

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., 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  
Revised June 6, 2013

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOCD District Office.  
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

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

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

RCVD AUG 14 '13  
OIL CONS. DIV.  
DIST. 3

*Instructions: Please submit one application (Form C-144) per individual pit, 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: VISION ENERGY GROUP, LLC OGRID #: 280962  
Address: C/O WALEH ENGINEERING, 7415 E. MAIN ST., FARMINGTON, N.M. 87402  
Facility or well name: HOGBACK DEEP 12 #34  
API Number: 30-045-35403 OCD Permit Number: \_\_\_\_\_  
U/L or Qtr/Qtr 0 Section 12 Township 29N Range 17W County: SAN JUAN  
Center of Proposed Design: Latitude 36.7354721 N Longitude -108.5804462 W NAD: ☐ 1927 ☒ 1983  
Surface Owner: ☐ Federal ☐ State ☐ Private ☒ Tribal Trust or Indian Allotment

2. ☒ Pit: Subsection F, G or J of 19.15.17.11 NMAC  
Temporary: ☒ Drilling ☐ Workover  
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Multi-Well Fluid Management Low Chloride Drilling Fluid ☐ yes ☐ no  
☒ Lined ☐ Unlined Liner type: Thickness 20 mil ☒ LLDPE ☐ HDPE ☐ PVC ☐ Other \_\_\_\_\_  
☒ String-Reinforced  
Liner Seams: ☐ Welded ☒ Factory ☐ Other \_\_\_\_\_ Volume: 10,200 bbl Dimensions: L 160 x W 60 x D 10

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

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

5. **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 W/ 1 STRAND OF BARBED WIRE ON TOP

6.

**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)

7.

**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 19.15.16.8 NMAC

8.

**Variances 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:*

☒ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.

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

9.

**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. Siting criteria does not apply to drying pads or above-grade tanks.*

**General siting**

**Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank.**

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

☐ Yes ☒ No

☐ NA

**Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit.**

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

☐ Yes ☒ No

☐ NA

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. **(Does not apply to below grade tanks)**

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

☐ Yes ☒ No

Within the area overlying a subsurface mine. **(Does not apply to below grade tanks)**

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

☐ Yes ☒ No

Within an unstable area. **(Does not apply to below grade tanks)**

- 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. **(Does not apply to below grade tanks)**

- FEMA map

☐ Yes ☒ No

**Below Grade Tanks**

Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark).

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

☐ Yes ☐ No

Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;

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

☐ Yes ☐ No

**Temporary Pit using Low Chloride Drilling Fluid** (maximum chloride content 15,000 mg/liter)

Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.)

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

☐ Yes ☒ No

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

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

☐ Yes ☒ No

Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application.

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

☐ Yes ☒ No

Within 100 feet of a wetland.

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

☐ Yes ☒ No

### **Temporary Pit Non-low chloride drilling fluid**

Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any 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.

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

☐ Yes ☐ No

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

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

☐ Yes ☐ No

Within 300 feet of a wetland.

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

☐ Yes ☐ No

### **Permanent Pit or Multi-Well Fluid Management Pit**

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 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

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

☐ Yes ☐ No

Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.

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

☐ Yes ☐ 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

10.

#### **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: \_\_\_\_\_

11.

#### **Multi-Well Fluid Management Pit 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.

- ☐ 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
- ☐ A List of wells with approved application for permit to drill associated with the pit.
- ☐ 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
- ☐ Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

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

12.  
**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

13.  
**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 ☐ Multi-well Fluid Management Pit  
☐ 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

14.  
**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 C 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 H of 19.15.17.13 NMAC
- ☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

15.  
**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 require justifications and/or demonstrations of equivalency. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 25 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
Ground water is between 25-50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, 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. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 300 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 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 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

16.

**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 E of 19.15.17.13 NMAC  
☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K 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 19.15.17.13 NMAC  
☒ Waste Material Sampling Plan - based upon the appropriate requirements 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 H of 19.15.17.13 NMAC  
☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

17.

**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): PAUL C. THOMPSON

Title: AGENT / ENGINEER

Signature: Paul C. Thompson

Date: 8/12/13

e-mail address: PAUL @ WALSHENG, NET

Telephone: (505) 327-4892

18.

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

OCD Representative Signature: Jonathan D. Kelly

Approval Date: 8/28/2013

Title: Compliance Officer

OCD Permit Number: \_\_\_\_\_

19.

**Closure Report (required within 60 days of closure completion):** 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: \_\_\_\_\_

20.

**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.

21.

**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 for private land only)  
☐ Plot Plan (for on-site closures and temporary pits)  
☐ Confirmation Sampling Analytical Results (if applicable)  
☐ Waste Material Sampling Analytical Results (required for on-site closure)  
☐ Disposal Facility Name and Permit Number  
☐ Soil Backfilling and Cover Installation  
☐ Re-vegetation Application Rates and Seeding Technique  
☐ Site Reclamation (Photo Documentation)

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

**Operator Closure Certification:**

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

Name (Print): \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

e-mail address: \_\_\_\_\_ Telephone: \_\_\_\_\_

## ***Hydro geological report for the Hogback 12-34***

### **Regional Hydro geological context:**

The Hogback 12-34 is located on Navajo Tribal Land in San Juan County, New Mexico. The well location is on a bench south of the San Juan River. The ground slopes gradually to the Northeast towards the river. The Chaco River drainage is approximately one mile south of the proposed location. The area around the location is relatively flat and of primarily dry, sandy soil with a sparse covering of grasses and sagebrush.

A records search of the NM Office of the State Engineer – iWATERS database indicates that there are several known water wells within 10,000 meters of the Hogback 12-34 but most of them are in the San Juan River valley. The two wells that are at approximately the same structural position as the Hogback 12-34 in relation to the San Juan River, are drilled to a depth of 2300' and 2520' respectively and they do not have any depth to ground water listed. Based on the well depths it can be assumed that depth to ground water in the vicinity of the Hogback 12-34 will be greater than 100'.

Geologic maps of the area indicate that the surface formation at the proposed well site is the Mancos Shale formation. The Mancos Formation of Cretaceous age occurs in New Mexico and Colorado and its outcrop forms the land surface northwest of the Hogback outcrop. It includes the Gallup sandstone member where it is present and overlies the Dakota sandstone.

The Mancos Formation was deposited in marine environments. Thickness of the Mancos Formation can be as much as several thousand feet thick but is only approximately 850 feet thick in the area of the Hogback 12 #34 well.

Due to the very low permeability and porosity of the Mancos shale, there is no ground water associated with this formation. The only ground water found in the Mancos interval comes from the Gallup formation and is only utilized as a water source near the communities of Gallup and Crownpoint. The Mancos formation is not listed as having any water resources in the report by 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.

### **Site specific information:**

<b><i>Surface hydrology:</i></b>	The site is located south of the San Juan River and is drained by a number of small intermittent drainages flowing northeast towards the river.
<b><i>1<sup>st</sup> water-bearing formation:</i></b>	Gallup, Cretaceous
<b><i>Formation thickness:</i></b>	500 - 2000 feet
<b><i>Underlying formation:</i></b>	Dakota Sandstone, Late Cretaceous
<b><i>Depth to groundwater:</i></b>	Unknown. The closest water well in the valley bottom has a surface elevation 165' lower than the Hogback 12 #34 well pad.

**FEMA Map – 100 year floodplain**

The attached FEMA Map indicates that the proposed location is well outside 100 year floodplain.

**Siting Criteria Compliance Demonstrations**

The Hogback 12-34 is not located in an unstable area. The location is not over a mine and is not on the side of a hill. The location of the excavated pit material will not be located within 300' of any continuously flowing watercourse or 200' from any other watercourse.



