

XTO ENERGY

BEFORE THE BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA

April 19, 2018 DOCKET # 14 -2018

UNDERGROUND INJECTION CONTROL APPLICATION SECONDARY RECOVERY GAS INJECTION PILOT PROJECT By XTO ENERGY

An application by XTO Energy, to permit the conversion of the Donna 31X-15BXC a presently producing Bakken well, for the purpose of gas injection into the Bakken to demonstrate the potential for gas injection as an economic secondary recovery mechanism within Elm Coulee Field, Richland County, Montana as required by Rule 36-22-1403 of the Rules and Regulations of the Montana Board of Oil and Gas Conservation.

XTO ENERGY GAS FLOOD PILOT Application
Docket # ____-2018 April 19, 2018
Exhibit 1 Letter Requesting Conversion of Producing Well to GIW

March 14, 2018

Montana Board of Oil & Gas Conservation
2635 St Johns Avenue
Billings, Montana 59102

Attn: Mr. George Hudak
UIC Coordinator

RE: Request for Underground Conversion and Subsequent Injection Permit
Donna 31X-15BXC (API #25-083-22876-01-00)
T24N-R56E: Section 15 NW/4 NE/4

Dear Mr. Hudak:

Enclosed is an Underground Injection Control Application by XTO Energy requesting the granting of authority to convert Donna 31X-15BXC initially to a cyclic gas injection well with periods of injection and production followed by a continuous gas injection pilot project. XTO Energy is requesting that the application be placed on the docket for the MBOGC April 19, 2019 hearing.

If you have any questions regarding this application, please contact Mary Flynn (Team Lead-Reservoir Engineer) at 817-885-2866 or Kyle Thorson (Operations Engineer) at 701-334-2890.

Sincerely,

Terry Perkins
Sr. Vice President
Reservoir Engineering

UNDERGROUND INJECTION CONTROL (UIC) APPLICATION

DONNA 31X-15BXC

By XTO Energy
MBOGC Docket # ___-2018 Exhibit #3

The following Report and Justification is submitted in support of the application by XTO Energy, to permit the conversion of the XTO Energy Donna 31-X-15BXC, a presently producing Bakken well, for the purpose of produced gas injection into the Bakken to demonstrate the potential for gas injection and pressure maintenance as an economic secondary recovery mechanism within Elm Coulee Field, Richland County, Montana as required by Rule 36-22-1403 of the Rules and Regulations of the Montana Board of Oil and Gas Conservation.

1 (a) Well Location

The XTO-operated proposed input well, the Donna 31X-15BXC (API #25-083-22876-0100) is located in Richland County, Montana at:

- SHL: 24N - 56E - 15 NW NE 304 FNL, 2200 FEL
- BHL: 24N - 56E - 22, SE SW, 247 FSL, 2630FWL
- Monthly production: 1693 bo, 476 bw, 2005 mscf

1 (b) Wells within 1,320' (1/4 mile) AOR

There are five producing oil and gas wells within 1,320' of the Donna 31X-15BXC wellbore. Two in the same spacing unit, one lateral in the spacing unit to the north, and two wells in the spacing unit to the south.

The XTO Energy operated, dual lateral John Robert 31X-22 (API 25-083-22524)

- SHL: 24N - 56E - 22 NW NE 300 FNL, 2200 FEL
- BHL#1: 24N - 56E - 22, SW SW, 700 FSL, 754FWL
- BHL#2: 24N - 56E - 15, NW NW, 700 FNL, 746FWL
- Monthly production: 1464 bo, 405 bw, 1344 mscf from the Bakken

The XTO Energy operated, dual lateral LeSueur 31X-22 (API 25-083-22011)

- SHL: 24N - 56E - 22 NW NE 660 FNL, 1844 FEL
- BHL#1: 24N - 56E - 15, NE NE, 698 FNL, 764 FEL
- BHL#2: 24N - 56E - 22, SE SE, 702 FSL, 803FEL
- Monthly production: 800 bo, 450 bw, 900 mscf from the Bakken

The XTO Energy operated Craig 14X-10 (API 25-083-22839-00-00)

- SHL: 24N - 56E - 10 SW SW 1000 FSL, 1000 FWL

- BHL: 24N - 56E - 11, SW SE, 1088 FSL, 1431 FEL
- Monthly production: 417 bo, 444 bw, 1014 Mscf from the Bakken

All XTO wells listed are cased and cemented across the confining zone, and all future wells in the vicinity would also be planned to be cased and cemented across the confining zone. There are no current signs of degradation of the wellbore or facilities. No corrective actions needed.

The Enerplus operated Olive-Arlene 27-3-HLID3 (API 25-083-22740-00-00)

- SHL: 24N - 56E - 27 NE NW 290 FNL, 1994 FWL
- BHL: 24N - 56E - 34, SW SE, 674 FSL, 2154 FEL
- Monthly production: 1000 bo, 100 bw, 3000 mscf from the Bakken

The Enerplus operated Olive-Volden 27-2-H (API 25-083-22497-00-00)

- SHL: 24N - 56E - 27 NW NE 200 FNL, 1930 FEL
- BHL: 24N - 56E - 34, SE SE, 694 FSL, 878 FEL
- Monthly production: 1100 bo, 95 bw, 1900 mscf from the Bakken

To the best of XTO Energy's knowledge, there are no mechanical problems with these wells. There are no other wells which penetrate the injection zone within the area of review. Please see Exhibit 8A for a map of the area of review and Exhibits 7A – 7D(ii) for wellbore diagrams and casing record for the Donna 31X-15BXC.

1 (c) Location of all Pipelines

A produced gas will be piped from Oneok's Charlie Creek compressor station. We anticipate this to follow the route as shown in Exhibit 8B.

1 (d) Area Producing Formations, Fresh Water Aquifers, and Water Well Information

No wells are completed more shallow than the Bakken in the AOR. There are no fresh water wells that produce within the AOR. The nearest fresh water wells are located 4800 ft west of the Donna 31X-15BXC bottom hole location which is at a depth of 10,450'. These wells produce from depths from 175-380'. These depths correspond to aquifers within the alluvium and terrace deposits as well as from the Fort Union Formation which is a sandstone. Recharge comes primarily from precipitation (City of Sidney PWSID #MT0000330). In the Donna 31X-15BXC, the surface casing is set to 2050' and cemented to surface. The 7" production casing is set at 10,755' and cemented to 2900'. The Donna 31X-15BXC surface location is over 2 miles from the nearest water wells, the Sunny Slope Ranch and Hill #1-#3.

The only producing formation in this unit and the AOR is the middle Bakken. All injected gas will be injected into the middle Bakken lateral with the top of formation at 10,411 and the base at 10,444 (30') as measured from vertical section of the wellbore. As shown on the structure map, Exhibit 4, the top of the Bakken is approximately 20 ft. lower at the toe of the well. The middle Bakken in this area is primarily a silty Dolomite with an average porosity of between 4.8% and 5.5% and

permeability between 0.01 md to 0.05 md. Initial water saturation is 32-34%. Initial formation pressure was approximately 5,500 PSI but it is now below 1,000 PSI.

The only other reservoir that has been completed or drilled in a two mile radius of the project area were three wellbores targeting the Red River formation which is 2,000 feet deeper than the Bakken. All have been abandoned.

1 (e) Name and Geological Descriptions of Injection Zones

All injected gas will be into the middle Bakken with the top at 10,411 and the base at 10,444 (30'). The middle Bakken is the only productive interval in the Donna 31X-15BXC spacing unit and the AOR. The middle Bakken in this area is primarily a silty Dolomite with an average porosity of between 4.8% and 5.5% and permeability between 0.01 md to 0.05 md. Initial water saturation is 32-34%. Initial formation pressure was approximately 5,500 PSI but it is now below 1,000 PSI.

Thickness and Description of Constraining Formations

Above the middle Bakken is the upper Bakken Shale which is 6' thick in the well. The shale is felt to be relatively ductal in nature and probably constrains the development of induced fractures upward. However, overlying this is the Lodgepole Formation of the Madison Group is present with the top at 9,655' TVD which overlies the Bakken Formation. The Lodgepole is primarily a thick impermeable limestone and evaporates that act as a regional upper seal for the Bakken petroleum system. The formation consists of limestones and dolomites deposited in a normal marine to restricted shelf environment (Heck, 1979). There is no oil and gas production from the Lodgepole in this area.

Below the middle Bakken is a thin lower Bakken Shale which is only 2' thick. This shale offers little impediment to induced fracturing in a downward direction. However, immediately underlying the lower Bakken Shale is the Devonian Three Forks consisting of very tight dolomites and shales and higher pressures constraining any fracture growth in a downward direction.

1 (f) Additional Information on Producing Wells in the AOR

The XTO Energy Lesueur 31X-15 dual lateral "V" shaped well is located 800'-1800' to the east and relatively parallel to the proposed Injection Well Donna 31X-15BXC. This is one of the two wells which are hoped will benefit from this pilot gas flood.

The XTO Energy, John Robert 31 X-22 dual lateral "gull" shaped well is located 300'-2100' to the west and relatively parallel to the proposed Injection Well. This is one of the two wells which are hoped will benefit from this pilot gas flood.

The Craig 14X-10 well, to the north in Section has a short interval of its lateral within the AOR. This well is felt to be outside the area that will be influenced by this pilot gas flood based on the fracture orientation and its distance from the injection well.

In the same manner, the Enerplus Olive Arleen 27-3HLID3 and Enerplus Olive Volden 27-2-H to the south in section 27 are not expected to be influenced due to the fracture orientation and location beyond the toe of the Donna 31X-15BXC.

1 (g) Open Hole Logs

The logs on the Donna 31X-15BXC, John Robert 31X-22 and LeSueur 31X-22 are on file with the MBOGC including a Cement Bond Log.

1(h) Description of Wellbore Construction and Recompletion Plan

The Donna 31X-15BXC is currently a producing Oil well in the Bakken. It has been cased and cemented across the confining zone to a height of 2900'. Currently the well has tubing and a rod pump which is set at 9787' in the cased and cemented portion of the wellbore. A continuous reading downhole pressure gauge will be run downhole to provide a realtime understanding of our injection pressures at the sandface. No other changes will be made to the actual wellbore configuration. We will begin with huff and puff (cyclic) injection, with gas injected down the tubing for a period of time. Following injection, there is an inactive soak period, followed by returning the well to production. Reservoir simulation indicates the opportunity for an oil uplift using cyclic gas injection, so this will be tested in this pilot. It is likely a series of injection cycles will be conducted. Once cyclic gas injection has been tested, the pump will be pulled for a tubing and packer system to begin continuous gas injection following appropriate Sundry notice to the State. Again, reservoir simulation indicates that an uplift in offset wells which will be tested in this pilot.

