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.

\gtrsim	5	3	١

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

roposed Alternative Wethod refinit of Closure Flan 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:Huntington Energy, L.L.C OGRID #:208706
Address:908 N.W. 71 st St., Oklahoma City, OK 73116
Facility or well name:Canyon Largo Unit #491
API Number:30-039-30054 OCD Permit Number:
U/L or Qtr/QtrD_Section20 Township25N Range6W County:Rio Arriba
Center of Proposed Design: Latitude36.38958 Longitude107.49590 NAD: □1927 ☑ 1983
Surface Owner: Federal State Private Tribal Trust or Indian Allotment
2. ☐ Pit: Subsection F or G of 19.15.17.11 NMAC
Temporary: Drilling Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A
Lined Unlined Liner type: Thickness mil LLDPE HDPE PVC Other
☐ String-Reinforced
Liner Seams: Welded Factory Other Volume: bbl Dimensions: L x W x D
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.
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
Secondary containment with leak detection Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off State Construction Construction
Volume:120_bbl Type of fluid:Produced Water
Tank Construction material:Metal
☐ 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: Thickness60mil
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.

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	
Alternate. Please specify4' hogwire fence with a single strand of barbed wire on top	
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)	
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	
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 of	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 accept material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of a 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.	priate district pproval.
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 ⊠ 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 ☒ 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 ☑ 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)	☐ Yes ☐ No ☑ NA
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ⊠ 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 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 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 ☒ No
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 19.15.17.12 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: 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 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 ₂ S, Prevention Plan Cilosure 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
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 □ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

or Haul-off Bins Only: (19.15.17.13.I and drill cuttings. Use attachment if i	
ility Permit Number	
reas that will not be used for future ser	
of Subsection H of 19.15.17.13 NMA 13 NMAC 5.17.13 NMAC	С
Recommendations of acceptable sour ive approval from the appropriate dist ce for consideration of approval. Justi	rict office or may be
m nearby wells	☐ Yes ☐ No ☐ NA
m nearby wells	☐ Yes ☐ No ☐ NA
m nearby wells	☐ Yes ☐ No ☐ NA
course or lakebed, sinkhole, or playa	☐ Yes ☐ No
at the time of initial application.	☐ Yes ☐ No
useholds use for domestic or stock ence at the time of initial application. of the proposed site	☐ Yes ☐ No
overed under a municipal ordinance	☐ Yes ☐ No
certification) of the proposed site	☐ Yes ☐ No
Division	☐ Yes ☐ No
Resources; USGS; NM Geological	☐ Yes ☐ No
	☐ Yes ☐ No
ems must be attached to the closure pl 19.15.17.10 NMAC of 19.15.17.13 NMAC uirements of 19.15.17.11 NMAC boon the appropriate requirements of 19. C Subsection F of 19.15.17.13 NMAC of 19.15.17.13 NMAC r in case on-site closure standards cann 1.13 NMAC 1.13 NMAC	15.17.11 NMAC
	ility Permit Number: ility Permit Number: reas that will not be used for future served of Subsection H of 19.15.17.13 NMAC 3.17.13 NMAC Recommendations of acceptable sound ive approval from the appropriate districted for consideration of approval. Justice for consideration of approval. Justice for consideration of approval in the time of initial application. In the time of initial application. In the time of initial application of the proposed site overed under a municipal ordinance of the municipality Certification) of the proposed site overed under a municipal ordinance of 19.15.17.13 NMAC or in case on-site closure standards cannot 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):Catherine Smith Title:Regulatory
Signature:
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: Sung Sull Approval Date: 7-/-09
Title: Euviro /spec 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:
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 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:
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
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
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):
Signature: Date:

e-mail address:

