RECEIVED
JAN 05 2016
MINING & MINERALS DIVISION

REV.DATE: 5/18/09

FOR MMD USE ONLY:

PROJECT NAME: FRUITLAND MINE

PERMIT #: MK052MN

DATE RECEIVED: _____

DATE APPROVED: _____

LEAD INSPECTOR: _____

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

SUBPART 3
MINIMAL IMPACT NEW MINING OPERATIONS
PERMIT APPLICATION

The following information is required under the New Mexico Mining Act (Sections 69-36-1 through 69-36-20, NMSA 1978) and associated rules. The Mining and Minerals Division of the Energy, Minerals and Natural Resources Department is the administrative agency through which this application is to be processed. See §304, Minimal Impact New Mining Operations, of the New Mexico Mining Act Rules for all regulations associated with Minimal Impact Mining operations.

Permit Application Requirements: (§304.A-C and §601)

- A minimal impact new mining operation will not be considered a minimal impact mining operation if it exceeds **10 acres of disturbed land,** except that pre-existing roads and reclaimed areas within the permit area will not be counted. Reclaimed, for this purpose means all financial assurance has been released, except the amount held to reestablish vegetation pursuant to §1204.
- Permit applications shall be submitted in ample time to have the permit issued before mining operations begin, and operations shall not begin until after the permit is issued.
- Six copies of the completed application need to be submitted.
- Confidential information needs to be **clearly** indicated and submitted separately.

- Check the "YES" or "NO" box for each of the following characteristics as related to the proposed minimal impact mining operation:

YES	NO	
☐	X	Located in or having a direct surface impact on wetlands, springs, perennial or intermittent streams, lakes, rivers, reservoirs or riparian areas.
☐	X	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.
☐	X	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.
☐	X	Located in a known cemetery or other burial ground.
☐	X	Located in an area with cultural resources listed on either the National Register of Historic Places or the State Register of Cultural Properties.
☐	X	Having or 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.
☐	X	Expected to use or using cyanide, mercury amalgam, heap leaching or dump leaching in its operations.
☐	X	Expected to result in point or non-point source surface or subsurface releases of acid or other toxic substances from the permit area.
☐	X	Requiring a variance from any part of these Rules as part of the permit application.

IMPORTANT NOTES!

- If you have checked "YES" to any of the above boxes, the mining operation does not qualify as a minimal impact mining operation. Do not continue to fill out the remainder of this form.
- If you do meet the above requirements and have checked "NO" to **all** of the above boxes, continue filling out this application.
- Obtaining a Mining Act permit does not necessarily satisfy the obligation to obtain permits required by other governmental entities.
- PLEASE FILL IN ALL APPLICABLE INFORMATION AS COMPLETELY AS POSSIBLE.
- PLEASE PRINT OR TYPE ALL INFORMATION.

1. OPERATOR INFORMATION (§304.D.1)

LIST PROJECT NAME: Fruitland Mine

NAME OF APPLICANT: Miocene, LLC

ADDRESS: **Miocene LLC,**
100 Fillmore Street, Suite 500
Denver, CO 80206

PHONE #: **303-319-9430**

NAME OF OWNER (if different from applicant's name and address)**:**

ADDRESS:

PHONE #:

NAME OF ON-SITE CONTACT OR OPERATOR'S REPRESENTATIVE:

Kristopher Lindgren

ADDRESS: **100 Fillmore Street, Suite 500**
Denver, CO 80206

PHONE #: **505-205-4208**

2. RIGHT TO ENTER INFORMATION (§304.D.1)

A. Describe or provide evidence for the basis of the applicant's right to enter the property to conduct the mining and reclamation:

confidential

A lease agreement between Miocene, LLC and Peabody Energy as well as Gallo Finance has been executed which grants access to the site. Documentation concerning access has previously been recorded with EMNRD MMD.

