

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

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

Form C-144  
July 21, 2008

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

3994

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

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

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

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

1.  
Operator: Huntington Energy, L.L.C. OGRID #: 208706  
Address: 908 N.W. 71<sup>st</sup> St., Oklahoma City, OK 73116  
Facility or well name: Canyon Largo Unit #425E  
API Number: 30-039-30082 OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr O Section 10 Township 25N Range 7W County: Rio Arriba  
Center of Proposed Design: Latitude 36.41018 Longitude -107.55893 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 20 mil ☒ LLDPE ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_  
☒ String-Reinforced  
Liner Seams: ☒ Welded ☐ Factory ☐ Other \_\_\_\_\_ Volume: 10000 bbl Dimensions: L 140' x W 65' x D 10'

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

4.  
☒ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC  
Volume: 120 bbl Type of fluid: Produced Water  
Tank Construction material: Steel  
☐ Secondary containment with leak detection ☒ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off  
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other \_\_\_\_\_  
Liner type: Thickness 60 mil ☒ HDPE ☐ PVC ☐ Other \_\_\_\_\_

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



6.

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

- ☐ Chain link, six feet in height, two strands of barbed wire at top (*Required if located within 1000 feet of a permanent residence, school, hospital, institution or church*)
- ☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet
- ☒ Alternate. Please specify 4' 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)

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

10.

**Siting Criteria (regarding permitting):** 19.15.17.10 NMAC

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

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to permanent pits) - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

11.

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

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

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

12.  
**Closed-loop Systems Permit Application Attachment Checklist:** Subsection B of 19.15.17.9 NMAC**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

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

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

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

13.

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

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC  
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC  
☐ Climatological Factors Assessment  
☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Quality Control/Quality Assurance Construction and Installation Plan  
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC  
☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Nuisance or Hazardous Odors, including H<sub>2</sub>S, Prevention Plan  
☐ Emergency Response Plan  
☐ Oil Field Waste Stream Characterization  
☐ Monitoring and Inspection Plan  
☐ Erosion Control Plan  
☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

14.

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

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

Proposed Closure Method: ☒ Waste Excavation and Removal  
☐ Waste Removal (Closed-loop systems only)  
☐ On-site Closure Method (Only for temporary pits and closed-loop systems)  
☐ In-place Burial ☐ On-site Trench Burial  
☐ Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15.

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

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

16.

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

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

Disposal Facility Name: \_\_\_\_\_ Disposal Facility Permit Number: \_\_\_\_\_  
 Disposal Facility Name: \_\_\_\_\_ Disposal Facility Permit Number: \_\_\_\_\_

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

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

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

- ☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC  
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC  
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

17.

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

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

- |   |   |
|---|---|
| Ground water is less than 50 feet below the bottom of the buried waste.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells   | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> NA |
| Ground water is between 50 and 100 feet below the bottom of the buried waste<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells  | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> NA |
| Ground water is more than 100 feet below the bottom of the buried waste.<br>- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells  | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> NA |
| Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).<br>- Topographic map; Visual inspection (certification) of the proposed site  | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.<br>- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image  | <input type="checkbox"/> Yes <input type="checkbox"/> 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.<br>- NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.<br>- Written confirmation or verification from the municipality; Written approval obtained from the municipality   | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within 500 feet of a wetland.<br>- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site   | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within the area overlying a subsurface mine.<br>- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division   | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within an unstable area.<br>- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map   | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |
| Within a 100-year floodplain.<br>- FEMA map   | <input type="checkbox"/> Yes <input type="checkbox"/> No                                |

18.

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

- ☐ 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 Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC  
☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC  
☐ 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 I of 19.15.17.13 NMAC  
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19.

**Operator Application Certification:**

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

Name (Print): Catherine Smith Title: Regulatory

Signature: Catherine Smith Date: 8/25/2009

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: Bob Pell Approval Date: 9/30/09

Title: EnviroSpec OCD Permit Number:

21.

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

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

☐ Closure Completion Date:

22.

**Closure Method:**

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

23.

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

*Instructions: Please 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

24.

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

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

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

25.

**Operator Closure Certification:**

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

Name (Print): Title:

Signature: Date:

e-mail address: Telephone:

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No 1004-0137  
Expires July 31, 2010

5. Lease Serial No  
NMSF 078880

**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.*

6. If Indian, Allottee or Tribe Name

**SUBMIT IN TRIPLICATE** - Other instructions on page 2

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

7. If Unit of CA/Agreement, Name and/or No  
Canyon Largo Unit

8. Well Name and No.  
Canyon Largo Unit #498 **425E**

2. Name of Operator  
Huntington Energy, L.L.C.

9. API Well No  
30-039-30082

3a. Address  
908 N W 71st St  
Oklahoma City, OK 73116

3b. Phone No. (include area code)  
405-840-9876

10. Field and Pool or Exploratory Area  
Basin Dakota

4. Location of Well (Footage, Sec., T, R, M, or Survey Description)  
SWSE 910' FSL & 1750' FEL  
Lot O, Sec 10, T25N-R7W

11. Country or Parish, State  
Rio Arriba Co., NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other <u>Change Well Name</u>
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

Huntington Energy, L.L.C respectfully requests to change the name of the above referenced well to "Canyon Largo Unit #425E". The well is an infill well. There is an existing lay-down S/2 proration unit in this section- the Canyon Largo Unit #425, Basin Dakota completion.

