

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 NMOC District Office.
For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOC District Office.

2009 APR 20 AM 10 18

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
Existing BGT ☐ Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method
BGT1 ☐ 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: Gardner C #1
API Number: 30-045-27982 OCD Permit Number: _____
U/L or Qtr/Qtr M Section 35 Township 32N Range 09W County: San Juan
Center of Proposed Design: Latitude 36.936190 Longitude 107.754810 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: 286 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, vaulted, automatic high-level shut off, no liner
Liner type: Thickness _____ mil ☐ HDPE ☐ PVC ☐ Other _____

☐ **Alternative Method:**

Submission of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

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

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

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

- ☐ Screen ☐ Netting ☒ Other Expanded metal or solid vaulted top
- ☐ Monthly inspections (If netting or screening is not physically feasible)

Signs: Subsection C of 19.15.17.11 NMAC

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

Administrative Approvals and Exceptions:

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

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

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

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

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

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	<input checked="" 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 checked="" type="checkbox"/> No <input type="checkbox"/> NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to permanent pits) - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

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

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

- ☐ Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9 NMAC
☐ 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

☐ Yes ☐ No
☐ NA

Ground water is between 50 and 100 feet below the bottom of the buried waste

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

☐ Yes ☐ No
☐ NA

Ground water is more than 100 feet below the bottom of the buried waste.

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

☐ Yes ☐ No
☐ 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

☐ 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 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

☐ Yes ☐ 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 500 feet of a wetland.

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

☐ Yes ☐ No

Within the area overlying a subsurface mine.

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

☐ Yes ☐ No

Within an unstable area.

- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

☐ Yes ☐ No

Within a 100-year floodplain.

- FEMA map

☐ Yes ☐ No

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: Environmental Representative
 Signature: Kim Champlin Date: 03/09/2009
 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: Jaclyn Burdine Approval Date: 08/18/2022
 Title: Environmental Specialist-A OCD Permit Number: BGT1

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: _____

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

RECEIVED

Hobbs, NM 88240

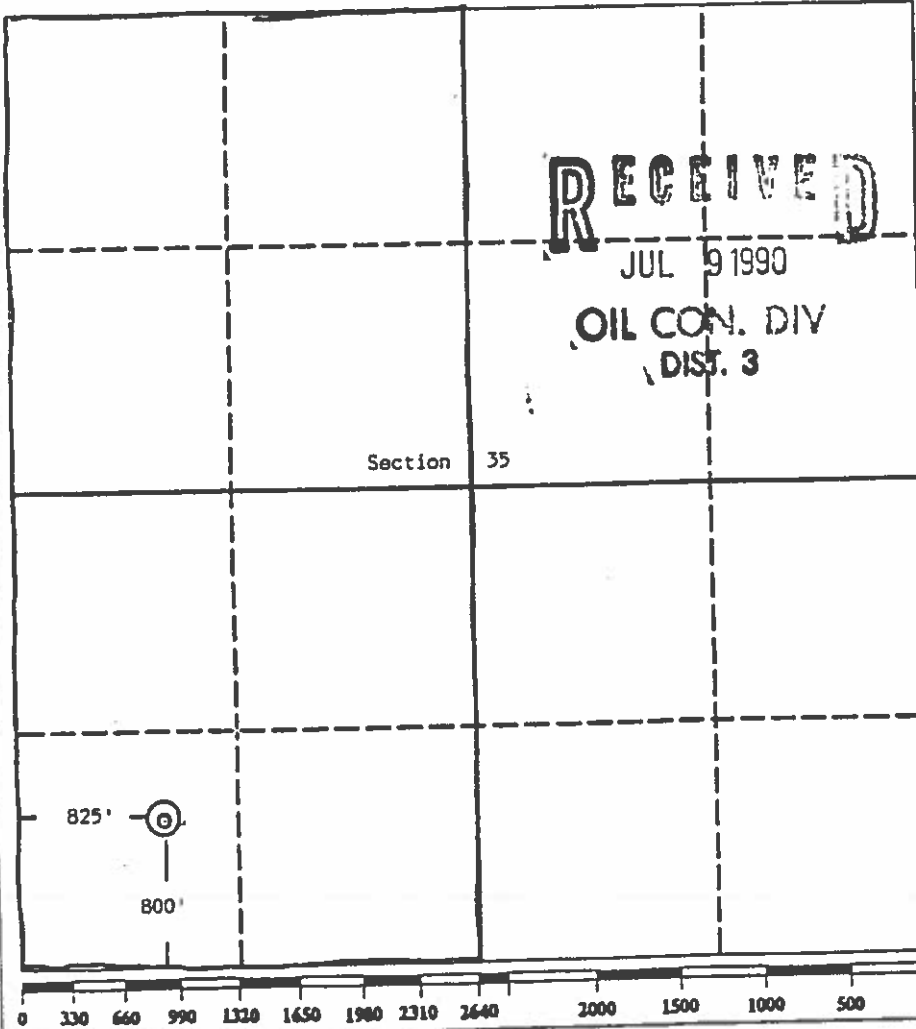
DD, Artesia, NM 88210

TRACT III
Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT
All Distances must be from the outer boundaries of the section

Operator Koch Exploration Company		Lease Gardner C		Well No. 10
Unit Letter M	Section 35	Township 32 North	Range 9 West	County San Juan
Actual Footage Location of Well: 800 feet from the South line and 825 feet from the West line				
Ground level Elev. 6610	Producing Formation Fnt		Pool Basin Fruitland Coal	Dedicated Acreage: 320-301.99 Acres

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
- If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?
☐ Yes ☐ No If answer is "yes" type of consolidation _____
If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary).
No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature
Delvin H. Echard
Printed Name
Delvin H. Echard
Position
Dist. Prod. Supt.
Company
Koch Exploration Co.
Date
3-6-90

SURVEYOR CERTIFICATION

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

Date Surveyed
January 17, 1990

Signature & Seal of
Professional Surveyor
Edgar L. Risenhoover
Certification No.
5979
Edgar L. Risenhoover, P.S.



