

C-144

Jones, Brad A., EMNRD

From: Kim_Champlin@xtoenergy.com
Sent: Thursday, March 11, 2010 2:12 PM
To: Jones, Brad A., EMNRD
Subject: Fw: BGT P&A's

Brad,

The closure requests for the three locations listed below did go out in this afternoon's mail per our discussion 3/10/10. Should you have any questions once you receive them feel free to contact me. Thanks for your time on this.

OH Randel #8 API 30-045-24788 09F-26N-11W submitted September 2008
Quine GC #2 API 30-045-29704 31K-30N-12W submitted September 2008
Evensen #2 API 30-045-06318 19P-27N-10W submitted September 2008

Kim Champlin
XTO Energy Inc.
EHS Administrative Coordinator
San Juan Division
(505) 333-3100 office
(505) 330-8357 cell
(505) 333-3280 fax
kim_champlin@xtoenergy.com

This inbound email has been scanned for malicious software and transmitted safely to you using Webroot Email Security.

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.

**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: XTO ENERGY, INC. OGRID #: 5380
Address: #382 County Road 3100, Aztec, NM 87410
Facility or well name: Quine Gas Com #2
API Number: 30-045-29704 OCD Permit Number: _____
U/L or Qtr/Qtr K Section 31 Township 30N Range 12W County: San Juan
Center of Proposed Design: Latitude 36.76661 Longitude 108.14106 NAD: ☐ 1927 ☐ 1983
Surface Owner: ☐ Federal ☐ State ☒ Private ☐ Tribal Trust or Indian Allotment

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

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

4.
☒ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: 95 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 Visible sidewalls, vault, automatic overflow shut off
Liner type: Thickness _____ mil ☐ HDPE ☐ PVC ☐ Other _____

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

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

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

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

- ☐ Screen ☐ Netting ☐ Other _____
- ☐ Monthly inspections (If netting or screening is not physically feasible)

8. **Signs:** Subsection C of 19.15.17.11 NMAC

- ☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers
- ☐ Signed in compliance with 19.15.3.103 NMAC

9. **Administrative Approvals and Exceptions:**

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

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

- ☐ Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau 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 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 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 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 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 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 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 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 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 type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input 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 H₂S, Prevention Plan
☐ Emergency Response Plan
☐ Oil Field Waste Stream Characterization
☐ Monitoring and Inspection Plan
☐ Erosion Control Plan
☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

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

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

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

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

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

16.

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

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

Disposal Facility Name: _____ Disposal Facility Permit Number: _____
 Disposal Facility Name: _____ Disposal Facility Permit Number: _____

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

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

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

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

17.

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

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

- | | |
|---|---|
| Ground water is less than 50 feet below the bottom of the buried waste.
- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | <input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> NA |
| Ground water is between 50 and 100 feet below the bottom of the buried waste
- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | <input type="checkbox"/> Yes <input 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 type="checkbox"/> Yes <input type="checkbox"/> No
<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).
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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): Kim Champlin Title: EH&S Administrative Coordinator

Signature: *Kim Champlin* Date: March 11, 2010

e-mail address: kim_champlin@xtoenergy.com Telephone: (505) 333-3100

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

OCD Representative Signature: *[Signature]* Approval Date: 3/14/10

Title: Environmental Engineer OCD Permit Number: _____

21. **Closure Report (required within 60 days of closure completion):** Subsection K of 19.15.17.13 NMAC
Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ Closure Completion Date: _____

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

23. **Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:**
Instructions: Please identify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and operations?
☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

Required for impacted areas which will not be used for future service and operations:
☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

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

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

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

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

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____



Lodestar Services, Inc.
PO Box 4465, Durango, CO 81302

Pit Permit Siting Criteria

Client:	XTO Energy
Project:	Pit Permits
Revised:	14-Oct-08
Prepared by:	Brooke Herb

API#: 3004529704

USPLSS: T30N,R12W,S31K

Name: QUINE GAS COM #2

Lat/Long: 36.76661, -108.14106

Depth to groundwater: < 50'

Geologic formation: Nacimiento Formation

Distance to closest continuously flowing watercourse: 2870' NW of the Animas River

