

30-015-40759

OCCIDENTAL PERMIAN LTD.

North Seven Rivers
Eddy County, NM (Grid North)
Osage "18" fee A Com #1H
VH - Job #320314-K-326

NM OIL CONSERVATION
ARTESIA DISTRICT

JUN 20 2014

RECEIVED

Survey: Gyro

SDI Survey Report

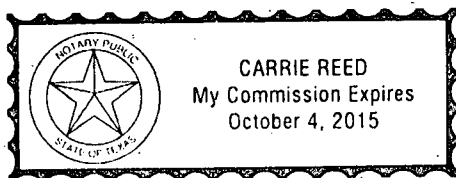
This survey is correct to the best of my knowledge and is supported by actual field data.

Robert

Notarized this date 30th of May, 2014.

Carrie Reed

Notary Signature
County of Midland
State of Texas



SDI
SDI Survey Report

Company:	OCCIDENTAL PERMIAN LTD.	Local Co-ordinate Reference:	Well Osage "18" fee A Com #1H
Project:	North Seven Rivers	TVD Reference:	Mean Sea Level (System)
Site:	Eddy County, NM (Grid North)	MD Reference:	Mean Sea Level (System)
Well:	Osage "18" fee A Com #1H	North Reference:	Grid
Wellbore:	VH - Job #320314-K-326	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #320314-K-326	Database:	EDM-Regulatory

Project	North Seven Rivers		
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	Eddy County, NM (Grid North)		
Site Position:		Northing:	570,099.69 usft
From:	Lat/Long	Easting:	442,288.43 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"
		Latitude:	32° 34' 1.817 N
		Longitude:	104° 31' 14.394 W
		Grid Convergence:	-0.10 °

Well	Osage "18" fee A Com #1H, Horizontal		
Well Position	+N/-S	0.0 usft	Northing: 570,099.69 usft
	+E/-W	0.0 usft	Easting: 442,288.43 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 34' 1.817 N
		Longitude:	104° 31' 14.394 W
		Ground Level:	0.0 usft

Wellbore	VH - Job #320314-K-326		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	3/8/2014	7.71
			Dip Angle (°)
			60.27
			Field Strength (nT)
			48,470

Design	VH - Job #320314-K-326		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction (°)
			1.65

Survey Program	Date 5/15/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
104.7	679.0	Gyro (VH - Job #320314-K-326)	Keeper
			Description
			Keeper Surface Readout

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0	
104.7	0.11	124.52	104.7	-0.1	0.1	124.52	0.1	
135.6	0.16	163.67	135.6	-0.1	0.1	133.97	0.2	
229.7	0.16	90.87	229.7	-0.2	0.3	130.21	0.4	
316.6	0.21	65.21	316.6	-0.2	0.6	107.87	0.6	
403.0	0.16	61.86	403.0	-0.1	0.8	93.92	0.8	
494.0	0.22	62.65	494.0	0.1	1.1	85.46	1.1	
584.4	0.23	73.48	584.4	0.2	1.4	81.21	1.4	
679.0	0.19	85.74	679.0	0.3	1.7	80.78	1.8	



