Reservoir Development
Drilling & Measurements (Extreme Engineering)
6724 Corporation Pkwy Suite 100
Fort Worth, TX 76126
Phone: (817) 717-1820
Fax: (817) 546-7551

Schlumberger

30-015-40716

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MAY 24 2013
NMOCD ARTESIA

February 5, 2013

Occidental Permian Ltd
5 Greenway Plaza Suite 110
Houston, Texas77046

Attention: Anthony T Tschacher

Re:

CLIENT:	Oxy
WELL:	Piglet 21 Federal # 12
FIELD:	Yeso
RIG:	Savanna 415
COUNTY:	Eddy
API NO:	30-015-40718
JOB NO:	NM-OXY-0040

Enclosed, please find the original copy of the survey performed on the referenced well by Drilling & Measurements (formerly Extreme), a division of Schlumberger Technology Corporation (P-5 No. 754900).
Other information required by your office is as follows.

Name & Title of Surveyor	Drainhole Number	Surveyed Depths	Dates Performed	Type of Survey
Jeff Clement FST III	Piglet 21 Federal # 12 Original Hole	0.00 Ft to 4806.00 Ft	January 29, 2013 to February 4, 2013	SlimPulse

A plat of the bottom hole location is oriented both to the surface location and to the lease lines (or until line in case of pooling), is attached to the survey report.

If any other information is required, please contact the undersigned at the above letterhead and phone number.
Sincerely,

Mike Johns
Field Service Manager

CC: Oxy
Enclosures: [2]
County of Eddy
State of New Mexico

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I, Jeff Clement certify that; I am employed by Drilling & Measurements (formerly Extreme), a division of Schlumberger Technology Corporation; that I did on the day(s) of January 29, 2013 through February 04, 2013, conduct or supervise the taking of the SlimPulse surveys from a depth of 0.00 feet to a depth of 4806.00 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I am authorized and qualified to make this report; that this survey was conducted at the request of Oxy for the Piglet 21 Federal # 12 Well (Original Hole) API No. 30-015-40718 in New Mexico; and that I have reviewed this report and find that it conforms to the principals and procedures as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation.

Jeff Clement

Jeff Clement
FST III

Before me, MaryAnn H Rodriguez, on this day personally appeared Jeff Clement, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 11TH day of February, (year). 2013

MaryAnn H Rodriguez

Notary Public

April 27, 2014

Piglet 21 Federal #12 MWD 0' to 4806' Survey Report

(Def Survey)