Pit Permit Siting Criteria Information

Client:	Devon Energy
Project:	tank permitting
Revised:	7-Mar-09
Prepared by:	Trevor Ycas

API#: 30-045-27982

USPLSS: 32N 09W 35 M

Name: GARDNER C #1

Lat/Long: 36.936190°, -107.754810°

Depth to groundwater: >100'

Geologic formation: San Jose Formation (Tsj)

Distance to closest continuously flowing watercourse: 7.75 Los Pinos River

Distance to closest significant watercourse, lakebed, playa lake, or sinkhole: 212' N to 1st order tributary of Rawhide Canyon; ~520' N to 1st-order tributary of Rawhide Canyon; ~1492' E to 'Rawhide Canyon'

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

Soil Type: Alfisol / Entisol

Domestic fresh water well or spring within 500': NO

Annual Precipitation: Navajo Reservoir: 11.90", Aztec: 9.77", Farmington (FAA): 8.21", Bloomfield: 8.71"

Any other fresh water well or spring within 1000': NO

Precipitation Notes: Historical daily max. precip.: 4.0" (Bloomfield)

Within incorporated municipal boundaries: NO

Within defined municipal fresh water well field: NO

Attached Documents: Hydrogeologic Report
Topographic Map
Aerial Photo
Mines, Mills and Quarries Map
iWaters Map and Data

Wetland within 500': NO

Mining Activity: None Near

Within unstable area: NO

Within 100 year flood plain: NO

Additional Notes:

Gardner C #001 Below Ground Tank Hydrogeologic Report for Siting Criteria

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 pit location will be located in the north central San Juan Basin near, and west of, Navajo Lake. The predominant geologic formation is the San Jose Formation of Tertiary age, which underlies surface soils and is often exposed (Dane and Bachman, 1965). Deposits of Quaternary alluvial and aeolian sands occur near the surface of the area, especially near streams and washes.

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 San Jose Formation lies at the surface and overlies the Nacimiento Formation. Thickness of the San Jose ranges from 200 to 2700 feet, thickening from west to east across the region of interest (Stone et al., 1983). Aquifers within the coarser and continuous sandstone bodies of the San Jose Formation are between 0 and 2700' deep in this section of the basin (Stone et al., 1983). Groundwater within these aquifers flows southwest, toward the San Juan River. Little specific hydrogeologic data is available for the San Jose Formation system, but "numerous wells and springs used for stock and domestic supplies" draw their water from the San Jose Formation (Stone et al., 1983).

The prominent soil type(s) at the proposed site are entisols and aridisols, which are defined as soils exhibiting little to no profile development (www.emnrd.state.nm.us). Soils are basically unaltered from their parent rock. Miles of arroyos, washes and intermittent streams exist as part of the drainage network towards the San Juan River. These features often cut into soil and other unconsolidated materials, contributing to sedimentation downstream. The sudden influx of water from storm events easily erodes the soils that cover the area and prohibits effective recharge to the underlying aquifers.

Regional weather further prohibit active recharge. The climate is arid, averaging just over 11 inches of rainfall annually. As is typical of the southwestern United States monsoonal weather patterns, most precipitation falls from July through September. The heaviest rainfall occurs in the summer in isolated, intense cloudbursts. September 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 greater than 100 feet. This estimation is based on data from Stone and others (1983), the USGS Groundwater Atlas of the United States and depth to groundwater data published on the New Mexico State Engineer's iWaters Database website. Local topography, proximity to adjacent channels & spring features at similar elevations nearby are also taken into consideration. Groundwater data is extremely limited in this region; the nearest iWaters data point lies 7950 feet northwest (SP 045231); this source is an evaporation pond. The closest water well is 2.2 miles to the northwest (SJ 03131).

Beds of water-yielding sandstone are present in the San Jose Formation, which are fluvial in origin and are interbedded with mudstone, siltstone & shale. "Extensive intertonguing" of different members of this formation is reported (Stone et al, 1983). Porous sandstones form the principal aquifers, while relatively impermeable shales and mudstones form confining units between the aquifers (Stone et al., 1983). Local aquifers exist within the San Jose Formation at depths greater than 100 feet and thicknesses of the aquifer can be up to several hundred feet (USGS, Groundwater Atlas of the US; Stone et al, 1983).

The site is immediately south of a first order tributary of Rawhide Canyon and approximately 1500 feet from the canyon proper. However, it is over 300 feet higher in elevation than Rawhide Canyon.

Groundwater data available from the NM State Engineer's iWaters Database for wells near the existing below grade tank are attached. The nearest iWaters well is 1.79 miles NW; depth to groundwater within the well is 580 feet below ground surface.

Based on available groundwater data and analysis of nearby hydrogeologic features, depth to groundwater is estimated to be greater than 100'.







New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	County	Q Q Q						X	Y	DepthDepth Water		
		6416 4	Sec	Tws	Rng					Well	Water	Column
SJ 00012	San Juan		2	30	31N	08W	258218	4084189	1021	475		546
SJ 00198	San Juan	4 3 3	32	31N	08W	258895	4081451		2003			
SJ 01167	San Juan	3 4 4	24	31N	08W	266352	4084410		465	390		75
SJ 01822	San Juan	2 2 2	25	31N	08W	266540	4084216		550	500		50
SJ 03306	San Juan	4 4 1	25	31N	08W	265739	4083645		600	500		100

Record Count:5

Average Depth to Water: 466 feet

Minimum Depth: 390 feet

Maximum Depth: 500 feet

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.