Vision Energy Group, LLC  
Hogback Deep 12 #34  
Temporary Reserve Pit Application  
Siting Criteria

1. According to the iWaters Database from the State Engineers Office, there are several water wells within 10,000 meters of the Hogback Deep 12 #34 but most of them are in the San Juan River valley. The two wells that are at approximately the same structural position in relation to the San Juan River as the Hogback Deep 12 #34. Based on the geology and the depths of these two wells it can be safely assumed that the depth to ground water, if present at all, will be greater than 100 feet. The closest water well in the valley fill is 4,525 meters away and is 165' lower in elevation as the Hogback well
2. As shown on the attached topographic map and aerial photos, there are no continuously flowing watercourses within 100' of the well, or any significant watercourses, lakebeds, sinkholes, or playa lakes within 200' of the well.
3. There are no permanent residences, schools, hospitals, institutions, churches within 300' of the well.
4. There are no domestic water wells or springs within 200' of the well. See iWaters Database printout.
5. The well is not located within any municipal boundaries.
6. The well is not within 100' of any wetlands. See attached topographic map and aerial photos.
7. There are no subsurface mines in Section 12, T29N, R17W. See attached map from the NM EMNRD Mining and Mineral Division.
8. The Hogback Deep 12 #34 is not located in an "unstable" area. The location is not over a mine and is not on the side of a hill. The location of the excavated pit material will not be located within 300' of a continuously flowing watercourse or 200' from any other watercourse.
9. The well is not located in a 100-year floodplain as visible on the topographic map and the FEMA Flood Insurance Rate Map.
10. In the event that the composite pit sample that is mixed 3:1 with native soils does not meet the requirements for onsite burial, the pit contents will be removed and disposed of at the Envirotech Land farm #2 ( NMOCD Permit #11).

# RECEIVED

DISTRICT I  
1625 N. French Dr., Hobbs, N.M. 88240  
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II  
811 S. First St., Artesia, N.M. 88210  
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III  
1000 Rio Brazos Rd., Aztec, N.M. 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV  
1220 S. St. Francis Dr., Santa Fe, N.M. 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico  
Energy, Minerals & Natural Resources Department

AUG 13 2012

Form C-102

Revised August 1, 2011

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

Farmington Field Office  
Bureau of Land Management

District Office

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-045- <b>35483</b>	Pool Code 32770	Pool Name HOGBACK PENN
Property Code 39891	Property Name HOGBACK DEEP 12	Well Number 34
280962	Operator Name VISION ENERGY GROUP LLC	Elevation 5116

### 10 Surface Location

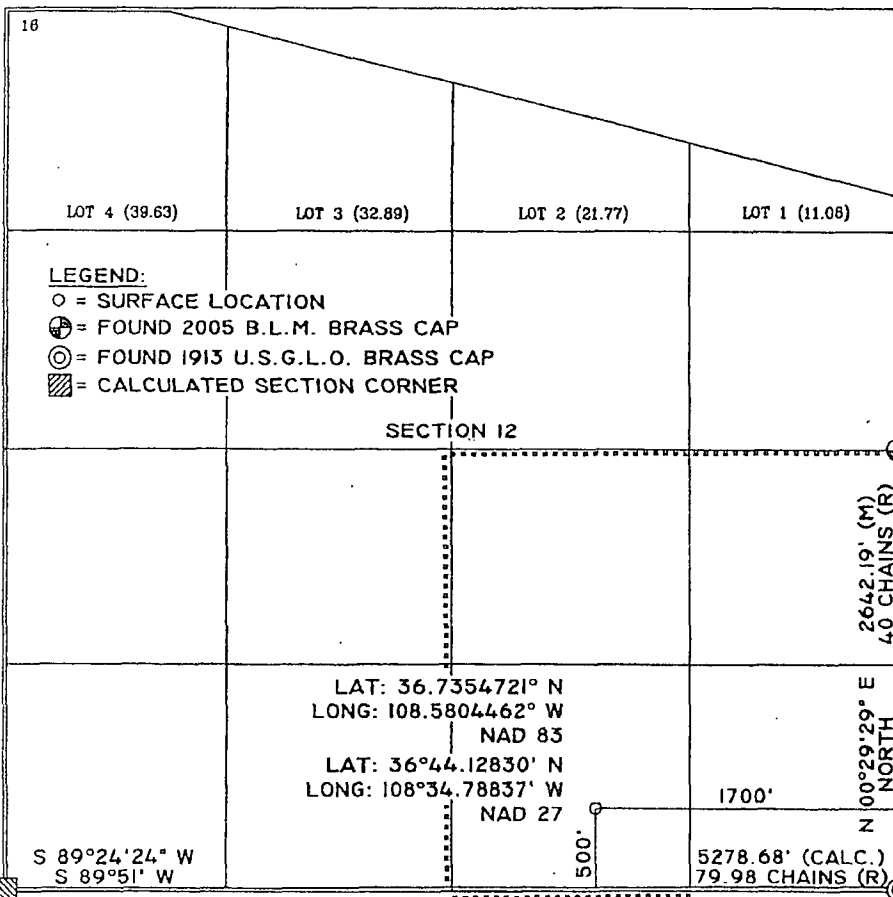
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	12	29 N	17 W		500	SOUTH	1700	EAST	SAN JUAN

### 11 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

12 Dedicated Acres 160	13 Joint or Infill	14 Consolidation Code	15 Order No.
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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



### 17 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.

Signature: *Brian Wood* Date: 8-1-12  
Printed: BRIAN WOOD  
E-mail Address: brian@permitswest.com

### 18 SURVEYOR CERTIFICATION

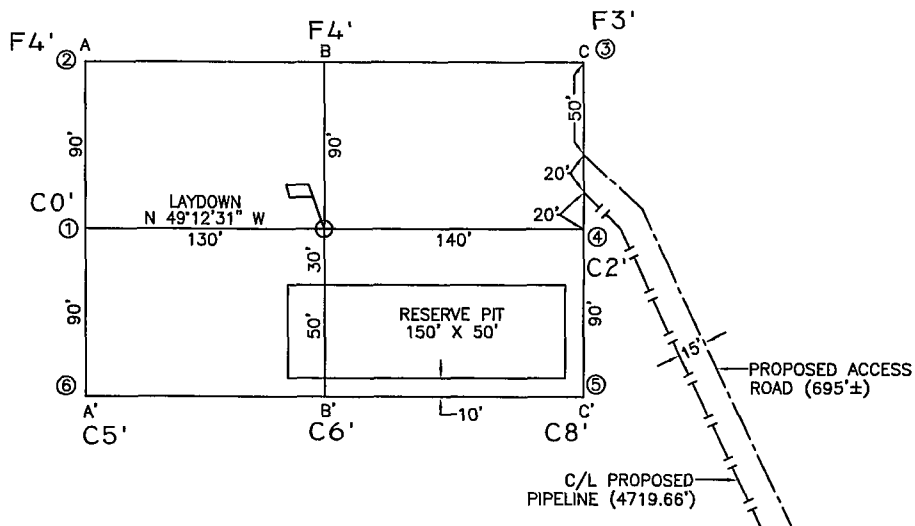
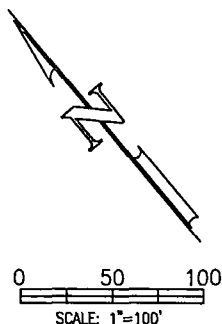
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same are true and correct to the best of my knowledge and belief.

