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

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.

201
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# Pit Closed-Loon System Relow-Grade Tank or

rt, Closed-Loop System, Below-Grade Talik, 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.
Operator: Burlington Resources Oil and Gas Company, LP OGRID #: 14538
Address: c/o Huntington Energy, L.L.C., 908 N.W. 71 <sup>st</sup> St., Oklahoma City, OK 73116
Facility or well name: Ute Mountain Ute #83
API Number: 30-045-34482 OCD Permit Number:
U/L or Qtr/Qtr A Section 29 Township 32N Range 14W County: San Juan Co., NM
Center of Proposed Design: Latitude36.96401° N Longitude108.32698°W NAD: □1927 ☒ 1983
Surface Owner:  Federal State Private Tribal Trust or Indian Allotment
2.
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. 6. O.C. 22
Below-grade tank: Subsection I of 19.15.17.11 NMAC
Below-grade tank: Subsection I of 19.15.17.11 NMAC   Volume:
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: Thicknessmil
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, kingtitution and should	hospital,				
nstitution or church)  ☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet					
Alternate. Please specify					
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					
☑ 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 oconsideration of approval.	office for				
Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.					
io. 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 accept					
material are provided below.  Requests regarding changes to certain siting criteria may require administrative approval from the approp office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of ap					
Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying					
above-grade tanks associated with a closed-loop system.	☐ Yes ☐ No				
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					
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).	☐ Yes ☐ No				
- Topographic map; Visual inspection (certification) of the proposed site					
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.	☐ Yes ☐ No ☐ NA				
(Applies to temporary, emergency, or cavitation pits and below-grade tanks)  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image					
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.	☐ Yes ☐ No ☐ NA				
(Applies to permanent pits)  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	L NA				
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock	☐ Yes ☐ No				
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					
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	☐ Yes ☐ No				
adopted pursuant to NMSA 1978, Section 3-27-3, as amended.  - Written confirmation or verification from the municipality; Written approval obtained from the municipality					
Within 500 feet of a wetland.					
- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No				
Within the area overlying a subsurface mine.  - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No				
Within an unstable area.					
- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	Yes No				
Within a 100-year floodplain FEMA map	☐ Yes ☐ No				

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:
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)
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   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 H <sub>2</sub> S, Prevention Plan   Emergency Response Plan   Oil Field Waste Stream Characterization   Monitoring and Inspection Plan   Erosion Control Plan   Erosion Control Plan - based upon the appropriate requirements of 19.15.17.19 NMAC and 19.15.17.13 NMAC
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)
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 G of 19.15.17.13 NMAC

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground St Instructions: Please indentify the facility or facilities for the disposal of liquids, drafacilities are required.						
•	isposal Facility Permit Number:					
	isposal Facility Permit Number:					
Will any of the proposed closed-loop system operations and associated activities occur.  Yes (If yes, please provide the information below) No	ar on or in areas that will not be used for future serv	vice and operations?				
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 I end Site Reclamation Plan - based upon the appropriate requirements of Subsection I end Site Reclamation Plan - based upon the appropriate requirements of Subsection	equirements of Subsection H of 19.15.17.13 NMAO of 19.15.17.13 NMAC	2				
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 deviated below. Requests regarding changes to certain siting criteria may require considered an exception which must be submitted to the Santa Fe Environmental Edemonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for	administrative approval from the appropriate disti Sureau office for consideration of approval. Justi	rict office or may be				
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 of	obtained from nearby wells	☐ Yes ☒ 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 of	obtained from nearby wells	☐ Yes ☑ 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						
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						
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						
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						
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						
Within 500 feet of a wetland.  - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site						
Within the area overlying a subsurface mine.  - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division						
Within an unstable area.  - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map						
Within a 100-year floodplain FEMA map	• (	☐ Yes ⊠ No				
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.  Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC  Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 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  Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC  Waste Material Sampling Plan - 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 or in case on-site closure standards cannot be achieved)  Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC  Re-vegetation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC  Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC						

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): _Catherine Smith Title:Regulatory						
Signature: Date: 12/1/2008						
e-mail address:csmith@huntingtonenergy.com Telephone:405-840-9876						
20.  OCD Approval: ☐ Permit Application (including closure plan) ⚠ Closure Plan (only) ☐ OCD Conditions (see attachment)						
OCD Representative Signature: Branchon & Wall Approval Date: 1309						
Title: Enviro / Spee OCD Permit Number:						
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:						
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.						
Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:  Instructions: Please indentify 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: 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) \square 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						
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:						