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WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer Water Column/Average Depth to Water

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	County	Q Q Q	6416 4	Sec	Tws	Rng	X	Y	Depth	Depth	Water
									Well	Water	Column

Record Count:0

Average Depth to Water: 0 feet

Minimum Depth: 0 feet

Maximum Depth: 0 feet

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WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	County	Q Q Q				Sec	Tws	Rng	X	Y	Depth	Depth	Water
		64	16	4							Well	Water	Column
SJ 03131	San Juan	3	3	3		22	32N	09W	252963	4094453	843	580	263

Record Count: 1

Average Depth to Water: 580 feet

Minimum Depth: 580 feet

Maximum Depth: 580 feet

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WATER COLUMN/ AVERAGE
DEPTH TO WATER

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 32N Range: 08W Sections: _____
NAD27 X: _____ Y: _____ Zone: _____ Search Radius: _____
County: _____ Basin: _____ Number: _____ Suffix: _____
Owner Name: (First) _____ (Last) _____ ☐ Non-Domestic ☒ Domestic ☐ All

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

Clear Form iwATERS Menu Help

WATER COLUMN REPORT 08/05/2008

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

POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Depth Well	Depth Water	Water Column	Water (in feet)
SJ 02992	32N	08W	27	3	2	1				330	230	100	
SJ 03823 POD1	32N	08W	27	3	2	3		277182	2165918	380	250	130	
SJ 03250	32N	08W	27	4	3	4				400	375	25	
SJ 03259	32N	08W	34	1	2	3				550	500	50	
SJ 02816	32N	08W	34	1	4	1				100			
SJ 03379	32N	08W	35	1	3					500			
SJ 02726	32N	08W	35	1	4	2				300	300		

Record Count: 7



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	County	Q Q Q				Sec	Tws	Rng	X	Y	Depth	Depth	Water
		6	4	1	6						Well	Water	Column
SJ 00054	San Juan		2	10	31N	10W			244754	4089470	455		
SJ 00128	San Juan	2	2	04	31N	10W			243432	4091295	70	21	49
SJ 00163	San Juan	1	4	1	28	31N	10W		242330	4084609	1538		
SJ 00163 EXPL	San Juan	3	4	1	28	31N	10W		242330	4084409	1538		
SJ 00175	San Juan		2	04	31N	10W			243218	4091107	28	13	15
SJ 00304	San Juan	4	3	05	31N	10W			240972	4090194	18	5	13
SJ 00498	San Juan	2	1	04	31N	10W			242629	4091316	26	8	18
SJ 00555 CLW225581	San Juan		1	19	31N	10W			239011	4086427	70	45	25
SJ 00573	San Juan	4	1	04	31N	10W			242617	4090921	37	12	25
SJ 00585	San Juan			08	31N	10W			241111	4089191	40	23	17
SJ 00595	San Juan	2	4	1	04	31N	10W		242716	4091020	90	12	78
SJ 00595 S	San Juan	2	4	1	04	31N	10W		242716	4091020	70	10	60
SJ 00611	San Juan	3	3	3	18	31N	10W		238733	4086928	58	46	12
SJ 00611 S	San Juan	3	3	18	31N	10W			238834	4087029	65	25	40
SJ 00830 -EXPLOR	San Juan		3	15	31N	10W			243864	4087104	550		
SJ 00967	San Juan	3	4	27	31N	10W			244351	4083653	130	90	40
SJ 00981	San Juan	1	2	34	31N	10W			244338	4083246	164	118	46
SJ 00990	San Juan	3	4	27	31N	10W			244351	4083653	162	110	52
SJ 01198	San Juan	4	3	17	31N	10W			240842	4086962	158	97	61
SJ 01349	San Juan	3	3	1	19	31N	10W		238709	4086125	78	67	11
SJ 01370	San Juan	2	3	1	05	31N	10W		240690	4091116	48	28	20
SJ 01373	San Juan	3	4	05	31N	10W			241378	4090181	6	3	3
SJ 01373 X	San Juan	3	4	3	05	31N	10W		240871	4090093	35	10	25
SJ 01428	San Juan	3	1	19	31N	10W			238810	4086226	65	45	20
SJ 01480	San Juan	1	2	34	31N	10W			244338	4083246	245	125	120
SJ 01483	San Juan	1	4	4	27	31N	10W		244648	4083737	195	150	45
SJ 01500	San Juan	1	3	18	31N	10W			238843	4087430	26	15	11
SJ 01521	San Juan		4	07	31N	10W			239885	4088813	45	29	16

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	County	Q Q Q						X	Y	Depth	Depth	Water
		64	16	4	Sec	Tws	Rng			Well	Water	Column
SJ 01534	San Juan	1	3	1	18	31N	10W	238751	4087931	34	23	11
SJ 01550	San Juan		1	3	18	31N	10W	238843	4087430	22	7	15
SJ 01552	San Juan	4	1	3	18	31N	10W	238942	4087329	30	22	8
SJ 01563	San Juan		1	2	04	31N	10W	243030	4091306	44	28	16
SJ 01564	San Juan		2	2	04	31N	10W	243432	4091295	34	10	24
SJ 01587	San Juan		4	1	18	31N	10W	239251	4087819	35	5	30
SJ 01598	San Juan		4	1	18	31N	10W	239251	4087819	30	5	25
SJ 01616	San Juan		3	1	18	31N	10W	238852	4087832	18	8	10
SJ 01625	San Juan		1	3	18	31N	10W	238843	4087430	21	6	15
SJ 01718	San Juan	4	1	2	18	31N	10W	239771	4088107	30	4	26
SJ 01747	San Juan	3	4	1	18	31N	10W	239150	4087718	20	6	14
SJ 01796	San Juan	3	3	1	18	31N	10W	238751	4087731	32	20	12
SJ 01958	San Juan			2	06	31N	10W	239969	4091225	103	83	20
SJ 01967 X	San Juan	2	3	1	05	31N	10W	240690	4091116	25	10	15
SJ 01977	San Juan		3	2	06	31N	10W	239768	4091024	93	33	60
SJ 02037	San Juan		3	4	05	31N	10W	241378	4090181	39	11	28
SJ 02044	San Juan		3	1	05	31N	10W	240591	4091017	22	12	10
SJ 02044 X	San Juan	4	3	1	05	31N	10W	240690	4090916	28	14	14
SJ 02069	San Juan	1	2	2	05	31N	10W	241724	4091446	22	9	13
SJ 02083	San Juan	1	2	2	05	31N	10W	241724	4091446	23	10	13
SJ 02084	San Juan	2	4	4	25	31N	10W	247878	4083652	315		
SJ 02089	San Juan	1	1	2	04	31N	10W	242929	4091405	55	40	15
SJ 02107	San Juan		3	4	05	31N	10W	241378	4090181	35	16	19
SJ 02150	San Juan		2	2	07	31N	10W	240142	4089811	41	23	18
SJ 02304	San Juan		2	1	08	31N	10W	240959	4089789	35	29	6
SJ 02389	San Juan	3	2	2	07	31N	10W	240041	4089710	48	31	17
SJ 02399	San Juan	1	4	3	05	31N	10W	240871	4090293	40	14	26
SJ 02624	San Juan		1	1	18	31N	10W	238862	4088234	295	125	170
SJ 02749	San Juan	2	2	3	18	31N	10W	239340	4087515	16	10	6
SJ 02821	San Juan	1	1	3	18	31N	10W	238742	4087529	24	8	16
SJ 02843	San Juan	2	3	1	05	31N	10W	240690	4091116	25	10	15

