



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

15- 40760

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

Date: April 25, 2014

NM OIL CONSERVATION

ARTESIA DISTRICT

NOV 17 2014

Attention: Chan Tyşor

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

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:

Name & Title Of Surveyor	Well Number	Surveyed Depths	Dates Performed	Type of Survey
Jaime Rivera MWD Supervisor	1H	713' MD 6710' MD	4-10-2014 4-17-2014	Measurement While Drilling

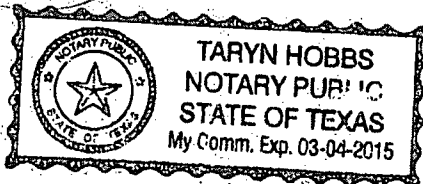
A notarized plan vs. actual is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Daniel Rodriguez
MWD Coordinator

On this, the 25th day of April, 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 Date: 4/24/2014 Time: 09:57:14 Page: 1
 Field: Eddy Co NM (Nad 27) Co-ordinate(NE) Reference: Well: Osage 18 Fee B Com 1H, Grid North
 Site: Osage 18 Fee B Com #1H Vertical (TVD) Reference: SITE 3584.3
 Well: Osage 18 Fee B Com 1H Section (VS) Reference: Well (0.00N,0.00E,0.91Azi)
 Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: Start Date:

Company: Engineer:
 Tool: Tied-to:

Site: Osage 18 Fee B Com #1H

Site Position: Northing: 570243.20 ft Latitude: 32 34 3.212 N
 From: Map Easting: 440839.10 ft Longitude: 104 31 31.333 W
 Position Uncertainty: 0.00 ft North Reference: Grid
 Ground Level: 3567.80 ft Grid Convergence: -0.10 deg

Well: Osage 18 Fee B Com 1H Slot Name:

Well Position: +N/-S 0.00 ft Northing: 570243.20 ft Latitude: 32 34 3.212 N
 +E/-W 0.00 ft Easting: 440839.10 ft Longitude: 104 31 31.333 W
 Position Uncertainty: 0.00 ft

Wellpath: 1

Current Datum: SITE Height 3584.30 ft
 Magnetic Data: 12/18/2013
 Field Strength: 48492 nT
 Vertical Section: Depth From (TVD) +N/-S
 ft ft
 0.00 0.00
 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 0.91

Survey Program for Definitive Wellpath

Date: 4/24/2014 Validated: No
 Actual From To Survey
 ft ft

Version: 1
 Toolcode

Tool Name

0.00 655.00 Gyro (0.00-655.00)
 655.00 6765.00 MWD (655.00-6765.00)

NS-GYRO-MS
 MWD

North sensing gyrocompassing m
 MWD - Standard

Survey

MD	Incl	Azim	TVD	N/S	E/W	DLS	VS	MapN	MapE	Comment
ft	deg	deg	ft	ft	ft	deg/100ft	ft	ft	ft	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	570243.20	440839.10	
90.00	0.45	132.73	90.00	-0.24	0.26	0.50	-0.24	570242.96	440839.36	
118.00	0.58	141.80	118.00	-0.43	0.43	0.55	-0.42	570242.77	440839.53	
146.00	0.60	141.62	146.00	-0.65	0.61	0.07	-0.64	570242.55	440839.71	
177.00	0.71	144.05	176.99	-0.93	0.82	0.37	-0.92	570242.27	440839.92	
208.00	0.83	142.65	207.99	-1.27	1.07	0.39	-1.25	570241.93	440840.17	
236.00	0.92	140.13	235.99	-1.60	1.34	0.35	-1.58	570241.60	440840.44	
264.00	0.92	142.22	263.98	-1.95	1.62	0.12	-1.93	570241.25	440840.72	
295.00	0.86	147.76	294.98	-2.35	1.89	0.34	-2.32	570240.85	440840.99	
322.00	0.89	149.04	321.98	-2.70	2.11	0.13	-2.66	570240.50	440841.21	
350.00	0.82	147.05	349.97	-3.05	2.33	0.27	-3.01	570240.15	440841.43	
381.00	0.84	146.22	380.97	-3.43	2.58	0.08	-3.39	570239.77	440841.68	
412.00	0.79	150.41	411.97	-3.80	2.81	0.25	-3.76	570239.40	440841.91	
441.00	0.77	152.53	440.97	-4.15	3.00	0.12	-4.10	570239.05	440842.10	
472.00	0.77	151.90	471.96	-4.52	3.19	0.03	-4.47	570238.68	440842.29	
502.00	0.71	150.69	501.96	-4.86	3.38	0.21	-4.80	570238.34	440842.48	
532.00	0.68	152.19	531.96	-5.18	3.55	0.12	-5.12	570238.02	440842.65	
563.00	0.74	150.85	562.96	-5.51	3.74	0.20	-5.45	570237.69	440842.84	
594.00	0.73	151.74	593.95	-5.86	3.93	0.05	-5.80	570237.34	440843.03	
655.00	0.70	150.20	654.95	-6.53	4.30	0.06	-6.46	570236.67	440843.40	TieOn SDI Gyro
713.00	0.53	131.84	712.95	-7.01	4.67	0.45	-6.94	570236.19	440843.77	First WFT Svy
847.00	0.79	35.61	846.94	-6.68	5.67	0.74	-6.59	570236.52	440844.77	
981.00	0.97	35.56	980.92	-5.00	6.87	0.13	-4.89	570238.20	440845.97	
1115.00	0.96	31.35	1114.90	-3.12	8.11	0.05	-2.99	570240.08	440847.21	



