

**Reservoir Development**

Schlumberger Drilling and Measurements  
9200 West Reno Avenue  
Oklahoma City, Oklahoma 73127 USA  
Phone: (405) 789-1515  
Fax: (405) 789-1519

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March 20, 2017

OXY USA INC.  
5 Greenway Plaza, Suite 110  
Houston, TX 77046-052

Re:

29, T24S, R29E, Eddy NM  
-32.19021 -103.99846

CLIENT: OXY USA INC.  
WELL: CEDAR CANYON 28 FEDERAL 9H  
FIELD: EAST PIERCE CROSSING BONE  
SPRING  
RIG: H&P 639  
COUNTY: Eddy  
API NO: 30-015-44016  
JOB NO: 17MLD1277

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

| <u>Name &amp; Title of<br/>Surveyor</u> | <u>Drainhole Number</u>                        | <u>Surveyed Depths</u>       | <u>Dates Performed</u>                | <u>Type of Survey</u>  |
|-----------------------------------------|------------------------------------------------|------------------------------|---------------------------------------|------------------------|
| T.Brady<br>FE                           | CEDAR CANYON 28<br>FEDERAL 9H<br>Original Hole | 8004.00 Ft to<br>13793.00 Ft | February 24, 2017 to<br>March 1, 2017 | TelePacer<br>SlimPulse |

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

Field Service Manager

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**Well Reference:**

29, T24S, R29E, Eddy NM

-32.19021 -103.99846

I, T.Brady certify that; I am employed by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I did on the day(s) of February 24, 2017 through March 01, 2017, conduct or supervise the taking of the TelePacer & SlimPulse surveys from a depth of 8004.00 feet to a depth of 13793.00 feet referenced to driller's depth; 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 USA INC. for the CEDAR CANYON 28 FEDERAL 9H Well (Original Hole) API No. 30-015-44016 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.

By

T.Brady

FE

Subscribed and Sworn to before me this 20<sup>th</sup> day of March (month) 2017 (yr)

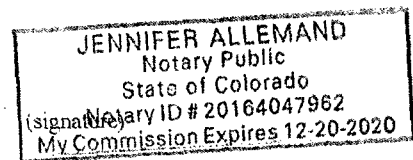
My Commission expires:

12-20-2020

Notary Public

Adams Colorado

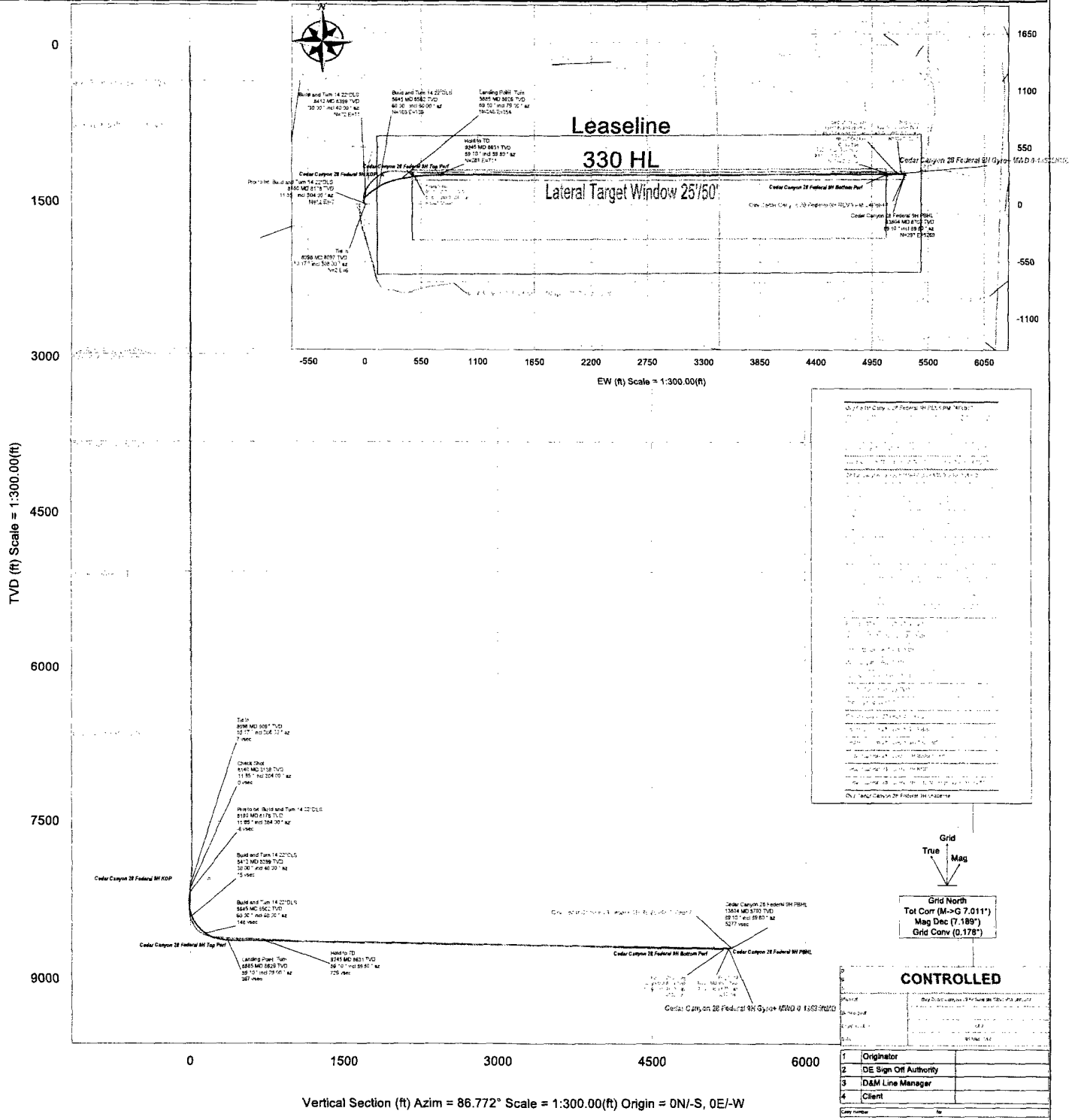
(County State)



| Borehole:                            | Well:                                               | Field:                                         | Structure:                     |
|--------------------------------------|-----------------------------------------------------|------------------------------------------------|--------------------------------|
| Original Borehole                    | Oxy Cedar Canyon 28 Federal 9H                      | NM Eddy County (NAD 83)                        | Oxy Cedar Canyon 28 Federal 9H |
| Gravity & Magnetic Parameters        | Surface Location                                    | Miscellaneous                                  |                                |
| Model: HDGM 2016                     | NAD83 New Mexico State Plane, Eastern Zone, US Feet | Oxy Cedar Canyon                               |                                |
| Dip: 88.032°                         | Lat: N 32 11 24.74                                  | Slot: Oxy Cedar Canyon                         |                                |
| PS: 48190.065mT                      | North: 433992.61US                                  | 28 Federal 9H                                  |                                |
| Date: 22-Feb-2017                    | East: 644928.55US                                   | YVD Ref: RKB=26.5(2974.5H above MSL)           |                                |
| Gravity PS: 998.464mg (8.8065 Based) | Grid Conv: 0.1784°                                  | Oxy Cedar Canyon 28 Federal 9H REV5 PW 24Feb17 |                                |
|                                      | Scale Fact: 0.99992136                              |                                                |                                |