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	County	Q Q Q						X	Y	Depth	Depth	Water
		64	16	4	Sec	Tws	Rng			Well	Water	Column
SJ 02844	San Juan	4	2	1	04	31N	10W	242728	4091215	37	21	16
SJ 02884	San Juan	4	4	2	05	31N	10W	241910	4090855	75		
SJ 02909	San Juan	1	1	1	19	31N	10W	238721	4086726	60	47	13
SJ 02929	San Juan	1	1	1	19	31N	10W	238721	4086726	58	40	18
SJ 02944	San Juan	2	4	3	05	31N	10W	241071	4090293	100		
SJ 02945	San Juan	4	2	2	05	31N	10W	241924	4091246	17	5	12
SJ 02960	San Juan	2	4	4	27	31N	10W	244848	4083737	200	150	50
SJ 02979	San Juan	1	1	1	19	31N	10W	238721	4086726	57	43	14
SJ 03004	San Juan	4	2	2	05	31N	10W	241924	4091246	18	6	12
SJ 03013	San Juan	3	2	2	05	31N	10W	241724	4091246	19	7	12
SJ 03033	San Juan	1	1	2	04	31N	10W	242929	4091405	52	30	22
SJ 03034	San Juan	2	1	2	04	31N	10W	243129	4091405	45	23	22
SJ 03057	San Juan	4	3	1	08	31N	10W	240636	4089296	19	6	13
SJ 03062	San Juan	2	2	1	04	31N	10W	242728	4091415	55	46	9
SJ 03062 CLW263578	San Juan	2	2	1	04	31N	10W	242728	4091415	47	40	7
SJ 03070	San Juan	2	3	2	18	31N	10W	239760	4087904	21	1	20
SJ 03079	San Juan	3	2	2	07	31N	10W	240041	4089710	50		
SJ 03086	San Juan	3	1	1	19	31N	10W	238721	4086526	61	44	17
SJ 03103	San Juan	1	1	1	19	31N	10W	238721	4086726	53	33	20
SJ 03109	San Juan	3	2	2	05	31N	10W	241724	4091246	21	2	19
SJ 03112	San Juan	2	4	3	05	31N	10W	241071	4090293	45	33	12
SJ 03114	San Juan	1	2	3	18	31N	10W	239140	4087515	16	8	8
SJ 03119	San Juan	2	1	3	18	31N	10W	238942	4087529	10	8	2
SJ 03163	San Juan	3	4	1	18	31N	10W	239150	4087718	19	5	14
SJ 03178	San Juan	2	4	4	27	31N	10W	244848	4083737	235	150	85
SJ 03246	San Juan	3	4	4	05	31N	10W	241684	4090067	65	15	50
SJ 03285	San Juan	1	1	3	19	31N	10W	238697	4085924	40		
SJ 03308	San Juan	3	4	2	06	31N	10W	240078	4090920	100	60	40
SJ 03324	San Juan	2	3	2	18	31N	10W	239760	4087904	43	20	23
SJ 03330	San Juan	1	3	3	07	31N	10W	238770	4088734	400		
SJ 03336	San Juan	3	4	4	05	31N	10W	241684	4090067	58	28	30

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	County	Q Q Q						X	Y	DepthDepth Water		
		6416 4	Sec	Tws	Rng					Well	Water	Column
SJ 03345	San Juan	2 3 1	18	31N	10W			238951	4087931	21	11	10
SJ 03359	San Juan	1 1 1	19	31N	10W			238721	4086726	70		
SJ 03368	San Juan	4 2 2	05	31N	10W			241924	4091246	19	6	13
SJ 03387	San Juan	1 2 2	34	31N	10W			244634	4083331	250	200	50
SJ 03435	San Juan	3 2 3	18	31N	10W			239140	4087315	10	6	4
SJ 03452	San Juan	2 4 4	05	31N	10W			241884	4090267	61	30	31
SJ 03459	San Juan	2 3 3	32	31N	10W			240390	4082266	185	175	10
SJ 03474	San Juan	2 4 2	18	31N	10W			240166	4087891	35		
SJ 03486	San Juan	3 1 1	19	31N	10W			238721	4086526	65	45	20
SJ 03487	San Juan	3 1 1	19	31N	10W			238721	4086526	65	45	20
SJ 03539	San Juan	3 4 4	27	31N	10W			244648	4083537	205	124	81
SJ 03544	San Juan	4 4 1	35	31N	10W			245616	4082705	325	220	105
SJ 03545	San Juan	3 4 1	35	31N	10W			245416	4082705	455	317	138
SJ 03549	San Juan	4 4 2	05	31N	10W			241910	4090855	42	35	7
SJ 03554	San Juan	1 2 4	35	31N	10W			246198	4082488	454	317	137
SJ 03570	San Juan	4 4 2	35	31N	10W			246399	4082687	250		
SJ 03571	San Juan	4 4 1	35	31N	10W			245616	4082705	250		
SJ 03576	San Juan	3 3 2	35	31N	10W			245814	4082696	450	137	313
SJ 03622	San Juan	3 2 3	18	31N	10W			239140	4087315	20	6	14
SJ 03624	San Juan	2 1 2	34	31N	10W			244437	4083345	165	65	100
SJ 03705 POD1	San Juan	2 1 1	19	31N	10W			238921	4086726	69	56	13
SJ 03714 POD1	San Juan	1 1 3	08	31N	10W			240421	4089091	21	6	15
SJ 03721 POD1	San Juan	3 2 3	18	31N	10W			239140	4087315	25	10	15
SJ 03722 POD1	San Juan	3 2 3	18	31N	10W			239140	4087315	20	6	14
SJ 03728 POD1	San Juan	3 3 1	35	31N	10W			245017	4082714	365	230	135
SJ 03802 POD1	San Juan	2 3 4	07	31N	10W			239901	4088689	41	24	17
SJ 03807 POD1	San Juan	4 4 3	04	31N	10W			242694	4090109	250	120	130
SJ 03813 POD1	San Juan	4 1 2	18	31N	10W			239838	4088105	16	6	10
SJ 03824 POD1	San Juan	1 3 1	35	31N	10W			245011	4082953	385	245	140
SJ 03825 POD1	San Juan	1 4 2	07	31N	10W			240006	4089552	59		

