

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

3082  
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.

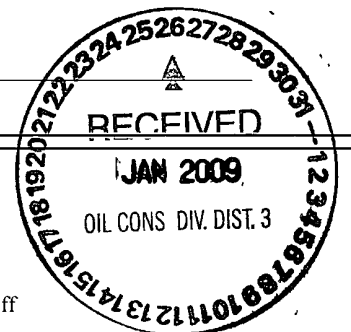
Operator <u>XTO Energy, Inc</u>		OGRID # <u>5380</u>
Address <u>#382 County Road 3100, Aztec, NM 87410</u>		
Facility or well name <u>Breach C #120</u>		
API Number <u>30-039-30651</u>		OCD Permit Number <u></u>
U/L or Qtr/Qtr <u>N</u>	Section <u>12</u>	Township <u>26N</u> Range <u>06W</u> County <u>Rio Arriba</u>
Center of Proposed Design Latitude <u>36 497630</u>	Longitude <u>107 420390</u>	NAD <input type="checkbox"/> 1927 <input checked="" type="checkbox"/> 1983
Surface Owner <input checked="" type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Private <input type="checkbox"/> Tribal Trust or Indian Allotment		

<b>2</b> <input checked="" type="checkbox"/> <b>Pit:</b> Subsection F or G of 19 15 17 11 NMAC	
Temporary <input checked="" type="checkbox"/> Drilling <input type="checkbox"/> Workover	
<input type="checkbox"/> Permanent <input type="checkbox"/> Emergency <input type="checkbox"/> Cavitation <input type="checkbox"/> P&A	
<input checked="" type="checkbox"/> Lined <input type="checkbox"/> Unlined Liner type: Thickness <u>20</u> mil <input checked="" type="checkbox"/> LLDPE <input type="checkbox"/> HDPE <input type="checkbox"/> PVC <input type="checkbox"/> Other <u></u>	
<input checked="" type="checkbox"/> String-Reinforced	
Liner Seams <input checked="" type="checkbox"/> Welded <input checked="" type="checkbox"/> Factory <input type="checkbox"/> Other <u></u>	Volume <u></u> bbl Dimensions L <u>200</u> x W <u>80</u> x D <u>8-12</u>

<b>3</b> <input checked="" type="checkbox"/> <b>Closed-loop System:</b> Subsection H of 19 15 17 11 NMAC	
Type of Operation <input type="checkbox"/> P&A <input checked="" type="checkbox"/> Drilling a new well <input type="checkbox"/> Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent) <b>To be used during completion operations</b>	
<input type="checkbox"/> Drying Pad <input checked="" type="checkbox"/> Above Ground Steel Tanks <input type="checkbox"/> Haul-off Bins <input type="checkbox"/> Other <u></u>	
<input type="checkbox"/> Lined <input type="checkbox"/> Unlined Liner type Thickness <u></u> mil <input type="checkbox"/> LLDPE <input type="checkbox"/> HDPE <input type="checkbox"/> PVC <input type="checkbox"/> Other <u></u>	
Liner Seams <input type="checkbox"/> Welded <input type="checkbox"/> Factory <input type="checkbox"/> Other <u></u>	

<b>4</b> <input checked="" type="checkbox"/> <b>Below-grade tank:</b> Subsection I of 19 15 17 11 NMAC	
Volume <u>120</u> bbl	Type of fluid <u>Produced Water</u>
Tank Construction material <u>Steel</u>	
<input type="checkbox"/> Secondary containment with leak detection <input checked="" type="checkbox"/> Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off	
<input type="checkbox"/> Visible sidewalls and liner <input type="checkbox"/> Visible sidewalls only <input type="checkbox"/> Other <u></u>	
Liner type Thickness <u>60</u> mil	<input checked="" type="checkbox"/> HDPE <input type="checkbox"/> PVC <input type="checkbox"/> Other <u></u>

<b>5</b> <input type="checkbox"/> <b>Alternative Method:</b>
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.



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**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 \_\_\_\_\_

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**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 Fencing- Hogwire

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

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**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

☐ Yes ☒ No

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

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

☐ Yes ☒ No

Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application (*Applies to temporary, emergency, or cavitation pits and below-grade tanks*)

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

☐ Yes ☒ No

☐ NA

Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application (*Applies to permanent pits*)

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

☐ Yes ☐ No

☒ 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

☐ 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

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**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. \_\_\_\_\_

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**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)

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**Permanent Pits Permit Application Checklist:** Subsection B of 19 15 17 9 NMAC**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19 15 17 9 NMAC  
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19 15 17 10 NMAC  
☐ Climatological Factors Assessment  
☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19 15.17 11 NMAC  
☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19 15 17 11 NMAC  
☐ Leak Detection Design - based upon the appropriate requirements of 19 15 17 11 NMAC  
☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19 15 17 11 NMAC  
☐ Quality Control/Quality Assurance Construction and Installation Plan  
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19 15 17 12 NMAC  
☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19 15 17 11 NMAC  
☐ Nuisance or Hazardous Odors, including H<sub>2</sub>S, Prevention Plan  
☐ Emergency Response Plan  
☐ Oil Field Waste Stream Characterization  
☐ Monitoring and Inspection Plan  
☐ Erosion Control Plan  
☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19 15 17 9 NMAC and 19 15 17 13 NMAC

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**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)

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**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

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**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 indentify 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 <u>Envirotech</u>	Disposal Facility Permit Number <u>NM01-0011</u>
Disposal Facility Name <u>IEI</u>	Disposal Facility Permit Number <u>NM01-0010B</u>

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 checked="" 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 checked="" type="checkbox"/> No <input type="checkbox"/> NA
Ground water is more than 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark) - Topographic map, Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application - Visual inspection (certification) of the proposed site, Aerial photo, Satellite image	<input type="checkbox"/> Yes <input checked="" 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 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

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

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**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 Sr Environmental Representative  
 Signature Kim Champlin Date January 23, 2009  
 e-mail address kim\_champlin@xtoenergy.com Telephone (505) 333-3100

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

OCD Representative Signature: Branchon J. Powell Approval Date: 2-10-09  
 Title: Enviro Spec 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: \_\_\_\_\_

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**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 \_\_\_\_\_

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

*Instructions: Please indentify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.*

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

Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

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

- ☐ Site Reclamation (Photo Documentation)  
☐ Soil Backfilling and Cover Installation  
☐ Re-vegetation Application Rates and Seeding Technique

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**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

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**Operator Closure Certification:**