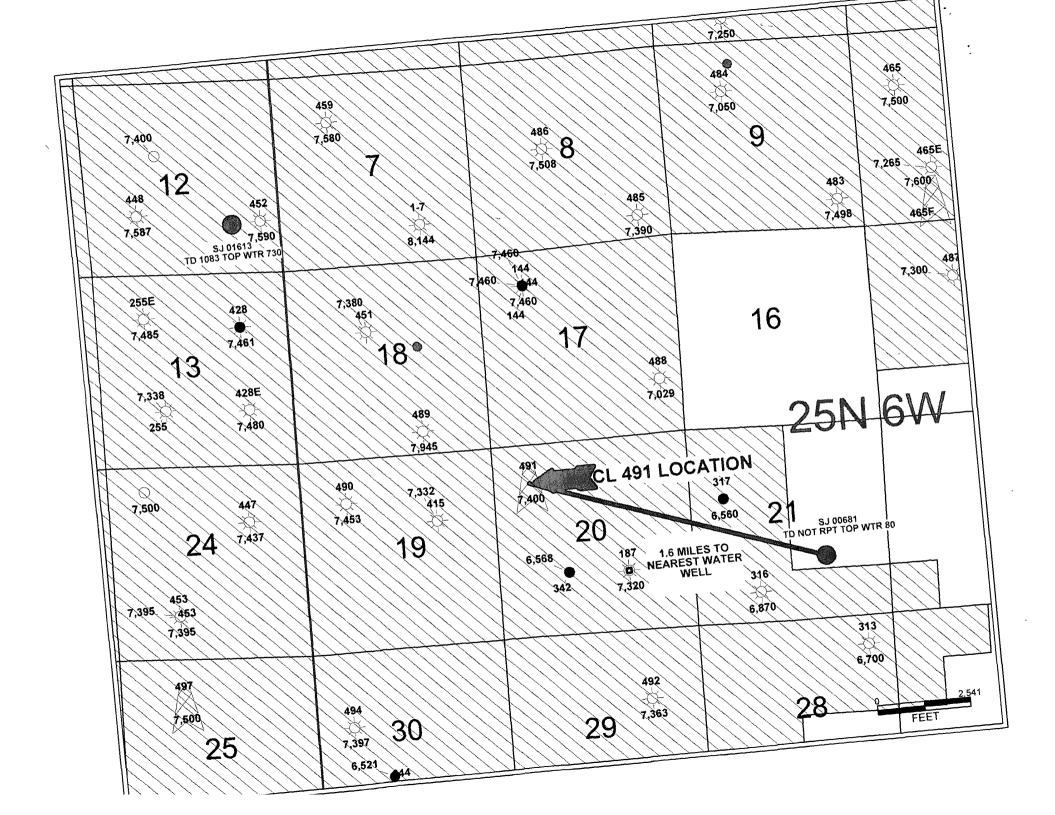
Telephone: _

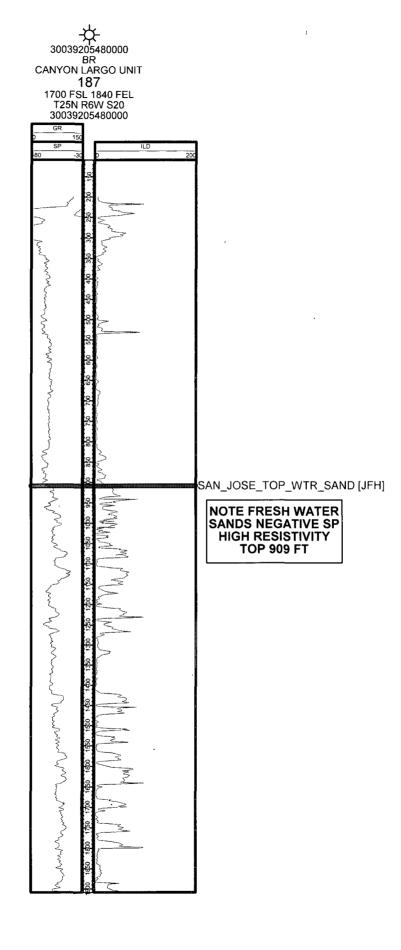
xSubmit 3 Copies To Appropriate District Office State of New Mexico	Form C-103
District I ' Energy, Minerals and Natural Resource	May 27, 2004
1625 N. French Dr., Hobbs, NM 88240 District II	WELL API NO. 30-039-30054
1301 W. Grand Ave., Artesia, NM 88210 OIL CONSERVATION DIVISION	5. Indicate Type of Lease
District III 1220 South St. Francis Dr. 1000 Rio Brazos Rd., Aztec, NM 87410	STATE ☐ FEE ☒
District IV Santa Fe, NM 8/505	6. State Oil & Gas Lease No.
1220 S. St. Francis Dr., Santa Fe, NM 87505	SF 078882
SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A	7. Lease Name or Unit Agreement Name
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH	Canyon Largo Unit
PROPOSALS.) 1. Type of Well: Oil Well Gas Well Other	8. Well Number 491
1. Type of Well: Oil Well ☐ Gas Well ☒ Other 2. Name of Operator	9. OGRID Number
Huntington Energy, L.L.C.	208706
3. Address of Operator	10. Pool name or Wildcat
908 N.W. 71 st St., Oklahoma City, OK 73116	Basin Dakota
4. Well Location	
Unit Letter D: 1035 feet from the North line and 980 feet	- -
Section 20 Township 25N Range 6W NMPM	Rio Arriba County
11. Elevation (Show whether DR, RKB, RT, GI	R, etc.)
Pit or Below-grade Tank Application ⊠ or Closure □	(ACOSAMA) (ATTACA) (
Pit typeDrillingDepth to Groundwater>300'Distance from nearest fresh water well_>500'	Distance from nearest surface water_>100'_
Pit Liner Thickness: 12 mil Below-Grade Tank: Volume N/A bbls; Construc	tion Material
12. Check Appropriate Box to Indicate Nature of No	tice, Report or Other Data
NOTICE OF INTENTION TO:	SUBSEQUENT REPORT OF:
PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐ REMEDIAL	
TEMPORARILY ABANDON	E DRILLING OPNS. P AND A
PULL OR ALTER CASING	EMENT JOB
OTHER: Drilling Pit	П
13. Describe proposed or completed operations. (Clearly state all pertinent deta	ils, and give pertinent dates, including estimated date
of starting any proposed work). SEE RULE 1103. For Multiple Completion	
or recompletion.	
	•
Huntington Energy, L.L.C. proposes to construct a drilling pit in order to dri	
constructing and closing the pit according to the general pit permit requirem	ents on file at the NMOCD office.
	RCVD MAR12'07
	OIL CONS. DIV.
	DIST. 3
I hereby certify that the information above is true and complete to the best of my kno	wledge and helief I further certify that any nit or helow-
grade tank has been/will be constructed or closed according to NMOCD guidelines \(\sigma\), a general per	rmit or an (attached) alternative OCD-approved plan .
SIGNATURE Atherine Smith TITLE Land Assoc	ioto DATE Manak 7 2007
SIGNATURE ATTURE Land Assoc	iate DATE March 7, 2007
Type or print name Catherine Smith E-mail address: csmith@huntingtonene	rgy.com Telephone No. (405) 840-9876
For State Use Only	-
APPROVED BY: Jungs TITLE SPUTY OR & G.	AS INSPECTOR, DIST. 82 DATEMAR 1 2 2007
Conditions of Approval (if any):	DATE