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)  
Catherine Smith

Title Regulatory

Signature

*Catherine Smith*

Date 05/13/2009

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

*W. H. Deen*

Title

*Legal Assistant, Florence*

Date

**MAY 18 2009**

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

*FFO*

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

**OPERATOR**

Submit 3 Copies To Appropriate District Office  
District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Ave., Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
May 27, 2004

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

WELL API NO. 30-039-30082
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
6. State Oil & Gas Lease No. SF 078880
7. Lease Name or Unit Agreement Name Canyon Largo Unit
8. Well Number 496
9. OGRID Number 208706
10. Pool name or Wildcat Basin Dakota

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)	
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other	
2. Name of Operator Huntington Energy, L.L.C.	
3. Address of Operator 908 N.W. 71 <sup>st</sup> St., Oklahoma City, OK 73116	
4. Well Location Surface Loc: Unit Letter <u>O</u> : <u>910</u> feet from the <u>South</u> line and <u>1750</u> feet from the <u>East</u> line Section <u>10</u> Township <u>25N</u> Range <u>7W</u> NMPM Rio Arriba County	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 6845' GL	
Pit or Below-grade Tank Application <input checked="" type="checkbox"/> or Closure <input type="checkbox"/>	
Pit type <u>Drilling</u> Depth to Groundwater <u>&gt; 100'</u> Distance from nearest fresh water well <u>&gt;300'</u> Distance from nearest surface water <u>&gt;100'</u>	
Pit Liner Thickness: <u>12</u> mil Below-Grade Tank: Volume <u>N/A</u> bbls; Construction Material	

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
OTHER: Drilling Pit <input checked="" type="checkbox"/>		OTHER: <input type="checkbox"/>	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

RCVD APR26'07  
OIL CONS. DIV.  
DIST. 3

Huntington Energy, L.L.C. proposes to construct a drilling pit in order to drill the subject well. Huntington Energy anticipates constructing and closing the pit according to the general pit permit requirements on file at the NMOCDD office.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCDD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Catherine Smith TITLE Land Associate DATE April 24, 2007

Type or print name Catherine Smith E-mail address: csmith@huntingtonenergy.com Telephone No. (405) 840-9876  
For State Use Only

APPROVED BY: Branch Hall TITLE DEPUTY OIL & GAS INSPECTOR, DIST. #3 DATE APR 26 2007  
Conditions of Approval (if any):

DISTRICT I  
P.O. Box 1980, Hobbs, N.M. 88241-1980

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

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

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

Form C-102  
Revised October 12, 2001  
Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-039-30082		<sup>2</sup> Pool Code 71599	<sup>3</sup> Pool Name Basin Dakota
<sup>4</sup> Property Code 32660	<sup>5</sup> Property Name CANYON LARGO UNIT		<sup>6</sup> Well Number 425E
<sup>7</sup> GRID No. 208706	<sup>8</sup> Operator Name HUNTINGTON ENERGY, LLC		<sup>9</sup> Elevation 6845'