The John Robert 31X-22 and LeSueur 31X-22 will also be equipped with bottom hole pressure gauges. If the bottom hole pressure increases sufficiently that these wells can flow without a downhole pump, the John Robert 31X-22 & LeSueur 31X-22 will be converted to flowing wells with a tubing and packer following appropriate notice and permission from the State.

1(i) Description of Fluid to be Injected

The fluid to be injected will consist entirely of produced gas processed which will be piped to the Donna 31X-15BXC wellsite. The gas will be obtained from Oneok's compressor station located east approximately 4.5 miles to the west. Actual injection rates and volumes to be injected will be determined by the response of the wellbore to the injection pressure utilized and the capacity of the well to take the fluid. A downhole pressure gauge will be installed in the injection well and the fracture pressure will not be exceeded (0.733 psi/ft = 7878 psi). Exhibit 6G is a representative Gas Chemistry Analysis of gas from Oneok compression station. No incompatibilities are expected.

1 (j) Name of Owners of Record

XTO Energy is the only working interest owner at 100% in the Donna Spacing Unit. The other surface owners, leasehold owners, and unleased mineral interest owners included in the area of review are presented in Exhibit 10.

XTO Energy has notified the surface owner in accordance with 36.22.1410 (1) notification requirements for an underground injection permit. Exhibit 11 is an affidavit attesting to the fact that the notices have been mailed.

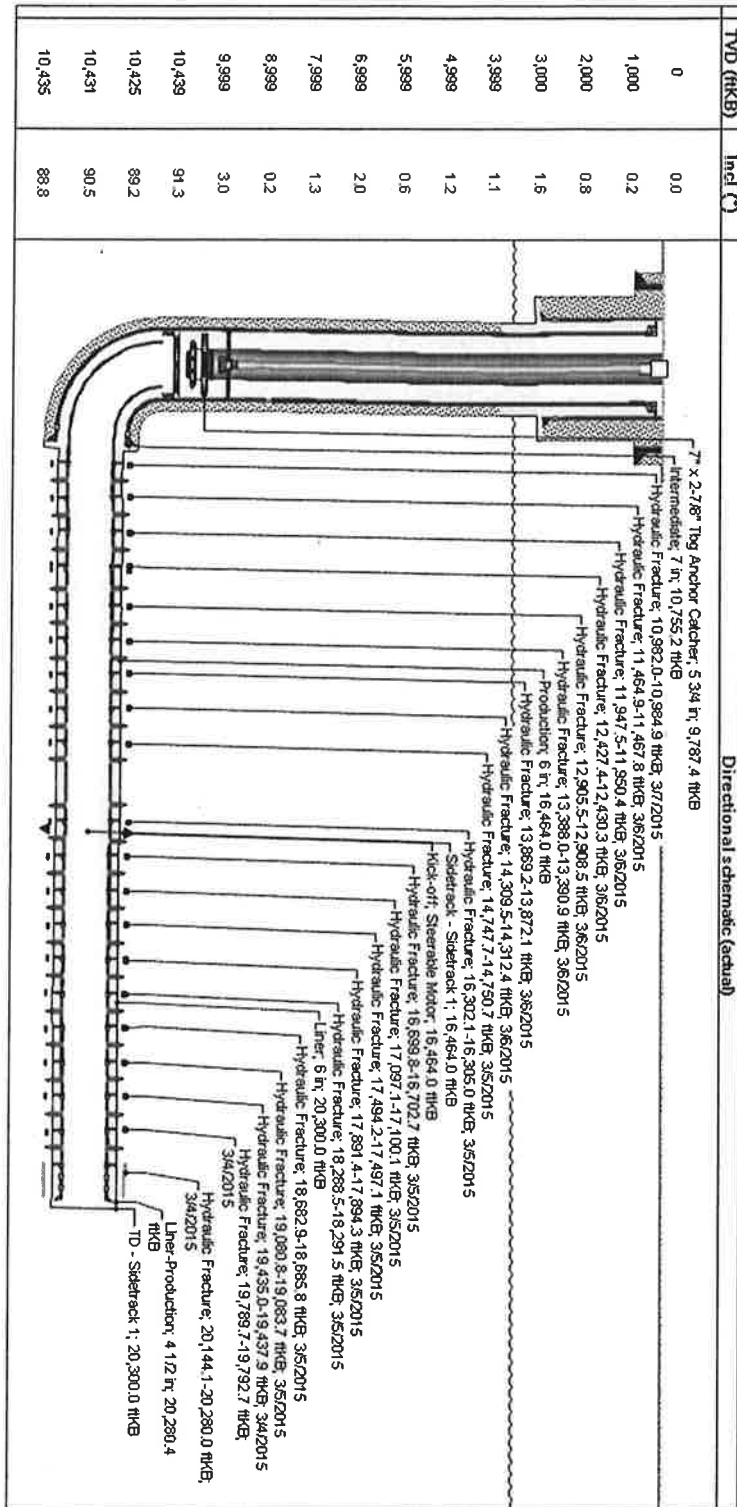
LIST OF EXHIBITS

- Exhibit 01.....Letter requesting Conversion and Subsequent Injection Permit
- Exhibit 02A.....Regional Reference Map for Elm Coulee Field
- Exhibit 02B.....Enlarged Map of Injection Unit
- Exhibit 03.....UIC Application Discussion and Justification
- Exhibit 04.....Structure Map with Injection and Production Wells
- Exhibit 05ALog Section Bakken T24N R56E Sec. 9
- Exhibit 05B.....Log Section Bakken T24N R56E Sec 28
- Exhibit 05C.....Log Section Bakken T24N R56E Sec 27
- Exhibit 06A.....Water Chemistry,
- Exhibit 06B.....Water Chemistry,
- Exhibit 06C.....Water Chemistry,
- Exhibit 06D.....Water Chemistry, Bakken FM. XTO Energy, Donna 31X-15BXC
- Exhibit 06E..... Water Chemistry, Bakken Fm. XTO Energy, John Robert 31X-22
- Exhibit 06F.....Water Chemistry, Bakken Fm. XTO Energy, LeSueur 31X-22
- Exhibit 06G.....Injection Gas Chemistry, Oneok Compressor Station
- Exhibit 07A..... Wellbore Diagram XTO Energy, Donna 31X-15BXC Injection well
- Exhibit 07B..... Casing Record XTO Energy, Donna 31X-15BXC Injection well
- Exhibit 07C.....Wellbore Diagram XTO Energy, LeSueur 31X-22 Production Well
- Exhibit 07D.....Wellbore Diagram XTO Energy, John Robert 31X-22 Production Well
- Exhibit 08A.....Map w/ nearby wellbores and water wells (within ¼ mile)
- Exhibit 08B.....Map of proposed gas pipeline
- Exhibit 09.....Sundry Notice of intent to Recomplete to GIW
- Exhibit 10.....Surface Owners, List of.
- Exhibit 11.....Affidavit of Notification of Surface Owners of Intent to Inject
- Exhibit 12.....Notice of Injection to be posted in papers
- Exhibit 13.....Affidavit of Newspaper Publishing & Notification Independent Record of Helena
- Exhibit 14.....Affidavit of Newspaper Publishing & Notification Sidney Herald

XTO ENERGY GAS FLOOD PILOT Application
Docket # ____-2018 April 19, 2018
Exhibit 6G Injection Gas Chemistry

(Water and gas chemistry will be submitted as soon as obtained and prior to the hearing)

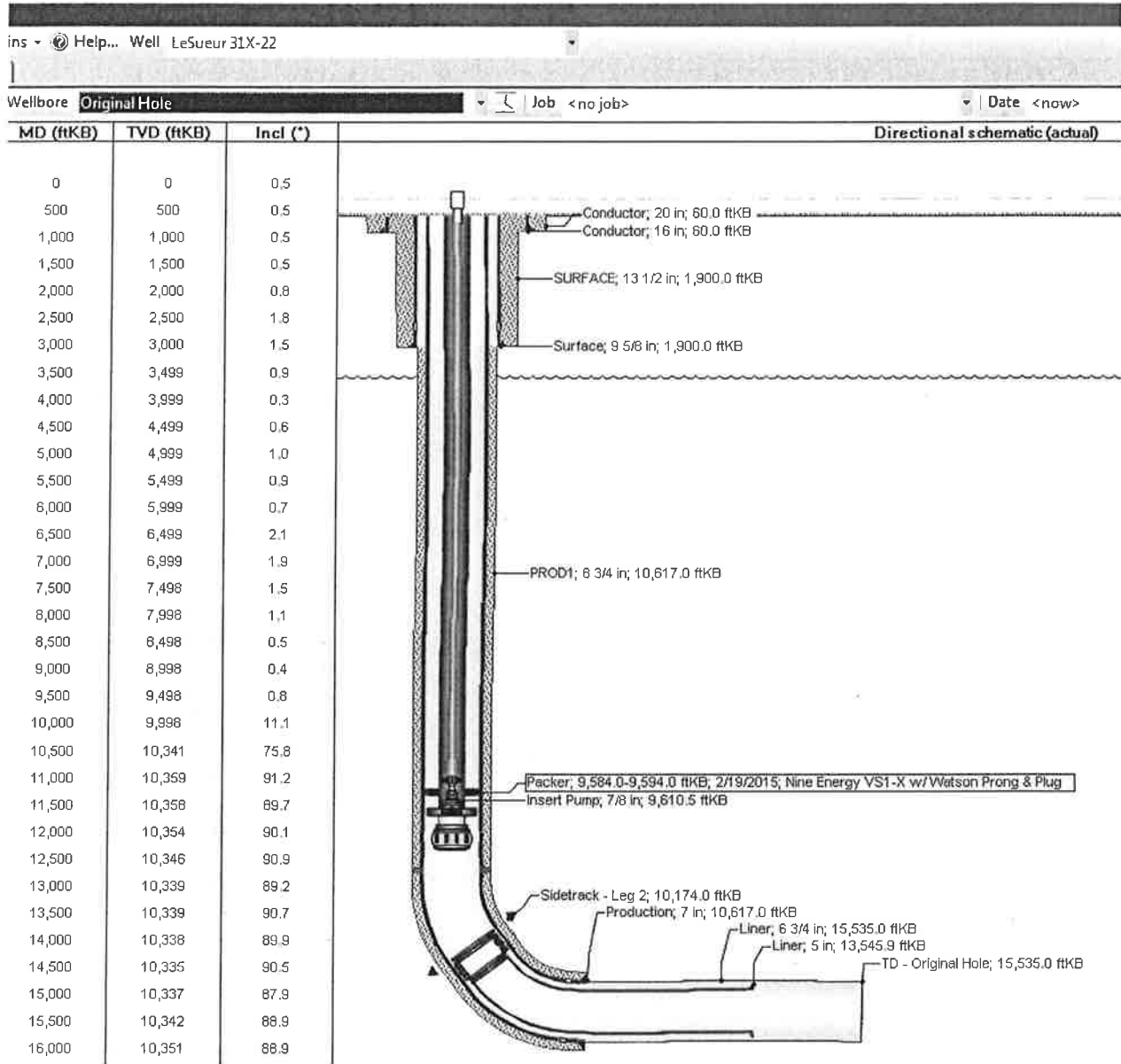
XTO ENERGY GAS FLOOD PILOT Application
Docket # ____-2018 April 19, 2018
Exhibit 7A Donna 31X-15BXC Wellbore Schematic