## New Mexico Office of the State Engineer POD Reports and Downloads

POD Reports and Downloads
Township: 32N Range: 14W Sections: 15,29
NAD27 X: Y: Zone: Search Radius:
County: SJ Basin: Number: Suffix:
Owner Name: (First) (Last) C Non-Domestic C Domestic All
POD / Surface Data Report Avg Depth to Water Report Water Column Report
Clear Form
WATER COLUMN REPORT 12/05/2008
(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are biggest to smallest)  POD Number  Tws Rng Sec q q q Zone X Y Well Water Column
No Records found try again

			e of the State Engineer s and Downloads					
	Towns	hip 32N Range 14W S	ections 15,29				THE CHILDREN	
	NAD27	x	Zone Search Ra	dius				
	County SJ	Basın	Number	Suffix				
	Owner Name (First	(Last)	← Non-Domes	stic C Domest	ac • All	١		
	POD / Surface	Data Report Data Report De	epth to Water Report " , , , , , "V	Vater Column Re	port 🚆 🚼			
		Clear Form	WATERS Menu					
				te mes e			-	
	POD / SURFACE DATA	REPORT 12/05/2008	(quarters are 1=NW 2=NF	E 3=SW 4=SE)				
DB File Nbr	(acre ft per annum) Use Diversion Owner	POD Number	(quarters are biggest source Tws Rng		X Y are in Feet Zone X		TM are 1 M_Zone	in Meters) Easting

No Records found, try again

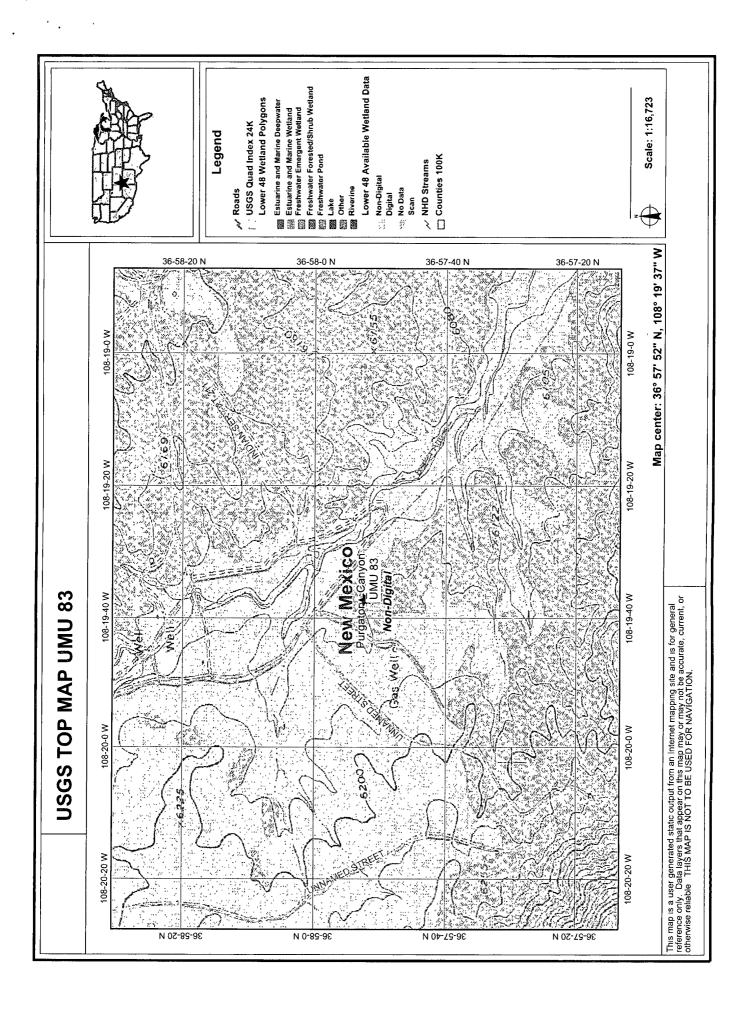
## New Mexico Office of the State Engineer POD Reports and Downloads

