

DATE IN 4/2/10	SUSPENSE [initials]	ENGINEER Taw	LOGGED IN 4/3/10	TYPE IPI	APP NO 101033285
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -
1220 South St. Francis Drive, Santa Fe, NM 87505



XTO
Canyon SWD#1
30-045-34454
SWD-1119

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]

Fed (BLM)
"IPI-366"

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

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

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

[D] Other: Specify _____

~4000' - 4100'

- 800 PSI -

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

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

3937' - 4072'

[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.

Print or Type Name

Signature

Title

Date

e-mail Address



RECEIVED OCD
2010 APR 12 P 1:01

April 9, 2010

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

Attn: Mr. Terry Warnell

Re: Injection Pressure Increase
Canyon SWD #1
Administrative Order SWD - 1119
Sec 35, T26 N, R11 W, San Juan Co., NM
API# 30-045-34454

Dear Mr. Warnell,

The results of the Step Rate Test for the Canyon SWD #1 conducted on March 12th, 2010 are attached.

The injection rate vs. bottom hole pressure indicates that a bottom hole pressure of 2,400 psig is required to fracture the reservoir, which results in a surface treating pressure of 1,929 psig.

Based on the fracture pressure determined for this well, XTO requests that the approved injection pressure limit, which is currently 800 psig, be increased to 1800 psig.

If you have any questions, please contact me at 505-333-3157.

