DATE IN 10.20.11	SUSPENSE 11/5/11	ENGINEER WVJ	LOGGED IN 10.20.11	TYPE SWD	APP NO. pTGW 1129350193

ABOVE THIS LINE FOR DIVISION USE ONLY

(202-A)

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505

XTO

Holiday SWD #1

30-045-35231

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

I-02-25N 10W

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

SWD 1772-A San Juan

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☒ SWD ☐ IPI ☐ EOR ☐ PPR

~~2347' - 7538'~~

[D] Other: Specify _____

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

~~1400 FSL~~

[B] ☒ Offset Operators, Leaseholders or Surface Owner

[C] ☒ Application is One Which Requires Published Legal Notice

[D] ☒ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☒ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

William Lucas		Production Engineer	10-17-11
Print or Type Name	Signature	Title	Date

William_lucas@xtoenergy.com

e-mail Address

382 Road 3100 Aztec, New Mexico 87410
Phone: (505) 333-3100 FAX: (505) 333-3280

October 17, 2011

State of New Mexico
Oil Conservation Division
Mr. William Jones
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

SWD 1272-A

RECEIVED OCD
2011 OCT 19 P 2:15

Re: Salt Water Disposal Application
Holiday SWD No. 1 Well
Section 22, Township 25 North, Range 10 West, NMPM
San Juan County, New Mexico

Dear Mr. Jones:

XTO Energy Inc. is requesting approval to add additional Morrison perforations from 6,480' to 6,810' and Bluff perforations from 7,010 to 7,210'. The additional perforations will significantly increase the daily disposal capacity of this well. XTO Energy Inc. was previously authorized to inject from 7,347' to 7,538', as per Administrative Order SWD-1272, dated April 7, 2011. Enclosed please find one original and one copy of the complete Salt Water Disposal Application. A copy has been furnished to the Aztec OCD Office and the Farmington BLM Office.

The surface where this well is located is BLM and the lease number is NMNM-0120923.

Information from the State Engineer's Office in Aztec indicates there is one shallow fresh water well within one half mile of the Holiday SWD No. 1 location. A report from Multichem stating the well is producing no water is enclosed.

Should you require further documentation please feel free to call my office @ 505-333-3100 or e-mail malia_villers@xtoenergy.com and I will be happy to furnish any additional information.

Mr. William Lucas is the engineer in charge should you need clarification of engineering data and is available at the number listed above.

Sincerely,

Malia Villers

Malia Villers
Permitting Tech.

CC: Aztec OCD
BLM – Farmington

List of Exhibits to Application for Authorization to Inject C-108:

Exhibit "A" Leases within ½ mile radius
Exhibit "B" Wells within ½ mile radius
Exhibit "C" Fresh water well
Exhibit "D" Water analysis for XTO operated wells
Exhibit "E" Water analysis of Dakota formation
Exhibit "F" Proof of notification
Exhibit "G" Affidavit of publication

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery _____Pressure Maintenance __X__Disposal _____Storage
Application qualifies for administrative approval? _____Yes _____No

II. OPERATOR: XTO Energy Inc.

ADDRESS: 382 CR 3100, Aztec NM 87401

CONTACT PARTY: William Lucas PHONE: (505) 333-3100

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? __X__Yes _____No
If yes, give the Division order number authorizing the project: SWD-1272

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).

*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: William Lucas TITLE: Production Engineer

SIGNATURE: Wm. T DATE: 10/7/11

E-MAIL ADDRESS: William_Lucas@xtoenergy.com

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;

(3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

Side 1

INJECTION WELL DATA SHEET

OPERATOR: XTO Energy Inc.

WELL NAME & NUMBER: Holiday SWD #1

WELL LOCATION: 2257' FSL x 1038' FEL | I | 22 | 25N | 10W

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 14.75" Casing Size: 10.75"

Cemented with: 500 sx. *or* _____ ft³

Top of Cement: _____ Method Determined: _____

Intermediate Casing

Hole Size: 9.5" Casing Size: 7.625"

Cemented with: 300 sx. *or* _____ ft³

Top of Cement: _____ Method Determined: _____

Production Casing

Hole Size: 6.75" Casing Size: 5.5"

Cemented with: 500 sx. *or* _____ ft³

Top of Cement: _____ Method Determined: _____

Total Depth: ≈ 7,670'

Injection Interval

APPROX. 6,470' feet to APPROX. 7,520'

(Perforated or Open Hole; indicate which)

6480 - 90 cals = Fresh water interval
EXCLUDE That interval
Per 11/14/11 request FROM XTO

INJECTION WELL DATA SHEET

Tubing Size: 2-7/8", 6.5#, N80 Lining Material: Plastic

Type of Packer: Baker Model D or its equivalent

Packer Setting Depth: 6,350

Other Type of Tubing/Casing Seal (if applicable): _____

Additional Data

1. Is this a new well drilled for injection? X Yes _____ No

   If no, for what purpose was the well originally drilled? _____

2. Name of the Injection Formation: SWD: MORRISON BLUFF ENTRADA

3. Name of Field or Pool (if applicable): _____

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. No

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: Overlying: Fruitland Coal 1155' - 1627', Lower Fruitland Coal 1627' - 1642', Pictured Cliffs Sandstone 1642' - 1971', Chacra Sandstone 2456' - 3175', Mesa Verde 3175' - 4356', Mancos Shale 4356' - 5011', Gallup Sandstone 5011' - 6059', Dakota 6157' - 6453'

HOLIDAY SWD #1

PROPOSED SALT WATER DISPOSAL WELL

ADDITION OF MORRISON AND BLUFF PERFORATIONS

Sec. 22 T25N - R10W NMPM

SAN JUAN COUNTY, NEW MEXICO

XTO ENERGY INC.
OPERATIONS PLAN
HOLIDAY SWD #1

I. Location: Section 22, Township 25 North, Range 10 West, NMPM
2257' FSL and 1038' FEL
San Juan County, NM

Field: SWD; Morrison Bluff Entrada
Surface: Federal – XTO Energy, Inc.
Minerals: Federal NMNM-0120923

II. Geology:

Formation Tops	Depth
Ojo Alamo Sandstone	773'
Kirtland Shale	996'
Fruitland Formation	1,250'
Pictured Cliffs Sandstone	1,666'
Huerfanito Bentonite	2,001'
Chacra Sandstone	2,477'
Cliffhouse Sandstone	3,200'
Menefee Formation	3,223'
Point Lookout Sandstone	4,139'
Mancos Shale	4,371'
Gallup Sandstone	4,964'
Greenhorn Limestone	6,071'
Graneros Shale	6,129'
Dakota Sandstone	6,166'
Morrison Formation	6,414'
Bluff Formation	7,015'
Wanakah Formation	7,193'
Entrada Sandstone	7,347'
Chinle Group	7,538'
Estimated Total Depth	7,670'

A. Logging Program: Array Induction/SFL/GR/SP were run from TD 7,670' to bottom of intermediate casing. Neutron/Lithodensity/Pe/GR/Cal were run from TD 7,670' to bottom if intermediate casing. Copies were provided to the NMOCD.

III. Surface Csg: 10-3/4" 40.5#, J-55 ST&C csg @ 528', hole cemented with 500 sx with CL G cmt. Circ 50 bbls cmt to surf.

Intermediate Csg: 7-5/8" 26.4#, N-80 LT&C csg @ 1,787', hole cemented with 200 sx CL HLC cement, f/b 100 sx Type V cement. Circ 17 bbls cmt to surf.

Production Csg: 5-1/2" 15.5#, K-55 csg @ 7,655'. Cmt'd w/180 sx light cmt (12.5 ppg& 1.84 cuft/sx), f/b 220 sx light cmt (12.5 ppg & 1.81 cuft/sx). Tailed by 100 sx 50/50 Poz cmt (13.5 ppg & 1.29 cuft/sx). No cmt circ to surf.

IV. Proposed Stimulation: Perforate as follows: Morrison ~ 6,480' – 6,810', Bluff ~ 7,010' x 7,210', Entrada ~ 7,320' 7,510'

V. Operations:

Average Daily Rate:	2,200 bwpd
Maximum Daily Rate:	2,500 bwpd
System is closed:	
Average Injection Pressure:	1,300 psi
Maximum Injection Pressure:	2,000 psi

Tubing: 2-7/8" 6.5#, N=80 internal plastic lined injection string set @ ±7,250'.

The final perforated interval will span from 6,470' – 7,520'.

Source of water to be injected is from Fruitland Coal and Dakota wells in the area. Representative samples of this water are included in this report.

A water sample from the Dakota taken from the Irish #1 well, located in the NE/4 NW/4 of Section 22, Township 25 North, Range 10 West, is also included in this report.

Geological data from the disposal zone is presented in Administrative Order SWD-1272.

According to the records in the Office of the State Engineer, The U.S. Department of the Interior is the owner of a fresh water well, which is included in this report. It is ±937' from the disposal well and was drilled in 1964 to a depth of 637'. The water depth was shown to be 250'. No water was indicated by Multichem.

Examination of available geologic and engineering data reveals no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.

Downhole Well Bore Diagram

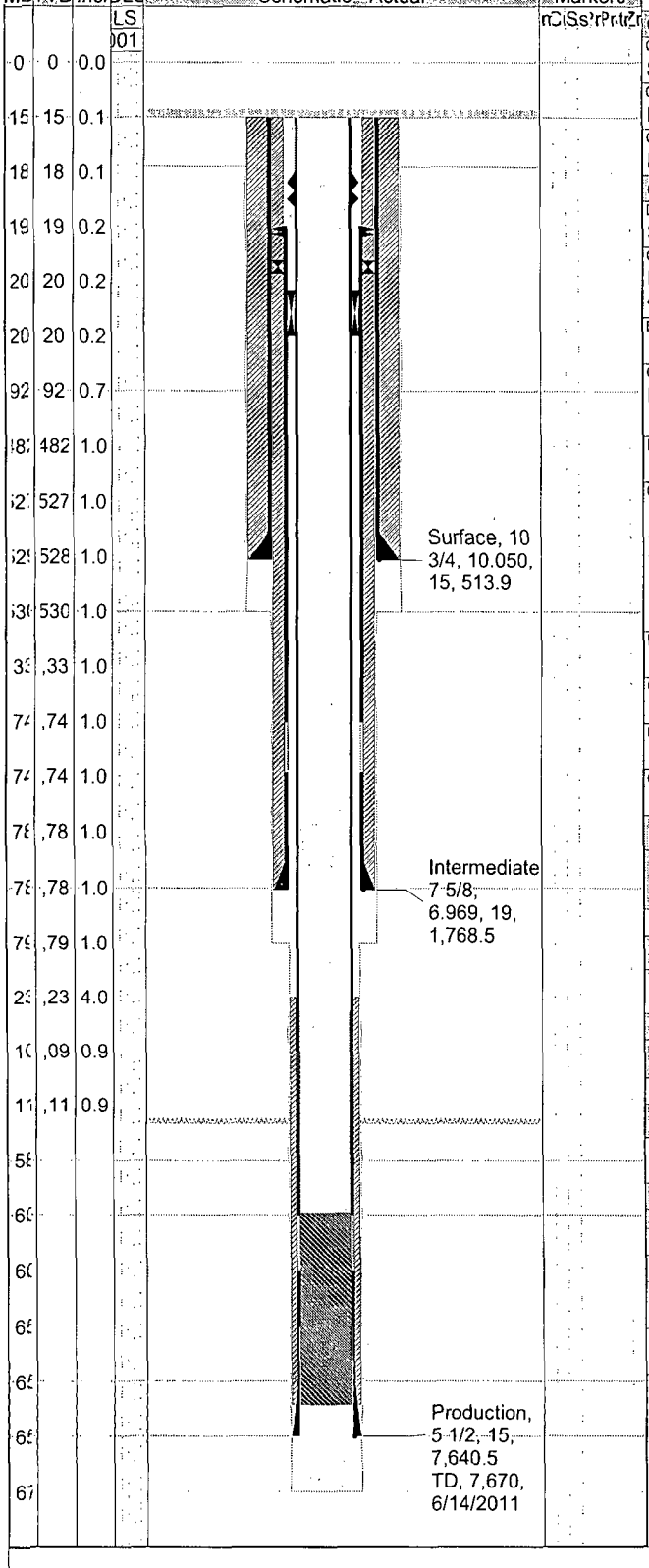
Current

Well Name: Holiday SWD 01

API/UWI	E/W Dist (ft)	E/W Ref	N/S Dist (ft)	N/S Ref	Location	Field Name	County	State
30045352310000	1,038.0	FEL	2,257.0	FSL	T25N-R10W-S22	Ignacio Blanco Entrada	San Juan	New Mexico

Well Configuration Type	XTO ID B	Orig KB Elev (ft)	Gr Elev (ft)	KB-Grd (ft)	Spud Date	PBTD (All) (ftKB)	Total Depth (ftKB)	Method Of Production
Vertical	703893	6,606.70	6,592.00	14.70	5/24/2011		7,670.0	

Well Config: Vertical - Original Hole, 10/27/2011 9:53:50 AM



Producing Zones

Zone	Top (ftKB)	Btm (ftKB)

Casing Strings

Casing Description	OD (in)	Wt (lbs/ft)	String Grade	Top Connection	Set Depth (ftK...
Surface	10 3/4	40.50	J-55	ST&C	528.6
Intermediate	7 5/8	26.40	N-80	LT&C	1,787.2
Production	5 1/2	15.50	J-55		7,655.2

Cement

Description	Type	String
Surface Casing Cement	casing	Surface, 528.6ftKB

Comment: Mixed & Pumped 500 sks of Type G Surface Blend Cement mixed @ 15.8#, 1.17 Yld, 4.99 GPS H2O, w/50 bbls of Good Cmt Returned to Surface.