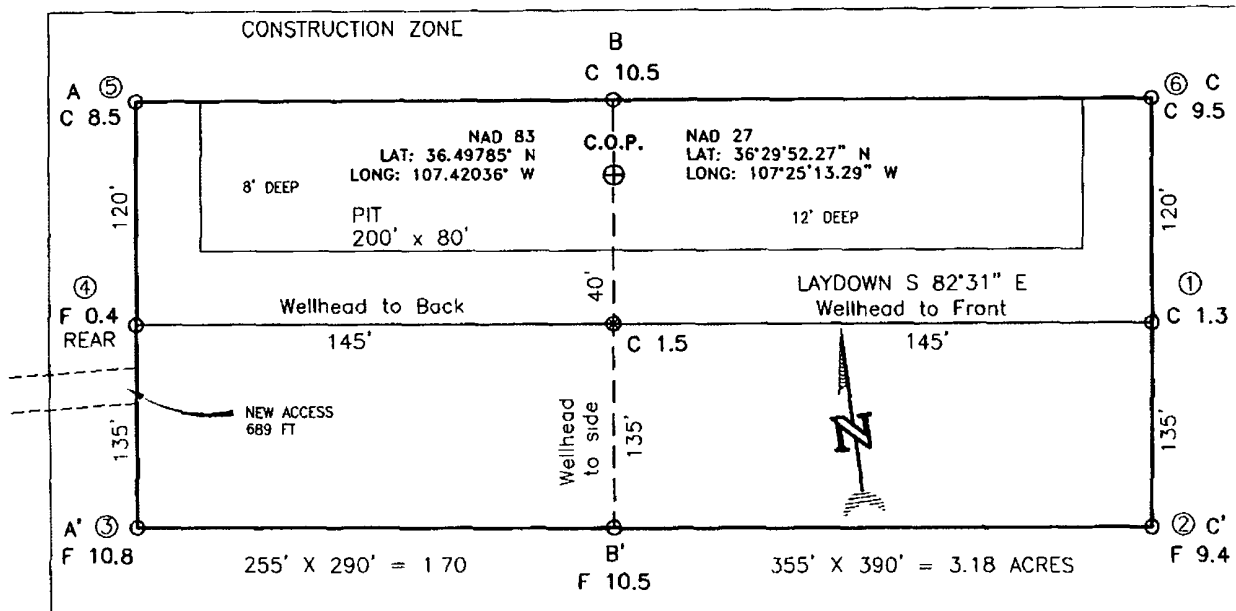
I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan

Name (Print). \_\_\_\_\_ Title \_\_\_\_\_  
 Signature \_\_\_\_\_ Date: \_\_\_\_\_  
 e-mail address \_\_\_\_\_ Telephone \_\_\_\_\_

**Certificate Number**

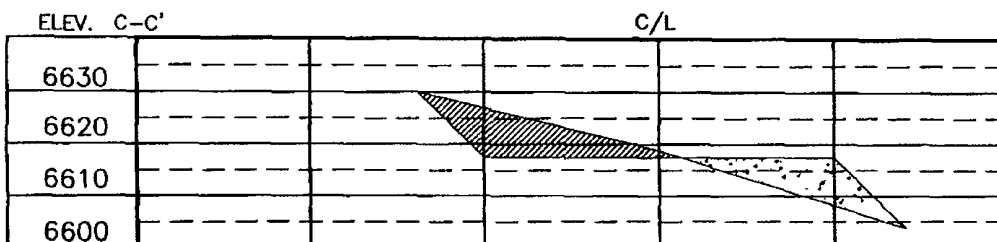
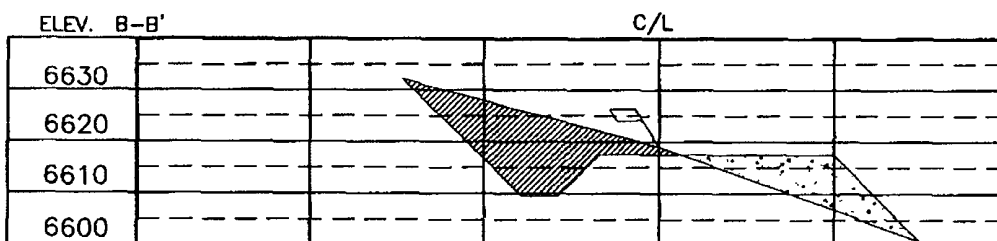
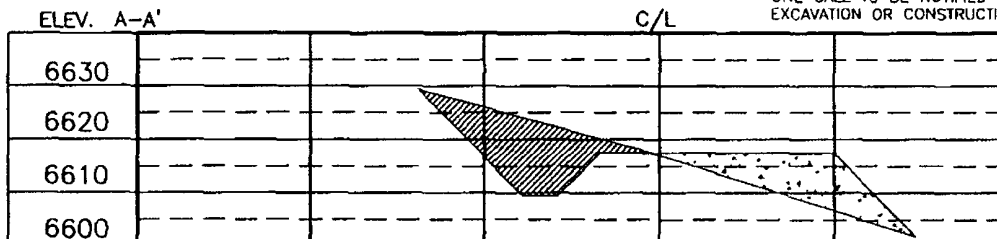
XTO ENERGY INC.  
 BREECH C No. 120, 1180 FSL 2255 FWL  
 SECTION 12, T26N, R6W, N.M.P.M., RIO ARRIBA COUNTY, N.M.  
 GROUND ELEVATION: 6619' DATE: SEPTEMBER 23, 2008

NAD 83  
 LAT. = 36.49763° N  
 LONG. = 107.42039° W  
 NAD 27  
 LAT. = 36°29'51.49" N  
 LONG. = 107°25'13.42" W




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

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



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

DATE	REVISED BY	<b>Daggett Enterprises, Inc.</b> Surveying and Oil Field Services P. O. Box 510 • Farmington, NM 87499 Phone (505) 326-1772 • Fax (505) 326-6019 NEW MEXICO LS No. 8894 CABLE: CR985, CF8	DATE
DATE	REVISED BY		DATE
DRAWN BY: B.J.K. ROW: CR985			DATE 09/26/08



**Pit Permit  
Siting Criteria  
Information Sheet**

Client:	XTO Energy
Project:	tank permitting
Revised:	8-Jan-08
Prepared by:	Trevor Ycas

API#:

USPLSS:

Name: BREECH C #120

Lat/Long:

Depth to groundwater:

Geologic  
formation:

Distance to closest  
continuously flowing  
watercourse:

Site Elevation:

Distance to closest  
significant watercourse,  
lakebed, playa lake, or  
sinkhole:

Soil Type:

Permanent residence,  
school, hospital,  
institution or church  
within 300'

Annual  
Precipitation:

Capulin Rgr Stn. 14 98", Otis 10 41""/>

Domestic fresh water  
well or spring within  
500'

Precipitation  
Notes:

(Bloomfield)"/>

Any other fresh water  
well or spring within  
1000'

Attached  
Documents:

FM350049IND0\_BRE  
ECH\_C\_120 jpg

Within incorporated  
municipal boundaries  
Within defined  
municipal fresh water  
well field

Wetland within 500'

Mining Activity:

Within unstable area

Within 100 year flood  
plain

**Additional Notes:**

drains to 'Largo Canyon'  
via 'Albert Canyon'

located at uppermost reaches of Albert  
Canyon stream channels, located ~1000' NE of  
'Albert Lake'

located on 'Ensenada Mesa', NNW of  
'Albert Canyon', SSW of 'Albert Mesa'  
and E of 'Albert Lake'



## **Breech C #120 Below Grade 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 central Cereza Canyon region of the San Juan Basin near the upper reaches of Dogie Canyon and atop Ensenada Mesa near Albert 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 prominently 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 north, 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](http://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 12 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](http://www.wrcc.dri.edu)).