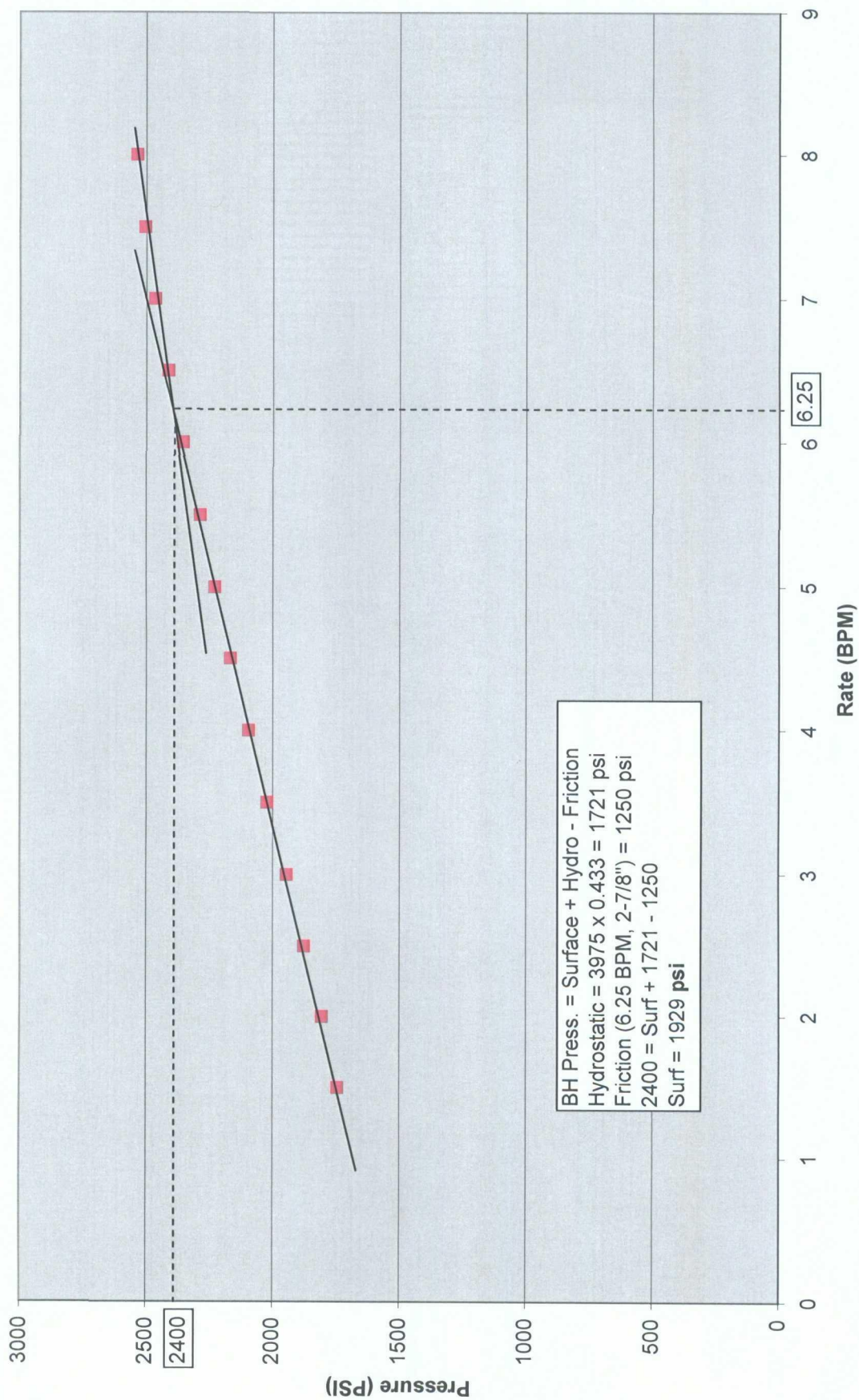
Sincerely,
XTO Energy

Derick Lucas
Production Engineer

cc Charlie Perrin

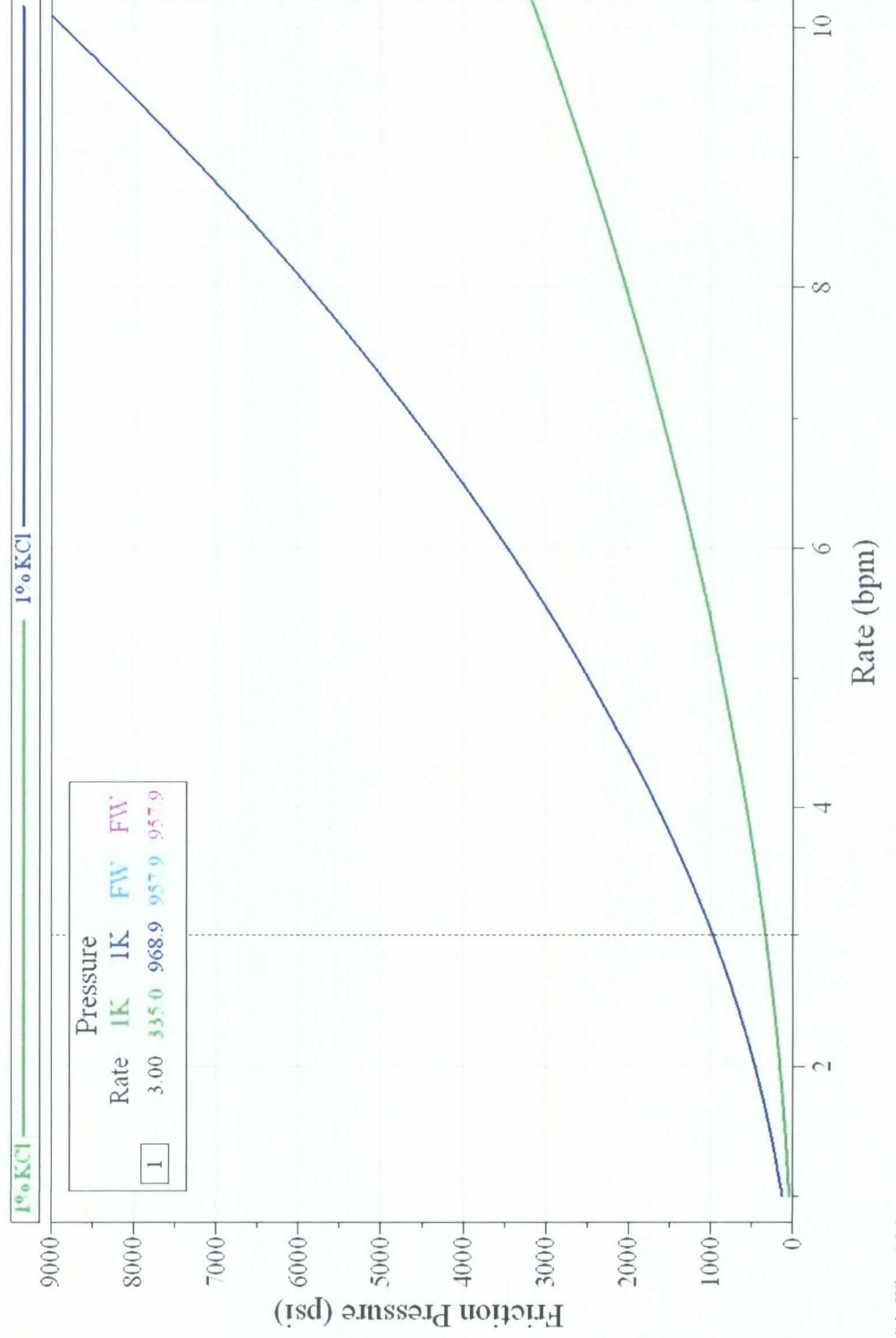
50
= 1879
≈ 1880

SWD #1



1929 - 50 = 1879
~~1781~~

Friction Pressure





XTO - Wellbore Diagram

Well Name: Canyon SWD 01

API/UWI	E/W Dist (ft)	E/W Ref	N/S Dist (ft)	N/S Ref	Location	Field Name	County	State
30045344540000	1,945.0	FWL	845.0	FSL	T26N-R11W-S35	Blanco Mesaverde	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	701188	6,341.00	6,329.00	12.00	9/15/2009	Original Hole - 4159.0	4,220.0	Not Completed

