

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
July 21, 2008

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office.
For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

6013

Pit, Closed-Loop System, Below-Grade Tank, or
Proposed Alternative Method Permit or Closure Plan Application

Type of action: ☐ Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method
☐ Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method
☒ Modification to an existing permit
☐ Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.
Operator: Elk San Juan LLC OGRID #: 234144
Address: 1401 17th Street, Suite 700, Denver, CO 80202
Facility or well name: Ute Mountain Tribal # 30-23
API Number: 30-045-34992 OCD Permit Number: _____
U/L or Qtr/Qtr G Section 30 Township 31N Range 14W County: San Juan
Center of Proposed Design: Latitude 36.87390°N Longitude 108.34835°W NAD: ☐ 1927 X 1983
Surface Owner: ☐ Federal ☐ State ☐ Private ☒ Tribal Trust or Indian Allotment

2.
X Pit: Subsection F or G of 19.15.17.11 NMAC
Temporary: ☒ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☒ Cavitation ☐ P&A
☒ Lined ☐ Unlined Liner type: Thickness 20 mil ☒ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☒ String-Reinforced
Liner Seams: ☒ Welded ☒ Factory ☐ Other _____ Volume: 8193 bbl Dimensions: L 90' x W 80' x D 10'

3.
☐ **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
Type of Operation: ☐ P&A ☐ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other _____
☐ Lined ☐ Unlined Liner type: Thickness _____ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____

4.
☐ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: _____ bbl Type of fluid: _____
Tank Construction material: _____
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other _____
Liner type: Thickness _____ mil ☐ HDPE ☐ PVC ☐ Other _____

5.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.



6.

Fencing: Subsection D of 19.15.17.11 NMAC (*Applies to permanent pits, temporary pits, and below-grade tanks*)

☐ Chain link, six feet in height, two strands of barbed wire at top (*Required if located within 1000 feet of a permanent residence, school, hospital, institution or church*)

☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet

X Alternate. Please specify Four foot high field fence hung on steel tee posts set every ten feet with corners braced

7.

Netting: Subsection E of 19.15.17.11 NMAC (*Applies to permanent pits and permanent open top tanks*)

☐ Screen ☐ Netting ☐ Other _____

☐ Monthly inspections (If netting or screening is not physically feasible)

8.

Signs: Subsection C of 19.15.17.11 NMAC

☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

X Signed in compliance with 19.15.3.103 NMAC

9.

Administrative Approvals and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

☐ Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau office for consideration of approval.

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

10.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank.

- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes X No

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes X No

Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (*Applies to temporary, emergency, or cavitation pits and below-grade tanks*)

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes X No
☐ NA

Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (*Applies to permanent pits*)

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes X No
☐ NA

Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes X No

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.

- Written confirmation or verification from the municipality; Written approval obtained from the municipality

☐ Yes X No

Within 500 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes X No

Within the area overlying a subsurface mine.

- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

☐ Yes X No

Within an unstable area.

- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

☐ Yes X No

Within a 100-year floodplain.

- FEMA map

☐ Yes X No

11.

Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☒ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
- ☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☒ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☒ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☒ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

12.

Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
- ☐ Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____

☐ Previously Approved Operating and Maintenance Plan API Number: _____ (Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

13.

Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H₂S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

14.

Proposed Closure: 19.15.17.13 NMAC**Instructions:** Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: ☒ Drilling ☐ Workover ☐ Emergency ☒ Cavitation ☐ P&A ☐ Permanent Pit ☐ Below-grade Tank ☐ Closed-loop System

☐ Alternative

Proposed Closure Method: ☐ Waste Excavation and Removal

☐ Waste Removal (Closed-loop systems only)

☒ On-site Closure Method (Only for temporary pits and closed-loop systems)

☒ In-place Burial ☐ On-site Trench Burial

☐ Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15.

Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

16.

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC)

Instructions: Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please provide the information below) ☐ No

Required for impacted areas which will not be used for future service and operations:

☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC

☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

17.

Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC

Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 50 feet below the bottom of the buried waste.

- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes X No

☐ NA

Ground water is between 50 and 100 feet below the bottom of the buried waste

- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes X No

☐ NA

Ground water is more than 100 feet below the bottom of the buried waste.

- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

X Yes No

☐ NA

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes X No

Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes X No

Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.

- NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site

☐ Yes X No

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.

- Written confirmation or verification from the municipality; Written approval obtained from the municipality

☐ Yes X No

Within 500 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes X No

Within the area overlying a subsurface mine.

- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

☐ Yes X No

Within an unstable area.

- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

☐ Yes X No

Within a 100-year floodplain.

- FEMA map

☐ Yes X No

18.

On-Site Closure Plan Checklist: (19.15.17.13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

X Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

X Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC

☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC

☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC

X Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

X Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

X Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)

X Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

X Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC

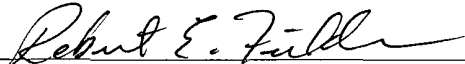
X Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19.

Operator Application Certification:

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

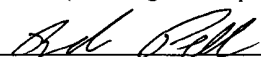
Name (Print): Robert E. Fielder Title: Agent

Signature:  Date: April 22, 2010

e-mail address: pmci@advantas.net Telephone: 505.320.1435

20.

OCD Approval: ☒ Permit Application (including closure plan) ☐ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature:  Approval Date: 4/26/10

Title: Enjiro Lopez OCD Permit Number: _____

21.

Closure Report (required within 60 days of closure completion): Subsection K of 19.15.17.13 NMAC

Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ Closure Completion Date: _____

22.

Closure Method:

☐ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)
☐ If different from approved plan, please explain.

23.

Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:

Instructions: Please identify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

Required for impacted areas which will not be used for future service and operations:

- ☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

24.

Closure Report Attachment Checklist: Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Proof of Closure Notice (surface owner and division)
☐ Proof of Deed Notice (required for on-site closure)
☐ Plot Plan (for on-site closures and temporary pits)
☐ Confirmation Sampling Analytical Results (if applicable)
☐ Waste Material Sampling Analytical Results (required for on-site closure)
☐ Disposal Facility Name and Permit Number
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique
☐ Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude _____ Longitude _____ NAD: ☐ 1927 ☐ 1983

25.

Operator Closure Certification:

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

Temporary Pit / Blow Pit

Operating and Maintenance Procedures

Elk San Juan LLC (ESJ)

Ute Mountain Tribal 30 No. 23

I. Design and Construction Specifications

- a. Prior to construction of the pit, zero to three inches of topsoil will be stripped from the location area and stockpiled as a berm above the cut slope around the perimeter of the location with cut slopes for future reclamation during interim reclamation. The remaining topsoil removed will be stockpiled in the fill slopes on the southeast edge of the pad by the pit for use during interim reclamation of the temporary and blow pit.
- b. In lieu of a pit sign, ESJ will install and maintain a sign on the wellsite in accordance with the provisions of Rule 103.
- c. Upon completion of construction and liner installation, three sides of the reserve and blow pit will be fenced with a four foot hogwire fence installed on steel tee posts since this location is over 1000 feet from the nearest residential building. The fourth side of the pits will be fenced as soon as the drilling rig is moved off location. This fence will be maintained to insure no access by livestock or wildlife as long as there is fluid in the pit.
- d. The temporary pit and blow pit will be constructed to the size shown on the attached Wellsite layout(s). Approximate volume of the temporary pit is 1.06 ac-ft. It is anticipated the top four inches to one foot will be very fine sandy loam to sandy loam material associated with the Chimrock and Fruitland soil group. The next five to six feet will be fine sandy loam to loam associated with these same formations however there exists the possibility of some sandstone benches in this interval. The bottom three feet is unknown since it is not described in the soil surveys but it is likely it will be sandy loam with possible sandstones benches of the Fruitland. The pit walls will be constructed on 2:1 slopes on all sides. Any benches of rock encountered will be scraped to a depth to allow cover by soil material if possible. The slopes will be walked down by the tractor to insure a smooth bottom for liner installation. Approximate volume of the blow pit is 0.09 ac-ft. It is anticipated the soils encountered will be the top two feet of the same soils described for the temporary pit above. The blow pit will be constructed as a trench with near vertical walls and a grade from the outer end into the temporary pit to facilitate drainage of fluids into the temporary pit. The blow pit will be unlined except for the portion adjacent to the temporary pit where the apron of the temporary pit liner will run across the throat of the blow pit. No fluids will be stored in the blow pit. The soils removed during construction of the temporary and blow pit will be stockpiled as a berm around the blow pit. No run on preventative measures will be installed around the pits since they will be installed on the location perimeter.
- e. The temporary pit will be lined with one section of 20 mil string reinforced LLDPE liner material with factory welded seams. We anticipate this pit will be covered with one pre-