<sup>10</sup> Surface Location

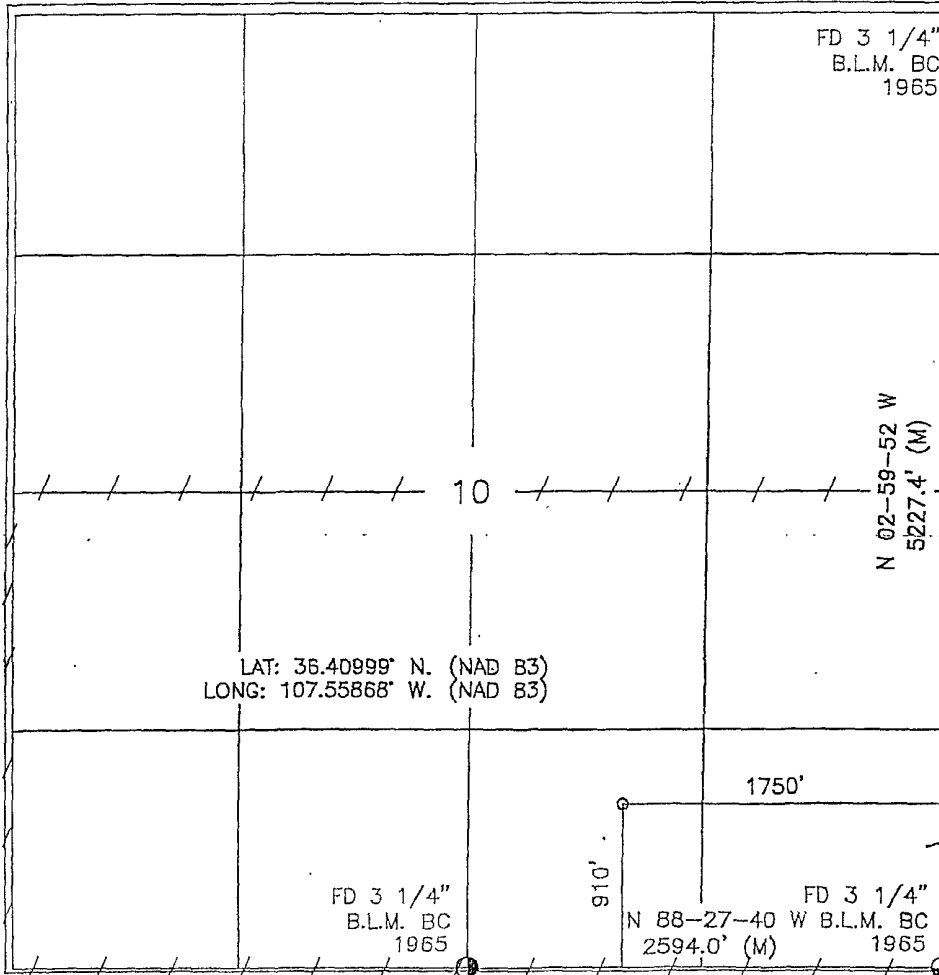
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	10	25-N	7-W		910'	SOUTH	1750'	EAST	RIO ARriba

<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<sup>12</sup> Dedicated Acres S/2 - 320		<sup>13</sup> Joint or Infill		<sup>14</sup> Consolidation Code		<sup>15</sup> Order No.			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16



<sup>17</sup> OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

*Catherine Smith* 5/13/09  
Signature Date  
Catherine Smith  
Printed Name

<sup>18</sup> SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

MAY 4, 2006

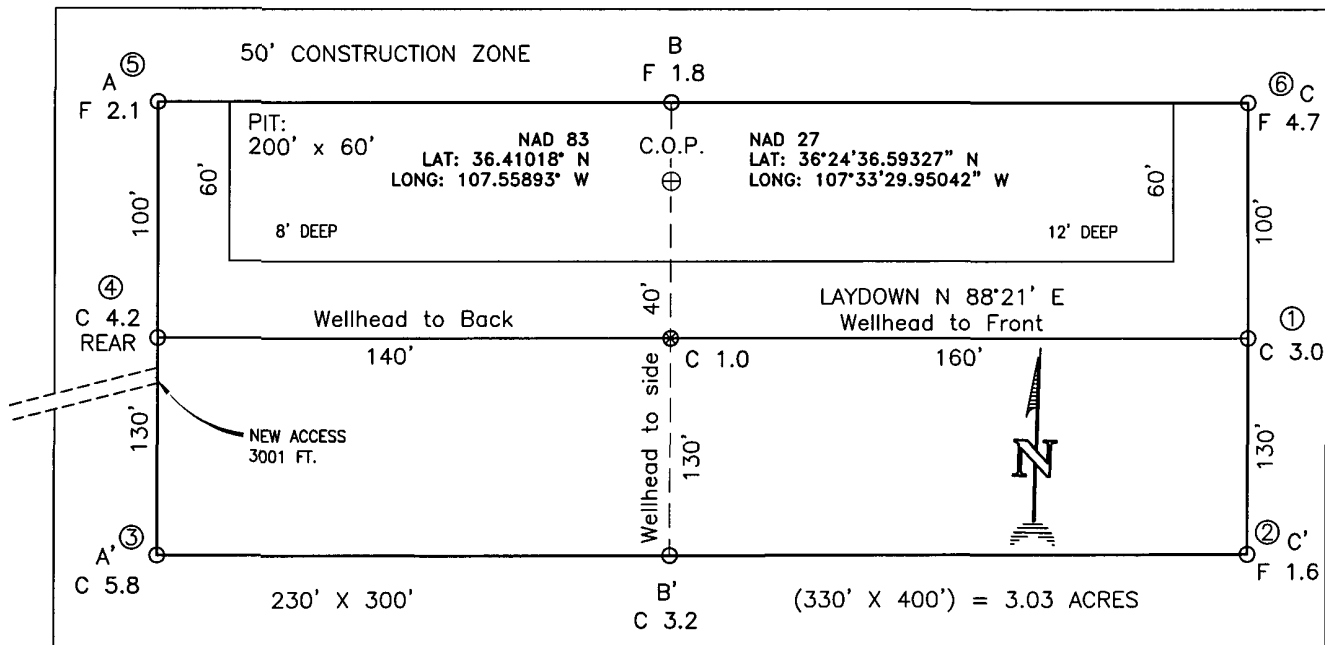
Date of Survey  
Signature and Seal of Professional Surveyor:

*JOHN A. VUKOBRA*  
REGISTERED PROFESSIONAL SURVEYOR  
14831  
Certificate Number

OPERATOR



HUNTINGTON ENERGY, LLC  
 CANYON LARGO UNIT No. 496, 910 FSL 1750 FEL  
 SECTION 10, T-25-N, R-7-W, N.M.P.M., RIO ARRIBA COUNTY, N.M.  
 GROUND ELEVATION: 6845' DATE: MAY 4, 2006

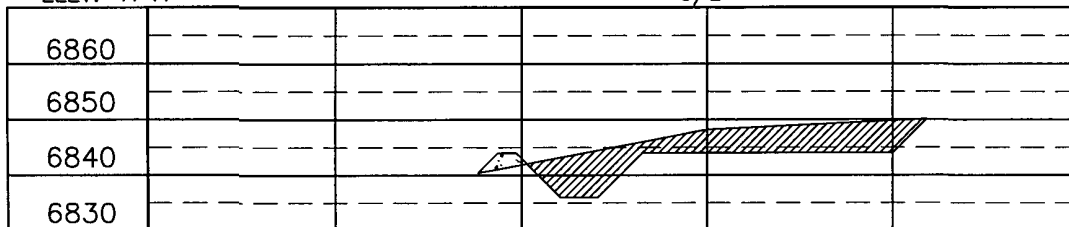


RESERVE PIT DIKE: TO BE 8' ABOVE DEEP SIDE (OVERFLOW - 3' WIDE AND 1' ABOVE SHALLOW SIDE).  
 BLOW PIT: OVERFLOW PIPE HALFWAY BETWEEN TOP AND BOTTOM AND TO EXTEND OVER PLASTIC LINER AND INTO BLOW PIT.

NOTE: DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO EXCAVATION OR CONSTRUCTION.

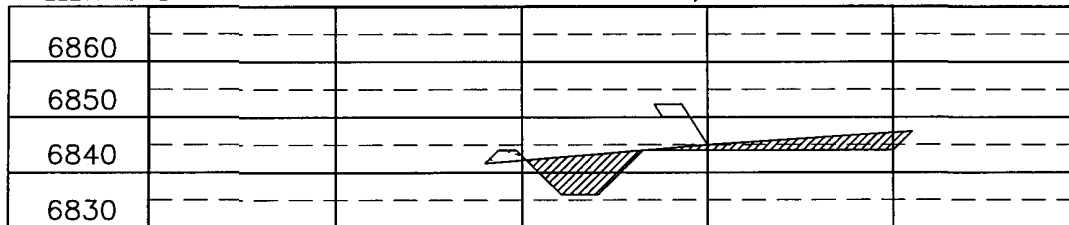
ELEV. A-A'

C/L



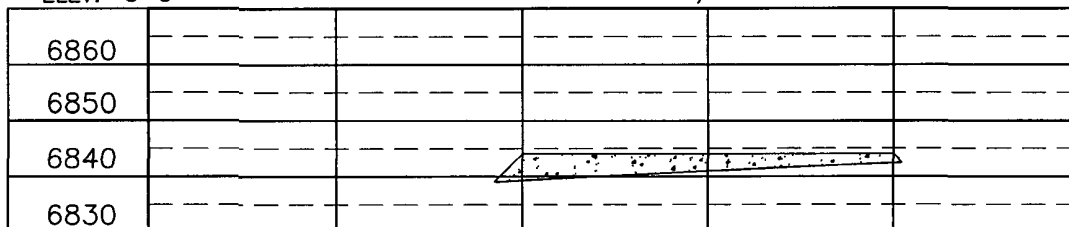
ELEV. B-B'

C/L



ELEV. C-C'

