



Job Number: SVMO-140351
 Company: OXY USA, Inc.
 Lease/Well: Osage 18 Fed 1H
 Location: Eddy County, NM
 Rig Name: H&P #344
 RKB: 15'
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA
 Declination: 7.83°
 Grid: East To Grid North
 File name: S:\2014SU-1\OXY\MO\OSAGE\18FED1H.SVY
 Date/Time: 25-Mar-14 / 16:02
 Curve Name: Surface - 693' M.D. (Rate Gyro) (API 30-015-40760)

MS SURVEY

WINSERVE SURVEY CALCULATIONS

Minimum Curvature Method
 Vertical Section Plane .00
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

We hereby certify that our survey data from
 Surface MD to 693' MD is, to the best of
 our knowledge a true and accurate account of the
 well bore.
James Gailly 3/25/14
 MS Energy Services Date

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
74.00	.48	196.89	74.00	-.30	-.09	-.30	.31	196.89	.65
103.00	.36	195.52	103.00	-.50	-.15	-.50	.52	196.65	.42
133.00	.45	202.23	133.00	-.70	-.22	-.70	.73	197.40	.34
162.00	.39	199.34	162.00	-.90	-.30	-.90	.95	198.18	.22
192.00	.39	191.33	192.00	-1.10	-.35	-1.10	1.15	197.68	.18
221.00	.43	198.06	221.00	-1.30	-.40	-1.30	1.36	197.25	.22
251.00	.33	195.07	250.99	-1.49	-.46	-1.49	1.56	197.19	.34
280.00	.41	200.25	279.99	-1.66	-.52	-1.66	1.74	197.27	.30
310.00	.44	195.12	309.99	-1.88	-.58	-1.88	1.96	197.30	.16

15-41060

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
339.00	.41	191.02	338.99	-2.09	-.63	-2.09	2.18	196.89	.15
369.00	.69	172.18	368.99	-2.37	-.63	-2.37	2.45	194.87	1.10
398.00	.78	165.54	397.99	-2.73	-.56	-2.73	2.79	191.50	.43
428.00	.77	169.14	427.99	-3.13	-.47	-3.13	3.16	188.49	.17
457.00	.71	169.48	456.98	-3.50	-.40	-3.50	3.52	186.49	.21
487.00	.73	169.55	486.98	-3.87	-.33	-3.87	3.88	184.86	.07
516.00	.75	171.30	515.98	-4.24	-.27	-4.24	4.25	183.60	.10
546.00	.70	169.76	545.98	-4.61	-.20	-4.61	4.62	182.54	.18
575.00	.71	168.62	574.97	-4.96	-.14	-4.96	4.96	181.59	.06
605.00	.70	168.60	604.97	-5.32	-.06	-5.32	5.32	180.70	.03
634.00	.73	169.79	633.97	-5.68	.00	-5.68	5.68	179.97	.12
664.00	.74	171.24	663.97	-6.06	.07	-6.06	6.06	179.37	.07
Last Survey Depth Recorded									
693.00	.72	174.28	692.96	-6.43	.11	-6.43	6.43	178.99	.15



Weatherford

Evaluation, Drilling & Intervention
10000 West County Rd. 116
P.O. Box 61028
Midland, TX USA 79711
Tel. (432) 561-8892 Fax (432) 561-8895

Occidental Permian Ltd.
5 Greenway Plaza Suite 110
Houston Tx 77046

Date: April 25, 2014

Attention: Chan Tysor

Re: Occidental Permian Ltd
Well: Osage 18 Fed #1H
Eddy County, New Mexico

Enclosed, please find the original survey performed on the referenced well by Precision Energy Services, Inc. (P-5 No. 676004), a Weatherford company. Other information required by your office is as follows:

Name & Title Of Surveyor	Well Number	Surveyed Depths	Dates Performed	Type of Survey
Jaime Rivera	1H	761'	MD 3-26-2014	Measurement
MWD Supervisor		6893'	MD 3-31-2014	While Drilling

A notarized plan vs. actual is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Daniel Rodriguez
MWD Coordinator

On this, the 1 day of May, 2014, before me a notary public, the undersigned officer, personally appeared Daniel Rodriguez, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same for the purposes therein contained.

In witness hereof, I hereunto set my hand and official seal.

Notary Public



Weatherford International Ltd.