New Mexico Office of the State Engineer POD Reports and Downloads

				1 OD Reports and	Downloads								
	· · · · · · · · · · · · · · · · · · ·		Township 25N	Range 06W Section	is T			***************************************				* ***	
			NAD27 X	Y Zone	÷	Sear	ch Radius		_				
			County Bas	sin	ÿ Num	nber [Suffix					
			Owner Name (First)	(Last)		Non-I	Domestic	C Dome	estic @	All ,			
			POĎ / Surface Data Repo	ort 👸 🖫 . Avg Depth to	Water Report	'	Water	Column F	Report	1			
				Cléar Form	RS Menu RS	Help							
			·					• •	• •	•			s s 104
			POD / SURFACE DATA REPORT										
					arters are								
		ft per ann			arters are					re in Feet			ın Meters)
B File Nbr	Use	Diversion	Owner	POD Number	Source		Rng Sec		Zone	x	Y		
J 00201	OFM	4	BURLINGTON RESOURCES OIL & GA		Artesian	25N	06W 03	4 1				13	280124
J 00207	OFM	16	BURLINGTON RESOURCES OIL & GA		Shallow	25N	06W 04	1 1				13	277738
J 00681 J 00681 1	STK	8	HOMER C. BERRY HOMER C. BERRY	SJ 00681 SJ 00681 1		25N 25N	06W 21 06W 31	4 1 4				13	278527
	IRR	8 200	HOMER C. BERRY	SJ 00681 1 SJ 00681 12		25N 25N	06W 31	4 4 4				13	274734
3J 00681 12 3J 00681 18	STK	16.13	HOMER C. BERRY	SJ 00681 12		25N	06W 21	4 2 2				13 13	278833 278932
SJ 00681 18	STK	24.195	HOMER C. BERRY	SJ 00681 19		25N	06W 21	4 2 4				13	278887
SJ 00681 19	STK	24.193	HOMER C BERRY	SJ 00681 19		25N	06W 20	3 2 3				13	281194
5J 006B1 31	STK	32	HOMER C. BERRY	SJ 00681 31	•	25N	06W 21	4 4				13	278820
J 00681 33	STK	48	HOMER C BERRY	SJ 00681 33	•	25N	06W 27	3 3				13	279176
J 00885	DOM	24	TRUBY RANCH	SJ 00885 3		25N	06W 03	1 4 1				13	279636
	2011	21	11001 11100	SJ 00885 6		25N	06W 11	3 2 3				13	281194
				SJ 00885 7		25N	06W 03	4 1 4				13	280223

Record Count: 13





New Mexico Office of the State Engineer POD Reports and Downloads

Township: 25N Range: 06W Sections:	
NAD27 X: Y: Zone: Search Radius:	
County: Basin: Suffix: Suffix:	**************************************
Owner Name: (First) (Last) C Non-Domestic C Domestic	• All
POD // Surface Data Réport Avg Dépth to Water Report Water Column Répo	rt.
Clear/Form IWATERS Menu Help	

AVERAGE DEPTH OF WATER REPORT 04/09/2009

(Depth	Water	in	Feet)

Bsn	Tws	Rng S	Sec	Zone	x	Y	Wells	Min	Max	Avg
SJ	25N	06W (03				1	500	500	500
SJ	25N	06W 2	21				1	80	80	80

Record Count: 2

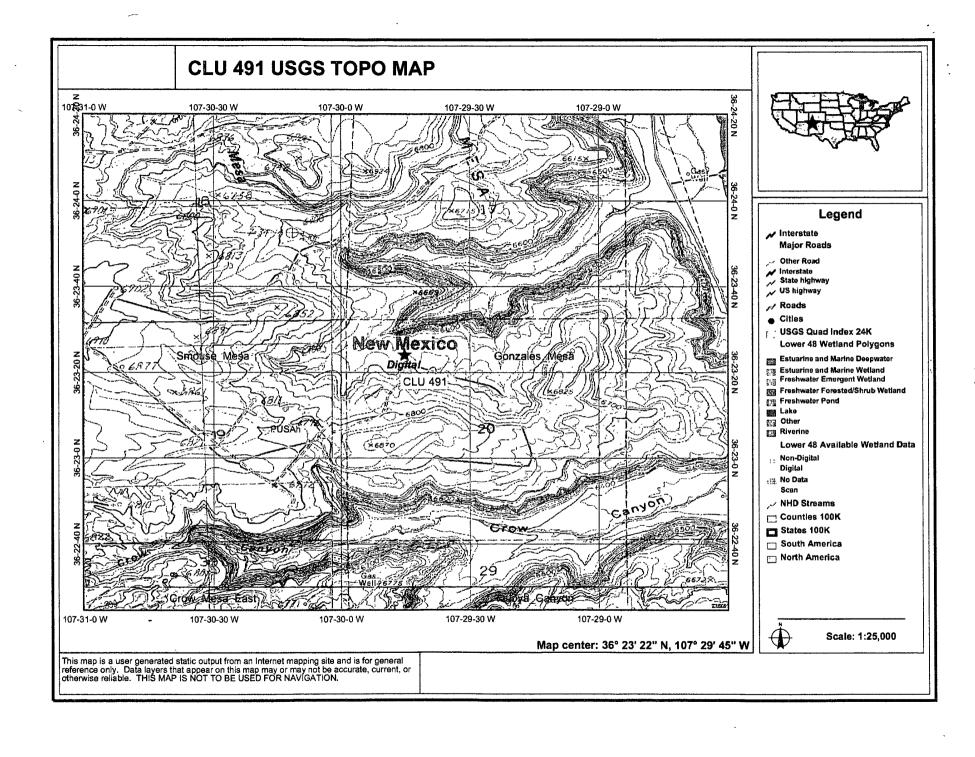
New Mexico Office of the State Engineer POD Reports and Downloads

NAD27 X:	Y: \ Z	one: Search	n Radius:
County: Basin		▼ Number:	Suffix:
Owner Name: (First)	(Last)	← Non-Do	omestic C Domestic A
POD / Surface Data Report	À Aỳg Dệpt	h to:Water:Ŕeport	Water Column Report
	Clear Form & Sadiwa	ATERS Menu Po Phelp	