C/L

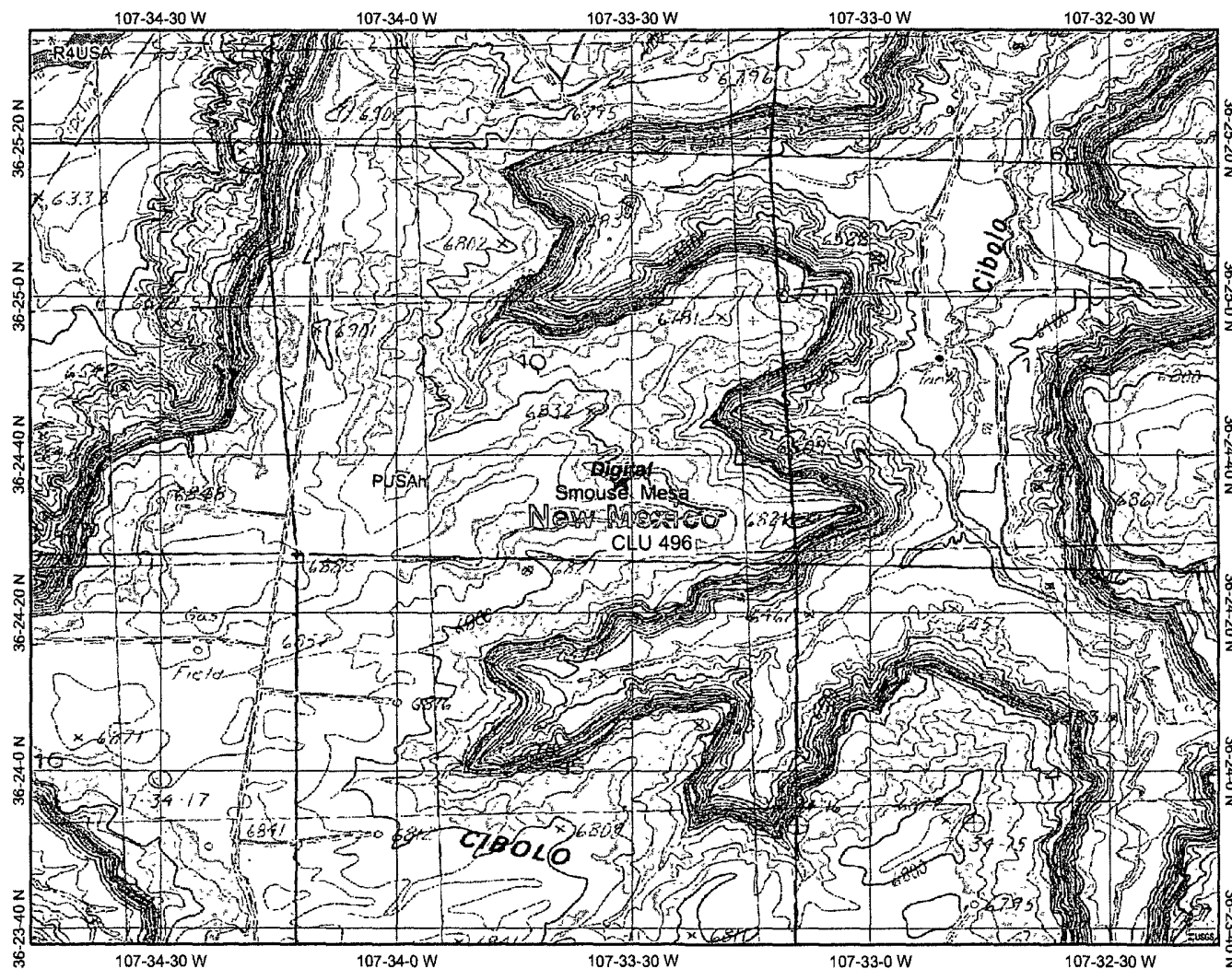


NOTE: CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

REVISION:	DATE:	REVISED BY:
	8/25/09	G.V.
Daggett Enterprises, Inc. Surveying and Oil Field Services P. O. Box 510 Farmington, NM 87499 Phone (505) 326-1772 Fax (505) 326-6019 NEW MEXICO L.S. No. 8894		
DRAWN BY: A.G.		CADFILE: HTG066_CFB
ROW#: HTG066		DATE: 6/12/06