WFT Survey Report X&Y's



Weatherford

Company: Occidental Permian Ltd.
Field: Eddy Co, NM (Nad 27)
Site: Osage 18 Fed 1H
Well: Osage 18 Fed 1H
Wellpath: 1

Date: 4/1/2014 Time: 08:19:31 Page: 1
Co-ordinate(NE) Reference: Well: Osage 18 Fed 1H, Grid North
Vertical (TVD) Reference: SITE 3579.0
Section (VS) Reference: Well (0.00N,0.00E,3.62Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey:

Start Date:

Company:
Tool:

Engineer:
Tied-to:

Site: Osage 18 Fed 1H

Site Position: Northing: 570105.40 ft Latitude: 32 34 1.893 N
From: Map Easting: 443366.80 ft Longitude: 104 31 1.793 W
Position Uncertainty: 0.00 ft North Reference: Grid
Ground Level: 3562.50 ft Grid Convergence: -0.10 deg

Well: Osage 18 Fed 1H

Slot Name:

Well Position: +N/-S 0.00 ft Northing: 570105.40 ft Latitude: 32 34 1.893 N
+E/-W 0.00 ft Easting: 443366.80 ft Longitude: 104 31 1.793 W
Position Uncertainty: 0.00 ft

Wellpath: 1

Drilled From: Surface
Tie-on Depth: 0.00 ft
Above System Datum: Mean Sea Level
Declination: 7.74 deg
Mag Dip Angle: 60 28 deg
Direction
deg
3.62

Current Datum: SITE Height 3579.00 ft
Magnetic Data: 12/18/2013
Field Strength: 48492 nT
Vertical Section: Depth From (TVD)
ft
0.00

Survey Program for Definitive Wellpath

Date: 4/1/2014 Validated: No

Version: 0
Toolcode

Tool Name

Actual From To Survey
ft ft
0.00 693.00 Gyro (0.00-693.00)
693.00 6940.00 MWD (693.00-6940.00)

NS-GYRO-MS
MWD

North sensing gyrocompassing m
MWD - Standard

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	570105.40	443366.80	
74.00	0.48	196.89	74.00	-0.30	-0.09	0.65	-0.30	570105.10	443366.71	
103.00	0.36	195.52	103.00	-0.50	-0.15	0.42	-0.51	570104.90	443366.65	
133.00	0.45	202.23	133.00	-0.70	-0.22	0.34	-0.71	570104.70	443366.58	
162.00	0.39	199.34	162.00	-0.90	-0.30	0.22	-0.92	570104.50	443366.50	
192.00	0.39	191.33	192.00	-1.10	-0.35	0.18	-1.12	570104.30	443366.45	
221.00	0.43	198.06	221.00	-1.30	-0.40	0.22	-1.32	570104.10	443366.40	
251.00	0.33	195.07	250.99	-1.49	-0.46	0.34	-1.51	570103.91	443366.34	
280.00	0.41	200.25	279.99	-1.66	-0.52	0.30	-1.69	570103.74	443366.28	
310.00	0.44	195.12	309.99	-1.88	-0.58	0.16	-1.91	570103.52	443366.22	
339.00	0.41	191.02	338.99	-2.09	-0.63	0.15	-2.12	570103.31	443366.17	
369.00	0.69	172.18	368.99	-2.37	-0.63	1.10	-2.40	570103.03	443366.17	
398.00	0.78	165.54	397.99	-2.73	-0.56	0.43	-2.76	570102.67	443366.24	
428.00	0.77	169.14	427.99	-3.13	-0.47	0.17	-3.15	570102.27	443366.33	
457.00	0.71	169.48	456.98	-3.50	-0.40	0.21	-3.52	570101.90	443366.40	
487.00	0.73	169.55	486.98	-3.87	-0.33	0.07	-3.88	570101.53	443366.47	
516.00	0.75	171.30	515.98	-4.24	-0.27	0.10	-4.25	570101.16	443366.53	
546.00	0.70	169.76	545.98	-4.61	-0.20	0.18	-4.62	570100.79	443366.60	
575.00	0.71	168.62	574.97	-4.96	-0.14	0.06	-4.96	570100.44	443366.66	
605.00	0.70	168.60	604.97	-5.32	-0.06	0.03	-5.32	570100.08	443366.74	
634.00	0.73	169.79	633.97	-5.68	0.00	0.12	-5.67	570099.72	443366.80	
664.00	0.74	171.24	663.97	-6.06	0.07	0.07	-6.04	570099.34	443366.87	
693.00	0.72	174.28	692.96	-6.43	0.11	0.15	-6.41	570098.97	443366.91	TieOn Gyro MS
761.00	0.67	137.09	760.96	-7.14	0.43	0.66	-7.10	570098.26	443367.23	First WFT Svy



Weatherford International Ltd.