Distance to closest significant watercourse, lakebed, playa lake, or sinkhole: 260' E of Hood Arroyo

Permanent residence, school, hospital, institution or church within 300': No

Soil Type: Entisols

Annual Precipitation: 8.21 inches (Farmington)

Precipitation Notes: no significant precip events

Domestic fresh water well or spring within 500': No

Any other fresh water well or spring within 1000': Yes - iWaters wells SJ01236 and SJ03122

Within incorporated municipal boundaries: YES - Farmington

Attached Documents: Groundwater report and Data; FEMA Flood Zone Map

Within defined municipal fresh water well field: No

Aerial Photo, Topo Map, Mines Mills and Quarries Map

Wetland within 500': No

Mining Activity: 1.74 miles NW of a Materials Pit

Within unstable area: No

Within 100 year flood plain: No FEMA data in city limits

Additional Notes:

QUINE GAS COM #2 Below Ground Tank Siting Criteria and Closure Plan

Well Site Location

Legals: T30N, R12W, Section 31, Quarter Section K

Latitude/Longitude: approximately 36.76661, -108.14106

County: San Juan County, NM

General Description: near Animas River

General Geology and Hydrology

The San Juan Basin is a typical Rocky Mountain basin with a gently dipping southern flank and a steeply dipping northern flank. Asymmetrically layered Tertiary sandstones and shales, along with Quaternary alluvial deposits dominate surficial geology (Dane and Bachman, 1965). The proposed below ground tank location will be located on the flanks of the Farmington Glade between Aztec and La Plata, New Mexico. Within the Farmington Glade, the Tertiary Nacimiento Formation is exposed, along with Quaternary alluvial and aeolian sands surrounding the center of the wash.

Cretaceous and Tertiary sandstones, as well as Quaternary alluvial deposits serve as the primary aquifers in the San Juan basin (Stone et al., 1983). In most of the proposed area, the Nacimiento Formation lies at the surface. Thickness of the Nacimiento ranges from 418 to 2232 feet (Stone et al., 1983). Aquifers within the coarser and continuous sandstone bodies of the Nacimiento Formation are between 0 and 1000' deep in this section of the basin (Stone et al., 1983). Groundwater within these aquifers flows toward the nearby San Juan River and its tributaries.

The prominent soil type at the proposed site is entisols, which are defined as soils that do not show any profile development. Soils are basically unaltered from their parent rock. Miles of arroyos, washes and intermittent streams exist as part of the drainage network towards the La Plata River (www.emnrd.state.nm.us). These features often cut into soil and other unconsolidated materials, contributing to sedimentation downstream. The sudden influx of water from storm events easily erodes soils that cover the area.

The climate of the region is arid, averaging just over 8 inches of rainfall annually. As is typical of the southwestern United States monsoonal weather patterns, most precipitation falls from August through October. The heaviest rainfall occurs in the summer in isolated, intense cloudbursts. November through June is relatively dry. Snow generally falls from December to mid-February and averages less than one-half inch in depth. However, most recharge occurs during the winter months during snowmelt periods from the upper elevations (Western Regional Climate Center www.wrcc.dri.edu).

