacted by mining activity associated with the Proposed Action. Nesting habitat could be eliminated through the disturbance of surface and substrate by heavy machinery. Furthermore, potential foraging habitat within the project area would be impacted by the disturbance of soils and substrate. Mining activity could cause the temporary dislocation or loss of insects and arthropod communities upon which the mountain plover relies for forage. The project area represents a small fraction of the available habitat within the greater vicinity, which is relatively intact with minimal human presence. It is expected that any plover present within the project area would relocate to adjacent, suitable, and undisturbed habitat. Although up to 20 acres of suitable habitat could be impacted, the Proposed Action outlines an approach of constraining mining activity to a maximum of five acres area at any given time, and that reclamation of native habitats would happen as mining activity moves throughout the project area. The timeframe for project implementation is projected to be 8 – 10 years, allowing for the recovery of habitat within reclaimed acres while mining activity is ongoing. An additional field survey for evidence of mountain plover presence within the project area could be conducted at the discretion of the BLM/FFO immediately prior to implementation of the Proposed Action. Any impacts sustained to mountain plover habitat within the project area as a consequence of the Proposed Action would be discountable comparative to the expansive suitable habitat within the greater vicinity. Implementation of the Proposed Action may impact individuals, but would not impact regional habitat or Mountain plover population trends.

VII. Determination Summary

The Proposed Action will have the following effects/impacts:

- The Proposed Action will have no effect on the following federally listed species: southwestern willow flycatcher, Mexican spotted owl, western yellow-billed cuckoo, Zuni bluehead sucker and Zuni fleabane for the following reasons: 1) the project area does not contain the necessary habitat or prey base; or 2) the analyzed species do not occur within the project area.
- The Proposed Action will have no impact on the following BLM/FFO listed sensitive species: Bendire's thrasher, Bracks hardwall cactus, Parish's alkaligrass, and Aztec gilia for the following reasons: 1) the project area does not contain the necessary habitat or prey base; or 2) the analyzed species do not occur in the project area.
- The Proposed Action may impact individuals, but is not likely to impact habitat or population trends of the following four BLM Sensitive species: Gunnison's prairie dog, Western burrowing owl and the mountain plover for the following reasons: 1) nesting/forage habitat could be impacted by the Proposed Action, however given the small scale of the project, coupled with the availability of adjacent, suitable and expansive habitat, this impact is not measurable, 2) no BLM Sensitive species were observed during the biological survey, 3) at the discretion of the BLM/FFO, species specific surveys could be carried out immediately prior to construction activities to mitigate any impacts to the species, and 4) any displaced species would be expected to return to the area once mining activities have ceased and reclamation activities have been completed.

VIII. Summary and Conclusions

Mining activities in the proposed expansion area could impact up to 160 acres of vegetation, however, no more than five acres of disturbance at a time would occur, and continuous reclamation would occur as mining areas shift within that five acres. This impact is considered insignificant given that most of the expansion area has already been significantly degraded due to the effects of previous land use activities including intensive grazing. No tree removal would occur given the lack of any trees in the project area. A new service road would be constructed to access the expansion area, however vehicular traffic would be confined to the active mining corridor. Following closure of the mined areas, reclamation would occur through revegetation and recontouring of impacted surfaces.

The Proposed Action will have temporary effects on wildlife. During mining activities, larger mammals and birds may choose to leave and/or avoid the area, while individual small mammals and reptiles may be displaced. These impacts are considered discountable given the degraded condition of the project area (impacts from intensive grazing of cattle), and the availability of extensive habitat of the same type within the greater vicinity. Any wildlife that does utilize the project area would be expected to shift their patterns to

adjacent, undisturbed and suitable habitat. No bird nests were found during the biological survey.

No wetlands or waterways were found within the project area.

Ultimately, no federally listed species were determined to have the potential for occurring at or near the project area. Of the seven BLM/FFO listed sensitive species analyzed, four were determined to have no potential for occurring within or near the project area. Of the three BLM/FFO listed sensitive species determined to have the potential of occurring within the project area, impacts to these species are considered unlikely. Should impacts occur to the associated habitat of these species, they would be considered of negligible scope given the widespread availability of suitable habitat adjacent to the project area and the eventual reclamation of impacted surfaces. None of these species were observed at the project site during the biological survey. A no effect determination was made for all federally threatened or endangered species due to lack of critical habitat, general habitat, or occurrence in the project area. A no impact determination was made for four BLM sensitive species in the project area due to the lack of general habitat or occurrence in the project area. A determination of may impact individuals, but is not likely to impact habitat or population trends was made for the following BLM Sensitive species: Gunnison's prairie dog, Western burrowing owl, and mountain plover.

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Appendices

Appendix A: Photographs

Photo 1. Looking west in northern project area.



Photo 2: Looking east within northern project area.



Photo 3. Central project area, facing south.



Photo 4. Central project area facing west.



Photo 5. Southern project area, facing south.



Photo 6. Southern project area, facing north.



Appendix B: USFWS IPaC Species Consultation List



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 Osuna Road Ne
Albuquerque, NM 87113-1001
Phone: (505) 346-2525 Fax: (505) 346-2542
<http://www.fws.gov/southwest/es/NewMexico/>
http://www.fws.gov/southwest/es/ES_Lists_Main2.html

In Reply Refer To:

May 04, 2021

Consultation Code: 02ENNM00-2021-SLI-0926

Event Code: 02ENNM00-2021-E-02199

Project Name: Black Spring Humate Mine Expansion

Subject: List of threatened and endangered species that may occur in your proposed project location 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/angered/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(s):

- Official Species List
 - Migratory Birds
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New Mexico Ecological Services Field Office

2105 Osuna Road Ne

Albuquerque, NM 87113-1001

(505) 346-2525

Project Summary

Consultation Code: 02ENNM00-2021-SLI-0926

Event Code: 02ENNM00-2021-E-02199

Project Name: Black Spring Humate Mine Expansion

Project Type: MINING

Project Description: Menefee Mining Corporation (MMC) proposes to expand mining operations at the existing Black Spring Humate Mine. The mine is currently operating and permitted within the south half of the southwest quarter of Section 4, Township 19 N North, Range 5 West, New Mexico Principal Meridian (NMPM) in McKinley County, New Mexico (Figure 1). MMC proposes to permit 160 acres (ac) of additional land for mining activities within the south half of the southeast quarter of Section 4, and the north half of the northwest quarter of Section 9, Township 19 N North, Range 5 West, NMPM (Figures 2 & 3). MMC intends to apply for the permit with the New Mexico Mining and Minerals Division at the conclusion of environmental and cultural due diligence.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@35.89939205,-107.366324725,14z>



Counties: McKinley County, New Mexico

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this 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.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Mexican Spotted Owl <i>Strix occidentalis lucida</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8196	Threatened
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS
Zuni Bluehead Sucker <i>Catostomus discobolus yarrowi</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3536	Endangered

Flowering Plants

NAME	STATUS
Zuni Fleabane <i>Erigeron rhizomatus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5700	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

THERE ARE NO FWS MIGRATORY BIRDS OF CONCERN WITHIN THE VICINITY OF YOUR PROJECT AREA.

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical](#)

[Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.