Well Config: Vertical - Original Hole, 4/9/2010 11:51:40 AM

Schematic - Actual		Incl	ftKB (TVD)	ftKB (MD)	Zone	Top (ftKB)	Btm (ftKB)					
					Point Lookout	3,937.0	4,072.0					
		Casing Strings										
		12	Casing Description	OD (in)	Wt (lbs/ft)	String Grade	Top Connection	Set Depth (ftKB)				
			Surface	9 5/8	36.00	J-55	ST&C	1,234.0				
		1,186	Casing Description	OD (in)	Wt (lbs/ft)	String Grade	Top Connection	Set Depth (ftKB)				
			Production	7	26.00	L-80	LT&C	4,202.5				
		1,188	Item Description	OD (in)	Wt (lbs/ft)	Grade	Top (ftKB)	Bottom (ftKB)				
			DV Tool	7	26.00	L-80	2,947.6	2,950.1				
		Cement										
		1,233	Description	Type	String							
			Surface Casing Cement	casing	Surface, 1,234.0ftKB							
		1,234	Comment									
			Good Job									
		1,243	Description	Type	String							
			Production Casing Cement	casing	Production, 4,202.5ftKB							
		2,948	Comment									
			Good Job									
		Perforations										
		2,950	Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Hole Diameter (in)	Phasing (°)	Curr... Status	Zone		
		2,963	2/12/2010	3,937.0	4,072.0		0.450	120		Point Lookout		
		Tubing Strings										
		3,803	Tubing Description	Run Date	Set Depth (ftKB)							
			Tubing - Workstring	3/8/2010	4,131.4							
		Tubing Components										
		3,817	Item Description	Jts	Model	OD (in)	Wt (lbs/...	Gra...	Top Thread	Len (ft)	Top (ftKB)	Btm (ftKB)
		3,840	Tubing	118	T&C Upset	2 7/8	6.50	J-55		3,827.70	12.0	3,839.7
		3,841	Seat Nipple	1	T&C Upset	2 7/8	6.50	J-55		1.30	3,839.7	3,841.0
		3,848	Packer - 7" Arrowset 1X	1		6				7.10	3,841.0	3,848.1
		3,937	Tubing	1	T&C Upset	2 7/8	6.50	J-55		195.95	3,848.1	4,044.1
		4,044	Perforated Sub	1	T&C Upset	2 7/8	6.50	J-55		20.50	4,044.1	4,064.6
4,065	Tubing	1	T&C Upset	2 7/8	6.50	J-55		32.50	4,064.6	4,097.1		
4,072	Seat Nipple	1	T&C Upset	2 7/8	6.50	J-55		1.30	4,097.1	4,098.4		
4,097	Tubing	1	T&C Upset	2 7/8	6.50	J-55		32.50	4,098.4	4,130.9		
4,098	Bull Plug Mud Anchor Jt	1		2 7/8	6.50			0.50	4,130.9	4,131.4		
Rods												
4,131	Rod Description	Run Date	String Length (ft)				Set Depth (ftKB)					
4,131	Rod Components											
	Item Description	Jts	Model	OD (in)	Grade	Len (ft)	Top (ftKB)	Btm (ftKB)				
4,158												
4,159												
4,201												
4,202												
4,220												

Top (MD):3,937, Des:Point Lookout

PBTD, 4,159

TD, 4,220



XTO - Wellbore Diagram

Well Name: Canyon SWD 01

API/UWI 30045344540000	E/W Dist (ft) 1,945.0	E/W Ref FWL	N/S Dist (ft) 845.0	N/S Ref FSL	Location T26N-R11W-S35	Field Name Blanco Mesaverde	County San Juan	State New Mexico
Well Configuration Type Vertical	XTO ID B 701188	Orig KB Elev (ft) 6,341.00	Gr Elev (ft) 6,329.00	KB-Grd (ft) 12.00	Spud Date 9/15/2009	PBTD (All) (ftKB) Original Hole - 4159.0	Total Depth (ftKB) 4,220.0	Method Of Production Not Completed

Well Config: Vertical - Original Hole, 4/9/2010 11:51:40 AM

Stimulations & Treatments

Schematic - Actual	Incl	ftKB (TVD)	ftKB (MD)	Frac Start Date 2/26/2010	Top Perf (f...)	Bottom Pe...	V (slurry) (...)	Total Prop...	AIR (b...	ATP (psi)	MTP (psi)	ISIP (psi) 1,050.0
Top (MD):3,937, Des:Point Lookout PBTD, 4,159 TD, 4,220			12	Comment JOB SUMMARY Pumped 102,311 gallons of 20# Lighting 20 XL frac fluid (excluding 6,258 gallons FW flush) at an avg. rate of 61.2 bpm and a avg. WHTP of 1,069 psi. Pumped 2250.8 sacks of 20/40 Az Silica sand (per densometer) with a max BH sand concentration of 5.05 lb/gal. Total Fluid to recover is 2,585 bbls A 21% pad was pumped The maximum surface pressure reached (during treatment) was 1,275 psi. Job pumped per design. Treater: TCC Operator: Engineer:								
			1,186									
			1,188									
			1,233									
			1,234									
			1,243									
			2,948									
			2,950									
			2,963									
			3,803									
			3,817									
			3,840									
			3,841									
			3,848									
			3,937									
			4,044									
			4,065									
			4,072									
			4,097									
			4,098									
			4,131									
			4,131									
			4,158									
			4,159									
			4,201									
			4,202									
			4,220									



PRESSURE GAUGE DATA

Company: XTO Energy, Inc.