Description	Type	String
Intermediate Casing Cement	casing	Intermediate, 1,787.2ftKB

Comment: Lead 200 sks Mixed @ 12.3#, Yld 1.93, Gps 9.81, 68.7 bbls Mixed, Tail 100 sks Mixed @ 15.6#, Yld 1.16, Gps 5.27, 21 bbls Mixed, w/17 bbls of Good Cmt to Surface,

Description	Type	String
Production Casing Cement	casing	Production, 7,655.2ftKB

Comment: EIR dwn 5-1/2" J-55, 15.5 csg @ 2 BPM w/5 BFW. Ppd Lead 180 sks cmt (mixed @ 12.5 & 1.84 ft/sx yeild, 331.19 cu/ft) @ 5 BPM & 1,330 psig, 220 sks cmt (mixed @ 12.5 & 1.81 ft/sx yeild, 259.59 cu/ft) @ 5 BPM & 1,519 psig. Tailed by 100 sks cmt (mixed @ 13.5 & 1.29 ft/sx yeild, 128.99 cu/ft) @ 1 BPM & 991 psig. After swapping to Tail cmt, the tub powdered off. Lost all density.

Description	Type	String
Cement Plug	plug	Production, 7,655.2ftKB

Comment:

Description	Type	String
Cement Plug	plug	Production, 7,655.2ftKB

Comment:

Perforations

Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Hole Diameter (in)	Phasing (°)	Zone

Tubing Strings

Tubing Description	Run Date	Set Depth (ftKB)

Tubing Components

Item Description	Jts	Model	OD (in)	Wt (lbs/...	Gra...	Top Thread	Len (ft)	Top (ftKB)	Btm (ftKB)

Rods

Rod Description	Run Date	String Length (ft)	Set Depth (ftKB)

Rod Components

Item Description	Jts	Model	OD (in)	Grade	Len (ft)	Top (ftKB)	Btm (ftKB)

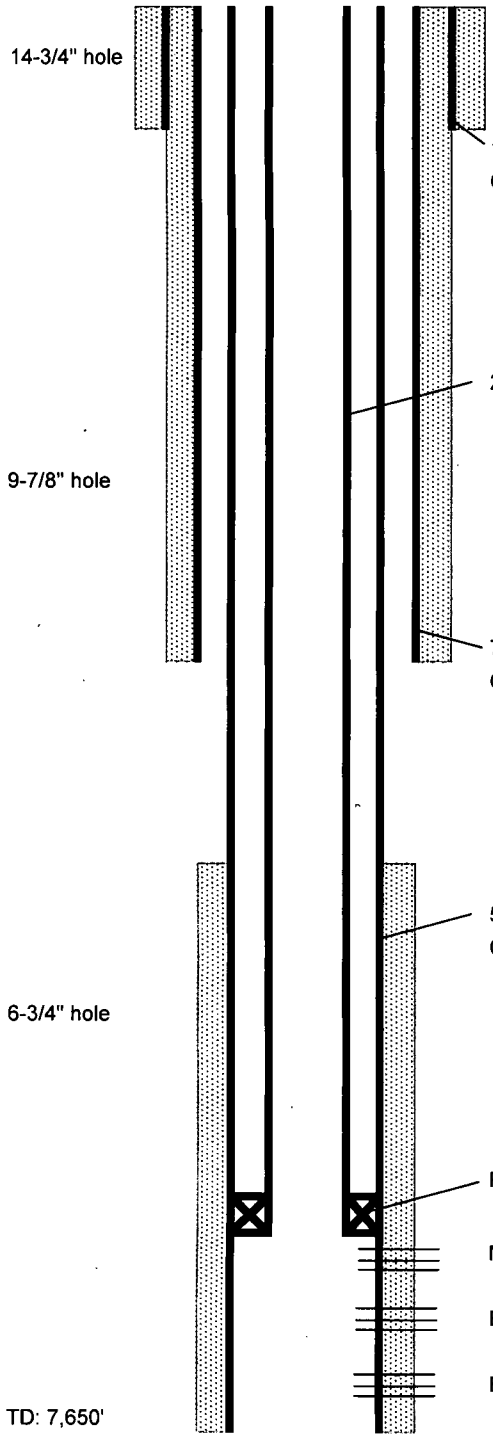
Stimulations & Treatments

Frac Start D...	Top Perf (...	Bottom Pe...	V (slurry) ...	Total Add ...	15 Min (psi)	ISIP (psi)	AIR (bbl/...	ATP (psi)

Comment:

Holiday SWD # 1
2,257' FSL 1,038' FEL
Sec 22, T25N, R10W

San Juan, NM



10-3/4", 40.5#, ST&C, J-55 casing at 500', cmt to surface
Cement: 500 sx Class G mixed at 15.8 ppg, 1.17 cuft/sx

2-7/8", 6.5#, N-80 internal plastic lined injection tubing

7-5/8", 26.4#, ST&C J-55 casing at 1,750', cmt to surface
Cement: Lead with 200 sx Class HLC mixed at 12.3 ppg, 1.93 cuft/sx
Tail with 100 sx Type V mixed at 15.6 ppg, 1.16 cuft/sx

5-1/2" 15.5#, ST&C J-55 casing at 7,655'.
Cement: Lead with 180 sx Lite mixed at 12.5 ppg, 1.84 cuft/sx
Followed by 220 sx Lite cmt mixed at 12.5 ppg, 1.81 cuft/sx
Tail with 100 sx 50/50 poz mixed at 13.5 ppg, 1.29 cuft/sx

Packer at ~6,350'

Morrison Perfs: ~6,480'-6,810'

Bluff Perfs: ~7,010'-7,210'

Entrada perfs: ~7,320'-7,510'

Tops:	
Morrison	6,414'
Bluff	7,015'
Entrada	7,347'
Btm of Entrada	7,538'

EXHIBIT "A"

MAP IDENTIFYING ALL LEASES WITHIN

1/2 MILE

XTO ENERGY INC.

HOLIDAY SWD #1

SE/4 Sec. 22 T25N - R10W

SAN JUAN COUNTY, NEW MEXICO

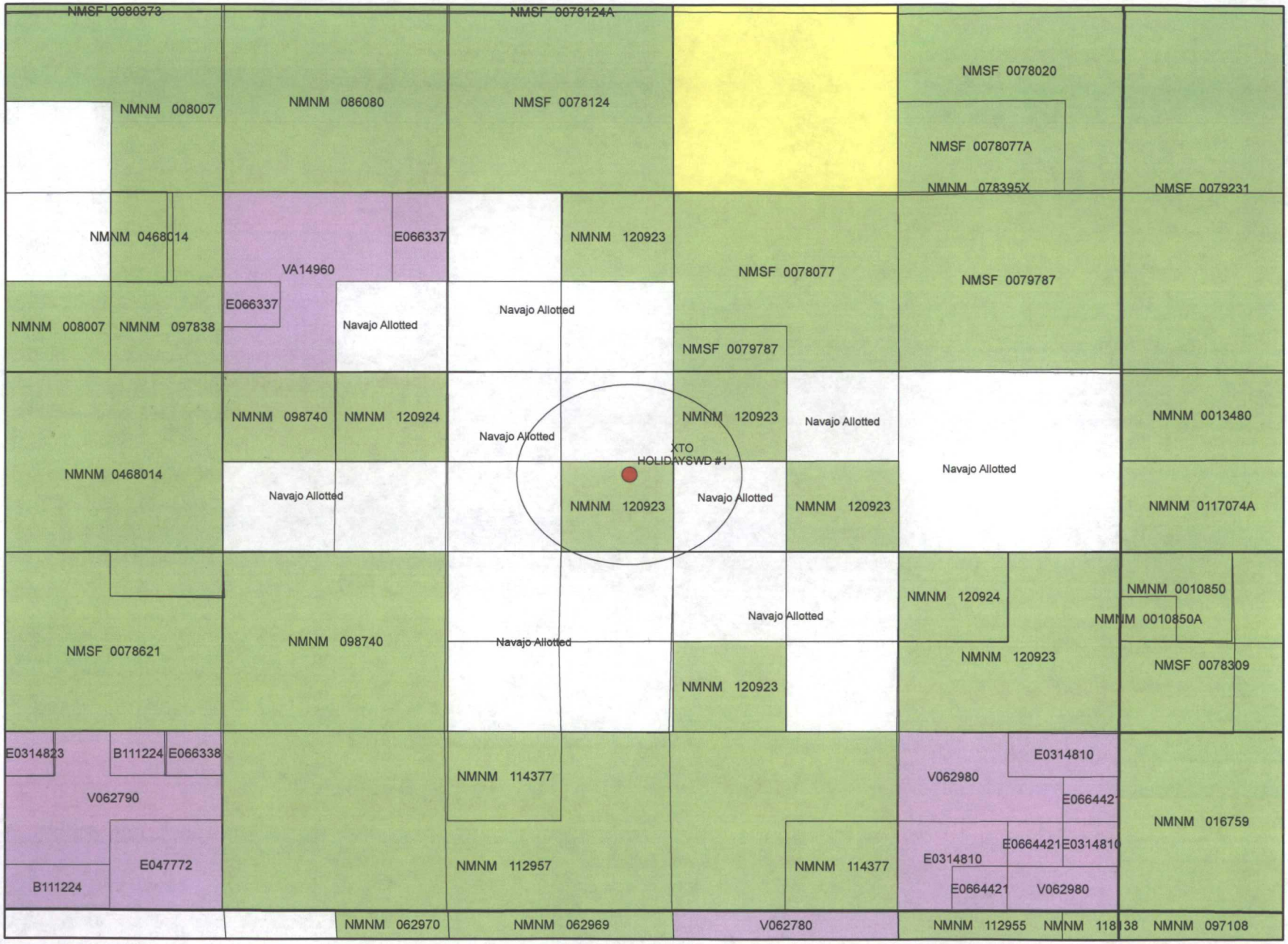

NMSF 0080373
NMNM 008007
NMNM 086080
NMSF 0078124A
NMSF 0078124
NMSF 0078020
NMSF 0078077A
NMNM 078395X
NMSF 0079231
NMNM 0468014
E066337
VA14960
NMNM 120923
NMSF 0078077
NMSF 0079787
NMNM 008007
NMNM 097838
E066337
Navajo Allotted
Navajo Allotted
NMSF 0079787
NMNM 0468014
NMNM 098740
NMNM 120924
Navajo Allotted
XTO
HOLIDAYSWD #1
NMNM 120923
Navajo Allotted
NMNM 0013480
Navajo Allotted
NMNM 120923
Navajo Allotted
NMNM 120923
NMNM 0117074A
NMSF 0078621
NMNM 098740
Navajo Allotted
Navajo Allotted
NMNM 120923
NMNM 120924
NMNM 0010850
NMNM 0010850A
NMNM 120923
NMSF 0078309
E0314823
B111224
E066338
V062790
E047772
B111224
NMNM 114377
NMNM 112957
NMNM 114377
V062980
E0314810
E066442
E0664421
E0314810
E0314810
E0664421
V062980
NMNM 016759
NMNM 062970
NMNM 062969
V062780
NMNM 112955
NMNM 118138
NMNM 097108