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

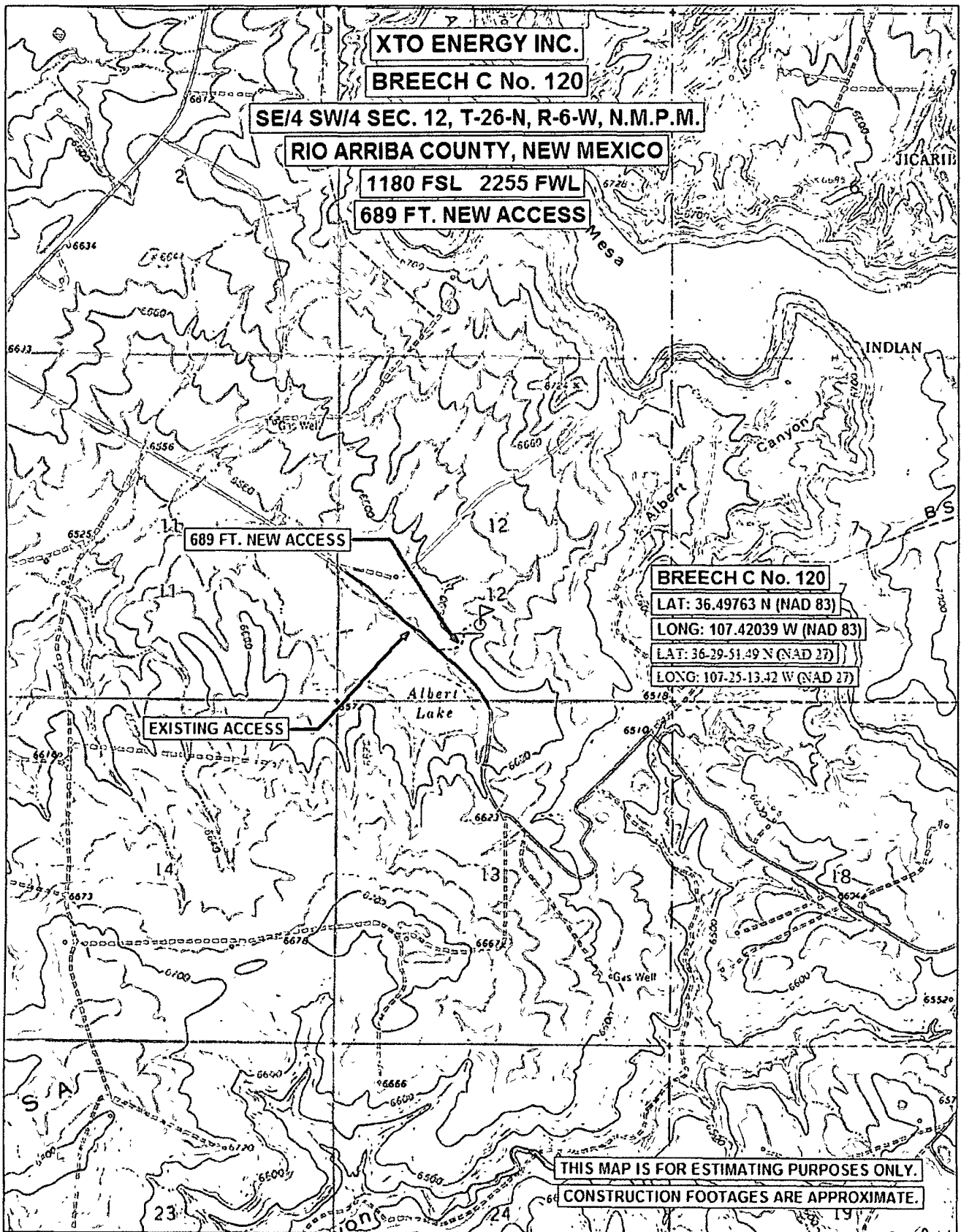
### **Site Specific Hydrogeology**

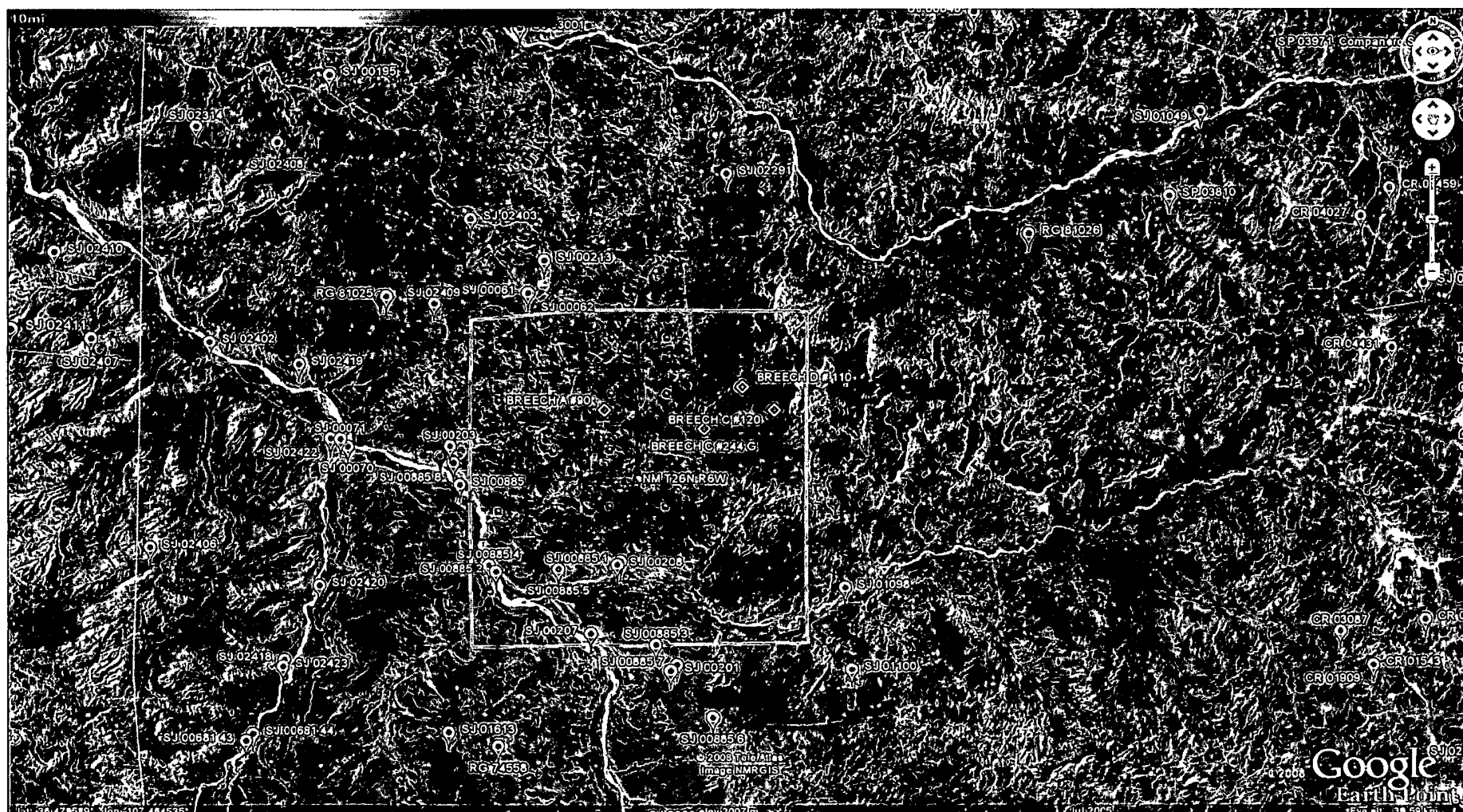
Depth to groundwater is estimated to be greater than 100'. This estimation is based on data from Stone and others (1983), the USGS Groundwater Atlas of the United States and depth to groundwater data published on the New Mexico State Engineer's iWaters Database website. Local topography, proximity to adjacent channels & spring features at similar elevations nearby are also taken into consideration. Additionally, three test wells were drilled in this area, confirming groundwater is greater than 115' deep.

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 in question is located on relatively flat ground on Ensenada Mesa, between Dogie and Albert Canyons at an elevation of approximately 6613 feet and approximately 5.6 miles east of the main Largo Canyon wash channel, the nearest significant watercourse. This site drains to Largo Canyon via Albert Canyon and Dogie Canyon. This region is deeply incised by canyons, washes, gullies and arroyos, with large, flat-topped mesas the predominant topographic feature. The mesas are composed of cliff-forming sandstone, and systems of dry washes and their tributaries composed of alluvium are evident on the attached aerial image. Groundwater is expected to be shallow within Largo and Blanco Canyons and within major tributary systems

Groundwater data available from the NM State Engineer's iWaters Database for wells near the proposed site are attached. A map showing locations of test wells and depth to groundwater in those wells is also attached.