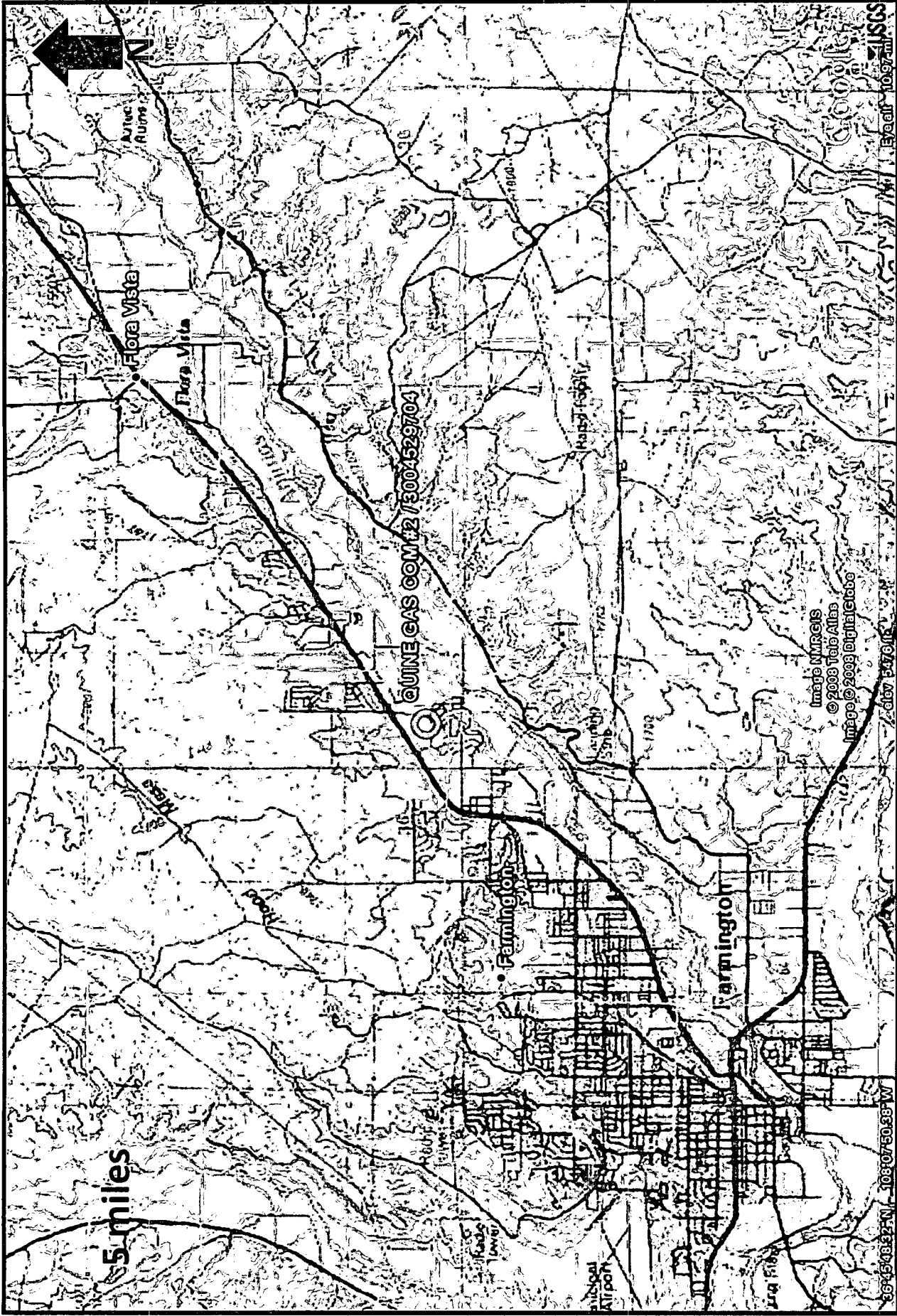
The predominant vegetation is sagebrush and grasses with a more restricted pinon-juniper association (Dick-Peddie, 1993).

Site Specific Hydrogeology

Depth to groundwater is estimated to be less than 50 feet. This estimation is based on data from Stone and others, 1983 and depth to groundwater data published on the New Mexico State Engineer's iWaters Database website. Local topography and proximity to surface hydrologic features are also taken into consideration.

Local aquifers include sandstones within the Nacimiento Formation, which ranges from 0 to 1000 feet deep in this area, as well as shallow aquifers within Quaternary alluvial deposits (Stone et al., 1983). The 1000-foot depth range for Nacimiento aquifers covers an area over 20 miles wide, and depth decreases towards the margin of the San Juan Basin. The site in question is more centrally located, and depth to the aquifer is expected to be closer to 1000 feet. It is well known that groundwater close to the Animas River can be shallow, as the Quaternary deposits near the river itself form shallow aquifers. The proposed site is situated 2870 feet to the northwest of the Animas River, and is approximately 60 feet higher in elevation (Google Earth).