Date of Survey: 04/11/12  
Signature and Seal of Professional Surveyor: *Jonah Vukovich*



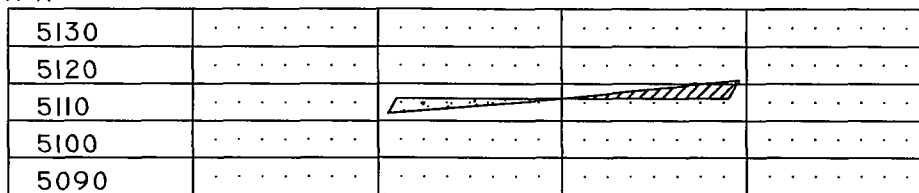
Certificate Number: 5-7-2012

BEFORE DIGGING  
CALL FOR UTILITY  
LINE LOCATION!



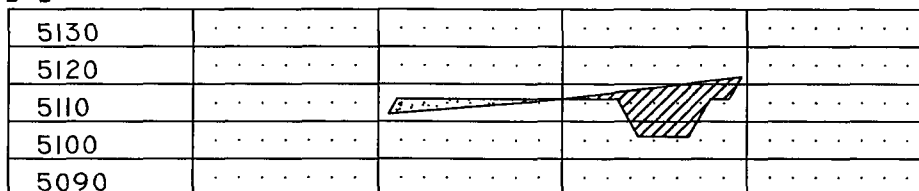
ELEVATION A-A'

℄



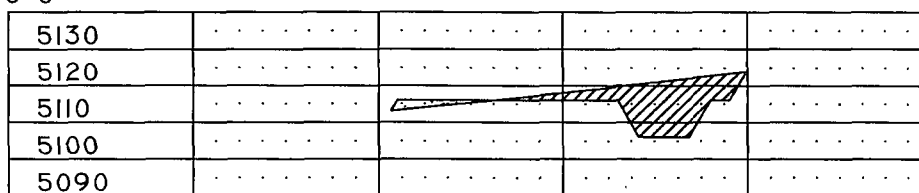
B-B'

℄



C-C'

℄



### CROSS SECTIONS

HORIZONTAL: 1"=100'

VERTICAL: 1"=50'

LEASE: HOGBACK DEEP 12-34

FOOTAGES: 500' FSL, 1700' FEL

SEC. 12 TWN. 29 N RNG. 17 W N.M.P.M.

LAT: N 36.7354721° LONG: W 108.5804462° (NAD 83)

ELEVATION: 5116

VISION ENERGY  
GROUP LLC



SURVEYED: 04/11/12  
05/30/12

REV. DATE: 06/01/12

APP. BY J.A.V.

DRAWN BY: C.B.

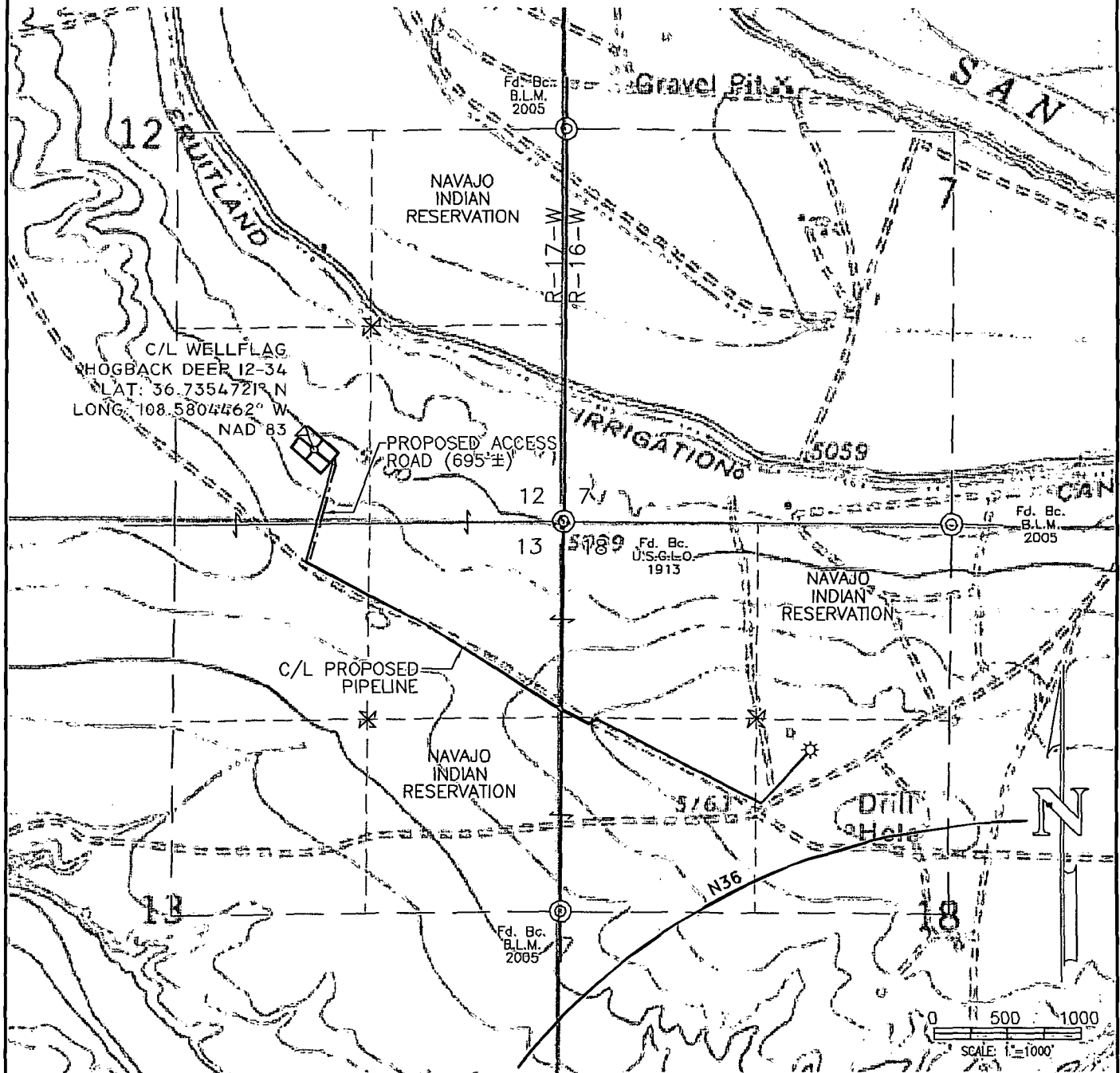
DATE DRAWN: 05/03/12

FILE NAME: 10294C01

# VISION ENERGY GROUP LLC

## HOGBACK 12-34 PROPOSED WELL, PIPELINE & ACCESS ROAD

NW/4 OF SEC. 18, R-16-W, THE NE/4 OF SEC. 13 & THE SE/4 OF SEC. 12, R-17-W, T-29-N, N.M.P.M.,  
SAN JUAN COUNTY, NEW MEXICO



THE HOGBACK NORTH QUADRANGLE

VISION ENERGY  
GROUP LLC



SURVEYED: 04/11/12,  
04/12/12,  
05/30/12

REV. DATE: 06/01/12

APP. BY J.A.V.

DRAWN BY: C.B.

DATE DRAWN: 05/03/12

FILE NAME: 10294T01



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

(A CLW##### in the  
POD suffix indicates the  
POD has been replaced  
& no longer serves a  
water right file.)

