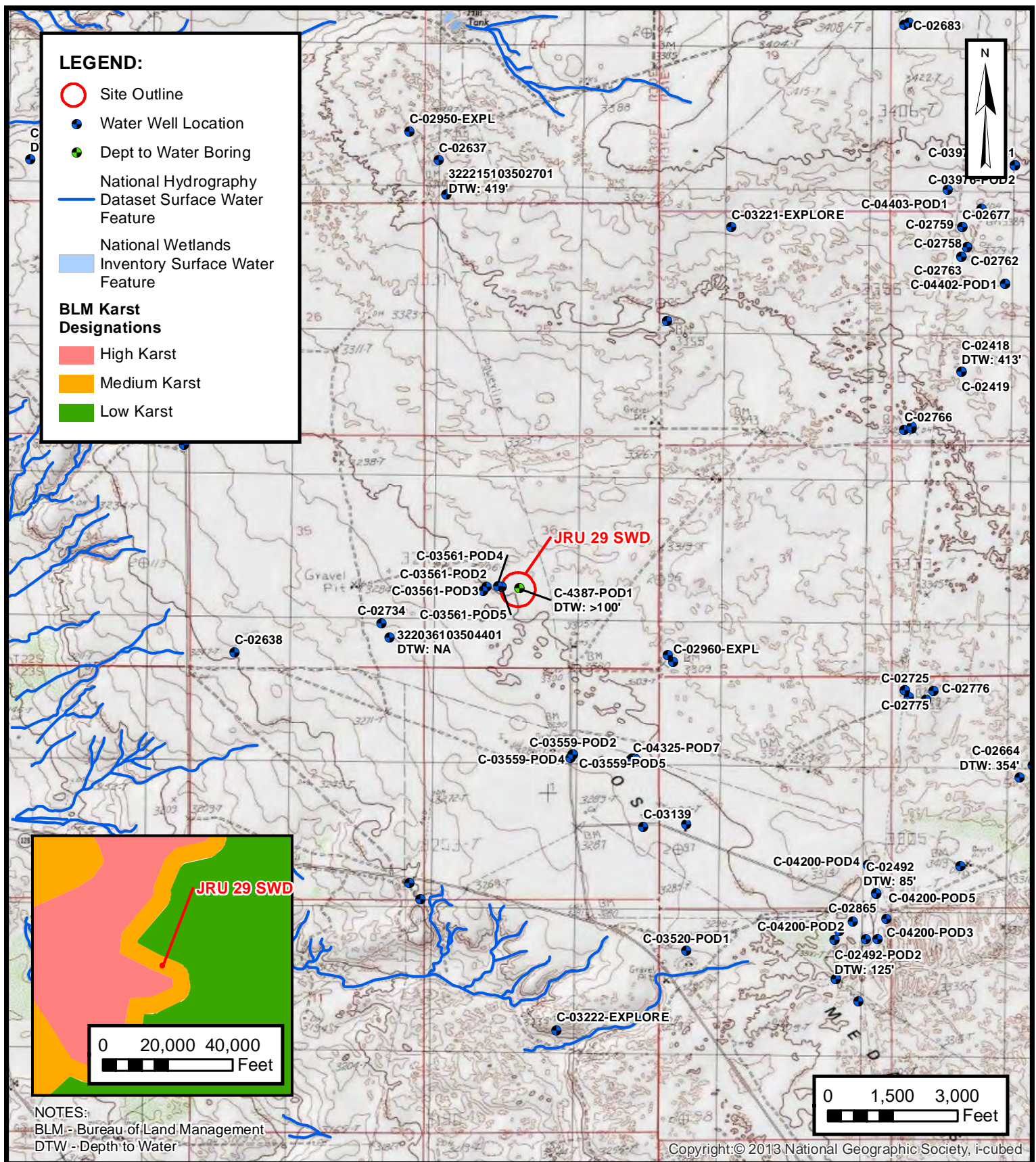
 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: BH01	Date: 1/18-1/21/20					
		Project Name: JRU 29	RP Number: 2RP-3302, 2RP-3726, 2RP-4040, 2RP-3082					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: BB, FS, WM	Method: Sonic Drill					
Lat/Long: 32.346389, -103.835129		Field Screening: NA	Hole Diameter: 6"					
Total Depth: 110'								
Comments: No field screenings, lithology remarks only								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D			N		0'	0'	CCHE	CALICHE, tan-off white, fill
					0.5'	0.5'	SP	SAND, dry, reddish brown, poorly graded, fine-very fine, soft no odor, no stain
D			N		5'	5'	CCHE	CALICHE, dry, tan-off white, few subangular gravel, trace fine sand, no odor, no stain
D			N		12.5'	12.5'	SP-SM	silty SAND, dry, reddish brown, poorly graded, fine grained, few tan-off white subangular gravel, no stain, no odor
D			N		23'	23'	ML-S	SILTSTONE, dry, reddish brown, moderately consolidated, 2mm caliche inclusions, trace off-white subangular gravel, no stain, no odor
D			N		37'	37'		moist
M			N		45'	45'		dry
D			N		58'	58'	CL-S	CLAYSTONE, dry, reddish brown, low plasticity, cohesive, well consolidated with some silty dolomite inclusions (1-2mm), no stain, no odor
D			N		102'	102'		moist
D			N		110'	110'		Total Depth 110 feet bgs