EXHIBIT "B"

MAP IDENTIFYING ALL WELLS WITHIN

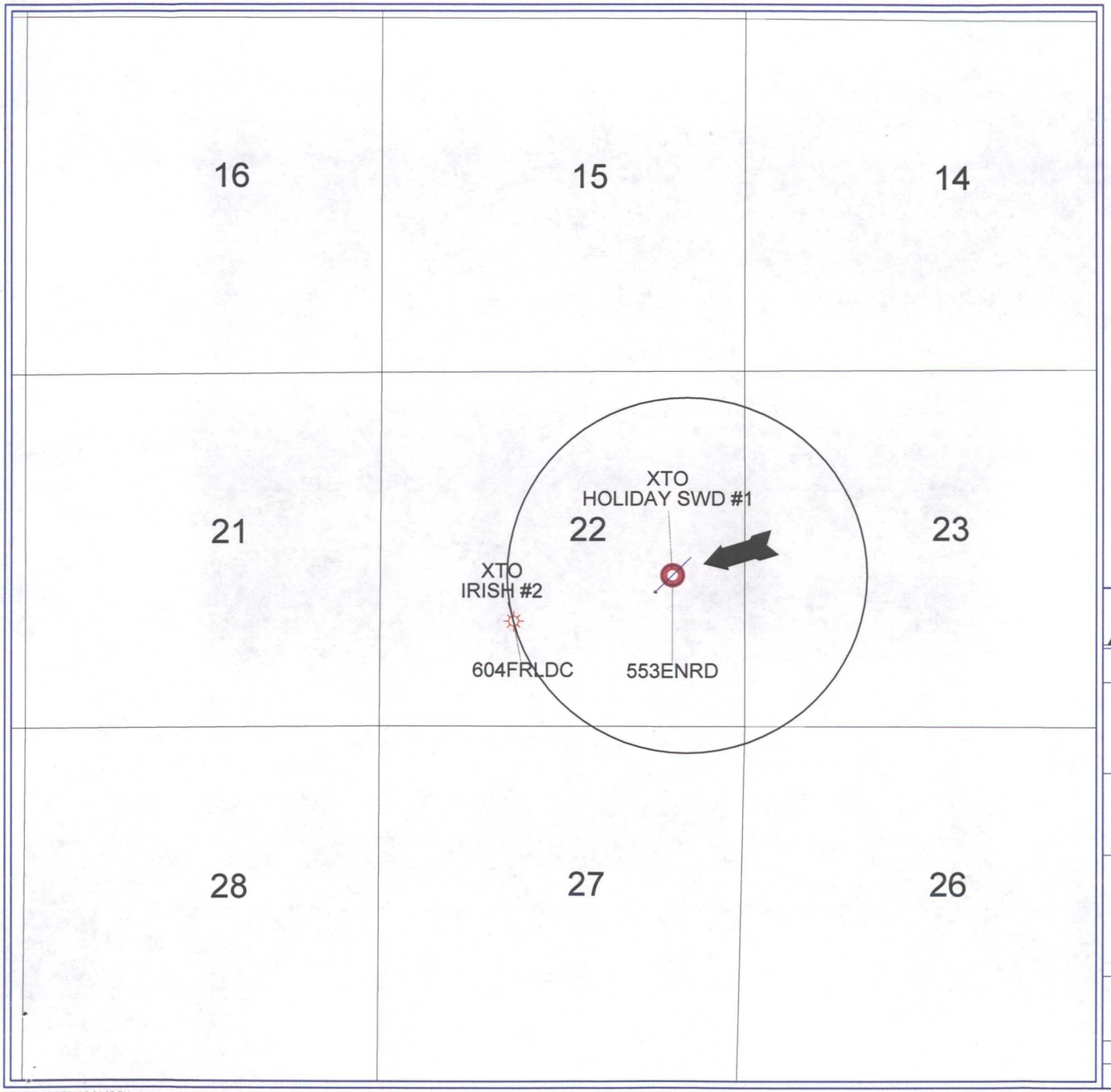
1/2 MILE

XTO ENERGY INC.

HOLIDAY SWD #1

SE/4 Sec. 22 T25N - R10W

SAN JUAN COUNTY, NEW MEXICO



XTO ENERGY INC.

HOLIDAY SWD - 1/2 Mile Radius

Surrounding MRSN / ENRD Wells

SEC. 22: T25N-R10W

SAN JUAN COUNTY, NM

0 2,027 4,054

FEET

POSTED WELL DATA

Operator
Well Label

ProdFM

WELL SYMBOLS

Gas Well

Injection Well

By: vl

September 12, 2011

PETRA 9/12/2011 2:24:05 PM

EXHIBIT "C"

FRESH WATER WELL

XTO ENERGY INC.

HOLIDAY SWD #1

SE/4 Sec. 22 T25N - R10W

SAN JUAN COUNTY, NEW MEXICO

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

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	Sub basin	Use	County	Q 64	Q 16	Q 4	Sec	Twp	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 01715		STK	SJ	4	4		22	25N	10W	241895	4030074*	637	250	387

Average Depth to Water: **250 feet**

Minimum Depth: **250 feet**

Maximum Depth: **250 feet**

Record Count: 1

PLSS Search:

Section(s): 22 Township: 25N Range: 10W

***UTM location was derived from PLSS - see Help**

CUSTOMER SERVICE REPORT

MULTI-CHEM
PRODUCTION CHEMICALS
A Division of Multi-Chem Group, LLC

COMPANY:	DATE:	START TIME:	END TIME:	TOTAL TIME:
XTO Energy	8/9/2010			
LOCATION / WELL:	**BY:**		**PAGE:**	**OF:**
Holiday Lease				

ATTN:

COPIES TO:

REASON FOR CALL:
Water analysis

FINDINGS:

Multi-Chem personnel was asked to collect a water sample on a water well Southeast fo the Irish #2 production well. The well was dry and there was not water in the tank. Thanks and let me know if you need anything else.

RECOMMENDATIONS:

Travis Pitcock

SIGNED:

EXHIBIT "D"

WATER ANALYSIS FOR

XTO OPERATED WELLS

XTO ENERGY INC.

HOLIDAY SWD #1

SE/4 Sec. 22 T25N - R10W

SAN JUAN COUNTY, NEW MEXICO

Multi-Chem Group, LLC
lti-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

multi-chem®

Water Analysis Report

Production Company: **XTO ENERGY (154)**
Well Name: **Arbor 21 H**
Sample Point: **Well Head**
Sample Date: **3 /4 /2010**
Sales Rep: **Travis Pitcock**
Lab Tech: **John Keel**

Sample ID: **WA-38310**

Formation Tested: Fruitland Coal

Sample Specifics

Test Date:	3/4/2010
Temperature (°F):	62
Sample Pressure (psig):	0
Specific Gravity (g/cm³):	1.0210
pH:	7.1
Turbidity (NTU):	-
Calculated T.D.S. (mg/L)	28896
Molar Conductivity (µS/cm):	43782
sitivity (Mohm):	0.2284

Analysis @ Properties in Sample Specifics

Cations	mg/L	Anions	mg/L
Calcium (Ca):	240.00	Chloride (Cl):	17000.00
Magnesium (Mg):	48.80	Sulfate (SO_4):	9.00
Barium (Ba):	9.00	Dissolved CO_2:	20.40
Strontium (Sr):	-	Bicarbonate (HCO_3):	823.50
Sodium (Na):	10731.00	Carbonate (CO_3):	-
Potassium (K):	-	H_2S:	1.00
Iron (Fe):	13.06	Phosphate (PO_4):	-
Manganese (Mn):	0.34	Silica (SiO_2):	-
Lithium (Li):	-	Fluoride (F):	-
Aluminum (Al):	-	Nitrate (NO_3):	-
Ammonia NH_3	-	Lead (Pb):	-
		Zinc (Zn):	-
		Bromine (Br):	-
		Boron (B):	-

Scale Values @ Test Conditions - Potential Amount of Scale in lb/1000bbl

Test Conditions		Calcium Carbonate $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Calcium Sulfate $CaSO_4$		Strontium Sulfate $SrSO_4$		Barium Sulfate $BaSO_4$		Calculated CO_2
Temp °F	Gauge Press. psi	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	psi
62	*0*	*1.06*	*0.08*	*0.00*	*-2951.10*	*0.00*	*-3509.20*	-	-	*1.86*	*4.39*	*1.46*
80	0	1.53	0.63	0.00	-3.96	0.00	-3458.10	-	-	1.23	1.58	0.68
100	0	2.10	1.18	0.00	-2.24	0.00	-3260.30	-	-	0.79	-2.02	0.85
120	0	2.71	1.65	0.00	-1.02	0.00	-2957.00	-	-	0.52	-6.18	0.95
140	0	3.36	2.10	0.00	-0.10	0.00	-2593.30	-	-	0.35	-10.98	1.07
160	0	4.01	2.53	0.00	0.62	0.00	-2208.00	-	-	0.24	-16.48	1.21
180	0	4.63	2.92	0.00	1.17	0.00	-1830.70	-	-	0.17	-22.78	1.33
200	0	5.17	3.24	0.00	1.59	0.00	-1481.10	-	-	0.12	-29.99	1.35
220	2.51	5.52	3.53	0.00	1.90	0.00	-1189.40	-	-	0.08	-38.93	1.36
240	10.3	5.79	3.70	0.00	2.09	0.00	-920.10	-	-	0.06	-48.61	1.38
260	20.76	5.90	3.76	0.00	2.18	0.01	-694.09	-	-	0.04	-59.71	1.41
280	34.54	5.85	3.72	0.00	2.17	0.01	-509.23	-	-	0.03	-72.46	1.44
300	52.34	5.66	3.59	0.00	2.09	0.02	-362.05	-	-	0.02	-87.15	1.46

Conclusions:

Calcium Carbonate scale is indicated at all temperatures from 80°F to 300°F
Gypsum Scaling Index is negative from 80°F to 300°F
Calcium Sulfate Scaling Index is negative from 80°F to 300°F
Strontium Sulfate scaling was not evaluated
n Sulfate NO CONCLUSION

Notes:

Multi-Chem Group, LLC
Multi-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

multi-chem®

Water Analysis Report

Production Company: **XTO ENERGY (154)**
Well Name: **Boxer 21 H**
Sample Point: **Well Head**
Sample Date: **3 /25/2010**
Sales Rep: **Travis Pitcock**
Lab Tech: **John Keel**

Sample ID: **WA-39674**

Formation Tested : Fruitland coal

Sample Specifics

Test Date:	**4/16/2010**
Temperature (°F):	**62**
Sample Pressure (psig):	**0**
Specific Gravity (g/cm³):	**1.0140**
pH:	**7.2**
Turbidity (NTU):	**-**
Calculated T.D.S. (mg/L)	**23775**
Molar Conductivity (µS/cm):	**36023**
itivity (Mohm):	**0.2776**

Analysis @ Properties in Sample Specifics

Cations	*mg/L*	*Anions*	*mg/L*
Calcium (Ca):	**160.00**	Chloride (Cl):	**14000.00**
Magnesium (Mg):	**24.40**	Sulfate (SO_4):	**104.00**
Barium (Ba):	**12.00**	Dissolved CO_2:	**11.88**
Strontium (Sr):	-	Bicarbonate (HCO_3):	**500.20**
Sodium (Na):	**8935.00**	Carbonate (CO_3):	-
Potassium (K):	-	H_2S:	-
Iron (Fe):	**27.31**	Phosphate (PO_4):	-
Manganese (Mn):	**0.64**	Silica (SiO_2):	-
Lithium (Li):	-	Fluoride (F):	-
Aluminum (Al):	-	Nitrate (NO_3):	-
Ammonia NH_3:	-	Lead (Pb):	-
		Zinc (Zn):	-
		Bromine (Br):	-
		Boron (B):	-