(R=POD has  
been replaced,  
O=orphaned,  
C=the file is  
closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
<u>SJ 00522</u>		SJ		2	1	3	23	29N	17W	177751	4068947*	3570	2520			
<u>SJ 00248</u>		SJ		3	4	3	04	29N	16W	184562	4072921*	4525	35	10	25	
<u>SJ 00264</u>		SJ					09	29N	16W	184799	4072027*	4558	35	10	25	
<u>SJ 00373</u>		SJ				2	04	29N	16W	185267	4074023*	5606	55	30	25	
<u>SJ 00357</u>		SJ		2	2	4	04	29N	16W	185554	4073501*	5656	45	29	16	
<u>SJ 00521</u>		SJ		2	4	1	21	29N	17W	174948	4069455*	5695	2300			
<u>SJ 00257</u>		SJ		3	2	2	03	29N	16W	186966	4074054*	7172	32	20	12	
<u>SJ 00258</u>		SJ		4	2	2	03	29N	16W	187166	4074054*	7359	34	20	14	
<u>SJ 00862</u>		SJ			1	1	02	29N	16W	187463	4074136*	7666	257	25	232	
<u>SJ 00865</u>		SJ			1	1	02	29N	16W	187463	4074136*	7666	45	30	15	
<u>SJ 03012</u>		SJ		1	4	1	02	29N	16W	187750	4073816*	7834	27	12	15	
<u>SJ 03974 POD1</u>		SJ		2	2	4	12	28N	12W	182645	4063924	7912	75	30	45	
<u>SJ 00861</u>		SJ			2	1	02	29N	16W	187863	4074123*	8038	21	10	11	
<u>SJ 00864</u>		SJ			2	1	02	29N	16W	187863	4074123*	8038	21	10	11	
<u>SJ 03015</u>		SJ		4	3	4	35	30N	16W	188377	4074432*	8626	43	17	26	
<u>SJ 03232</u>		SJ		2	3	4	35	30N	16W	188377	4074632*	8697	40			
<u>SJ 00876</u>		SJ			4	2	35	30N	16W	188709	4075324*	9272	77	57	20	
<u>SJ 02392</u>		SJ			4	2	35	30N	16W	188709	4075324*	9272	133			
<u>SJ 00863</u>		SJ			3	3	36	30N	16W	189081	4074503*	9313	45	35	10	
<u>SJ 00866</u>		SJ			1	3	36	30N	16W	189096	4074906*	9466	90	60	30	
<u>SJ 03139</u>		SJ		2	4	1	01	29N	16W	189549	4073766*	9554	45			

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

Average Depth to Water: 25 feet

Minimum Depth: 10 feet

Maximum Depth: 60 feet

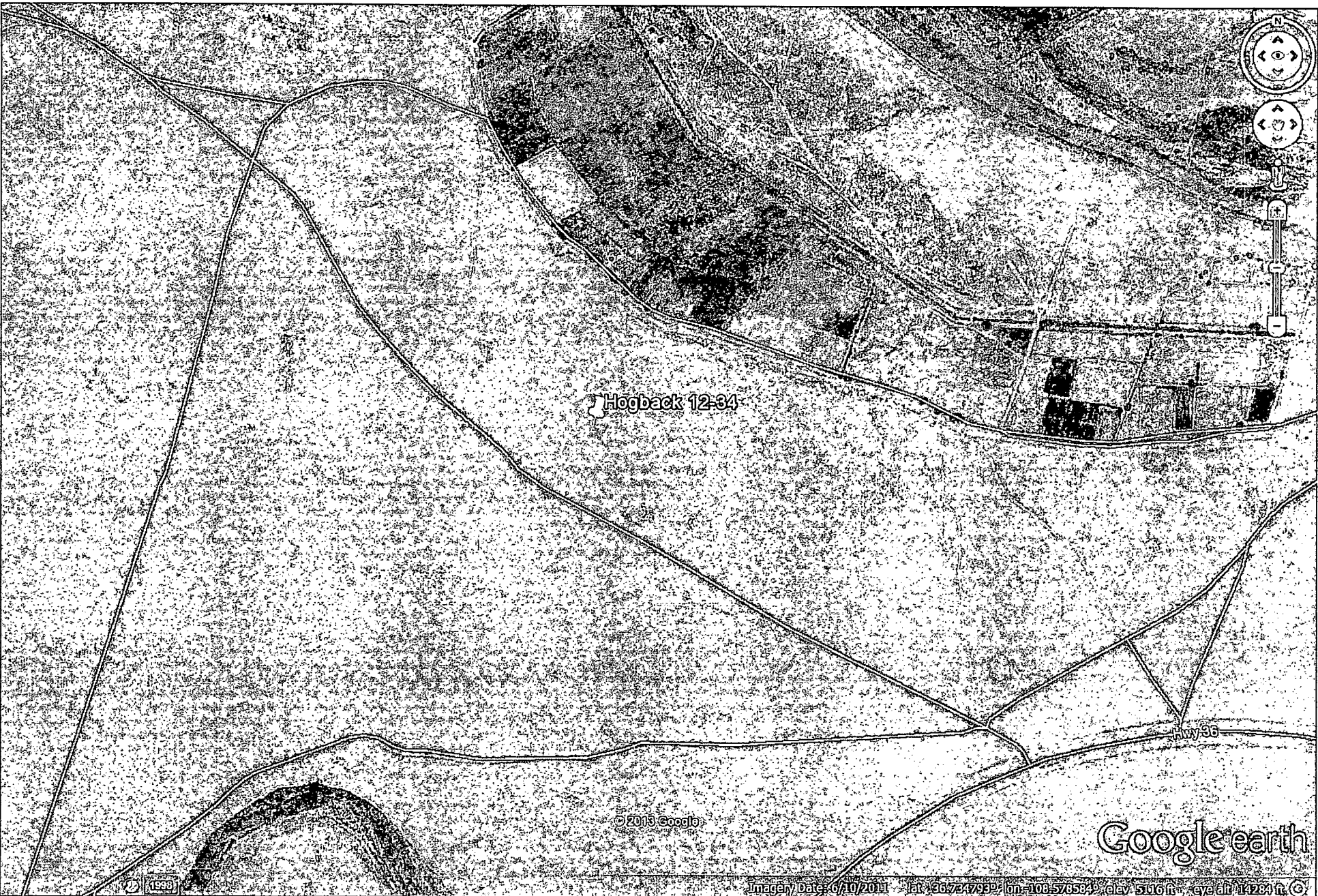
Record Count: 21

UTMNAD83 Radius Search (in meters):