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

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Township  Range  Sections

NAD27 X  Y  Zone  Search Radius

County  Basin  Number  Suffix

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

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**POD / SURFACE DATA REPORT 09/16/2008**

DB File Nbr	Use	Diversion	Owner	POD Number	Source	Tws	Rng	Sec	q	q	X Y are in Feet Zone X Y	UTM are in Meters)			Start Date	Finish Date	Depth Well
												UTM Zone	Easting	Northing			
<u>SJ 00061</u>	DOM	0	EL PASO NATURAL GAS COMPANY	<u>SJ 00061</u>	Shallow	27N	06W	32	3	3	13	276278	4044923	11/01/1956	11/07/1956	445	
<u>SJ 00062</u>	DOM	0	EL PASO NATURAL GAS COMPANY	<u>SJ 00062</u>	Shallow	27N	06W	32	3	3	13	276278	4044923	11/08/1956	11/12/1956	452	
<u>SJ 00213</u>	IND	17	EL PASO NATURAL GAS COMPANY	<u>SJ 00213</u>	Shallow	27N	06W	32	1	4	13	276897	4045750	06/20/1974		1308	
<u>SJ 02291</u>	STK	3	BLM	<u>SJ 02291</u>		27N	06W	23	4	3	13	281993	4048335				
<u>SJ 02403</u>	DOM	2	JOE OR WILMA KAIME	<u>SJ 02403</u>		27N	06W	30	3	1	13	274714	4047115		12/31/1946	505	
<u>SJ 03001</u>	DOM	3	CHARLES E BRADLEY	<u>SJ 03001</u>	Shallow	27N	06W	07	2	2	13	276165	4052831	06/28/2000	07/04/2000	141	

Record Count 6

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

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Township  Range  Sections

NAD27 X  Y  Zone  Search Radius

County  Basin  Number  Suffix

Owner Name (Fnt)  (Last)  ☐ Non-Domestic ☐ Domestic ☐ All

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

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POD / SURFACE DATA REPORT 09/16/2008

DB File Nbr	Use	(acre ft per annum)	Diversion	Owner	POD Number	Source	Tws	Rng	Sec	q	q	q	X Y are in Feet	Zone	X	Y	UTM are in Meters			Start Date	Finish Date	Depth Well	
																	UTM Zone	Easting	Northing				
RG 81026	STK		3	BUREAU OF LAND MANAGEMENT	RG 81026	Shallow	27N	05W	27	4	4	3						13	290530	4046294	09/12/2003	09/16/2003	460
SJ 00046	INH		16	BURLINGTON RESOURCES OIL & GAS	SJ 00046	Shallow	27N	05W	04	4	4							13	289133	4052788	01/13/1954	01/13/1954	506
SJ 00199	OFM		4	BURLINGTON RESOURCES OIL & GAS	SJ 00199	Artesian	27N	05W	03	2	1							13	290409	4053971	05/02/1967	1840	

Record Count 3

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

Township:  Range:  Sections:

NAD27 X:  Y:  Zone:  ☐ Search Radius:

County:  ☐ Basin:  ☐ Number:  Suffix:

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

**WATER COLUMN REPORT 08/06/2008**

(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 (in feet) Column
<u>SJ 02409</u>	26N	07W	01	1	2	2				700	400	300
<u>SJ 02402</u>	26N	07W	05	3	3	2				36	18	18
<u>SJ 00071</u>	26N	07W	15	4	1	2				365	26	339
<u>SJ 00070</u>	26N	07W	15	4	2	3				335	22	313
<u>SJ 02406</u>	26N	07W	30	3	2	1				280	180	100

Record Count: 5

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

---

Township:  Range:  Sections:

NAD27 X:  Y:  Zone:  ☐ Search Radius:

County:  ☐ Basin:  ☐ Number:  Suffix:

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

---

WATER COLUMN REPORT 08/12/2008

(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 (in feet) Column
------------	-----	-----	-----	---	---	---	------	---	---	---------------	----------------	---------------------------

No Records found, try again



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

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Township:  Range:  Sections:

NAD27 X:  Y:  Zone:  ☐ Search Radius:

County:  ☐ Basin:  ☐ Number:  Suffix:

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

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**WATER COLUMN REPORT 08/12/2008**

(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 (in feet) Column
------------	-----	-----	-----	---	---	---	------	---	---	---------------	----------------	---------------------------

No Records found, try again

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

Township:  Range:  Sections:

NAD27 X:  Y:  Zone:  ☐ Search Radius:

County:  ☐ Basin:  ☐ Number:  Suffix:

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

**WATER COLUMN REPORT 08/28/2008**

(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 (in feet) Column
<u>SJ 01613</u>	25N	07W	12	4						1083	730	353

Record Count: 1

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

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Township:  Range:  Sections:

NAD27 X:  Y:  Zone:  ☐ Search Radius:

County:  ☐ Basin:  ☐ Number:  Suffix:

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

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**WATER COLUMN REPORT 08/12/2008**

(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 (in feet) Column
<u>SJ 00201</u>	25N	06W	03	4	1					1346	500	846
<u>SJ 00681</u>	25N	06W	21	4	1	4					80	
<u>SJ 00681 12</u>	25N	06W	33	4	4	4				435		

Record Count: 3

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

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Township:  Range:  Sections:

NAD27 X:  Y:  Zone:  ☐ Search Radius:

County:  ☐ Basin:  ☐ Number:  Suffix:

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

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**WATER COLUMN REPORT 08/12/2008**

(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 (in feet) Column
------------	-----	-----	-----	---	---	---	------	---	---	---------------	----------------	---------------------------

No Records found, try again

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

Township:  Range:  Sections:

NAD27 X:  Y:  Zone:  ☐ Search Radius:

County:  ☐ Basin:  ☐ Number:  Suffix:

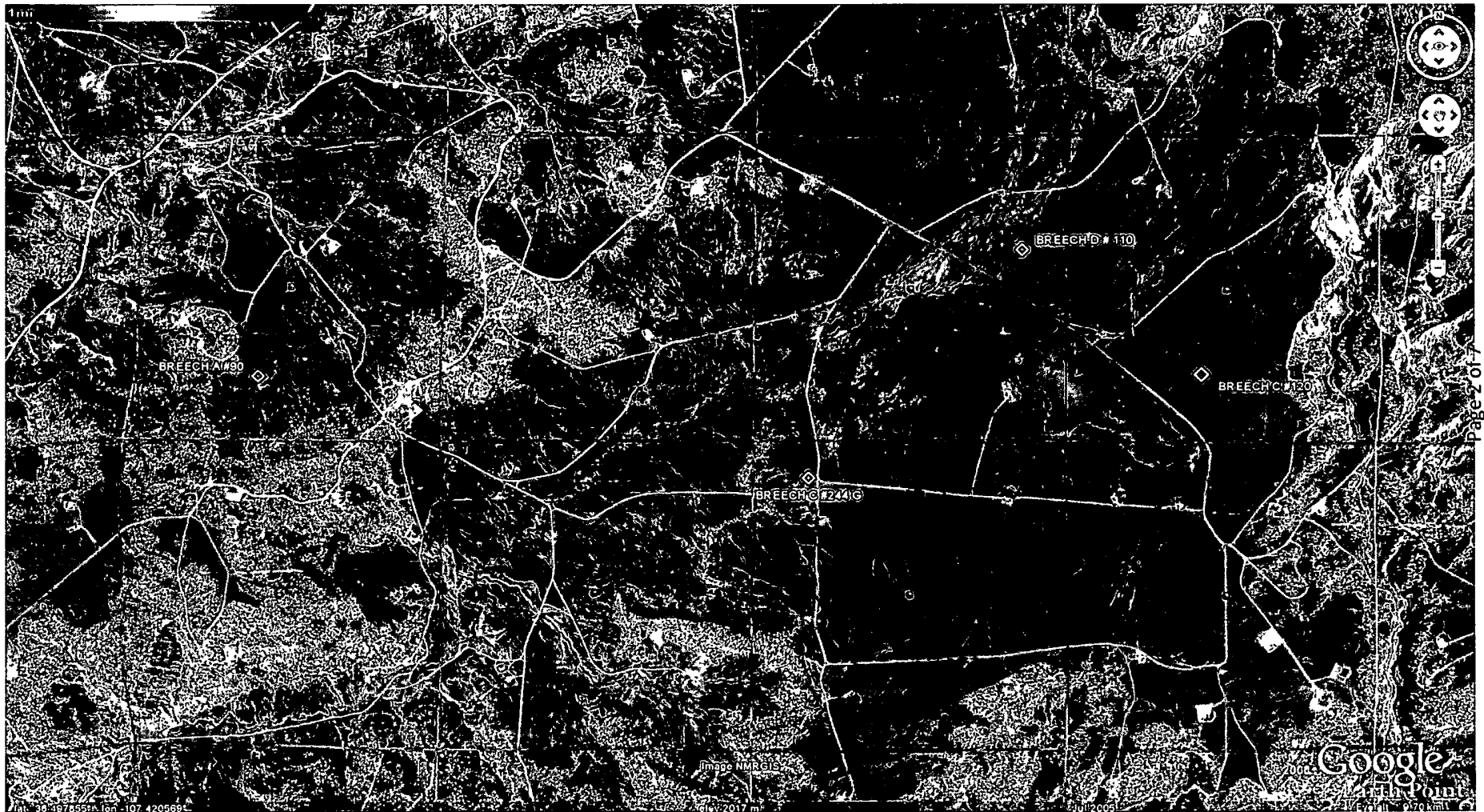
Owner Name: (First)  (Last)  ☐ Non-Domestic ☐ Domestic ☒ All

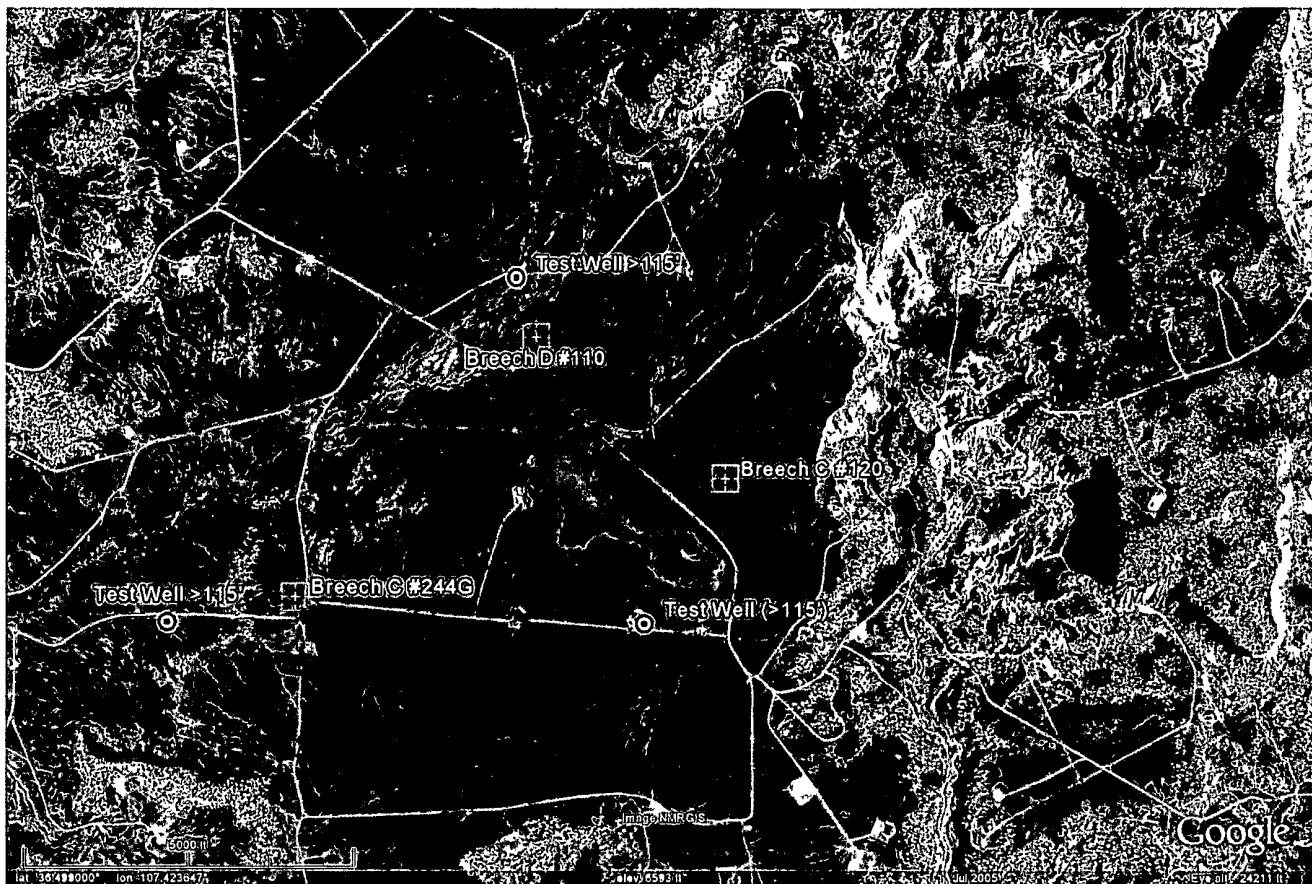
**WATER COLUMN REPORT 08/04/2008**

(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 (in feet) Column
<u>RG 81025</u>	27N	07W	35	4	3	3				560	465	95
<u>SJ 00195</u>	27N	07W	15	2						1633	500	1133
<u>SJ 02314</u>	27N	07W	17	3	3					355	320	35
<u>SJ 02408</u>	27N	07W	21	2	1	3				400	300	100
<u>SJ 03274</u>	27N	07W	35	3	4	4				450		
<u>SJ 02404</u>	27N	07W	35	4	3	3				550	250	300