## Critical Points

| Comments                              | Survey M(ft) | Inclination(deg) | Azimuth(deg) | TVL(ft) | Sub-Sea TVL | VS(ft)  | NS(ft) | EW(ft)  | Latitude(deg)  | Longitude(deg)  | Easting(ftUS) | Northing(ftUS) | DLSS(ft) | Tool Face(deg) |
|---------------------------------------|--------------|------------------|--------------|---------|-------------|---------|--------|---------|----------------|-----------------|---------------|----------------|----------|----------------|
| Tie In                                | 8098.00      | 10.17            | 308.00       | 8097.37 | 5122.87     | 6.52    | 2.49   | 6.39    | N 32 11 24.765 | W 103 59 54.394 | 644934.94     | 433095.09      | 9.71     | -26.42         |
| Check Shot                            | 8140.00      | 11.85            | 304.00       | 8138.60 | 5164.10     | 0.29    | 7.18   | -0.11   | N 32 11 24.812 | W 103 59 54.470 | 644928.44     | 433099.78      | 4.39     | 0.00           |
| Proj to bit. Build and Turn 14 22°DLS | 8180.00      | 11.65            | 304.00       | 8177.74 | 5203.24     | -6.25   | 11.78  | -6.92   | N 32 11 24.857 | W 103 59 54.549 | 644921.63     | 433104.38      | 0.00     | 114.73         |
| Build and Turn 14 22°DLS              | 8413.42      | 30.00            | 40.00        | 8399.27 | 5424.77     | 15.24   | 71.56  | 11.23   | N 32 11 25.448 | W 103 59 54.335 | 644939.78     | 433164.16      | 14.22    | 33.08          |
| Build and Turn 14 22°DLS              | 8644.57      | 60.00            | 60.00        | 8561.63 | 5587.13     | 147.84  | 168.55 | 138.57  | N 32 11 26.404 | W 103 59 52.850 | 645067.11     | 433261.14      | 14.22    | 35.34          |
| Landing Point. Turn                   | 8885.42      | 89.10            | 79.00        | 8625.65 | 5651.15     | 366.82  | 245.99 | 353.53  | N 32 11 27.164 | W 103 59 50.346 | 645282.05     | 433338.57      | 14.22    | 90.90          |
| Hold to TD                            | 9245.28      | 89.10            | 89.80        | 8631.32 | 5656.82     | 725.79  | 261.06 | 711.09  | N 32 11 27.500 | W 103 59 46.184 | 645635.59     | 433373.64      | 3.00     | 180.00         |
| Cedar Canyon 28 Federal 9H PBHL       | 13863.71     | 89.10            | 89.80        | 8703.00 | 5728.50     | 5277.31 | 297.28 | 5258.93 | N 32 11 27.515 | W 103 58 53.146 | 650197.06     | 433389.78      | 0.00     |                |





# Cedar Canyon 28 Federal 9H Gyro+ MWD 0-13835ftMD Survey Geodetic Report

(Def Survey)

**Report Date:** March 01, 2017 - 01:58 PM  
**Client:** OXY  
**Field:** NM Eddy County (NAD 83)  
**Structure / Slot:** Oxy Cedar Canyon 28 Federal 9H / Oxy Cedar Canyon 28 Federal 9H  
**Well:** Oxy Cedar Canyon 28 Federal 9H  
**Borehole:** Original Borehole  
**UWI / API#:** Unknown / Unknown  
**Survey Name:** Cedar Canyon 28 Federal 9H Gyro+ MWD 0-13835ftMD  
**Survey Date:** December 29, 2016  
**Tort / AHD / DDI / ERD Ratio:** 203.376° / 5474.368 ft / 6.248 / 0.629  
**Coordinate Reference System:** NAD83 New Mexico State Plane, Eastern Zone, US Feet  
**Location Lat / Long:** N 32° 11' 24.74050", W 103° 59' 54.46851"  
**Location Grid N/E Y/X:** N 433092.600 ftUS, E 644928.550 ftUS  
**CRS Grid Convergence Angle:** 0.1784°  
**Grid Scale Factor:** 0.99992138  
**Version / Patch:** 2.10.254.0

**Survey / DLS Computation:** Minimum Curvature / Lubinski  
**Vertical Section Azimuth:** 86.772° (Grid North)  
**Vertical Section Origin:** 0.000 ft, 0.000 ft  
**TVD Reference Datum:** RKB=26.5'  
**TVD Reference Elevation:** 2974.500 ft above MSL  
**Seabed / Ground Elevation:** 2948.000 ft above MSL  
**Magnetic Declination:** 7.189°  
**Total Gravity Field Strength:** 998.4641mgN (9.80665 Based)  
**Gravity Model:** GARM  
**Total Magnetic Field Strength:** 48150.065 nT  
**Magnetic Dip Angle:** 60.032°  
**Declination Date:** February 22, 2017  
**Magnetic Declination Model:** HDGM 2016  
**North Reference:** Grid North  
**Grid Convergence Used:** 0.1784°  
**Total Corr Mag North->Grid North:** 7.0106°  
**Local Coord Referenced To:** Well Head