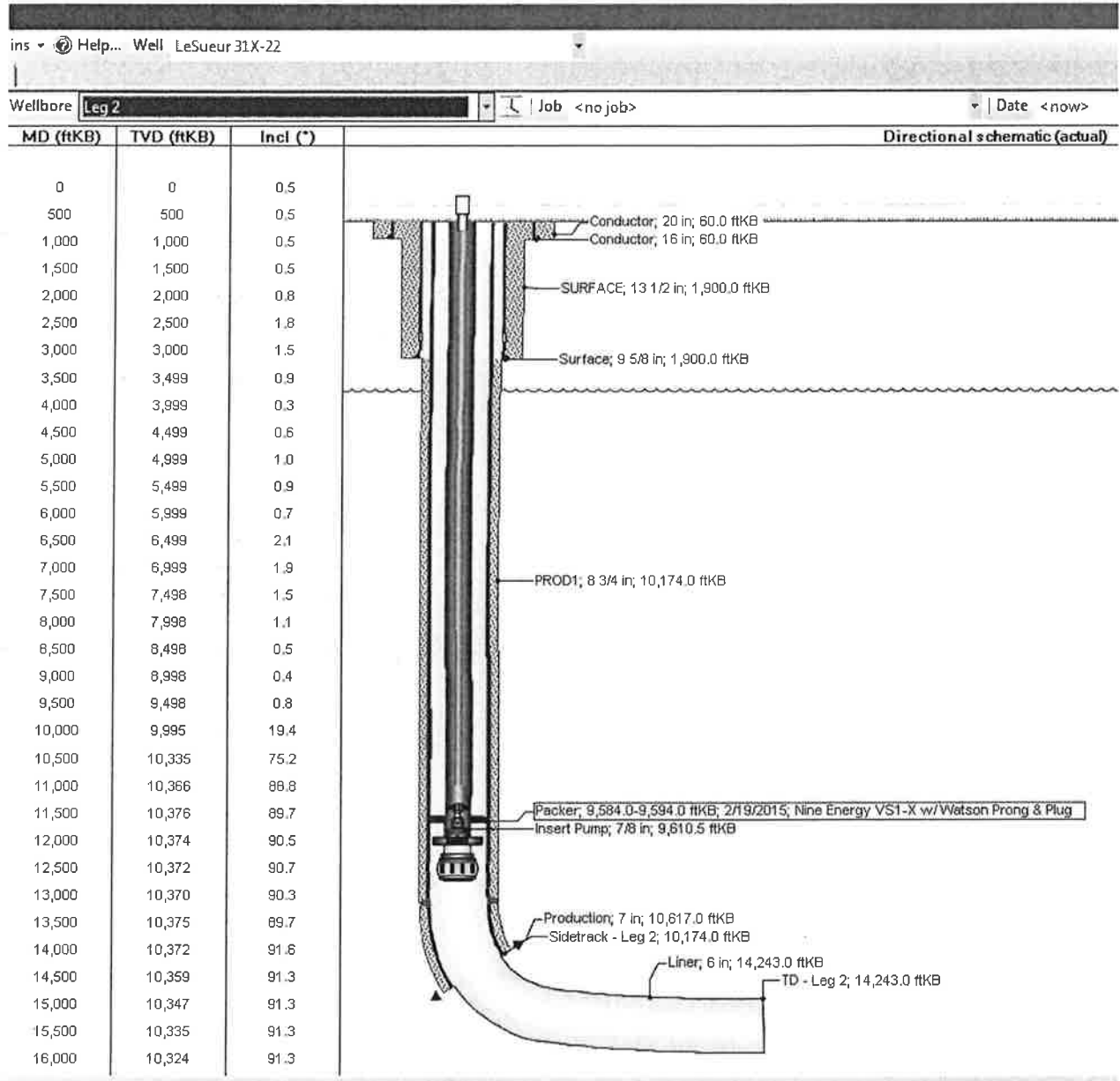
XTO ENERGY GAS FLOOD PILOT Application
Docket # ___-2018 April 19, 2018
Exhibit 7B Donna 31X-15BXC Casing Record

Casing Record										
Well Bore	String				Length	From	To	Cement	Cement Top	Packer Set
	Type	Size	Weight	Grade	(Feet)	(MD, Feet)	(MD, Feet)	(Sacks)	(MD, Feet)	(MD, Feet)
Surface	Surface	9 5/8	36	J-55	2050	0	2050	648	0	
Vertical	Intermediate	7	29,32	HCP-110	10755	0	10755	674	2900	
Lateral	Liner	4 1/2	13.5	HCP-110	10335	9945	20280	0		

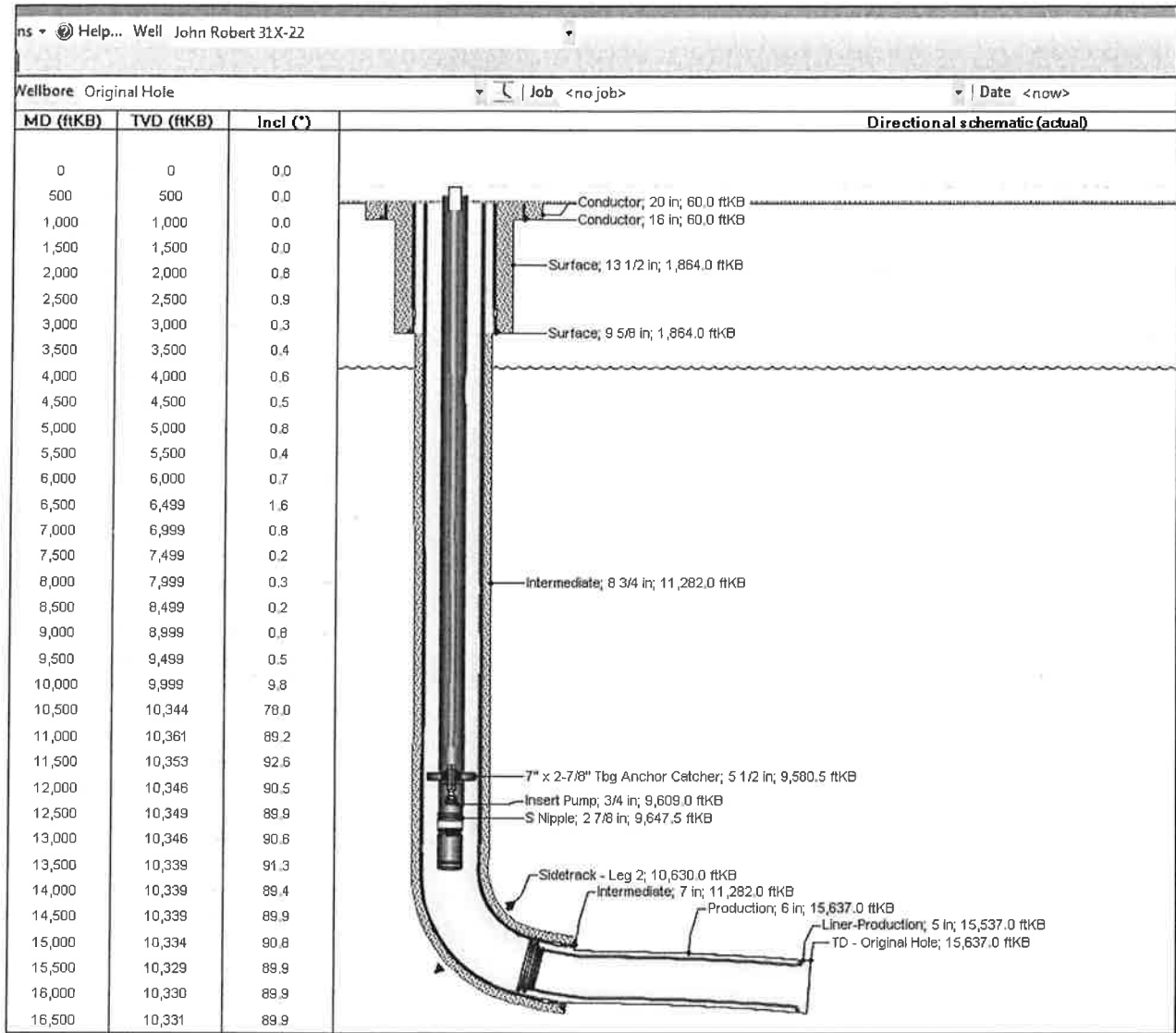
XTO ENERGY GAS FLOOD PILOT Application
 Docket # ___-2018 April 19, 2018
 Exhibit 7C(i) Lesueur 31X-22 Wellbore Schematics for Leg #1