Record Count: 6



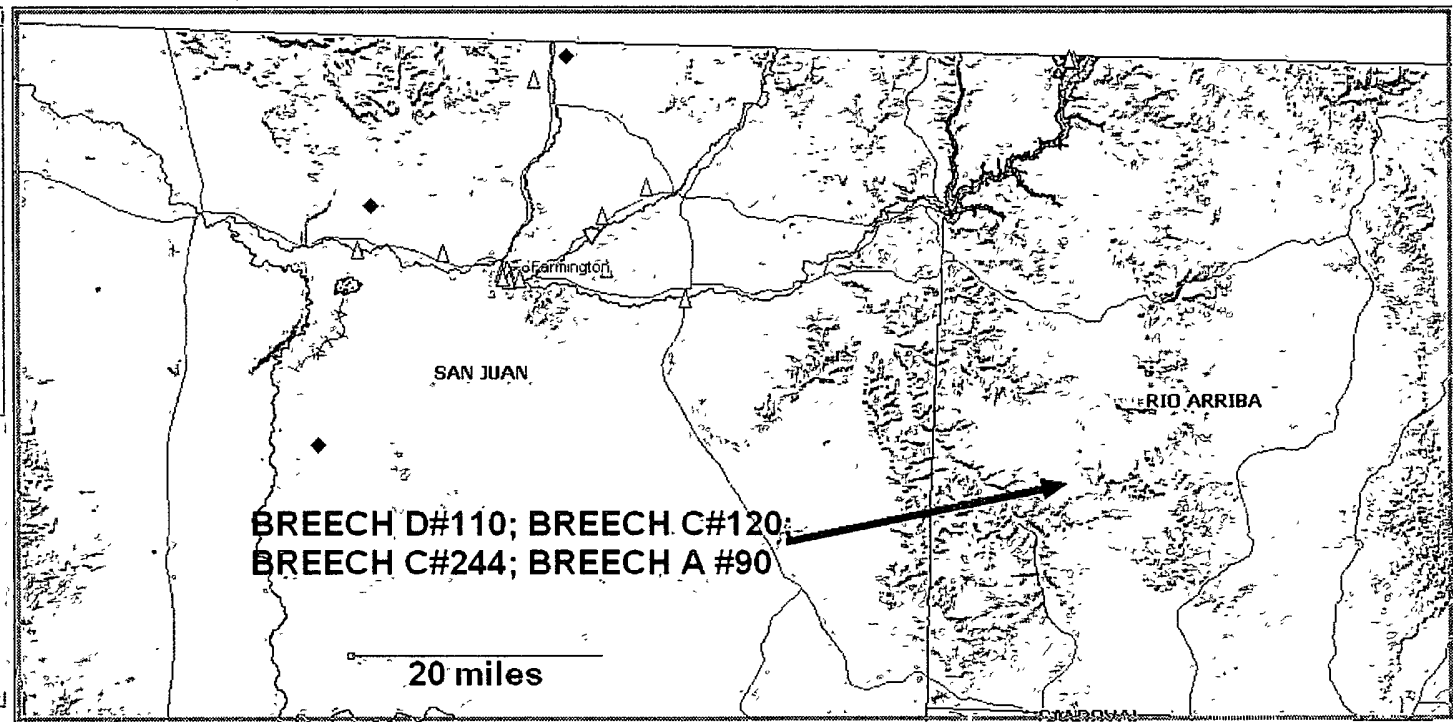


# Mines, Mills and Quarries Web Map

autodesk

Map navigation controls: pan, zoom, scale, and other standard GIS tools.

- ☒ Mines, Mills & Quarries Commodity
  - ☒ Aggregate & Stone Mines
  - ☒ Coal Mines
  - ☒ Industrial Minerals Mines
  - ☒ Industrial Minerals Mills
  - ☒ Metal Mines and Mill Concentrators
  - ☒ Potash Mines & Refineries
  - ☒ Smelters & Refinery Ops
  - ☒ Uranium Mines
  - ☒ Uranium Mills
- ☐ Mines, Mills & Quarries Status
  - ☒ Active Mining
  - ☒ Active Mining, Active Reclamation
  - ☒ Permanent Closure, Active Reclamation
  - ☒ Permanent Closure, Reclamation
  - ☒ Temporary Suspension
  - ☒ Under Development
- ☒ Population
  - ☒ Cities - major
- ☒ Transportation

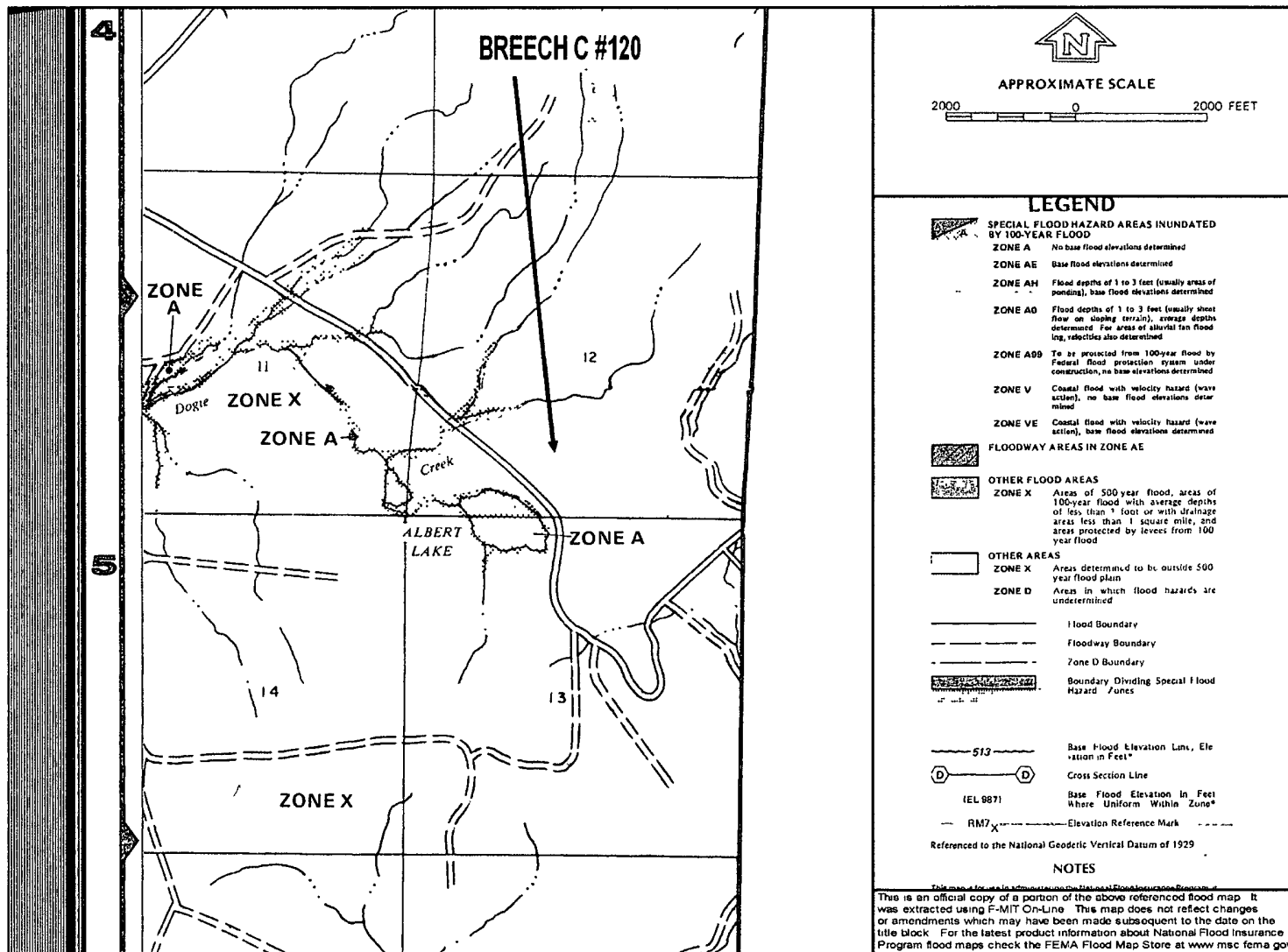


Counties: SAN JUAN

1 : 719,244

115 x 58.7 (m)







Kim Champlin/FAR/CTOC

01/12/2009 10:27 AM

To mark\_kelly@blm.gov

cc

bcc

Subject Notice- Breech C #120 Well Site

RE: Breech C #120 Gas Well  
Sec. 12N- T26N- R06W, Rio Arriba County

Dear Mr Kelly:

This submittal is pursuant to Rule 19 15 17.13 requiring operators to notify surface owners of on site burial of temporary pits XTO Energy Inc. (XTO) is hereby providing written documentation of our intention to close the temporary pit associated with the aforementioned location by means of in place on site burial.