Well Name: Canyon SWD #1

Date: March 11-15, 2010

Reservoir Engineering Data Farmington, New Mexico

[illegible]

Static Gradient Report

Oil Company: XTO ENERGY, INC.
Well Name: CANYON SWD #1
Well Location: T26N, R11W, SEC. 35
Field: BLANCO MESAVERDE
Formation: MESAVERDE
On Bottom Time: 3/11/10 @ 0729 HRS
Off Bottom Time: 3/15/10 @ 0730 HRS

OIL COMPANY INFORMATION

Oil Company: XTO ENERGY, INC.
Address: AZTEC, NM

WELL INFORMATION

Well Name: CANYON SWD #1
Well Location: T26N, R11W, SEC. 35
Field: BLANCO MESAVERDE
Pool:
Formation: MESAVERDE
Well Licence Number: 3004534454000
Well Fluid Status: 02 Gas
Well Mode Status: 07 Standing(Drilled & Cased)
Well Type Status: 09 Industrial
Well Type Indicator: Vertical
Production Interval(KB) From: 3937 TO 4072
KB Elevation: 6341 CF Elevation: Ground Elevation: 6329
Pool Datum: Datum Depth: 6341
Producing Through: Tubing
O.H. Diameter:
Casing Liner Diameter:
PBD: 4159
Total Depth: 4202
Tubing Depth: 4131
Tubing OD.: 2 7/8 Tubing ID.: J55 6.5#
Casing OD.: 7 Casing ID.:

TEST INFORMATION

Type Of Test: Static Gradient
Initial Tubing Pressure: Final Tubing Pressure:
Initial Casing Pressure: Final Casing Pressure:
Shut in Time:

GAUGE INFORMATION

Serial Number: 5404
Pressure Range: 323
Calibration Date: SEP 22/09
Gauge Started: Gauge Stopped:
On Bottom Time: 3/11/10 @ 0729 HRS Off Bottom Time: 3/15/10 @ 0730 HRS
Run Depth Bottom (KB): 4038

REMARKS

3/11/10 - RU PRESSURE TRLR-RAN TANDEM BHP GAUGES (5404, 5405) TO 4038'-SET-LEFT GAUGES IN TO MONITOR WELL.
3/15/10 - AOL-POOH W/TANDEM BHP GAUGES FROM 4038' MAKING GRADIENT STOPS.

GRADIENT SUMMARY

Oil Company: XTO ENERGY, INC.

Well Location: T26N, R11W, SEC. 35

#	Real Time	Depth	Stop Time	Temp.(DEG.F)	Pres.(PSIG)	Gradient
1	03/15/2010 07:23:50	0.0	0818 - 0823	45.895	0.0	0.000
2	03/15/2010 07:14:00	1000.0	0809 - 0813	72.930	420.6	0.421
3	03/15/2010 07:05:00	2000.0	0759 - 0804	94.179	854.9	0.434
4	03/15/2010 06:55:55	3000.0	0751 - 0756	108.197	1285.8	0.431
5	03/15/2010 06:47:50	3500.0	0743 - 0748	118.379	1502.4	0.433
6	03/15/2010 06:41:50	3638.0	0737 - 0742	120.412	1561.5	0.428
7	03/15/2010 06:35:50	3838.0	0731 - 0736	124.230	1645.9	0.422
8	03/15/2010 06:29:05	4038.0	- 0730	125.645	1733.5	0.438

