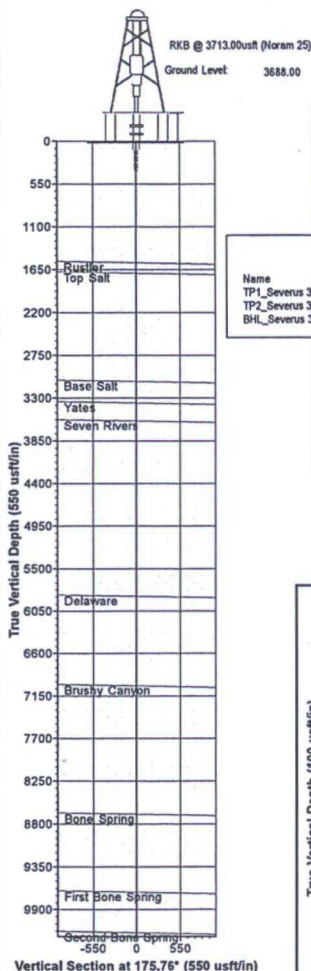


Project: Lea County, NM (NAD27)
Site: Severus 31 Federal Com
Well: 3H
Wellbore: OH
Design: Plan 1 07-14-15
Rig: Noram 25

Azimuths to Grid North
True North: -0.39°
Magnetic North: 6.62°
Magnetic Field
Strength: 48526.5nT
Dip Angle: 60.55°
Date: 7/14/2015
Model: HDGM



WELL DETAILS						
	+N-S	+E-W	Northing	Ground Level	Latitude	Longitude
	0.00	0.00	559992.60	3688.00	32° 32' 14.64579 N	103° 36' 7.24714 W

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	10682.15	0.00	0.00	10682.15	0.00	0.00	0.00	0.00	0.00	
3	11571.25	88.91	175.76	11253.00	-560.52	41.56	10.00	175.76	562.08	
4	16349.67	88.91	175.76	11345.90	-5325.00	394.80	0.00	0.00	5339.62	BHL Severus 31 Fed Com 3H

Annotation: KOP, Begin 10°/100' Build
LP, Hold 88.91° Inc
TD at 16349.67 MD

DESIGN TARGET DETAILS										
Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape		
TP1 Severus 31 Fed Com 3H	11255.18	-569.50	42.20	559423.10	725418.00	32° 32' 9.00768 N	103° 36' 6.79988 W	Point		
TP2 Severus 31 Fed Com 3H	11343.42	-5195.00	385.20	554797.60	725761.00	32° 31' 23.21463 N	103° 36' 3.16487 W	Point		
BHL Severus 31 Fed Com 3H	11345.90	-5325.00	394.80	554667.60	725770.00	32° 31' 21.92762 N	103° 36' 3.06319 W	Rectangle (Sides: L4778.42 W100.00)		