SITE RECEPTOR MAP

XTO ENERGY, INC
JRU 29 SWD
Incident Number:
Unit K, Sec 36, T22S, R30E
Eddy County, New Mexico

FIGURE
1

NEW MEXICO OFFICE OF THE STATE ENGINEER



WR-07 APPLICATION FOR PERMIT TO DRILL

A WELL WITH NO WATER RIGHT

(check applicable box):

For fees, see State Engineer website: <http://www.ose.state.nm.us/>

- Purpose:
- ☐ Exploratory Well (Pump test) ☐ Pollution Control And/Or Recovery ☐ Ground Source Heat Pump
- ☒ Monitoring Well ☐ Construction Site/Public Works Dewatering ☒ Other(Describe): Environmental Sampling
- ☐ Mine Dewatering

A separate permit will be required to apply water to beneficial use regardless if use is consumptive or nonconsumptive.

☒ Temporary Request - Requested Start Date: December 16, 2019

Requested End Date: TBD

Plugging Plan of Operations Submitted? ☐ Yes ☒ No

1. APPLICANT(S)

Name: Kyle Littrell	Name: Aimee Cole
Contact or Agent: check here if Agent <input type="checkbox"/> XTO Energy, Inc.	Contact or Agent: check here if Agent <input type="checkbox"/> LT Environmental, Inc.
Mailing Address: 6401 Holiday Hill Road	Mailing Address: 3300 North "A" Street, Building 1 #103
City: Midland	City: Midland
State: Texas Zip Code: 79707	State: Texas Zip Code: 79707
Phone: 432-682-8873 <input type="checkbox"/> Home <input type="checkbox"/> Cell Phone (Work):	Phone: 720-384-7365 <input type="checkbox"/> Home <input checked="" type="checkbox"/> Cell Phone (Work):
E-mail (optional): kyle_littrell@xtoenergy.com	E-mail (optional): acole@ltenv.com

FOR OSE INTERNAL USE

Application for Permit, Form WR-07, Rev 11/17/16

File No.: C-4387	Trn. No.: 663845	Receipt No.: 2-41496
Trans Description (optional):		
Sub-Basin: CVB	PCW/LOG Due Date: 12-31-20	

2. WELL(S) Describe the well(s) applicable to application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).

District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

- ☐ NM State Plane (NAD83) (Feet) ☐ UTM (NAD83) (Meters) ☒ Lat/Long (WGS84) (to the nearest 1/10th of second)
☐ NM West Zone ☐ Zone 12N
☐ NM East Zone ☐ Zone 13N
☐ NM Central Zone