Scientific Drilling

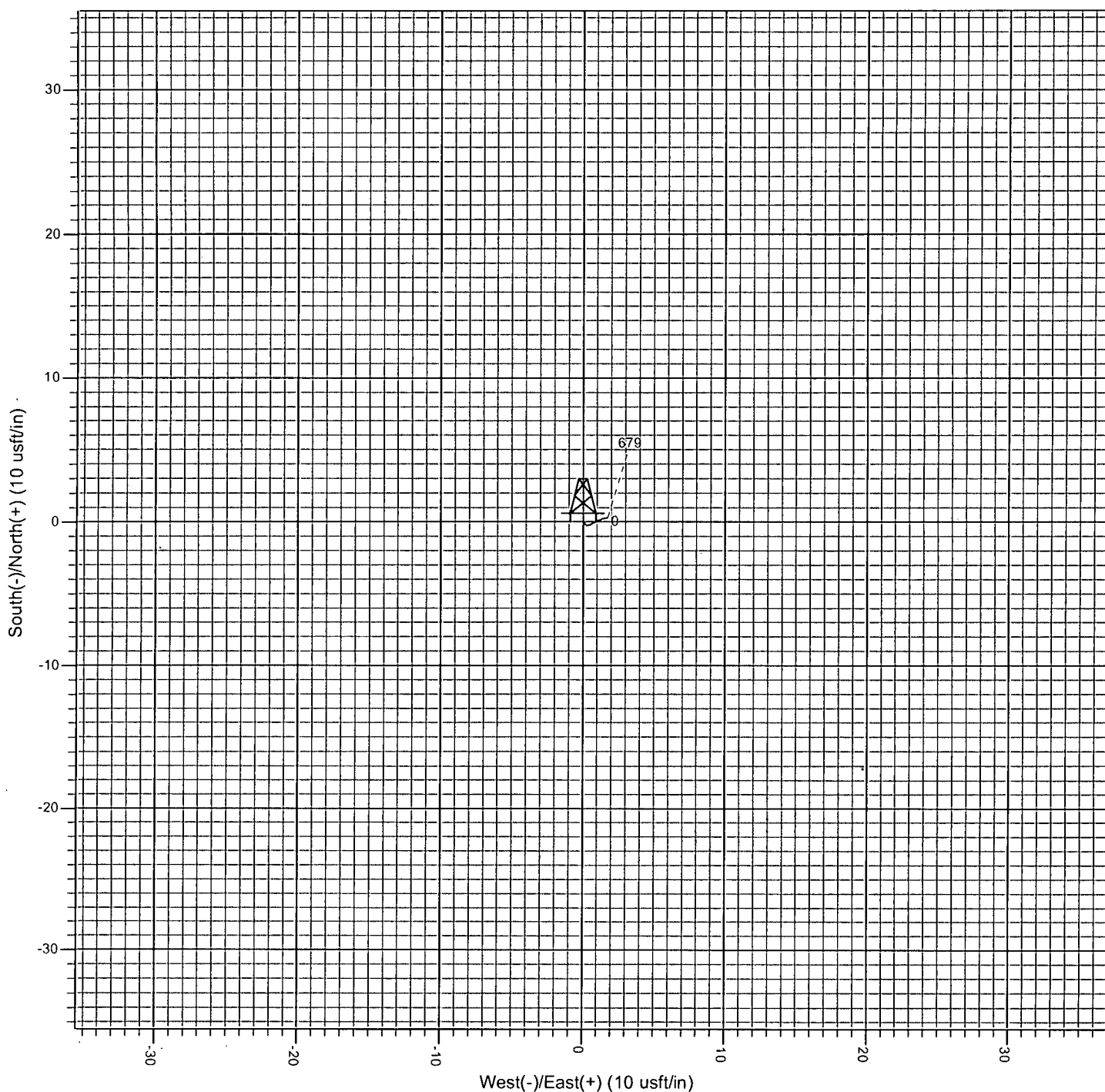
Project: North Seven Rivers
Eddy County, NM (Grid North)
Well: Osage "18" fee A Com #1H
Wellbore: VH - Job #320314-K-326
Design: VH - Job #320314-K-326

WELL DETAILS: Osage "18" fee A Com #1H

Mean Sea Level (System)

Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	570099.69	442288.43	32° 34' 1.817 N	104° 31' 14.394 W	



PROJECT DETAILS: North Seven Rivers	SITE DETAILS: Eddy County, NM (Grid North)
Geodetic System: US State Plane 1927 (Exact solution)	Site Centre Latitude: 32° 34' 1.817 N
Datum: NAD 1927 (NADCON CONUS)	Longitude: 104° 31' 14.394 W
Ellipsoid: Clarke 1866	Positional Uncertainty: 0.0
Zone: New Mexico East 3001	Convergence: -0.10
System Datum: Mean Sea Level	Local North: Grid



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 2, 2014

Attention: Chan Tysor

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

NM OIL CONSERVATION
ARTESIA DISTRICT

JUN 20 2014

RECEIVED

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:

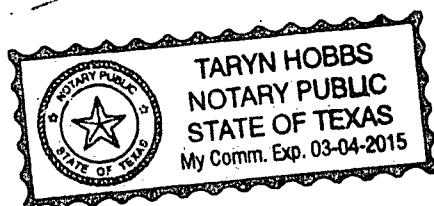
<u>Name & Title Of Surveyor</u>	<u>Well Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Ryan Broadfoot	1H	764'	MD 3-11-2014	Measurement
MWD Supervisor		6848'	MD 2-20-2014	While Drilling

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.