| Comments | MD<br>(ft) | Incl<br>(°) | Azim Grid<br>(°) | TVD<br>(ft) | VSEC<br>(ft) | NS<br>(ft) | EW<br>(ft) | DLS<br>(°/100ft) | Northing<br>(ftUS) | Easting<br>(ftUS) | Latitude<br>(N/S ° ' ") | Longitude<br>(E/W ° ' ") |
|----------|------------|-------------|------------------|-------------|--------------|------------|------------|------------------|--------------------|-------------------|-------------------------|--------------------------|
| SHL      | 0.00       | 0.00        | 0.00             | 0.00        | 0.00         | 0.00       | 0.00       | N/A              | 433092.60          | 644928.55         | N 32 11 24.74           | W 103 59 54.47           |
| RKB      | 26.50      | 0.00        | 0.00             | 26.50       | 0.00         | 0.00       | 0.00       | 0.00             | 433092.60          | 644928.55         | N 32 11 24.74           | W 103 59 54.47           |
|          | 76.00      | 0.21        | 171.38           | 76.00       | 0.01         | -0.09      | 0.01       | 0.42             | 433092.51          | 644928.56         | N 32 11 24.74           | W 103 59 54.47           |
|          | 167.00     | 0.40        | 178.37           | 167.00      | 0.02         | -0.57      | 0.05       | 0.21             | 433092.03          | 644928.60         | N 32 11 24.73           | W 103 59 54.47           |
|          | 259.00     | 0.52        | 139.71           | 259.00      | 0.26         | -1.21      | 0.33       | 0.35             | 433091.39          | 644928.88         | N 32 11 24.73           | W 103 59 54.46           |
|          | 350.00     | 0.62        | 116.06           | 349.99      | 0.94         | -1.74      | 1.04       | 0.28             | 433090.86          | 644929.59         | N 32 11 24.72           | W 103 59 54.46           |
|          | 440.00     | 0.67        | 107.37           | 439.99      | 1.85         | -2.11      | 1.98       | 0.12             | 433090.49          | 644930.53         | N 32 11 24.72           | W 103 59 54.45           |
|          | 530.00     | 0.85        | 103.16           | 529.98      | 2.99         | -2.42      | 3.13       | 0.21             | 433090.18          | 644931.68         | N 32 11 24.72           | W 103 59 54.43           |
|          | 621.00     | 1.06        | 100.58           | 620.97      | 4.45         | -2.73      | 4.61       | 0.24             | 433089.87          | 644933.16         | N 32 11 24.71           | W 103 59 54.41           |
|          | 711.00     | 0.82        | 93.93            | 710.96      | 5.74         | -2.92      | 5.92       | 0.50             | 433089.68          | 644934.47         | N 32 11 24.71           | W 103 59 54.40           |
|          | 801.00     | 0.06        | 88.83            | 800.95      | 6.27         | -2.95      | 6.45       | 0.62             | 433089.65          | 644935.00         | N 32 11 24.71           | W 103 59 54.39           |
|          | 892.00     | 0.01        | 113.91           | 891.95      | 6.33         | -2.95      | 6.50       | 0.06             | 433089.65          | 644935.05         | N 32 11 24.71           | W 103 59 54.39           |
|          | 982.00     | 0.01        | 132.69           | 981.95      | 6.34         | -2.96      | 6.52       | 0.00             | 433089.64          | 644935.07         | N 32 11 24.71           | W 103 59 54.39           |
|          | 1170.00    | 0.00        | 67.61            | 1169.95     | 6.35         | -2.97      | 6.53       | 0.01             | 433089.63          | 644935.08         | N 32 11 24.71           | W 103 59 54.39           |
|          | 1265.00    | 0.01        | 66.54            | 1264.95     | 6.36         | -2.97      | 6.54       | 0.01             | 433089.63          | 644935.09         | N 32 11 24.71           | W 103 59 54.39           |
|          | 1359.00    | 0.02        | 33.78            | 1358.95     | 6.38         | -2.95      | 6.55       | 0.01             | 433089.65          | 644935.10         | N 32 11 24.71           | W 103 59 54.39           |
|          | 1453.00    | 0.04        | 14.59            | 1452.95     | 6.40         | -2.91      | 6.57       | 0.02             | 433089.69          | 644935.12         | N 32 11 24.71           | W 103 59 54.39           |
|          | 1547.00    | 0.03        | 347.18           | 1546.95     | 6.40         | -2.85      | 6.57       | 0.02             | 433089.75          | 644935.12         | N 32 11 24.71           | W 103 59 54.39           |
|          | 1642.00    | 0.04        | 323.22           | 1641.95     | 6.38         | -2.80      | 6.55       | 0.02             | 433089.80          | 644935.10         | N 32 11 24.71           | W 103 59 54.39           |
|          | 1736.00    | 0.06        | 298.25           | 1735.95     | 6.32         | -2.75      | 6.49       | 0.03             | 433089.85          | 644935.04         | N 32 11 24.71           | W 103 59 54.39           |
|          | 1830.00    | 0.09        | 298.26           | 1829.95     | 6.22         | -2.69      | 6.38       | 0.03             | 433089.91          | 644934.93         | N 32 11 24.71           | W 103 59 54.39           |
|          | 1924.00    | 0.11        | 298.70           | 1923.95     | 6.08         | -2.61      | 6.23       | 0.02             | 433089.99          | 644934.78         | N 32 11 24.71           | W 103 59 54.40           |
|          | 2018.00    | 0.12        | 293.83           | 2017.95     | 5.91         | -2.53      | 6.06       | 0.01             | 433090.07          | 644934.61         | N 32 11 24.72           | W 103 59 54.40           |
|          | 2113.00    | 0.12        | 56.09            | 2112.95     | 5.91         | -2.43      | 6.06       | 0.22             | 433090.17          | 644934.60         | N 32 11 24.72           | W 103 59 54.40           |
|          | 2207.00    | 0.13        | 73.76            | 2206.95     | 6.10         | -2.35      | 6.24       | 0.04             | 433090.25          | 644934.79         | N 32 11 24.72           | W 103 59 54.40           |
|          | 2301.00    | 0.13        | 70.77            | 2300.95     | 6.30         | -2.28      | 6.44       | 0.01             | 433090.32          | 644934.99         | N 32 11 24.72           | W 103 59 54.39           |
|          | 2395.00    | 0.12        | 85.87            | 2394.95     | 6.50         | -2.24      | 6.64       | 0.04             | 433090.36          | 644935.19         | N 32 11 24.72           | W 103 59 54.39           |
|          | 2490.00    | 0.14        | 88.88            | 2489.95     | 6.72         | -2.23      | 6.86       | 0.02             | 433090.37          | 644935.41         | N 32 11 24.72           | W 103 59 54.39           |
|          | 2584.00    | 0.13        | 88.38            | 2583.95     | 6.94         | -2.23      | 7.08       | 0.01             | 433090.37          | 644935.63         | N 32 11 24.72           | W 103 59 54.39           |
|          | 2678.00    | 0.17        | 92.49            | 2677.95     | 7.19         | -2.23      | 7.32       | 0.04             | 433090.37          | 644935.87         | N 32 11 24.72           | W 103 59 54.38           |
|          | 2772.00    | 0.16        | 90.41            | 2771.95     | 7.46         | -2.24      | 7.59       | 0.01             | 433090.36          | 644936.14         | N 32 11 24.72           | W 103 59 54.38           |
|          | 2866.00    | 0.12        | 98.16            | 2865.95     | 7.68         | -2.25      | 7.82       | 0.05             | 433090.35          | 644936.37         | N 32 11 24.72           | W 103 59 54.38           |
|          | 2961.00    | 0.10        | 99.19            | 2960.95     | 7.86         | -2.28      | 8.00       | 0.02             | 433090.32          | 644936.55         | N 32 11 24.72           | W 103 59 54.38           |
|          | 3055.00    | 0.11        | 91.18            | 3054.95     | 8.03         | -2.30      | 8.17       | 0.02             | 433090.30          | 644936.72         | N 32 11 24.72           | W 103 59 54.37           |
|          | 3149.00    | 0.11        | 87.33            | 3148.95     | 8.21         | -2.29      | 8.36       | 0.01             | 433090.31          | 644936.90         | N 32 11 24.72           | W 103 59 54.37           |
|          | 3243.00    | 0.11        | 78.94            | 3242.95     | 8.39         | -2.27      | 8.53       | 0.02             | 433090.33          | 644937.08         | N 32 11 24.72           | W 103 59 54.37           |
|          | 3338.00    | 0.11        | 79.85            | 3337.95     | 8.57         | -2.24      | 8.71       | 0.00             | 433090.36          | 644937.26         | N 32 11 24.72           | W 103 59 54.37           |
|          | 3432.00    | 0.11        | 76.98            | 3431.95     | 8.75         | -2.20      | 8.89       | 0.01             | 433090.40          | 644937.44         | N 32 11 24.72           | W 103 59 54.37           |
|          | 3526.00    | 0.11        | 74.85            | 3525.95     | 8.93         | -2.16      | 9.06       | 0.00             | 433090.44          | 644937.61         | N 32 11 24.72           | W 103 59 54.36           |
|          | 3620.00    | 0.11        | 73.84            | 3619.95     | 9.11         | -2.11      | 9.24       | 0.00             | 433090.49          | 644937.79         | N 32 11 24.72           | W 103 59 54.36           |
|          | 3715.00    | 0.11        | 71.27            | 3714.95     | 9.28         | -2.05      | 9.41       | 0.01             | 433090.55          | 644937.96         | N 32 11 24.72           | W 103 59 54.36           |
|          | 3809.00    | 0.10        | 70.29            | 3808.95     | 9.45         | -2.00      | 9.58       | 0.01             | 433090.60          | 644938.12         | N 32 11 24.72           | W 103 59 54.36           |
|          | 3903.00    | 0.11        | 73.65            | 3902.95     | 9.61         | -1.94      | 9.74       | 0.01             | 433090.66          | 644938.29         | N 32 11 24.72           | W 103 59 54.36           |
|          | 3997.00    | 0.11        | 70.89            | 3996.95     | 9.79         | -1.89      | 9.91       | 0.01             | 433090.71          | 644938.46         | N 32 11 24.72           | W 103 59 54.35           |
|          | 4091.00    | 0.11        | 65.87            | 4090.95     | 9.96         | -1.82      | 10.08      | 0.01             | 433090.78          | 644938.63         | N 32 11 24.72           | W 103 59 54.35           |
|          | 4186.00    | 0.11        | 66.63            | 4185.95     | 10.13        | -1.75      | 10.25      | 0.00             | 433090.85          | 644938.79         | N 32 11 24.72           | W 103 59 54.35           |
|          | 4280.00    | 0.11        | 62.89            | 4279.95     | 10.30        | -1.67      | 10.41      | 0.01             | 433090.93          | 644938.96         | N 32 11 24.72           | W 103 59 54.35           |
|          | 4374.00    | 0.11        | 58.92            | 4373.95     | 10.46        | -1.59      | 10.57      | 0.01             | 433091.01          | 644939.12         | N 32 11 24.72           | W 103 59 54.35           |
|          | 4468.00    | 0.10        | 53.65            | 4467.95     | 10.61        | -1.49      | 10.71      | 0.01             | 433091.11          | 644939.26         | N 32 11 24.73           | W 103 59 54.34           |
|          | 4563.00    | 0.11        | 56.98            | 4562.95     | 10.76        | -1.39      | 10.85      | 0.01             | 433091.21          | 644939.40         | N 32 11 24.73           | W 103 59 54.34           |
|          | 4657.00    | 0.10        | 62.24            | 4656.95     | 10.91        | -1.30      | 11.00      | 0.01             | 433091.30          | 644939.55         | N 32 11 24.73           | W 103 59 54.34           |
|          | 4751.00    | 0.10        | 63.06            | 4750.95     | 11.06        | -1.23      | 11.15      | 0.00             | 433091.37          | 644939.70         | N 32 11 24.73           | W 103 59 54.34           |
|          | 4845.00    | 0.10        | 57.87            | 4844.95     | 11.21        | -1.15      | 11.29      | 0.01             | 433091.45          | 644939.84         | N 32 11 24.73           | W 103 59 54.34           |
|          | 4940.00    | 0.11        | 61.89            | 4939.95     | 11.36        | -1.08      | 11.44      | 0.01             | 433091.54          | 644939.99         | N 32 11 24.73           | W 103 59 54.34           |
|          | 5034.00    | 0.09        | 67.50            | 5033.95     | 11.51        | -0.99      | 11.59      | 0.02             | 433091.61          | 644940.14         | N 32 11 24.73           | W 103 59 54.33           |
|          | 5128.00    | 0.10        | 72.94            | 5127.95     | 11.66        | -0.94      | 11.73      | 0.01             | 433091.66          | 644940.28         | N 32 11 24.73           | W 103 59 54.33           |
|          | 5222.00    | 0.09        | 65.12            | 5221.95     | 11.81        | -0.88      | 11.88      | 0.02             | 433091.72          | 644940.43         | N 32 11 24.73           | W 103 59 54.33           |
|          | 5316.00    | 0.09        | 65.22            | 5315.95     | 11.95        | -0.82      | 12.01      | 0.00             | 433091.78          | 644940.56         | N 32 11 24.73           | W 103 59 54.33           |
|          | 5411.00    | 0.10        | 61.91            | 5410.95     | 12.09        | -0.75      | 12.15      | 0.01             | 433091.85          | 644940.70         | N 32 11 24.73           | W 103 59 54.33           |
|          | 5505.00    | 0.10        | 59.74            | 5504.95     | 12.24        | -0.67      | 12.30      | 0.00             | 433091.93          | 644940.85         | N 32 11 24.73           | W 103 59 54.33           |
|          | 5599.00    | 0.10        | 57.43            | 5598.95     | 12.39        | -0.58      | 12.44      | 0.00             | 433092.02          | 644940.99         | N 32 11 24.73           | W 103 59 54.32           |
|          | 5693.00    | 0.10        | 64.42            | 5692.95     | 12.53        | -0.50      | 12.58      | 0.01             | 433092.10          | 644941.13         | N 32 11 24.74           | W 103 59 54.32           |
|          | 5788.00    | 0.09        | 63.62            | 5787.95     | 12.68        | -0.44      | 12.72      | 0.01             | 433092.16          | 644941.27         | N 32 11 24.74           | W 103 59 54.32           |
|          | 5882.00    | 0.09        | 59.52            | 5881.95     | 12.81        | -0.37      | 12.85      | 0.01             | 433092.23          | 644941.40         | N 32 11 24.74           | W 103 59 54.32           |
|          | 5976.00    | 0.10        | 58.29            | 5975.95     | 12.95        | -0.29      | 12.99      | 0.01             | 433092.31          | 644941.53         | N 32 11 24.74           | W 103 59 54.32           |
|          | 6070.00    | 0.11        | 57.84            | 6069.95     | 13.10        | -0.19      | 13.13      | 0.01             | 433092.41          | 644941.68         | N 32 11 24.74           | W 103 59 54.32           |
|          | 6165.00    | 0.10        | 53.52            | 6164.95     | 13.25        | -0.10      | 13.28      | 0.01             | 433092.50          | 644941.82         | N 32 11 24.74           | W 103 59 54.31           |
|          | 6259.00    | 0.10        | 55.64            | 6258.94     | 13.39        | 0.00       | 13.41      | 0.00             | 433092.60          | 644941.96         | N 32 11 24.74           | W 103 59 54.31           |
|          | 6353.00    | 0.10        | 65.54            | 6352.94     | 13.53        | 0.08       | 13.55      | 0.02             | 433092.68          | 644942.10         | N 32 11 24.74           | W 103 59 54.31           |
|          | 6510.00    | 0.12        | 135.91           | 6509.94     | 13.77        | 0.02       | 13.79      | 0.08             | 433092.62          | 644942.34         | N 32 11 24.74           | W 103 59 54.31           |
|          | 6604.00    | 0.11        | 138.38           | 6603.94     | 13.89        | -0.12      | 13.92      | 0.01             | 433092.48          | 644942.47         | N 32 11 24.74           | W 103 59 54.31           |

