Schlumberger

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

December 17, 2012

Occidental Permian Ltd
5 Greenway Plaza Suite 110
Houston, Texas77046



Attention: Anthony T Tschacher

Re:

CLIENT: Occidental Petrolem Corp
WELL: PIGLET 21 STATE #14
FIELD: YESO
RIG: SAVANNA 415
COUNTY: EDDY
API NO: 30-015-40432
JOB NO: NM-OXY-0028

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 |
|---|---|---|---|---|
| Ty McFarlin<br>FST-T | PIGLET 21 STATE #14<br>Original Hole | 198.00 Ft to<br>4700.00 Ft | December 6, 2012 to<br>December 11, 2012 | 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: Occidental Petrolem Corp
Enclosures: [2]
County of EDDY
State of New Mexico

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I, Ty McFarlin certify that; I am employed by Drilling & Measurements (formerly Extreme), a division of Schlumberger Technology Corporation; that I did on the day(s) of December 06, 2012 through December 11, 2012, conduct or supervise the taking of the SlimPulse surveys from a depth of 198.00 feet to a depth of 4700.00 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 Occidental Petrolem Corp for the PIGLET 21 STATE #14 Well (Original Hole) API No. 30-015-40432 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.

Ty McFarlin
FST-T

Janna Martin
Before me, Ty McFarlin, on this day personally appeared Ty McFarlin, 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 18TH day of December, 2012

Notary Public

Eddy Co, New Mexico
My Commission expires 10-13-2015

# PIGLET 21 STATE #14 MWD 0' to 4700' Survey Report

(Def Survey)