Scale Values @ Test Conditions - Potential Amount of Scale in lb/1000bbl

Test Conditions		Calcium Carbonate $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Calcium Sulfate $CaSO_4$		Strontium Sulfate $SrSO_4$		Barium Sulfate $BaSO_4$		Calculated CO_2
Temp °F	Gauge Press. psi	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	psi
62	*0*	*0.60*	*-0.73*	*0.01*	*-2819.30*	*0.00*	*-3355.00*	-	-	*34.23*	***19.74***	*0.73*
80	0	0.87	-0.20	0.01	-8.20	0.00	-3302.40	-	-	22.66	**19.40**	0.34
100	0	1.22	**0.31**	0.01	-5.66	0.01	-3109.70	-	-	14.65	**18.86**	0.43
120	0	1.58	**0.75**	0.01	-3.86	0.01	-2816.90	-	-	9.69	**18.08**	0.48
140	0	1.99	**1.16**	0.01	-2.53	0.01	-2466.80	-	-	6.53	**16.98**	0.54
160	0	2.41	**1.54**	0.01	-1.55	0.01	-2096.20	-	-	4.48	**15.45**	0.61
180	0	2.82	**1.88**	0.01	-0.81	0.01	-1733.40	-	-	3.12	**13.37**	0.67
200	0	3.19	**2.16**	0.01	-0.26	0.02	-1397.20	-	-	2.20	**10.59**	0.68
220	2.51	3.45	**2.40**	0.01	**0.10**	0.03	-1115.20	-	-	1.54	**6.66**	0.68
240	10.3	3.63	**2.53**	0.01	**0.36**	0.04	-855.34	-	-	1.11	**1.81**	0.70
260	20.76	3.72	**2.58**	0.01	**0.50**	0.06	-636.11	-	-	0.81	-4.36	0.71
280	34.54	3.68	**2.53**	0.01	**0.55**	0.10	-455.21	-	-	0.59	-12.12	0.72
300	52.34	3.55	**2.41**	0.01	**0.52**	0.15	-308.90	-	-	0.43	-21.72	0.73

Conclusions:

Calcium Carbonate scale is indicated. See graph for appropriate temperature ranges.
Gypsum Scaling Index is negative from 80°F to 300°F
Calcium Sulfate Scaling Index is negative from 80°F to 300°F
tium Sulfate scaling was not evaluated
.n Sulfate NO CONCLUSION

Notes:

Multi-Chem Group, LLC
Multi-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

multi-chem®

Water Analysis Report

Production Company: **XTO ENERGY (154)**
Well Name: **Arbor 22H**
Sample Point: **Well Head**
Sample Date: **11/18/2010**
Sales Rep: **Travis Pitcock**
Lab Tech: **John Keel**

Sample ID: **WA-50374**

Formation Tested: Fruitland Coal

Sample Specifics

Test Date:	**12/1/2010**
Temperature (°F):	**52**
Sample Pressure (psig):	
Specific Gravity (g/cm³):	**1.0180**
pH:	**7.6**
Turbidity (NTU):	-
Calculated T.D.S. (mg/L):	**27078**
Molar Conductivity (µS/cm):	**41028**
Resitivity (Mohm):	**0.2437**

Analysis @ Properties in Sample Specifics

Cations	mg/L	Anions	mg/L
Calcium (Ca):	**220.00**	Chloride (Cl):	**16000.00**
Magnesium (Mg):	**70.00**	Sulfate (SO_4):	-
Barium (Ba):	**22.00**	Dissolved CO_2:	**53.00**
Strontium (Sr):	-	Bicarbonate (HCO_3):	**643.00**
Sodium (Na):	**9967.00**	Carbonate (CO_3):	-
Potassium (K):	-	H_2S:	-
Iron (Fe):	**102.00**	Phosphate (PO_4):	-
Manganese (Mn):	**1.30**	Silica (SiO_2):	-
Lithium (Li):	-	Fluoride (F):	-
Aluminum (Al):	-	Nitrate (NO_3):	-
Ammonia NH_3:	-	Lead (Pb):	-
		Zinc (Zn):	-
		Bromine (Br):	-
		Boron (B):	-

Scale Values @ Test Conditions - Potential Amount of Scale in lb/1000bbl

Test Conditions		Calcium Carbonate $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Calcium Sulfate $CaSO_4$		Strontium Sulfate $SrSO_4$		Barium Sulfate $BaSO_4$		Calculated CO_2
Temp °F	Gauge Press. psi	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	psi
52		*2.11*	*1.73*	*0.00*	*-2867.40*	*0.00*	*-3446.00*	-	-	*0.00*	*-2.76*	*0.37*
80	0	3.77	3.51	0.00	0.20	0.00	-3426.10	-	-	0.00	-4.91	0.18
100	0	5.12	4.62	0.00	1.98	0.00	-3229.00	-	-	0.00	-7.10	0.22
120	0	6.50	5.55	0.00	3.32	0.00	-2928.00	-	-	0.00	-9.94	0.25
140	0	7.89	6.38	0.00	4.39	0.00	-2567.00	-	-	0.00	-13.52	0.28
160	0	9.16	7.04	0.00	5.19	0.00	-2184.20	-	-	0.00	-17.91	0.31
180	0	10.18	7.47	0.00	5.72	0.00	-1808.90	-	-	0.00	-23.21	0.34
200	0	10.82	7.62	0.00	5.97	0.00	-1460.50	-	-	0.00	-29.50	0.35
220	2.51	10.92	7.57	0.00	6.00	0.00	-1168.80	-	-	0.00	-37.58	0.35
240	10.3	10.70	7.18	0.00	5.74	0.00	-900.00	-	-	0.00	-46.47	0.35
260	20.76	10.14	6.60	0.00	5.31	0.00	-674.93	-	-	0.00	-56.81	0.36
280	34.54	9.34	5.92	0.00	4.79	0.00	-492.08	-	-	0.00	-68.82	0.36
300	52.34	8.41	5.22	0.00	4.24	0.00	-348.16	-	-	0.00	-82.75	0.37

Conclusions:

Calcium Carbonate scale is indicated at all temps from 80°F to 300°F
Gypsum Scaling Index is negative from 80°F to 300°F
Calcium Sulfate Scaling Index is negative from 80°F to 300°F
Strontium Sulfate scaling was not evaluated
Barium Sulfate Scaling Index is negative from 80°F to 300°F

Notes:

Multi-Chem Group, LLC
Multi-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

multi-chem

Water Analysis Report

Production Company: **XTO ENERGY (154)**
Well Name: **Boxer #22H**
Sample Point: **Well Head**
Sample Date: **5 /17/2010**
Sales Rep: **Travis Pitcock**
Lab Tech: **John Keel**

Sample ID: **WA-41602**

Formation Tested: Fruitland Coal

Sample Specifics

Test Date:	**5/25/2010**
Temperature (°F):	**72**
Sample Pressure (psig):	**49**
Specific Gravity (g/cm³):	**1.0120**
pH:	**7.4**
Turbidity (NTU):	**-**
Calculated T.D.S. (mg/L)	**3980**
Molar Conductivity (µS/cm):	**6030**
Resitivity (Mohm):	**1.6584**

Analysis @ Properties in Sample Specifics

Cations	mg/L
Calcium (Ca):	**215.00**
Magnesium (Mg):	**39.00**
Barium (Ba):	**8.00**
Strontium (Sr):	**-**
Sodium (Na):	**1001.00**
Potassium (K):	**-**
Iron (Fe):	**2.80**
Manganese (Mn):	**0.60**
Lithium (Li):	**-**
Aluminum (Al):	**-**
Ammonia NH_3:	**-**

Anions	mg/L
Chloride (Cl):	**2000.00**
Sulfate (SO_4):	**30.00**
Dissolved CO_2:	**610.00**
Bicarbonate (HCO_3):	**73.20**
Carbonate (CO_3):	**-**
H_2S:	**0.50**
Phosphate (PO_4):	**-**
Silica (SiO_2):	**-**
Fluoride (F):	**-**
Nitrate (NO_3):	**-**
Lead (Pb):	**-**
Zinc (Zn):	**-**
Bromine (Br):	**-**
Boron (B):	**-**

Scale Values @ Test Conditions - Potential Amount of Scale in lb/1000bbl

Test Conditions		Calcium Carbonate $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Calcium Sulfate $CaSO_4$		Strontium Sulfate $SrSO_4$		Barium Sulfate $BaSO_4$		Calculated CO_2
Temp °F	Gauge Press. psi	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	psi
72	*49*	*0.43*	*-0.28*	*0.01*	*-1523.20*	*0.00*	*-1860.80*	-	-	*15.13*	*12.44*	*0.08*
80	0	0.51	-0.23	0.01	-2.30	0.00	-1826.50	-	-	12.72	12.22	0.04
100	0	0.71	-0.11	0.01	-1.55	0.01	-1686.20	-	-	8.38	11.53	0.04
~~120~~	~~0~~	~~0.94~~	~~-0.02~~	~~0.01~~	~~-1.05~~	~~0.01~~	~~-1490.80~~	-	-	~~5.64~~	~~10.58~~	~~0.05~~
140	0	1.19	0.06	0.01	-0.70	0.01	-1267.30	-	-	3.87	9.30	0.06
160	0	1.46	0.12	0.01	-0.46	0.01	-1038.70	-	-	2.70	7.65	0.06
180	0	1.72	0.17	0.01	-0.28	0.02	-821.55	-	-	1.91	5.56	0.07
200	0	1.97	0.22	0.01	-0.15	0.02	-626.76	-	-	1.37	3.02	0.07
220	2.51	2.17	0.24	0.02	-0.06	0.03	-465.61	-	-	0.99	-0.12	0.07
240	10.3	2.33	0.26	0.02	0.01	0.05	-328.20	-	-	0.73	-3.70	0.07
260	20.76	2.45	0.27	0.02	0.05	0.08	-220.05	-	-	0.54	-7.82	0.08
280	34.54	2.52	0.27	0.02	0.08	0.13	-138.68	-	-	0.41	-12.49	0.08
300	52.34	2.55	0.27	0.02	0.10	0.22	-80.30	-	-	0.31	-17.77	0.08

Conclusions:

Calcium Carbonate scale is indicated. See graph for appropriate temperature ranges.
Gypsum Scaling Index is negative from 80°F to 300°F
Calcium Sulfate Scaling Index is negative from 80°F to 300°F
Strontium Sulfate scaling was not evaluated
Barium Sulfate NO CONCLUSION

Notes:

Multi-Chem Group, LLC
Multi-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

multi-chem®

Water Analysis Report

Production Company: **XTO ENERGY (154)**
Well Name: **Valentine 21H**
Sample Point: **Well Head**
Sample Date: **5 /3 /2010**
Sales Rep: **Travis Pitcock**
Lab Tech: **John Keel**

Sample ID: **WA-41037**

Formation Tested: Fruitland Coal

Sample Specifics

Test Date:	**5/11/2010**
Temperature (°F):	**66**
Sample Pressure (psig):	**15**
Specific Gravity (g/cm³):	**1.0140**
pH:	**6.8**
Turbidity (NTU):	-
Calculated T.D.S. (mg/L)	**17733**
Molar Conductivity (µS/cm):	**26867**
Resitivity (Mohm):	**0.3722**