B. List the names and addresses of surface and mineral ownership within the proposed permit area:

1. **Surface Owner(s):**

Name	Address	Phone #

2. **Mineral Owner(s):**

Name	Address	Phone #

C. List the author(s), title(s), date(s) and report number(s) of any cultural resource survey report(s) submitted to the agency(ies) or landowner(s) listed above:

None known

3. MAPS (§304.D.2)

A. Provide a legal description of the site [Township(s), Range(s) and Section(s)]:

The proposed permit area is located within Section 13, Section 14, Section 23, and Section 24 of Township 20N, Range 7W. Please refer to the attached map for visualization purposes.

B. Provide a topographic map(s) of at least 1 inch = 2,000 feet (or appropriate for the size of disturbance) showing the areas of land to be disturbed by the proposed mining and reclamation. Identify general area shown on the map(s) by Township, Range and Section(s). If the area to be mined contains the following features, show them on the map(s):

1. **Boundary of the proposed permit area** with the existing and proposed area of disturbance
2. Previously disturbed areas
3. Perennial, intermittent and ephemeral streams; springs; wetlands; riparian areas; lakes and reservoirs
4. Proposed and existing roads and other access routes
5. Residences
6. Support facilities
7. Cemeteries, burial grounds; cultural resources listed or eligible for listing on either the National Register of Historic Places or the State Register of Cultural Properties
8. Pipelines
9. Oil, gas, water and monitoring wells on and within two miles of the permit area
10. Identify the location of shafts, adits, trenches, ponds, pits, quarries, stockpiles, waste dumps, etc.

4. ENVIRONMENTAL PERMITS HELD FOR OTHER OPERATIONS (§304.D.3)

Provide a list of other environmental permits held for other mining operations within the United States and any violations issued for non-compliance with those permits.

NAMES OR TYPES OF ENVIRONMENTAL PERMITS:

LIST PERMIT VIOLATIONS; NUMBER, TYPE AND ISSUING AGENCY:

None

5. MINING DESCRIPTION (§304.D.4)

A. Type of mineral or minerals to be mined: Humate

B. Check the method of proposed mining: __X__ Surface **or** _____ Underground

C. Describe the sizes and volumes of the facilities to be used:

Plant Site/Staging Area: 0

How Many __0__ Acreage _____

Pits or Quarries: How Many__1__ Acreage__1__ Volume (cu.yds.) _____
Stockpiles: How Many__1__ Acreage__0.49__ Volume (cu.yds.) _____
Waste Dumps: How Many____ Acreage_____ Volume (cu.yds.) _____

List the following for **New Road(s):**

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

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

List the following for extension or widening of **Existing Road(s):** 0.5 acres

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

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

Other Disturbances: Type

How Many _____ Acreage _____ Volume (cu.yds.) _____

TOTAL ACREAGE TO BE DISTURBED: __1.99__ Acres

D. Describe the type of processing that will be conducted on site:

No processing will occur on-site.

E. Describe the typical equipment to be used for the mining operations:

A track hoe, front-end loader, and scraper will be utilized for excavation and mining; road grader for road maintenance, scraper and bulldozer for earth moving; scraper and farm tractor for reclamation.

6. CHEMICAL USE (§304.D.4)

A. List all chemicals proposed to be used by the mining operation.

Name:	**Use:**
Diesel Fuel and Gasoline	Equipment Fuel

7. GROUND WATER INFORMATION (§304.D.5)

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

Depth to ground water (ft.) 255-1200 T.D.S. concentration unknown

B. Describe the source of groundwater information:

Peabody Energy (1200 ft) and New Mexico Office of the State Engineer (255 ft) records are indicated above. During exploration activities associated with the Fruitland Exploration Permit, groundwater was not encountered in any of the boreholes that were

used to characterize subsurface conditions/material to a depth of 20 feet.