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WATER COLUMN/ AVERAGE
DEPTH TO WATER

Record Count: 120

Average Depth to Water: 48 feet

Minimum Depth: 1 feet

Maximum Depth: 317 feet



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	County	Q Q Q				Sec	Tws	Rng	X	Y	Depth	Depth	Water
		6	4	1	6						Well	Water	Column
SJ 00013	San Juan	3	10	31	N 09W	253017	4088369	458					
SJ 00014	San Juan	3	10	31	N 09W	253017	4088369	462	312	150			
SJ 00015	San Juan		19	31	N 09W	248812	4085735	610					
SJ 00016	San Juan	3	3	4	27	31N 09W	253339	4083235	118				
SJ 00022	San Juan	2	20	31	N 09W	250557	4086032	202	120	82			
SJ 00023	San Juan	3	17	31	N 09W	249764	4086871	550	200	350			
SJ 00029	San Juan	4	21	31	N 09W	252139	4085175	178					
SJ 00052	San Juan	3	20	31	N 09W	249738	4085267	510					
SJ 03769 POD1	San Juan	2	3	2	14	31N 09W	255236	4087367	485	390	95		

Record Count:9

Average Depth to Water: 255 feet

Minimum Depth: 120 feet

Maximum Depth: 390 feet

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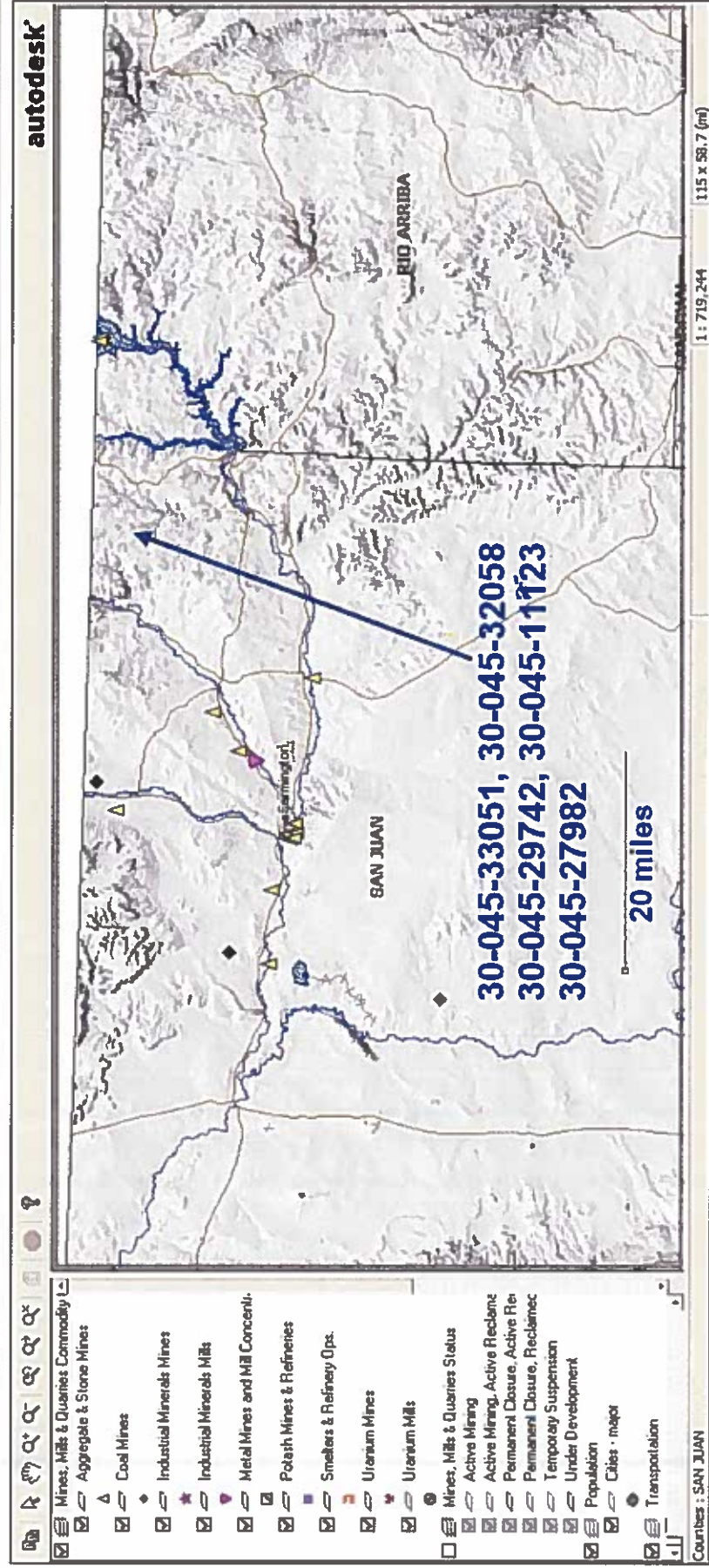
3/7/09 11:07 AM