Analysis @ Properties in Sample Specifics

Cations	mg/L	Anions	mg/L
Calcium (Ca):	**217.00**	Chloride (Cl):	**10000.00**
Magnesium (Mg):	**48.00**	Sulfate (SO_4):	**64.00**
Barium (Ba):	**7.10**	Dissolved CO_2:	**19.80**
Strontium (Sr):	-	Bicarbonate (HCO_3):	**939.00**
Sodium (Na):	**6435.00**	Carbonate (CO_3):	-
Potassium (K):	-	H_2S:	**0.50**
Iron (Fe):	**1.30**	Phosphate (PO_4):	-
Manganese (Mn):	**0.80**	Silica (SiO_2):	-
Lithium (Li):	-	Fluoride (F):	-
Aluminum (Al):	-	Nitrate (NO_3):	-
Ammonia NH_3:	-	Lead (Pb):	-
		Zinc (Zn):	-
		Bromine (Br):	-
		Boron (B):	-

Scale Values @ Test Conditions - Potential Amount of Scale in lb/1000bbl

Test Conditions		Calcium Carbonate $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Calcium Sulfate $CaSO_4$		Strontium Sulfate $SrSO_4$		Barium Sulfate $BaSO_4$		Calculated CO_2
Temp °F	Gauge Press. psi	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	psi
66	*15*	*0.61*	*-0.46*	*0.01*	*-2541.60*	*0.00*	*-3046.40*	-	-	*13.52*	*11.09*	*3.30*
80	0	0.82	-0.19	0.01	-3.84	0.00	-2994.50	-	-	9.85	10.73	1.43
100	0	1.14	0.14	0.01	-2.51	0.00	-2812.10	-	-	6.40	10.02	1.80
120	0	1.48	0.42	0.01	-1.59	0.01	-2538.80	-	-	4.26	9.01	2.04
140	0	1.85	0.68	0.01	-0.93	0.01	-2214.90	-	-	2.89	7.60	2.31
160	0	2.23	0.93	0.01	-0.44	0.01	-1874.60	-	-	1.99	5.71	2.62
180	0	2.61	1.16	0.01	-0.07	0.01	-1543.50	-	-	1.40	3.21	2.90
200	0	2.97	1.39	0.01	0.22	0.02	-1238.90	-	-	1.00	-0.03	2.96
220	2.51	3.26	1.60	0.01	0.43	0.02	-984.35	-	-	0.71	-4.42	3.01
240	10.3	3.52	1.79	0.01	0.59	0.03	-752.73	-	-	0.51	-9.66	3.08
260	20.76	3.73	1.96	0.01	0.71	0.05	-559.33	-	-	0.38	-16.10	3.15
280	34.54	3.87	2.10	0.01	0.78	0.08	-401.51	-	-	0.28	-23.91	3.22
300	52.34	3.95	2.20	0.01	0.81	0.13	-275.30	-	-	0.21	-33.31	3.30

Conclusions:

Calcium Carbonate scale is indicated. See graph for appropriate temperature ranges.
Gypsum Scaling Index is negative from 80°F to 300°F
Calcium Sulfate Scaling Index is negative from 80°F to 300°F
Strontium Sulfate scaling was not evaluated
Barium Sulfate NO CONCLUSION

Notes:

Multi-Chem Group, LLC
Multi-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

multi-chem®

Water Analysis Report

Production Company: **XTO ENERGY (154)**
Well Name: **Irish #1**
Sample Point: **Well Head**
Sample Date: **3 /5 /2010**
Sales Rep: **Travis Pitcock**
Lab Tech: **John Keel**

Sample ID: **WA-38307**

Formation Tested: Dakota

Sample Specifics

Test Date:	**3/5/2010**
Temperature (°F):	**71**
Sample Pressure (psig):	**0**
Specific Gravity (g/cm³):	**1.0210**
pH:	**7**
Turbidity (NTU):	-
Calculated T.D.S. (mg/L)	**31812**
Molar Conductivity (µS/cm):	**48200**
Resistivity (Mohm):	**0.2075**

Analysis @ Properties in Sample Specifics

Cations	mg/L	Anions	mg/L
Calcium (Ca):	**280.00**	Chloride (Cl):	**19000.00**
Magnesium (Mg):	**48.80**	Sulfate (SO_4):	**46.00**
Barium (Ba):	**5.00**	Dissolved CO_2:	**39.60**
Strontium (Sr):	-	Bicarbonate (HCO_3):	**514.80**
Sodium (Na):	**11852.00**	Carbonate (CO_3):	-
Potassium (K):	-	H_2S:	**1.00**
Iron (Fe):	**24.32**	Phosphate (PO_4):	-
Manganese (Mn):	**0.78**	Silica (SiO_2):	-
Lithium (Li):	-	Fluoride (F):	-
Aluminum (Al):	-	Nitrate (NO_3):	-
Ammonia NH_3:	-	Lead (Pb):	-
		Zinc (Zn):	-
		Bromine (Br):	-
		Boron (B):	-

Scale Values @ Test Conditions - Potential Amount of Scale in lb/1000bbl

Test Conditions		Calcium Carbonate $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Calcium Sulfate $CaSO_4$		Strontium Sulfate $SrSO_4$		Barium Sulfate $BaSO_4$		Calculated CO_2
Temp °F	Gauge Press. psi	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	psi
71	*0*	*0.71*	*-0.33*	*0.00*	*-2998.50*	*0.00*	*-3517.60*	-	-	*3.91*	*6.16*	*1.13*
80	0	0.85	-0.16	0.00	-4.88	0.00	-3474.20	-	-	3.18	5.64	0.52
100	0	1.18	0.17	0.00	-3.27	0.00	-3271.70	-	-	2.05	4.13	0.65
120	0	1.53	0.44	0.00	-2.15	0.00	-2960.70	-	-	1.34	2.01	0.73
140	0	1.91	0.70	0.01	-1.34	0.00	-2587.30	-	-	0.90	-0.86	0.82
160	0	2.31	0.94	0.01	-0.74	0.01	-2191.50	-	-	0.61	-4.62	0.92
180	0	2.69	1.14	0.01	-0.30	0.01	-1803.80	-	-	0.42	-9.43	1.02
200	0	3.03	1.32	0.01	0.03	0.01	-1444.90	-	-	0.30	-15.39	1.03
220	2.51	3.26	1.47	0.01	0.26	0.02	-1146.30	-	-	0.21	-23.23	1.05
240	10.3	3.44	1.56	0.01	0.43	0.02	-871.21	-	-	0.15	-32.17	1.06
260	20.76	3.53	1.60	0.01	0.53	0.04	-641.54	-	-	0.11	-42.78	1.08
280	34.54	3.52	1.59	0.01	0.57	0.06	-455.26	-	-	0.08	-55.28	1.11
300	52.34	3.42	1.54	0.01	0.57	0.09	-308.70	-	-	0.06	-69.94	1.13

Conclusions:

Calcium Carbonate scale is indicated. See graph for appropriate temperature ranges.
Gypsum Scaling Index is negative from 80°F to 300°F
Calcium Sulfate Scaling Index is negative from 80°F to 300°F
Strontium Sulfate scaling was not evaluated
Barium Sulfate NO CONCLUSION

Notes:

Multi-Chem Group, LLC
ti-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

multi-chem®

Water Analysis Report

Production Company: **XTO ENERGY (154)**
Well Name: **Irish #2**
Sample Point: **Well Head**
Sample Date: **3 /4 /2010**
Sales Rep: **Travis Pitcock**
Lab Tech: **John Keel**

Sample ID: **WA-38309**

Formation Tested: Dakota

Sample Specifics

Test Date:	3/4/2010
Temperature (°F):	61
Sample Pressure (psig):	0
Specific Gravity (g/cm³):	1.0180
pH:	7.6
Turbidity (NTU):	-
Calculated T.D.S. (mg/L)	26736
Molar Conductivity (µS/cm):	40509
itivity (Mohm):	0.2469

Analysis @ Properties in Sample Specifics

Cations	mg/L	Anions	mg/L
Calcium (Ca):	280.00	Chloride (Cl):	16000.00
Magnesium (Mg):	24.40	Sulfate (SO_4):	5.00
Barium (Ba):	3.00	Dissolved CO_2:	11.88
Strontium (Sr):	-	Bicarbonate (HCO_3):	420.80
Sodium (Na):	9985.00	Carbonate (CO_3):	-
Potassium (K):	-	H_2S:	1.00
Iron (Fe):	4.37	Phosphate (PO_4):	-
Manganese (Mn):	0.34	Silica (SiO_2):	-
Lithium (Li):	-	Fluoride (F):	-
Aluminum (Al):	-	Nitrate (NO_3):	-
Ammonia NH_3:	-	Lead (Pb):	-
		Zinc (Zn):	-
		Bromine (Br):	-
		Boron (B):	-

Scale Values @ Test Conditions - Potential Amount of Scale in lb/1000bbl

Test Conditions		Calcium Carbonate $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Calcium Sulfate $CaSO_4$		Strontium Sulfate $SrSO_4$		Barium Sulfate $BaSO_4$		Calculated CO_2
Temp °F	Gauge Press. psi	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	psi
61	*0*	*2.18*	*1.33*	*0.00*	*-2809.10*	*0.00*	*-3370.40*	-	-	*0.37*	*-4.38*	*0.24*
80	0	3.18	2.13	0.00	-7.34	0.00	-3318.90	-	-	0.24	-7.14	0.12
100	0	4.35	2.88	0.00	-4.41	0.00	-3122.30	-	-	0.16	-10.53	0.15
120	0	5.56	3.51	0.00	-2.29	0.00	-2822.50	-	-	0.10	-14.48	0.16
140	0	6.82	4.07	0.00	-0.71	0.00	-2463.60	-	-	0.07	-19.06	0.18
160	0	8.00	4.54	0.00	0.45	0.00	-2083.80	-	-	0.05	-24.34	0.21
180	0	8.98	4.86	0.00	1.26	0.00	-1712.20	-	-	0.03	-30.40	0.22
200	0	9.63	4.99	0.00	1.78	0.00	-1368.40	-	-	0.02	-37.36	0.23
220	2.51	9.78	4.99	0.00	2.03	0.00	-1082.10	-	-	0.02	-46.03	0.23
240	10.3	9.63	4.76	0.00	2.07	0.00	-819.92	-	-	0.01	-55.40	0.23
260	20.76	9.15	4.39	0.00	1.96	0.00	-602.70	-	-	0.01	-66.16	0.23
280	34.54	8.42	3.95	0.00	1.74	0.01	-428.87	-	-	0.01	-78.53	0.24
300	52.34	7.56	3.48	0.00	1.47	0.01	-294.92	-	-	0.00	-92.77	0.24

Conclusions:

Calcium Carbonate scale is indicated at all temperatures from 80°F to 300°F
Gypsum Scaling Index is negative from 80°F to 300°F
Calcium Sulfate Scaling Index is negative from 80°F to 300°F
tium Sulfate scaling was not evaluated
.n Sulfate Scaling Index is negative from 80°F to 300°F

Notes:

Multi-Chem Group, LLC
Iti-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

multi-chem®

Water Analysis Report

Production Company: **XTO ENERGY (154)**
Well Name: **Labor 21 H**
Sample Point: **Well Head**
Sample Date: **4 /7 /2010**
Sales Rep: **Travis Pitcock**
Lab Tech: **John Keel**

Sample ID: **WA-39675**

Formation Tested: Fruitland Coal

Sample Specifics

Test Date:	**4/16/2010**
Temperature (°F):	**63**
Sample Pressure (psig):	**0**
Specific Gravity (g/cm³):	**1.0230**
pH:	**7.5**
Turbidity (NTU):	**-**
Calculated T.D.S. (mg/L)	**31929**
Molar Conductivity (µS/cm):	**48378**
Resistivity (Mohm):	**0.2067**

Analysis @ Properties in Sample Specifics

Cations	mg/L	Anions	mg/L
Calcium (Ca):	**480.00**	Chloride (Cl):	**19000.00**
Magnesium (Mg):	**73.20**	Sulfate (SO_4):	**35.00**
Barium (Ba):	**58.00**	Dissolved CO_2:	**43.56**
Strontium (Sr):	-	Bicarbonate (HCO_3):	**634.40**
Sodium (Na):	**11591.00**	Carbonate (CO_3):	-
Potassium (K):	-	H_2S:	**0.50**
Iron (Fe):	**12.53**	Phosphate (PO_4):	-
Manganese (Mn):	**1.09**	Silica (SiO_2):	-
Lithium (Li):	-	Fluoride (F):	-
Aluminum (Al):	-	Nitrate (NO_3):	-
Ammonia NH_3:	-	Lead (Pb):	-
		Zinc (Zn):	-
		Bromine (Br):	-
		Boron (B):	-