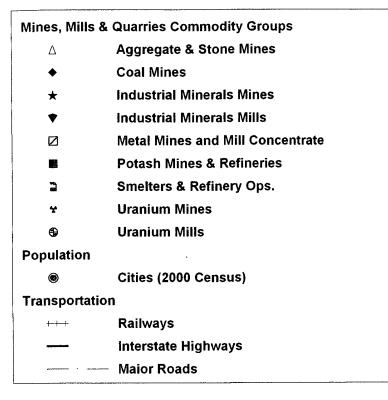
WATER COLUMN REPORT 04/09/2009

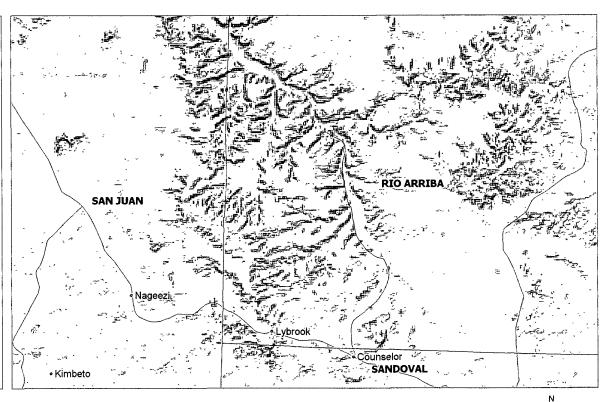
	(quarter	s are 1=	NW 2=NE	3=SW 4=S	SE)					
	(quarter	s are bi	ggest to	smalles	st)		Depth	Depth	Water	(in feet)
POD Number	Tws	Rng Sec	gqq	Zone	x	Y	Well	Water	Column	
SJ 00201	25N	06W 03	4 1				1346	500	846	
SJ 00681	25N	06W 21	4 1 4					80		
SJ 00681 12	25N	06W 33	4 4 4				435			

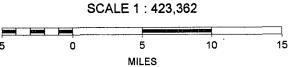
Record Count: 3



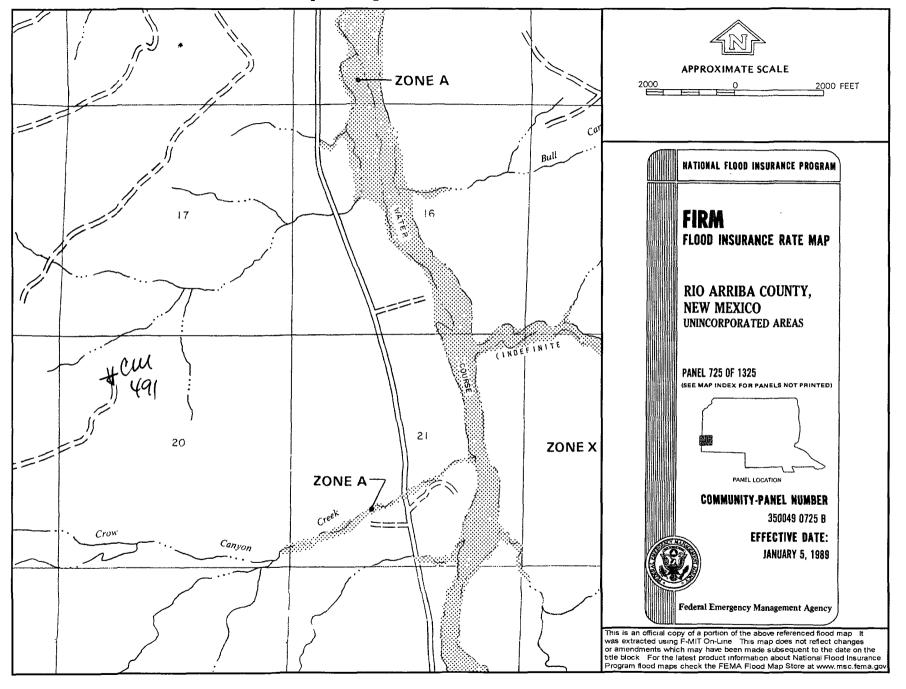
Canyon Largo Unit 491 Mines, Mills and Quarries Web Map











Hydrogeological Report for Canyon Largo Unit #491

Regional Hydrogeolocial Context:

The San Jose Formation of Eocene age occurs in New Mexico and Colorado, and its outcrop forms the land surface over much of the eastern half of the central basin. It overlies the Nacimiento Formation in the area generally south of the Colorado-New Mexico State line and overlies the Animas Formation in the area generally north of the State line.

The San Jose Formation was deposited in various fluvial-type environments. In general, the unit consists of an interbedded sequence of sandstone, siltstone, and variegated shale. Thickness of the San Jose Formation generally increases from west to east (200 feet in the west and south to almost 2,700 feet in the center of the structural basin). Ground water is associated with alluvial and fluvial sandstone aquifers. Thus, the occurrence of ground water is mainly controlled by the distribution of sandstone in the formation. The distribution of such sandstone is the result of original depositional extent plus any post-depositional modifications, namely erosion and structural deformation. Transmissivity data for San Jose Formation are minimal. Values of 40 and 120 feet squared per day were determined from two aquifer tests (Stone et al., 1983, table 5). The reported or measured discharge from 46 water wells completed in San Jose Formation ranges from 0.15 to 61 gallons per minute and the median is 5 gallons per minute. Most of the wells provide water for livestock and domestic use.

The San Jose Formation is a very suitable unit for recharge from precipitation because soils that form on the unit are sandy and highly permeable and therefore readily absorb precipitation. However, low annual precipitation, relatively high transpiration and evaporation rates, and deep dissection of the San Jose Formation by the San Juan River and its tributaries all tend to reduce the effective recharge to the unit.

Stone et al., 1983, Hydrogeology and Water Resources of the San Juan Basin, New Mexico: Socorro, New Mexico Bureau of Mines and Mineral Resources Hydrologic Report 6, 70 p.