Easting (X): 180274

Northing (Y): 4071473

Radius: 10000



Hogback 12-34

© 2013 Google

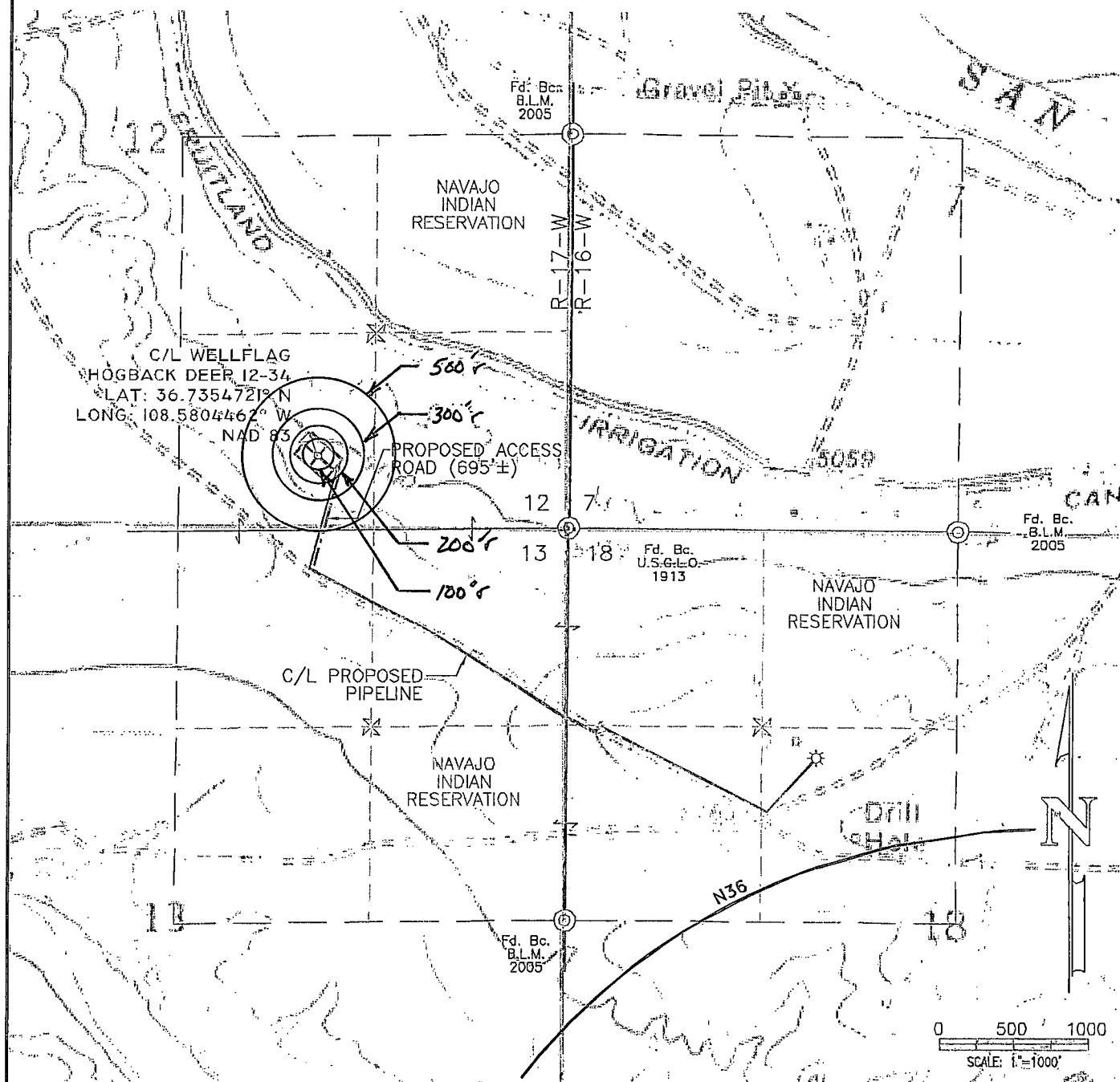
Google earth

Imagery Date: 6/10/2011 Lat: 36.7247932 Lon: -108.5765842 elev: 5116 ft eye alt: 14284 ft

# VISION ENERGY GROUP LLC

## HOGBACK 12-34 PROPOSED WELL, PIPELINE & ACCESS ROAD

NW/4 OF SEC. 18, R-16-W, THE NE/4 OF SEC. 13 & THE SE/4 OF SEC. 12, R-17-W, T-29-N, N.M.P.M.,  
SAN JUAN COUNTY, NEW MEXICO



THE HOGBACK NORTH QUADRANGLE

VISION ENERGY  
GROUP LLC

UNITED  
FIELD SERVICES INC.  
P.O. BOX 3951  
FARRINGTON, NH 07499  
OFFICE (505) 334-0408

SURVEYED: 04/11/12,  
04/12/12,  
05/30/12

REV. DATE: 06/01/12

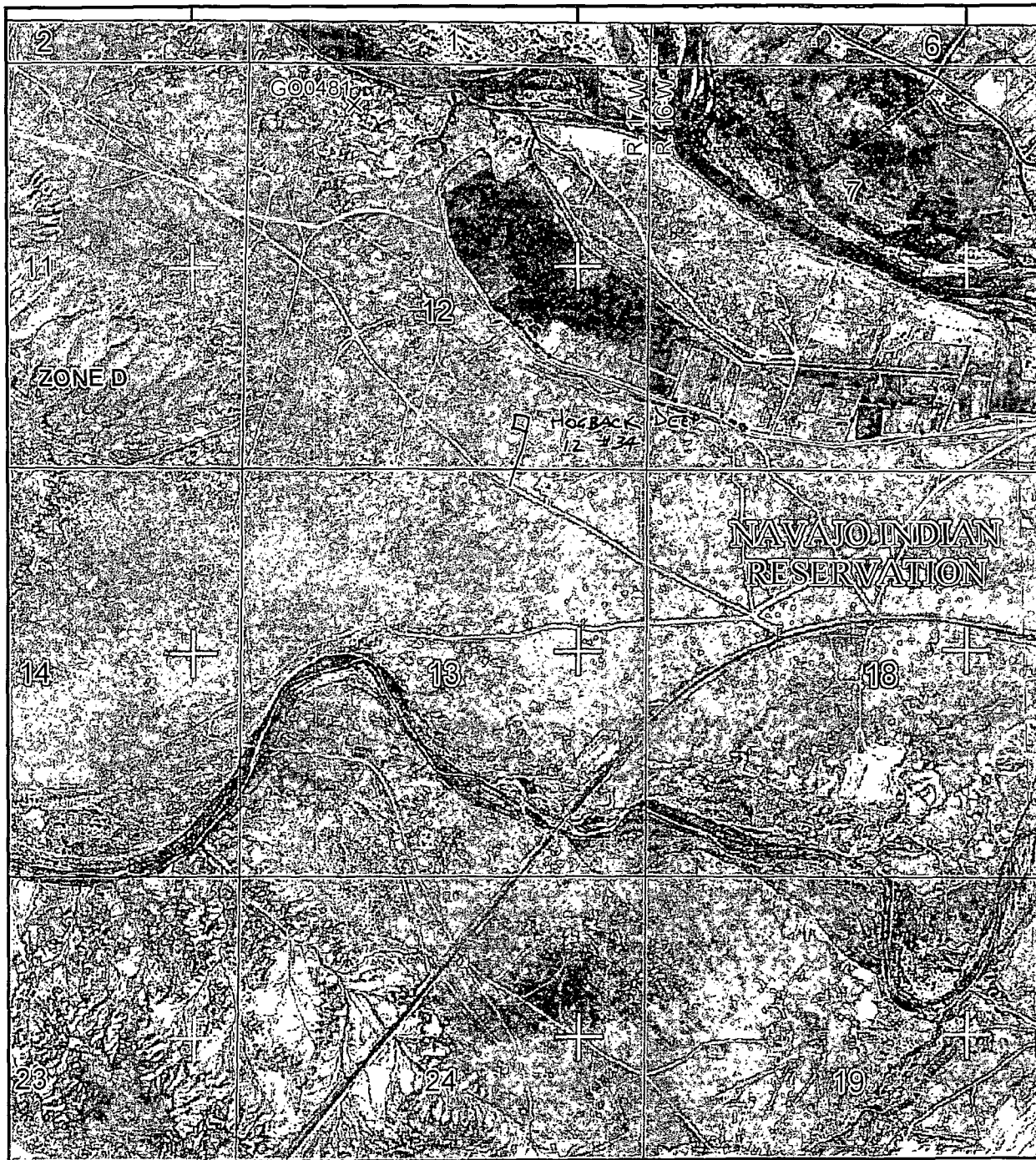
APP. BY J.A.V.

DRAWN BY: C.B.