Groundwater data available from the NM State Engineer's iWaters Database for wells near the proposed site are attached. A map showing the location of wells in reference to the proposed pit location is also included. Pinpoints show locations of wells and the labels for each pinpoint indicate depth to groundwater in feet. Wells are clustered near the proposed site to the east, north, and south along the Animas River. Depth to groundwater within the nearby wells ranges from 5 to 47 feet below ground surface. The closest well is situated 560 feet to the north-northwest of the proposed site, and is 10 feet higher in topographic elevation (Google Earth). Depth to groundwater within the well is 38 feet below ground surface. A well to the southeast has a depth to groundwater of 15 feet below ground surface, and is approximately 20 feet lower in elevation from the proposed site.



Lodestar Services, Inc PO Box 4465 Durango, CO 81302	QUINE GAS COM #2 T30N, R12W, S31K San Juan County, NM	Topographic Map
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Lodestar Services, Inc PO Box 4465 Durango, CO 81302	QUINE GAS COM #2 T30N, R12W, S31K San Juan County, NM	Aerial Photograph
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Lodestar Services, Inc
PO Box 4465
Durango, CO 81302

QUINE GAS COM #2
T30N, R12W, S31K
San Juan County, NM

iWaters Groundwater
Data 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

POD / Surface Data ReportAvg Depth to Water ReportWater Column Report

WATER COLUMN REPORT 10/14/2008

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

POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Depth Well	Depth Water	Water Column	Water (in feet)
SJ 00282	30N	12W	28							84	52	32	
SJ 00122 CLW283728	30N	12W	28	1	3					126	61	65	
SJ 01309	30N	12W	28	1	3					55	32	23	
SJ 00122	30N	12W	28	1	3	2				80	40	40	
SJ 02142	30N	12W	28	1	4					55	35	20	
SJ 01275	30N	12W	28	1	4	3				30	5	25	
SJ 02016	30N	12W	28	2	1					120	56	64	
SJ 01129	30N	12W	28	2	1	2				40	10	30	
SJ 03702	30N	12W	28	2	2	3				30	5	25	
SJ 03702 POD1	30N	12W	28	2	2	3				30	5	25	
SJ 00346	30N	12W	28	2	3	1				41	15	26	
SJ 03796 POD1	30N	12W	28	3	1	2		264258	2104657	22	5	17	
SJ 02571	30N	12W	28	4	1	3				21	6	15	
SJ 03096	30N	12W	28	4	3	4							

SJ 00669	30N	12W 28	4 4	70	30	40
SJ 02833	30N	12W 28	4 4 1	50		
SJ 03383	30N	12W 28	4 4 3	50	20	30
SJ 03688	30N	12W 28	4 4 3	50	25	25
SJ 03688 POD1	30N	12W 28	4 4 3	50	25	25
SJ 02022	30N	12W 29	3	297	100	197
SJ 03187	30N	12W 29	3 1 1	160	29	131
SJ 02476	30N	12W 29	3 2 1	225	185	40
SJ 03280	30N	12W 29	3 2 4	100		
SJ 03358	30N	12W 29	3 3 1	100	60	40
SJ 03278	30N	12W 29	3 3 3	120	40	80
SJ 03279	30N	12W 29	3 3 4	120	60	60
SJ 00536	30N	12W 29	4	50	28	22
SJ 02309	30N	12W 29	4 1 2	50	27	23
SJ 02306	30N	12W 29	4 4 1	44	25	19
SJ 01052	30N	12W 29	4 4 3	39	11	28
SJ 01006	30N	12W 30	1	38	16	22
SJ 01314	30N	12W 30	1 1 1	240	220	20
SJ 01637	30N	12W 30	3 3	127	52	75
SJ 01632	30N	12W 30	3 4 4	175	87	88
SJ 02219	30N	12W 30	4 4	240	80	160
SJ 03361	30N	12W 31	1 1 4	150		
SJ 03365	30N	12W 31	2 3 2	50		
SJ 03132	30N	12W 31	2 3 4	58	32	26
SJ 03145	30N	12W 31	2 3 4	49	32	17
SJ 00223	30N	12W 31	2 4	63	22	41
SJ 00170	30N	12W 31	2 4	45	20	25
SJ 03236	30N	12W 31	2 4 2	63	15	48
SJ 03174	30N	12W 31	2 4 2	60	46	14
SJ 03331	30N	12W 31	2 4 2	67	18	49
SJ 03161	30N	12W 31	2 4 3	62	47	15
SJ 03252	30N	12W 31	2 4 4	42	11	31
SJ 03237	30N	12W 31	2 4 4	70		
SJ 03150	30N	12W 31	2 4 4	53	30	23
SJ 01236	30N	12W 31	3 2	50	38	12
SJ 02815	30N	12W 31	3 4 2	30		
SJ 03148	30N	12W 31	4 1 1	56	34	22
SJ 03051	30N	12W 31	4 1 2	40	24	16
SJ 03147	30N	12W 31	4 1 2	49	28	21
SJ 02882	30N	12W 31	4 1 2	33	19	14