Tow	nship: 32N Range: 14W Sections: 15,29
NAD27	X: Y: Zone: Search Radius:
County: SJ	Basin: Number: Suffix:
Owner Name: (Fir	rst) (Last) Non-Domestic C Domestic All
PÒD / Surfac	ce Data Report Avg Depth to Water Report Water Column Report
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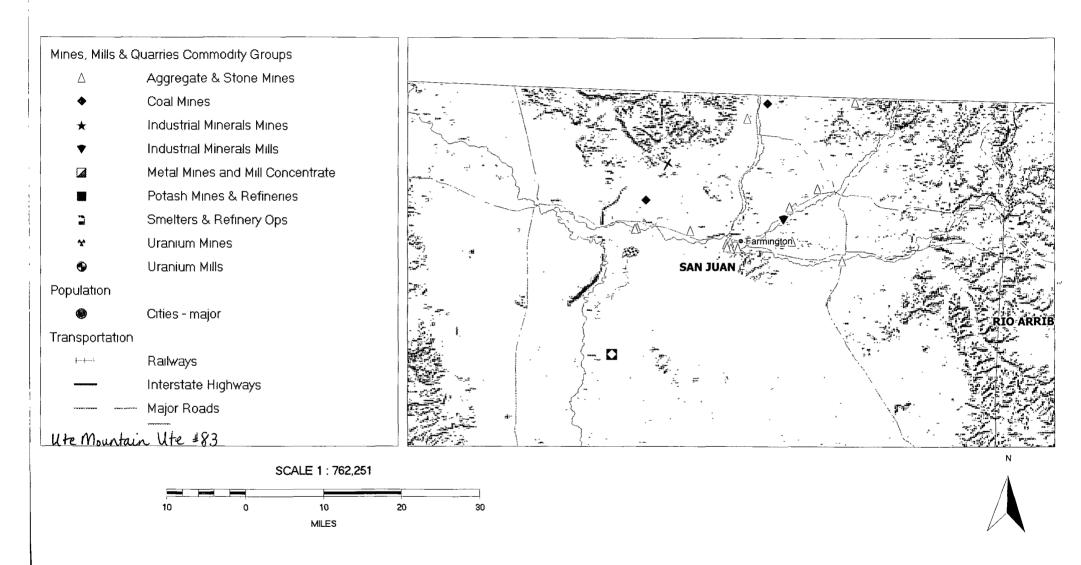
AVERAGE DEPTH OF WATER REPORT 12/05/2008

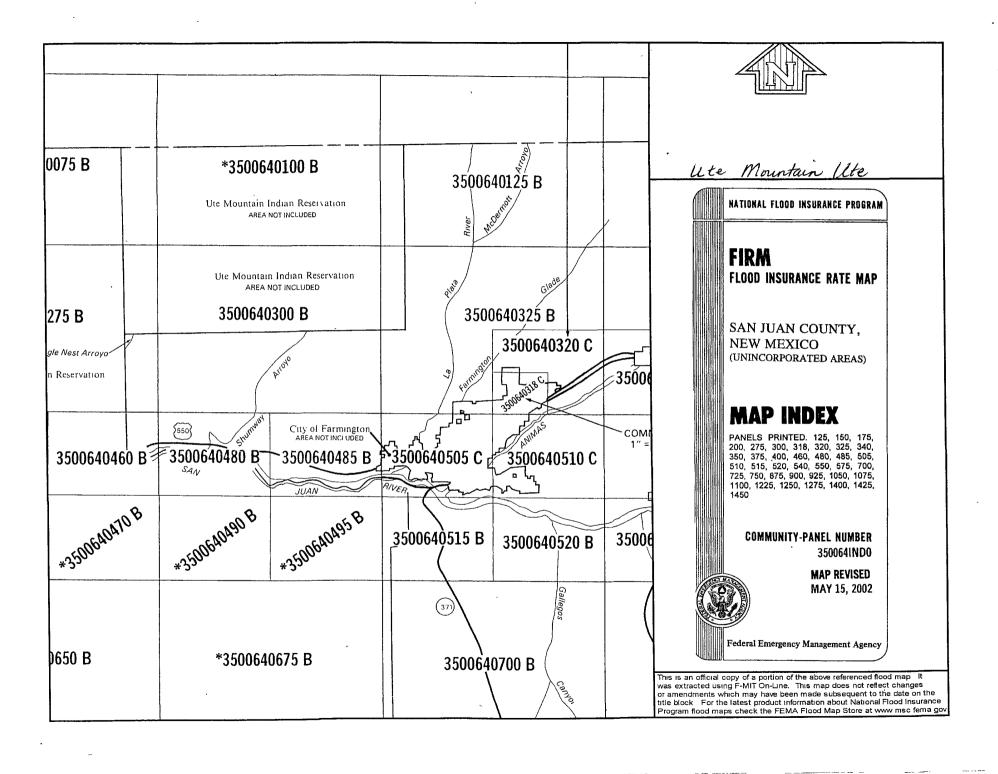
Bsn Tws Rng Sec Zone X Y Wells Min Max Avg

No Records found, try again



# Ute Mountain Ute Mines, Mills and Quarries Web Map





#### Hydrogeological Report for Ute Mountain Ute #83

#### **Geological Context:**

Tertiary sandstones and Quaternary alluvial deposits are present at the surface over much of the basin interior. These serve as the primary drinking water aquifers in the basin (Figure A1-2), and produced 55 million gallons per day in 1985 (Wilson, 1986). Cretaceous sandstones are an important source of water on the basin's periphery (Choate et al., 1993). The Paleocene Ojo Alamo Sandstone yields as much as 30 gallons per minute of potable water (Hale et al., 1965) and is mentioned as one of the primary drinking water aquifers of the region (Brown and Stone, 1979). Cleats and larger fractures in the Fruitland coals and the presence of interbedded permeable sandstones make the Fruitland Formation an aquifer and source of drinking water along the northern margin of the basin where TDS in the groundwater are less than 10,000. The Fruitland and upper Pictured Cliffs Sandstone aquifer is underlain and confined by the low-permeability main Pictured Cliffs Formation and is overlain and partly confined by the Kirtland shale, which is up to 1,000 feet thick in the central basin.