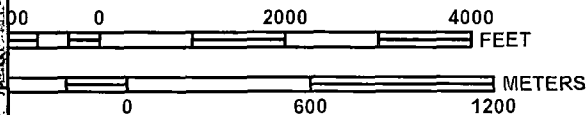
DATE DRAWN: 05/03/12

FILE NAME: 10294T01





MAP SCALE 1" = 2000'



NFIP

PANEL 0950F

**FIRM**

FLOOD INSURANCE RATE MAP  
SAN JUAN COUNTY,  
NEW MEXICO  
AND INCORPORATED AREAS

PANEL 950 OF 2750

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SAN JUAN COUNTY	350064	0950	F

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



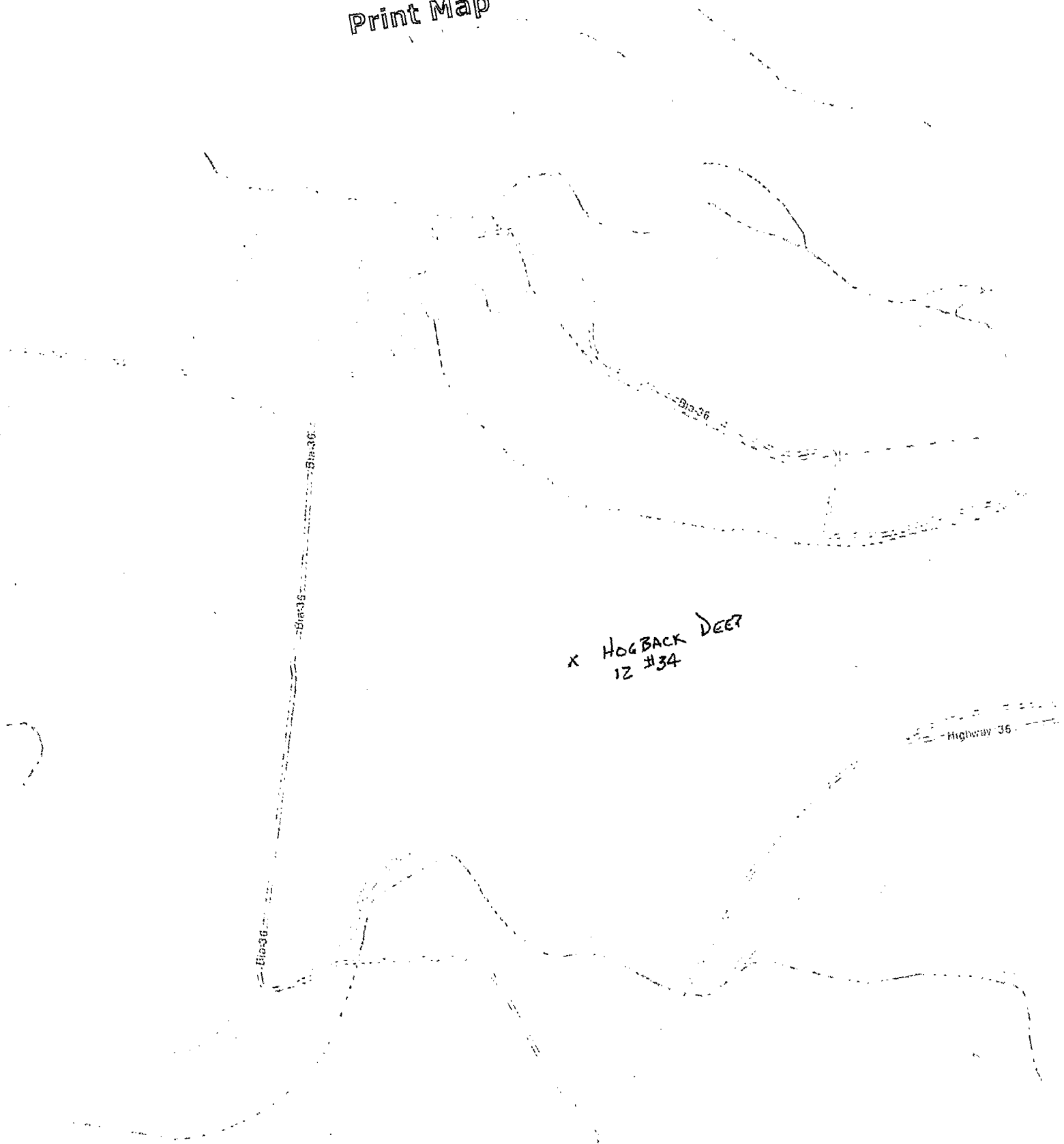
MAP NUMBER  
35045C0950F

EFFECTIVE DATE  
AUGUST 5, 2010

Federal Emergency Management Agency

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)

# Print Map



## Legend

- |                        |             |              |
|------------------------|-------------|--------------|
| ✕ Aggregates Etc.      | ☉ Limestone | ☁ Pumice     |
| ☐ Clay & Shale / Brick | ☼ Metals    | ☼ Salt       |
| ✕ Coal                 | ☼ Other     | ◊ Scoria     |
| ☐ Gypsum               | ☼ Perlite   | ☐ Travertine |
| ☐ Humate               | ☼ Potash    | ☼ Zeolites   |

AUG 23 2013

**Vision Energy Group, LLC  
San Juan Basin  
Pit Design and Construction Plan**

In accordance with Rule 19 15 17 the following information describes the design and construction for temporary pits on Vision Energy Group's locations; this is Vision Energy Group's standard procedure for all temporary pits. A separate plan will be submitted for any temporary pit which does not conform to this plan.

**General Plan**

- 1 Vision Energy Group will design and construct a temporary pit to contain liquids and solids and prevent contamination of fresh water and protect public health and environment
- 2 Prior to constructing the pit, topsoil will be stockpiled in the construction zone for later use in restoration
- 3 Vision Energy Group will post a well sign, not less than 12" by 24", with lettering at least 2" in height, on the well site prior to construction of the temporary pit. The sign will list the operator on record as the operator, the location of the well by unit letter, section, township range, and emergency telephone numbers
- 4 Vision Energy Group shall construct all new fences utilizing 48' steel mesh field-fence (hogwire) on the bottom with a single strand of barbed wire on top. T-posts shall be installed every 12 feet and corners shall be anchored utilizing a secondary T-post. Temporary pits will be fenced at all times excluding drilling or overwork operations, when the front side of the fence will be temporarily removed for operational purposes
- 5 Vision Energy Group shall construct the temporary pit so that the foundation and interior slopes are firm and free of rocks, debris, sharp edges or irregularities to prevent liner failure
- 6 Vision Energy Group shall construct the pit so that the slopes are no steeper than two horizontal feet to 1 vertical foot
- 7 Pit walls will be walked down by a crawler type tractor following construction
- 8 All temporary pits will be lined with a 20-mil, string reinforced, LLDPE liner, complying with EPA SW-846 method 9090A requirements
- 9 Geotextile will be installed beneath the liner when rocks, debris, sharp edges or irregularities cannot be avoided
- 10 All liners will be anchored in the bottom of a compacted earth-filled trench at least 18 inches deep
- 11 Vision Energy Group will minimize liner seams and orient them up and down, not across a slope. Factory seams will be used whenever possible. Vision Energy Group will ensure all field seams are welded by qualified personnel. Field seams will be overlapped four to six inches and will be oriented parallel to the line of maximum slope. Vision Energy Group will minimize the number of field seams in corners and irregularly shaped areas
- 12 The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides, or a manifold system
- 13 The pit shall be protected from run-off by constructing and maintaining diversion ditched around the location or around the perimeter of the pit in some cases
- 14 The volume of the pit shall not exceed 10 acre-feet, including freeboard
- 15 Temporary blow pits will be constructed to allow gravity flow to discharge into lined drill pit
- 16 The lower half of the blow pit (nearest lined pit) will be lined with the same 20 mil liner. The upper half of the blow pit will remain unlined as allowed in Rule 19 15 17 11 F 11
- 17 Vision Energy Group will not allow freestanding liquids to remain on the unlined portion of temporary blow pit

**Vision Energy Group Resources Operating LP  
San Juan Basin  
Maintenance and Operating Plan**

In accordance with Rule 19 15 17 the following information described the operation and maintenance of temporary pits on Vision Energy Group Company locations. This is Vision Energy Group's standard procedure for all temporary pits. A separate plan will be submitted for any temporary pit which does not conform to this plan.