C. Describe any dewatering activities to be conducted during mining operations:

Miocene does not intend to utilize dewatering techniques for the purpose of this operation. Groundwater is not expected to be encountered. Ponded water will be allowed to evaporate

8. PERFORMANCE STANDARDS (§304.D.7)

A. Provide a general description of how the mining and reclamation will be designed and operated using the most appropriate technology and best management practices:

For each area mined, an equal area will be reclaimed. Mining will occur in phases. Prior to active mining, topsoil and overburden will be excavated and stockpiled for future use in reclamation to ensure proper post-mining vegetative success. Mining will then proceed in a sequence in which small pits (approximately 100x100 feet) are excavated using the above mentioned equipment. Material will be stockpiled on-site and trucked using the access roads noted. Following extraction, overburden and topsoil will be used as backfill material. Surface topography will be recontoured so as to reflect the pre-mining landscape as accurately as possible. Reclamation earthwork will focus on stabilization of surface materials to prevent erosion from mobilizing sediment. Furrowing or plowing techniques will be utilized before the application of an appropriate seeding mix to ensure both hand-broadcast and naturally transported seed is captured within the reclamation area.

B. Provide a general description of how the mining and reclamation will be designed and operated to assure protection of human health and safety, the environment, wildlife, and domestic animals:

Immediate reclamation and mining goals include prevention of hazards to public health and safety and minimization of environmental damage to surrounding land impacted by mining activities. Operations will conform to the required safety regulations set forth by MSHA and company standards required of all Miocene employees. Equipment operators will be well versed in safety procedures necessary to properly operate heavy equipment. Environmental safety will be ensured through the use of BMP's meant to reduce environmental impact. The operation will proceed in a manner in which wildlife will remain as undisturbed as possible. Domestic animals, such as livestock, will be prevented from accessing the site through the use of fencing or earthen berms. Long-term reclamation goals include protection of water resources, surface soil stabilization, revegetation, and an eventual return of the lease to a climax, ecological community.

C. Provide a general description of how the mining and reclamation will be designed and operated to safeguard the public from unauthorized entry into shafts, adits and tunnels and to prevent falls from highwalls or pit edges:

Fencing will be posted with "No Trespass" signs at strategic locations. A mine access gate will be locked when the operation is inactive. All operational areas will be clearly marked so as to ensure the public is aware of any safety hazards. Berms will be constructed so as to prevent access to highwalls or pit edges. Miocene does not intend to sink shafts, adits, or construct tunnels. Finished slopes will be designed so not to exceed 3H:1V.

D. Provide a general description of how the mining and reclamation will be designed and operated so the disturbed area will not contribute suspended solids above background levels, or where applicable the Water Quality Control Commission's standards, to intermittent and perennial streams:

Mining and reclamation efforts will meet water quality controls by:

- *Using proper soil management practices, including clearing and grubbing, removal of topsoil and overburden, stockpiling, backfilling, and reapplication of topsoil to reestablish the soil profile and surface conditions conducive for development of a climax, ecological community.*
- *Establishing stable soil surface and drainage conditions which would minimize surface erosion.*
- *Revegetation of disturbed areas using plant species compatible with soil physiology to establish long-term, productive plant communities compatible with existing land use and minimizing noxious and invasive species.*
- *Reestablishing topography compatible with the surrounding landscape.*
- *Monitoring during the operational phases to assess reclamation goals.*
- *Minimizing temporary construction impacts along the access and haul route by limiting the road width to avoid impacts to the environment, where practical and safe.*
- *Roads within the area will provide future access to permitted MIMs while minimizing impacts to previously mined and reclaimed areas. Access roads within the area will be planned to capture future mining areas within the Section with minimal relocation or realignment. Reclamation of mined areas and access roads will be implemented at the end of each MIM operation.*
- *All effort will be applied to minimize slope gradients and to apply mulch from the existing stockpile to mitigate erosion. Final slopes of all reclaimed areas will not exceed 3H:1V.*

Earthen impoundments may be utilized to control surface water flow and to facilitate

revegetation. These man-made water traps may be installed to provide erosion control and moisture retention to support vegetative growth. Impoundments consist of a low profile (e.g., one-foot high) earthen berm with an upslope swale, gently angled downslope to divert surface runoff to a stable infiltration or retention point. These water traps also capture and retain wind-blown seed.