Report Date:	February 05, 2013 - 04:54 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:		**Vertical Section Azimuth:**	0.000 ° (Grid North)
Field:	NM, Eddy (NAD27) 2011	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	OXY (Piglet 21 Federal #12) Savannah 415 / Piglet 21 Federal #12	**TVD Reference Datum:**	Unknown
Well:	Piglet 21 Federal #12	**TVD Reference Elevation:**	3626.480 ft above MSL
Borehole:	Original Hole	**Seabed / Ground Elevation:**	3613.900 ft above MSL
UWI / API#:	NM-OXY-0040 / 30-015-40718	**Magnetic Declination:**	7.886 °
Survey Name:	Piglet 21 Federal #12 MWD 0' to 4806'	**Total Field Strength:**	48721.170 nT
Survey Date:	February 05, 2013	**Magnetic Dip Angle:**	60.560 °
Tort / AHD / DDI / ERD Ratio:	7.753 ° / 48.097 ft / 2.572 / 0.010	**Declination Date:**	February 05, 2013
Coordinate Reference System:	NAD27 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Declination Model:**	BGGM 2012
Location Lat / Long:	N 32° 49' 32.88000", W 104° 10' 41.88000"	**North Reference:**	Grid North
Location Grid N/E Y/X:	N 664172.077 ftUS, E 547623.829 ftUS	**Grid Convergence Used:**	0.084 °
CRS Grid Convergence Angle:	0.08404165 °	**Total Corr Mag North->Grid North:**	7.802 °
Grid Scale Factor:	0.99991169	**Local Coord Referenced To:**	Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Surface	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	664172.08	547623.83	N 32 49 32.88	W 104 10 41.88
Begin MWD Surveys	55.00	0.40	35.40	55.00	0.16	0.16	0.11	0.73	664172.23	547623.94	N 32 49 32.88	W 104 10 41.88
	110.00	0.88	8.58	110.00	0.73	0.73	0.29	1.01	664172.81	547624.11	N 32 49 32.89	W 104 10 41.88
	198.00	1.01	28.41	197.98	2.08	2.08	0.76	0.40	664174.16	547624.59	N 32 49 32.90	W 104 10 41.87
	315.00	1.01	49.11	314.97	3.66	3.66	2.03	0.31	664175.74	547625.86	N 32 49 32.92	W 104 10 41.86
	347.00	0.88	37.42	346.96	4.04	4.04	2.39	0.72	664176.12	547626.22	N 32 49 32.92	W 104 10 41.85
	384.00	0.88	38.08	383.96	4.49	4.49	2.74	0.03	664176.57	547626.57	N 32 49 32.92	W 104 10 41.85
	414.00	1.01	52.01	413.95	4.84	4.84	3.09	0.88	664176.91	547626.92	N 32 49 32.93	W 104 10 41.84
	517.00	0.79	56.49	516.94	5.79	5.79	4.40	0.22	664177.86	547628.22	N 32 49 32.94	W 104 10 41.83
	639.00	0.48	44.19	638.93	6.62	6.62	5.45	0.28	664178.69	547629.28	N 32 49 32.95	W 104 10 41.82
	734.00	0.40	51.48	733.93	7.11	7.11	5.99	0.10	664179.19	547629.82	N 32 49 32.95	W 104 10 41.81
	885.00	0.40	0.20	884.93	7.96	7.96	6.40	0.23	664180.04	547630.23	N 32 49 32.96	W 104 10 41.80
	995.00	0.22	353.52	994.93	8.56	8.56	6.38	0.17	664180.63	547630.21	N 32 49 32.96	W 104 10 41.81
	1167.00	0.62	47.70	1166.92	9.51	9.51	7.03	0.30	664181.59	547630.86	N 32 49 32.97	W 104 10 41.80
	1297.00	0.40	49.94	1296.92	10.28	10.28	7.90	0.17	664182.35	547631.73	N 32 49 32.98	W 104 10 41.79
	1470.00	0.48	50.20	1469.91	11.13	11.13	8.92	0.05	664183.21	547632.75	N 32 49 32.99	W 104 10 41.78
	1729.00	0.48	19.40	1728.90	12.85	12.85	10.11	0.10	664184.92	547633.94	N 32 49 33.01	W 104 10 41.76
	1902.00	0.48	4.02	1901.90	14.25	14.25	10.40	0.07	664186.33	547634.23	N 32 49 33.02	W 104 10 41.76
	2075.00	0.40	338.49	2074.89	15.54	15.54	10.23	0.12	664187.62	547634.06	N 32 49 33.03	W 104 10 41.76
	2248.00	0.31	310.98	2247.89	16.41	16.41	9.66	0.11	664188.48	547633.49	N 32 49 33.04	W 104 10 41.77
	2463.00	0.79	316.69	2462.88	17.87	17.87	8.20	0.22	664189.94	547632.03	N 32 49 33.06	W 104 10 41.78
	2636.00	0.70	335.50	2635.86	19.70	19.70	6.95	0.15	664191.77	547630.78	N 32 49 33.07	W 104 10 41.80
	2897.00	0.79	324.29	2896.84	22.61	22.61	5.24	0.07	664194.68	547629.06	N 32 49 33.10	W 104 10 41.82
	3198.00	0.62	337.08	3197.82	25.79	25.79	3.39	0.08	664197.87	547627.22	N 32 49 33.14	W 104 10 41.84
	3413.00	0.79	329.08	3412.80	28.14	28.14	2.18	0.09	664200.21	547626.00	N 32 49 33.16	W 104 10 41.85
	3586.00	0.70	321.92	3585.79	29.99	29.99	0.91	0.07	664202.07	547624.74	N 32 49 33.18	W 104 10 41.87
	3815.00	0.40	334.71	3814.78	31.82	31.82	-0.29	0.14	664203.89	547623.54	N 32 49 33.19	W 104 10 41.88
	4016.00	0.40	306.72	4015.77	32.87	32.87	-1.16	0.10	664204.94	547622.67	N 32 49 33.21	W 104 10 41.89
	4233.00	0.70	293.01	4232.76	33.84	33.84	-2.98	0.15	664205.91	547620.85	N 32 49 33.21	W 104 10 41.91
	4406.00	0.62	282.11	4405.75	34.45	34.45	-4.87	0.09	664206.52	547618.96	N 32 49 33.22	W 104 10 41.94
	4535.00	0.48	269.89	4534.74	34.60	34.60	-6.09	0.14	664206.67	547617.74	N 32 49 33.22	W 104 10 41.95
	4709.00	0.48	282.28	4708.74	34.75	34.75	-7.53	0.06	664206.82	547616.30	N 32 49 33.22	W 104 10 41.97
End MWD Surveys	4806.00	0.48	277.58	4805.74	34.89	34.89	-8.33	0.04	664206.96	547615.50	N 32 49 33.23	W 104 10 41.98

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma

Survey Program:

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Survey Tool Type	Borehole / Survey
	0.000	12.580	1/12.580	SLB_MWD-STD-Depth Only	Original Hole / Piglet 21 Federal #12 MWD 0' to 4806'
	12.580	2897.000	1/2884.420	SLB_MWD-STD	Original Hole / Piglet 21 Federal #12 MWD 0' to 4806'
	2897.000	3198.000	1/301.000	SLB_MWD-STD	Original Hole / Piglet 21 Federal #12 MWD 0' to 4806'
	3198.000	4806.000	1/1608.000	SLB_MWD-STD	Original Hole / Piglet 21 Federal #12 MWD 0' to 4806'

Occidental Oil & Gas Corp – Permian Primary – North NM/Terrell RMT			
Well: Piglet 21 Federal #12		**API: 30-015-40716**	
State: New Mexico	County: Eddy	T17S R28E, Sec 21	445' FNL & 1865' FEL
Field: Empire	TD: 4,860'	PBTD: 4,806'	KB: 3,628' ASL

Casing Size:	Grade/Weight:	Depth:	Cement:
9-5/8"	J-55 LTC / 36#	463'	210 sx, circ'd to surf
5-1/2"	L-80 LTC / 17#	4,860'	830 sx, circ'd to surf