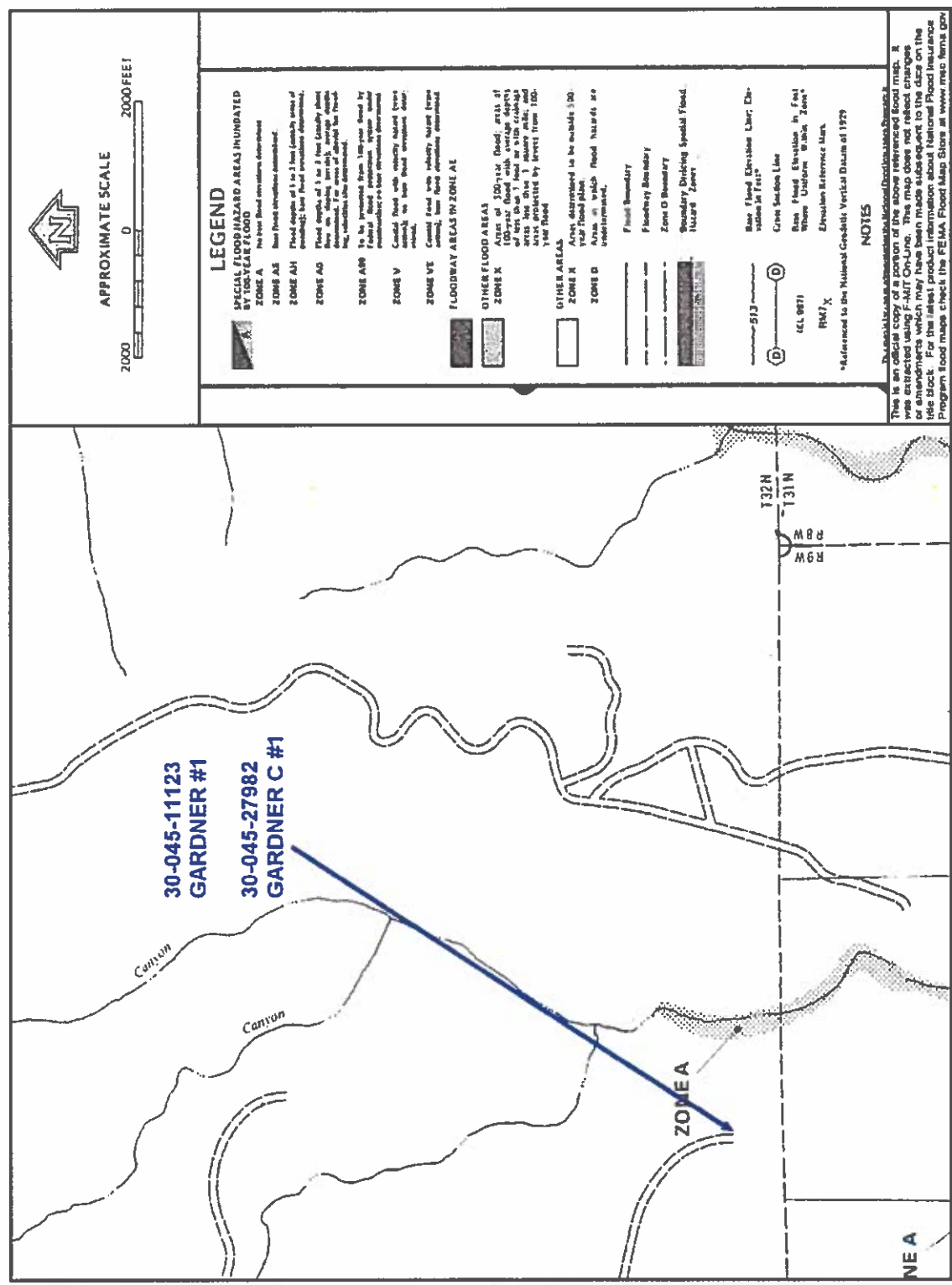
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WATER COLUMN/ AVERAGE
DEPTH TO WATER



Mines, Mills and Quarries Web Map





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

In accordance with Rule 19.15.17.11 NMAC the following information describes the design and construction 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.