Scale Values @ Test Conditions - Potential Amount of Scale in lb/1000bbl

Test Conditions		Calcium Carbonate $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Calcium Sulfate $CaSO_4$		Strontium Sulfate $SrSO_4$		Barium Sulfate $BaSO_4$		Calculated CO_2
Temp °F	Gauge Press. psi	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	psi
63	*0*	*4.23*	**2.31**	*0.01*	*-2684.50*	*0.00*	*-3277.40*	-	-	*39.68*	**61.13**	*0.45*
80	0	5.87	**3.08**	0.01	-0.80	0.00	-3228.10	-	-	26.69	**58.26**	0.22
100	0	7.93	**3.86**	0.01	**0.81**	0.00	-3031.30	-	-	17.13	**54.49**	0.27
120	0	9.99	**4.51**	0.01	**1.97**	0.00	-2727.30	-	-	11.24	**50.22**	0.30
140	0	12.04	**5.08**	0.01	**2.86**	0.01	-2362.10	-	-	7.52	**45.35**	0.34
160	0	13.91	**5.53**	0.01	**3.52**	0.01	-1975.40	-	-	5.12	**39.79**	0.38
180	0	15.39	**5.81**	0.01	**3.96**	0.01	-1597.70	-	-	3.55	**33.43**	0.42
200	0	16.35	**5.91**	0.01	**4.18**	0.01	-1249.90	-	-	2.49	**26.12**	0.42
220	2.51	16.51	**5.89**	0.01	**4.26**	0.02	-962.85	-	-	1.73	**17.21**	0.42
240	10.3	16.26	**5.64**	0.01	**4.12**	0.03	-702.98	-	-	1.24	**7.30**	0.43
260	20.76	15.50	**5.26**	0.01	**3.87**	0.05	-492.24	-	-	0.89	**-4.16**	0.43
280	34.54	14.38	**4.80**	0.01	**3.54**	0.07	-328.82	-	-	0.65	**-17.39**	0.44
300	52.34	13.04	**4.32**	0.01	**3.17**	0.12	-207.94	-	-	0.48	**-32.70**	0.45

Conclusions:

Calcium Carbonate scale is indicated at all temperatures from 80°F to 300°F
Gypsum Scaling Index is negative from 80°F to 300°F
Calcium Sulfate Scaling Index is negative from 80°F to 300°F
Strontium Sulfate scaling was not evaluated
Barium Sulfate NO CONCLUSION

Notes:

Multi-Chem Group, LLC
ti-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

multi-chem®

Water Analysis Report

Production Company: **XTO ENERGY (154)**
Well Name: **New Year #1**
Sample Point: **Well Head**
Sample Date: **3 /4 /2010**
Sales Rep: **Travis Pitcock**
Lab Tech: **John Keel**

Sample ID: **WA-38308**

Formation Tested: Dakota

Sample Specifics

Test Date:	**3/4/2010**
Temperature (°F):	**61**
Sample Pressure (psig):	**0**
Specific Gravity (g/cm³):	**1.0270**
pH:	**7.6**
Turbidity (NTU):	-
Calculated T.D.S. (mg/L)	**34834**
Molar Conductivity (µS/cm):	**52778**
·itivity (Mohm):	**0.1895**

Analysis @ Properties in Sample Specifics

Cations	*mg/L*	*Anions*	*mg/L*
Calcium (Ca):	**360.00**	Chloride (Cl):	**21000.00**
Magnesium (Mg):	**24.40**	Sulfate (SO_4):	**18.00**
Barium (Ba):	**9.00**	Dissolved CO_2:	**15.84**
Strontium (Sr):	-	Bicarbonate (HCO_3):	**427.00**
Sodium (Na):	**12964.00**	Carbonate (CO_3):	-
Potassium (K):	-	H_2S:	**1.00**
Iron (Fe):	**13.44**	Phosphate (PO_4):	-
Manganese (Mn):	**0.83**	Silica (SiO_2):	-
Lithium (Li):	-	Fluoride (F):	-
Aluminum (Al):	-	Nitrate (NO_3):	-
Ammonia NH_3:	-	Lead (Pb):	-
		Zinc (Zn):	-
		Bromine (Br):	-
		Boron (B):	-

Scale Values @ Test Conditions - Potential Amount of Scale in lb/1000bbl

Test Conditions		Calcium Carbonate $CaCO_3$		Gypsum $CaSO_4 \cdot 2H_2O$		Calcium Sulfate $CaSO_4$		Strontium Sulfate $SrSO_4$		Barium Sulfate $BaSO_4$		Calculated CO_2
Temp °F	Gauge Press. psi	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	Sat Index	Scale	psi
61	*0*	*2.55*	*1.54*	*0.00*	*-2937.50*	*0.00*	*-3533.10*	-	-	*3.21*	*8.88*	*0.23*
80	0	3.72	**2.34**	0.00	-8.27	0.00	-3482.80	-	-	2.06	**6.20**	0.12
100	0	5.06	**3.08**	0.00	-5.12	0.00	-3277.10	-	-	1.32	**2.71**	0.14
120	0	6.42	**3.69**	0.00	-2.86	0.00	-2960.30	-	-	0.87	-1.52	0.16
140	0	7.80	**4.22**	0.00	-1.19	0.00	-2579.40	-	-	0.58	-6.54	0.18
160	0	9.04	**4.63**	0.00	**0.02**	0.00	-2175.20	-	-	0.40	-12.40	0.20
180	0	10.00	**4.87**	0.00	**0.85**	0.00	-1779.10	-	-	0.27	-19.20	0.22
200	0	10.54	**4.91**	0.00	**1.34**	0.01	-1412.60	-	-	0.19	-27.05	0.22
220	2.51	10.50	**4.81**	0.00	**1.56**	0.01	-1108.60	-	-	0.13	-36.84	0.22
240	10.3	10.13	**4.50**	0.00	**1.58**	0.01	-830.21	-	-	0.10	-47.50	0.23
260	20.76	9.44	**4.08**	0.00	**1.45**	0.02	-600.94	-	-	0.07	-59.78	0.23
280	34.54	8.53	**3.61**	0.00	**1.23**	0.03	-419.28	-	-	0.05	-73.93	0.23
300	52.34	7.53	**3.14**	0.00	**0.96**	0.05	-281.19	-	-	0.04	-90.28	0.23

Conclusions:

Calcium Carbonate scale is indicated at all temperatures from 80°F to 300°F
Gypsum Scaling Index is negative from 80°F to 300°F
Calcium Sulfate Scaling Index is negative from 80°F to 300°F
·tium Sulfate scaling was not evaluated
.n Sulfate NO CONCLUSION

Notes:

EXHIBIT "E"

WATER ANALYSIS OF DAKOTA FORMATION

XTO ENERGY INC.

HOLIDAY SWD #1

SE/4 Sec. 22 T25N - R10W

SAN JUAN COUNTY, NEW MEXICO

HALLIBURTON

Water Analysis Report

To:	XTO Energy	Date:	8/25/2008
Submitted by:	Halliburton Energy Services	Date Rec:	8/25/2008
Attention:	Dusty Mecham	Report #:	FLMM8844
Well Name:	Irish #1		

Specific Gravity	1.005	
pH	5.4	
Resistivity	0.96	@ 70° F
Iron (Fe)	50	Mg / L
Potassium (K)	57	Mg / L
Sodium (Na)	3756	Mg / L
Calcium (Ca)	96	Mg / L
Magnesium (Mg)	156	Mg / L
Chlorides (Cl)	5800	Mg / L
Sulfates (SO4)	1000	Mg / L
Carbonates (CO3)	0	Mg / L
Bicarbonates (HCO3)	53	Mg / L
Total Dissolved Solids	10968	Mg / L

Respectfully: Tim Van Guse

Title: Lab Technician

Location: Farmington, NM

EXHIBIT "F"

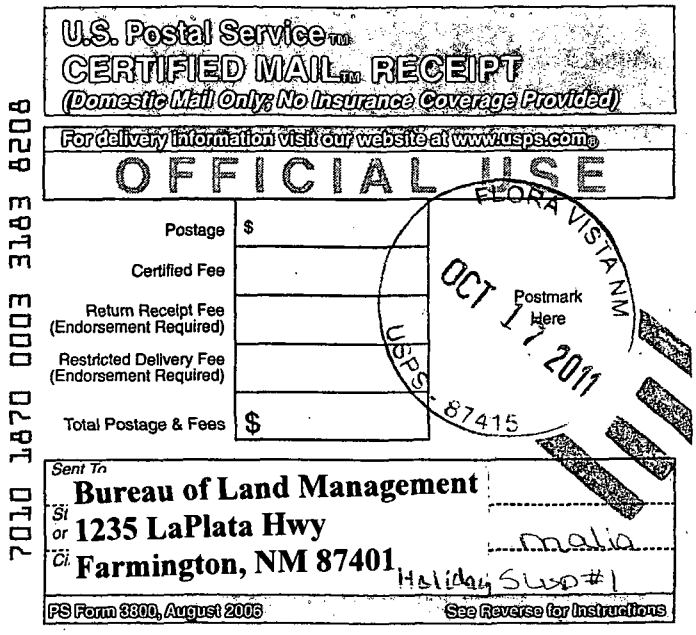
PROOF OF NOTIFICATION

XTO ENERGY INC.

HOLIDAY SWD #1

SE/4 Sec. 22 T25N - R10W

SAN JUAN COUNTY, NEW MEXICO



U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com®

OFFICIAL USE

Postage $
Certified Fee
Return Receipt Fee (Endorsement Required)
Restricted Delivery Fee (Endorsement Required)
Total Postage & Fees $

FLORA VISTA NM
OCT 17 2011
Postmark Here
USPS 87415

Sent To
Bureau of Land Management
Street, Apt. No., or PO Box No. 1235 LaPlata Hwy
City, State, ZIP+4 Farmington, NM 87401

malia
Holiday Suzo #1

PS Form 3800, August 2006 See Reverse for Instructions

7010 1870 0003 3183 8208

382 CR 3100 · AZTEC, NM 87410
Phone: (505) 333-3100 FAX: (505) 333-3280

October 17, 2011

Bureau of Land Management
Farmington Field Office
1235 La Plata Hwy, Suite A
Farmington, NM 87401

Subject: XTO Energy Inc. Holiday SWD #1
2257 FSL & 1038 FEL
Sec. 22 (I), T25N-R10W

To Whom It May Concern:

Please find enclosed a copy of the application for authorization to inject, submitted to the State of New Mexico.
XTO Energy Inc. is proposing additional Morrison perforations from 6,480' to 6,810' and Bluff perforations from 7,010 to 7,210'. The additional perforations will significantly increase the daily disposal capacity of this well. XTO Energy Inc. was previously authorized to inject from 7,347' to 7,538', as per Administrative Order SWD-1272, dated April 7, 2011.

The surface where this well is located is BLM and the lease number is NMNM-0120923.

Interested parties must file objections or requests for hearing with the NM Oil Conservation Division, 1220 South Saint Francis Dr., Santa Fe, NM 87505 within 15 days.

Additional information may be obtained by contacting Derrick Lucas, 382 CR 3100, Aztec, NM 87410, (505) 333-3100.

Sincerely,

Malia Villers

Malia Villers
Permitting Tech.

EXHIBIT "G"

AFFIDAVIT OF PUBLICATION

XTO ENERGY INC.

HOLIDAY SWD #1

SE/4 Sec. 22 T25N - R10W

SAN JUAN COUNTY, NEW MEXICO

Jones, William V., EMNRD

From: Jones, William V., EMNRD
Sent: Friday, October 21, 2011 11:11 AM
To: 'William_Lucas@xtoenergy.com'
Cc: Perrin, Charlie, EMNRD; Ezeanyim, Richard, EMNRD
Subject: Disposal application from XTO: Holiday SWD #1 30-045-35231 Amendment to add interval uphole
Attachments: EddyNM_NASH_53_SWD.pdf

Hello William or Malia:

Would you let me know the cement top of this well's casing?