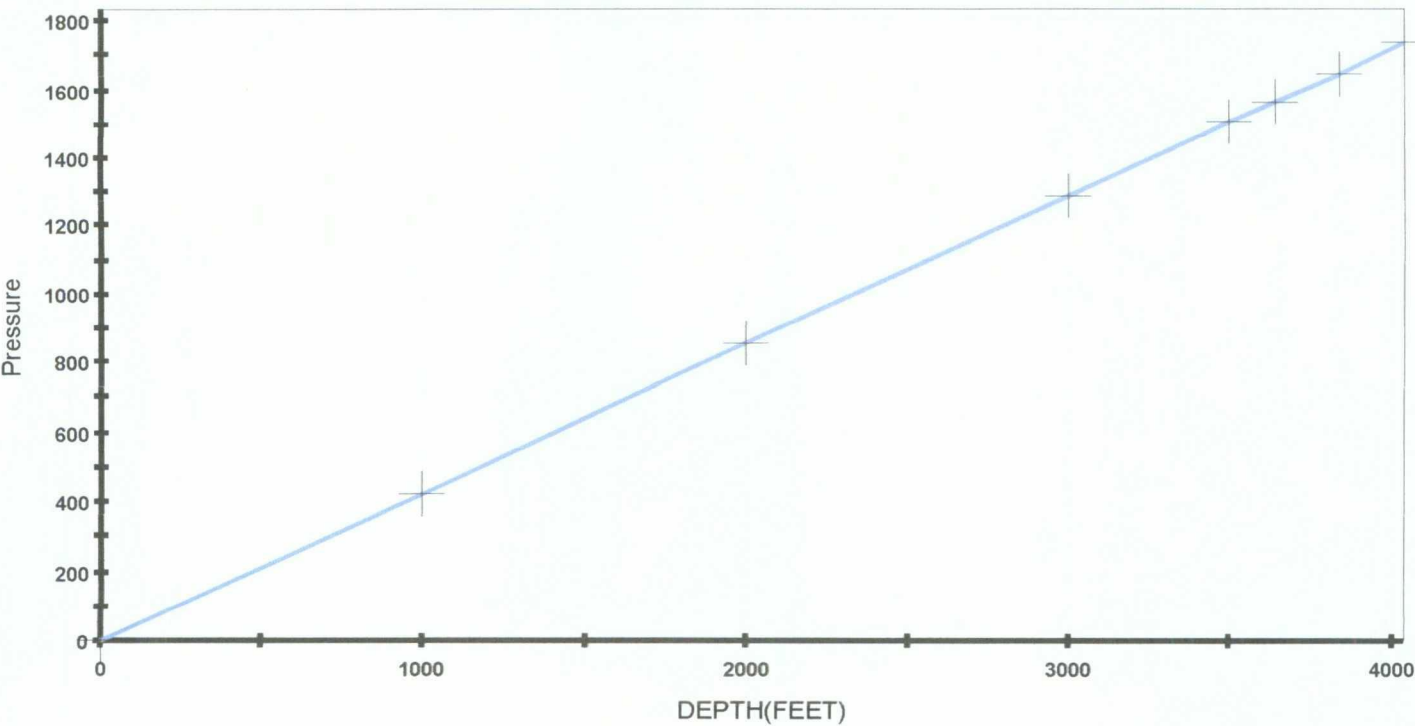
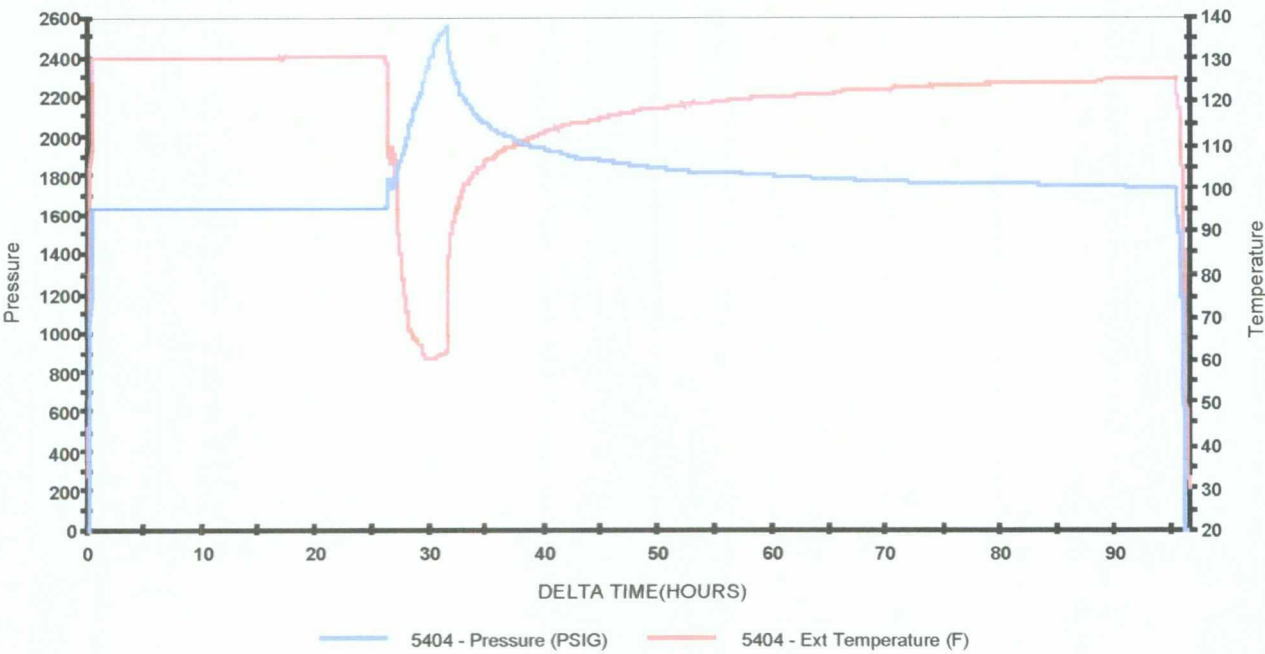
FLUID LEVEL IS AT N/A

Gradient Plots



Oil Company: XTO ENERGY, INC.