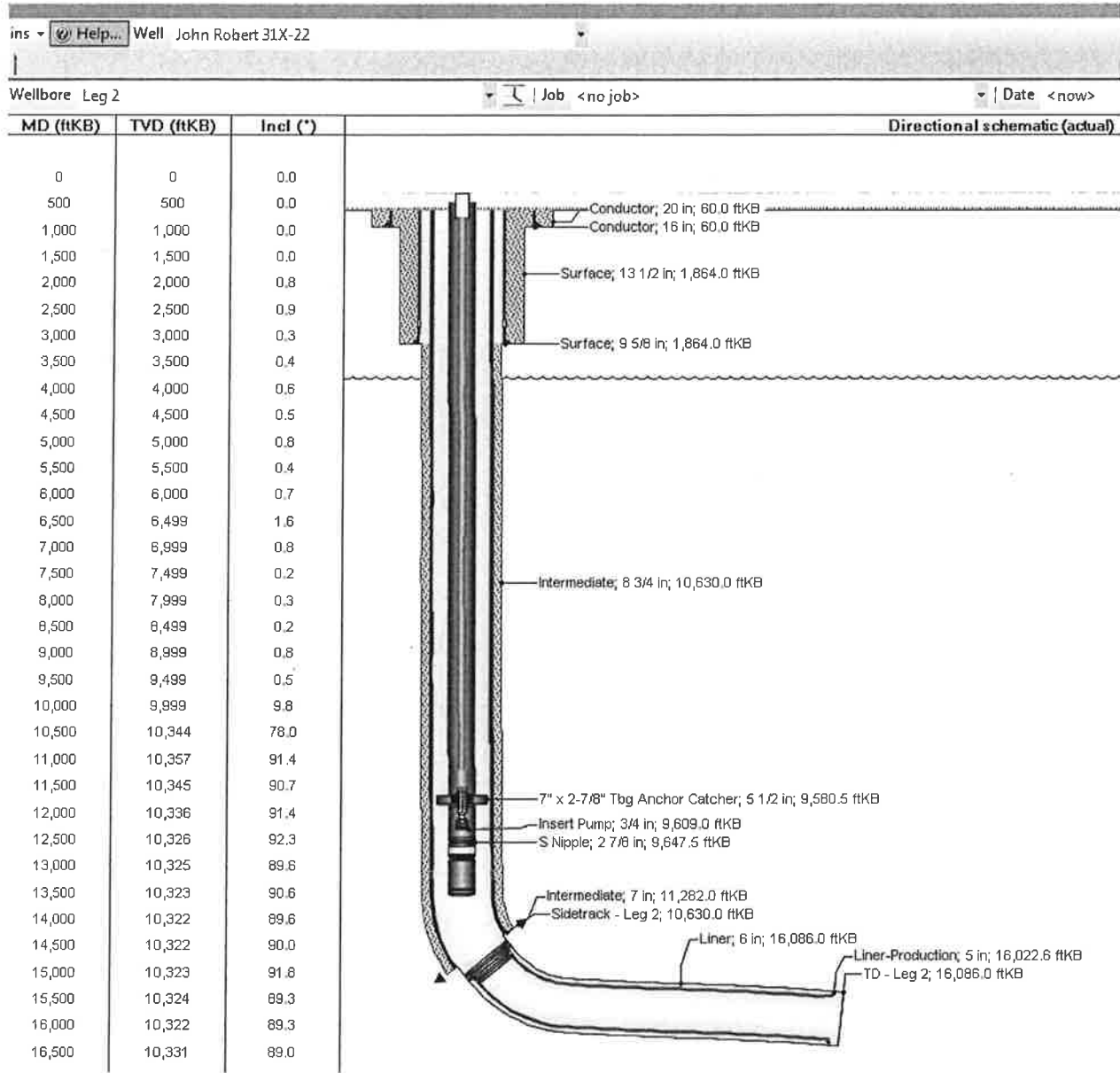
XTO ENERGY GAS FLOOD PILOT Application
Docket # ___-2018 April 19, 2018
Exhibit 7C(ii) LeSueur 31X-22 Wellbore Schematics for Leg #2



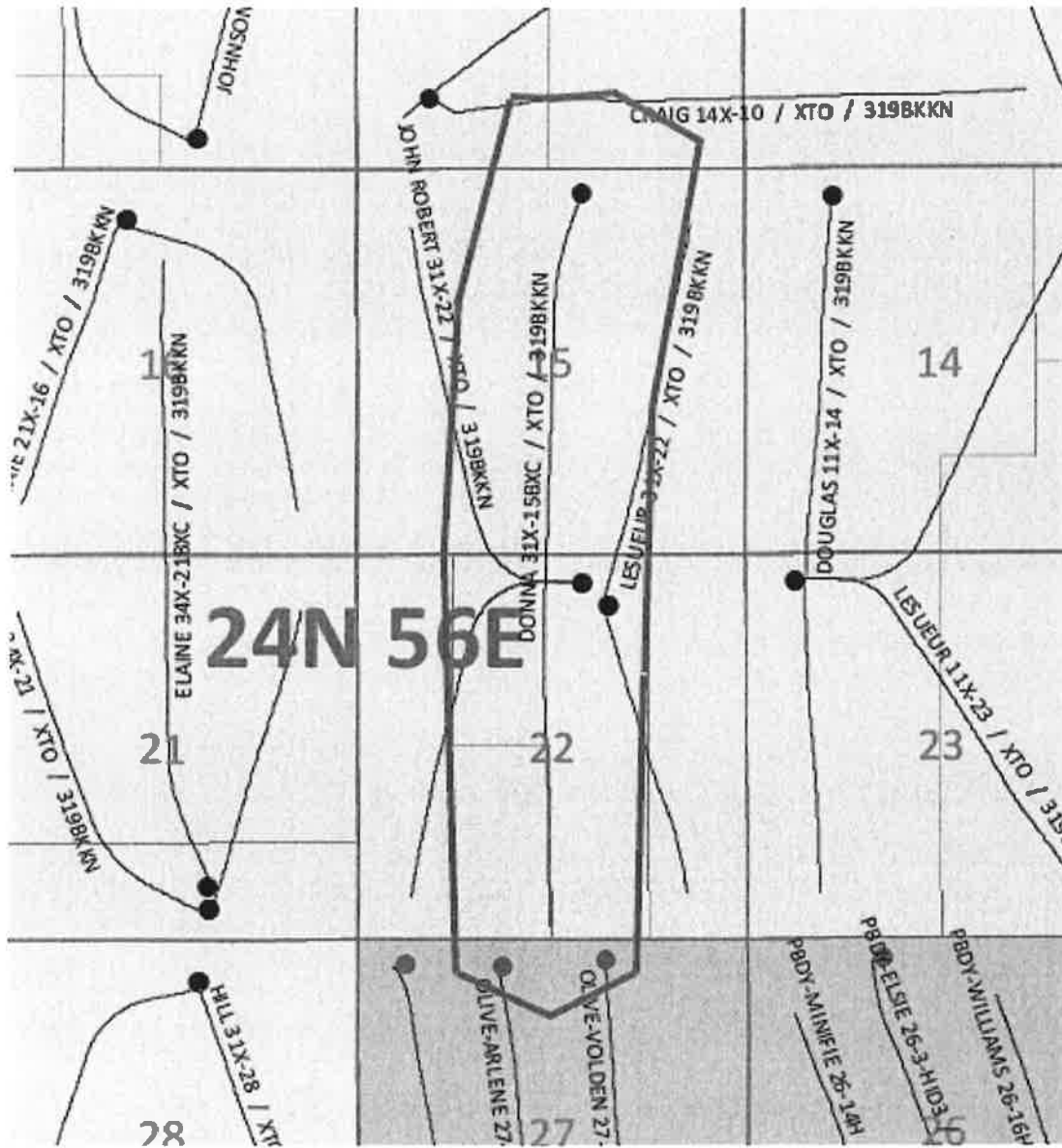
XTO ENERGY GAS FLOOD PILOT Application
 Docket # ___-2018 April 19, 2018
 Exhibit 7D(i) John Robert 31X-22 Wellbore Schematics for Leg #1



XTO ENERGY GAS FLOOD PILOT Application
 Docket # ___-2018 April 19, 2018
 Exhibit 7D(ii) Wellbore Schematic for Second Leg of John Robert 31X-22



XTO ENERGY GAS FLOOD PILOT Application
Docket # ___-2018 April 19, 2018
Exhibit 8A Area of Interest (1/4 mile around well)

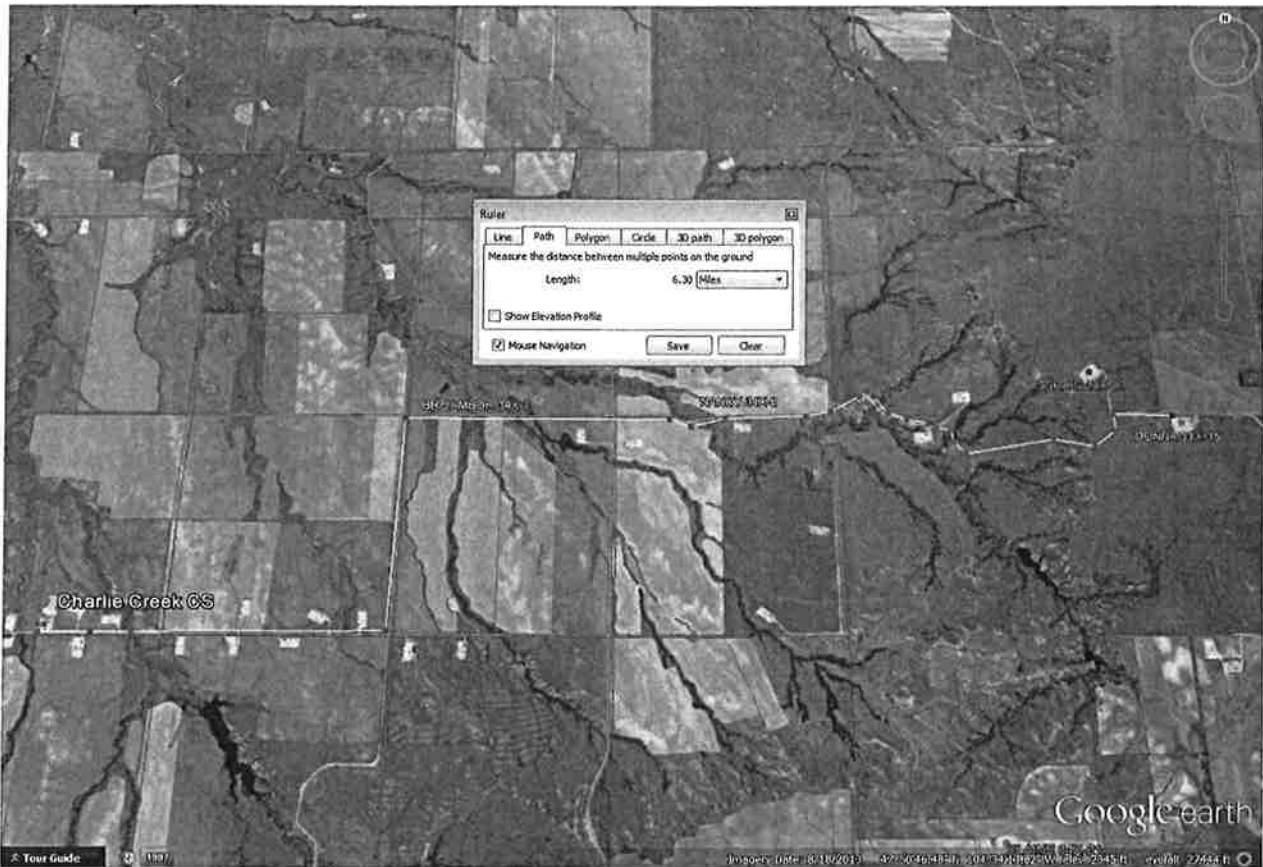


XTO ENERGY GAS FLOOD PILOT Application

Docket # ___-2018 April 19, 2018

Exhibit 8B Proposed gas pipeline route

(route subject to change pending Right of Way)