Also, send another Sec Tsp Rge map showing your well with the Area of Review ½ mile circle and identify all the separately owned tracts and the owners of those tracts within the Morrison and Bluff formations. And proof of notice to the controlling party or party in each tract within ½ mile. I am attaching an example to this email. It could be that XTO owns everything within ½ mile – in that case, just put XTO's name on the map.

Regards.

William V Jones, P.E.
Engineering, Oil Conservation Division
1220 South St. Francis Drive, Santa Fe, NM 87505
Tel 505.476.3448 ~ Fax 505.476.3462

5

Jones, William V., EMNRD

From: Malia_Villers@xtoenergy.com
Sent: Friday, October 21, 2011 3:32 PM
To: Jones, William V., EMNRD
Cc: William_Lucas@xtoenergy.com
Subject: Disposal application from XTO: Holiday SWD #1 30-045-35231 Amendment to add interval uphole
Attachments: Holiday SWD #1. AOR map 10-21-2011.pdf

Mr. Jones,

Please find below the map of the 1/2 mile AOR.
XTO is the owner of everything and is the controlling party in each tract within the Morrison and Bluff formations in the 1/2 mile AOR.

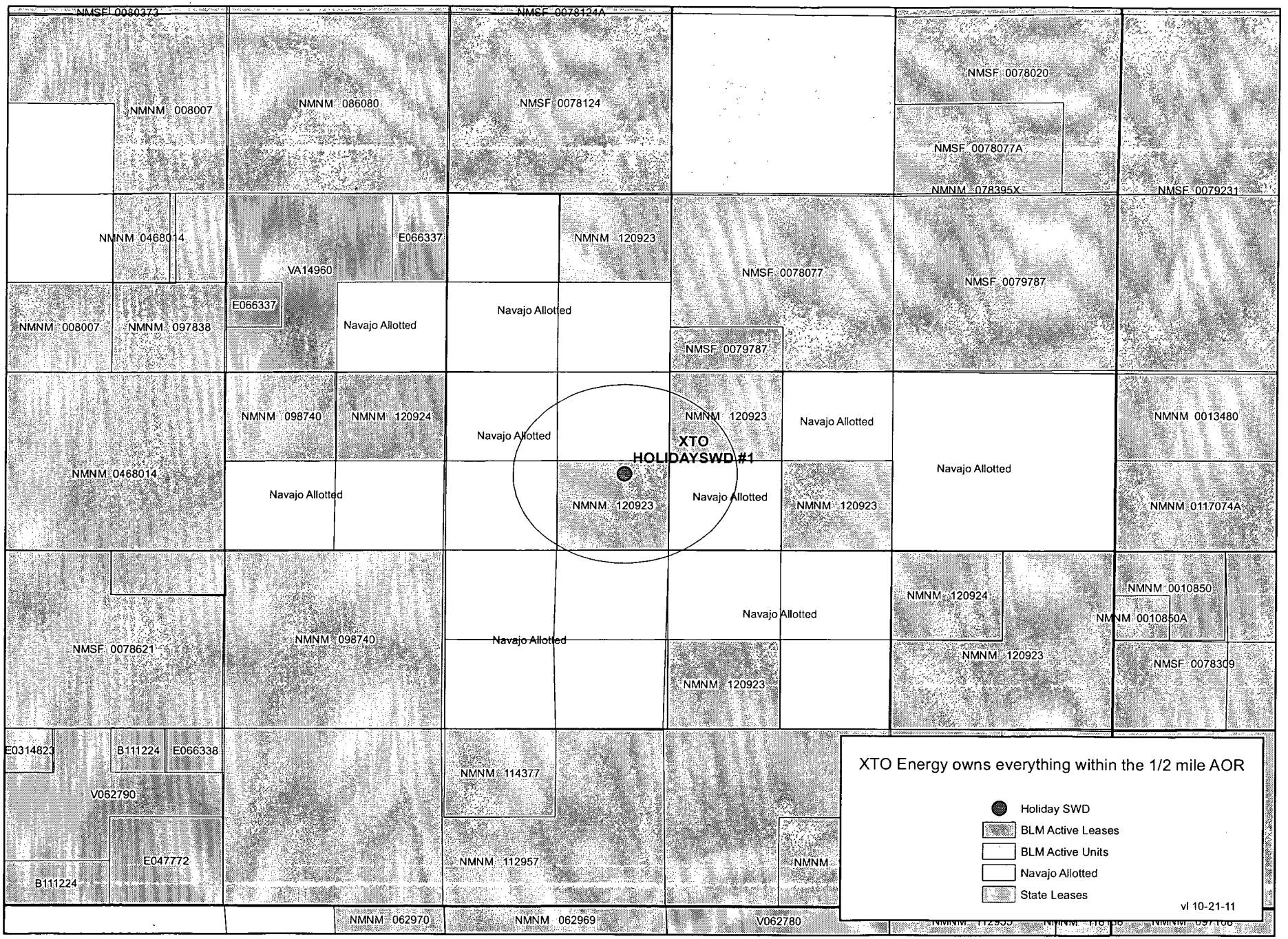
Also, the cement top is;
TOC of the 5-1/2" casing is 5280'.

(See attached file: Holiday SWD #1. AOR map 10-21-2011.pdf)

If you need anything else, please let me know.

Have a great weekend,

Malia Villers
XTO Energy a subsidiary of ExxonMobil
Office: 505-333-3698
Cell: 505-787-7700
Fax: 505-333-3284
malia_villers@xtoenergy.com


NMSF 0080373
NMSF 0078124A
NMNM 008007
NMNM 086080
NMSF 0078124
NMSF 0078020
NMSF 0078077A
NMNM 078395X
NMSF 0079231
NMNM 0468014
E066337
VA14960
NMNM 120923
NMSF 0078077
NMSF 0079787
E066337
Navajo Allotted
Navajo Allotted
NMNM 008007
NMNM 097838
NMSF 0079787
NMNM 098740
NMNM 120924
Navajo Allotted
NMNM 120923
Navajo Allotted
NMNM 0013480
XTO
HOLIDAYSWD #1
NMNM 0468014
Navajo Allotted
NMNM 120923
Navajo Allotted
NMNM 120923
Navajo Allotted
NMNM 0117074A
NMNM 120924
NMNM 0010850
NMNM 0010850A
Navajo Allotted
NMSF 0078621
NMNM 098740
Navajo Allotted
NMNM 120923
NMSF 0078309
NMNM 120923
E0314823
B111224
E066338
NMNM 114377
V062790
E047772
B111224
NMNM 112957
NMNM
NMNM 062970
NMNM 062969
V062780
XTO Energy owns everything within the 1/2 mile AOR
Holiday SWD
BLM Active Leases
BLM Active Units
Navajo Allotted
State Leases
vl 10-21-11

AFFIDAVIT OF PUBLICATION

Ad No. 66622

STATE OF NEW MEXICO
County of San Juan:

JOHN ELCHERT, being duly sworn says: That HE is the PUBLISHER of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for publication and appeared in the Internet at The Daily Times web site on the following day(s):

Tuesday, August 30, 2011

And the cost of the publication is $66.42

ON 8/31/11 JOHN ELCHERT appeared before me, whom I know personally to be the person who signed the above document.

My Commission Expires – 11/05/11

COPY OF PUBLICATION

Public Notice

XTO Energy Inc. is applying to the New Mexico Oil Conservation Division (NMOCD) to add formations the Holiday SWD #1, as a water disposal well. The Holiday SWD #1 is be located at 2257' FSL & 1038' FEL, Sec 22, Township 25N, Range 10W, San Juan County, New Mexico. The well will dispose of water produced from oil and gas wells into the SWD; Entrada formation at a depth 7347' to 7538', Bluff formation at a depth of 7010' to 7210' and the Morrison formation at a depth of 6480' to 6810' at a maximum rate of 2,500 barrels of water per day and a maximum pressure of 1400 psi. Interested parties must file objections or requests for hearing with the NM Oil Conservation Division, 1220 South Saint Francis Drive, Santa Fe, NM 87505, within 15 days. Additional information can be obtained by contacting Derrick Lucas, 382 CR 3100, Aztec, NM 87410 (505) 333-3100.

Legal No. 66622 published in The Daily Times on August 30, 2011.

Jones, William V., EMNRD

From: Jones, William V., EMNRD
Sent: Friday, October 28, 2011 2:02 PM
To: 'William_Lucas@xtoenergy.com'
Cc: Ezeanyim, Richard, EMNRD; Perrin, Charlie, EMNRD
Subject: RE: Disposal application from XTO: Holiday SWD #1 30-045-35231 Amendment to add interval uphole

Hello William or Malia:

Thanks for the reply to my earlier questions.

I am preparing this permit – cannot release until 11/5/11.

I don't see a "current" wellbore diagram in the application – would you please send one showing the well as it exists now?

The well file also has no indication of how the cement top was verified – I can put your comments from before, but we ask that this type of well information be in the well files for future reference. Have you swab tested the Entrada or run an injection test on it? Our well files does not show that either.

The previous permit asks for verification of insitu water salinity – how does XTO plan on that?
I see some nice resistivity logs –In lieu of a swab test, you could ask one of your petrophysicists or engineer/geologists to use these logs along with the chart books to estimate this salinity.

Thank You and Regards.

William V Jones, P.E.
Engineering, Oil Conservation Division
1220 South St. Francis Drive, Santa Fe, NM 87505
Tel 505.476.3448 ~ Fax 505.476.3462

Jones, William V., EMNRD

From: William_Lucas@xtoenergy.com
Sent: Friday, October 28, 2011 2:23 PM
To: Jones, William V., EMNRD
Cc: Malia_Villers@xtoenergy.com
Subject: RE: Disposal application from XTO: Holiday SWD #1 30-045-35231 Amendment to add interval uphole
Attachments: Holiday SWD WBD.pdf; pic17222.jpg

Mr. Jones,
I have attached a current wellbore diagram.

We ran a CBL to verify the top. We submitted a copy of this CBL on 10/25/11 on Edoc's.

We have not perforated the Entrada yet or done any completion work other than drilling out to PBTD and running the CBL.

I am work with the Fort Worth Engineers about the salinity. I will let you know. If we can get by without swabbing, that would save us a significant amount of rig time and money. I will probably have the FTW engineer call you direct to make sure we get everything how you want it. Thank you for that suggestion.

(See attached file: Holiday SWD WBD.pdf)

Derick Lucas
Production Engineer
San Juan, NM
XTO Energy
Cell: 505-787-0663
Office: 505-333-3100

"Jones, William V., EMNRD" <William.V.Jones@state.nm.us>

10/28/2011 02:01 PM

To "William_Lucas@xtoenergy.com" <William_Lucas@xtoenergy.com>

cc "Ezeanyim, Richard, EMNRD" <richard.ezeanyim@state.nm.us>, "Perrin, Charlie, EMNRD" <charlie.perrin@state.nm.us>

Subject RE: Disposal application from XTO: Holiday SWD #1 30-045-35231 Amendment to add interval uphole

Jones, William V., EMNRD

From: Tim_Isernhagen@xtoenergy.com
Sent: Friday, November 04, 2011 1:09 PM
To: Jones, William V., EMNRD
Cc: William_Lucas@xtoenergy.com
Subject: Re: Fw: Disposal application from XTO: Holiday SWD #1 30-045-35231 Amendment to add interval uphole
Attachments: Holiday SWD #1 - NaCl concentration from SP & Temp by interval.xls

Will -

See attached for my analysis on formation water salinity in the proposed injection zones based on the SP log for the Holiday SWD #1 well. Please advise of any questions that you may have.

(See attached file: Holiday SWD #1 - NaCl concentration from SP & Temp by interval.xls)

Thanks.