| | | | |
|---|---|---|---|
| **Report Date:** | December 11, 2012 - 02:01 AM | **Survey / DLS Computation:** | Minimum Curvature / Lubinski |
| **Client:** | Oxy | **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 STATE #14) SAVANNA 415 / PIGLET 21 STATE #14 | **TVD Reference Datum:** | RKB |
| **Well:** | PIGLET 21 STATE #14 | **TVD Reference Elevation:** | 3466.000 ft above MSL |
| **Borehole:** | Original Hole | **Seabed / Ground Elevation:** | 3452.000 ft above MSL |
| **UWI / API#:** | Unknown / 30-015-40432 | **Magnetic Declination:** | 8.005 ° |
| **Survey Name:** | PIGLET 21 STATE #14 MWD 0' to 4700' | **Total Field Strength:** | 48736.300 nT |
| **Survey Date:** | December 11, 2012 | **Magnetic Dip Angle:** | 60.557 ° |
| **Tort / AHD / DDI / ERD Ratio:** | 6.206 ° / 51.009 ft / 2.500 / 0.011 | **Declination Date:** | December 11, 2012 |
| **Coordinate Reference System:** | NAD27 New Mexico State Plane, Eastern Zone, US Feet | **Magnetic Declination Model:** | BGGM 2012 |
| **Location Lat / Long:** | N 32° 49' 4.80000", W 104° 11' 8.88000" | **North Reference:** | Grid North |
| **Location Grid N/E Y/X:** | N 661331.102 ftUS, E 545323.904 ftUS | **Grid Convergence Used:** | 0.142 ° |
| **CRS Grid Convergence Angle:** | 0.07995810 ° | **Total Corr Mag North->Grid North:** | 7.863 ° |
| **Grid Scale Factor:** | 0.99991144 | **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 ° ' ") |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tie-In | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | N/A | 661331.10 | 545323.90 | N 32 49 4.80 | W 104 11 8.88 |
| Assumed Vertical | 80.00 | 0.00 | 0.00 | 80.00 | 0.00 | 0.00 | 0.00 | 0.00 | 661331.10 | 545323.90 | N 32 49 4.80 | W 104 11 8.88 |
| Begin MWD Surveys | 198.00 | 1.50 | 356.43 | 197.99 | 1.54 | 1.54 | -0.10 | 1.27 | 661332.64 | 545323.81 | N 32 49 4.82 | W 104 11 8.88 |
| | 388.00 | 1.58 | 352.09 | 387.92 | 6.62 | 6.62 | -0.61 | 0.07 | 661337.72 | 545323.29 | N 32 49 4.87 | W 104 11 8.89 |
| | 498.00 | 1.49 | 351.61 | 497.88 | 9.53 | 9.53 | -1.03 | 0.08 | 661340.64 | 545322.87 | N 32 49 4.89 | W 104 11 8.89 |
| | 547.00 | 1.49 | 347.61 | 546.86 | 10.79 | 10.79 | -1.26 | 0.21 | 661341.89 | 545322.65 | N 32 49 4.91 | W 104 11 8.89 |
| | 610.00 | 1.32 | 345.81 | 609.84 | 12.29 | 12.29 | -1.61 | 0.28 | 661343.39 | 545322.29 | N 32 49 4.92 | W 104 11 8.90 |
| | 675.00 | 1.10 | 344.49 | 674.83 | 13.62 | 13.62 | -1.96 | 0.34 | 661344.72 | 545321.94 | N 32 49 4.93 | W 104 11 8.90 |
| | 735.00 | 1.01 | 348.71 | 734.82 | 14.69 | 14.69 | -2.22 | 0.20 | 661345.79 | 545321.68 | N 32 49 4.95 | W 104 11 8.91 |
| | 796.00 | 0.88 | 343.30 | 795.81 | 15.67 | 15.67 | -2.46 | 0.26 | 661346.77 | 545321.44 | N 32 49 4.96 | W 104 11 8.91 |
| | 858.00 | 0.79 | 337.11 | 857.80 | 16.52 | 16.52 | -2.76 | 0.21 | 661347.62 | 545321.14 | N 32 49 4.98 | W 104 11 8.91 |
| | 1008.00 | 0.62 | 328.10 | 1007.79 | 18.16 | 18.16 | -3.59 | 0.13 | 661349.26 | 545320.31 | N 32 49 4.98 | W 104 11 8.92 |
| | 1198.00 | 0.48 | 341.11 | 1197.78 | 19.78 | 19.78 | -4.39 | 0.10 | 661350.88 | 545319.51 | N 32 49 5.00 | W 104 11 8.93 |
| | 1368.00 | 0.48 | 301.38 | 1367.78 | 20.83 | 20.83 | -5.23 | 0.19 | 661351.93 | 545318.67 | N 32 49 5.01 | W 104 11 8.94 |
| | 1540.00 | 0.31 | 295.89 | 1539.77 | 21.41 | 21.41 | -6.27 | 0.10 | 661352.51 | 545317.64 | N 32 49 5.01 | W 104 11 8.95 |
| | 1713.00 | 0.40 | 319.70 | 1712.77 | 22.07 | 22.07 | -7.08 | 0.10 | 661353.17 | 545316.83 | N 32 49 5.02 | W 104 11 8.96 |
| | 1911.00 | 0.31 | 299.40 | 1910.77 | 22.86 | 22.86 | -7.99 | 0.08 | 661353.96 | 545315.91 | N 32 49 5.03 | W 104 11 8.97 |
| | 2102.00 | 0.31 | 292.72 | 2101.76 | 23.32 | 23.32 | -8.92 | 0.02 | 661354.42 | 545314.99 | N 32 49 5.03 | W 104 11 8.98 |
| | 2300.00 | 0.40 | 273.30 | 2299.76 | 23.56 | 23.56 | -10.10 | 0.08 | 661354.66 | 545313.80 | N 32 49 5.03 | W 104 11 9.00 |
| | 2484.00 | 0.31 | 311.62 | 2483.76 | 23.93 | 23.93 | -11.12 | 0.13 | 661355.03 | 545312.79 | N 32 49 5.04 | W 104 11 9.01 |
| | 2681.00 | 0.31 | 315.31 | 2680.75 | 24.66 | 24.66 | -11.69 | 0.01 | 661355.76 | 545312.01 | N 32 49 5.04 | W 104 11 9.02 |
| | 2875.00 | 0.31 | 323.46 | 2874.75 | 25.46 | 25.46 | -12.57 | 0.02 | 661356.56 | 545311.33 | N 32 49 5.05 | W 104 11 9.03 |
| | 3048.00 | 0.22 | 356.71 | 3047.75 | 26.17 | 26.17 | -12.87 | 0.10 | 661357.26 | 545311.04 | N 32 49 5.06 | W 104 11 9.03 |
| | 3222.00 | 0.48 | 349.70 | 3221.75 | 27.22 | 27.22 | -13.02 | 0.15 | 661358.32 | 545310.89 | N 32 49 5.07 | W 104 11 9.03 |
| | 3392.00 | 0.48 | 344.71 | 3391.74 | 28.60 | 28.60 | -13.33 | 0.02 | 661359.70 | 545310.57 | N 32 49 5.08 | W 104 11 9.04 |
| | 3590.00 | 0.70 | 333.21 | 3589.73 | 30.48 | 30.48 | -14.10 | 0.13 | 661361.58 | 545309.81 | N 32 49 5.10 | W 104 11 9.04 |
| | 3783.00 | 0.75 | 348.34 | 3782.71 | 32.77 | 32.77 | -14.88 | 0.10 | 661363.87 | 545309.02 | N 32 49 5.12 | W 104 11 9.05 |
| | 3869.00 | 0.79 | 351.23 | 3868.71 | 33.91 | 33.91 | -15.09 | 0.06 | 661365.01 | 545308.82 | N 32 49 5.14 | W 104 11 9.06 |
| | 3967.00 | 0.79 | 355.60 | 3966.70 | 35.25 | 35.25 | -15.24 | 0.06 | 661366.35 | 545308.66 | N 32 49 5.15 | W 104 11 9.06 |
| | 4152.00 | 0.79 | 356.88 | 4151.68 | 37.80 | 37.80 | -15.41 | 0.01 | 661368.89 | 545308.49 | N 32 49 5.17 | W 104 11 9.06 |
| | 4350.00 | 0.62 | 351.21 | 4349.66 | 40.22 | 40.22 | -15.65 | 0.09 | 661371.32 | 545308.26 | N 32 49 5.20 | W 104 11 9.06 |
| | 4548.00 | 0.79 | 342.29 | 4547.65 | 42.58 | 42.58 | -16.23 | 0.10 | 661373.67 | 545307.68 | N 32 49 5.22 | W 104 11 9.07 |
| End MWD Surveys | 4700.00 | 1.19 | 336.10 | 4699.63 | 45.02 | 45.02 | -17.19 | 0.27 | 661376.12 | 545306.72 | N 32 49 5.25 | W 104 11 9.08 |

**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 | 14.000 | Act Stns | SLB_BLIND+TREND-Depth Only | Original Hole / PIGLET 21 STATE #14 MWD 0' to 4700' |
| | 14.000 | 14.000 | Act Stns | SLB_BLIND+TREND-Depth Only | Original Hole / PIGLET 21 STATE #14 MWD 0' to 4700' |
| | 14.000 | 80.000 | Act Stns | SLB_BLIND+TREND | Original Hole / PIGLET 21 STATE #14 MWD 0' to 4700' |
| | 80.000 | 4700.000 | Act Stns | SLB_MWD-STD | Original Hole / PIGLET 21 STATE #14 MWD 0' to 4700' |