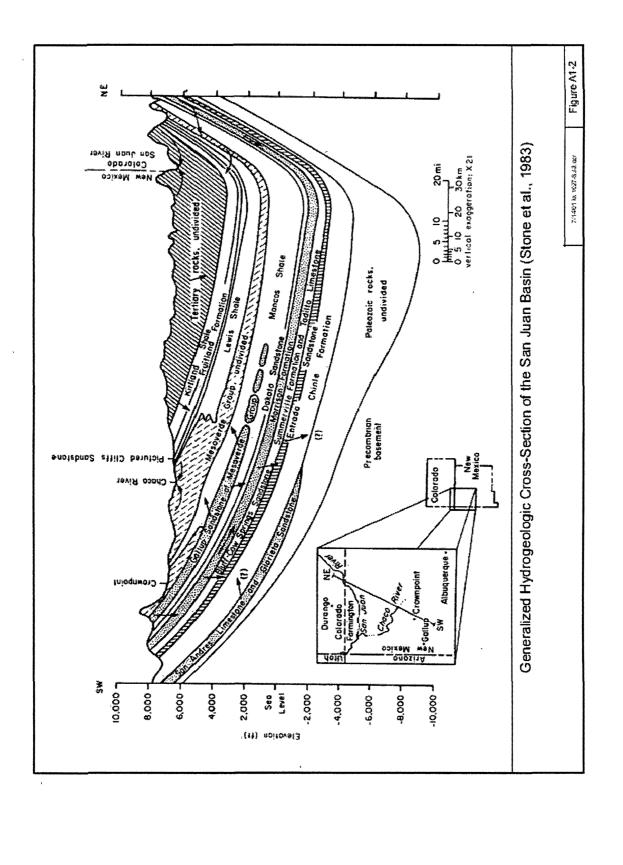
In the northern part of the basin, the Fruitland Formation and the underlying upper Pictured Cliffs Sandstone can be considered a single hydrogeologic unit on a regional scale because they exhibit the same hydraulic head and water quality characteristics and are the source of both the water and gas in the Pictured Cliffs sand tongues (Ayers and Zellers, 1994; Ayers et al., 1994). At the local scale, however, the two formations appear to exhibit poor hydraulic continuity, as evidenced by areas of over-pressuring (greater than 0.5 pounds per square inch per foot), abrupt changes in potentiometric surface (Figure A1-8), and upward flow (Kaiser et al., 1994). Discrete flow within individual units here is likely due to pinch out of thick, laterally extensive coal seams and truncation and offset of the beds by faults.

Mostly, the Fruitland system produces water containing less than 10,000 mg/L TDS, the water quality criteria for a USDW. Groundwater is usually freshest at the outcrop in recharge areas. The water dissolves salts and mixes with formation water as it flows, and the groundwater becomes increasingly saline as distance from the recharge source increases. The presence of low-salinity water at given locations in the San Juan Basin usually marks close proximity to the recharge source or the most permeable flow paths and implies a dynamic, active aquifer system (Kaiser et al., 1994). Figure A1-12 shows the chloride concentration of groundwater in the Fruitland Formation, and indicates that water nearest the northern recharge areas has a low dissolved solids and chloride content. Kaiser et al. (1994) reported that wells produced water containing from 180 to 3,015 mg/L TDS. This was found to be the case over large portions of the region, especially within freshwater plumes resulting from areas of high permeability or fracture trends (Kaiser and Swartz, 1990; Oldaker, 1991).

Kaiser et al. (1994) conducted a water-quality sampling program in the San Juan Basin. Analyses taken from Fruitland coal wells show that the majority of wells (16 of 27 wells) produce water containing less than 10,000 mg/L TDS, (Figures A1-13a and A113b), although some nearby wells thought to be in less permeable zones produce water with higher TDS concentrations up to 23,000 mg/L (Kaiser et al., 1994). The boundary between waters with more and less than 10,000 TDS has not been published. Another group of wells throughout the same area was also sampled, but these wells were completed (constructed) in the adjacent and underlying Pictured Cliffs Sandstone bodies, which are in hydrologic communication with the Fruitland system (Kaiser et al., 1994).