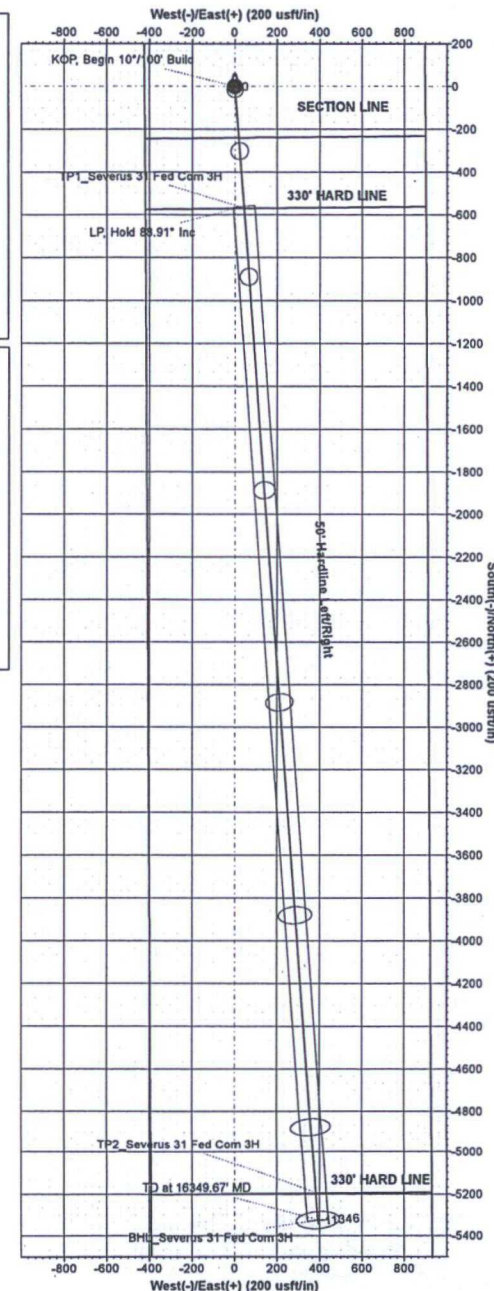
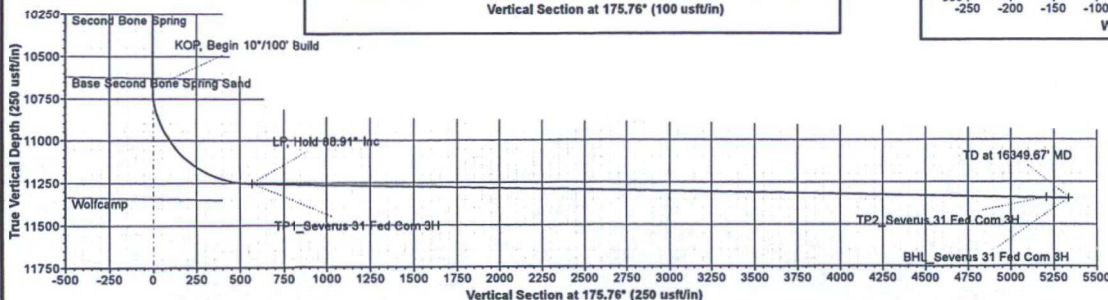
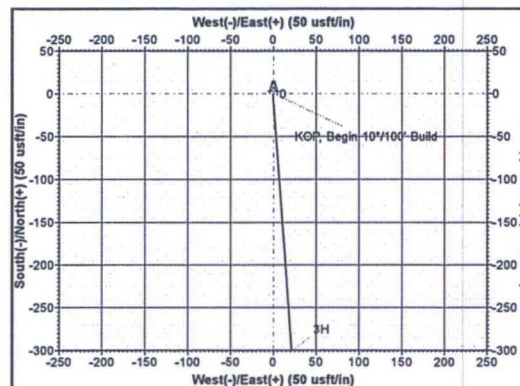
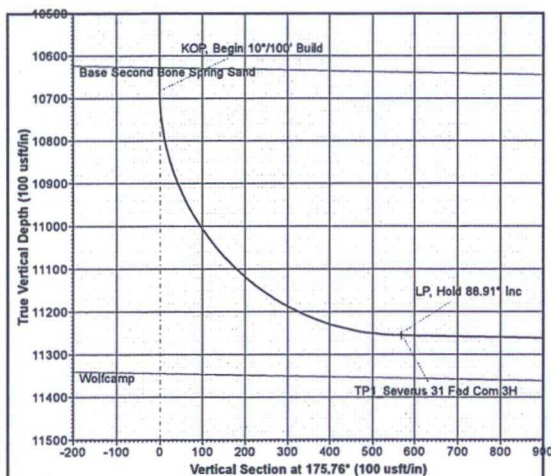
CASING DETAILS
No casing data is available

LEGEND
— Plan 1 07-14-15

FORMATION TOP DETAILS					
TVDPath	MDPath	Formation	DipAngle	DipDir	
1558.00	1558.00	Rustler	1.09	175.76	
1692.00	1692.00	Top Salt	1.09	175.76	
3081.00	3081.00	Base Salt	1.09	175.76	
3359.00	3359.00	Yates	1.09	175.76	
3591.00	3591.00	Seven Rivers	1.09	175.76	
5855.00	5855.00	Delaware	1.09	175.76	
7015.00	7015.00	Brushy Canyon	1.09	175.76	
8672.00	8672.00	Bone Spring	1.09	175.76	
8672.00	8672.00	First Bone Spring	1.09	175.76	
10196.00	10196.00	Second Bone Spring	1.09	175.76	
10627.00	10627.00	Base Second Bone Spring Sand	1.09	175.76	

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001
Local Origin: Well 3H, Grid North
Latitude: 32° 32' 14.64579 N
Longitude: 103° 36' 7.24714 W
Grid East: 725375.80
Grid North: 559992.60
Scale Factor: 1.000

Geomagnetic Model: HDGM
Sample Date: 14-Jul-15
Magnetic Declination: 7.02°
Dip Angle from Horizontal: 60.55°
Magnetic Field Strength: 48527
To convert a Magnetic Direction to a Grid Direction, Add 6.62°
To convert a Magnetic Direction to a True Direction, Add 7.02° East
To convert a True Direction to a Grid Direction, Subtract 0.39°