Oneok Compressor Station

Proposed Pipeline

XTO ENERGY GAS FLOOD PILOT Application
Docket # ___-2018 April 19, 2018
Exhibit 9 Sundry Notice of Intent to Recomplete to GIW
(will be signed by VP and submitted within a week)

FORM NO. 2 R 1100	ARM 38.22 307, 501, 605, 1003, 1004, 1011, 1013, 1103, 1229, 1340, 1351, 1305, 1306, and 1417																																				
Submit In Quadruplicate To: MONTANA BOARD OF OIL AND GAS CONSERVATION 2535 ST. JOHNS AVENUE BILLINGS, MONTANA 59102																																					
SUNDRY NOTICES AND REPORT OF WELLS																																					
Operator XTO ENERGY INC Address 600 E EXCHANGE AVE City FORT WORTH State TX Zip Code 76164 Telephone (817) 378-5940 Fax (817) 977-8979	Lease Name: DONNA Type (Private/State/Federal/Tribal/Allotted): PRIVATE Well Number: 31X-15BXC																																				
Location of well (1/4-1/4 section and footage measurements): 8-1/4-3/4 FNL, 2220 FEL (NW1/4, NE1/4)	Unit Agreement Name: Field Name or Wellcat: Township, Range, and Section: T24N, R56E, SECTION 15 County: RICHLAND																																				
API Number: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; text-align: center;">25</td> <td style="width: 33%; text-align: center;">003</td> <td style="width: 33%; text-align: center;">22078</td> </tr> <tr> <td style="font-size: small;">State</td> <td style="font-size: small;">County</td> <td style="font-size: small;">Well</td> </tr> </table>	25	003	22078	State	County	Well	Well Type (oil, gas, injection, other): <p style="text-align: center;">OIL</p>																														
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Indicate below with an X the nature of this notice, report, or other data:																																					
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Describe Proposed or Completed Operations: Describe planned or completed work in detail. Attach maps, well bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.																																					
Please find enclosed the UIC application by XTO Energy Inc. requesting the granting of authority to convert the Donna 31X-15BXC into an injection well for a Pilot Enhanced Recovery Project.																																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center;">BOARD USE ONLY</th> </tr> <tr> <td style="width: 60%;">Approved _____</td> <td style="width: 40%;">Date _____</td> </tr> <tr> <td style="font-size: small;">Name</td> <td style="font-size: small;">Title</td> </tr> </table>	BOARD USE ONLY		Approved _____	Date _____	Name	Title	The undersigned hereby certifies that the information contained on this application is true and correct. Date _____ Signed (Agent) _____ Print Name and Title _____ Telephone: _____																														
BOARD USE ONLY																																					
Approved _____	Date _____																																				
Name	Title																																				

XTO ENERGY GAS FLOOD PILOT Application
Docket # ___-2018 April 19, 2018
Exhibit 10 Working interest, Surface and Mineral Owners

	T24N-R56E-Sec 10 S2		
Surface S2SW	J. Harry Johnson Limited Partnership	2501 Red River Drive	Sidney, MT 59270-601!
Surface SE	J-D Farms Inc.	1015 - 7th Ave SW, Apt 306	Sidney, MT 59270-495!
Surface lot 1	Joseph R. Lyseng	13415 County Road 334	Sidney, MT 59270-364!
	(Lot 1 of Minor Subdivision 173 in SESE ; May or may not be in area)		
Minerals	None unleased		
WI	XTO Holdings, LLC	810 Houston Street	Fort Worth, TX 76102
	T24N-R56E-Sec 15: All		
Surface	J. Harry Johnson Limited Partnership	2501 Red River Drive	Sidney, MT 59270-601!
Minerals	None unleased		
WI	XTO Holdings, LLC	810 Houston Street	Fort Worth, TX 76102
	T24N-R56E-Sec 22: All		
Surface - E2, E2NW	Jana Roberta Minifie	301 Ridgewood Road	Austin, TX 78746
Surface - E2, E2NW	Arlene Jean LeSueur	PO Box 597	Glendive, MT 59330
Surface - E2, E2NW	Bette Kay Nelson	44 Pine Ridge Road	Miles City, MT 59301
Surface - E2, E2NW	John R. Volden	10389 Hanover Church Road	King George, VA 22485
Surface - E2, E2NW	Donald T. Volden and Rosemarie J. Volden, Trustees of the Volden Family Trust of 2003	4145 Rocky Point Court	Tracy, CA 95304-9514
Surface -W2NW, SW	Sunny Slope Ranch, Inc.	33199 County Road 130	Lambert, MT 59243
Surface -W2NW, SW	Julian N. Dombrowski and Mary V. Dombrowski, Trustees of the Dombrowski Family Trust	9616 - 37th Ave SW	Seattle, WA 98126
Minerals	None unleased		
WI	XTO Holdings, LLC	810 Houston Street	Fort Worth, TX 76102
	T24N-R56E-Sec 27: N2		
Surface	Jana Roberta Minifie	301 Ridgewood Road	Austin, TX 78746
Surface	Arlene Jean LeSueur	PO Box 597	Glendive, MT 59330
Surface	Bette Kay Nelson	44 Pine Ridge Road	Miles City, MT 59301
Surface	John R. Volden	10389 Hanover Church Road	King George, VA 22485
Surface	Donald T. Volden and Rosemarie J. Volden, Trustees of the Volden Family Trust of 2003	4145 Rocky Point Court	Tracy, CA 95304-9514
Minerals	None unleased		

WI	Enerplus Resources (USA) Corporation	950 - 17th Street, Suite 2200	Denver, CO 80202
WI	Sleeping Giant LLC	303 South Union Street, Suite #1	Traverse City, MI 49684
WI	Heron Oil, LLC	7580 Gingerwood Drive	Traverse City, MI 49684
WI	Northeast Montana LLP	PO Box 20356	Billings, MT 59104

XTO ENERGY GAS FLOOD PILOT Application

Docket # ___-2018 April 19, 2018

Exhibit 11 Affidavit of Notification of Surface Owners of Intent to Inject

(will be submitted to you later this week after mailing has gone out)

XTO ENERGY GAS FLOOD PILOT Application
Docket # ___-2018 April 19, 2018
Exhibit 12 Notice of Injection to be posted in papers

BEFORE THE BOARD OF OIL AND GAS CONSERVATION
OF THE STATE OF MONTANA

In the matter of the application of
XTO ENERGY INC

) NOTICE OF INTENTION TO APPLY
) FOR A CLASS II INJECTION WELL
) PERMIT
)
)

For a Class II injection well permit

1. Name and address of applicant
XTO Energy Inc.
810 Houston Street
Fort Worth, Texas 76164

2. Well (or project) name, county, location
Donna 31X-15BXC
Richland County, MT
SHL: NW ¼ NE ¼ of Section 15, T24N, R56E
BHL: SW ¼ SE ¼ of Section 22, T24N, R56E

3. Source of fluids to be injected
Produced Hydrocarbon Gas

4. Zone or formation into which injection will occur, including depth
BAKKEN from approximately 10411'-10444' TVD

Pursuant to Rule 36.22.1409, Administrative Rules of Montana, the Montana Board of Oil and Gas Conservation will hold a public hearing upon the application of XTO Energy Inc. for a Class II underground injection permit for the well or project set forth above. Said hearing will be held at the Montana Board of Oil and Gas Hearing Room at 2535 St. John's Ave., Billings, Montana, beginning at 8:00 am on Thursday, (April 19th, 2018).

XTO ENERGY GAS FLOOD PILOT Application

Docket # ___-2018 April 19, 2018

Exhibit 13 Affidavit of Newspaper Publishing & Notification Independent Record of Helena

AFFIDAVIT OF PUBLICATION

Stephanie Spiess, being first duly sworn, deposes and says that she is the Publisher of the Sidney Herald newspaper printed and published two days a week in the City of Sidney, County of Richland, State of Montana. That the notice, a copy of which is hereto attached and submitted by:

XTO Energy
600 E. Exchange Avenue
Fort Worth, Texas 76164

was printed and published in the regular and entire issue of said Sidney Herald, 310 2nd Ave NE, Sidney, MT 59270, 406-433-2403, for

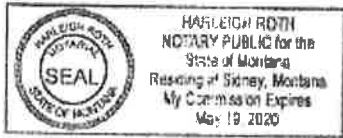
1 issues, that said publication was made on each of the following dates to with:

- Sunday, March 11, 2018
it was also published in said paper
it was also published in said paper
it was also published in said paper
it was also published in said paper
it was also published in said paper
it was also published in said paper
it was also published in said paper
it was also published in said paper

Handwritten signature of Stephanie Spiess

Stephanie Spiess

State of Montana)
ss
County of Richland)



Subscribed and sworn before me the 19th day of March, 2018.