E. Provide a general description of how the mining and reclamation will be designed and operated to control erosion:

Please refer to "Section D" above.

9. RECLAMATION PLAN (§304.D.8)

The operation will be operated and reclaimed to a self-sustaining ecosystem appropriate for the life zone of the surrounding areas following closure unless conflicting with the approved post-mining land use.

A. List adjacent land use other than mining (i.e. grazing): Grazing, ranching

B. List the proposed post mining land use (i.e. wildlife): Grazing, ranching, wildlife

C. Describe how reclamation activities will avoid adverse impact to cultural resources:

EMNRD and Miocene will consult with State Historic Preservation Division for previously identified Cultural Resources on the site. If any previously unidentified potential cultural resources are identified during reclamation or mining activities, Miocene will immediately contact the appropriate authorities and avoid operation near the area in question. Any and all archeological, paleontological, or cultural artifacts discovered during operations will result in cessation of mining and EMNRD will be notified immediately. Reclamation activities will avoid the disturbance of land within the permit area bounds beyond that which has been impacted by mining activities. Use of overburden and topsoil stockpiled during the initial excavation of material will be utilized as backfill for reclamation activities. The utilization of additional material as fill from outside the mining area is not anticipated.

D. Describe any backfilling and grading operations to be performed after mining:

Reclamation will consist of backfilling and recontouring of all mined, staging, and stockpile areas. Overburden from the stockpile will be returned to the excavation and the excavation returned to local grade as much as practicable. Topsoil from the stockpile will be applied evenly to the surface and contoured to emulate the surrounding terrain as much as practicable. Slopes will not exceed 3H:1V.

Reclamation will be conducted on a "rolling" basis i.e., directly following mining activity as mined material is exhausted. Rolling reclamation will be conducted on all previously mined acreage such that the mining design limit is not exceeded, inclusive of access roads, staging, and stockpiling areas at any given time.

Mulch, topsoil, and overburden, will be stored in separate, temporary stockpiles until which time the material is used for reclamation. After reclamation, finished slope gradients will be not exceed 3H:1V. All effort will be applied to minimize slope gradients and to apply mulch from the existing stockpile to mitigate erosion. Overburden and topsoil from stockpiles will be applied evenly to the surface and contoured to match the surrounding landscape as much as practicable.

Periodic monitoring of reclaimed areas for vegetative success will begin upon completion of the reclamation effort and include each successively mined area as each area is reclaimed.

All disturbed areas will be scarified using the furrow technique and sloped to be consistent with the regional landscape. The furrows allows for capture and preservation of moisture and naturally wind-transported seed from existing shrubs and grasses by prevailing west-southwest winds.

Reclamation will be done year round. The optimum time for seeding is just prior to the monsoon season and late winter months.

E. Describe what mitigation steps will be taken to reconstruct or protect the hydrologic balance of the site after mining:

Reclamation design efforts will be applied to minimize slope.

Earthen berms and/or silt fences for prevention of sediment and water run-on/runoff will be constructed and maintained. These engineering controls will be used to control and maintain proper drainage in and around the disturbed areas during mining operations.

F. Describe how topsoil or topdressing will be salvaged, stockpiled and distributed for the re-establishment of vegetation:

Mulch, topsoil, and overburden, will be stored in separate, temporary stockpiles until which time the material is used for reclamation. After reclamation, finished slope gradients will be not exceed 3H:1V. All effort will be applied to minimize slope gradients and to apply mulch from the existing stockpile to mitigate erosion. Overburden and topsoil from stockpiles will be applied evenly to the surface and contoured to match the surrounding landscape as much as practicable. The surface will be broadcast seeded and mulched using a seed mix specified by the EMNRD.

G. Describe what kind of seed bed preparation will take place prior to seeding. What soil amendments will be added? Scarification of the seed bed needs to take place. Will this involve discing or ripping?