| Comments        | MD<br>(ft) | Incl<br>(°) | Azim Grid<br>(°) | TVD<br>(ft) | VSEC<br>(ft) | NS<br>(ft) | EW<br>(ft) | DLS<br>(°/100ft) | Northing<br>(ftUS) | Easting<br>(ftUS) | Latitude<br>(N/S ° ' ") | Longitude<br>(E/W ° ' ") |
|-----------------|------------|-------------|------------------|-------------|--------------|------------|------------|------------------|--------------------|-------------------|-------------------------|--------------------------|
|                 | 6698.00    | 0.13        | 140.34           | 6697.94     | 14.01        | -0.27      | 14.05      | 0.02             | 433092.33          | 644942.60         | N 32 11 24.74 W         | 103 59 54.31             |
|                 | 6793.00    | 0.15        | 145.24           | 6792.94     | 14.14        | -0.46      | 14.19      | 0.02             | 433092.14          | 644942.74         | N 32 11 24.74 W         | 103 59 54.30             |
|                 | 6887.00    | 0.15        | 148.30           | 6886.94     | 14.26        | -0.66      | 14.32      | 0.01             | 433091.94          | 644942.87         | N 32 11 24.73 W         | 103 59 54.30             |
|                 | 6981.00    | 0.10        | 104.12           | 6980.94     | 14.40        | -0.79      | 14.47      | 0.11             | 433091.81          | 644943.01         | N 32 11 24.73 W         | 103 59 54.30             |
|                 | 7075.00    | 0.10        | 125.91           | 7074.94     | 14.54        | -0.85      | 14.61      | 0.04             | 433091.75          | 644943.16         | N 32 11 24.73 W         | 103 59 54.30             |
|                 | 7170.00    | 0.09        | 132.42           | 7169.94     | 14.66        | -0.95      | 14.73      | 0.02             | 433091.65          | 644943.28         | N 32 11 24.73 W         | 103 59 54.30             |
|                 | 7264.00    | 0.10        | 140.06           | 7263.94     | 14.76        | -1.07      | 14.84      | 0.02             | 433091.53          | 644943.39         | N 32 11 24.73 W         | 103 59 54.30             |
|                 | 7358.00    | 0.12        | 144.68           | 7357.94     | 14.86        | -1.21      | 14.95      | 0.02             | 433091.39          | 644943.50         | N 32 11 24.73 W         | 103 59 54.29             |
|                 | 7452.00    | 0.13        | 139.34           | 7451.94     | 14.98        | -1.37      | 15.08      | 0.02             | 433091.23          | 644943.63         | N 32 11 24.73 W         | 103 59 54.29             |
|                 | 7547.00    | 0.13        | 142.51           | 7546.94     | 15.10        | -1.54      | 15.21      | 0.01             | 433091.06          | 644943.76         | N 32 11 24.72 W         | 103 59 54.29             |
|                 | 7641.00    | 0.14        | 140.71           | 7640.94     | 15.23        | -1.71      | 15.35      | 0.01             | 433090.89          | 644943.90         | N 32 11 24.72 W         | 103 59 54.29             |
|                 | 7735.00    | 0.17        | 145.55           | 7734.94     | 15.37        | -1.91      | 15.50      | 0.03             | 433090.69          | 644944.05         | N 32 11 24.72 W         | 103 59 54.29             |
| Last Gyro       | 7808.00    | 0.21        | 151.04           | 7807.94     | 15.48        | -2.12      | 15.63      | 0.06             | 433090.48          | 644944.18         | N 32 11 24.72 W         | 103 59 54.29             |
|                 | 7875.00    | 0.13        | 125.34           | 7874.94     | 15.60        | -2.27      | 15.75      | 0.16             | 433090.33          | 644944.30         | N 32 11 24.72 W         | 103 59 54.29             |
|                 | 8004.00    | 1.51        | 264.67           | 8003.93     | 14.01        | -2.51      | 14.18      | 1.25             | 433090.09          | 644942.73         | N 32 11 24.72 W         | 103 59 54.30             |
|                 | 8098.00    | 10.17       | 308.00           | 8097.37     | 6.52         | 2.49       | 6.39       | 9.71             | 433095.09          | 644934.94         | N 32 11 24.76 W         | 103 59 54.39             |
|                 | 8218.00    | 11.05       | 344.26           | 8215.45     | -3.95        | 20.10      | -5.09      | 5.52             | 433112.70          | 644923.46         | N 32 11 24.94 W         | 103 59 54.53             |
|                 | 8311.00    | 23.09       | 353.89           | 8304.20     | -6.81        | 46.92      | -9.47      | 13.26            | 433139.51          | 644919.08         | N 32 11 25.21 W         | 103 59 54.58             |
|                 | 8405.00    | 30.82       | 11.23            | 8388.05     | -1.71        | 88.99      | -6.73      | 11.65            | 433181.58          | 644921.82         | N 32 11 25.62 W         | 103 59 54.54             |
|                 | 8499.00    | 41.63       | 28.04            | 8463.96     | 20.63        | 140.45     | 12.74      | 15.53            | 433233.03          | 644941.29         | N 32 11 26.13 W         | 103 59 54.32             |
|                 | 8593.00    | 57.31       | 38.32            | 8524.95     | 63.40        | 199.50     | 52.25      | 18.60            | 433292.08          | 644980.80         | N 32 11 26.71 W         | 103 59 53.85             |
|                 | 8687.00    | 69.93       | 49.70            | 8566.74     | 125.27       | 259.48     | 110.84     | 17.23            | 433352.06          | 645039.38         | N 32 11 27.30 W         | 103 59 53.17             |
|                 | 8767.00    | 76.98       | 69.29            | 8589.71     | 193.11       | 297.96     | 176.62     | 25.05            | 433390.53          | 645105.15         | N 32 11 27.68 W         | 103 59 52.40             |
|                 | 8780.00    | 78.29       | 71.57            | 8592.50     | 205.30       | 302.21     | 188.58     | 19.88            | 433394.79          | 645117.12         | N 32 11 27.73 W         | 103 59 52.26             |
|                 | 8818.00    | 82.76       | 78.54            | 8598.76     | 241.97       | 311.85     | 224.77     | 21.58            | 433404.43          | 645153.30         | N 32 11 27.82 W         | 103 59 51.84             |
|                 | 8874.00    | 87.01       | 86.66            | 8603.76     | 297.54       | 319.02     | 280.02     | 16.31            | 433411.59          | 645208.55         | N 32 11 27.89 W         | 103 59 51.20             |
|                 | 8895.00    | 87.59       | 92.59            | 8604.75     | 318.48       | 319.15     | 300.99     | 28.34            | 433411.73          | 645229.51         | N 32 11 27.89 W         | 103 59 50.95             |
|                 | 8968.00    | 87.66       | 95.33            | 8607.77     | 390.84       | 314.12     | 373.74     | 3.75             | 433406.69          | 645302.26         | N 32 11 27.84 W         | 103 59 50.11             |
|                 | 9046.00    | 88.66       | 93.91            | 8610.28     | 468.06       | 307.84     | 451.45     | 2.23             | 433400.41          | 645379.96         | N 32 11 27.77 W         | 103 59 49.20             |
|                 | 9233.00    | 87.66       | 92.66            | 8616.28     | 653.76       | 297.13     | 638.04     | 0.86             | 433389.70          | 645566.53         | N 32 11 27.66 W         | 103 59 47.03             |
|                 | 9326.00    | 87.70       | 94.07            | 8620.05     | 746.06       | 291.67     | 730.80     | 1.52             | 433384.25          | 645659.29         | N 32 11 27.60 W         | 103 59 45.95             |
|                 | 9420.00    | 87.69       | 91.31            | 8623.83     | 839.48       | 287.27     | 824.61     | 2.93             | 433379.84          | 645753.09         | N 32 11 27.56 W         | 103 59 44.86             |
|                 | 9513.00    | 87.56       | 89.07            | 8627.68     | 932.23       | 286.96     | 917.52     | 2.41             | 433379.53          | 645846.00         | N 32 11 27.55 W         | 103 59 43.78             |
|                 | 9607.00    | 87.76       | 88.73            | 8631.52     | 1026.08      | 288.76     | 1011.43    | 0.42             | 433381.34          | 645939.90         | N 32 11 27.57 W         | 103 59 42.69             |
|                 | 9795.00    | 87.59       | 90.45            | 8639.15     | 1213.69      | 290.11     | 1199.26    | 0.92             | 433382.68          | 646127.71         | N 32 11 27.57 W         | 103 59 40.50             |
|                 | 9888.00    | 88.49       | 91.66            | 8642.33     | 1306.38      | 288.39     | 1292.19    | 1.62             | 433380.97          | 646220.63         | N 32 11 27.55 W         | 103 59 39.42             |
|                 | 9982.00    | 88.49       | 90.59            | 8644.81     | 1400.07      | 286.55     | 1386.14    | 1.14             | 433379.13          | 646314.57         | N 32 11 27.53 W         | 103 59 38.33             |