Handwritten signature of Harleigh Roth

BEFORE THE BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA
In the matter of the application of XTO ENERGY INC
NOTICE OF INTENTION TO APPLY FOR A CLASS II INJECTION WELL PERMIT
For a Class II injection well permit
1. Name and address of applicant
XTO Energy Inc.
810 Houston Street
Fort Worth, Texas 76164
2. Well (or project) name, county, location
Danna 51X-15BXC
Richland County, MT
SHL: NW 1/4 NE 1/4 of Section 15, T24N, R56E
BML: SW 1/4 SE 1/4 of Section 22, T24N, R56E
3. Source of fluids to be injected
Produced Hydrocarbon Gas
4. Zone or formation into which injection will occur, including depth
Bakken from approximately 10411'-10444' TVD
Pursuant to Rule 90.22, 1409, Administrative Rules of Montana, the Montana Board of Oil and Gas Conservation will hold a public hearing upon the application of XTO Energy Inc. for a Class II underground injection permit for the well or project set forth above. Said hearing will be held at the Montana Board of Oil and Gas Hearing Room at 2595 St. John's Ave., Billings, Montana, beginning at 8:00 am on Thursday, (April 19th, 2018).
Published: March 11, 2018.
MNAJLP

XTO ENERGY GAS FLOOD PILOT Application

Docket # ___-2018 April 19, 2018

Exhibit 14 Affidavit of Newspaper Publishing & Notification Sidney Herald

AFFIDAVIT OF PUBLICATION

Stephanie Spiess, being first duly sworn, deposes and says that she is the Publisher of the Sidney Herald newspaper printed and published two days a week in the City of Sidney, County of Richland, State of Montana. That the notice, a copy of which is hereto attached and submitted by:

XTO Energy
600 E. Exchange Avenue
Fort Worth, Texas 76164

was printed and published in the regular and entire issue of said Sidney Herald, 310 2nd Ave NE, Sidney, MT 59270, 406-433-2403, for

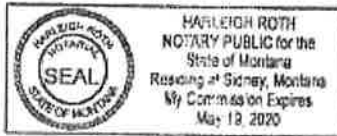
1 issues, that said publication was made on each of the following dates to wit:

- Sunday, March 11, 2018
it was also published in said paper
it was also published in said paper
it was also published in said paper
it was also published in said paper
it was also published in said paper
it was also published in said paper
it was also published in said paper
it was also published in said paper

Handwritten signature of Stephanie Spiess

Stephanie Spiess

State of Montana)
County of Richland)

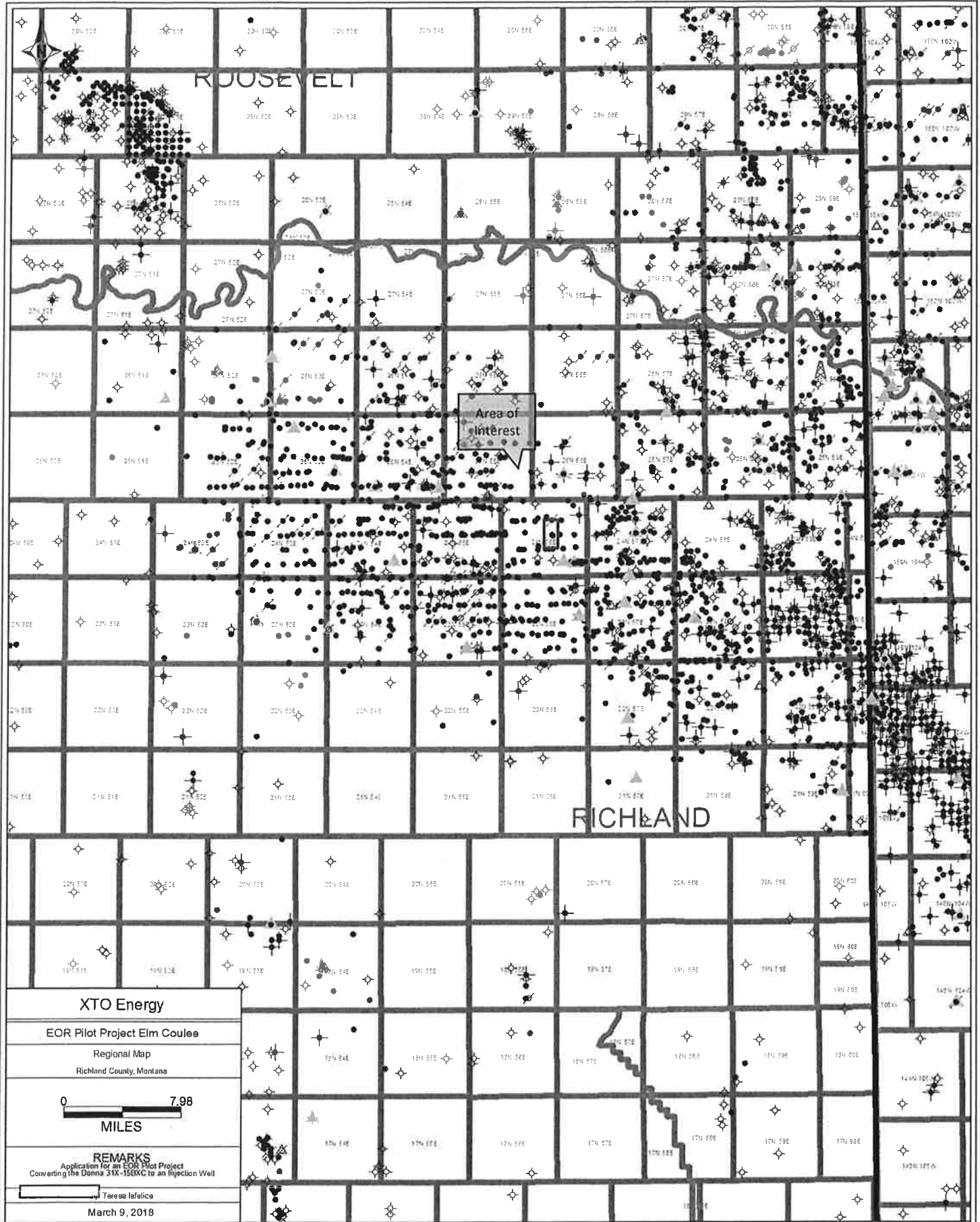


Subscribed and sworn before me the 12th day of March, 2018.

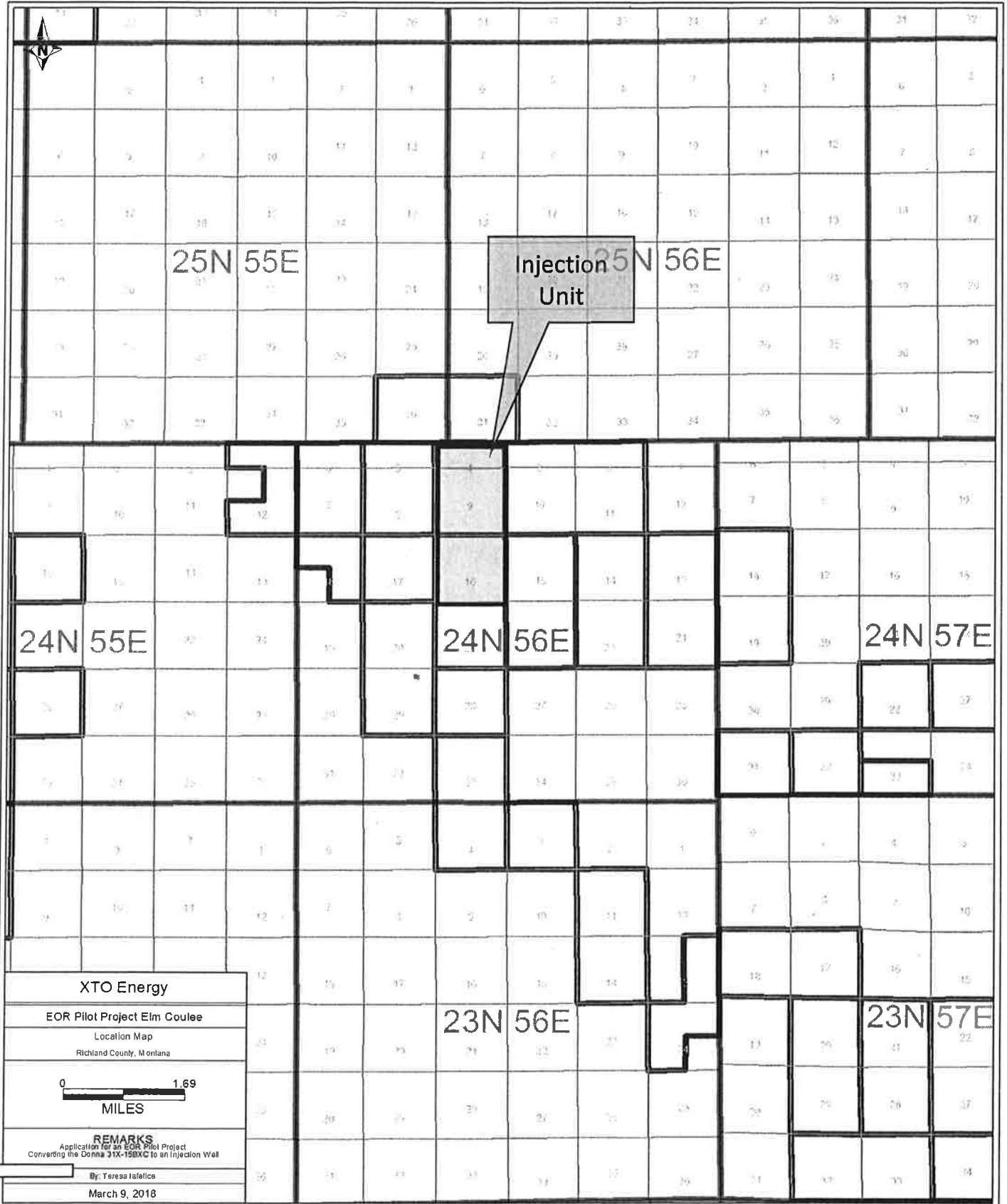
Handwritten signature of Harleigh Roth

BEFORE THE BOARD OF OIL AND GAS CONSERVATION OF THE STATE OF MONTANA
In the matter of the application of XTO ENERGY INC. NOTICE OF INTENTION TO APPLY FOR A CLASS II INJECTION WELL PERMIT For a Class II injection well permit
1. Name and address of applicant: XTO Energy Inc., 810 Houston Street, Fort Worth, Texas 76164
2. Well (or project) name, county, location: Donna 31X-15BXC, Richland County, MT
SHL: NW 1/4 NE 1/4 of Section 15, T24N, R56E
BHL: SW 1/4 SE 1/4 of Section 22, T24N, R56E
3. Source of fluids to be injected: Produced Hydrocarbon Gas
4. Zone or formation into which injection will occur, including depth: Bakken from approximately 10411'-10444' TVD
Pursuant to Rule 38,22-1409, Administrative Rules of Montana, the Montana Board of Oil and Gas Conservation will hold a public hearing upon the application of XTO Energy Inc. for a Class II underground injection permit for the well or project set forth above. Said hearing will be held at the Montana Board of Oil and Gas Hearing Room at 2585 St. John's Ave., Billings, Montana, beginning at 9:00 am on Thursday, (April 19th, 2018).
Publish: March 11, 2018. MNAXLP

XTO ENERGY GAS FLOOD PILOT Application
 Docket # ___-2018 April 19, 2018
 Exhibit 2A Regional Map



XTO ENERGY GAS FLOOD PILOT Application
 Docket # ___-2018 April 19, 2018
 Exhibit 2B Enlarged View of Injection Unit