Weatherford International Ltd.

WFT Survey Report X&Y's



Weatherford

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

Date: 4/24/2014
Co-ordinate(NE) Reference:
Vertical (TVD) Reference:
Section (N/S) Reference:
Survey Calculation Method:

Time: 09:57:14
Page: 2
Well: Osage 18 Fee B Com 1H, Grid North
SITE 3584.3
Well (0.00N,0.00E,0.91Azi)
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
1250.00	0.41	54.16	1249.89	-1.87	9.09	0.45	-1.73	570241.33	440848.19	
1384.00	0.46	62.43	1383.89	-1.34	9.96	0.06	-1.19	570241.86	440849.06	
1518.00	0.46	47.07	1517.89	-0.73	10.83	0.09	-0.56	570242.47	440849.93	
1652.00	0.42	37.06	1651.88	0.03	11.52	0.06	0.21	570243.23	440850.62	
1831.00	0.36	37.98	1830.88	1.00	12.26	0.03	1.19	570244.20	440851.36	
1921.00	0.35	36.69	1920.88	1.44	12.60	0.01	1.64	570244.64	440851.70	
1963.00	0.62	22.24	1962.88	1.75	12.76	0.70	1.96	570244.95	440851.86	
2008.00	4.23	348.35	2007.83	3.60	12.52	8.29	3.80	570246.80	440851.62	
2053.00	8.99	345.21	2052.52	8.63	11.29	10.60	8.81	570251.83	440850.39	
2097.00	13.86	344.39	2095.63	17.04	8.99	11.07	17.18	570260.24	440848.09	
2142.00	18.77	345.85	2138.81	29.26	5.77	10.95	29.34	570272.46	440844.87	
2187.00	23.76	351.38	2180.73	45.25	2.64	11.94	45.29	570288.45	440841.74	
2232.00	28.78	354.63	2221.08	65.01	0.26	11.60	65.01	570308.21	440839.36	
2276.00	33.45	356.53	2258.74	87.68	-1.47	10.84	87.64	570330.88	440837.63	
2321.00	38.53	0.12	2295.14	114.09	-2.19	12.22	114.04	570357.29	440836.91	
2366.00	43.60	2.21	2329.06	143.63	-1.56	11.67	143.59	570386.83	440837.54	
2410.00	48.72	1.01	2359.52	175.34	-0.68	11.80	175.31	570418.54	440838.42	
2455.00	54.23	0.83	2387.54	210.53	-0.12	12.25	210.50	570453.73	440838.98	
2500.00	58.84	2.47	2412.35	248.04	0.98	10.69	248.03	570491.24	440840.08	
2545.00	63.74	3.10	2433.96	287.45	2.90	10.96	287.46	570530.65	440842.00	
2589.00	69.00	2.81	2451.59	327.70	4.97	11.97	327.73	570570.90	440844.07	
2634.00	73.93	2.26	2465.89	370.31	6.86	11.02	370.37	570613.51	440845.96	
2678.00	78.32	2.31	2476.44	412.98	8.56	9.98	413.06	570656.18	440847.66	
2723.00	82.66	1.70	2483.87	457.32	10.11	9.74	457.42	570700.52	440849.21	
2768.00	87.00	1.15	2487.93	502.11	11.22	9.72	502.23	570745.31	440850.32	
2812.00	89.40	1.22	2489.31	546.08	12.13	5.46	546.20	570789.28	440851.23	
2901.00	91.79	1.02	2488.39	635.05	13.87	2.69	635.19	570878.25	440852.97	
2991.00	89.68	1.19	2487.23	725.02	15.61	2.35	725.18	570968.22	440854.71	
3082.00	90.23	0.67	2487.30	816.01	17.09	0.83	816.18	571059.21	440856.19	
3172.00	90.30	0.26	2486.89	906.00	17.82	0.46	906.17	571149.20	440856.92	
3262.00	90.30	1.32	2486.42	995.99	19.06	1.18	996.17	571239.19	440858.16	
3352.00	90.35	1.10	2485.90	1085.97	20.96	0.25	1086.17	571329.17	440860.06	
3442.00	90.44	0.85	2485.28	1175.96	22.49	0.30	1176.17	571419.16	440861.59	
3532.00	90.77	2.17	2484.33	1265.92	24.86	1.51	1266.15	571509.12	440863.96	
3622.00	91.19	2.60	2482.79	1355.83	28.60	0.67	1356.11	571599.03	440867.70	
3712.00	91.02	2.25	2481.06	1445.73	32.41	0.43	1446.06	571688.93	440871.51	
3802.00	90.28	1.40	2480.04	1535.68	35.28	1.25	1536.04	571778.88	440874.38	
3891.00	90.28	1.36	2479.60	1624.65	37.42	0.04	1625.04	571867.85	440876.52	
3981.00	90.46	0.22	2479.02	1714.64	38.66	1.28	1715.04	571957.84	440877.76	
4070.00	90.61	0.53	2478.19	1803.63	39.24	0.39	1804.03	572046.83	440878.34	
4160.00	90.47	0.49	2477.34	1893.62	40.05	0.16	1894.02	572136.82	440879.15	
4249.00	91.38	0.04	2475.91	1982.61	40.46	1.14	1983.00	572225.81	440879.56	
4339.00	91.35	0.33	2473.76	2072.58	40.75	0.32	2072.97	572315.78	440879.85	
4428.00	91.12	0.34	2471.84	2161.56	41.27	0.26	2161.94	572404.76	440880.37	
4518.00	90.35	0.04	2470.69	2251.55	41.57	0.92	2251.93	572494.75	440880.67	
4608.00	90.37	359.82	2470.12	2341.55	41.46	0.25	2341.91	572584.75	440880.56	
4698.00	90.56	1.55	2469.39	2431.54	42.53	1.93	2431.91	572674.74	440881.63	
4759.00	90.39	1.88	2468.89	2492.51	44.36	0.61	2492.90	572735.71	440883.46	
4850.00	89.18	1.71	2469.23	2583.46	47.21	1.34	2583.89	572826.66	440886.31	
4943.00	89.09	1.48	2470.63	2676.42	49.80	0.27	2676.87	572919.62	440888.90	
5034.00	88.97	1.57	2472.17	2767.37	52.22	0.16	2767.85	573010.57	440891.32	
5126.00	87.86	0.35	2474.72	2859.32	53.76	1.79	2859.81	573102.52	440892.86	