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (Quarters or Halves, Section, Township, Range) OR -Hydrographic Survey Map & Tract; OR -Lot, Block & Subdivision; OR -Land Grant Name
C-4387 POD1 SP-11	103 50 9.29 -103.835916	32 20 46.40 32.346280	NE/4 SW/4, SEC36, T22S, R30E

NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)

Additional well descriptions are attached: ☐ Yes ☒ No If yes, how many _____

Other description relating well to common landmarks, streets, or other:
Site located at 32.346,-103.835 Eddy County, New Mexico

Well is on land owned by: State of New Mexico

Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. Attached? ☐ Yes ☒ No
If yes, how many _____

Approximate depth of well (feet): 100	Outside diameter of well casing (inches): 2.25-6.25
Driller Name: Cascade Drilling LP	Driller License Number: 1664

3. ADDITIONAL STATEMENTS OR EXPLANATIONS

Soil boring to be installed to assess subsurface soil and water. Borings will be advanced in an area previously excavated for remedial purposes. Boring will be completed as a 2-inch inside diameter PVC wells.

Monitoring well is anticipated to be present for up to 2 years. Dry boreholes will be abandoned within 3 days of completion.

Location of the monitoring well is depicted on the attached figure.

FOR OSE INTERNAL USE

Application for Permit, Form WR-07

File No.: C-4387

Trn No.: 663865

Page 2 of 3

4. SPECIFIC REQUIREMENTS: The applicant must include the following, as applicable to each type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

Exploratory: <input type="checkbox"/> Include a description of any proposed pump test, if applicable.	Pollution Control and/or Recovery: <input type="checkbox"/> Include a plan for pollution control/recovery, that includes the following: <input type="checkbox"/> A description of the need for the pollution control or recovery operation. <input type="checkbox"/> The estimated maximum period of time for completion of the operation. <input type="checkbox"/> The annual diversion amount. <input type="checkbox"/> The annual consumptive use amount. <input type="checkbox"/> The maximum amount of water to be diverted and injected for the duration of the operation. <input type="checkbox"/> The method and place of discharge.	Construction De-Watering: <input type="checkbox"/> Include a description of the proposed dewatering operation, <input type="checkbox"/> The estimated duration of the operation, <input type="checkbox"/> The maximum amount of water to be diverted, <input type="checkbox"/> A description of the need for the dewatering operation, and, <input type="checkbox"/> A description of how the diverted water will be disposed of.	Mine De-Watering: <input type="checkbox"/> Include a plan for pollution control/recovery, that includes the following: <input type="checkbox"/> A description of the need for mine dewatering. <input type="checkbox"/> The estimated maximum period of time for completion of the operation. <input type="checkbox"/> The source(s) of the water to be diverted. <input type="checkbox"/> The geohydrologic characteristics of the aquifer(s). <input type="checkbox"/> The maximum amount of water to be diverted per annum. <input type="checkbox"/> The maximum amount of water to be diverted for the duration of the operation. <input type="checkbox"/> The quality of the water.
Monitoring: <input checked="" type="checkbox"/> Include the reason for the monitoring well, and, <input checked="" type="checkbox"/> The duration of the planned monitoring.	<input type="checkbox"/> The method of measurement of water produced and discharged. <input type="checkbox"/> The source of water to be injected. <input type="checkbox"/> The method of measurement of water injected. <input type="checkbox"/> The characteristics of the aquifer. <input type="checkbox"/> The method of determining the resulting annual consumptive use of water and depletion from any related stream system. <input type="checkbox"/> Proof of any permit required from the New Mexico Environment Department. <input type="checkbox"/> An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.	Ground Source Heat Pump: <input type="checkbox"/> Include a description of the geothermal heat exchange project, <input type="checkbox"/> The number of boreholes for the completed project and required depths. <input type="checkbox"/> The time frame for constructing the geothermal heat exchange project, and, <input type="checkbox"/> The duration of the project. <input type="checkbox"/> Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.	<input type="checkbox"/> The method of measurement of water diverted. <input type="checkbox"/> The recharge of water to the aquifer. <input type="checkbox"/> Description of the estimated area of hydrologic effect of the project. <input type="checkbox"/> The method and place of discharge. <input type="checkbox"/> An estimation of the effects on surface water rights and underground water rights from the mine dewatering project. <input type="checkbox"/> A description of the methods employed to estimate effects on surface water rights and underground water rights. <input type="checkbox"/> Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.