Should you have any questions or require additional information please feel free to contact me at your earliest convenience (505) 333-3100.

Kim Champlin  
Sr Environmental Representative  
XTO Energy  
San Juan Division  
(505) 333-3207 Office  
(505)330-8357 Cell  
(505) 333-3280 Fax

**XTO Energy Inc.**  
**San Juan Basin**  
**Pit Design and Construction Plan**

In accordance with Rule 19.15.17.11 NMAC the following information describes the design and construction of temporary pits on XTO Energy Inc. (XTO) locations. This is XTO's standard procedure for all temporary pits. A separate plan will be submitted for any temporary pit which does not conform to this plan.

**General Plan**

1. XTO will design and construct a temporary pit to contain liquids and solids and prevent contamination of fresh water and protect public health and environment.
2. Prior to constructing the pit, topsoil will be stockpiled in the construction zone for later use in restoration.
3. XTO will post a well sign, in compliance with 19.15 3.103 NMAC, on the well site prior to construction of the temporary pit. The sign will list the Operator on record as the operator, the location of the well site by unit letter, section, township, range, and emergency telephone numbers.
4. XTO shall construct all new fences utilizing 48" steel mesh field-fence (hogwire) on the bottom with a single strand of barbed wire on top. T-posts shall be installed every 12 feet and corners shall be anchored utilizing a secondary T-post. Temporary pits will be fenced at all times excluding drilling or workover operations, when the front side of the fence will be temporarily removed for operational purposes.
5. XTO shall construct the temporary pit so that the foundation and interior slopes are firm and free of rocks, debris, sharp edges or irregularities to prevent liner failure.
6. XTO shall construct the pit so that the slopes are no steeper than two horizontal feet to one vertical foot.
7. Pit walls will be walked down by a crawler type tractor following construction.
8. All temporary pits will be lined with a 20-mil, string reinforced, LLDPE liner, complying with EPA SW-846 method 9090A requirements.
9. Geotextile will be installed beneath the liner when rocks, debris, sharp edges or irregularities cannot be avoided.
10. All liners will be anchored in the bottom of a compacted earth-filled trench at least 18 inches deep.
11. XTO will minimize liner seams and orient them up and down, not across a slope. Factory seams will be used when possible. XTO will ensure all field seams are welded by qualified personnel. Field seams will be overlapped four to six inches and will be oriented parallel to the line of maximum slope. XTO will minimize the number of field seams in corners and irregularly shaped areas.
12. The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides, or a manifold system.
13. The pit shall be protected from run-off by constructing and maintaining diversion ditches around the location or around the perimeter of the pit in some areas.
14. The volume of the pit shall not exceed 10 acre-feet, including freeboard.

**XTO Energy Inc.**  
**San Juan Basin**  
**Maintenance and Operating Plan**

In accordance with Rule 19.15.17.12 NMAC the following information describes the operation and maintenance of temporary pits on XTO Energy Inc locations. This is XTO's standard procedure for all temporary pits. A separate plan will be submitted for any temporary pit which does not conform to this plan

**General Plan**

- 1 XTO will operate and maintain a temporary pit to contain liquids and solids and prevent contamination of fresh water and protect public health and environment.
2. XTO will conserve drilling fluids by transmitting liquids to pits ahead of the rigs whenever possible. All drilling fluids will be disposed at Basin Disposal Inc, Permit # NM-01-005
- 3 XTO will not discharge or store any hazardous waste in any temporary pit.
4. If any pit liner integrity is compromised, or if any penetration of the liner occurs above the liquid surface, then XTO shall notify the Aztec Division office by phone or email within 48 hours of the discovery and repair the damage or replace the liner.
5. If a leak develops below the liquid level, XTO shall remove all liquids above the damaged liner within 48 hours and repair the damage or replace the liner. XTO shall notify the Aztec Division office by phone or email within 48 hours of the discovery for leaks less than 25 barrels. XTO shall notify the Aztec Division office as required pursuant to Subsection B of 19 15.3.116 NMAC within twenty-four (24) hours of discovery of leaks greater than 25 barrels. In addition, immediate verbal notification pursuant to Subsection B, Paragraph (1), and Subparagraph (d) of 19 15 3 116 NMAC shall be reported to the division's Environmental Bureau Chief.
6. The liner shall be protected from any fluid force or mechanical damage through the use of mud pits slides, or a manifold system.
7. The pit shall be protected from run-off by constructing and maintaining diversion ditches around the location or around the perimeter of the pit in some cases.
8. XTO shall immediately remove any visible layer of oil from the surface of the temporary pit after cessation of a drilling or workover operation. Oil absorbent booms will be utilized to contain and remove oil from pits surface. An oil absorbent boom will be stored on-site until closure of pit.
9. Only fluids generated during the drilling or workover process will be discharged into a temporary pit
10. XTO will maintain the temporary pit free of miscellaneous solid waste or debris.
- 11 During drilling or workover operations, XTO will inspect the temporary pit at least once daily to ensure compliance with this plan. Inspections will be logged and logs maintained for review. XTO will file this log with the Aztec Division office upon closure of the pit
12. After drilling or workover operations, XTO will inspect the temporary pit weekly so long as liquids remain in the temporary pit. A log of the inspections will be stored at XTO's office electronically and will be filed with the Aztec Division office upon closure of the pit.
13. XTO shall maintain at least two feet of freeboard for a temporary pit.
14. XTO shall remove all free liquids from a temporary pit within 30 days from the date the operator releases the drilling or workover rig.

## **XTO Energy Inc. San Juan Basin Closure Plan**

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

All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of pit closure. Closure report will be filed on C-144 and incorporate the following.

- Details on Capping and Covering, where applicable.
- Plot Plan (Pit Diagram)
- Inspection Reports
- Sampling Results
- C-105
- Copy of Deed Notice will be filed with County Clerk

### **General Plan:**

1. All free standing liquids will be removed at the start of the pit closure process from the pit and disposed of in a division-approved facility or recycled, reused, or reclaimed in a manner that the Aztec Division office approves.
2. The preferred method of closure for all temporary pits will be on-site, in-place burial, assuming that all criteria listed in sub-section (B) of 19.15.17.13 are met.
3. The surface owner shall be notified of XTO proposed closure plan using a means that provides proof of notice i.e., Certified mail, return receipt requested.
4. Within 6 months of the Rig Off status occurring XTO will ensure that temporary pits are closed, re-contoured, and reseeded.
5. Notice of Closure will be given to the Aztec Division office between 72 hours and one week of closure via email, or verbally. The notification of closure will include the following:
  - i. Operators Name
  - ii. Location by Unit Letter, Section, Township, and Range. Well name and API number.
6. Liner of temporary pit shall be removed above "mud level" after stabilization. Removal of liner will consist of manually or mechanically cutting liner at mud level and removing all remaining liner. Care will be taken to remove "ALL" of the liner i.e., edges of liner entrenched or buried. All excessive liner will be disposed of at a licensed disposal facility.
7. Pit contents shall be mixed with non-waste containing, earthen material in order to achieve appropriate solidification. The solidification process will be accomplished using a combination of natural drying and mechanically mixing. Pit contents will be mixed with non-waste, earthen material to a consistency that is deemed a safe and stable. The mixing ratio shall not exceed 3 parts clean soil to 1 part pit contents.
8. A five point composite sample will be taken of the pit using sampling tools and all samples tested per Subsection B of 19.15.17.13(B)(1)(b). In the event that the criteria are not met, all contents will be handled per Subparagraph (a) of Paragraph (1) of Subsection B of 19.15.17.13 i.e., Dig and haul. Disposal facility to be utilized should this method be required will be Envirotech, Permit No. NM01-0011 or IEL, Permit No. NM01-0010B.