SJ 02867	30N	12W	31	4	1	2	28	14	14
SJ 02792	30N	12W	31	4	1	2	49	30	19
SJ 03296	30N	12W	31	4	1	2	56	30	26
SJ 03409	30N	12W	31	4	1	4	44	24	20
SJ 03099	30N	12W	31	4	1	4	34	9	25
SJ 02877	30N	12W	31	4	1	4	31	17	14
SJ 03602	30N	12W	31	4	1	4	31	7	24
SJ 03725 FOD1	30N	12W	31	4	2	3	17	17	
SJ 03235	30N	12W	31	4	2	4	70	40	30
SJ 03122	30N	12W	31	4	3	1	29	15	14
SJ 02965	30N	12W	31	4	3	3	35	14	21
SJ 02213	30N	12W	32	1			33	13	20
SJ 02208	30N	12W	32	1			25	4	21
SJ 02166	30N	12W	32	1			33	10	23
SJ 02207	30N	12W	32	1			25	4	21
SJ 01664	30N	12W	32	1	1	1	32	16	16
SJ 03516	30N	12W	32	1	1	2	70	35	35
SJ 03523	30N	12W	32	1	1	2	77	42	35
SJ 03610	30N	12W	32	1	1	2	80	50	30
SJ 03517	30N	12W	32	1	1	2	60	30	30
SJ 03520	30N	12W	32	1	1	4	55	25	30
SJ 03522	30N	12W	32	1	1	4	70	35	35
SJ 03515	30N	12W	32	1	1	4	70	35	35
SJ 03521	30N	12W	32	1	1	4	55	25	30
SJ 03514	30N	12W	32	1	1	4	70	35	35
SJ 03519	30N	12W	32	1	1	4	55	25	30
SJ 03518	30N	12W	32	1	1	4	60	30	30
SJ 03513	30N	12W	32	1	1	4	60	30	30
SJ 03512	30N	12W	32	1	1	4	60	30	30
SJ 03511	30N	12W	32	1	1	4	60	30	30
SJ 03217	30N	12W	32	1	2	3	42	12	30
SJ 03629	30N	12W	32	1	2	3	60	20	40
SJ 03494	30N	12W	32	1	2	3	50		
SJ 03221	30N	12W	32	1	2	3	50	12	38
SJ 02246	30N	12W	32	1	3		19	9	10
SJ 02117	30N	12W	32	1	3		40	19	21
SJ 02214 X	30N	12W	32	1	3		31	15	16
SJ 02214	30N	12W	32	1	3		30	12	18
SJ 02211	30N	12W	32	1	3		25	11	14
SJ 02220	30N	12W	32	1	3		28	10	18