|                 | 10075.00   | 88.59       | 90.64            | 8647.18     | 1492.83      | 285.55     | 1479.10    | 0.12             | 433378.13          | 646407.53         | N 32 11 27.52 W         | 103 59 37.25             |
|                 | 10169.00   | 89.21       | 90.26            | 8648.98     | 1586.62      | 284.81     | 1573.08    | 0.77             | 433377.39          | 646501.50         | N 32 11 27.51 W         | 103 59 36.15             |
|                 | 10263.00   | 89.55       | 91.16            | 8650.00     | 1680.39      | 283.65     | 1667.06    | 1.02             | 433376.23          | 646595.48         | N 32 11 27.50 W         | 103 59 35.06             |
|                 | 10356.00   | 89.38       | 90.53            | 8650.87     | 1773.15      | 282.28     | 1760.05    | 0.70             | 433374.85          | 646688.46         | N 32 11 27.48 W         | 103 59 33.98             |
|                 | 10450.00   | 89.07       | 89.71            | 8652.14     | 1866.98      | 282.08     | 1854.04    | 0.93             | 433374.66          | 646782.44         | N 32 11 27.47 W         | 103 59 32.88             |
|                 | 10544.00   | 88.80       | 89.58            | 8653.88     | 1960.85      | 282.66     | 1948.02    | 0.32             | 433375.24          | 646876.42         | N 32 11 27.48 W         | 103 59 31.79             |
|                 | 10638.00   | 88.87       | 89.48            | 8655.80     | 2054.72      | 283.43     | 2042.00    | 0.13             | 433376.01          | 646970.39         | N 32 11 27.48 W         | 103 59 30.70             |
|                 | 10733.00   | 89.52       | 89.84            | 8657.13     | 2149.59      | 284.00     | 2136.99    | 0.78             | 433376.57          | 647065.37         | N 32 11 27.48 W         | 103 59 29.59             |
|                 | 10827.00   | 88.38       | 88.85            | 8658.85     | 2243.48      | 285.07     | 2230.96    | 1.61             | 433377.65          | 647159.33         | N 32 11 27.49 W         | 103 59 28.50             |
|                 | 10920.00   | 88.83       | 89.08            | 8661.12     | 2336.38      | 286.75     | 2323.92    | 0.54             | 433379.33          | 647252.28         | N 32 11 27.51 W         | 103 59 27.42             |
|                 | 11014.00   | 88.14       | 88.31            | 8663.60     | 2430.29      | 288.89     | 2417.86    | 1.10             | 433381.47          | 647346.22         | N 32 11 27.52 W         | 103 59 26.32             |
|                 | 11107.00   | 88.55       | 88.63            | 8666.29     | 2523.21      | 291.37     | 2510.79    | 0.56             | 433383.95          | 647439.14         | N 32 11 27.55 W         | 103 59 25.24             |
|                 | 11201.00   | 89.86       | 90.97            | 8667.59     | 2617.06      | 291.70     | 2604.77    | 2.85             | 433384.28          | 647533.11         | N 32 11 27.55 W         | 103 59 24.15             |
|                 | 11294.00   | 89.69       | 92.21            | 8667.96     | 2709.73      | 289.12     | 2697.73    | 1.35             | 433381.70          | 647626.07         | N 32 11 27.52 W         | 103 59 23.07             |
|                 | 11482.00   | 89.21       | 92.39            | 8669.76     | 2896.85      | 281.58     | 2885.57    | 0.27             | 433374.15          | 647813.89         | N 32 11 27.44 W         | 103 59 20.88             |
|                 | 11576.00   | 90.41       | 91.32            | 8670.07     | 2990.48      | 278.53     | 2979.52    | 1.71             | 433371.11          | 647907.83         | N 32 11 27.40 W         | 103 59 19.79             |
|                 | 11669.00   | 89.24       | 89.05            | 8670.36     | 3083.30      | 278.23     | 3072.51    | 2.75             | 433370.81          | 648000.81         | N 32 11 27.40 W         | 103 59 18.71             |
|                 | 11763.00   | 88.21       | 89.34            | 8672.45     | 3177.19      | 279.55     | 3166.48    | 1.14             | 433372.13          | 648094.77         | N 32 11 27.41 W         | 103 59 17.61             |
|                 | 11857.00   | 89.04       | 88.21            | 8674.71     | 3271.11      | 281.56     | 3260.43    | 1.49             | 433374.14          | 648188.71         | N 32 11 27.42 W         | 103 59 16.52             |
|                 | 11950.00   | 90.52       | 90.76            | 8675.06     | 3363.99      | 282.40     | 3353.41    | 3.17             | 433374.97          | 648281.69         | N 32 11 27.43 W         | 103 59 15.44             |
|                 | 12044.00   | 88.93       | 89.33            | 8675.51     | 3457.83      | 282.32     | 3447.40    | 2.27             | 433374.90          | 648375.68         | N 32 11 27.43 W         | 103 59 14.34             |
|                 | 12138.00   | 89.35       | 89.01            | 8676.92     | 3551.74      | 283.69     | 3541.38    | 0.56             | 433376.26          | 648469.65         | N 32 11 27.44 W         | 103 59 13.25             |
|                 | 12232.00   | 89.48       | 88.49            | 8677.88     | 3645.68      | 285.74     | 3635.36    | 0.57             | 433378.31          | 648563.61         | N 32 11 27.45 W         | 103 59 12.16             |
|                 | 12326.00   | 88.14       | 88.99            | 8679.84     | 3739.60      | 287.80     | 3729.31    | 1.52             | 433380.38          | 648657.56         | N 32 11 27.47 W         | 103 59 11.06             |
|                 | 12420.00   | 89.10       | 89.43            | 8682.10     | 3833.49      | 289.10     | 3823.27    | 1.12             | 433381.67          | 648751.52         | N 32 11 27.48 W         | 103 59 9.97              |
|                 | 12514.00   | 88.11       | 89.06            | 8684.39     | 3927.37      | 290.34     | 3917.24    | 1.12             | 433382.91          | 648845.47         | N 32 11 27.49 W         | 103 59 8.88              |
|                 | 12701.00   | 88.28       | 89.80            | 8690.28     | 4114.07      | 292.20     | 4104.13    | 0.41             | 433384.77          | 649032.35         | N 32 11 27.50 W         | 103 59 6.70              |
|                 | 12795.00   | 88.90       | 86.03            | 8692.59     | 4208.01      | 295.61     | 4198.02    | 4.06             | 433388.19          | 649126.24         | N 32 11 27.53 W         | 103 59 5.61              |
|                 | 12889.00   | 88.83       | 89.89            | 8694.46     | 4301.95      | 298.96     | 4291.93    | 4.11             | 433391.53          | 649220.13         | N 32 11 27.56 W         | 103 59 4.52              |
|                 | 12983.00   | 89.14       | 89.50            | 8696.12     | 4395.82      | 299.46     | 4385.91    | 0.53             | 433392.04          | 649314.11         | N 32 11 27.57 W         | 103 59 3.42              |
|                 | 13076.00   | 87.83       | 88.08            | 8698.58     | 4488.72      | 301.42     | 4478.85    | 2.08             | 433394.00          | 649407.04         | N 32 11 27.58 W         | 103 59 2.34              |
|                 | 13264.00   | 89.90       | 88.46            | 8702.30     | 4676.61      | 307.10     | 4666.72    | 1.12             | 433399.67          | 649594.90         | N 32 11 27.63 W         | 103 59 0.15              |
|                 | 13358.00   | 90.07       | 87.95            | 8702.33     | 4770.58      | 310.04     | 4760.68    | 0.57             | 433402.62          | 649688.84         | N 32 11 27.66 W         | 103 58 59.06             |
|                 | 13452.00   | 88.83       | 89.17            | 8703.23     | 4864.53      | 312.40     | 4854.64    | 1.85             | 433404.98          | 649782.80         | N 32 11 27.68 W         | 103 58 57.97             |
|                 | 13546.00   | 88.48       | 90.04            | 8705.44     | 4958.38      | 313.05     | 4948.61    | 1.00             | 433405.63          | 649876.76         | N 32 11 27.68 W         | 103 58 56.87             |
|                 | 13640.00   | 89.55       | 91.65            | 8707.05     | 5052.13      | 311.66     | 5042.58    | 2.06             | 433404.24          | 649970.72         | N 32 11 27.67 W         | 103 58 55.78             |
| Last MWD survey | 13793.00   | 89.76       | 91.85            | 8707.97     | 5204.55      | 306.99     | 5195.51    | 0.19             | 433399.57          | 650123.64         | N 32 11 27.61 W         | 103 58 54.00             |
| Proj. to bit    | 13835.00   | 89.76       | 91.85            | 8708.15     | 5246.38      | 305.64     | 5237.48    | 0.00             | 433398.21          | 650165.61         | N 32 11 27.60 W         | 103 58 53.51             |