CLU 491

Siting Criteria Compliance Demonstration & Hydro Geologic Analysis

The subject well is not located in an unstable area. Visual inspection has been performed (see attached siting checklist): location is not within 300' of flowing watercourse or 200' from any other water course or lake bed; not within 300' of any permanent residence, school, institution; not within 500' of any private water well or spring. The topographic map confirms visual inspection of water course. FEMA Map confirms the location is not within a 100 year floodplain. The location is not over a mine and is not on the side of a hill, as indicated on the Mines, Mills and Quarries Map. iWaters search indicates the closest water is 1.6 miles: POD# SJ00681, STK Use, TD 80'. Huntington Energy CLU 491 reported the top of San Jose water sand at 909', as demonstrated on attached log.

DESTRICT 1 P.O. Box 1980, Hobbs, N.M. 88241-1980

State of New Mexico

Form C-102
Revised October 12, 2005
Instructions on back
Submit to Appropriate District Office

DESTRICT II 1301 W, Grand Avenue, Artesia, N.M. 88210 OIL CONSERVATION DIVISION

State Lease - 4 Copies
Fee Lease - 3 Copies

DISTRICT III 1000 Rio Braxos Rd., Axtec, N.M. 87410

1220 South St. Francis Dr. Santa Fe, NM 87504-2088

RICT IV South St. Fran	cis Dr., Sai	nta ye. NW 5	7506	Sant	a Fe, NM 875	04-2088		. 🗆 A	AMEND	ED REPORT
				OCATION	I AND ÁCI	REAGE DEDI	CATION PL	ΑТ		
API	Nomber		1	*Pool Code			*Pool Name			
			7159	9		asin Dakota,				. N
⁴ Property Co	×d•			_	P roperty ANYON LARGO			* Well Number		
OGRID No.					*Operator					491
208706				HU	NTINGTON EN			6696'		
	1				10 Surface	Location		1		
UL or lot no.	Section	Township	Range	Lot ldn	Feet from the	North/South line	Feet from the	East/Ver	rt line	County
D	20	25-N	6-W		1035	NORTH	980'	WES	T	RIO ARRIBA
			11 Bott	om Hole	Location 1	f Different Fr	om Surface		• •	
UL or lot no.	Section	Township	Range	Lot ldn	Feet from the	North/South line	Feet from the	Zast/Ves	et line	County
Dedicated Acre	<u> </u>	1	" Joint or	infill	" Consolidation	Code	*Order No.	1		<u> </u>
W/320		•								
			<u> </u>			ON UNTIL ALL	<u> </u>			
0, (W) 0	103	LAT: 38 LONG:	5.38958° 107.4959		1965 13.20 FT. LC'D COR. B3) AD B3)		interest of incheding right to a contract of unionist.	r unleased so the proposed will this well with on owne or to a voken	sineral unto l bottom ha l at thus in or of such utery poster	either owner a nor rest in the land de location or her cotten previousle to a membral or work or agreement or a bore entered by the
7-00-00 S S287.60, FD 3 1/4" B.L.M. BC				20 —			Spatial Carlo	MATTER ST	And On Ci	Dela (22/
1965							I hereby was plot me or us and corr	correctly that is bed from field mader may super nect to the bed	the well los i notes of s cruision, an	cation shown on the actual surveys med of that the same is
				Ų					14831 2 G	Thoras and the second

Huntington Energy, L.L.C. Below Grade Tank Design and Construction San Juan Basin

The design and construction requirements for below-grade tanks include the general provisions of Paragraphs A, C, D, and E of 19.15.17.11 NMAC and the specific requirements of Paragraph I of 19.15.17.11 NMAC. In accordance with Section 11 of 19.15.17 NMAC, the following include all of the appropriate provisions for the design and construction of below grade tanks (BGT) on Huntington Energy, L.L.C. (HE) locations.

General Plan:

- 1. HE will design and construct a BGT to contain liquids and to prevent contamination of fresh water and protect the public health and environment.
- 2. Huntington Energy, L.L.C. (HE) shall have signs at the sites as per 19.15.16.8 NMAC of which an existing well is the same operator-Huntington Energy. The sign shall provide the following: Operator's name, location of site by quarter-quarter or unit letter, section, township and range, and emergency numbers. If in case the Below Grade Tank (BGT) does not co-exist with an existing well, the sign shall comply with subsection C of 19.15.17.11 NMAC.
- 3. HE shall fence the BGT in a manner that prevents unauthorized access and shall maintain the fence in good repair. We shall ensure that all gates associated with the fence are closed and locked when responsible personnel are not on-site.
 - HE shall construct fencing around the BGT using 4' hogwire fencing topped with two strands of barbed wire, or with a pipe top rail- an alternative to the requirements as set out by Subsection D of 19.15.17.11 and should provide long term protection and less maintenance. A six foot chain link fence topped with three strands of barbed wire will be used if the well location is within 1000' of a permanent residence, school, hospital, institution, or church.
- 4. HE will construct an expanded metal covering on the top of the BGT.
- 5. HE shall ensure that a below-grade tank is constructed of materials resistant to the below-grade tank's particular contents and damage from sunlight.
- 6. HE will construct a properly constructed foundation consisting of a firm, unyielding base, smooth and free of rocks, debris, sharp edges, or irregularities to prevent the liner's rupture or tear. Once the hole is constructed with a backhoe and firmed, shovels are used to smooth and remove all rocks, debris, or edges that might rupture the liner. In addition, I-beams placed below the tank are wrapped with 60 mil HPDE material to prevent any punctures of liner.
- 7. HE shall construct a BGT to prevent overflow and the collection of surface water run-on by constructing an inner crib, which the height extends above ground level by 6" preventing water from entering. The BGT is also elevated 6" above ground level as well. The berm, which is constructed approximately 3' tall by 5' wide for containment and any fluids entering outside of the fenced area. Auto shut-off controls are installed using a radar that is set at 14" of freeboard. When water level reaches that point, a signal is sent

and sends an alarm to the pumper. If 10" of freeboard is reached, a signal is sent to a valve which shuts the gas line on discharge of separator. This in turn causes a pressure increase to 200 psi, which closes the motor valve on the inlet side of the separator, shutting the well down. A manual valve is also placed on the 2" line from separator to BGT shutting off any water to BGT.