Well Location: T26N, R11W, SEC. 35



STIMULATION TREATMENT REPORT



Date <u>12-MAR-10</u>	District <u>Farmington</u>	F. Receipt <u>1001574176</u>	Customer <u>XTO Energy</u>
Lease <u>CANYON SWD #1</u>	Well Name <u>CANYON SWD #1</u>		
Field <u>BLANCO</u>	Location <u>35-28N-11W</u>		
County <u>San Juan</u>	State <u>New Mexico</u>	Stage No <u>1</u>	Well API <u>- API 30045344540000</u>

WELL DATA		Well Type: <u>NEW</u>	Well Class: <u>GAS</u>	Depth TD/PB: <u>4130</u>	Formation: <u>POINT LOOKOUT</u>
Geometry Type	Tubular Type	OD	Weight	ID	Grade
TUBULAR	TBG	2.875	6.5	2.441	J-55
COMPLETION					

Top	Bottom	SPF	Diameter
3937	3940	4	.45
3960	3974	4	.45
3982	3986	4	.45
3989	3993	4	.45
4037	4039	4	.45

Packer Type	Packer Depth <u>3840</u>	FT
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TREATMENT DATA			LIQUID PUMPED AND CAPACITIES IN BBLs.	
Fluid Type	Fluid Desc	Pumped Volume(Gals)	Prop. Description	Volume Pumped(Lbs)
TREATMENT FLUID	2% KCL	69.768	NO PROPPANT	
			Total Prop Qty:	

Previous Treatment	<u>N/A</u>	Previous Production	<u>N/A</u>
Hole Loaded With	<u>KOL</u>	Treat Via: Tubing ☐ Casing ☐ Anul. ☒ Tubing & Anul. ☐	
Ball Sealers:	<u>0</u> in	Stages Type	
Auxiliary Materials	<u>N/A</u>		

PROCEDURE SUMMARY						
Time AM/PM	Treating Pressure-Psi		Surface Slurry BBLs. Pumped		Slurry Rate BPM	Comments
	STP	Annulus	Stage	Total		
09:40						Safety Meeting
09:00	3500					Pressure Test
09:15	215	2	27.3	0	3	Open W/H Load Hole
09:33	14	8	19	27.3	.9	St. 2% KCL H2O @ 1 BBL/Min
09:55	127	16	30	48.3	1.5	St. 2% KCL H2O @ 1.5 BBL/Min
10:16	240	23	43.3	76.3	2	St. 2% KCL H2O @ 2 BBL/Min
10:36	371	24	61.3	119.6	2.5	St. 2% KCL H2O @ 2.5 BBL/Min
10:56	516	25	63.4	170.8	3	St. 2% KCL H2O @ 3 BBL/Min
11:17	660	25	74.6	234.3	3.5	St. 2% KCL H2O @ 3.5 BBL/Min
11:37	800	28	86.2	308.9	4	St. 2% KCL H2O @ 4 BBL/Min
11:58	918	28	99.3	395.1	4.5	St. 2% KCL H2O @ 4.5 BBL/Min
12:18	1055	33	99.5	494.4	5	St. 2% KCL H2O @ 5 BBL/Min
12:39	1244	37	115	593.9	5.5	St. 2% KCL H2O @ 5.5 BBL/Min
12:59	1380	42	124	708.9	6	St. 2% KCL H2O @ 6 BBL/Min
13:19	1546	45	134	832.9	6.5	St. 2% KCL H2O @ 6.5 BBL/Min
13:38	1646	57	141	966.9	7	St. 2% KCL H2O @ 7 BBL/Min
14:00	1740	59	157	1107.9	7.5	St. 2% KCL H2O @ 7.5 BBL/Min
14:20	1780	63	169	1264.9	8	St. 2% KCL H2O @ 8 BBL/Min
14:40	800	61	0	1422.9	0	Shut Down

Treating Pressure		Injection Rates		Shut In Pressures		Customer Rep.	
Minimum	14	Treating Fluid	4.2	ISDP	899	BJ Rep.	JOHN M LAWS
Maximum	1780	Flush	0	5 Min.	891	Job Number	1001574176
Average	667	Average	4.2	10 Min.	855	Req. ID No.	
Operators Max. Pressure				15 Min.	824	Distribution	