WFT Survey Report X&Y's



Weatherford

Company: Occidental Permian Ltd.
Field: Eddy Co, NM (Nad 27)
Site: Osage 18 Fed 1H
Well: Osage 18 Fed 1H
Wellpath: 1

Date: 4/1/2014 Time: 08:19:31 Page: 2
Co-ordinate(NE) Reference: Well: Osage 18 Fed 1H, Grid North
Vertical (TVD) Reference: SITE 3579.0
Section (VS) Reference: Well (0.00N,0.00E,3.62Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
895.00	0.68	130.01	894.95	-8.23	1.57	0.06	-8.11	570097.17	443368.37	
1030.00	0.76	135.79	1029.94	-9.38	2.81	0.08	-9.19	570096.02	443369.61	
1165.00	0.37	344.47	1164.94	-9.61	3.31	0.81	-9.38	570095.79	443370.11	
1300.00	0.39	356.96	1299.93	-8.73	3.17	0.06	-8.51	570096.67	443369.97	
1434.00	0.41	354.72	1433.93	-7.79	3.10	0.02	-7.58	570097.61	443369.90	
1569.00	0.44	356.94	1568.93	-6.80	3.03	0.03	-6.59	570098.60	443369.83	
1704.00	0.49	346.75	1703.92	-5.72	2.87	0.07	-5.52	570099.68	443369.67	
1839.00	0.51	341.58	1838.92	-4.58	2.55	0.04	-4.41	570100.82	443369.35	
1894.00	0.51	351.78	1893.92	-4.11	2.44	0.16	-3.95	570101.29	443369.24	
1927.00	0.51	344.70	1926.91	-3.82	2.38	0.19	-3.66	570101.58	443369.18	
1972.00	1.49	354.20	1971.91	-3.05	2.27	2.20	-2.90	570102.35	443369.07	
2017.00	6.00	0.80	2016.80	-0.11	2.24	10.05	0.03	570105.29	443369.04	
2063.00	11.02	359.48	2062.28	6.69	2.23	10.92	6.82	570112.09	443369.03	
2108.00	15.85	358.63	2106.03	17.14	2.05	10.74	17.24	570122.54	443368.85	
2153.00	20.13	1.35	2148.82	31.03	2.08	9.69	31.10	570136.43	443368.88	
2198.00	24.70	3.57	2190.41	48.17	2.85	10.33	48.25	570153.57	443369.65	
2243.00	29.18	2.94	2230.52	68.52	4.00	9.98	68.63	570173.92	443370.80	
2288.00	33.19	2.10	2269.01	91.79	5.01	8.96	91.93	570197.19	443371.81	
2333.00	37.14	3.54	2305.79	117.67	6.31	8.97	117.83	570223.07	443373.11	
2378.00	41.81	4.70	2340.52	146.19	8.37	10.51	146.43	570251.59	443375.17	
2423.00	46.64	5.12	2372.76	177.46	11.06	10.75	177.80	570282.86	443377.86	
2468.00	50.70	4.96	2402.47	211.11	14.03	9.03	211.57	570316.51	443380.83	
2513.00	55.21	4.67	2429.57	246.89	17.04	10.04	247.48	570352.29	443383.84	
2558.00	60.01	4.71	2453.67	284.75	20.15	10.67	285.46	570390.15	443386.95	
2603.00	64.60	4.42	2474.58	324.46	23.32	10.22	325.28	570429.86	443390.12	
2648.00	69.41	3.66	2492.15	365.77	26.23	10.80	366.70	570471.17	443393.03	
2693.00	74.08	3.84	2506.24	408.40	29.03	10.38	409.42	570513.80	443395.83	
2738.00	78.14	4.01	2517.04	451.97	32.02	9.03	453.09	570557.37	443398.82	
2783.00	82.74	3.82	2524.52	496.23	35.04	10.23	497.46	570601.63	443401.84	
2828.00	87.53	3.25	2528.33	540.97	37.81	10.72	542.28	570646.37	443404.61	
2873.00	89.93	3.25	2529.33	585.89	40.36	5.33	587.26	570691.29	443407.16	
2963.00	90.80	3.21	2528.76	675.74	45.43	0.97	677.26	570781.14	443412.23	
3053.00	91.40	3.07	2527.03	765.59	50.36	0.68	767.24	570870.99	443417.16	
3143.00	90.30	3.59	2525.69	855.42	55.58	1.35	857.23	570960.82	443422.38	
3234.00	90.84	3.77	2524.79	946.23	61.42	0.63	948.22	571051.63	443428.22	
3324.00	90.14	3.77	2524.02	1036.03	67.34	0.78	1038.22	571141.43	443434.14	
3414.00	91.22	3.27	2522.95	1125.86	72.87	1.32	1128.21	571231.26	443439.67	
3504.00	90.33	3.07	2521.73	1215.71	77.84	1.01	1218.20	571321.11	443444.64	
3594.00	89.37	3.45	2521.97	1305.56	82.96	1.15	1308.19	571410.96	443449.76	
3684.00	90.28	3.12	2522.24	1395.41	88.12	1.08	1398.19	571500.81	443454.92	
3774.00	91.42	2.99	2520.91	1485.27	92.91	1.27	1488.18	571590.67	443459.71	
3864.00	90.28	3.21	2519.57	1575.13	97.78	1.29	1578.16	571680.53	443464.58	
3954.00	89.13	3.71	2520.04	1664.96	103.21	1.39	1668.16	571770.36	443470.01	
4044.00	90.26	3.95	2520.51	1754.76	109.22	1.28	1758.15	571860.16	443476.02	
4134.00	91.35	3.72	2519.25	1844.55	115.24	1.24	1848.14	571949.95	443482.04	
4224.00	90.21	3.71	2518.03	1934.35	121.07	1.27	1938.13	572039.75	443487.87	
4314.00	89.30	4.44	2518.41	2024.12	127.47	1.30	2028.13	572129.52	443494.27	
4404.00	90.40	4.49	2518.65	2113.84	134.48	1.22	2118.12	572219.24	443501.28	
4493.00	90.98	4.24	2517.57	2202.58	141.25	0.71	2207.10	572307.98	443508.05	
4583.00	89.60	3.69	2517.12	2292.36	147.47	1.65	2297.10	572397.76	443514.27	
4673.00	90.26	3.76	2517.23	2382.17	153.32	0.74	2387.10	572487.57	443520.12	
4763.00	91.35	3.76	2515.96	2471.96	159.22	1.21	2477.09	572577.36	443526.02	