ACKNOWLEDGEMENT

I, We (name of applicant(s)), Stuart Hyde, LG

Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

Stuart Hyde

Digitally signed by Stuart Hyde
Date: 2019.11.25 08:51:21 -07'00'

Applicant Signature

Applicant Signature

ACTION OF THE STATE ENGINEER

This application is:

☒ approved ☐ partially approved ☐ denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 16th day of December 20 19, for the State Engineer,

John R. D'Antonio, Jr., P.E., State Engineer

By: [Signature]
Signature

Print

Title: Juan Hernandez, Water Resources Manager I
Print

FOR OSE INTERNAL USE

Application for Permit, Form WR-07

File No.:

C-4387

Trn No.:

663865

**NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE**

SPECIFIC CONDITIONS OF APPROVAL

- 17-1A Depth of the well shall not exceed the thickness of the valley fill.
- 17-4 No water shall be appropriated and beneficially used under this permit.
- 17-6 The well authorized by this permit shall be plugged completely using the following method per Rules and Regulations Governing Well Driller Licensing, Construction, Repair and Plugging of Wells; Subsection C of 19.27.4.30 NMAC unless an alternative plugging method is proposed by the well owner and approved by the State Engineer upon completion of the permitted use. All pumping appurtenance shall be removed from the well prior to plugging. To plug a well, the entire well shall be filled from the bottom upwards to ground surface using a tremie pipe. The bottom of the tremie shall remain submerged in the sealant throughout the entire sealing process; other placement methods may be acceptable and approved by the state engineer. The well shall be plugged with an office of the state engineer approved sealant for use in the plugging of non-artesian wells. The well driller shall cut the casing off at least four (4) feet below ground surface and fill the open hole with at least two vertical feet of approved sealant. The driller must fill or cover any open annulus with sealant. Once the sealant has cured, the well driller or well owner may cover the seal with soil. A Plugging Report for said well shall be filed with the Office of the State Engineer in a District Office within 30 days of completion of the plugging.
- 17-7 The Permittee shall utilize the highest and best technology available to ensure conservation of water to the maximum extent practical.

Trn Desc: C 04387 POD1

File Number: C 04387

Trn Number: 663865

page: 1

**NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE**

SPECIFIC CONDITIONS OF APPROVAL (Continued)

- 17-B The well shall be drilled by a driller licensed in the State of New Mexico in accordance with 72-12-12 NMSA 1978. A licensed driller shall not be required for the construction of a well driven without the use of a drill rig, provided that the casing shall not exceed two and three-eighths (2 3/8) inches outside diameter.
- 17-C The well driller must file the well record with the State Engineer and the applicant within 30 days after the well is drilled or driven. It is the well owner's responsibility to ensure that the well driller files the well record.
The well driller may obtain the well record form from any District Office or the Office of the State Engineer website.
- 17-P The well shall be constructed, maintained, and operated to prevent inter-aquifer exchange of water and to prevent loss of hydraulic head between hydrogeologic zones.
- 17-Q The State Engineer retains jurisdiction over this permit.
- 17-R Pursuant to section 72-8-1 NMSA 1978, the permittee shall allow the State Engineer and OSE representatives entry upon private property for the performance of their respective duties, including access to the ditch or acequia to measure flow and also to the well for meter reading and water level measurement.
- LOG The Point of Diversion C 04387 POD1 must be completed and the Well Log filed on or before 12/31/2020.

IT IS THE PERMITTEES RESPONSIBILITY TO OBTAIN ALL AUTHORIZATIONS AND PERMISSIONS TO DRILL ON PROPERTY OF OTHER OWNERSHIP BEFORE COMMENCING ACTIVITIES UNDER THIS PERMIT.