XTOENERGY

XTO Energy Inc

Lea County, NM (NAD27)

Severus 31 Federal Com

3H

OH

Plan: Plan 1 07-14-15

Standard Planning Report

14 July, 2015

Database: Compass 5000 GCR
 Company: XTO Energy Inc
 Project: Lea County, NM (NAD27)
 Site: Severus 31 Federal Com
 Well: 3H
 Wellbore: OH
 Design: Plan 1 07-14-15

Local Co-ordinate Reference: Well 3H
 TVD Reference: RKB @ 3713.00usft (Noram 25)
 MD Reference: RKB @ 3713.00usft (Noram 25)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Project	Lea County, NM (NAD27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Severus 31 Federal Com		
Site Position:		Northing:	559,895.80 usft
From:	Map	Easting:	726,740.90 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 32' 13.59493 N
		Longitude:	103° 35' 51.30951 W
		Grid Convergence:	0.40 °

Well	3H		
Well Position	+N/-S	96.80 usft	Northing:
	+E/-W	-1,365.10 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Latitude:	32° 32' 14.64579 N
		Longitude:	103° 36' 7.24714 W
		Ground Level:	3,688.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
			(°)
	HDGM	7/14/2015	7.02
			Dip Angle
			(°)
			60.55
			Field Strength
			(nT)
			48,527

Design	Plan 1 07-14-15		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			175.76

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10,682.15	0.00	0.00	10,682.15	0.00	0.00	0.00	0.00	0.00	0.00	
11,571.25	88.91	175.76	11,255.00	-560.52	41.56	10.00	10.00	0.00	175.76	
16,349.67	88.91	175.76	11,345.90	-5,325.00	394.80	0.00	0.00	0.00	0.00	BHL_Severus 31 Fed

Database: Compass 5000 GCR
 Company: XTO Energy Inc
 Project: Lea County, NM (NAD27)
 Site: Severus 31 Federal Com
 Well: 3H
 Wellbore: OH
 Design: Plan 1 07-14-15

Local Co-ordinate Reference: Well 3H
 TVD Reference: RKB @ 3713.00usft (Noram 25)
 MD Reference: RKB @ 3713.00usft (Noram 25)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,558.00	0.00	0.00	1,558.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,692.00	0.00	0.00	1,692.00	0.00	0.00	0.00	0.00	0.00	0.00
Top Salt									
3,081.00	0.00	0.00	3,081.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Salt									
3,359.00	0.00	0.00	3,359.00	0.00	0.00	0.00	0.00	0.00	0.00
Yates									
3,591.00	0.00	0.00	3,591.00	0.00	0.00	0.00	0.00	0.00	0.00
Seven Rivers									
5,855.00	0.00	0.00	5,855.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
7,015.00	0.00	0.00	7,015.00	0.00	0.00	0.00	0.00	0.00	0.00
Brushy Canyon									
8,672.00	0.00	0.00	8,672.00	0.00	0.00	0.00	0.00	0.00	0.00
Bone Spring									
9,672.00	0.00	0.00	9,672.00	0.00	0.00	0.00	0.00	0.00	0.00
First Bone Spring									
10,196.00	0.00	0.00	10,196.00	0.00	0.00	0.00	0.00	0.00	0.00
Second Bone Spring									
10,627.00	0.00	0.00	10,627.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Second Bone Spring Sand									
10,682.15	0.00	0.00	10,682.15	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Begin 10°/100' Build									
10,700.00	1.79	175.76	10,700.00	-0.28	0.02	0.28	10.00	10.00	0.00
10,800.00	11.79	175.76	10,799.17	-12.05	0.89	12.08	10.00	10.00	0.00
10,900.00	21.79	175.76	10,894.79	-40.81	3.03	40.92	10.00	10.00	0.00
11,000.00	31.79	175.76	10,983.95	-85.69	6.35	85.93	10.00	10.00	0.00
11,100.00	41.79	175.76	11,063.93	-145.34	10.78	145.73	10.00	10.00	0.00
11,200.00	51.79	175.76	11,132.32	-217.92	16.16	218.52	10.00	10.00	0.00
11,300.00	61.79	175.76	11,187.03	-301.25	22.33	302.08	10.00	10.00	0.00
11,400.00	71.79	175.76	11,226.39	-392.79	29.12	393.86	10.00	10.00	0.00
11,500.00	81.79	175.76	11,249.23	-489.75	36.31	491.09	10.00	10.00	0.00
11,571.25	88.91	175.76	11,255.00	-560.52	41.56	562.06	10.00	10.00	0.00
LP, Hold 88.91° Inc									
11,600.00	88.91	175.76	11,255.55	-589.19	43.68	590.81	0.00	0.00	0.00
11,700.00	88.91	175.76	11,257.45	-688.90	51.08	690.79	0.00	0.00	0.00
11,800.00	88.91	175.76	11,259.35	-788.61	58.47	790.77	0.00	0.00	0.00
11,900.00	88.91	175.76	11,261.25	-888.31	65.86	890.75	0.00	0.00	0.00
12,000.00	88.91	175.76	11,263.16	-988.02	73.25	990.73	0.00	0.00	0.00
12,100.00	88.91	175.76	11,265.06	-1,087.73	80.65	1,090.72	0.00	0.00	0.00
12,200.00	88.91	175.76	11,266.96	-1,187.44	88.04	1,190.70	0.00	0.00	0.00
12,300.00	88.91	175.76	11,268.86	-1,287.15	95.43	1,290.68	0.00	0.00	0.00
12,400.00	88.91	175.76	11,270.77	-1,386.86	102.82	1,390.66	0.00	0.00	0.00
12,500.00	88.91	175.76	11,272.67	-1,486.56	110.22	1,490.64	0.00	0.00	0.00
12,600.00	88.91	175.76	11,274.57	-1,586.27	117.61	1,590.63	0.00	0.00	0.00
12,700.00	88.91	175.76	11,276.47	-1,685.98	125.00	1,690.61	0.00	0.00	0.00
12,800.00	88.91	175.76	11,278.38	-1,785.69	132.39	1,790.59	0.00	0.00	0.00
12,900.00	88.91	175.76	11,280.28	-1,885.40	139.78	1,890.57	0.00	0.00	0.00
13,000.00	88.91	175.76	11,282.18	-1,985.11	147.18	1,990.55	0.00	0.00	0.00
13,100.00	88.91	175.76	11,284.08	-2,084.81	154.57	2,090.54	0.00	0.00	0.00
13,200.00	88.91	175.76	11,285.98	-2,184.52	161.96	2,190.52	0.00	0.00	0.00