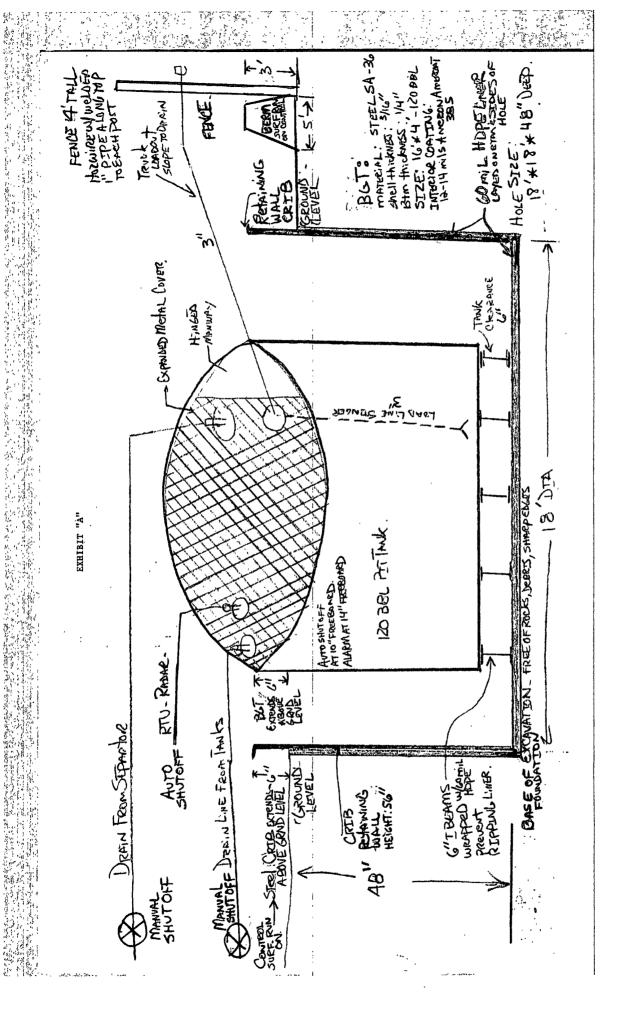
8. HE will construct a BGT system employing an external crib that stands between the wall of the foundation of the hole and the BGT. The crib will be placed on top of the 60 mil liner and will extend 6" above ground level. It is made of steel with a grey coating. The BGT side walls will be visible and open for visual inspection. Dirt is placed outside of crib filling void. (Liner is extended to ground level on outside of crib.)

The BGT will be steel and elevated 6" above underlying ground surface using 6" I-Beam (I-Beams wrapped to prevent edges from rupturing the liner), which elevates the BGT 6" above ground level to prevent surface run-on.

- 9. HE shall equip below-grade tanks designed in this manner with a properly operating automatic high-level shut-off control device and manual controls to prevent overflows. Auto shut-off controls are installed using a radar that is set at 14" of freeboard and when water level reaches that point, a signal is sent and it in turns sends an alarm to the pumper. If 10" of freeboard is reached, a signal is sent to a valve which shuts the gas line on discharge of separator. This in turn causes a pressure increase to 200 psi which closes the motor valve on the inlet side of separator shutting the well down. A manual valve is also placed on the 2" line from separator to BGT shutting off any water to BGT.
- 10. The geomembrane liner shall consist of 30-mil flexible PVC or 60-mil HDPE liner, or an equivalent liner material that the appropriate division district office approves. The geomembrane liner shall have a hydraulic conductivity no greater than 1 x 10-9 cm/sec. The geomembrane liner shall be composed of an impervious, synthetic material that is resistant to petroleum hydrocarbons, salts and acidic and alkaline solutions. The liner material shall be resistant to ultraviolet light. Liner compatibility shall comply with EPA SW-846 method 9090A.

HE will demonstrate to the NMOCD that the liner complies with the specifications within Subparagraph (a) of Paragraph (4) of Subsection I of 19.15.17.11 NMAC and obtain approval from the NMOCD prior to the installation of the new design.

11. HE BGT's constructed and installed prior to June 16, 2008, that do not comply with 19.15.17.11 NMAC Paragraph 1-4 of Subsection I, shall be equipped or retrofitted or closed within 5 years after June 16, 2008. If the existing BGT does not demonstrate integrity, the BGT will be removed and a BGT that meets criteria set forth by Paragraphs 1 thru 4 of Subsection I of 19.15.17.11 NMAC will be installed.



60 mil HOPE



Table 1.1: Minimum Values for Smooth Black-Surfaced HDPE Geomembranes

TESTED PROPERTY	TEST METHOD	PREGUENCY	MINIMUM VALUE				
Product Code			HDE 0304000	HDE	HDE 000A000	HOE OROADOS	Fileson
Thickness (minknum average) mil (mm)	ASTM D 5199	Every roll	30 (0.75)	40 (1.00)	80 (1,50)	80) (2,00)	1000
Lowest individual reading (-10%)			27 (0.69)	36 (0.91)	54 (1.40)	32 (11. 80)	T SHOT CHE SECT
Density, g/cm ³	ASTM D 1505	200,000 to	0.94	0.94	0,94	0.94	المراجعة ال المراجعة المراجعة الم
Tensile Properties (each direction)	ASTM D 6693, Type IV	20,000 lb					
Strength at Break, Ibin (N/mm)	Dumbell, 2 lpm		114 (20)	152 (27)	228 (40)	304 (53)	10mg/ (4)f/5
Strangth at Yield, W/In (N/mm)		Ī	63 (11)	84 (15)	126 (22)	168 (29)	1987 dans
Elongston at Break, %	G.L. 2.0 in (51 mm)		700	700	700	7/040	7K 117
Elongetion at Yield, %	G.L. 1.3 in (33 mm)		12	12	12	12	112
Tear Reststance, & (N)	ASTM D 1004	46,000 lb	21 (93)	28 (125)	42 (187)	56 (249)	PW MEN'S
Puncture Resistance, Ib (N)	ASTM D 4833	45,000 Bb	54 (240)	1,5 (3250)	100 (480)	144 (840)	1901:3459
Certon Black Content, %	ASTM D 16031/4218	20,000 %	2.0	2.0	2.0	2.0	hami termininin italiin
Carbon Black Dispersion	ASTM D 5596	45,000 tb	+ Note 1	+ Note 1	+ Note 1	+ Number 1	" dilenta i
Notched Constant Tennile Load, hr	ASTM D 5397, Appendix	200,000 Њ	300	300	300	34000	
REFERENCE PROPERTY	FREQUENCY	MORINAL VALUE					
Oxidative Induction Time, min	ASTM D 3895, 200° C; C ₃ , 1 ±6m	200,000 lb	>100	>100	>100	>160	department of the second
Roll Length ⁽¹⁾ (approximate), fi (m)			1,120 (341)	670 (2 65)	560 (171)	430 (131)	THERE AND A
Roll Wildin ⁽¹⁾ , ft (m)			22.5 (6.9)	22.5 (6.9)	22.5 (6,9)	22.5 (8.9)	Zalit (D-M)
Roll Ares, ff ² (m²)			25,200 (2,341)	19,575 (1,819)	12, 600 (1,171)	9,675 (599)	MAN CONTRACTOR