cut section. The factory welded seam will be aligned running from the rig side to the outside wall. The liner will be installed in the anchor trench on one end and then pulled into the pit. In the event a smooth bottom or wall slope cannot be attained on construction this liner will be underlain with a geotextile liner. The edges of the liner on the level part of the pad will be anchored in a ditch around the perimeter at least eighteen inches deep and filled with dirt.

II. Operational Plan

- a. ESJ will operate and maintain the pits to contain the liquids and solids associated with the drilling phase of this operation, prevent contamination of the fresh water supply and protect the public health and the environment.
- b. ESJ will not dispose of or store any hazardous material in these pits. The blow pit bottom will be sloped so that any well fluid produced from air drilling will flow back into the temporary pit. All workover and completion fluids associated with flow back or circulation during these operations will be stored in a flow back tank on location.
- c. ESJ will monitor the condition of the installed liner from the date it is installed until the pit is closed and will take the appropriate measures to repair and report any breach of the liner integrity within 48 hours of detection. Visual inspection will be daily during the drilling phase and the results will be recorded in the daily drillers log. The inspection will be weekly after the drilling rig is removed until the pit is closed. The results of this inspection will be maintained in a log book at ESJ's Farmington office.
- d. Two feet of freeboard will be maintained in the temporary pit at all times until closure.
- e. ESJ will remove all free liquid from the temporary pit and either haul it to the reserve pit for the next well if a multi-well program is planned or the Key Four Corners facility, permit # 9, if another well is not planned within 30 days of cessation of the drilling operation. All fluids associated with drilling or workover operations that are accumulated and stored in the flow back tank will be removed within 30 days of cessation of these operations and hauled to the Key Four Corners facility.
- f. The pit will be maintained free of any solid refuse. This will be stored in a trash basket on the location.
- g. A header system or hoses without ends or unions will be used for loading liquid into the temporary pit or removing liquid from the temporary pit.
- h. The temporary pit and blow pit will be maintained free of any oil accumulation. ESJ will keep an oil absorbent boom on location for the entire time the pits are open.

III. Closure Plan

- a. ESJ will close the pits within six months of the drilling rig release date of the well. ESJ will provide 72 hour notice to the District 3 office of the NMOCD prior to commencing closure operations.

- b. ESJ has notified the landowner (Ute Mountain Ute Tribe) by email of its plan to proceed with in place burial if possible. A copy is attached. ESJ will send a similar notice to the Ute Mountain Ute Tribe and the OCD prior to initiating in place burial.
- c. ESJ will initiate sampling and testing of the residue left in the temporary pit after the completion of the liquid hauling operation and the stabilization and liner removal operation referenced in d. and e. below in accordance with the applicable sampling and testing requirements outlined for in place burial. ESJ will inspect the section of the liner exposed by liquid removal for tears. ESJ will also take a composite soil sample from the blow pit bottom and have it analyzed using the standards for below grade tanks.
 - i. If the testing of the residue meets the quality standards below, ESJ will proceed with in place burial as outlined in f. below.