Database: Compass 5000 GCR
 Company: XTO Energy Inc
 Project: Lea County, NM (NAD27)
 Site: Severus 31 Federal Com
 Well: 3H
 Wellbore: OH
 Design: Plan 1 07-14-15

Local Co-ordinate Reference: Well 3H
 TVD Reference: RKB @ 3713.00usft (Noram 25)
 MD Reference: RKB @ 3713.00usft (Noram 25)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,300.00	88.91	175.76	11,287.89	-2,284.23	169.35	2,290.50	0.00	0.00	0.00
13,400.00	88.91	175.76	11,289.79	-2,383.94	176.75	2,390.48	0.00	0.00	0.00
13,500.00	88.91	175.76	11,291.69	-2,483.65	184.14	2,490.46	0.00	0.00	0.00
13,600.00	88.91	175.76	11,293.59	-2,583.35	191.53	2,590.45	0.00	0.00	0.00
13,700.00	88.91	175.76	11,295.50	-2,683.06	198.92	2,690.43	0.00	0.00	0.00
13,800.00	88.91	175.76	11,297.40	-2,782.77	206.32	2,790.41	0.00	0.00	0.00
13,900.00	88.91	175.76	11,299.30	-2,882.48	213.71	2,890.39	0.00	0.00	0.00
14,000.00	88.91	175.76	11,301.20	-2,982.19	221.10	2,990.37	0.00	0.00	0.00
14,100.00	88.91	175.76	11,303.10	-3,081.90	228.49	3,090.35	0.00	0.00	0.00
14,200.00	88.91	175.76	11,305.01	-3,181.60	235.89	3,190.34	0.00	0.00	0.00
14,300.00	88.91	175.76	11,306.91	-3,281.31	243.28	3,290.32	0.00	0.00	0.00
14,400.00	88.91	175.76	11,308.81	-3,381.02	250.67	3,390.30	0.00	0.00	0.00
14,500.00	88.91	175.76	11,310.71	-3,480.73	258.06	3,490.28	0.00	0.00	0.00
14,600.00	88.91	175.76	11,312.62	-3,580.44	265.46	3,590.26	0.00	0.00	0.00
14,700.00	88.91	175.76	11,314.52	-3,680.15	272.85	3,690.25	0.00	0.00	0.00
14,800.00	88.91	175.76	11,316.42	-3,779.85	280.24	3,790.23	0.00	0.00	0.00
14,900.00	88.91	175.76	11,318.32	-3,879.56	287.63	3,890.21	0.00	0.00	0.00
15,000.00	88.91	175.76	11,320.23	-3,979.27	295.03	3,990.19	0.00	0.00	0.00
15,100.00	88.91	175.76	11,322.13	-4,078.98	302.42	4,090.17	0.00	0.00	0.00
15,200.00	88.91	175.76	11,324.03	-4,178.69	309.81	4,190.16	0.00	0.00	0.00
15,300.00	88.91	175.76	11,325.93	-4,278.39	317.20	4,290.14	0.00	0.00	0.00
15,400.00	88.91	175.76	11,327.83	-4,378.10	324.60	4,390.12	0.00	0.00	0.00
15,500.00	88.91	175.76	11,329.74	-4,477.81	331.99	4,490.10	0.00	0.00	0.00
15,600.00	88.91	175.76	11,331.64	-4,577.52	339.38	4,590.08	0.00	0.00	0.00
15,700.00	88.91	175.76	11,333.54	-4,677.23	346.77	4,690.07	0.00	0.00	0.00
15,800.00	88.91	175.76	11,335.44	-4,776.94	354.17	4,790.05	0.00	0.00	0.00