# CLU 496 USGS TOPO MAP 425E



## Legend

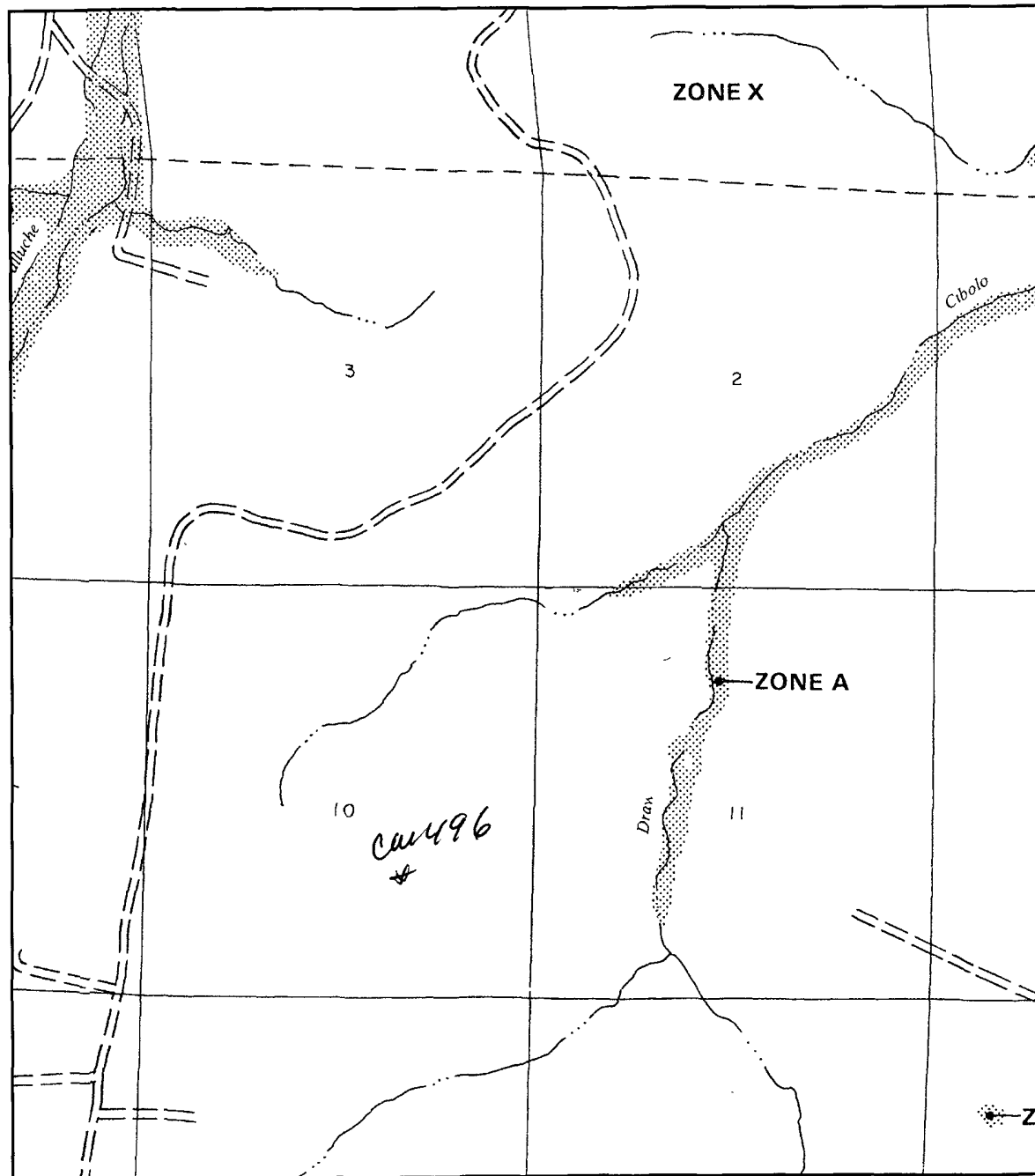
- Interstate
- Major Roads
- Other Road
- Interstate
- State highway
- US highway
- Roads
- Cities
- USGS Quad Index 24K
- Lower 48 Wetland Polygons
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Lower 48 Available Wetland Data
- Non-Digital
- Digital
- No Data
- Scan
- NHD Streams
- Counties 100K
- States 100K
- South America
- North America



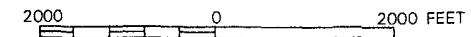
Scale: 1:25,000

Map center: 36° 24' 36" N, 107° 33' 31" W

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.



APPROXIMATE SCALE



NATIONAL FLOOD INSURANCE PROGRAM

**FIRM**  
FLOOD INSURANCE RATE MAP

RIO ARriba COUNTY,  
NEW MEXICO  
UNINCORPORATED AREAS

PANEL 725 OF 1325  
(SEE MAP INDEX FOR PANELS NOT PRINTED)



PANEL LOCATION

COMMUNITY-PANEL NUMBER

350049 0725 B

EFFECTIVE DATE:

JANUARY 5, 1989

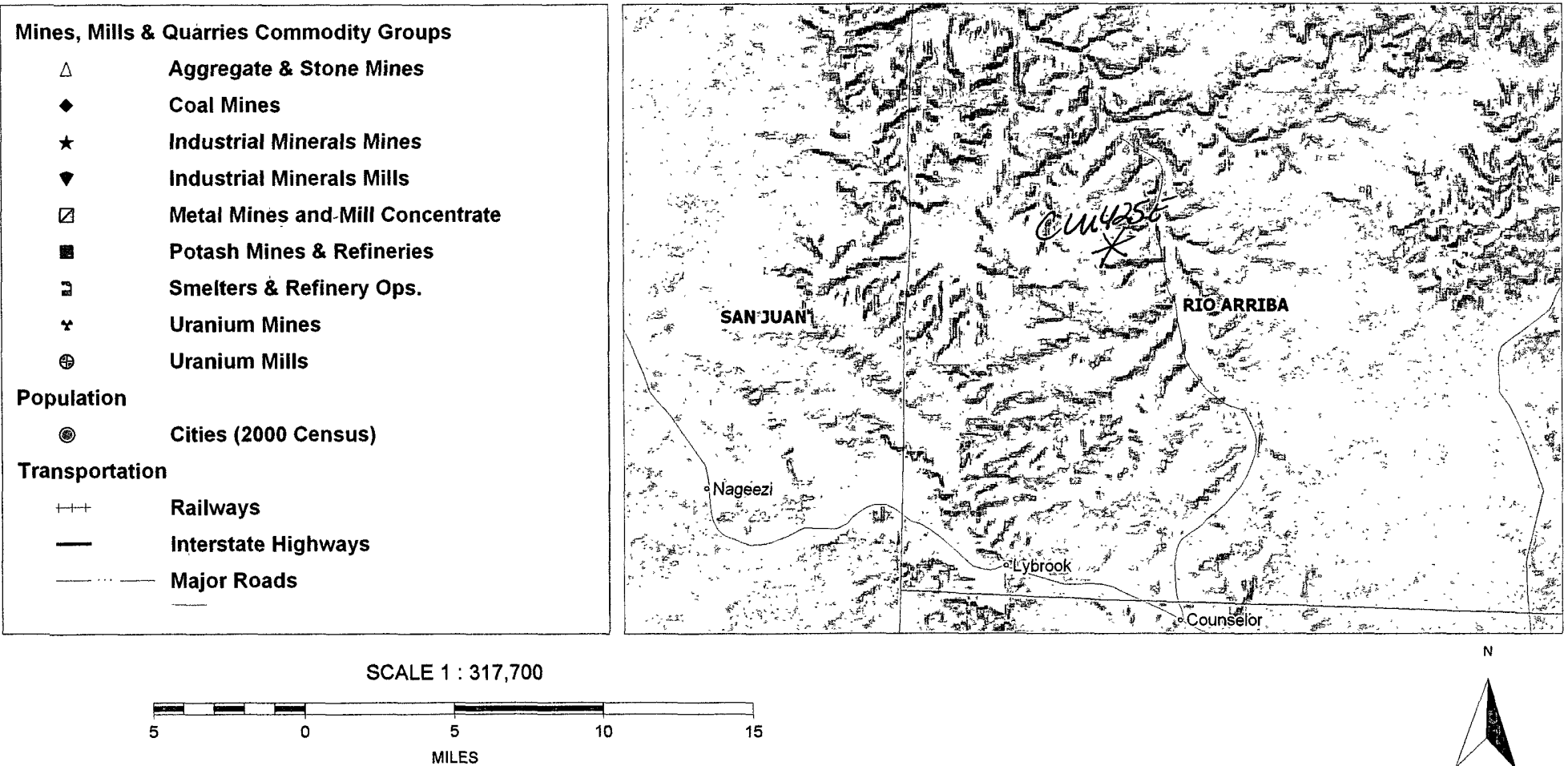


Federal Emergency Management Agency

• ZC

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)

# Canyon Largo Unit #425E Mines, Mills and Quarries Web Map



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

Township:  Range:  Sections: NAD27 X:  Y:  Zone:  Search Radius: County:  Basin:  Number:  Suffix: Owner Name: (First)  (Last)  ☐ Non-Domestic ☐ Domestic ☒ All

**WATER COLUMN REPORT 04/09/2009**

(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	Depth Well	Depth Water	Water (in feet) Column
SJ 01613	25N	07W	12	4						1083	730	353

Record Count: 1

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

Township  Range  Sections

NAD27 X  Y  Zone  Search Radius

County  Basin  Number  Suffix

Owner Name (First)  (Last)  ☐ Non-Domestic ☐ Domestic ☒ All

☐ POD / Surface Data Report ☐ Avg Depth to Water Report ☐ Water Column Report

POD / SURFACE DATA REPORT 04/09/2009

(acre ft per annum)				(quarters are 1=NW 2=NE 3=SW 4=SE)				(quarters are biggest to smallest)			X Y are in Feet			UTM are in Meters			
DB File Nbr	Use	Diversion	Owner	POD Number	Source	Tws	Rng	Sec	q	q	q	q	Zone	X	Y	UTM_Zone	Easting
SJ 00681	STK	6	HOMER C. BERRY	SJ 00681 43		25N	07W	17	2	2	3					13	267630
SJ 00681 40	STK	48	HOMER C. BERRY	SJ 00681 40		25N	07W	30	4	4	1					13	265817
SJ 00681 41	STK	32	HOMER C. BERRY	SJ 00681 41		25N	07W	33	1	3	2					13	267980
SJ 00681 43	STK	10	HOMER C. BERRY	SJ 00681 43		25N	07W	17	2	2	3					13	267630
SJ 00681 44	STK	10	HOMER C. BERRY	SJ 00681 44		25N	07W	17	2	2	2					13	267830
SJ 01613	STK	3	BUREAU OF LAND MANAGEMENT	SJ 01613	Shallow	25N	07W	12	4							13	273879
SJ 02418	STK	3	RICHARD BOYD	SJ 02418		25N	07W	04	4	1	3					13	268766
SJ 02423	STK	3	RICHARD BOYD	SJ 02423		25N	07W	04	4	3	1					13	268742