Survey Type: Def Survey

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

| Description | Part | MD From<br>(ft) | MD To<br>(ft) | EOU Freq<br>(ft) | Hole Size<br>(in) | Casing Diameter<br>(in) | Survey Tool Type         | Borehole / Survey                                                        |
|-------------|------|-----------------|---------------|------------------|-------------------|-------------------------|--------------------------|--------------------------------------------------------------------------|
|             | 1    | 0.000           | 26.500        | 1/98.425         | 30.000            | 30.000                  | NAL_NSG+MSHOT-Depth Only | Original Borehole / Cedar Canyon<br>28 Federal 9H Gyro+ MWD 0-13835ftRMD |
|             | 1    | 26.500          | 26.500        | Act Stns         | 30.000            | 30.000                  | NAL_NSG+MSHOT-Depth Only | Original Borehole / Cedar Canyon<br>28 Federal 9H Gyro+ MWD 0-13835ftRMD |
|             | 1    | 26.500          | 7808.000      | Act Stns         | 30.000            | 30.000                  | NAL_NSG+MSHOT            | Original Borehole / Cedar Canyon<br>28 Federal 9H Gyro+ MWD 0-           |
|             | 1    | 7808.000        | 13835.000     | Act Stns         | 30.000            | 30.000                  | NAL_MWD_PLUS_0.5_DEG     | Original Borehole / Cedar Canyon<br>28 Federal 9H Gyro+ MWD 0-           |

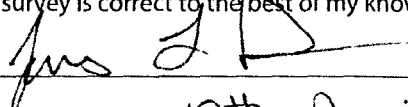
OXY

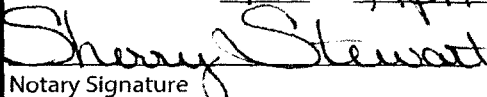
CEDAR CANYON 28 FED COM # 9H

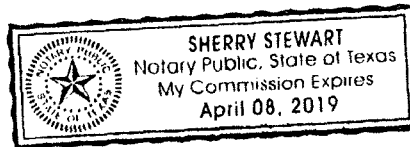
H & P 639

1/20/2017

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

  
Notarized this date 19<sup>th</sup> of April, 2017.

  
Notary Signature  
County of Midland  
State of Texas



Scientific Drilling

The

In Wellbore Placement

**SURVEY REPORT**

CEDAR CANYON 28 FED COM # 9H

COMPUTED OUTRUN KEEPER GYRO SURVEY

|          |                              |              |         |
|----------|------------------------------|--------------|---------|
| CUSTOMER | OXY                          | SDI JOB NO.  | 412254  |
| PROJECT  | CEDAR CANYON 28 FED COM # 9H | SDI DISTRICT | Midland |
| FIELD    | CEDAR CANYON 28 FED COM      | SDI KIT/UNIT |         |

**SITE INFORMATION**

|           |                               |          |  |
|-----------|-------------------------------|----------|--|
| Site Name | CEDAR CANYON 28 FED COM       | Section  |  |
| Lat/Long  | 32.1902057° N, 103.9984635° W | Township |  |
| Northing  | 433,092.6 ft                  | Range    |  |
| Easting   | 644,928.55 ft                 |          |  |

**MAP INFORMATION**

|                 |                                      |
|-----------------|--------------------------------------|
| North Reference | Grid North                           |
| Grid Correction | -0.18 deg                            |
| System          | US State Plane 1983                  |
| Datum           | North American Datum 1983 (GRS 1980) |
| Map Zone        | New Mexico East: 3001                |