SJ 01832	30N	12W 32	1 3		41	10	31
SJ 02286	30N	12W 32	1 3		40	18	22
SJ 02262	30N	12W 32	1 3				
SJ 02177	30N	12W 32	1 3		35	11	24
SJ 02311	30N	12W 32	1 3		34	11	23
SJ 02982	30N	12W 32	1 3		36	10	26
SJ 03613	30N	12W 32	1 3			20	50
SJ 02942	30N	12W 32	1 3		35	19	16
SJ 03009	30N	12W 32	1 3		37	10	27
SJ 03190	30N	12W 32	1 3		25	8	17
SJ 03748 POD1	30N	12W 32	1 3				
SJ 02371	30N	12W 32	1 3		31	11	20
SJ 00190	30N	12W 32	1 4		34	15	19
SJ 02239	30N	12W 32	2 1		65	17	48
SJ 03207	30N	12W 32	2 3		60	30	30
SJ 03206	30N	12W 32	2 3		60		
SJ 00116	30N	12W 32	2 3		25		
SJ 00116 S	30N	12W 32	2 3		25		
SJ 03606	30N	12W 32	3 4		67	49	18
SJ 02908	30N	12W 32	4 2		50		
SJ 03779 POD1	30N	12W 32	4 2	263644 2098600	26	8	18
SJ 02804	30N	12W 32	4 3		50		
SJ 00519	30N	12W 32	4 4		24	12	12
SJ 03349	30N	12W 33	1 2		55		
SJ 03143	30N	12W 33	1 2		97	60	37
SJ 03110	30N	12W 33	1 2		320	54	266
SJ 01174	30N	12W 33	1 3		36	19	17
SJ 01390	30N	12W 33	1 3		40	22	18
SJ 03143 POD2	30N	12W 33	1 4		40	10	30
SJ 03133	30N	12W 33	1 4		39	20	19
SJ 00605	30N	12W 33	2 1		72	35	37
SJ 00606	30N	12W 33	2 1		104	35	69
SJ 02981	30N	12W 33	2 1		100	60	40
SJ 01072	30N	12W 33	2 2		110	50	60
SJ 01036	30N	12W 33	2 2		105	70	35
SJ 01045	30N	12W 33	2 2		73	45	28
SJ 03140	30N	12W 33	2 3		42	20	22
SJ 00474	30N	12W 33	2 3		104	60	44
SJ 03614	30N	12W 33	2 3		42	33	9
SJ 01256	30N	12W 33	2 4		250	160	90

SJ 00444	30N	12W	33	2	4	66	34	32
SJ 00505	30N	12W	33	2	4	85	45	40
SJ 01286	30N	12W	33	3		265	227	38
SJ 01118	30N	12W	33	3	2	32	10	22
SJ 00613	30N	12W	33	3	2	147	95	52
SJ 01633	30N	12W	33	3	3	280	240	40
SJ 02212	30N	12W	33	3	3	320	269	51
SJ 00447	30N	12W	33	4	1	104	65	39
SJ 00622	30N	12W	33	4	1	76	41	35
SJ 00590	30N	12W	33	4	1	98	60	38
SJ 00986	30N	12W	33	4	2	104	80	24
SJ 01231	30N	12W	33	4	2	246	161	85

Record Count: 146

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 30N Range: 13W Sections: 26,27,35