Jesus Aguilar
MWD Coordinator

On this, the 10th day of June, 2014, before me a notary public, the undersigned officer, personally appeared JESUS AGUILAR, 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 Fee A Com #1H
Well: Osage 18 Fee A Com #1H
Wellpath: 1

Date: 6/16/2014 Time: 17:43:30 Page: 1
Co-ordinate(NE) Reference: Well: Osage 18 Fee A Com #1H, Grid North
Vertical (TVD) Reference: SITE 3576.6
Survey (VS) Reference: Well (0.00N,0.00E,1.65Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey:

Start Date:

Company:
Tool:

Engineer:
Tied-to:

Site: Osage 18 Fee A Com #1H

Site Position: Northing: 570099.80 ft Latitude: 32 34 1.817 N
From: Map Easting: 442226.80 ft Longitude: 104 31 15.114 W
Position Uncertainty: 0.00 ft North Reference: Grid
Ground Level: 3560.10 ft Grid Convergence: -0.10 deg

Well: Osage 18 Fee A Com #1H

Slot Name:

Well Position: +N/S 0.00 ft Northing: 570099.80 ft Latitude: 32 34 1.817 N
+E/W 0.00 ft Easting: 442226.80 ft Longitude: 104 31 15.114 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
+E/W Direction
ft deg
0.00 1.65

Current Datum: SITE Height 3576.60 ft
Magnetic Data: 12/18/2013
Field Strength: 48492 nT
Vertical Section: Depth From (TVD) +N/S
ft ft
0.00 0.00

Survey Program for Definitive Wellpath

Date: 6/16/2014 Validated: No
Actual From To Survey

Version: 1
Toolcode

Tool Name

0.00 679.00 Gyro (0.00-679.00)
679.00 6897.00 MWD (679.00-6897.00)

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	570099.80	442226.80	
104.72	0.11	124.52	104.72	-0.06	0.08	0.11	-0.05	570099.74	442226.88	
135.62	0.16	163.67	135.62	-0.12	0.12	0.33	-0.11	570099.68	442226.92	
229.75	0.16	90.87	229.75	-0.24	0.29	0.20	-0.23	570099.56	442227.09	
316.59	0.21	65.21	316.59	-0.18	0.55	0.11	-0.16	570099.62	442227.35	
402.99	0.16	61.86	402.99	-0.06	0.80	0.06	-0.03	570099.74	442227.60	
493.97	0.22	62.65	493.97	0.09	1.07	0.07	0.12	570099.89	442227.87	
584.43	0.23	73.48	584.43	0.22	1.40	0.05	0.26	570100.02	442228.20	
679.00	0.19	85.74	679.00	0.28	1.74	0.06	0.33	570100.08	442228.54	TieOn Gyro SD
764.00	0.39	92.31	764.00	0.28	2.17	0.24	0.34	570100.08	442228.97	First WFT Svy
898.00	0.40	78.90	897.99	0.35	3.08	0.07	0.44	570100.15	442229.88	
1033.00	0.57	73.57	1032.99	0.63	4.19	0.13	0.75	570100.43	442230.99	
1168.00	0.58	69.62	1167.98	1.06	5.47	0.03	1.22	570100.86	442232.27	
1303.00	0.64	67.96	1302.97	1.58	6.81	0.05	1.78	570101.38	442233.61	
1438.00	0.77	69.95	1437.96	2.18	8.36	0.10	2.42	570101.98	442235.16	
1572.00	0.70	64.36	1571.95	2.84	9.95	0.07	3.12	570102.64	442236.75	
1712.00	0.59	68.90	1711.94	3.47	11.39	0.09	3.79	570103.27	442238.19	
1795.00	1.35	53.27	1794.93	4.21	12.57	0.96	4.57	570104.01	442239.37	
1840.00	5.55	15.61	1839.84	6.62	13.58	10.13	7.01	570106.42	442240.38	
1885.00	7.30	348.11	1884.57	11.52	13.58	7.76	11.90	570111.32	442240.38	
1930.00	8.64	329.28	1929.14	17.22	11.26	6.48	17.54	570117.02	442238.06	
1975.00	10.71	339.61	1973.50	24.05	8.08	5.99	24.27	570123.85	442234.88	
2020.00	10.53	4.12	2017.75	32.07	6.92	9.97	32.26	570131.87	442233.72	
2065.00	13.41	14.35	2061.78	41.23	8.51	7.93	41.46	570141.03	442235.31	