Record Count. 8

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

Township:  Range:  Sections: NAD27 X:  Y:  Zone:  Search Radius: County:  Basin:  Number:  Suffix: Owner Name: (First)  (Last)  ☐ Non-Domestic ☐ Domestic ☒ All**AVERAGE DEPTH OF WATER REPORT 04/09/2009**

Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	(Depth Water in Feet)		
								Min	Max	Avg
SJ	25N	07W	12				1	730	730	730

Record Count: 1

## **CLU 425E**

### **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, or 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 well is, SE Sec 12-25N-R7W # SJ01613, TD 1083', Average Depth of Water 730', Water Column 353'.



## ***Hydrogeological Report for Canyon Largo Unit #425E***

### **Regional Hydrogeological 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.



**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  $1 \times 10^{-9}$  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 HDPE



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

TESTED PROPERTY	TEST METHOD	FREQUENCY	MINIMUM VALUE				
Product Code			HDE 030A000	HDE 040A000	HDE 060A000	HDE 080A000	HDE 100A000
Thickness, (minimum average) mil (mm)	ASTM D 5199	Every roll	30 (0.75)	40 (1.00)	60 (1.50)	80 (2.00)	100 (2.50)
Lowest individual reading (-10%)			27 (0.69)	36 (0.91)	54 (1.40)	72 (1.80)	90 (2.30)
Density, g/cm <sup>3</sup>	ASTM D 1505	200,000 lb	0.94	0.94	0.94	0.94	0.94
Tensile Properties (each direction)	ASTM D 6693, Type IV	20,000 lb					
Strength at Break, lb/in (N/mm)	Dumbbell, 2 ipm		114 (20)	152 (27)	228 (40)	304 (53)	396 (69)
Strength at Yield, lb/in (N/mm)			89 (11)	84 (15)	128 (22)	158 (29)	214 (38)
Elongation at Break, %	G.L. 2.0 in (51 mm)		700	700	700	700	700
Elongation at Yield, %	G.L. 1.3 in (33 mm)		12	12	12	12	12
Tear Resistance, lb (N)	ASTM D 1004	45,000 lb	21 (93)	28 (125)	42 (187)	58 (249)	79 (349)
Puncture Resistance, lb (N)	ASTM D 4833	45,000 lb	54 (240)	72 (320)	108 (480)	144 (640)	180 (800)
Carbon Black Content, %	ASTM D 1603/A218	20,000 lb	2.0	2.0	2.0	2.0	2.0
Carbon Black Dispersion	ASTM D 5595	45,000 lb	+ Note 1	+ Note 1	+ Note 1	+ Note 1	+ Note 1
Notched Constant Tensile Load, hr	ASTM D 5397, Appendix	200,000 lb	300	300	300	300	300
REFERENCE PROPERTY	TEST METHOD	FREQUENCY	NOMINAL VALUE				
Oxidative Induction Time, min	ASTM D 3895, 200° C; O <sub>2</sub> , 1 atm	200,000 lb	>100	>100	>100	>100	>100
Roll Length <sup>(1)</sup> (approximate), ft (m)			1,120 (341)	570 (265)	560 (171)	430 (131)	345 (104)
Roll Width <sup>(1)</sup> , ft (m)			22.5 (6.9)	22.5 (6.9)	22.5 (6.9)	22.5 (6.9)	22.5 (6.9)
Roll Area, ft <sup>2</sup> (m <sup>2</sup> )			25,200 (2,341)	12,675 (1,171)	12,600 (1,171)	9,675 (893)	7,740 (714)

## NOTES:

- +Note: Dispersion only applies to neat spherical agglomerates. 9 of 10 views shall be Category 1 or 2. No more than 1 view from Category 3.
- GSS HD is available in rolls weighing about 3,900 lb (1,769 kg).
- All GSS geomembranes have dimensional stability of  $\pm 2\%$  when tested with ASTM D 1204 and LTG of  $<77^\circ\text{C}$  when tested with ASTM D 746.
- <sup>(1)</sup>Roll lengths and widths have a tolerance of  $\pm 1\%$ .
- \*Modified

**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 run-on, 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 IEL, 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 (un-impacted 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.