**WELL INFORMATION**

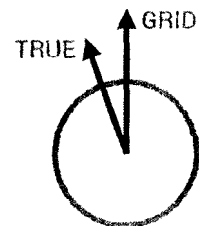
|          |                               |
|----------|-------------------------------|
| Lat/Long | 32.1902057° N, 103.9984635° W |
| Northing | 433,092.6 ft                  |
| Easting  | 644,928.55 ft                 |
| UWI      | 30-015-44016                  |

**DEPTH AND ELEVATION REFERENCE**

|                     |                              |
|---------------------|------------------------------|
| Ground Level        | 2948 ft above Mean Sea Level |
| Reference Datum     | KB                           |
| Reference Height    | 26.5 ft above G.L.           |
| Reference Elevation | 2974.5 ft                    |

**VERTICAL SECTION REFERENCE**

|                    |                   |
|--------------------|-------------------|
| +N/-S              | 0 ft              |
| +E/-W              | 0 ft              |
| Proposal Direction | 86.77°            |
| Calculation Method | Minimum Curvature |

**LOCAL GRAVITY REFERENCE INFORMATION**

|               |                       |
|---------------|-----------------------|
| Local Gravity | 998.541 mG [computed] |
| True to Grid  | subtract 0.18°        |

**WELL NOTES****OPERATORS**

H.SANGHOTT

SDI Operator Name (Printed)

SIGNATURE

DATE

# SURVEY REPORT

EDAR CANYON 28 FED COM # 9H

COMPUTED OUTRUN KEEPER GYRO SURVEY

| MD      | INC  | AZIM   | TMD     | VS   | INVS  | HEAV | DLS     | CLOSURE<br>DIST | CLOSURE<br>DIR |
|---------|------|--------|---------|------|-------|------|---------|-----------------|----------------|
| ft      | deg  | deg    | ft      | ft   | ft    | ft   | %1000ft | ft              | deg            |
| 0.00    | 0.00 | 0.00   | 0.00    | 0.00 | 0.00  | 0.00 | Invalid | 0.00            | 0.00           |
| 76.00   | 0.21 | 171.38 | 76.00   | 0.01 | -0.14 | 0.02 | 0.28    | 0.14            | 171.38         |
| 167.00  | 0.40 | 178.37 | 167.00  | 0.02 | -0.63 | 0.06 | 0.21    | 0.63            | 174.92         |
| 259.00  | 0.52 | 139.71 | 259.00  | 0.26 | -1.27 | 0.33 | 0.35    | 1.31            | 165.27         |
| 350.00  | 0.62 | 116.06 | 349.99  | 0.94 | -1.80 | 1.04 | 0.28    | 2.08            | 149.85         |
| 440.00  | 0.67 | 107.37 | 439.99  | 1.86 | -2.17 | 1.98 | 0.12    | 2.94            | 137.55         |
| 530.00  | 0.85 | 103.16 | 529.98  | 2.99 | -2.48 | 3.13 | 0.22    | 3.99            | 128.31         |
| 621.00  | 1.06 | 100.58 | 620.97  | 4.45 | -2.78 | 4.62 | 0.23    | 5.39            | 121.09         |
| 711.00  | 0.62 | 93.93  | 710.96  | 5.74 | -2.97 | 5.92 | 0.50    | 6.62            | 116.65         |
| 801.00  | 0.06 | 88.83  | 800.95  | 6.27 | -3.00 | 6.44 | 0.62    | 7.11            | 114.97         |
| 892.00  | 0.01 | 113.91 | 891.95  | 6.32 | -3.00 | 6.50 | 0.05    | 7.16            | 114.81         |
| 982.00  | 0.01 | 132.69 | 981.95  | 6.34 | -3.01 | 6.52 | 0.01    | 7.18            | 114.82         |
| 1170.00 | 0.00 | 67.61  | 1169.95 | 6.35 | -3.02 | 6.53 | 0.00    | 7.19            | 114.82         |
| 1265.00 | 0.01 | 66.54  | 1264.95 | 6.36 | -3.01 | 6.54 | 0.01    | 7.20            | 114.75         |
| 1359.00 | 0.02 | 33.78  | 1358.95 | 6.38 | -3.00 | 6.56 | 0.01    | 7.21            | 114.55         |
| 1453.00 | 0.04 | 14.59  | 1452.95 | 6.40 | -2.95 | 6.58 | 0.02    | 7.21            | 114.14         |
| 1547.00 | 0.03 | 347.18 | 1546.95 | 6.41 | -2.89 | 6.58 | 0.02    | 7.19            | 113.72         |
| 1642.00 | 0.04 | 323.22 | 1641.95 | 6.39 | -2.84 | 6.56 | 0.02    | 7.15            | 113.45         |
| 1736.00 | 0.06 | 298.25 | 1735.95 | 6.33 | -2.80 | 6.49 | 0.03    | 7.07            | 113.29         |
| 1830.00 | 0.09 | 298.26 | 1829.95 | 6.22 | -2.74 | 6.39 | 0.03    | 6.95            | 113.21         |
| 1924.00 | 0.11 | 298.70 | 1923.95 | 6.09 | -2.66 | 6.25 | 0.03    | 6.79            | 113.08         |
| 2018.00 | 0.12 | 293.83 | 2017.95 | 5.92 | -2.58 | 6.07 | 0.02    | 6.60            | 112.99         |
| 2113.00 | 0.12 | 56.09  | 2112.95 | 5.91 | -2.48 | 6.06 | 0.22    | 6.55            | 112.26         |
| 2207.00 | 0.13 | 73.76  | 2206.95 | 6.10 | -2.40 | 6.24 | 0.04    | 6.69            | 110.99         |
| 2301.00 | 0.13 | 70.77  | 2300.95 | 6.30 | -2.33 | 6.45 | 0.01    | 6.85            | 109.88         |
| 2395.00 | 0.12 | 85.87  | 2394.95 | 6.51 | -2.29 | 6.65 | 0.04    | 7.03            | 109.01         |
| 2490.00 | 0.14 | 88.88  | 2489.95 | 6.73 | -2.28 | 6.86 | 0.02    | 7.23            | 108.37         |
| 2584.00 | 0.13 | 88.38  | 2583.95 | 6.95 | -2.27 | 7.09 | 0.01    | 7.44            | 107.79         |
| 2678.00 | 0.17 | 92.49  | 2677.95 | 7.20 | -2.28 | 7.34 | 0.04    | 7.68            | 107.25         |
| 2772.00 | 0.16 | 90.41  | 2771.95 | 7.46 | -2.28 | 7.60 | 0.01    | 7.94            | 106.73         |
| 2866.00 | 0.12 | 98.16  | 2865.95 | 7.69 | -2.30 | 7.83 | 0.04    | 8.16            | 106.36         |
| 2961.00 | 0.10 | 99.19  | 2960.95 | 7.87 | -2.33 | 8.02 | 0.03    | 8.35            | 106.19         |