Tim Isernhagen
Reservoir Engineer
XTO Energy
San Juan Basin
810 Houston St. (WTW-1507)
Fort Worth, TX 76102
Phone: 817-885-1637
Tim_Isernhagen@xtoenergy.com

William Lucas/FAR/CTOC
10/28/2011 03:16 PM

To: Tim Isernhagen/FTW/CTOC@CTOC
cc:
Subject: Fw: Disposal application from XTO: Holiday SWD #1 30-045-35231 Amendment to add interval uphole

Derick Lucas
Production Engineer
San Juan, NM

Perfs				Equivalent Formation Water Restivity			
Zone	Top	Bottom	Interval	Temp (degF)	Rweq	Formation	NaCl concentration (ppm)
A	6,480	6,490	10	166	0.300	Morrison	8,000
B	6,577	6,591	14	167	0.262	Morrison	10,000
C	6,660	6,710	50	167	0.184	Morrison	14,000
D	6,784	6,804	20	169	0.262	Morrison	10,000
E	7,015	7,046	31	173	0.233	Bluff	12,500
F	7,127	7,202	75	174	0.206	Bluff	14,000
G	7,329	7,398	69	176	0.206	Entrada	14,000
H	7,405	7,509	104	177	0.239	Entrada	11,500

11/09/2011 03:55 PM

cc

Subject
RE: Disposal application from XTO: Holiday SWD #1 30-045-35231 Amendment to add interval uphole

Hello Mr. Lucas,

The proposed increased interval up-hole can't be approved until the conditions of the first permit are satisfied.

I have not gotten back with you because we are having a problem with the indications of low salinity on the logs over the Entrada - although it is close. As it stands now, the existing Entrada permit requires verification of salinity over 10,000 mg/l PPM and we can't do that after looking at the logs - so your first permit to inject into the Entrada is still not in effect.

Anyone can look at these logs, but the EPA in Dallas has some experienced log folks who could look the logs over for an estimate of salinity - would you talk with your people and let me know if OK? It is possible they could interpret those logs differently. The swab testing is expensive and sometimes questionable because of invasion - but is up to you and your reservoir people at XTO.

I am looking at what sort of legal route may be needed but don't want to say anything until next week when we can confer with the attorneys here and with the EPA in Dallas.

If XTO has an attorney over the San Juan Basin - I would consider alerting him/her.

Regards,

William V Jones, P.E.
Engineering, Oil Conservation Division
1220 South St. Francis Drive, Santa Fe, NM 87505 Tel 505.476.3448 ~ Fax 505.476.3462
(Embedded image moved to file: pic04966.jpg)
http://www.emnrd.state.nm.us/ocd/Graphics/L23-ocd-logo.gif

"Jones, William V., EMNRD" <William.V.Jones@state.nm.us>

To
"William_Lucas@xtoenergy.com" <William_Lucas@xtoenergy.com>

Jones, William V., EMNRD

From: Jones, William V., EMNRD
Sent: Wednesday, November 09, 2011 3:56 PM
To: 'William_Lucas@xtoenergy.com'
Subject: RE: Disposal application from XTO: Holiday SWD #1 30-045-35231 Amendment to add interval uphole

Hello Mr. Lucas,

The proposed increased interval up-hole can't be approved until the conditions of the first permit are satisfied.

I have not gotten back with you because we are having a problem with the indications of low salinity on the logs over the Entrada - although it is close. As it stands now, the existing Entrada permit requires verification of salinity over 10,000 mg/l PPM and we can't do that after looking at the logs - so your first permit to inject into the Entrada is still not in effect.

Anyone can look at these logs, but the EPA in Dallas has some experienced log folks who could look the logs over for an estimate of salinity - would you talk with your people and let me know if OK? It is possible they could interpret those logs differently. The swab testing is expensive and sometimes questionable because of invasion - but is up to you and your reservoir people at XTO.

I am looking at what sort of legal route may be needed but don't want to say anything until next week when we can confer with the attorneys here and with the EPA in Dallas.

If XTO has an attorney over the San Juan Basin - I would consider alerting him/her.

Regards,

William V Jones, P.E.
Engineering, Oil Conservation Division
1220 South St. Francis Drive, Santa Fe, NM 87505
Tel 505.476.3448 ~ Fax 505.476.3462

-----Original Message-----
From: William_Lucas@xtoenergy.com [mailto:William_Lucas@xtoenergy.com]
Sent: Wednesday, November 09, 2011 10:43 AM
To: Jones, William V., EMNRD
Subject: RE: Disposal application from XTO: Holiday SWD #1 30-045-35231 Amendment to add interval uphole

Mr. Jones,
I wanted to follow up and make sure you got the information you needed. I believe Tim Isernhagen contacted you about the water salinity issue, did he get you the information needed? If so, we will not need to swab test each zone? (I am working on the completion procedure and want to be sure).
Also, will we need to run a step rate test for each zone individually, or one large test? Or can we utilize the injection pressure that is approved?
Thank you for the clarification.

Jones, William V., EMNRD

From: Tim_Isernhagen@xtoenergy.com
Sent: Monday, November 14, 2011 12:08 PM
To: Jones, William V., EMNRD
Cc: William_Lucas@xtoenergy.com; Malia_Villers@xtoenergy.com
Subject: Fw: Disposal application from XTO: Holiday SWD #1 30-045-35231 Amendment to add interval uphole
Attachments: Holiday SWD #1 - NaCl concentration from Pickett Plot.xls; ALL_Xplot, HOLIDAY SWD # 1.pdf; pic04966.jpg

Will -

After having our Petrophysicist examine the well logs for the Holiday SWD #1 well, we came up with the attached analysis for water salinity in the formation zones by using a Pickett Plot and Schlumberger's General 6 chart (Resistivity of NaCl Water Solutions).

From our analysis, only one of the proposed perforation zones came in under the 10,000 mg/l PPM threshold. Since the 6,480'-6,490' zone is under the limit, we are requesting to drop this zone from consideration for injection permitting.

Please advise if you have questions or require further clarification.

(See attached file: Holiday SWD #1 - NaCl concentration from Pickett Plot.xls)(See attached file: ALL_Xplot, HOLIDAY SWD #1.pdf)

Regards,

Tim Isernhagen
Reservoir Engineer
XTO Energy
San Juan Basin
810 Houston St. (WTW-1507)
Fort Worth, TX 76102
Phone: 817-885-1637
Tim_Isernhagen@xtoenergy.com

FYI...

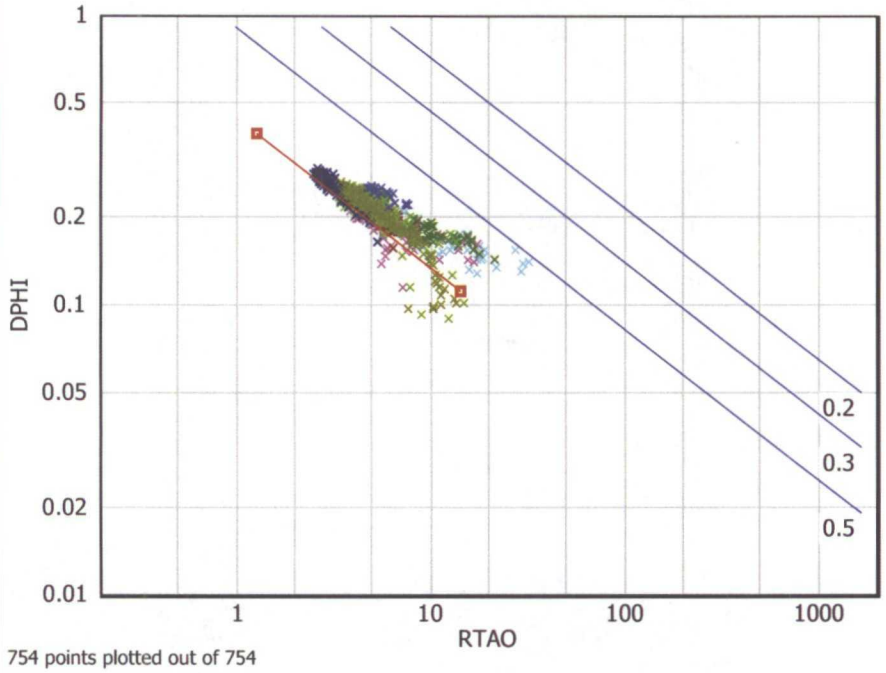
Derick Lucas
Production Engineer
San Juan, NM
XTO Energy
Cell: 505-787-0663
Office: 505-333-3100
----- Forwarded by William Lucas/FAR/CTOC on 11/09/2011 04:31 PM -----

"Jones, William V., EMNRD" <William.V.Jones@state.nm.us> To "William_Lucas@xtoenergy.com" <William_Lucas@xtoenergy.com>

HOLIDAY SWD #1

RTAO / DPHI

Active Zones : W:-1 Z:1, 2, 4, 5, 6, 7, 8, 3



754 points plotted out of 754

Parameter : Rw : 0.209
Parameter : Rw Form Temp : 0.209
Parameter : m exponent : 1.92
Parameter : n exponent : 2
Parameter : a factor : 1

Zone	Depths
(1) A	**6480 FT - 6490 FT**
(2) B	**6577 FT - 6591 FT**
(3) C	**6660 FT - 6710 FT**
(4) D	**6784 FT - 6804 FT**
(5) E	**7015 FT - 7046 FT**
(6) F	**7127 FT - 7202 FT**
(7) G	**7329 FT - 7398 FT**
(8) H	**7405 FT - 7509 FT**

Injection Permit Checklist (11/15/2010) 4/7/11

WFX ____ PMX ____ SWD 1273-A Permit Date 11/28/11 UIC Qtr (O/N/D)

Wells 1 Well Name(s): HOLIDAY SWD #1

API Num: 30-0 45-35231 Spud Date: 5/24/11 New/Old: N (UIC primacy March 7, 1982)

Footages 2257 FSL/1088 FEL Unit I Sec 22 Tsp 25N Rge 10W County San JUAN

General Location:

Operator: XTO ENERGY INC. Contact WILLIAM LUCAS / Molia VILLERS

OGRID: ____ RULE 5.9 Compliance (Wells) ____ (Finan Assur) ____ IS 5.9 OK?

Well File Reviewed ___ Current Status: Drilled for Entrada SWD, Never USED

Planned Work to Well:

Diagrams: Before Conversion ___ After Conversion ✓ Elogs in Imaging File: ✓

Well Details:	Sizes Hole.....Pipe	Setting Depths	Stage Tool	Cement Sx or Cf	Determination Method
New __Existing __Surface	14 3/4 13 3/4	528	—	500 SX	CIRC
New__Existing __Interm	9 1/2 7 5/8	1787	—	300 SX	CIRC
New__Existing __LongSt	6 3/4 5 1/2	7,655 (7670 TD)		500 SX	5280 TOC
New__Existing __ Liner					
New__Existing __ OpenHole					

Depths/Formations:	Depths, Ft.	Formation	Tops?
Formation(s) Above	6166	DKTA	✓
	6414	Morrison	✓
approx Injection TOP:	6490	Morrison Bluff	Max. PSI 1294 OpenHole ___ Perfs ✓
Injection BOTTOM:	7538	Entrada	Tubing Size 2 7/8 Packer Depth ___
Formation(s) Below	7015	BLUFF	✓
	7347	Entrada	✓
	7538	Base of Entrada	

endangered ? 1

TDS = ? 0

~~Capitan Reef?~~ ___ ~~(Potash?~~ ___ ~~Noticed?~~ ___ ~~)~~ ~~[WIPP?~~ ___ ~~Noticed?~~ ___ ~~]~~ ~~Salado Top/Bot~~ ___ ~~Cliff House?~~ ___

6420 / 1290

Fresh Water: Depths: 7250 Formation ___ Wells? One Analysis? BUT NO WATER Affirmative Statement ✓

Disposal Fluid Analysis? Sources: FRC / DKTA ✓

Disposal Interval: Analysis? ___ Production Potential/Testing:

Notice: Newspaper Date 8/30/11 Surface Owner BLM Mineral Owner(s)

RULE 26.7(A) Affected Persons: all XTO

AOR: Maps? ✓ Well List? ✓ Producing in Interval? ✓ Wellbore Diagrams? ✓

.....Active Wells 0 Repairs? — WhichWells? —

.....P&A Wells 0 Repairs? — Which Wells? —

Issues: Request Sent ___ Reply: ___