**General Plan**

- 1 Vision Energy Group will operate and maintain a temporary pit to contain liquids and solids, maintain the integrity of the liner, and prevent contamination of fresh water and protect public health and environment
- 2 Vision Energy Group will conserve drilling fluids by transferring liquids to pits ahead of the rigs whenever possible. All other drilling fluids will be disposed at Basin Disposal, Inc. Permit # NM-01-005
- 3 Vision Energy Group will not discharge or store any hazardous waste in any temporary pit
- 4 If any pit liner's integrity is compromised or if any penetration of the liner occurs above the liquid's surface, then Vision Energy Group shall notify the Aztec Division office by phone or email within 48 hours of the discovery and repair the damage or replace the liner
- 5 If a leak develops below the liquid's level, Vision Energy Group shall remove all liquids above the damaged liner within 48 hours and repair the damage or replace the liner. Vision Energy Group shall notify the Aztec Division office by phone or email within 48 hours of the discovery for leaks
- 6 The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides, or manifold system
- 7 The pit shall be protected from run-off by constructing and maintaining diversion ditches around the location or around the perimeter of the pit in some cases
- 8 Vision Energy Group shall immediately remove any visible layer of oil from the surface of temporary pit after cessation of a drilling or workover operation. Oil absorbent booms will be utilized to contain and remove oil from the pit's surface. An oil absorbent boom will be stored on-site until closure of pit
- 9 Only fluids generated during the drilling or workover process may be discharged into a temporary pit
- 10 Vision Energy Group will maintain the temporary pit free of miscellaneous solid waste or debris and remove any visible layer of oil
- 11 Vision Energy Group will maintain at least two feet of freeboard at all times. If extenuating circumstances require less than two feet of freeboard, Vision Energy Group will maintain a log describing such circumstance and make the log available to the NMOCDC upon request
- 12 During drilling or workover operations, Vision Energy Group will inspect the temporary pit at least once daily to ensure compliance with this plan. Inspections will be logged in the IADC reports. Vision Energy Group will file this log with the Aztec Division office upon closure of the pit
- 13 After drilling or workover operations, Vision Energy Group will inspect the temporary pit weekly so long as liquids remain in the temporary pit. A log of the inspections will be stored at Vision Energy Group's office electronically and will be made available to the Aztec Division office upon request
- 14 Vision Energy Group shall remove all free liquids from a temporary pit within 60 days from the date the operator releases the drilling or workover rig
- 15 Vision Energy Group shall remove all free liquids from a cavitation pit within 48 hours after completing cavitations. Vision Energy Group may request additional time to remove liquids from Aztec Division office if it is not feasible to remove liquids within 48 hours

August 12, 2013

CERTIFIED MAIL

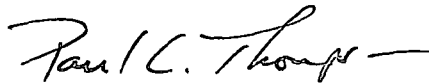
Navajo Nation  
Attn: Minerals Department  
P.O. Box 1910  
Window Rock, AZ 86515

Re: Vision Energy Group, LLC  
Hogback Deep 12 #34

Dear Minerals Department,

According to NMOCD rules, Vision Energy Group, LLC is notifying you that they intend to bury the drill cuttings in the reserve pit, assuming that they qualify as per Table II of 19.15.17.13 NMAC. No action is required on your part. If you have any questions, please don't hesitate to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "Paul C. Thompson", followed by a horizontal line.

Paul C. Thompson, P.E.  
Agent for Vision Energy Group, LLC

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
<input checked="" type="checkbox"/> Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. <input type="checkbox"/> Print your name and address on the reverse so that we can return the card to you. <input checked="" type="checkbox"/> Attach this card to the back of the mailpiece, or on the front if space permits.		A. Signature <b>X</b> <div style="text-align: right;"> <input type="checkbox"/> Agent  <input type="checkbox"/> Addressee           </div>	
1. Article Addressed to:  <b>Navajo Nation            Attn: Minerals Dept.            P.O. Box 1910            Window Rock, AZ 86515</b>		B. Received by (Printed Name)	C. Date of Delivery
		D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
		3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.	
2. Article Number (Transfer from service label)		<b>7012 2920 0002 4432 0936</b>	
PS Form 3811, February 2004		Domestic Return Receipt	

102595-02-M-1540

U.S. Postal Service™	
<b>CERTIFIED MAIL™ RECEIPT</b> (Domestic Mail Only; No Insurance Coverage Provided) For delivery information visit our website at <a href="http://www.usps.com">www.usps.com</a>	
<div style="border: 1px solid black; padding: 5px;">             07101ALU3E           </div>	
Postmark Here <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">             12              26P           </div>	
Postage	\$ <b>4.40</b>
Certified Fee	\$ <b>3.10</b>
Return Receipt Fee (Endorsement Required)	\$ <b>2.55</b>
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ <b>10.11</b>
Send to: <b>Navajo Nation Attn: Minerals Dept.</b> Street, P.O. No., or P.O. Box <b>1910</b> City, State, ZIP+4 <b>Window Rock, AZ 86515</b> PS Form 3811, August 2004 See Back for Instructions	

9660 2920 0002 4432 0936

**Vision Energy Group Company  
San Juan Basin  
Closure Plan**

In accordance with Rule 19.15.17.12 NMAC the following information describes the closure requirements of temporary pits on Vision Energy Group Company's locations. This is Vision Energy Group's standard procedure for all temporary pits. A separate plan will be submitted for any temporary pit which does not conform to this plan.

**General Plan**

- 18 Vision Energy Group will notify the Aztec District office between 72 hours and one week of closure via email, or verbally before starting any closure activities. The notification of closure will include the following:
  - i. Operator's name
  - ii. Location by Unit Letter, Section, Township, and Range. Well name and API Number
- 19 All free standing liquids will be removed at the start of the pit closure process from the pit and disposed of in a division-approved facility or recycle, reuse or reclaim the liquids in a manner that the appropriate division district office approves
- 20 The preferred method of closure for all temporary pits will be on-site burial, assuming that all criteria listed in Table II of 19.15.17.13 NMAC are met
- 21 A five point composite sample will be taken of the pit using sampling tools and all samples tested per Table II of 19.15.17.13 NMAC. In the event that the criteria are not met, all contents will be handled per Subsection C of 19.15.17.13 i.e., dig and haul. For temporary pits where the ground water level is greater than 100 feet below the bottom of the pit the following limits will be met:
 

Chloride	EPA Method 300.0	80,000 mg/kg
TPH	EPA SW-846 Method 418.1	2,500 mg/kg
GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg
BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg
- 22 Pit contents shall be mixed with non-waste containing, earthen material in order to achieve the solidification process. The solidification process will be accomplished using a combination of natural drying and mechanically mixing. Pit contents will be mixed with non-waste, earthen material to a consistency that is deemed a safe and stable. The mixing ratio shall not exceed 3 parts clean soil to 1 part pit contents. The waste mixture must pass the paint filter liquids test (EPA SW-846, Method 9095 or other test approved by the division)
- 23 The liner of temporary pit shall be folded over the waste material after stabilization. A geomembrane cover consisting of a 20-mil, string reinforced, LLDPE liner, complying with EPA SW-846 method 9090A requirements will be installed over the folded over liner in a manner that prevents the collection of infiltration water
- 24 The pit will be covered with a minimum of four feet of non-waste containing, uncontaminated earthen material with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0. The soil cover shall include either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater

- 25 The surface owner shall be notified of Vision Energy Group's proposed closure plan using a means that provides proof of notice i.e., certified mail, return receipt requested between 72 hours and one week of closure. If the well location is on private land a deed notice identifying the exact location of the onsite burial will be filed with the County Clerk
- 26 Within 6 months of the Rig Off status occurring Vision Energy Group will ensure that temporary pits are closed, re-contoured, and reseeded
- 27 Within 60 days of closure completion, Vision Energy Group will submit a closure report to the Aztec District office on Form C-144 with the sampling results, details on back-filling, and capping and covering. A plat showing the location of the on-site burial will be shown on form C-105. The temporary pit will be located with a steel marker, no less than four inches in diameter, cemented in a hole three feet deep in the center of the onsite burial upon the abandonment of all the wells on the pad. The marker will be a four foot tall riser with the operator's information at the time of all wells on the pad are abandoned. The operator's information will include the following: Operator Name, Lease Name, Well Name and Number, unit Number, Section, Township, Range and an indicator that the marker is an onsite burial location
- 28 The temporary pit and areas disturbed by the closing of the pit will be re-vegetated and re-contoured will be reclaimed as early and as nearly as practicable to the original condition or the final land use and will be maintained to control dust and minimize erosion to the extent practicable. Topsoils and subsoils will be replaced to their original relative position and contoured so as to achieve erosion control, long term stability, and preservation of surface water flow patterns. Vision Energy Group shall seed the distributed areas the first growing season after the operator closes the pit. according to Paragraph (1) and (5) of Subsection H of 19.15.17 NMAC. Re-contouring of location will match fit, shape, line, form and texture of the surrounding area. Re-shaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be placed in areas where needed to prevent erosion on a large scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape
- 29 Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM, Forest Service, or Tribal stipulated seed mixtures will be used on federal lands and reclaimed according to the surface owners stipulations as long as they provide equal or better protection of fresh water, human health, and the environment as the OCD rules. Reclamation of disturbed areas, not need for production activities, will be considered complete when a uniform vegetative cover has been established that reflects a life-form ratio of plus or minus 50% of pre-disturbance levels and a total plant cover equal to 70% of the pre-disturbance levels, excluding noxious weeds
- 30 Notification will be sent to OCD when the reclaimed area is seeded





**WALSH**

ENGINEERING & PRODUCTION CORP.

Petroleum Engineering Consulting  
Lease Management  
Contract Pumping

7415 East Main  
Farmington, New Mexico 87402  
(505) 327-4892 • Fax: (505) 327-9834

August 26, 2013

Mr. Jonathan Kelly  
NMOCD

Aztec, NM

RCVD AUG 28 '13  
OIL CONS. DIV.  
DIST. 3

Re: Vision Energy Group, LLC  
Hogback Deep 12 #34  
Pit Permit #11352  
API: 30-045-35403

Dear Mr. Kelly,

At your suggestion I have changed the Siting Criteria and Hydro-Geologic sections of the referenced pit permit. Please replace those sections with the attached revised copies. Thank you.

Sincerely,

Paul C. Thompson, P.E.

Vision Energy Group, LLC  
Hogback Deep 12 #34  
Temporary Reserve Pit Application  
Siting Criteria

1. According to the iWaters Database from the State Engineers Office, there are several water wells within 10,000 meters of the Hogback Deep 12 #34 but most of them are in the San Juan River valley. The two wells that are at approximately the same structural position in relation to the San Juan River as the Hogback Deep 12 #34, are drilled to a depth of 2300' and 2520' respectively and they do not have any depth to ground water listed. Based on the geology and the depths of these two wells it can be safely assumed that the depth to ground water, if present at all, will be greater than 100 feet. Using the San Juan River elevation as the depth to ground water, the Hogback Deep 12 #34 will be between 115' to 129' higher.
2. As shown on the attached topographic map and aerial photos, there are no continuously flowing watercourses within 100' of the well, or any significant watercourses, lakebeds, sinkholes, or playa lakes within 200' of the well.
3. There are no permanent residences, schools, hospitals, institutions, churches within 300' of the well.
4. There are no domestic water wells or springs within 200' of the well. See iWaters Database printout.
5. The well is not located within any municipal boundaries.
6. The well is not within 100' of any wetlands. See attached topographic map and aerial photos.
7. There are no subsurface mines in Section 12, T29N, R17W. See attached map from the NM EMNRD Mining and Mineral Division.
8. The Hogback Deep 12 #34 is not located in an "unstable" area. The location is not over a mine and is not on the side of a hill. The location of the excavated pit material will not be located within 300' of a continuously flowing watercourse or 200' from any other watercourse.
9. The well is not located in a 100-year floodplain as visible on the topographic map and the FEMA Flood Insurance Rate Map.
10. In the event that the composite pit sample that is mixed 3:1 with native soils does not meet the requirements for onsite burial, the pit contents will be removed and disposed of at the Envirotech Land farm #2 ( NMOCD Permit #11).

## ***Hydro geological report for the Hogback 12-34***

### **Regional Hydro geological context:**

The Hogback 12-34 is located on Navajo Tribal Land in San Juan County, New Mexico. The well location is on a bench south of the San Juan River. The ground slopes gradually to the Northeast towards the river. The Chaco River drainage is approximately one mile south of the proposed location. The area around the location is relatively flat and of primarily dry, sandy soil with a sparse covering of grasses and sagebrush.

A records search of the NM Office of the State Engineer – iWATERS database indicates that there are several known water wells within 10,000 meters of the Hogback 12-34 but most of them are in the San Juan River valley. The two wells that are at approximately the same structural position as the Hogback 12-34 in relation to the San Juan River, are drilled to a depth of 2300' and 2520' respectively and they do not have any depth to ground water listed. Based on the well depths it can be assumed that depth to ground water in the vicinity of the Hogback 12-34 will be greater than 100'. Using the elevation of the San Juan River as the depth to ground water, the Hogback 12-34 is between 115' and 129' higher.

Geologic maps of the area indicate that the surface formation at the proposed well site is the Mancos Shale formation. The Mancos Formation of Cretaceous age occurs in New Mexico and Colorado and its outcrop forms the land surface northwest of the Hogback outcrop. It includes the Gallup sandstone member where it is present and overlies the Dakota sandstone.

The Mancos Formation was deposited in marine environments. Thickness of the Mancos Formation can be as much as several thousand feet thick but is only approximately 850 feet thick in the area of the Hogback 12 #34 well.

Due to the very low permeability and porosity of the Mancos shale, there is no ground water associated with this formation. The only ground water found in the Mancos interval comes from the Gallup formation and is only utilized as a water source near the communities of Gallup and Crownpoint. The Mancos formation is not listed as having any water resources in the report by 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.

### **Site specific information:**

<b><i>Surface hydrology:</i></b>	The site is located south of the San Juan River and is drained by a number of small intermittent drainages flowing northeast towards the river.
<b><i>1<sup>st</sup> water-bearing formation:</i></b>	Gallup, Cretaceous
<b><i>Formation thickness:</i></b>	500 - 2000 feet
<b><i>Underlying formation:</i></b>	Dakota Sandstone, Late Cretaceous
<b><i>Depth to groundwater:</i></b>	Unknown. The closest water well in the valley bottom has a surface elevation 165' lower than the Hogback 12 #34 well pad.

**FEMA Map – 100 year floodplain**

The attached FEMA Map indicates that the proposed location is well outside 100 year floodplain.

**Siting Criteria Compliance Demonstrations**

The Hogback 12-34 is not located in an unstable area. The location is not over a mine and is not on the side of a hill. The location of the excavated pit material will not be located within 300' of any continuously flowing watercourse or 200' from any other watercourse.