Weatherford International Ltd.

WFT Survey Report X&Y's



Weatherford

Company: Occidental Permian Ltd.
Field: Eddy Co. NM (Nad 27)
Site: Osage 18 Fee A Com #1H
Well: Osage 18 Fee A Com #1H
Wellpath: 1

Date: 6/16/2014 Time: 17:43:30 Page: 2
Co-ordinate(NE) Reference: Well: Osage 18 Fee A Com #1H, Grid North
Vertical (TVD) Reference: SITE 3576.6
Section (VS) Reference: Well (0.00N,0.00E,1.65Azi)
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
	2110.00	17.72	1.18	2105.13	53.14	9.94	12.33	53.41	570152.94	442236.74	
	2155.00	22.42	355.26	2147.39	68.55	9.37	11.37	68.79	570168.35	442236.17	
	2200.00	27.32	350.93	2188.21	87.31	7.04	11.61	87.48	570187.11	442233.84	
	2245.00	32.17	349.57	2227.27	109.31	3.24	10.88	109.35	570209.11	442230.04	
	2289.00	37.10	348.88	2263.46	133.86	-1.45	11.24	133.77	570233.66	442225.35	
	2335.00	42.64	348.78	2298.75	162.78	-7.16	12.04	162.51	570262.58	442219.64	
	2379.00	47.31	348.16	2329.87	193.24	-13.38	10.66	192.78	570293.04	442213.42	
	2424.00	51.81	349.83	2359.05	226.85	-19.90	10.39	226.19	570326.65	442206.90	
	2469.00	55.53	351.61	2385.71	262.63	-25.73	8.86	261.78	570362.43	442201.07	
	2514.00	59.78	353.71	2409.78	300.32	-30.57	10.23	299.32	570400.12	442196.23	
	2559.00	63.53	355.85	2431.14	339.75	-34.16	9.32	338.63	570439.55	442192.64	
	2604.00	66.86	358.24	2450.02	380.54	-36.25	8.83	379.34	570480.34	442190.55	
	2649.00	69.49	0.72	2466.75	422.30	-36.62	7.77	421.08	570522.10	442190.18	
	2694.00	72.42	2.44	2481.43	464.82	-35.44	7.45	463.61	570564.62	442191.36	
	2739.00	75.30	3.53	2493.94	507.98	-33.19	6.81	506.82	570607.78	442193.61	
	2784.00	78.39	4.39	2504.18	551.69	-30.16	7.11	550.59	570651.49	442196.64	
	2829.00	81.22	5.02	2512.15	595.82	-26.53	6.44	594.81	570695.62	442200.27	
	2874.00	83.94	5.48	2517.96	640.26	-22.45	6.13	639.35	570740.06	442204.35	
	2919.00	86.46	5.90	2521.72	684.87	-18.00	5.68	684.07	570784.67	442208.80	
	3010.00	89.07	6.37	2525.27	775.28	-8.28	2.91	774.72	570875.08	442218.52	
	3145.00	89.07	7.13	2527.46	909.32	7.58	0.56	909.16	571009.12	442234.38	
	3235.00	89.86	6.51	2528.30	998.68	18.27	1.12	998.79	571098.48	442245.07	
	3318.00	91.17	4.46	2527.56	1081.29	26.20	2.93	1081.60	571181.09	442253.00	
	3408.00	90.12	2.78	2526.54	1171.10	31.88	2.20	1171.53	571270.90	442258.68	