MOTES

- + Noter1. Dispersion only applies to near spheriosi agglomerates. 9 of 10 views shall be Category 1 or 2. No more than 1 view from Category 3
- . GSS HD is available in role weighing about 3,900 lb (1,769 kg).
- AR GSS geomembranes have dimensional stability of £2% when tested with ASTM D 1204 and LTB of <77° C when tested with ASTM D 746.
- $_{\rm e}$ $^{10}{\rm Politics}$ lengths and widths lieve a tolerance of z 1%.
- *Modified

HUNTINGTON ENERGY, L.L.C.

BELOW GRADE TANK SITING/VISUAL INSPECTION CHECKLIST

Well Name: CLU 491

Legal Location: NW/NW SEC 20, T25N R6W

Date of Inspection: 5-5-09

Siting Personnel: David Morales

I observed the following:

		Yes	<u>No</u>
A.	300 ft from flowing watercourse		X
B.	200 ft from any water course or lake bed		X
C.	300 ft from permanent resident, school, or institution		X
D.	500 ft from private fresh water well or spring used by less than 5 households for domestic or stock watering purposes.		X
E.	1000 ft from any other fresh water well or spring		X
F.	Incorporated municipal boundaries or within a defined municipal fresh water well field.		X
G.	Area overlaying a sub-surface mine		X
H.	Unstable area		X
I.	100 year flood plain		X

Huntington Energy, L.L.C. Below Grade Tank Operational Plan San Juan Basin

The operation requirements for below-grade tanks include the general provisions of Paragraph A of 19.15.17.12 NMAC and the specific requirements of Paragraph E of 9.15.17.12 NMAC.

General Plan:

- 1. HE will operate and maintain a BGT to contain liquids and solids and prevent contamination of fresh water and protect public health and environment. Maintaining and operating all equipment in a satisfactory working order is accomplished by daily and monthly inspections to assure all systems are performing. These inspections should include: operations of equipment-functioning properly, observance of any surface runon, checking for visible leaks, assure correct freeboard of liquids in BGT, berms integrity is good, fencing in compliance, assure no oil sludge, miscellaneous, expanded metal cover integrity is good, and all signs are in order.
- 2. HE shall construct a BGT to prevent overflow and the collection of surface water run-on by constructing an inner crib which the height extends above ground level by 6" preventing water from entering. The BGT is also elevated 6" above ground level as well as the berm constructed approximately 3' tall by approximately 5' wide for containment and any fluids entering outside of fenced area. Auto shut-off controls are installed using a radar that is set at 14" of freeboard and when water level reaches that point, a signal is sent and it in turns sends an alarm to the pumper. If 10" of freeboard is reached, a signal is sent to a valve which shuts the gas line on discharge of separator. This in turn causes a pressure increase to 200 psi which closes the motor valve on the inlet side of separator shutting the well down. A manual valve is also placed on the 2" line from separator to BGT shutting off any water to BGT.

Each lease operator gets a daily report containing water levels in each location. If auto shut-off control shuts well in, well is not opened until sufficient freeboard is reestablished and no alarms are activated. HE will maintain a 14" freeboard policy for alarm notification and a complete shut down when freeboard reaches 10" from top of BGT.

Berms will be maintained at 5' wide and 3' tall to assure prevention of surface run on and containment.

- 3. HE shall continuously remove any visible or measurable layer of oil from the fluid surface of a below-grade tank in an effort to prevent significant accumulation of oil over time.
- 4. HE monthly inspection report involves both lease operator and foreman reviewing each report monthly to assure integrity of the BGT system. This includes equipment functioning correctly, observance of any surface run-on, spills, or leak detection, check freeboard of liquids in BGT, berm integrity, all fencing in good condition, all gates in working condition, expanded metal cover in good condition, remove any visible layer of sludge from fluid level in tank, and document review on monthly gauge sheet of each

BGT system. If any issue arises, immediate action should commence to repair or replace in order to prevent any contamination of fresh water and protect public health and the environment.