COMMENT SUMMARY

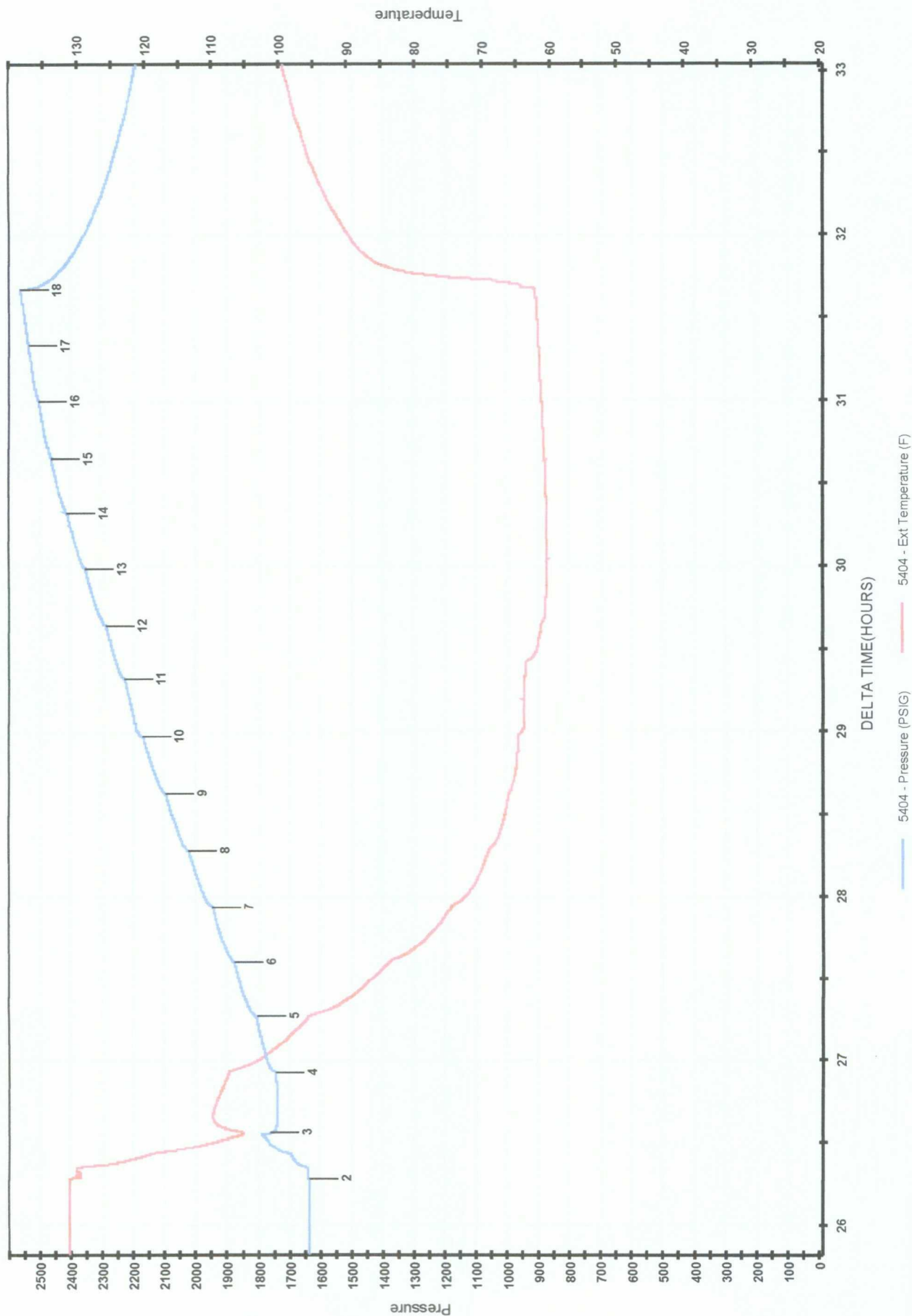
Oil Company: XTO ENERGY, INC.
Date of Test: MAR 11, 2010

Well Location: CANYON SWD #1 STEP RATE TEST
Serial#: 5404

#	Real Time	Comment	Pres.(PSIG)	Temp.(DEG.F)
1	03/11/2010 07:29:00	ON DEPTH @ 4038'	1638.53	130.553
2	03/12/2010 09:16:46	LOAD HOLE .3 BBL	1635.92	130.963
3	03/12/2010 09:33:20	0.9 BBL/MI	1762.87	105.250
4	03/12/2010 09:55:14	1.5 BBL/MIN	1742.79	107.382
5	03/12/2010 10:16:04	2.0 BBL/MIN	1804.76	95.496
6	03/12/2010 10:35:46	2.5 BBL/MIN	1876.69	83.690
7	03/12/2010 10:55:56	3.0 BBL/MIN	1946.36	74.493
8	03/12/2010 11:16:56	3.5 BBL/MIN	2022.81	68.900
9	03/12/2010 11:37:30	4.0 BBL/MIN	2096.21	65.890
10	03/12/2010 11:58:12	4.5 BBL/MIN	2167.84	64.433
11	03/12/2010 12:19:00	5.0 BBL/MIN	2228.57	63.687
12	03/12/2010 12:38:20	5.5 BBL/MIN	2286.97	61.115
13	03/12/2010 12:59:08	6.0 BBL/MIN	2355.59	60.408
14	03/12/2010 13:19:22	6.5 BBL/MIN	2412.84	60.406
15	03/12/2010 13:39:16	7.0 BBL/MIN	2465.52	60.650
16	03/12/2010 13:59:48	7.5 BBL/MIN	2505.29	61.106
17	03/12/2010 14:20:04	8.0 BBL/MIN	2537.42	61.484
18	03/12/2010 14:40:10	STOPPED PUMPING	2562.89	61.973