	3497.00	91.26	2.93	2525.47	1259.98	36.32	1.29	1260.50	571359.78	442263.12	
	3587.00	91.64	1.83	2523.19	1349.87	40.05	1.29	1350.47	571449.67	442266.85	
	3677.00	91.28	1.39	2520.90	1439.81	42.58	0.63	1440.44	571539.61	442269.38	
	3767.00	90.70	1.34	2519.35	1529.77	44.72	0.65	1530.42	571629.57	442271.52	
	3857.00	90.18	1.91	2518.65	1619.73	47.28	0.86	1620.42	571719.53	442274.08	
	3947.00	91.54	1.61	2517.30	1709.67	50.04	1.55	1710.41	571809.47	442276.84	
	4037.00	91.58	1.57	2514.85	1799.61	52.54	0.06	1800.37	571899.41	442279.34	
	4127.00	91.47	0.92	2512.46	1889.55	54.49	0.73	1890.34	571989.35	442281.29	
	4217.00	91.23	0.75	2510.34	1979.52	55.80	0.33	1980.30	572079.32	442282.60	
	4306.00	91.00	359.98	2508.61	2068.50	56.37	0.90	2069.26	572168.30	442283.17	
	4396.00	90.89	1.28	2507.12	2158.48	57.36	1.45	2159.24	572258.28	442284.16	
	4486.00	90.79	1.52	2505.80	2248.44	59.56	0.29	2249.23	572348.24	442286.36	
	4562.00	90.51	2.59	2504.94	2324.39	62.28	1.46	2325.22	572424.19	442289.08	
	4654.00	90.77	1.92	2503.91	2416.31	65.90	0.78	2417.21	572516.11	442292.70	
	4747.00	91.44	1.28	2502.12	2509.26	68.50	1.00	2510.19	572609.06	442295.30	
	4835.00	90.38	1.33	2500.72	2597.22	70.50	1.21	2598.17	572697.02	442297.30	
	4926.00	89.67	1.46	2500.68	2688.19	72.72	0.79	2689.17	572787.99	442299.52	
	5017.00	90.10	1.47	2500.86	2779.16	75.04	0.47	2780.17	572878.96	442301.84	
	5108.00	90.49	1.95	2500.40	2870.12	77.76	0.68	2871.17	572969.92	442304.56	
	5200.00	91.12	1.80	2499.10	2962.06	80.77	0.70	2963.16	573061.86	442307.57	
	5313.00	88.37	2.13	2499.61	3074.98	84.64	2.45	3076.15	573174.78	442311.44	
	5403.00	88.46	2.28	2502.10	3164.88	88.10	0.19	3166.11	573264.68	442314.90	
	5493.00	88.63	2.02	2504.38	3254.79	91.48	0.35	3256.07	573354.59	442318.28	
	5583.00	89.63	0.58	2505.75	3344.75	93.52	1.95	3346.06	573444.55	442320.32	
	5673.00	91.07	0.77	2505.20	3434.74	94.58	1.61	3436.04	573534.54	442321.38	
	5763.00	91.35	0.55	2503.30	3524.72	95.62	0.40	3526.01	573624.52	442322.42	
	5853.00	91.14	0.93	2501.34	3614.69	96.78	0.48	3615.97	573714.49	442323.58	
	5942.00	90.86	0.16	2499.79	3703.67	97.63	0.92	3704.94	573803.47	442324.43	



Weatherford International Ltd.

WFT Survey Report X&Y's

**Weatherford**

Company: Occidental Permian Ltd.
Field: Eddy Co. NM (Nad 27)
Site: Osage 18 Fee A Com #1H
Well: Osage 18 Fee A Com #1H
Wellpath: 1