All disturbed areas will be scarified using the furrow technique and sloped to be consistent with the regional landscape. The furrow technique consists of using a tractor and plow to create deep depressions or "furrows" in the topsoil perpendicular to slope. The furrows allows for capture and preservation of moisture and naturally wind-transported seed from existing shrubs and grasses by prevailing west-southwest winds. Scarification is a key element of high-altitude revegetation.

Overburden from the stockpile will be returned to the excavation and the excavation returned to local grade as much as practicable. Topsoil from the stockpile will be applied evenly to the surface and contoured to emulate the surrounding terrain as much as practicable utilizing a minimum slope of 3H:1V. The surface will be broadcast seeded and mulched using the standard seed mix provided by EMNRD.

H. Describe in detail the plant species to be used in the re-establishment of vegetation:

Plant Name:	**Rate of application (lb/ac)**
Blue Grama	7
Western Wheatgrass	5
Sand Dropseed	4
Indian Ricegrass	4
Scarlett Globemallow	2

Fourwing Saltbrush	2

I. Will the seeds be broadcast or drilled into the seed bed?

Seed will be broadcast by hand or by hand-operated seeding equipment.

J. Describe the type of mulch material to be applied after seeding and its application rate:

Mulch will consist of vegetative material cleared and grubbed from the area and stockpiled for reclamation.

K. What structures will be on the site and how will they be removed or reclaimed? (Buildings, portals, adits, shafts, bore holes, ponds, etc.):

A chain link fence bullpen will be erected to place all heavy equipment overnight for security purposes. A trailer and portable toilet will be placed on-site within the bullpen area for use by heavy equipment operators. These pieces of equipment will be removed from the site once operations cease.

L. What roads are part of the mine site and how will they be reclaimed? Please provide an estimate of road square footage and explain if reclamation will involve ripping, scarification, backfilling, recontouring, and retopsoiling, etc.:

All constructed access roads will be reclaimed by means of scarification, mulching, and seeding. Existing roads within the permit area will be left in their current condition following reclamation for use by any potential farmer/rancher in the future.

M. What will be the time frame for reclamation, (e.g. time of year, during mining, after mining, etc)?

Reclamation will be conducted on a "rolling" basis i.e., directly following mining activity as mined material is exhausted. All mining equipment and materials will be removed upon completion of mining activities and closure of the area.

Reclamation will be done year round. The optimum time for seeding is just prior to the monsoon season and late winter months

Proposed reclamation dates: Begin:____/____/____ End:____/____/

10. OTHER REQUIRED PERMITS FOR THIS OPERATION (§304.D.9)

A. Provide a list of other permits required for the operation and the anticipated schedule for receipt of these.

Permit Name & Issuing Agency	Date or anticipated date of receipt
SWPPP	Prior to operations

11. FINANCIAL ASSURANCE AND PERMIT FEES (§304.E & F)

A. Provide a financial assurance estimate based on the cost of reclaiming the site by a third party. Include supporting calculations. Operations with less than 2 acres total disturbance are not required to provide financial assurance.

Proposed mine design limit is currently 1.99 acres.

B. Attach the permit fees as determined pursuant to Subpart 2. The permit application fee for a minimal impact new mine is $1,000.00.

Please see attached.

12. CERTIFICATION REQUIREMENT (§304.J.5)

Each application shall be signed **and notarized** by an applicant for the operation with the following certification made:

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 requirements of the permit, these Rules, and the Act. Further, I hereby allow the Director to enter the permit area for the purpose of conducting inspections until release of financial assurance.