# SURVEY REPORT

EDAR CANYON 28 FED COM # 9H

COMPUTED OUTFRAN KEEPER GYRO SURVEY

| MD      | INC  | AZIM  | TRVD    | VS    | INCL  | HEAV  | DLS  | CLOSURE | CLOSURE |
|---------|------|-------|---------|-------|-------|-------|------|---------|---------|
| ft      | deg  | deg   | ft      | ft    | ft    | ft    | ft   | ft      | deg     |
| 3055.00 | 0.11 | 91.18 | 3054.95 | 8.04  | -2.34 | 8.18  | 0.02 | 8.51    | 105.98  |
| 3149.00 | 0.11 | 87.33 | 3148.95 | 8.21  | -2.34 | 8.36  | 0.01 | 8.68    | 105.64  |
| 3243.00 | 0.11 | 78.94 | 3242.95 | 8.39  | -2.32 | 8.53  | 0.02 | 8.84    | 105.21  |
| 3338.00 | 0.11 | 79.85 | 3337.95 | 8.56  | -2.29 | 8.71  | 0.00 | 9.00    | 104.71  |
| 3432.00 | 0.11 | 76.98 | 3431.95 | 8.74  | -2.25 | 8.88  | 0.01 | 9.17    | 104.21  |
| 3526.00 | 0.11 | 74.85 | 3525.95 | 8.92  | -2.21 | 9.06  | 0.00 | 9.33    | 103.68  |
| 3620.00 | 0.11 | 73.84 | 3619.95 | 9.10  | -2.16 | 9.24  | 0.00 | 9.48    | 103.15  |
| 3715.00 | 0.11 | 71.27 | 3714.95 | 9.27  | -2.10 | 9.41  | 0.01 | 9.64    | 102.60  |
| 3809.00 | 0.10 | 70.29 | 3808.95 | 9.44  | -2.05 | 9.57  | 0.01 | 9.79    | 102.06  |
| 3903.00 | 0.11 | 73.65 | 3902.95 | 9.61  | -1.99 | 9.74  | 0.01 | 9.94    | 101.57  |
| 3997.00 | 0.11 | 70.89 | 3996.95 | 9.78  | -1.94 | 9.90  | 0.01 | 10.09   | 101.08  |
| 4091.00 | 0.11 | 65.87 | 4090.95 | 9.94  | -1.87 | 10.07 | 0.01 | 10.24   | 100.55  |
| 4186.00 | 0.11 | 66.63 | 4185.95 | 10.11 | -1.80 | 10.23 | 0.00 | 10.39   | 100.00  |
| 4280.00 | 0.11 | 62.89 | 4279.95 | 10.28 | -1.73 | 10.39 | 0.01 | 10.54   | 99.43   |
| 4374.00 | 0.11 | 58.92 | 4373.95 | 10.44 | -1.64 | 10.55 | 0.01 | 10.68   | 98.82   |
| 4468.00 | 0.10 | 53.65 | 4467.95 | 10.59 | -1.54 | 10.70 | 0.01 | 10.81   | 98.19   |
| 4563.00 | 0.11 | 56.98 | 4562.95 | 10.74 | -1.44 | 10.84 | 0.01 | 10.94   | 97.57   |
| 4657.00 | 0.10 | 62.24 | 4656.95 | 10.89 | -1.35 | 10.99 | 0.01 | 11.07   | 97.02   |
| 4751.00 | 0.10 | 63.06 | 4750.95 | 11.04 | -1.28 | 11.13 | 0.01 | 11.20   | 96.56   |
| 4845.00 | 0.10 | 57.87 | 4844.95 | 11.19 | -1.20 | 11.27 | 0.01 | 11.33   | 96.08   |
| 4940.00 | 0.11 | 61.89 | 4939.95 | 11.34 | -1.12 | 11.42 | 0.01 | 11.47   | 95.58   |
| 5034.00 | 0.09 | 67.50 | 5033.95 | 11.49 | -1.04 | 11.57 | 0.02 | 11.61   | 95.16   |
| 5128.00 | 0.10 | 72.94 | 5127.95 | 11.64 | -0.99 | 11.71 | 0.01 | 11.75   | 94.84   |
| 5222.00 | 0.09 | 65.12 | 5221.95 | 11.78 | -0.94 | 11.85 | 0.02 | 11.89   | 94.53   |
| 5316.00 | 0.09 | 65.22 | 5315.95 | 11.91 | -0.88 | 11.98 | 0.00 | 12.01   | 94.20   |
| 5411.00 | 0.10 | 61.91 | 5410.95 | 12.06 | -0.81 | 12.12 | 0.02 | 12.15   | 93.82   |
| 5505.00 | 0.10 | 59.74 | 5504.95 | 12.20 | -0.73 | 12.27 | 0.01 | 12.29   | 93.41   |
| 5599.00 | 0.10 | 57.43 | 5598.95 | 12.35 | -0.65 | 12.40 | 0.00 | 12.42   | 92.98   |
| 5693.00 | 0.10 | 64.42 | 5692.95 | 12.49 | -0.57 | 12.54 | 0.01 | 12.56   | 92.59   |
| 5788.00 | 0.09 | 63.62 | 5787.95 | 12.64 | -0.50 | 12.69 | 0.01 | 12.70   | 92.24   |
| 5882.00 | 0.09 | 59.52 | 5881.95 | 12.78 | -0.42 | 12.83 | 0.01 | 12.83   | 91.88   |
| 5976.00 | 0.10 | 58.29 | 5975.95 | 12.93 | -0.34 | 12.96 | 0.01 | 12.97   | 91.50   |

# SURVEY REPORT

EDAR CANYON 28 FED COM # 9H

COMPUTED OUTFRAN KEEPER GYRO SURVEY

| MD      | INC  | AZIM   | TRVD    | V/S   | IN/S  | FE/W  | DLS      | CLOSURE<br>DIST | CLOSURE<br>DIR |
|---------|------|--------|---------|-------|-------|-------|----------|-----------------|----------------|
| ft      | deg  | deg    | ft      | ft    | ft    | ft    | ft/100ft | ft              | deg            |
| 6070.00 | 0.11 | 57.84  | 6069.95 | 13.07 | -0.25 | 13.11 | 0.00     | 13.11           | 91.09          |
| 6165.00 | 0.10 | 53.52  | 6164.95 | 13.22 | -0.15 | 13.25 | 0.01     | 13.25           | 90.67          |
| 6259.00 | 0.10 | 55.64  | 6258.94 | 13.36 | -0.06 | 13.38 | 0.01     | 13.38           | 90.25          |
| 6353.00 | 0.10 | 65.54  | 6352.94 | 13.51 | 0.02  | 13.53 | 0.02     | 13.53           | 89.90          |
| 6510.00 | 0.12 | 135.91 | 6509.94 | 13.75 | -0.04 | 13.78 | 0.08     | 13.78           | 90.15          |
| 6604.00 | 0.11 | 138.38 | 6603.94 | 13.87 | -0.17 | 13.90 | 0.02     | 13.91           | 90.72          |
| 6698.00 | 0.13 | 140.34 | 6697.94 | 13.99 | -0.32 | 14.03 | 0.02     | 14.03           | 91.31          |
| 6793.00 | 0.15 | 145.24 | 6792.94 | 14.12 | -0.51 | 14.17 | 0.03     | 14.18           | 92.06          |
| 6887.00 | 0.15 | 148.30 | 6886.94 | 14.24 | -0.71 | 14.31 | 0.01     | 14.32           | 92.86          |
| 6981.00 | 0.10 | 104.12 | 6980.94 | 14.38 | -0.84 | 14.45 | 0.11     | 14.47           | 93.31          |
| 7075.00 | 0.10 | 125.91 | 7074.94 | 14.52 | -0.90 | 14.59 | 0.04     | 14.62           | 93.54          |
| 7170.00 | 0.09 | 132.42 | 7169.94 | 14.64 | -1.00 | 14.72 | 0.01     | 14.75           | 93.90          |
| 7264.00 | 0.10 | 140.06 | 7263.94 | 14.74 | -1.12 | 14.83 | 0.01     | 14.87           | 94.31          |
| 7358.00 | 0.12 | 144.68 | 7357.94 | 14.84 | -1.26 | 14.93 | 0.02     | 14.99           | 94.82          |
| 7452.00 | 0.13 | 139.34 | 7451.94 | 14.96 | -1.42 | 15.06 | 0.02     | 15.13           | 95.38          |
| 7547.00 | 0.13 | 142.51 | 7546.94 | 15.08 | -1.59 | 15.20 | 0.01     | 15.28           | 95.96          |
| 7641.00 | 0.14 | 140.71 | 7640.94 | 15.21 | -1.76 | 15.34 | 0.01     | 15.44           | 96.56          |
| 7735.00 | 0.17 | 145.55 | 7734.94 | 15.36 | -1.97 | 15.49 | 0.04     | 15.62           | 97.25          |
| 7808.00 | 0.21 | 151.04 | 7807.94 | 15.47 | -2.18 | 15.62 | 0.06     | 15.77           | 97.95          |

OXY USA Inc.  
Cedar Canyon 28 Federal 9H  
API No. 30-015-44016

NM OIL CONSERVATION  
ARTESIA DISTRICT

MAY 01 2017

RECEIVED

14-3/4" hole @ 685'  
10-3/4" csg @ 672'  
w/ 700sx-TOC-Surf Circ.

9-7/8" hole @ 7990'  
7-5/8" csg @ 7980'  
w/ 2140sx-TOC-Surf Circ.

6-3/4" hole @ 13835'  
4-1/2" liner @ 7829-13822'  
w/ 550sx-TOC- 7829' Circ.

Perfs @ 9079-13637'

TD- 13835'M 8708'V