- 5. If a BGT develops a leak, or if any penetration of the pit liner or BGT occurs below the liquid's surface, HE will remove all liquid above the damage or leak line within 48 hours. HE will notify the appropriate division district office within 48 hours of the discovery and repair the damage or replace the pit liner or BGT.
 - Existing BGT's installed prior to June 16, 2008, shall comply with Paragraph (1) through (4) of Subsection I of 19.15.17.11 NMAC. If existing BGT does not meet standards, HE will retrofit, remove or replace as per approved Exhibit "A" Design Drawing.
- 6. HE Operations Plan specifies that the auto shut-off system will send an alarm to HE lease operator and foremen when the freeboard liquid level is 14" from the top of BGT and the auto system will shut in system at 10" of freeboard. A manual valve is in place for complete shut down if needed.
- 7. HE standard operating procedures will comply with Subsection A of 19.15.17.12 NMAC in accordance with the following requirements:
 - 1) Operate and maintain BGT to contain liquids and maintain integrity of the liner, liner system and secondary containment (crib) to prevent contamination of fresh water and protect public health and environment. Daily and written monthly reviews will be executed to assure system is maintained and complies with all Division rules. Records will be kept a minimum of 5 years.
 - 2) HE shall not store or discharge any hazardous wastes into a BGT.

Huntington Energy, L.L.C. Below Grade Tank Closure Plan San Juan Basin

The closure requirements for below-grade tanks include the general provisions of Paragraphs A, G, H, I, J, and K of 19.15.17.13 NMAC and the specific requirements of Paragraph E of 9.15.17.13 NMAC.

Closure Timelines:

1. HE shall close an existing BGT within the time periods provided in 19.15.17.13 NMAC, or by and earlier date that the division requires because of imminent danger to fresh water, public health or the environment. HE will close an existing BGT that does not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC or is not included in Paragraph 5 of Subsection I of 19.15.17.11 NMAC within 5 years after June 16, 2008, if not retrofitted to comply with Paragraph (1) through (4) of Subsection I of 19.15.17.11 NMAC.

HE shall close a permitted BGT within 60 days of cessation of the BGT's operation or As required by the provisions of Subsection B of 19.15.17.17 NMAC in accordance with a closure plan the Division District Office approves.

2. HE shall submit closure notice prior to the implementation of any closure operations to the Division District Office and surface owners. HE shall notify surface owners by certified mail, return receipt requested. Evidence of mailing of the notice to the address of the surface owner shown in the county tax records shall be provided in the Closure Report. HE will notify the Division District office at least 72 hours, but not more than one week prior to any closure operation. All operator information shall include the operator's name and the location to be closed by unit letter, section, township and range. If associated with a particular well, the notice shall include the well's name, number and API number.

Closure Method & Procedures:

- 1. Remove liquids and sludge from a BGT prior to implementing a closure method. These will be disposed in facility IEI, Permit # 01001010B for sludge, and liquids will be disposed at the TNT Environmental, permit # NM 01-0008 or Basin Disposal, Inc., permit # NM-01-005 or Jillson SWD (Conoco-Phillips), R-10168.
- 2. HE will obtain prior approval from the OCD to dispose, recycle, reuse, or reclaim the BGT and provide documentation of the final disposition of the BGT in the Closure Report.
- 3. All on-site related equipment with a BGT shall be removed unless equipments is required for some other purpose.
- 4. If the liner material requires disposal, HE will clean the liner (as per subparagraph (m) of paragraph (1) of Subsection C of 19.15.35.8 NMAC), and can be accepted at a solid waste facility at San Juan County Regional Landfill.
- 5. HE shall test the soils beneath the below-grade tank to determine whether a release has occurred. HE shall collect, at a minimum, a five point, composite sample; collect individual grab samples from any area that is wet, discolored or showing other evidence of a release; and analyze for BTEX, TPH and chlorides to

demonstrate that the benzene concentration, as determined by EPA SW-846 methods 8021B or 8260B or other EPA method that the division approves, does not exceed 0.2mg/kg; total BTEX concentration, as determined by EPA SW-846 methods 8021B or 8260B or other EPA method that the division approves, does not exceed 50 mg/kg; the TPH concentration, as determined by EPA method 418.1 or other EPA method that the division approves, does not exceed 100 mg/kg; and the chloride concentration, as determined by EPA method 300.1 or other EPA method that the division approves, does not exceed 250 mg/kg, or the background concentration, whichever is greater. HE shall notify the division of its results on form C-141.

- 6. If we determine a release has occurred, we will comply with 19.15.29 NMAC and 19.15.30 NMAC.
- 7. If sampling program demonstrates that release has not occurred or that any release does not exceed the concentrations specified in Paragraph (4) of Subsection E of 19.15.17.13 NMAC, then HE shall backfill the excavation with compacted, non-waste earthen material, construct a division prescribed soil cover, and re-contour and re-vegetate the site, as per Subsection G, H and I of 19.15.17.13 NMAC.
- 8. Once HE has closed the BGT location, including associated access roads to a safe and stable condition that blends with the surrounding undisturbed area, HE will then restore the surface are to prior conditions before operations as provided in Subsection H of 19.15.17.13 NMAC.
- 9. The soil cover for closure shall consist of the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater. HE will construct the soil cover to the site's existing grade and prevent ponding of water and erosion of the cover material.
- 10. Re-vegetation: the first growing season after HE closes a BGT, HE shall seed or plant the disturbed area. HE shall accomplish seeding by drilling on the contour whenever practical or by other division-approved methods. HE shall obtain vegetative cover that equals 70% of the native perennial vegetative cover (unimpacted by overgrazing, fire or other intrusion damaging to native vegetation) consisting of at least three native pant species, including at lease one grass, but not including noxious weeds, and maintain the cover through two successive growing seasons. During the two growing seasons that prove viability, there shall be no artificial irrigation of the vegetation. HE shall repeat seeding or planting until the required vegetative cover is achieved. HE shall notify the division when it has seeded or planted and when successful re-vegetation has occurred.
- 11. Closure Report: Within 60 days of closure, HE shall submit a closure report on form C-144/Checklist Box 24, with the following attachments: Proof of Closure Notice (surface owner and division); Proof of Deed Notice; Plot Plan, Confirmation Sampling Analytical Results (if applicable); Waste Material Sampling Analytical Results, Disposal Facility Name and Permit Number; Soil Backfilling and Cover Installation; Re-vegetation Application Rates and Seeding Technique; Site Reclamation (Photo Documentation); and Latitude and Longitude of site.