Components	Tests Method	Limit (mg/Kg)
Benzene	EPA SW-846 8021B or 8260B	0.2
BTEX	EPA SW-846 8021B or 8260B	50
TPH	EPA SW-846 418.1	2500
GRO/DRO	EPA SW-846 8015M	500
Chlorides	EPA 300.1	1000

- ii. If test results of the residue or the composite soil sample from the blow pit do not meet the quality standards for on site burial, ESJ will dispatch a vacuum truck as soon as practical in the contractors schedule. They will remove the residue and haul it to the JFJ Landfarm facility, permit # 10. After the residue is removed the pit liner will be removed and hauled to an approved waste facility in San Juan County. ESJ will then initiate testing and sampling of the pit area as outlined in the Waste Evacuation and Haul section of the regulations. Results of these tests will be reported to the Aztec district office and the applicable closure method initiated.
- d. ESJ will mix stockpiled pit dirt with residue at a 3:1 ratio to stabilize the residue.
- e. ESJ will cut and remove section of liner above the stabilized residue line. This will be disposed of at an approved San Juan Co. waste facility.
- f. ESJ will use the remaining pit dirt stockpile to provide a compacted fill over the stabilized residue of the temporary pit to a depth within one foot of the graded location level. The blow pit will be filled with compacted fill from the pit dirt stockpile. The remaining pit dirt and dirt from the fill slopes will be spread over the pit side area, outside of the anchor pattern, to re-contour the pit area. Topsoil stockpiled in the fill on the southeast corner will then be pushed over the re-contoured pit area to achieve a depth of one foot of topsoil and seeded with a free of noxious weeds seed mix specified by the Ute Mountain Ute Tribe consisting of at least three native plant species, including at least one grass, in the next applicable seeding season. Seeding will be done by disc and drill over the pit area and broadcast on the cut slopes. 70% coverage will be maintained through two successive growing seasons. ESJ will provide notice to the NMOCD at the end of the second successful season.

- g. ESJ will file the applicable closure report with attachments within 60 days of completion of closure.
 - h. ESJ will install a 4" X 4' steel marker at the center of the buried temporary pit, labeled in accordance with regulations, during interim reclamation.
- IV. Siting Requirements substantiation and hydrogeologic data
- a. Hydrogeologic data –
 - i. Surface formation – Lewis formation
 - ii. Geographic setting – Located between the crest of an alluvial plain south of Barker Dome and the lower end of Ute Canyon.
 - iii. Soils – The very southeastern edge (Corners 3-5) is NCRS # 20 – Chimrock very fine sandy loam- a slightly saline to moderately saline sandy loam formed by the erosion of the sands and shales of the Fruitland formation deposited as a slope alluvium into Ute Canyon to the east. Typical distribution is 0 – 15 inches: very fine sandy loam; 15 – 32 inches: loam; 32 – 80 inches: sandy loam. Laid down on 6-7% slopes across eastern location area. The majority of the location area is NCRS # 31 – Farb Rock outcrop-Fruitland complex – a mixture of Farb (30%), rock outcrop (25%) and Fruitland complex (20%) , although in this area it appears to be a majority Fruitland complex. The Fruitland complex is a non saline to very slightly saline fine sandy loam formed by the erosion of the sands and shales of the Fruitland formation deposited as a fan alluvium over the location area. Typical distribution is 0-60 inches: fine sandy loam.
 - b. Drainage – Generally to the south and southwest into Ute canyon drainage which runs south of this location. There are three identified drainages in the area of the subject location shown on the attached wellsite diagram. These are not identified on topographic or wetlands maps and are not considered significant. They gather runoff from the location area only. Field inspection revealed they are a few inches -1 feet deep and less than a foot across. These will be diverted around the location perimeter to the southeast and southwest by construction of a diversion berm of topsoil above the cut slope during location leveling. They will be permanently diverted during interim reclamation by construction of a drain ditch at the base of the reclaimed cut slope. The only significant drainage in the area of this location is the lower end of Ute Canyon. It runs along the east side and south side of the proposed location. It is approximately 400 feet from the proposed pit on the southeast side and 900 feet away on the south.
 - c. Siting requirements substantiation
 - i. A search of the iWaters database covering all of T31N, R14W was conducted. There were two wells identified on this review. Further investigation of the specific data on file revealed each had UTM locations on record that did not place them in this area. A review of the topographic map did not show any water wells in the sections identified (5 & 35). A review of a USGS water study at the Aztec office of the NM State Engineer also did not list any water wells in this township and range so these two wells were considered as mistakes in the iWaters data base and were not given any consideration in this review. The NM