Although from the above information it would seem that the Fruitland would be classified a USDW, the following additional information about disposal of brackish water produced along with the methane would seem to indicate that most of the water in the Fruitland would not meet the TDS

criteria for USDW. Coalbed methane wells in the San Juan Basin produced from 0 to over 10,500 gallons of water per day, which contain from less than 300 mg/L TDS to over 25,000 mg/L (Kaiser et al., 1994; Kaiser and Ayers, 1994). Brackish water of various TDS concentrations and brine are produced in the basin.



#### REFERENCES

Ayers, W.B. and Zellers. 1994. Coalbed methane in the Fruitland Formation, Navajo Lake area – geologic controls on occurrence and producibility. New Mexico Bureau of Mines and Minerals Bulletin 146: Coalbed methane in the upper Cretaceous Fruitland Formation, San Juan Basin, New Mexico and Colorado, pp. 63-86.

Brown, D.R. and Stone, W.J. 1979. Hydrogeology of the Aztec quadrangle, San Juan county, New Mexico. New Mexico Bureau of Mines and Mineral Resources (Sheet 1).

Choate, R., Lent, T., and Rightmire, C.T. 1993. Upper Cretaceous geology, coal, and the potential for methane recovery from coalbeds in the San Juan Basin – Colorado and New Mexico. AAPG Studies in Geology, 38:185-222.

Hale, W.E., Reiland, L.J., and Beverage, J.P. 1965. Characteristics of the water supply in New Mexico. New Mexico State Engineer, Technical Report 31.

Kaiser, W.R. and Swartz, T.E. 1988. Hydrology of the Fruitland Formation and coalbed methane producibility, *In* Geologic evaluation of critical production parameters for coalbed methane resources, Part 1: San Juan Basin. Annual Report to the Gas Research Institute, GRI-88/0332.1, pp. 61-81.

Kaiser, W.R. and Swartz, T.E. 1990. Hydrodynamics of the Fruitland Formation. *In* Geologic Evaluation of critical production parameters for coalbed methane resources, Part 1: San Juan Basin. Annual Report for 1990, Gas Research Institute, GRI-90/0014.1, pp. 99-126.

Kaiser, W.R. and Ayers, W.B. Jr. 1994. Coalbed methane production, Fruitland Formation, San Juan Basin: geologic and hydrologic controls. New Mexico Bureau of Mines and Minerals Bulletin 146: Coalbed methane in the upper Cretaceous Fruitland Formation, San Juan Basin, New Mexico and Colorado, pp. 187-207.

Kaiser, W.R., Swartz, T.E., and Hawkins, G.J. 1994. Hydrologic framework of the Fruitland Formation, San Juan Basin. New Mexico Bureau of Mines and Minerals Bulletin 146: Coalbed methane in the upper Cretaceous Fruitland Formation, San Juan Basin, New Mexico and Colorado, pp. 133-164.

Wilson, B. 1986. Water Use in New Mexico. New Mexico State Engineer Technical Report 46, 84 p.

Siting Criteria Compliance Demonstration & Hydro Geologic Analysis

The Ute Mountain Ute #83 is not located in an unstable area. The location is not over a mine or located on the side of a hill. The pit material will not be located within 300' of any flowing water source or 200' from any other water source. It is not within a 100 yr floodplain area. There are no iWATERS data to indicate groundwater depth. Therefore, the well location and formation will be a stable area for this location.

## **Cathy Smith**

From:

Cathy Smith

Sent:

Monday, December 08, 2008 2:58 PM

To:

'brandon.powell@state.nm.us'; Ute Mountain Utes (ghammond@utemountain.org)

Cc:

Alan McNally; Mike McKinney

Subject: UMU Pit Information

Huntington Energy gives notification of pit closure for the Ute Mountain Ute #77, #83 & #84, San Juan County, NM. Temporary pits closed on-site.

Please contact me if you need any additional information.

Thank you!

Cathy Smith (405) 840-9876 ext. 129 (405) 840-2011 Fax

×		,	
			,

DISTRICT I P. D. Box 1980, Hobbs, N.M. BB241-1980

State of New Mexico Energy, Minerals & Natural Resources Department

DISTRICT II
1301 W. Grand Avenue, Artesia, N.M. 88210 .