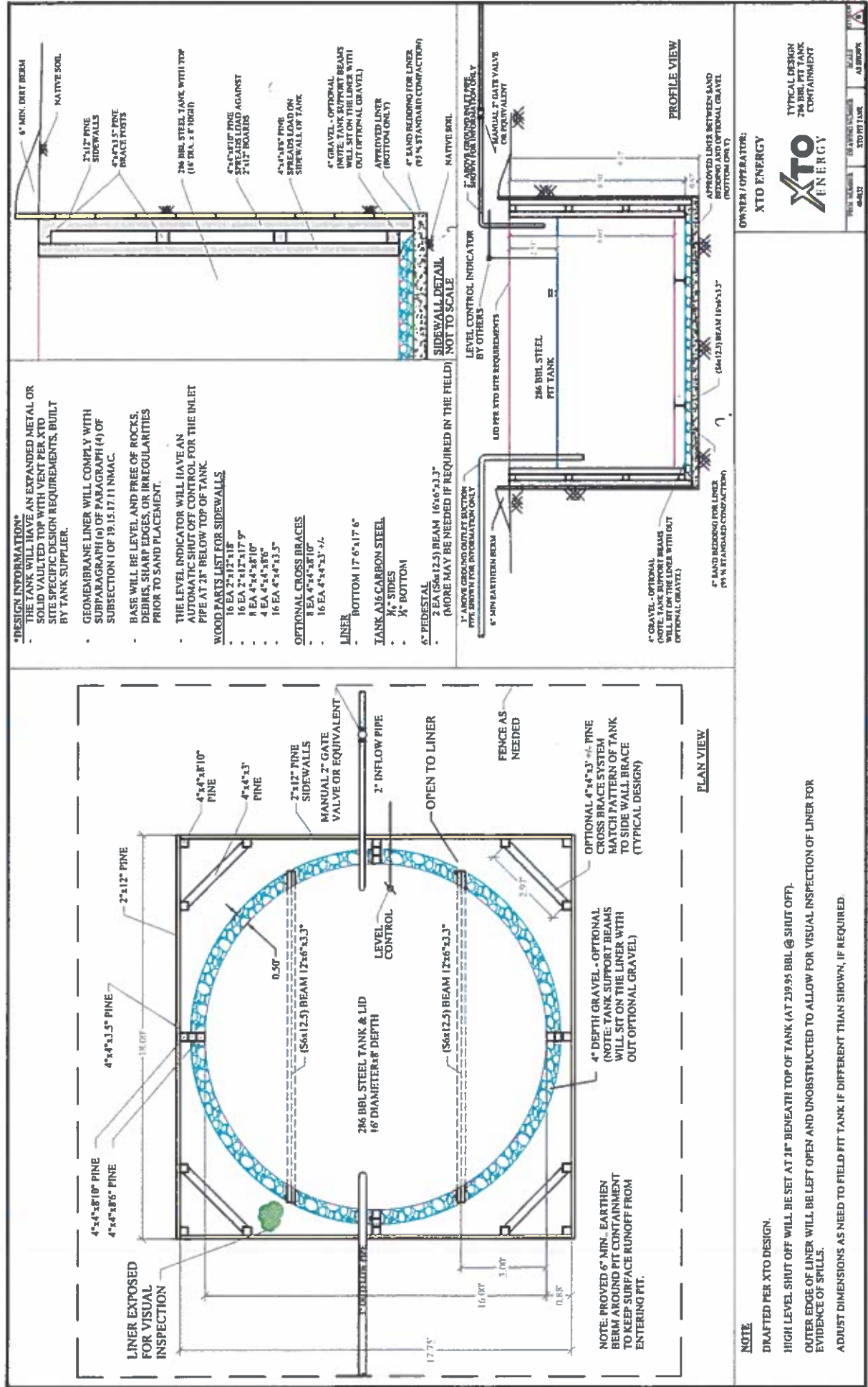
General Plan

1. XTO will design and construct below-grade tanks to contain liquids and solids and prevent contamination of fresh water and protect public health and environment.
2. XTO will post a well sign, in compliance with 19.15.3.103 NMAC, on the existing well site operated by XTO where the existing below-grade tank is located. The sign will list the Operator on record as the operator, the location of the well site by unit letter, section, township, range, and emergency telephone numbers.
3. XTO is requesting approval of an alternative fencing to be used on below-grade tank locations. Below-grade tank locations will be fenced utilizing 48" steel mesh field-fence (hogwire) with pipe railing along the top. A 6' chain link fence will be utilized around the well pad if the well site is within a city limits or ¼ mile of a permanent residence, school, hospital, institution or church. Below-grade tanks located within 1000' of a permanent residence, school, hospital, institution or church will be fenced by 6' chain link fence with at least two strands of barbed wire at the top. All gates associated with below-grade tanks will remain closed and locked when responsible individuals are not on site.
4. XTO shall construct below-grade tanks with an expanded metal covering or solid vaulted top on the top of the below-grade tank.
5. XTO will ensure that below-grade tanks are constructed of materials resistant to the below-grade tank's particular contents and resistant to damage from sunlight. Tanks will be constructed of A36 carbon steel with 3/16" sides and ¼" bottom. (See attached drawing).
6. The below-grade tank system will have a properly constructed foundation consisting of a level base free of rocks, debris, sharp edges or irregularities to prevent punctures, cracks or indentations of the liner or tank bottom. Sand bedding (4") will be placed on top of a level foundation to ensure prevention of punctures, cracks or indentations of the liner or tank bottom.
7. XTO will construct a berm and/or diversion ditch in a manner that prevents the collection of surface water run-on. Below-grade tanks will be equipped with automatic high level shut-off devices as well as manually operated shut-off valves. (See attached drawing).
8. XTO will construct and use below-grade tanks that do not have double walls. The below-grade tank sidewalls will be open for visual inspection for leaks. The sidewalls of the cellar will be constructed with 2" X 12" pine sidewalls and 4" X 4" pine brace posts. The below-grade tank

XTO Energy Inc.
San Juan Basin (Northwest New Mexico)
General Design and Construction Plan
For Below-Grade Tanks
Page 2

bottom will be elevated a minimum of 6" above the underlying ground surface and the below-grade tank will be underlain with a geomembrane liner to divert leaked liquid to a location that can be visually inspected. (See attached drawing).

9. XTO will equip below-grade tanks designed in this manner with a properly functioning automatic high-level shut-off control device and manual controls to prevent overflows. (See attached drawing).
10. XTO will demonstrate to the OCD that the geomembrane liner complies with the specifications of Subparagraph (a) of Paragraph (4) of Subsection I of 19.15.17.11 NMAC and obtain approval from OCD prior to the installation of the design. The geomembrane liner shall have a hydraulic conductivity no greater than 1×10^{-9} cm/sec. The geomembrane liner shall be composed of an impervious, synthetic material that is resistant to petroleum hydrocarbons, salts and acids and alkaline solutions. The liner material shall be resistant to ultraviolet light. Liner compatibility shall comply with EPA SW-846 method 9090A. (See attached drawing).
11. The general specifications for design and construction are attached.