Date: 6/16/2014 Time: 17:43:30 Page: 3
Co-ordinate(NE) Reference: Well: Osage 18 Fee A Com #1H. Grid North.
Vertical (TVD) Reference: SITE 3576.6
Section (VS) Reference: Well (0.00N,0.00E,1.65Azi)
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
6032.00	90.42	1.34	2498.78	3793.65	98.80	1.40	3794.93	573893.45	442325.60	
6122.00	90.23	1.14	2498.27	3883.63	100.75	0.31	3884.92	573983.43	442327.55	
6212.00	90.65	1.52	2497.58	3973.60	102.84	0.63	3974.92	574073.40	442329.64	
6302.00	91.10	0.77	2496.21	4063.57	104.64	0.97	4064.90	574163.37	442331.44	
6393.00	91.28	2.27	2494.32	4154.52	107.05	1.66	4155.88	574254.32	442333.85	
6482.00	91.26	1.93	2492.34	4243.44	110.31	0.38	4244.86	574343.24	442337.11	
6572.00	91.07	1.20	2490.51	4333.39	112.77	0.84	4334.84	574433.19	442339.57	
6662.00	91.29	2.35	2488.66	4423.32	115.56	1.30	4424.82	574523.12	442342.36	
6752.00	91.28	2.47	2486.64	4513.22	119.34	0.13	4514.78	574613.02	442346.14	
6848.00	91.52	1.95	2484.30	4609.12	123.04	0.60	4610.75	574708.92	442349.84	Last WFT Svy
6897.00	91.52	1.95	2483.00	4658.07	124.71	0.00	4659.73	574757.87	442351.51	Proj to Bit

Annotation

MD ft	TVD ft	
679.00	679.00	TieOn Gyro SDI
764.00	764.00	First WFT Svy
6848.00	2484.30	Last WFT Svy
6897.00	2483.00	Proj to Bit



Osage 18 Fee A Com 1H Eddy Co., NM

SECTION DETAILS									
Sec	MD	Inc	Azi	TYD	+N/S	+E/W	Dl/deg	T/deg	VSec Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	1808.34	0.00	0.00	1808.34	0.00	0.00	0.00	0.00	0.00
3	2311.12	0.00	1.65	2311.12	0.00	0.00	0.00	0.00	0.00
4	6871.77	90.25	1.65	2483.00	4658.00	134.00	0.00	0.00	4659.93

WELL DETAILS									
Name	+N/S	+E/W	Northing	Easting	Latitude	Longitude	Shut		
Osage 18 Fee A Com #1H	0.00	0.00	570099.80	442226.80	32°34'01.817N	104°31'15.114W	N/A		

TARGET DETAILS									
Name	TYD	+N/S	+E/W	Northing	Easting	Shape			
PBH1	2483.00	4658.00	134.00	574757.80	442360.80	Point			

Survey: MWD (Osage 18 Fee A Com #1H/U)									
No	MD	Inc	Az	TYD	+N/S	+E/W	Dl/deg	T/deg	VSec
79	6871.00	91.51	1.95	2483.00	4658.07	134.72	0.00	180.00	4659.73