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

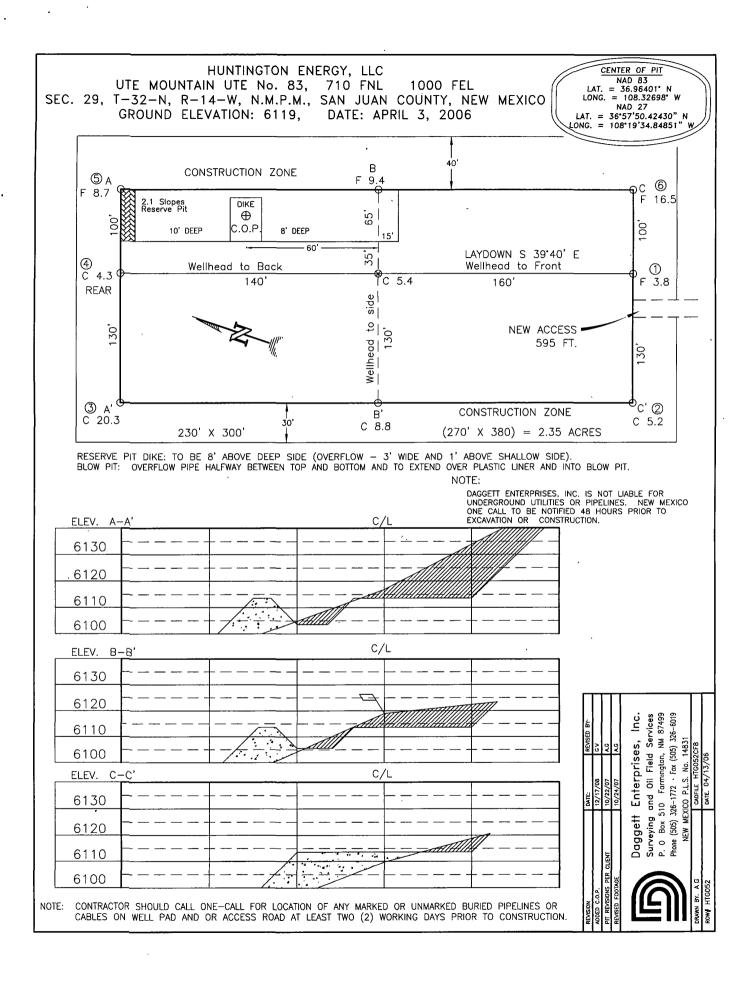
DISTRICT IV 1220 South St. Francis Dr., Santa Fe, NM 87505 OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe. NM 87504-2088 Revised October 12, 20 Instructions on be

Submit to Appropriate District Off State Lease - 4 Cop Fee Lease - 3 Cop

☐ AMENDED REPOI

## WELL LOCATION AND ACREAGE DEDICATION PLAT

		· ·	MIPP 1	JOCATIC		LALA	GE DED	IUA	
ZO. M	Number	ZUU8	2	71599.	11620		Burkey (	MA	Pool Name Dakota
*Property C	ode				<sup>2</sup> Propert		1000 -	1	. Well Number
32660	1872	15	•	. ,	UTE MOUNTA	AIN UTE			83
OGRID No		-	<del>'</del>	<del></del>	*Operato				* Elevation
14538		· ·	BURL	INGTON F	RESOURCES. C		SAS CÓMPAI	4Y L	
				-	10 Surface				
UL or lot no	Section	Township	Range	Lot ldn	Feel from the	(	h/South line	Fee	t from the East/West line County
A	29	32-N	14-W		710		NORTH		1-000 - EAST - SAN JUAN
	•		<sup>11</sup> Bott	om-Hole	Location	If Diff	erent Fro	m	Surface
UL or lot no	Section	Township	Range	Lot ldn	Feet from the	Nort	h/South line	Fee	t from the East/West line County
12 Dedicated Acre	·s	<u></u>	13 Joint or	lnfilì	14 Consolidation	Code	<del></del>	16 Or	der No.
E/16		-							
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NO ALLON.	ADDE "	OR · A N	ION-STA	NDARD I	JNIT HAS B	EEN A	PPROVED	BY	THE DIVISION
16			FD 3 1/4"	N 89	-51-40 W		FD 3 1,		OPERATOR CERTIFICATIO
•	1		B.L.M AC 1986	. 26	39.8' (M)	710,	В.L.м. 19	AC	i( · · · · · · · · · · · · · · · · · · ·
			Ţ. ··			7	•	ĺ	I hereby certify that the information contained here is true and complete to the best of my knowledge c
-			• •						nterest or unleased mineral interest in the load
-		-	***	. ]			1000'	.	including the proposed boltom hale location or has complet to drill this well at this location provided to
		·	AT: 36.9	6425° N.	(NAD 83)	-	• -		contract with an numer of such a mineral or annual
-		LON	G: 108.3.	2697. W.	(NAD 83)	-	•		interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the
					-	<del> </del>			division.
			•		· · · · · · · · · · · · · · · · · · ·		. w		
					[:			€.	off 5 Harrison
			1	1			)-(	2	Signature Date
-	-			1			Ó-00-0	640.2	Catherine Smith
								26	Printed Name
		-		1			Ŋ		
	+			29			FD 3 1	<del></del> •	18 SURVEYOR CERTIFICATIO
				1~ · ·		_	B.L M.	AC	
							15	186	I hereby certify that the well location shown on this was plotted from field notes of actual surveys made
	1								me or under my supervision, and that the same is tr and correct to the best of my belief
	j								The best by my being
	Ì		-	}	1			1	MAY 30, 7006
-	ļ				}				Date of Supergrand
		~		PF	CENT			_	Signature and Sal of the Slound Surveyor:
	}			-	CEIVE	U			11/0/1/2/2/1
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	j			Juran	go Colorado	-			
}	1			-				- []	Certificate Number