Weatherford International Ltd.

WFT Survey Report X&Y's



Weatherford

Company: Occidental Permian Ltd.
Field: Eddy Co, NM (Nad 27)
Site: Osage 18 Fed 1H
Well: Osage 18 Fed 1H
Wellpath: 1

Date: 4/1/2014 Time: 08:19:31 Page: 3
Co-ordinate(NE) Reference: Well: Osage 18 Fed 1H, Grid North
Vertical (TVD) Reference: SITE 3579.0
Section (VS) Reference: Well (0.00N,0.00E,3.62Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
4853.00	89.91	3.10	2514.97	2561.80	164.60	1.76	2567.08	572667.20	443531.40	
4943.00	90.51	2.87	2514.64	2651.67	169.29	0.71	2657.07	572757.07	443536.09	
5032.00	91.08	2.33	2513.41	2740.57	173.33	0.88	2746.05	572845.97	443540.13	
5122.00	89.60	2.39	2512.88	2830.49	177.03	1.65	2836.02	572935.89	443543.83	
5224.00	90.77	2.63	2512.55	2932.39	181.50	1.17	2938.00	573037.79	443548.30	
5315.00	91.52	3.02	2510.73	3023.26	185.98	0.93	3028.97	573128.66	443552.78	
5406.00	90.89	3.78	2508.81	3114.08	191.38	1.08	3119.95	573219.48	443558.18	
5497.00	89.34	4.10	2508.63	3204.86	197.63	1.74	3210.94	573310.26	443564.43	
5586.00	90.42	4.61	2508.82	3293.60	204.39	1.34	3299.94	573399.00	443571.19	
5678.00	91.82	4.63	2507.02	3385.28	211.80	1.52	3391.90	573490.68	443578.60	