2880
TP=

89

89

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Weatherford International Ltd.

WFT Survey Report X&Y's



Weatherford

Company: Occidental Permian Ltd. Date: 4/24/2014 Time: 09:57:14 Page: 3
Field: Eddy Co. NM (Nad 27) Co-ordinate(NE) Reference: Well: Osage 18 Fee B Com 1H, Grid North
Site: Osage 18 Fee B Com #1H Vertical (TVD) Reference: SITE 3584.3
Well: Osage 18 Fee B Com 1H Section (VS) Reference: Well (0.00N,0.00E,0.91Azi)
Wellpath: 1 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
5215.00	87.37	0.30	2478.42	2948.24	54.26	0.55	2948.73	573191.44	440893.36	
5305.00	87.28	0.51	2482.62	3038.14	54.90	0.25	3038.63	573281.34	440894.00	
5395.00	87.04	0.65	2487.08	3128.02	55.81	0.31	3128.52	573371.22	440894.91	
5456.00	87.72	0.70	2489.87	3188.96	56.53	1.12	3189.45	573432.16	440895.63	
5546.00	87.83	0.26	2493.36	3278.88	57.28	0.50	3279.38	573522.08	440896.38	
5636.00	89.39	359.43	2495.55	3368.85	57.04	1.96	3369.34	573612.05	440896.14	
5726.00	89.32	359.15	2496.56	3458.84	55.92	0.32	3459.29	573702.04	440895.02	
5815.00	89.39	359.51	2497.56	3547.83	54.88	0.41	3548.25	573791.03	440893.98	