Submit 3 Copies To Appropriate District Office	State of New M		Form C-103	
District I	.nergy, Minerals and Nat	ural Resources	May 27, 2004	
1625 N French Dr., Hobbs, NM 88240 District II			WELL API NO. 30-045-34382	
1301 W Grand Ave, Artesia, NM 88210	OIL CONSERVATION	5. Indicate Type of Lease FED		
<u>District III</u> 1000 Rio Brazos Rd., Aztec, NM 87410	1220 South St. Fra	STATE FEE 6. State Oil & Gas Lease No.		
<u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM	District IV Santa Fe, NM 8/505			
87505			I-22-IND-2772	
(DO NOT USE THIS FORM FOR PROPO DIFFERENT RESERVOIR USE "APPLIC		.UG BACK TO A	7. Lease Name or Unit Agreement Name Ute Mountain Ute	
PROPOSALS.)  1. Type of Well: Oil Well	Gas Well  Other		8. Well Number / 83	
2. Name of Operator			9. OGRID Number 14538	
Burlington Resources Oil & Gas C	ompany			
3. Address of Operator c/o Huntington Energy, L.L.C., Ag	ont 000 N W 71st St. Oklahama	Cit., OV 72116	10. Pool name or Wildcat	
	ent, 908 N.W. /1 St., Oklanoma G	Olly, OK 73116	Barker Creek-Dakota Pool	
4. Well Location		1 1000 6 . 6	d 79 / 11	
	feet from the North line an			
Section 29	Township 32N Range 14W 11. Elevation (Show whether DR		San Juan County	
	6138' GR	, KKB, K1, GK, eic.)		
Pit or Below-grade Tank Application 🗵 o	8)		,	
Pit typeDrillingDepth to Groundwater	r_>100'Distance from nearest fresh wa	ter well_> 1000'_ Distai	nce from nearest surface water_>100'_	
Pit Liner Thickness: 12 mil I	Below-Grade Tank: Volume N/A b	bls; Construction Mat	erial	
12 Check A	appropriate Box to Indicate N	ature of Notice	Report or Other Data	
	• •		-	
NOTICE OF IN PERFORM REMEDIAL WORK TEMPORARILY ABANDON PULL OR ALTER CASING	TENTION TO: PLUG AND ABANDON  CHANGE PLANS  MULTIPLE COMPL	SUBS REMEDIAL WORK COMMENCE DRIL CASING/CEMENT	LING OPNS. PAND A	
07/150	$\nabla$	OTUED.	П	
OTHER:  13 Describe proposed or complete	eted operations (Clearly state all r	OTHER:	give pertinent dates, including estimated date	
of starting any proposed wo or recompletion.	rk). SEE RULE 1103. For Multipl	le Completions: Att	ach wellbore diagram of proposed completion	
Huntington Energy, L.L.C.,			a reserve pit in order to drill the subject well. ting and closing the pit according to the	
			,	
			•	
		9		
I hereby certify that the information a grade tank has been/will be constructed or o	bove is true and complete to the be losed according to NMOCD guidelines [S	est of my knowledge 3, a general permit [] o	and belief. I further certify that any pit or below- or an (attached) alternative OCD-approved plan .	
SIGNATURE CAMPLINE A	TITLE: A	gent for Burlington (	Dil & Gas CoDATE_11/12/2007_	
Type or print name Catherine Smith For State Use Only	E-mail address: csmith@hunti	ngtonenergy.com Te	elephone No. 405-840-9876	
APPROVED BY:	TITLE		DATE	
Conditions of Approval (if any):				

### Burlington Resources Oil & Gas Company, LP/Huntington Energy, L.L.C., as Agent San Juan Basin-Ute Mountain Ute Lands Closure Plan

In accordance with Rule 19.15.17.12 NMAC the following information describes the closure requirements of temporary pits on Burlington Resources Oil & Gas Company, LP (BR), Huntington Energy, L.L.C. (HE), as agent, locations. This is BR/HE's standard procedure for all temporary pits. A separate plan will be submitted for any temporary pit which does not conform to this plan.