Signature of Applicant: K- [signature]

Name (typed or print): Kristopher Lindgren

Title/Position: Exploration & Permitting Specialist

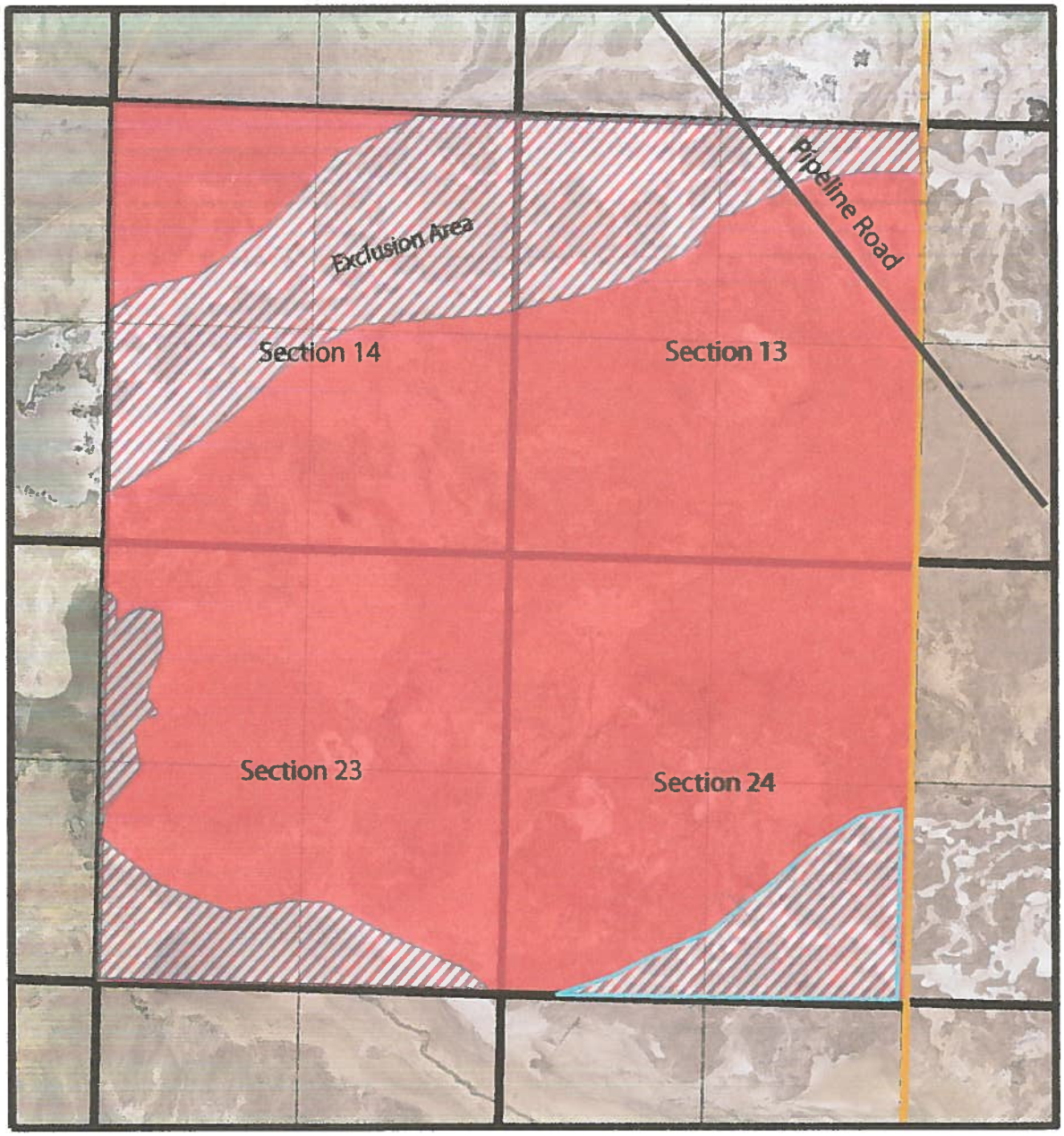
Date: 1/5/17

Signature of Notary: [signature]

OFFICIAL SEAL
LaRue Tsoodle
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: 11/22/2020