XTO Energy
 EOR Pilot Project Elm Coulee
 Location Map
 Richland County, Montana

0 1.69
 MILES

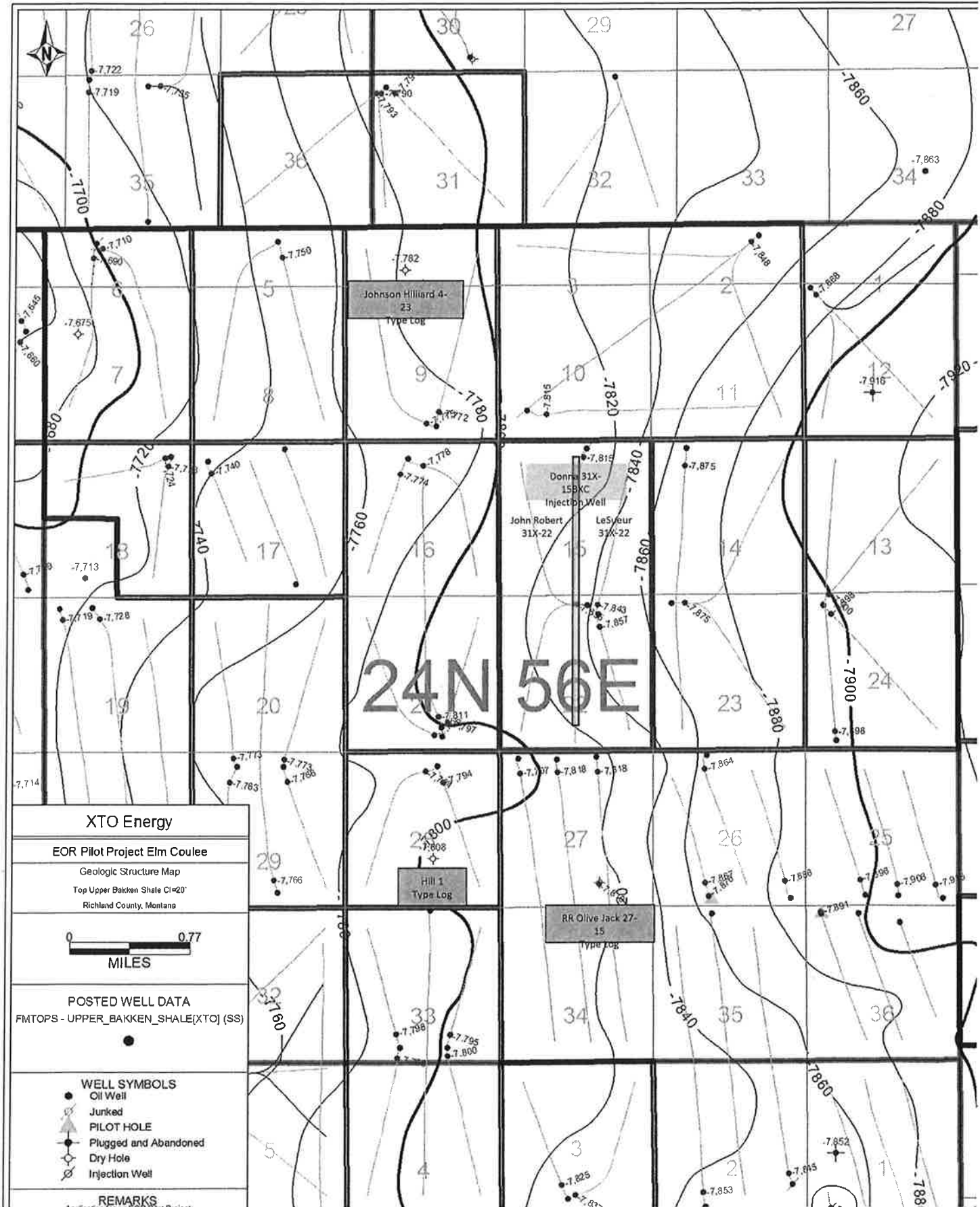
REMARKS
 Application for an EOR Pilot Project
 Converting the Donna 3XX-158XC to an Injection Well

By: Teresa Tafelice
 March 9, 2018

Existing XTO Spacing Unit

1280-acre Spacing Unit
 of Interest

XTO ENERGY GAS FLOOD PILOT Application
 Docket # ____-2018 April 19, 2018
 Exhibit 4 Structure Map with Injection and Production Wells



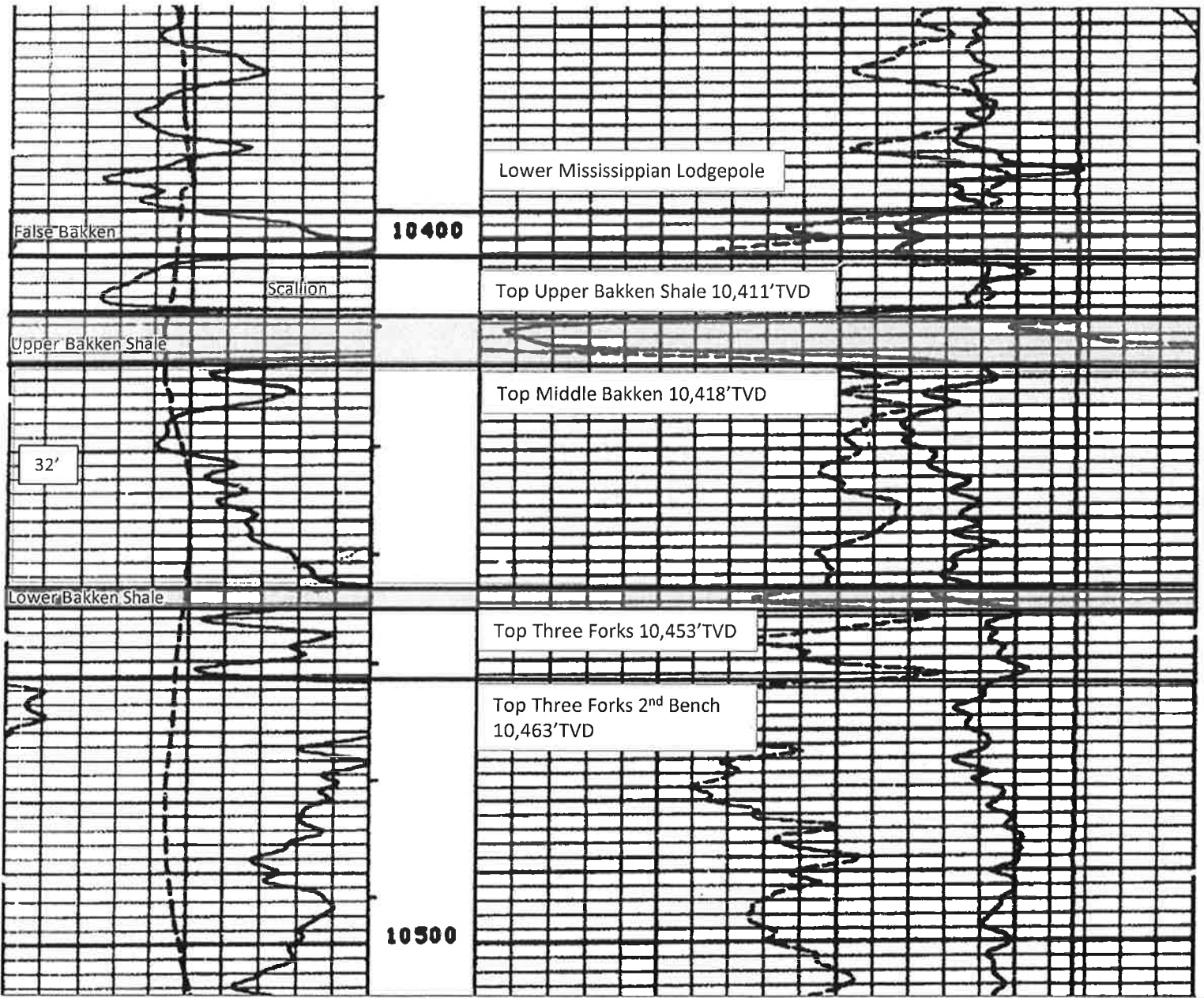
Type Log

Bass: Johnson Hilliard 4-23

Richland County, MT SESW Section 4-T24N-R56E

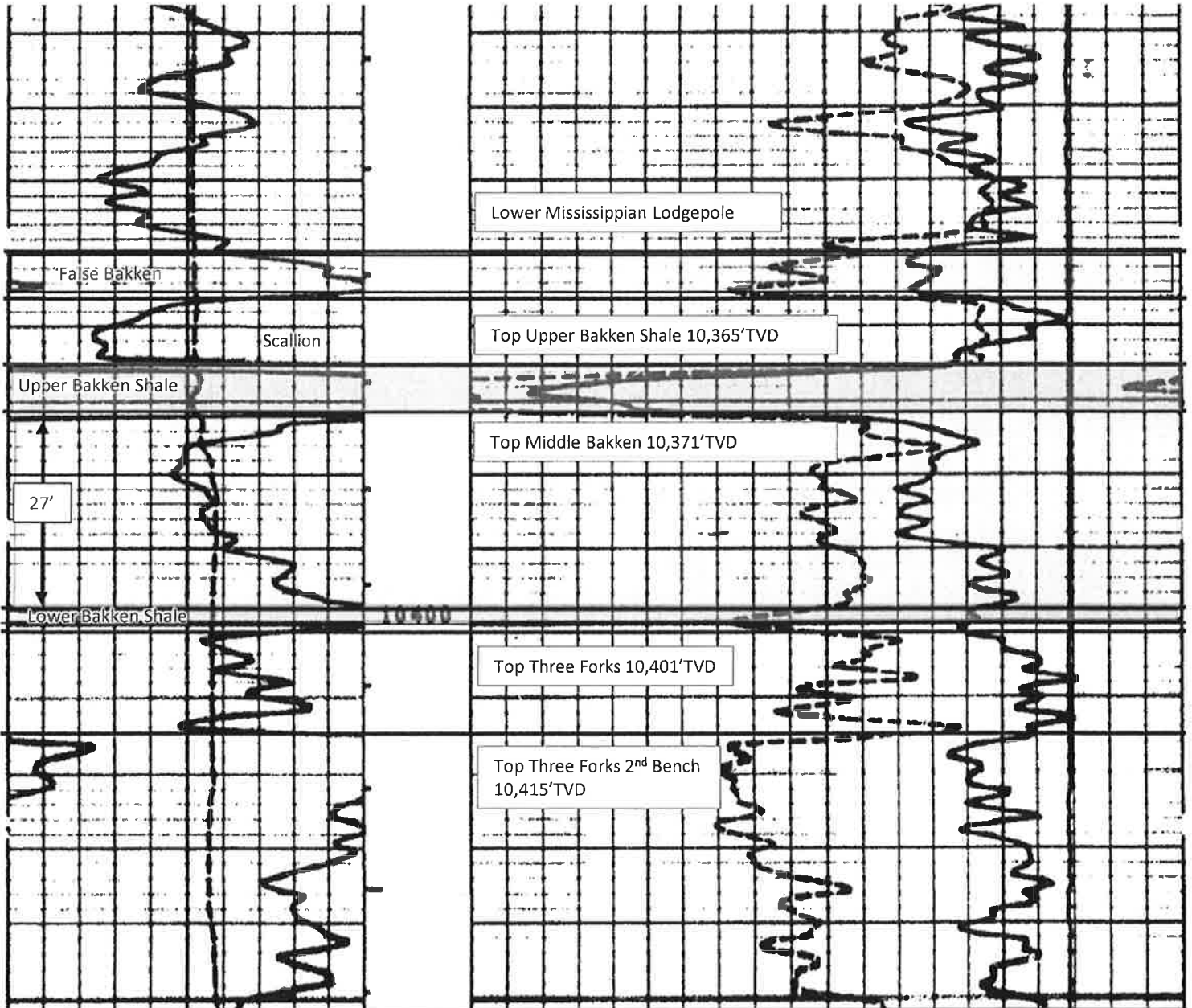
GL: 2,607' KB: 2,629'