5769.00	90.35	4.57	2505.30	3475.97	219.10	1.62	3482.87	573581.37	443585.90	
5861.00	88.78	4.32	2506.00	3567.69	226.23	1.73	3574.85	573673.09	443593.03	
5967.00	89.30	4.35	2507.77	3673.37	234.24	0.49	3680.83	573778.77	443601.04	
6057.00	90.37	3.99	2508.03	3763.13	240.78	1.25	3770.83	573868.53	443607.58	
6146.00	91.17	3.66	2506.83	3851.92	246.72	0.97	3859.82	573957.32	443613.52	
6236.00	89.83	4.50	2506.05	3941.69	253.12	1.76	3949.81	574047.09	443619.92	
6325.00	90.28	4.45	2505.96	4030.42	260.07	0.51	4038.80	574135.82	443626.87	
6415.00	90.94	4.37	2505.01	4120.15	266.99	0.74	4128.78	574225.55	443633.79	
6504.00	91.10	4.13	2503.42	4208.89	273.58	0.32	4217.76	574314.29	443640.38	
6594.00	90.68	4.15	2502.02	4298.64	280.08	0.47	4307.75	574404.04	443646.88	
6684.00	89.55	3.34	2501.84	4388.45	285.95	1.54	4397.75	574493.85	443652.75	
6773.00	90.42	3.28	2501.87	4477.30	291.09	0.98	4486.74	574582.70	443657.89	
6863.00	91.26	3.44	2500.55	4567.13	296.37	0.95	4576.73	574672.53	443663.17	
6893.00	91.49	3.37	2499.83	4597.07	298.15	0.80	4606.72	574702.47	443664.95	Last WFT Svy
6940.00	91.49	3.37	2498.60	4643.97	300.91	0.00	4653.71	574749.37	443667.71	Proj to Bit

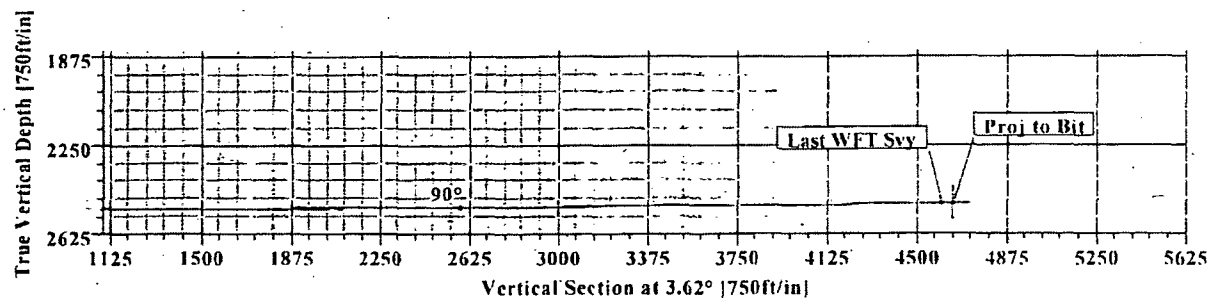
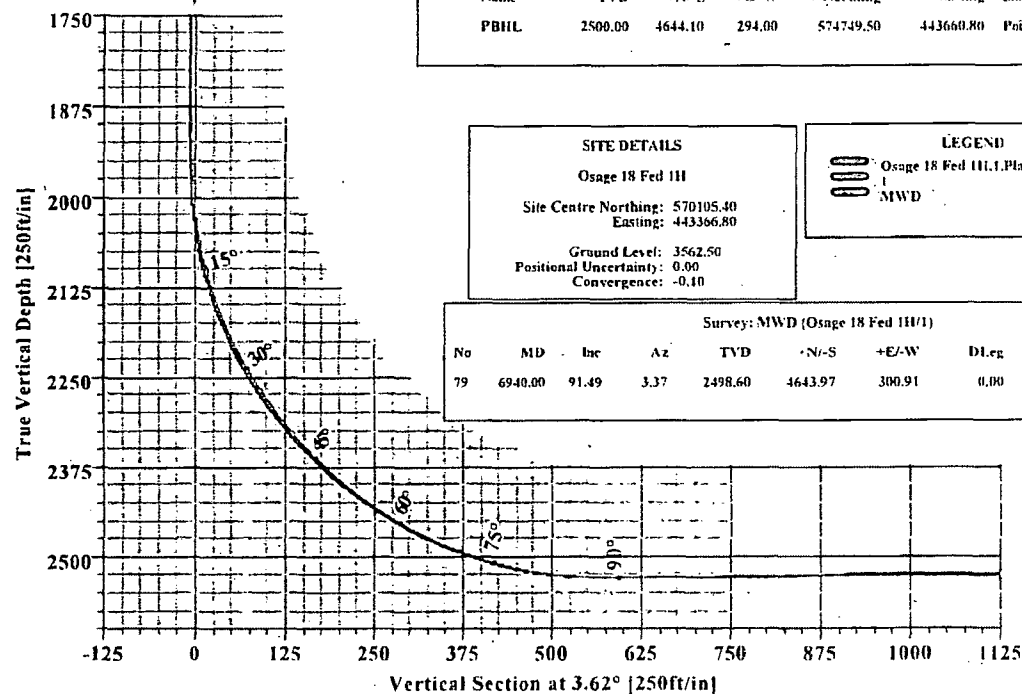
Annotation