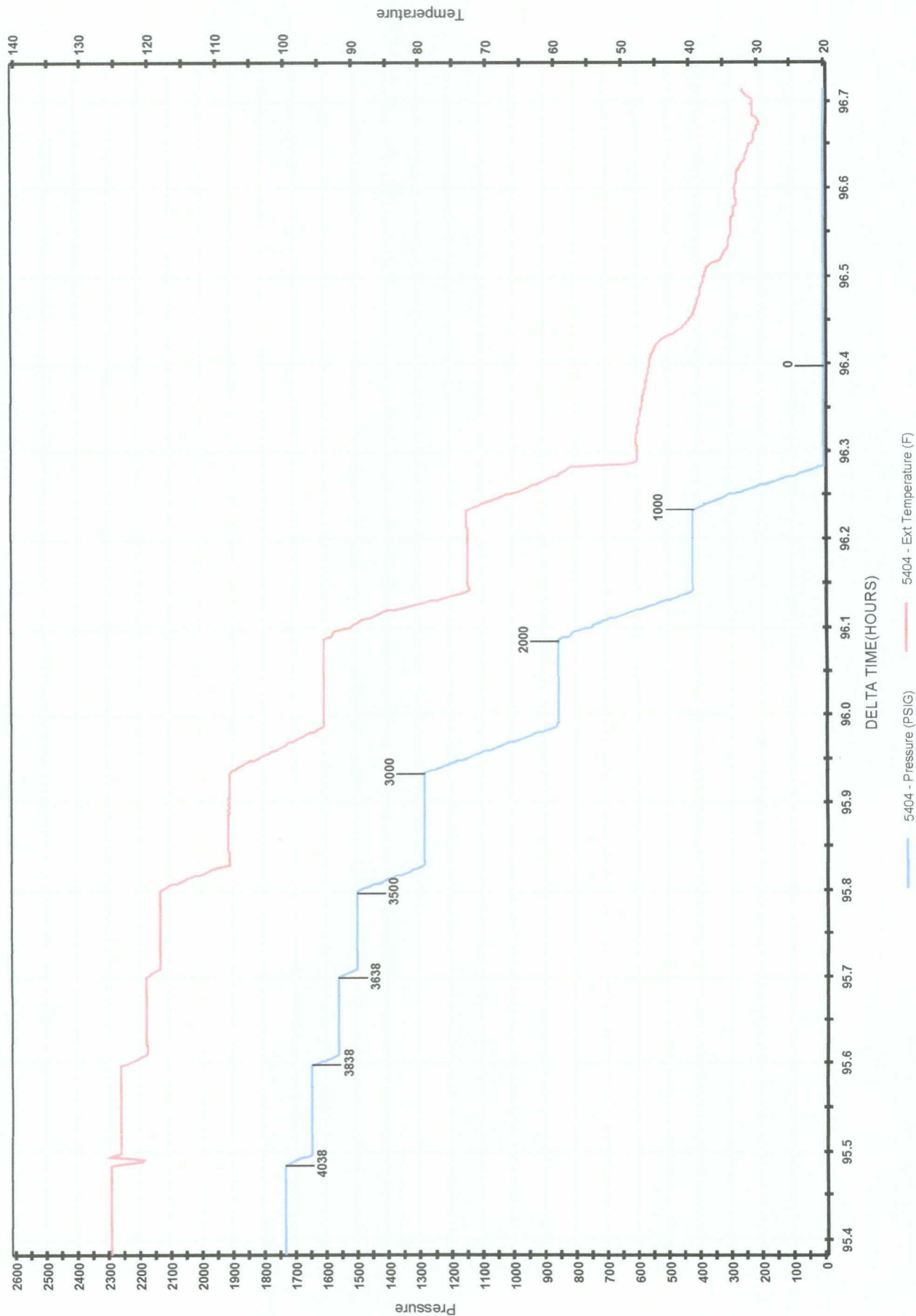
PRESSURE AND TEMPERATURE VS DELTA TIME

Company: XTO ENERGY, INC.
 Location: CANYON SWD #1 STEP RATE TEST
 Date: MAR 11, 2010
 Serial# 5404
 Max. Pressure: 2562.967 Max. Temperature: 130.981



PRESSURE AND TEMPERATURE VS DELTA TIME

Company: XTO ENERGY, INC.
Location: CANYON SWD #1 POOH GRADIENT
Date: MARCH 15, 2010
Serial# 5404
Max. Pressure: 2562.967 Max. Temperature: 130.981



PRESSURE AND TEMPERATURE VS DELTA TIME

Company: XTO ENERGY, INC.
Location: CANYON SWD #1 GRAPH
Date: MARCH 11-15, 2010
Serial# 5404
Max. Pressure: 2562.967 Max. Temperature: 130.981