└── Notary Seal ──┘

Fruitland Mine
Permit Boundary

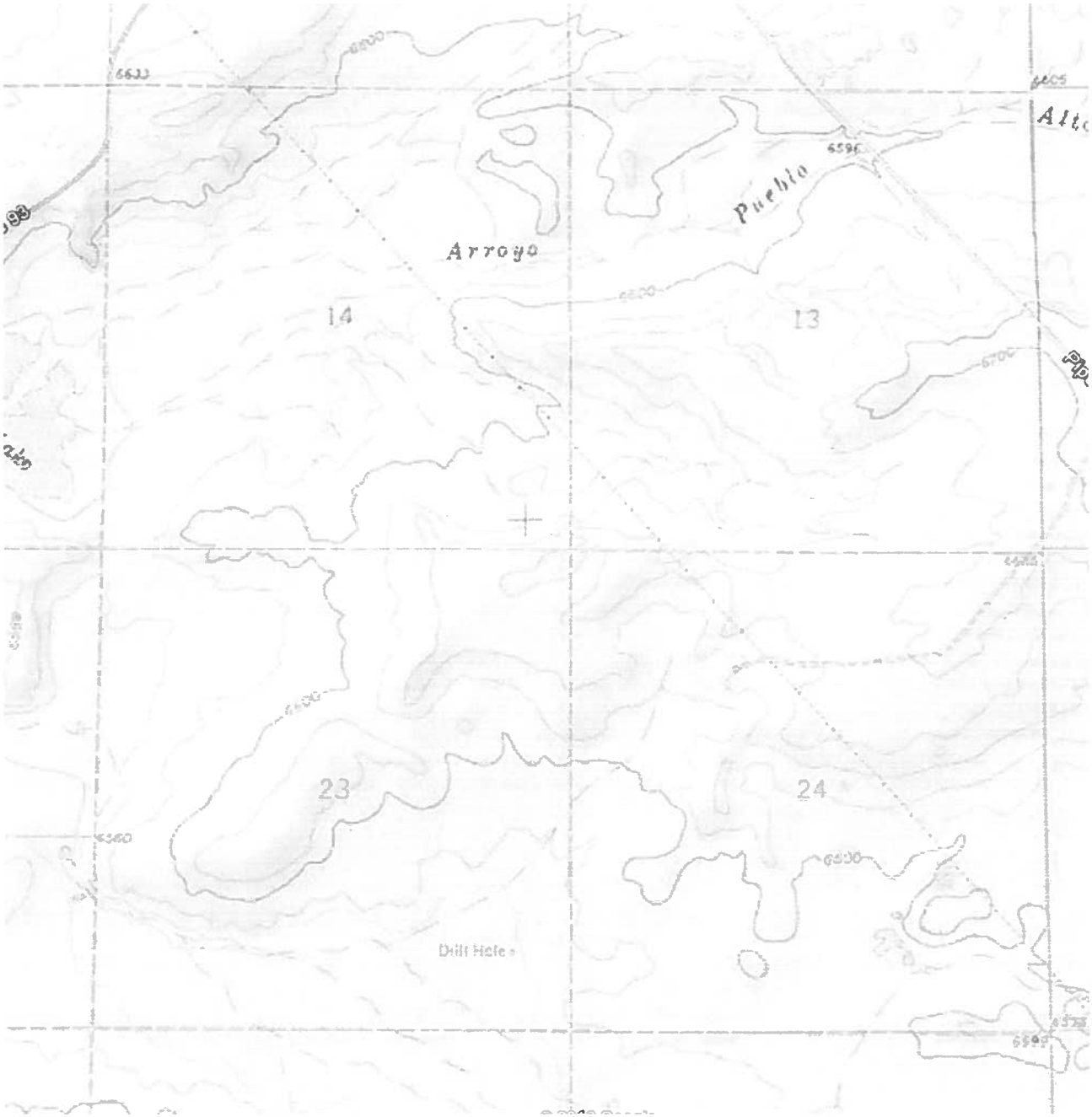


0 2,800 5,600 11,200 Feet

1:22,500

Fruitland Mine

Topographic Map



1:24,000

Source: USGS

Fruitland Mine

Aerial Imagery