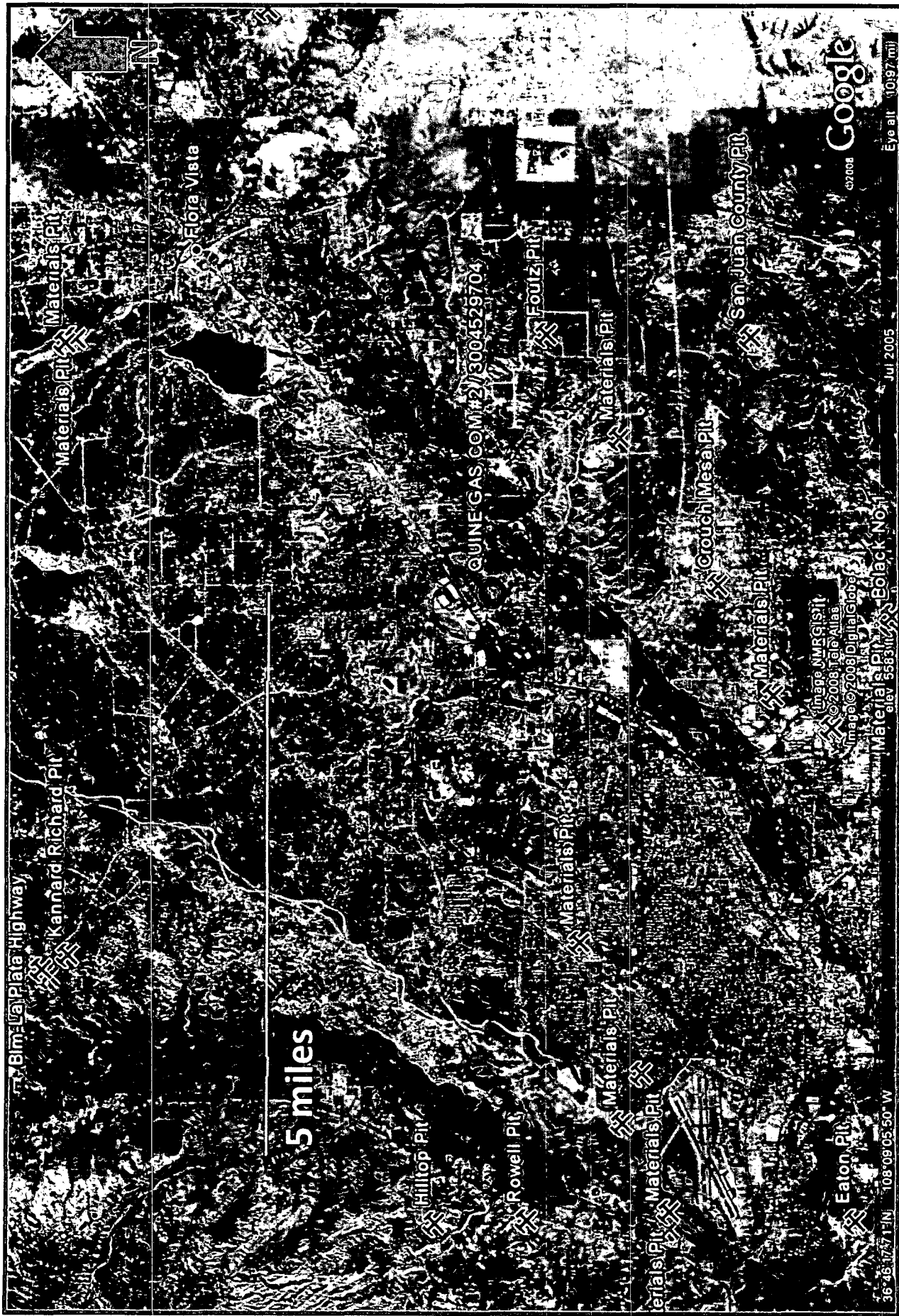
POD / Surface Data ReportAvg Depth to Water ReportWater Column Report

WATER COLUMN REPORT 10/02/2008

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

POD Number	Tws	Rng	Sec	q	q	q	q	Zone	X	Y	Depth Well	Depth Water	Water Column	Depth (in feet)
SJ 01736	30N	13W	26	1	4	3					332	300	32	
SJ 01119	30N	13W	26	1	4	4					370	300	70	
SJ 01454	30N	13W	26	3	1	1					400	350	50	
SJ 01117	30N	13W	26	3	1	4					360	300	60	
SJ 02225	30N	13W	26	3	2	2					339	300	39	
SJ 01895	30N	13W	26	3	2	4					370	250	120	
SJ 01181	30N	13W	26	3	3	3					257	230	27	
SJ 01503	30N	13W	26	4	2	2					310	260	50	
SJ 02674	30N	13W	27	3	4	4					270	250	20	
SJ 02391	30N	13W	35	1	1	1					260	200	60	

Record Count: 10



Lodestar Services, Inc
PO Box 4465
Durango, CO 81302

QUINE GAS COM #2
T30N, R12W, S31K
San Juan County, NM

Mines, Mills, and
Quarries Map

XTO Energy Inc.
San Juan Basin (Northwest New Mexico)
General Closure Plan
For Below-Grade Tanks

In accordance with Rule 19.15.17.13 NMAC the following information describes the closure requirements of below-grade tanks on XTO Energy Inc. (XTO) locations. This is XTO's standard procedure for all below-grade tanks. A separate plan will be submitted for any below-grade tank which does not conform to this plan.