MD ft	TVD ft	
693.00	692.96	TieOn Gyro MS
761.00	760.96	First WFT Svy
6893.00	2499.83	Last WFT Svy
6940.00	2498.60	Proj to Bit



Osage 18 Fed 1H Eddy Co., NM

KB ELEV: 3579.0
GL ELEV: 3562.5



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	693.00	0.72	174.28	692.96	-6.43	0.11	0.00	0.00	-6.41	
2	1964.33	0.72	3.60	1964.26	-6.40	1.41	0.11	184.66	-6.30	
3	2861.34	90.42	3.60	2530.00	569.58	37.65	10.00	0.00	570.82	
4	6944.02	90.42	3.60	2500.00	4644.10	294.00	0.00	0.00	4653.40	PBHL

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Osage 18 Fed 1H	0.00	0.00	570105.40	443366.80	32°34'01.893N	104°31'01.793W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	2500.00	4644.10	294.00	574749.50	443660.80	Point

SITE DETAILS

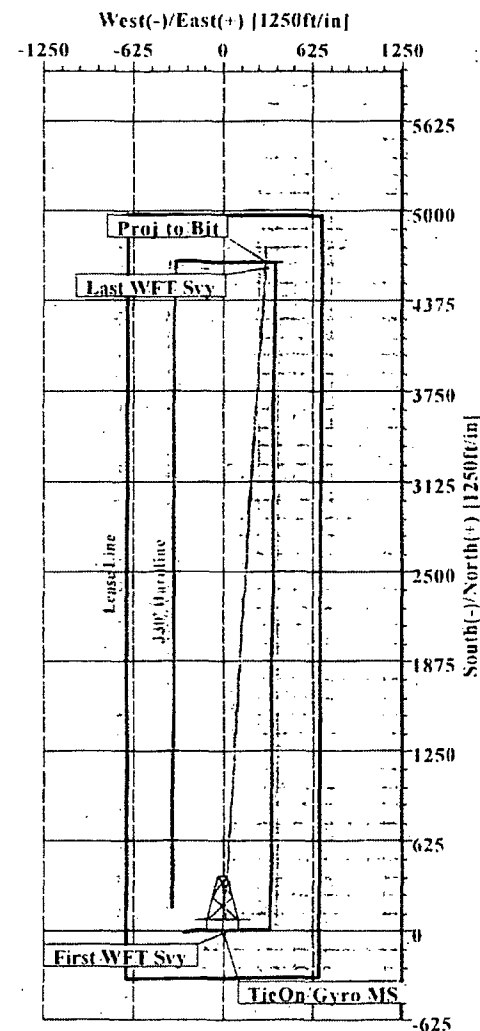
Osage 18 Fed 1H
Site Centre Northing: 570105.40
Easting: 443366.80
Ground Level: 3562.50
Positional Uncertainty: 0.00
Convergence: -0.10

LEGEND

Osage 18 Fed 1H, Plan #3
MWD

Survey: MWD (Osage 18 Fed 1H/1)

No	MD	Inc	Az	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
79	6940.00	91.49	3.37	2498.60	4643.97	300.91	0.00	0.00	4653.71



Weatherford

Survey: MWD (Osage 18 Fed 1H/1)

Created By: Michael Dill

Date: 4/1/2014