TD: 12,530'



CALIXIN >		TENS(LB >	
16.00	26.00	10000.	0.0
CALIXIN >		DPHIC > Limestone	
6.000	16.00	0.3000	-0.100
GR (GAPI)		NPHIC > Limestone	
0.0	100.0	0.3000	-0.100

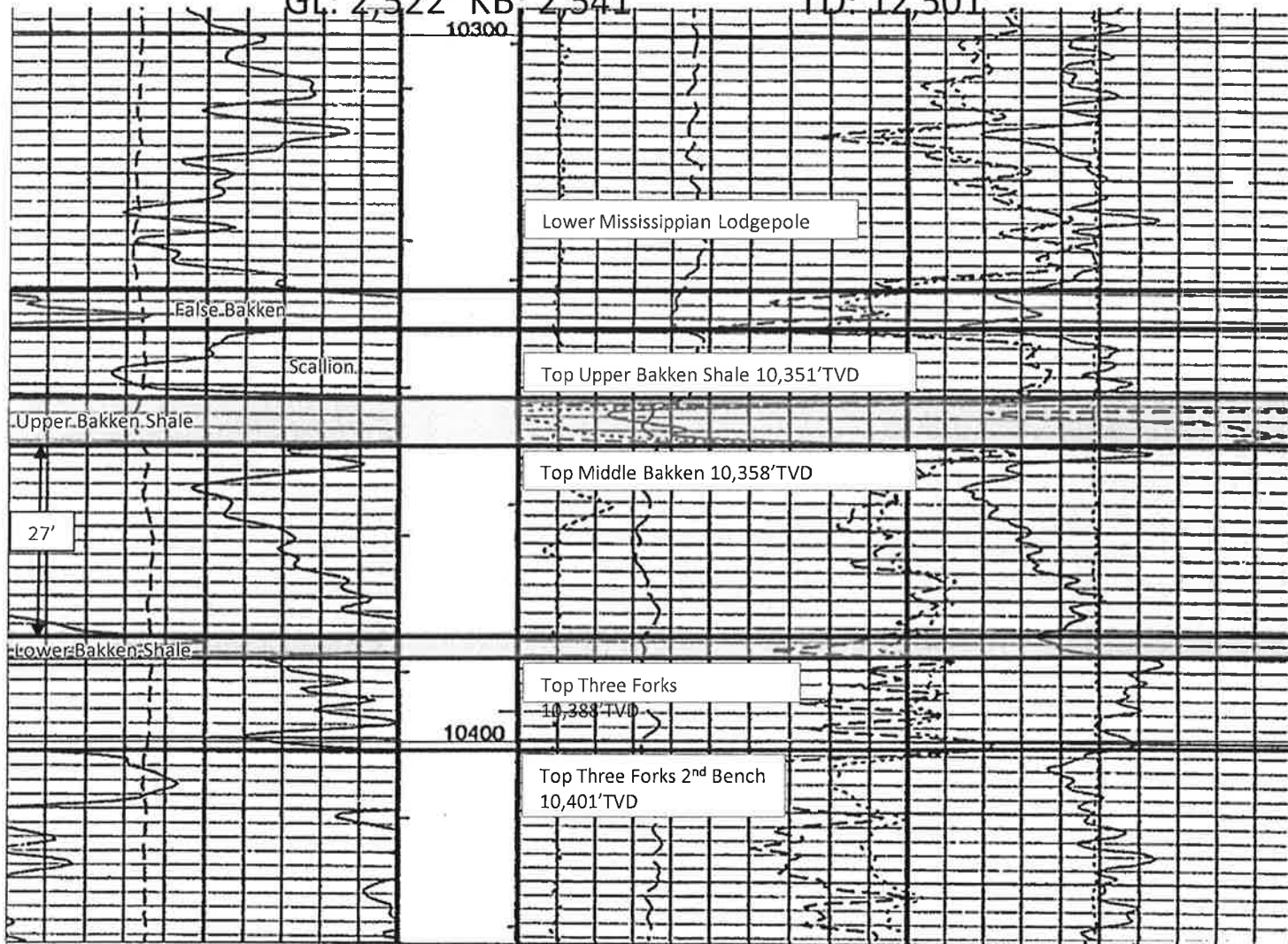
Type Log
Apache: Hill 1
Richland County, MT NWSE Section 28-T24N-R56E
 GL: 2,545' KB: 2,557' TD: 13,550'



CALICIM >		TENS(LB >	
16.00	26.00	10000.	0.0
CALICIM >		DPHC > LIMESTONE	
6.000	16.00	0.3000	-0.100
GR (GAPI)		DPHC > LIMESTONE	
0.0	100.0	0.3000	-0.100

Type Log
Enerplus: RR Olive Jack 27-15
Richland County, MT SWSE Section 27-T24N-R56E

GL: 2,522' KB: 2,541' TD: 12,501'



MAIN PASS: POROSITY STND RES 6 INCH SCALE LIMESTONE MATRIX = 2.71 G/CC

Gamma Ray (GR) (GAPI)		100	Stuck Stretch (STIT)	Std. Res. Density Porosity (DPHZ)	
			0 (F) 50	0.3	(V/V) -0.1
HILT Calliper (HCAL) (IN)		16	Cable Drag From STIA to STIT	Density Correction (HDRA) (G/C3)	Tension (TENS) (LBF)
				0.05	0.45 10000 0
			Tool/Tot. Drag From D3T to STIA	Alpha Processed Neutron Porosity (NPOR)	
				0.3	(V/V) -0.1
				Std. Res. Formation Pe (PEFZ)	
				0	(---) 10
Hilt Porosity CrossPlot (PXND_HILT)					

XTO ENERGY GAS FLOOD PILOT Application
Docket # ____-2018 April 19, 2018
Exhibit 1 Letter Requesting Conversion of Producing Well to GIW

March 14, 2018

Montana Board of Oil & Gas Conservation
2635 St Johns Avenue
Billings, Montana 59102

Attn: Mr. George Hudak
UIC Coordinator

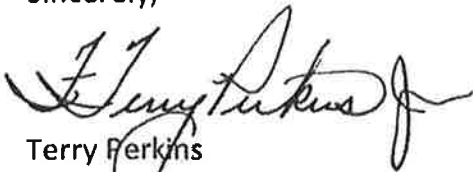
RE: Request for Underground Conversion and Subsequent Injection Permit
Donna 31X-15BXC (API #25-083-22876-01-00)
T24N-R56E: Section 15 NW/4 NE/4

Dear Mr. Hudak:

Enclosed is an Underground Injection Control Application by XTO Energy requesting the granting of authority to convert Donna 31X-15BXC initially to a cyclic gas injection well with periods of injection and production followed by continuous gas injection. XTO Energy is requesting that the application be placed on the docket for the MBOGC April 19, 2019 hearing.

If you have any questions regarding this application, please contact Mary Flynn (Team Lead-Reservoir Engineer) at 817-885-2866 or Kyle Thorson (Operations Engineer) at 701-334-2890.

Sincerely,



Terry Perkins
Sr. Vice President
Reservoir Engineering

Submit In Quadruplicate To:
MONTANA BOARD OF OIL AND GAS CONSERVATION
2535 ST. JOHNS AVENUE
BILLINGS, MONTANA 59102

SUNDRY NOTICES AND REPORT OF WELLS

Operator **XTO ENERGY INC**
Address **600 E EXCHANGE AVE**
City **FORT WORTH** State **TX** Zip Code **76164**
Telephone **(817) 378-5340** Fax **(817) 977-6979**

Lease Name:
DONNA
Type (Private/State/Federal/Tribal/Allotted):
PRIVATE
Well Number:
31X-15BXC

Location of well (1/4-1/4 section and footage measurements):
SHL- 304 FNL, 2200 FEL (NW1/4, NE1/4)

Unit Agreement Name:

Field Name or Wildcat:

Township, Range, and Section:
T24N, R56E, SECTION 15

API Number:
25 | 083 | 22876
State County Well

Well Type (oil, gas, injection, other):
OIL

County:
RICHLAND

Indicate below with an X the nature of this notice, report, or other data:

- Notice of Intention to Change Plans
- Notice of Intention to Run Mechanical Integrity Test
- Notice of Intention to Stimulate or to Chemically Treat
- Notice of Intention to Perforate or to Cement
- Notice of Intention to Abandon Well
- Notice of Intention to Pull or Alter Casing
- Notice of Intention to Change Well Status
- Supplemental Well History
- Other (specify) **INTENT TO CONVERT INTO INJECTION**
- WELL FOR PILOT ENHANCED RECOVERY PROJECT**

- Subsequent Report of Mechanical Integrity Test
- Subsequent Report of Stimulation or Treatment
- Subsequent Report of Perforation or Cementing
- Subsequent Report of Well Abandonment
- Subsequent Report of Pulled or Altered Casing
- Subsequent Report of Drilling Waste Disposal
- Subsequent Report of Production Waste Disposal
- Subsequent Report of Change in Well Status
- Subsequent Report of Gas Analysis (ARM 36.22.1222)

Describe Proposed or Completed Operations:

Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.

Please find enclosed the UIC application by XTO Energy Inc. requesting the granting of authority to convert the Donna 31X-15BXC into an injection well for a Pilot Enhanced Recovery Project.

BOARD USE ONLY	
Approved _____	Date _____
Name _____	Title _____

The undersigned hereby certifies that the information contained on this application is true and correct:

3.14.18 Date
F. Terry Perkins, Jr. Signed (Agent)
F. Terry Perkins, Jr. Print Name and Title
Telephone: **(817) 885-2360**