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

In accordance with Rule 19.15.17.12 NMAC the following information describes the operation and maintenance 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 operate and maintain below-grade tanks to contain liquids and solids, maintain the integrity of the liner and secondary containment system, prevent contamination of fresh water and protect public health and the environment. Fluid levels will be monitored weekly and high levels will be removed as necessary. Monthly inspections will be conducted to monitor integrity of below-grade tank systems and below-grade tanks will be equipped with automatic high-level shut-off devices.
2. XTO will not allow below-grade tanks to overflow and will use berms and/or diversion ditch to prevent surface run on to enter the below-grade tank. Below-grade tanks will be equipped with automatic high-level shut-off control devices as well as manually operated shut-off valves. See attached drawing for vault design and placement of diversion berms and shut-off devices.
3. XTO will continuously remove any visible or measurable layer of oil from the fluid surface of below-grade tanks in order to prevent significant accumulation of oil.
4. XTO will inspect the below-grade tank monthly and maintain written records for five years. Monthly inspections will consist of documenting the following: (see attached template),
 - Well Name
 - API #
 - Sec., Twn., Rng.
 - XTO Inspector's name
 - Inspection date and time
 - Visible tears in liner
 - Visible signs of tank overflow
 - Collection of surface run on
 - Visible layer of oil
 - Visible signs of tank leak
 - Estimated freeboard
5. XTO will maintain adequate freeboard to prevent over topping of the below-grade tank. High level shut-off devices control the freeboard at an average of 28" beneath the top of the tank.
6. XTO will not discharge into or store any hazardous waste in any below-grade tank.
7. If a below-grade tank develops a leak, or if any penetration of a below-grade tank occurs below the liquids surface, XTO will remove all liquids above the damage or leak line within 48 hours,

XTO Energy Inc.
San Juan Basin (Northwest New Mexico)
General Maintenance and Operating Plan
For Below-Grade Tanks
Page 2

notify the appropriate division district office within 48 hours of the discovery and repair the damage or replace the below-grade tank. If an existing below-grade tank does not meet current requirements of Paragraphs 1-4 of Subsection I of 19.15.17.11 NMAC the tank will be modified or retrofitted to comply. If compliance can not be achieved XTO will implement the approved closure plan.

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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

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Page 2

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.

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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.

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District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

QUESTIONS

Action 129791

QUESTIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 129791
	Action Type: [C-144] Legacy Below Grade Tank Plan (C-144LB)

QUESTIONS

Facility and Ground Water	
<i>Please answer as many of these questions as possible in this group. More information will help us identify the appropriate associations in the system.</i>	
Facility or Site Name	GARDNER C 1
Facility ID (##), if known	Not answered.
Facility Type	Below Grade Tank - (BGT)
Well Name, include well number	GARDNER C 1
Well API, if associated with a well	30-045-27982
Pit / Tank Type	Not answered.
Pit / Tank Name or Identifier	Not answered.
Pit / Tank Opened Date, if known	Not answered.
Pit / Tank Dimensions, Length (ft)	Not answered.
Pit / Tank Dimensions, Width or Diameter (ft)	Not answered.
Pit / Tank Dimensions, Depth (ft)	Not answered.
Ground Water Depth (ft)	Not answered.
Ground Water Impact	Not answered.
Ground Water Quality (TDS)	Not answered.

Below-Grade Tank

Subsection I of 19.15.17.11 NMAC

Volume / Capacity (bbls)	286
Type of Fluid	Produced Water
Pit / Tank Construction Material	Steel
Secondary containment with leak detection	Not answered.
Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off	Not answered.
Visible sidewalls and liner	Not answered.
Visible sidewalls only	True
Tank installed prior to June 18, 2008	True
Other, Visible Notation. Please specify	Not answered.
Liner Thickness (mil)	Not answered.
HDPE (Liner Type)	Not answered.
PVC (Liner Type)	Not answered.
Other, Liner Type. Please specify (Variance Required)	Not answered.

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QUESTIONS, Page 2

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QUESTIONS (continued)

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QUESTIONS

Fencing	
<i>Subsection D of 19.15.17.11 NMAC (Applies to permanent pits, temporary pits, and below-grade tanks)</i>	
Chain link, six feet in height, two strands of barbed wire at top (<i>Required if located within 1000 feet of a permanent residence, school, hospital, institution or church</i>)	Not answered.
Four foot height, four strands of barbed wire evenly spaced between one and four feet	Not answered.
Alternate, Fencing. Please specify (Variance Required)	4' hogwire

Netting	
<i>Subsection E of 19.15.17.11 NMAC (Applies to permanent pits and permanent open top tanks)</i>	
Screen	Not answered.
Netting	Not answered.
Other, Netting. Please specify (Variance May Be Needed)	expanded metal or solid vaulted top

Signs	
<i>Subsection C of 19.15.17.11 NMAC (If there are multiple operators at a site, each operator must have their own sign in compliance with Subsection C of 19.15.17.11 NMAC.)</i>	
12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers	Not answered.
Signed in compliance with 19.15.16.8 NMAC	True

Variances and Exceptions	
<i>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:</i>	
Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.	Not answered.
Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval	Not answered.

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QUESTIONS, Page 3

Action 129791

QUESTIONS (continued)

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	Action Number: 129791
	Action Type: [C-144] Legacy Below Grade Tank Plan (C-144LB)

QUESTIONS

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.

Siting Criteria, General Siting	
Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank	No
NM Office of the State Engineer - iWATERS database search	True
USGS	Not answered.
Data obtained from nearby wells	Not answered.

Siting Criteria, Below Grade Tanks	
Within 100 feet of a continuously flowing watercourse, significant watercourse, lakebed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark)	No
Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption	No

Proposed Closure Method	
Below-grade Tank	Below Grade Tank - (BGT)
Waste Excavation and Removal	True
Alternate Closure Method. Please specify (Variance Required)	Not answered.

Operator Application Certification	
Registered / Signature Date	03/09/2009

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ACKNOWLEDGMENTS

Action 129791

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ACKNOWLEDGMENTS

<input checked="" type="checkbox"/>	I acknowledge that I have received prior approval from the OCD to submit documentation of a legacy below-grade tank on behalf of my operator.
<input checked="" type="checkbox"/>	I hereby certify that the information submitted with this documentation is true, accurate and complete to the best of my knowledge and belief.

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CONDITIONS

Action 129791

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CONDITIONS

Created By	Condition	Condition Date
jburdine	None	8/18/2022