SHOULD THE PERMITTEE CHANGE THE PURPOSE OF USE TO OTHER THAN MONITORING PURPOSES, AN APPLICATION SHALL BE ACQUIRED FROM THE OFFICE OF THE STATE ENGINEER.

Trn Desc: C 04387 POD1

File Number: C 04387

Trn Number: 663865

NEW MEXICO STATE ENGINEER OFFICE
PERMIT TO EXPLORE

ACTION OF STATE ENGINEER

Notice of Intention Rcvd: Date Rcvd. Corrected:
Formal Application Rcvd: 12/02/2019 Pub. of Notice Ordered:
Date Returned - Correction: Affidavit of Pub. Filed:

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the specific conditions listed previously.

Witness my hand and seal this 16 day of Dec A.D., 2019

John R. D Antonio, Jr., P.E., State Engineer

By: 

Juan Hernandez

Trn Desc: C 04387 POD1

File Number: C 04387

Trn Number: 663865

page: 3

Esri, HERE, Garmin, (c) OpenStreetMap contributors, OSE GIS, OSE SLO

Coordinates**UTM - NAD 83 (m) - Zone 13**

Easting 609543.026

Northing 3579413.872

State Plane - NAD 83 (f) - Zone E

Easting 694952.949

Northing 490062.614

Degrees Minutes Seconds

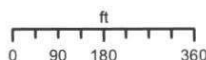
Latitude 32 : 20 : 46.600000

Longitude -103 : 50 : 9.290000

Location pulled from Coordinate Search

**NEW MEXICO OFFICE
OF THE
STATE ENGINEER**

1:4,514



N



YMENDIOLA

12/5/2019



Map made from data supplied by the New Mexico Office of the State Engineer (OSE) (2019) that may not accurately represent the actual data used in their preparation. This map is a display of information provided by the OSE and does not constitute a warranty or endorsement of the data. The OSE is not responsible for any errors or omissions in this map.

Spatial Information

County: Eddy

Groundwater Basin: Carlsbad

Abstract Area: Carlsbad

Carlsbad Underground Basin

Land Grant:
Not in Land Grant**Restrictions:**

NA

PLSS Description

NWSENESEW Qtr of Sec 36 of 022S 030E

Derived from CADNSDI- Qtr Sec. locations are calculated and are only approximations

Parcel Information

UPC/DocNum: 4-180-132-267-263

Parcel Owner: STATE OF NEW MEXICO

Address:

Legal: Quarter: NE S: 36 T: 22S R: 30E Quarter: NW S: 36 T: 22S R: 30E Quarter: SW S: 36 T: 22S R: 30E Quarter: SE S: 36 T: 22S R: 30E ALL MAP# 279-36 LOC E OF CARLSBAD EXEMPT