15,900.00	88.91	175.76	11,337.35	-4,876.64	361.56	4,890.03	0.00	0.00	0.00
16,000.00	88.91	175.76	11,339.25	-4,976.35	368.95	4,990.01	0.00	0.00	0.00
16,100.00	88.91	175.76	11,341.15	-5,076.06	376.34	5,089.99	0.00	0.00	0.00
16,200.00	88.91	175.76	11,343.05	-5,175.77	383.74	5,189.97	0.00	0.00	0.00
16,300.00	88.91	175.76	11,344.96	-5,275.48	391.13	5,289.96	0.00	0.00	0.00
16,349.67	88.91	175.76	11,345.90	-5,325.00	394.80	5,339.62	0.00	0.00	0.00

TD at 16349.67' MD

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
TP1_Severus 31 Fed Cc	1.09	175.76	11,255.18	-569.50	42.20	559,423.10	725,418.00	32° 32' 9.00768 N	103° 36' 6.79988 W
- plan misses target center by 0.02usft at 11580.25usft MD (11255.17 TVD, -569.50 N, 42.22 E)									
- Point									
TP2_Severus 31 Fed Cc	0.00	0.00	11,343.42	-5,195.00	385.20	554,797.60	725,761.00	32° 31' 23.21463 N	103° 36' 3.16487 W
- plan misses target center by 0.04usft at 16219.29usft MD (11343.42 TVD, -5195.00 N, 385.16 E)									
- Point									
BHL_Severus 31 Fed Cc	1.09	175.76	11,345.90	-5,325.00	394.80	554,667.60	725,770.60	32° 31' 21.92762 N	103° 36' 3.06319 W
- plan hits target center									
- Rectangle (sides W100.00 H4,778.42 D0.00)									

Database: Compass 5000 GCR
Company: XTO Energy Inc
Project: Lea County, NM (NAD27)
Site: Severus 31 Federal Com
Well: 3H
Wellbore: OH
Design: Plan 1 07-14-15

Local Co-ordinate Reference: Well 3H
TVD Reference: RKB @ 3713.00usft (Noram 25)
MD Reference: RKB @ 3713.00usft (Noram 25)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,558.00	1,558.00	Rustler		1.09	175.76
1,692.00	1,692.00	Top Salt		1.09	175.76
3,081.00	3,081.00	Base Salt		1.09	175.76
3,359.00	3,359.00	Yates		1.09	175.76
3,591.00	3,591.00	Seven Rivers		1.09	175.76
5,855.00	5,855.00	Delaware		1.09	175.76
7,015.00	7,015.00	Brushy Canyon		1.09	175.76
8,672.00	8,672.00	Bone Spring		1.09	175.76
9,672.00	9,672.00	First Bone Spring		1.09	175.76
10,196.00	10,196.00	Second Bone Spring		1.09	175.76
10,627.00	10,627.00	Base Second Bone Spring Sand		1.09	175.76

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,682.15	10,682.15	0.00	0.00	KOP, Begin 10°/100' Build
11,571.25	11,255.00	-560.52	41.56	LP, Hold 88.91° Inc
16,349.67	11,345.90	-5,325.00	394.80	TD at 16349.67' MD