Components	Test Method	Limit (mg/Kg)
Benzene	EPA SW-846 8021B or 8260B	0.2
BTEX	EPA SW-846 8021B or 8260B	50
TPH	EPA SW-846 418.1	2500
GRO/DRO	EPA SW-846 8015M	500
Chlorides	EPA 300.1	500 or background

9. Upon completion of solidification and testing, the pit area will be backfilled with compacted, non-waste containing, earthen material. A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater.
10. Re-contouring of location will match fit, shape, line, form and texture of the surrounding area. Re-shaping will include drainage control, ponding prevention, and erosion prevention. 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.
11. Notification will be sent to OCD when the reclaimed area is seeded.
12. XTO shall 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 of 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.
13. The temporary pit will be located with a steel marker, no less than four inches in diameter, cemented in a hole three feet deep in the center of the onsite burial upon the abandonment of all the wells on the pad. The marker will be flush with the ground to allow access of the active well pad and for safety concerns. The marker will include a threaded collar to be used for future abandonment. The top of the marker will contain a welded steel 12" square plate that indicates the onsite burial of the temporary pit. The plate will be easily removable and a four foot tall riser will be threaded into the top of the collar marker and welded around the base with the operator's information at the time all wells on the pad are abandoned. The operator's information will include the following: Operators Name, Lease Name, Well Name and Number, Unit Number, Section, Township, Range and an indicator that the marker is an onsite burial location.

**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

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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  $1 \times 10^{-9}$  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,

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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.

[illegible]

### Provide Detailed Description

## MISC

**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

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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  
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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.

**XTO Energy Inc.**  
**San Juan Basin**  
**Closed-Loop System Design and Construction Plan**

In accordance with Rule 19.15.17.11 NMAC the following information describes the design and construction of closed-loop systems on XTO Energy Inc. (XTO) locations. This is XTO's standard procedure for all closed-loop systems. A separate plan will be submitted for any closed-loop system which does not conform to this plan.

**General Plan**

Our closed-loop system will not entail a drying pad, temporary pit, below grade tank or sump. It will entail an above ground tank suitable for holding the cuttings and fluids for rig operations. The tank will be of sufficient volume to maintain a safe free board between disposal of the liquids and solids from rig operations.

1. Fencing is not required for an above ground closed-loop system.
2. It will be signed in compliance with 19.15.3.103 NMAC.



**XTO Energy Inc.**  
**San Juan Basin**  
**Closed-Loop Systems Maintenance and Operating Plan**

In accordance with Rule 19.15.17 11 NMAC the following information describes the operation and maintenance of closed-loop systems on XTO Energy Inc. (XTO) locations. This is XTO's standard procedure for all closed-loop systems. A separate plan will be submitted for any closed-loop system which does not conform to this plan.

**General Plan**

The closed-loop tank will be operated and maintained; to contain liquids and solids, to aid in the prevention of contamination of fresh water sources, in order to protect public health and the environment. To attain the goal the following steps will be followed:

1. The liquids will be vacuumed out and disposed of at the Basin Disposal, Inc. facility (Permit Number NM01-005). An alternative if available for liquids disposal, will be to move the liquids forward to a XTO temporary pit constructed in accordance with all specifications in NMAC Rule 19.15.17 for a well yet to be drilled. All specifications, limitations, and rules within the New Mexico Administrative Code regulating this transfer of liquids will be strictly adhered to. As a third alternative, if Basin Disposal turns away the fluids because of capacity reasons, and the second transfer option is not available, XTO may elect to haul fluids to IEI (Permit Number NM01-0010B) for final disposition
2. Solids in the closed-loop tank will be vacuumed out and disposed of at Envirotech (Permit Number NM01-0011) or IEI (Permit Number NM01-0010B) on a periodic basis to prevent over topping.
3. No hazardous waste, miscellaneous solids, waste, or debris will be discharged into, or stored in the tank. Only fluids or cutting used or generated by rig operations will be placed or stored in the tank.
4. The division district office will be notified within 48 hours of the discovery of compromised integrity of the closed-loop tank. Upon discovery of the compromised tank, repairs will be enacted immediately.
5. All of the above operations will inspected and a log will be signed and dated daily during rig operations.

**XTO Energy Inc.**  
**San Juan Basin**  
**Closed-Loop System Closure Plan**

In accordance with Rule 19.15.17.11 NMAC the following information describes the closure requirements of closed-loop systems on XTO Energy Inc. (XTO) locations. This is XTO's standard procedure for all closed-loop systems. A separate plan will be submitted for any closed-loop system which does not conform to this plan.

**General Plan**

XTO will close a drying pad used for a closed-loop system within six months from the date that XTO released the drilling or workover rig. XTO will not the date of the drilling or workover rig's release on form C-105 or C-103, filed with the division, upon the well's or workover's completion.

The closed-loop tank will be closed in accordance with 19.15.17.13 NMAC. This will be done by transporting cuttings and all remaining sludges to Envirotech (Permit Number NM01-0011) or IEI (Permit Number NM01-0010B) immediately following rig operations.

All remaining liquids will be transported and disposed of at the Basin Disposal, Inc facility (Permit Number NM 01-005). As an alternative (in the event Basin Disposal refused liquids because of capacity considerations, and if proper inventory space is available for liquids transfer while meeting free board requirements), the liquids will be moved forward to a XTO temporary pit constructed in accordance with all specifications in NMAC Rule 19.15.17 for a well yet to be drilled. All specifications, limitations, and rules within the New Mexico Administrative Codes regulating this transfer of liquids will be strictly adhered to. As a third alternative, if Basin Disposal turns away the fluids because of capacity reasons, and the second transfer option is not available, XTO may elect to haul the fluids to IEI (Permit Number 01-0010B) for final disposition.

The tanks will be removed from the location as part of the rig move. At the time of well abandonment the site will be reclaimed and re-vegetated to pre-existing conditions when possible.

**XTO Energy Inc.**  
**San Juan Basin**  
**Cavitation Pit**

**Design and Construction**

XTO will construct an additional, separate pit that is designed to allow liquids to drain to a temporary pit used during a drilling or workover operation. This designed separate temporary pit does not require a liner, unless the appropriate division district office requires an alternative design in order to protect surface water, ground water and the environment. XTO will not allow freestanding liquids to remain on the unlined portion of a temporary pit used to vent or flare gas or used for cavitation.

**Operational**

XTO remove any liquids from the temporary pit used to vent or flare gas or used for cavitation within 48 hours after completing the operation. If applicable XTO may request and receive additional time to remove the liquids from the temporary pit used to vent or flare gas or used for cavitation if the XTO demonstrates to the appropriate division district office's satisfaction that it is not feasible to access the location within 48 hours.

**Closure**

XTO will remove contents of the temporary pit used to vent or flare gas or used for cavitation and will at a minimum collect a 5 point composite sample along with individual grab samples from any area that is wet, discolored or showing other evidence of a release. Samples will be analyzed for benzene, total BTEX, TPH, GRO/DRO Combined 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 2500 mg/kg; the GRO/DRO Combined concentration, as determined by EPA method 8015M or other EPA method that the division approves, does not exceed 500 mg/kg; and the chloride concentration, as determined by EPA method 300.1 or other EPA method that the division approves, does not exceed 500 mg/kg, or the background concentration, whichever is greater. XTO will notify the division of its results on form C-141.