5905.00	89.30	359.64	2498.59	3637.82	54.21	0.18	3638.22	573881.02	440893.31	
5994.00	88.93	359.60	2499.97	3726.81	53.62	0.42	3727.19	573970.01	440892.72	
6084.00	88.69	359.94	2501.83	3816.79	53.26	0.46	3817.15	574059.99	440892.36	
6173.00	88.63	359.85	2503.92	3905.76	53.10	0.12	3906.11	574148.96	440892.20	
6263.00	88.56	359.99	2506.12	3995.74	52.97	0.17	3996.07	574238.94	440892.07	
6352.00	88.44	0.21	2508.45	4084.71	53.13	0.28	4085.03	574327.91	440892.23	
6442.00	89.37	0.31	2510.17	4174.69	53.54	1.04	4175.01	574417.89	440892.64	
6531.00	89.58	0.26	2510.99	4263.68	53.98	0.24	4264.00	574506.88	440893.08	
6621.00	89.84	0.66	2511.44	4353.68	54.70	0.53	4354.00	574596.88	440893.80	
6710.00	89.84	0.51	2511.69	4442.67	55.61	0.17	4443.00	574685.87	440894.71	Last WFT Svy
6765.00	89.84	0.51	2511.85	4497.67	56.10	0.00	4497.99	574740.87	440895.20	Proj to Bit

Annotation

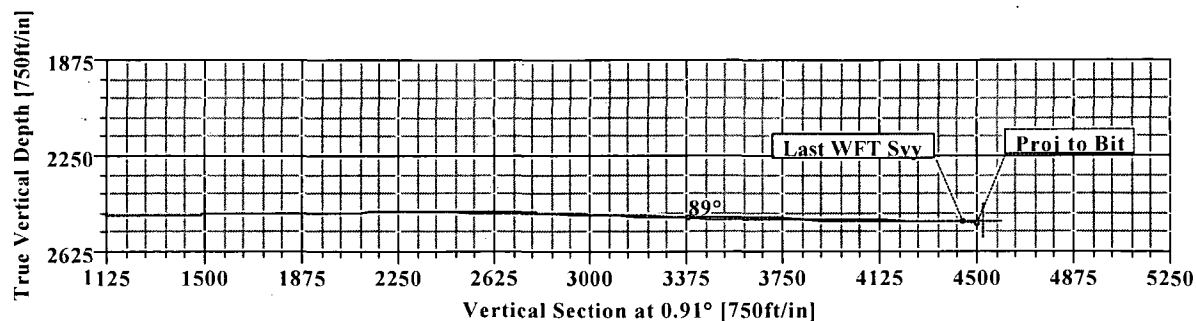
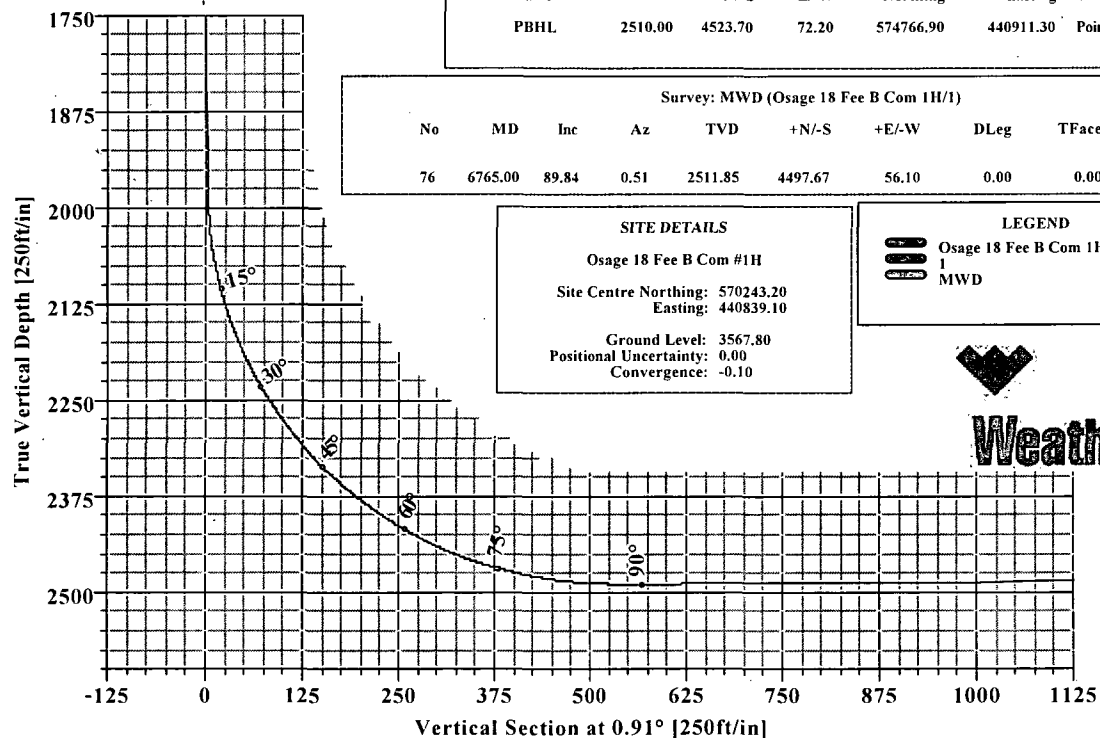
MD ft	TVD ft	
655.00	654.95	TieOn SDI Gyro
713.00	712.95	First WFT Svy
6710.00	2511.69	Last WFT Svy
6765.00	2511.85	Proj to Bit