SITE DETAILS

Osage 18 Fee A Com #1H

Site Centre Northing: 570099.80

Easting: 442226.80

Ground Level: 3560.10

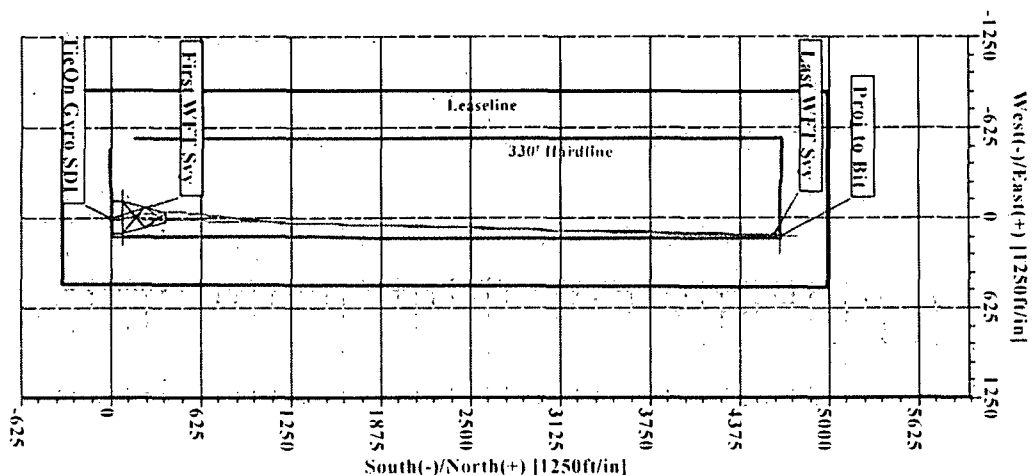
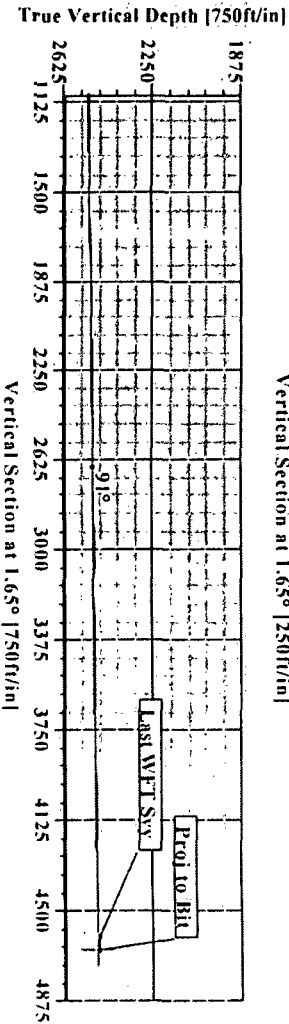
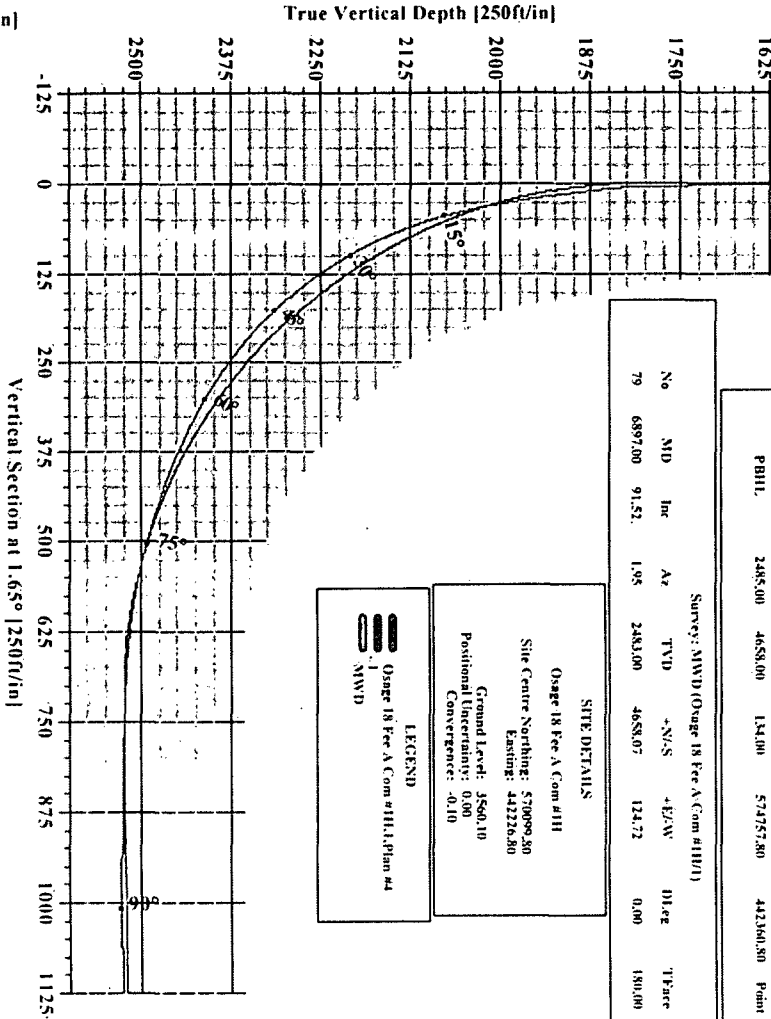
Positional Uncertainty: 0.00

Convergence: -0.10

LEGEND

— Osage 18 Fee A Com #1H, Plan #4

— MWD



Weatherford