All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of closure of pit. Closure report will be filed on C-144 and include the following:

- Details on Capping and Covering, where applicable.
- Plot Plan (Pit Diagram)
- Inspection Reports
- Sampling Results
- C-105
- Copy of Deed Notice will be filed with County Clerk

#### General Plan:

- All free standing liquids will be removed at the start of the pit closure process from the pit and disposed of in a division-approved facility or recycle, reuse or reclaim the liquids in a manner that the appropriate division district office approves. The facilities to be used for liquids will be IEI – NM-010010B and IEI will be used for solids (#01001010B).
- 2. The preferred method of closure for all temporary pits will be on-site burial, assuming that all the criteria listed in sub-section (B) of 19.15.17.13 are met.
- The surface owner shall be notified of BR/HE's closing.
- 4. Within 6 months of the rig off status occurring, BR/HE will ensure that the temporary pits are closed, re-contoured and reseeded.
- 5. Notice of Closure will be given prior to closure to the Aztec Division office between 72 hours and one week via email, or verbally. The notification of closure will include the following:
  - i. Operator's name
  - ii. Location by Unit Letter, Section, Township, and Range, well name and API number.
- 6. Liner of temporary pit shall be removed above mud level after stabilization. Removal of liner will consist of manually or mechanically cutting liner at mud level and removing all remaining liner. Care will be taken to remove all of the liner. All excessive liner will be disposed of at the San Juan County Landfill located on CR 3100.
- 7. Pit contents shall be mixed with non-waste containing earthen material in order to achieve the solidification process. The solidification process will be accomplished using a combination of natural drying and mechanically mixing. Pit contents will be mixed with non-waste, earthen material to a consistency that is deemed as safe and stable. The mixing ratio shall not exceed 3 parts clean soil to 1 part pit contents.
- 8. A five point composite sample will be taken of the pit using sampling tools and all samples tested per Subsection B of 19.15.17.13(B)(1)(b). In the event that the criteria are not met, all contents will be handled per Subparagraph (a) of Paragraph (1) of Subsection B of 19.15.17.13 i.e., dig and haul.

Components	Test 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	1000/500

- 9. Upon completion of solidification and testing standards being passed, the pit area will be backfilled with compacted, non-waste containing earthen material. A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater. If standard testing fails, BR/HE will dig and haul all contents pursuant to 19.15.17.13.i.a. After doing so, confirmation sampling will be conducted to ensure a release has not occurred.
- 10. During the stabilization process, if the liner is ripped by equipment, the Aztec OCD office will be notified within 48 hours and the liner will be repaired if possible. If the liner can not be repaired, then all contents will be excavated and removed.
- 11. Dig and Haul Material will be transported to IEI (Permit # 010010B).
- 12. Re-contouring of location will match fit, shape, line, form and texture of the surrounding. Reshaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be placed in areas where needed to prevent erosion on a large scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape.
- 13. Notification will be sent to the OCD when the reclaimed area is seeded.
- 14. BR/HE shall seed the disturbed areas the first growing season after the operator closes the pit. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM stipulated seed mixes will be used on federal lands. Vegetative cover will equal 70% of the native perennial vegetative cover (unimpacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. Repeated seeding or planting will be continued until successful vegetative growth occurs.

Туре	Variety or Cultivator	PLS/A
Western Wheatgrass	Arriba	3.0
Indian Ricegrass	Paloma or Rimrock	3.0
Slender Wheatgrass	San Luis	2.0
Crested Wheatgrass	Hy-crest	3.0
Bottlebrush Squirreltail	Unknown	2.0
Four-wing Saltbrush	Delar	0.25

Species shall be planted in pounds of pure live seed per acre:

Present Pure Live Seed (PLS) = Purity X Germination/100

Two lots of seed can be compared on the basis of PLS as follows:

Source No. One (poor quality)

Purity

Source No. two (better quality)

Purity

Source No. two (better quality)

Purity

80 percent

Germination

40 percent

Percent PLS

20 percent

Percent PLS

50 percent

21b bulk seed required to make

1 lb PLS 1 lb PLS

15. The temporary pit will be located with a steel marker, no less than four inches in diameter, cemented in a hole three feet deep in the center of the onsite burial upon the abandonment of all the wells on the pad. The marker will be flush with the ground to allow access of the active well pad and for safety concerns. The marker will include a threaded collar to be used for future abandonment. The top of the marker will contain a welded steel 12" square plate that indicates the onsite burial of the temporary pit. The plate will be easily removable and a four foot tall riser will be threaded into the top of the collar marker and welded around the base with the operator's information at the time all wells on the pad are abandoned. The operator's information will include the following: Operator Name, Lease Name, Well Name and Number, Unit Number, Section, Township, Range and an indicator that the marker is an onsite burial location.