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



KB ELEV: 3584.3
GL ELEV: 3567.8



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	4518.00	90.35	0.04	2470.32	2251.55	41.68	0.00	0.00	2251.92	
2	4596.09	88.98	0.78	2470.78	2329.63	42.24	2.00	151.62	2330.01	
3	6790.71	88.98	0.78	2510.00	4523.70	72.20	0.00	0.00	4524.28	PBHL

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Osage 18 Fee B Com 1H	0.00	0.00	570243.20	440839.10	32°34'03.212N	104°31'31.333W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	2510.00	4523.70	72.20	574766.90	440911.30	Point

Survey: MWD (Osage 18 Fee B Com 1H/1)

No	MD	Inc	Az	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
76	6765.00	89.84	0.51	2511.85	4497.67	56.10	0.00	0.00	4497.99

SITE DETAILS

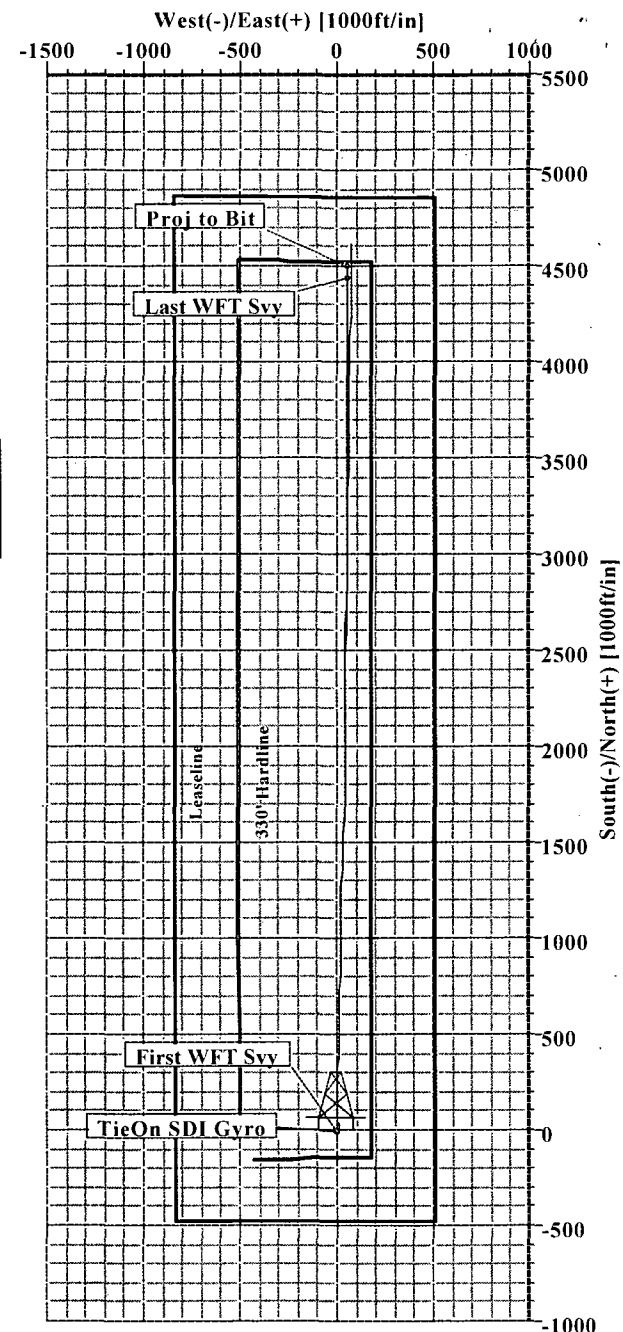
Osage 18 Fee B Com #1H
Site Centre Northing: 570243.20
Easting: 440839.10
Ground Level: 3567.80
Positional Uncertainty: 0.00
Convergence: -0.10