POD Information

Owner: STATE OF NM/XTO/LT ENVIRO

File Number: C- 4387

POD Status: NoData

Permit Status: NoData

Permit Use: NoData

Purpose: MONITOR SP-11

Calculated PLSS	★ Mora County Parcel Points 2014	<input type="checkbox"/> Cibola County Parcels 2018	<input type="checkbox"/> Grant County Parcels 2017	<input type="checkbox"/> Luna County Parcels 2018	<input type="checkbox"/> San Juan County Parcels 2018	<input type="checkbox"/> Socorro County Parcels 2018
◆ Coord Search Location	★ Quay County Parcel Points 2018	<input type="checkbox"/> Colfax County Parcels 2018	<input type="checkbox"/> Harding County Parcels 2018	<input type="checkbox"/> McKinley County Parcels 2017	<input type="checkbox"/> San Miguel County Parcels 2017	<input type="checkbox"/> Taos County Parcels 2018
🐾 Federal Lands	★ Union County Parcel Points 2017	<input type="checkbox"/> Curry County Parcels 2018	<input type="checkbox"/> Hidalgo County Parcels 2018	<input type="checkbox"/> Otero County Parcels 2018	<input type="checkbox"/> Sandoval County Parcels 2018	<input type="checkbox"/> Torrance County Parcels 2018
🐾 State Land	★ Bernalillo County Parcels 2018	<input type="checkbox"/> Doña Ana County Parcels 2018	<input type="checkbox"/> Lea County Parcels 2018	<input type="checkbox"/> Roosevelt County Parcels 2018	<input type="checkbox"/> Santa Fe County Parcels 2018	<input type="checkbox"/> Valencia County Parcels 2018
★ Catron County Parcel Points 2017	<input type="checkbox"/> Chaves County Parcels 2018	<input type="checkbox"/> De Baca County Parcels 2018	<input type="checkbox"/> Lincoln County Parcels 2018	<input type="checkbox"/> Rio Arriba County Parcels 2018	<input type="checkbox"/> Sierra County Parcels 2017	<input type="checkbox"/> Sections
★ Guadalupe County Parcel Points 2018	<input type="checkbox"/> Eddy County Parcels 2018	<input type="checkbox"/> Eddy County Parcels 2018	<input type="checkbox"/> Los Alamos County Parcels 2018			

John R. D Antonio, Jr., P.E.
State Engineer



Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

**STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER**

Trn Nbr: 663865
File Nbr: C 04387

Dec. 16, 2019

KYLE LITTRELL
XTO ENERGY INC
6401 HOLIDAY HILL ROAD
MIDLAND, TX 79707

Greetings:


Your approved copy of the above numbered permit to drill a well for non-consumptive purposes is enclosed. You must obtain an additional permit if you intend to use the water. It is your responsibility to provide the contracted well driller with a copy of the permit that must be made available during well drilling activities.

Carefully review the attached conditions of approval for all specific permit requirements.

- * If use of this well is temporary in nature and the well will be plugged at the end of the well usage, the OSE must initially approve of the plugging. If plugging approval is not conditioned in this permit, the applicant must submit a Plugging Plan of Operations for approval prior to the well being plugged. The Plugging Record must be properly completed and submitted to the OSE within 30 days of the well plugging.
- * If the final intended purpose and condition requires a well ID tag and meter installation, the applicant must immediately send a completed meter report form to this office.
- * The well record and log must be submitted within 30 days of the completion of the well or if the attempt was a dry hole.
- * This permit expires and will be cancelled if no well is drilled and/or a well log is not received by the date set forth in the conditions of approval.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us.

Sincerely,

ba 
Juan Hernandez
(575) 622-6521

Enclosure

explore

John R. D Antonio, Jr., I
State Engineer



Well Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

**STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER**

Trn Nbr: 663865
File Nbr: C 04387

Dec. 16, 2019

AIMEE COLE
LT ENVIRONMENTAL INC
3300 NORTH A STREET
BLDG 1 #103
MIDLAND, TX 79707

Greetings:


Your approved copy of the above numbered permit to drill a well for non-consumptive purposes is enclosed. You must obtain an additional permit if you intend to use the water. It is your responsibility to provide the contracted well driller with a copy of the permit that must be made available during well drilling activities.

Carefully review the attached conditions of approval for all specific permit requirements.

- * If use of this well is temporary in nature and the well will be plugged at the end of the well usage, the OSE must initially approve of the plugging. If plugging approval is not conditioned in this permit, the applicant must submit a Plugging Plan of Operations for approval prior to the well being plugged. The Plugging Record must be properly completed and submitted to the OSE within 30 days of the well plugging.
- * If the final intended purpose and condition requires a well ID tag and meter installation, the applicant must immediately send a completed meter report form to this office.
- * The well record and log must be submitted within 30 days of the completion of the well or if the attempt was a dry hole.
- * This permit expires and will be cancelled if no well is drilled and/or a well log is not received by the date set forth in the conditions of approval.

Appropriate forms can be downloaded from the OSE website www.ose.state.nm.us.

Sincerely,


Juan Hernandez
(575) 622-6521

Enclosure

explore

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
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

CONDITIONS

Action 144879

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 144879
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
jharimon	None	9/20/2022