General Plan

1. XTO will close below-grade tanks within the time periods provided in 19.15.17.13 NMAC, or by an earlier date that the division requires because of imminent danger to fresh water, public health or the environment.
2. XTO will close a below-grade tank 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 five years after June 16, 2008, if not retrofitted to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC.
3. XTO will close a permitted below-grade tank within 60 days of cessation of the below-grade tank's operation or as required by the transitional provisions of Subsection B of 19.15.17.17 NMAC in accordance with a closure plan that the appropriate division district office approves. The closure report will be filed on form C-144.
4. XTO will remove liquids and sludge from below-grade tanks prior to implementing a closure method and will dispose of the liquids and sludge in a division-approved facility. Approved facilities and waste streams include:
 - Envirotech Permit No. NM01-0011 and IEI Permit No. NM 01-0010B
 - Soil contaminated by exempt petroleum hydrocarbons
 - Produced sand, pit sludge and contaminated bottoms from storage of exempt wastes
 - Basin Disposal Permit No. NM01-005
 - Produced water
5. XTO will remove the below-grade tank and dispose of it in a division approved facility or recycle, reuse, or reclaim it in a manner that the appropriate division district office has approved prior to removal. Any associated liners will be removed, properly cleaned and disposed of per 19.15.9.712 NMAC at San Juan County Landfill. Documentation of the final disposition will be included in the closure report.
6. XTO will remove any on-site equipment associated with a below-grade tank unless the equipment is required for some other purpose.
7. XTO will test the soils beneath the below-grade tank to determine whether a release has occurred. At a minimum 5 point composite sample will be collected along with individual grab samples from any area that is wet, discolored or showing other evidence of a release. Samples will be

analyzed for BTEX, TPH and chlorides to demonstrate that the benzene concentration, as determined by EPA SW-846 methods 8021B or 8260B or EPA method that the division approves, does not exceed 0.2 mg/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 100mg/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. XTO will notify the division of its results on form C-141.

8. If XTO or the division determines that a release has occurred, XTO will comply with 19.15.3.116 NMAC and 19.15.1.19NMAC as appropriate.
9. If the sampling program demonstrates that a 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, XTO will backfill the excavation with compacted, non-waste containing, earthen material; construct a division prescribed soil cover; recontour and re-vegetate the site.
10. Notice of Closure operations will be given to the Aztec Division District III office between 72 hours and one week prior to the start of closure activities via email or verbally. The notification will include the following:
 - i. Operator's name
 - ii. Well Name and API Number
 - iii. Location by Unit Letter, Section, Township, and Range

The surface owner shall also be notified prior to the implementation of any closure operations of below-grade tanks as per the approved closure plan using certified mail, return receipt requested.

11. 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.
12. A minimum of 4 feet of cover shall be achieved and the cover shall include 1 foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater. Soil cover will be constructed to the site's existing grade and ponding of water and erosion of the cover material will be prevented with drainage control, natural drainages and silt traps where needed.
13. XTO will seed the disturbed areas the first growing season after the operator closes the pit. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM or Forest Service stipulated seed mixes will be used on federal lands. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs.

XTO Energy Inc.
San Juan Basin (Northwest New Mexico)
General Closure Plan
For Below-Grade Tanks
Page 3

14. All closure activities will include proper documentation and be available for review upon request and will be submitted in closure report form to OCD within 60 days of closure of the below-grade tank. Closure report will be filed on form C-144 and incorporate the following:
 - i. Proof of closure notice to division and surface owner;
 - ii. Details on capping and covering, where applicable;
 - iii. Inspection reports;
 - iv. Confirmation sampling analytical results;
 - v. Disposal facility name(s) and permit number(s);
 - vi. Soil backfilling and cover installation;
 - vii. Re-vegetation application rates and seeding techniques, (or approved alternative to re-vegetation requirements if applicable);
 - viii. Photo documentation of the site reclamation.