LEGEND

Osage 18 Fee B Com 1H, I, Plan #7
1
MWD



Weatherford



Survey: MWD (Osage 18 Fee B Com 1H/1)

Created By: Michael Dill

Date: 4/24/2014

OCCIDENTAL PERMIAN LTD.

North Seven Rivers
Eddy County, NM (Grid North)
Osage "18" Fee B Com #1H
VH - Job #320414-K-457

Survey: drop Gyro

SDI Survey Report

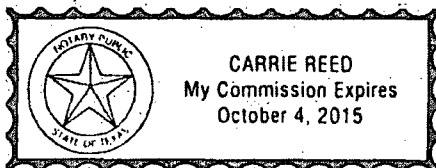
This survey is correct to the best of my knowledge and is supported by actual field data.

K. Roberts

Notarized this date 2nd of June, 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 B 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 B Com #1H	North Reference:	Grid
Wellbore:	VH - Job #320414-K-457	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #320414-K-457	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"
		Grid Convergence:	-0.10 °

Well:	Osage "18" Fee B Com #1H, Horizontal		
Well Position	+N/-S	0.0 usft	Northing: 570,243.17 usft
	+E/-W	0.0 usft	Easting: 440,839.06 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Ground Level:	0.0 usft

Wellbore:	VH - Job #320414-K-457		
Magnetics:	Model Name	Sample Date	Declination
	IGRF2010	4/8/2014	7.71
			Dip Angle
			60.27
			Field Strength
			48,462

Design:	VH - Job #320414-K-457		
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
			(°)
			0.91

Survey Program	Date: 6/20/2014		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
90.0	655.0	drop Gyro (VH - Job #320414-K-457)	Keeper
			Description
			Keeper Surface Readout

Survey									
MD	Inc	Azi (azimuth)	TVD	N/S	E/W	Closure Azimuth	Closure Distance		
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(°)	(usft)		
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0		
90.0	0.45	132.73	90.0	-0.2	0.3	132.73	0.4		
118.0	0.58	141.80	118.0	-0.4	0.4	134.85	0.6		
146.0	0.60	141.62	146.0	-0.7	0.6	137.07	0.9		
177.0	0.71	144.05	177.0	-0.9	0.8	138.74	1.2		
208.0	0.83	142.65	208.0	-1.3	1.1	139.88	1.7		
236.0	0.92	140.13	236.0	-1.6	1.3	140.18	2.1		
264.0	0.92	142.22	264.0	-2.0	1.6	140.35	2.5		
295.0	0.86	147.76	295.0	-2.3	1.9	141.08	3.0		
322.0	0.89	149.04	322.0	-2.7	2.1	141.96	3.4		
350.0	0.82	147.05	350.0	-3.1	2.3	142.62	3.8		
381.0	0.84	146.22	381.0	-3.4	2.6	143.04	4.3		

SDI
SDI Survey Report

Company:	OCCIDENTAL PERMIAN LTD.	Local Co-ordinate Reference:	Well Osage "18" Fee B 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 B Com #1H	North Reference:	Grid
Wellbore:	VH - Job #320414-K-457	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #320414-K-457	Database:	EDM-Regulatory

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)	
412.0	0.79	150.41	412.0	-3.8	2.8	143.53	4.7	
441.0	0.77	152.53	441.0	-4.1	3.0	144.14	5.1	
472.0	0.77	151.90	472.0	-4.5	3.2	144.74	5.5	
502.0	0.71	150.69	502.0	-4.9	3.4	145.17	5.9	
532.0	0.68	152.19	532.0	-5.2	3.6	145.53	6.3	
563.0	0.74	150.85	563.0	-5.5	3.7	145.88	6.7	
594.0	0.73	151.74	594.0	-5.9	3.9	146.18	7.1	
655.0	0.70	150.20	654.9	-6.5	4.3	146.65	7.8	