Bureau of Mines and Mineral Resources Hydrologic Report No. 6 was also reviewed for water well data and yielded no results in this area. There are four water wells in this township identified on the topographic map and their location was verified by field inspection. The Environment Dept. of the Ute Mountain Ute Tribe was consulted and they referenced a water resources study conducted by the USGS several years earlier but would or could not supply a copy of the report for review. A review of the USGS online library turned up "Geology and availability of ground water on the Ute Mountain Indian Reservation, Colorado and New Mexico" by James Irwin in 1966. An electronic copy of the study was obtained and it did identify four water wells in T31N, R14W. This number matches the number of wells spotted on the topo map. The electronic copy did not contain a copy of the maps that were part of the study nor did it identify the wells by a section location. An attempt was made to identify the wells by comparing their elevations to those posted on the map without positive results. An attempt was also made to identify the wells by comparison to the outcrop map contained in NMBMMR Report 6 and the reported completed zone in the water wells. This proved to be unreliable also because the table in the USGS report had questionable water zones for two of the wells. The closest water well from a review of the topo map is located in section 31, T31N, R14W, approximately 0.75 miles southwest of the proposed location. This is believed to be water well # 16 in the USGS report, completed in the Farmington Sandstone member of the Kirtland – Fruitland complex. Depth listed in the report is 330 feet and depth to water is 146 feet. The average depth to water for all four wells is 150 feet. The water zones identified in the study are the Farmington Sandstone, Pictured Cliffs (?) and Cliff House. Based on the available water well data and the fact the surface formation is Lewis the next available water zone would be the Cliff House at a depth of 1541 feet in this well we propose the depth to water is over 100 feet below the proposed bottom of the pit. There are several springs over two miles west of the proposed location. These springs are located at the point the Cliff House outcrops and are likely points of discharge where the runoff from the Cliff House outcrop hit non conductive layers in the soils.

- ii. There are no flowing watercourses within 300 feet of the proposed pit. The closest significant watercourse is Ute Canyon which is 400 feet southeast of the proposed pit and 900 feet south.
- iii. The closest residence, as scaled from the topo map, is 1.6 miles to the northeast. Field inspection reveals this is not a year round use residence. It is likely used by the ranchers during calving and branding seasons and in emergencies.
- iv. The proposed pit is 0.75 miles northeast of the closest water well and 2.25 miles southeast of the closest spring.
- v. This is a rural area location.

- vi. There are no identified wetlands within 500 feet of the proposed pit.
- vii. This location is not included in the FEMA mapping system. Based on the closest recorded data the washes of this area have floodplain corridors of 100 feet to 300 feet in the sections where there are no junctions. Using the maximum number would put the pit outside of the Ute Canyon floodplain on the southeast by 250 feet. The proposed pit is approximately 15 feet higher elevation than the closest point on the southeast and 25 feet higher elevation of the point to the south.
- viii. There were no unstable areas noted during the field inspection nor evidence of underground mining activity. There are no identified mining operations in the immediate area on the Bureau of Mines website. The northern extent of the PNM strip mine is approximately three to four miles southwest of the proposed location.
- ix. All of the attachments referenced in this section were included in the original permit application for a temporary pit only and these attachments are incorporated as substantiation for this modification. The only new attachment filed with this modification is the revised wellsite layout showing the addition of the blow pit.

