



**Scientific
Drilling**

7327 West Barton Road
Casper, WY 82604
(307)-472-6621 Fax (307) 472-5439

Survey Certification

| | |
|----------------------------|---------------------------------|
| Operator | <u>OXY USA RMAT</u> |
| Well Name & No. | <u>Cascade Creek 697-09-56B</u> |
| County & State | <u>Garfield County, CO</u> |
| SDI Job No. | <u>42DEF1101019</u> |
| Rig | <u>H&P 353</u> |
| Survey Date | <u>05-Jan-11</u> |

I, Julie Cruse, having personal knowledge of all the facts, hereby
certify that the attached directional survey run from a measured depth of 0 feet to a
measured depth of 9030 feet is true and correct as determined from all available records.

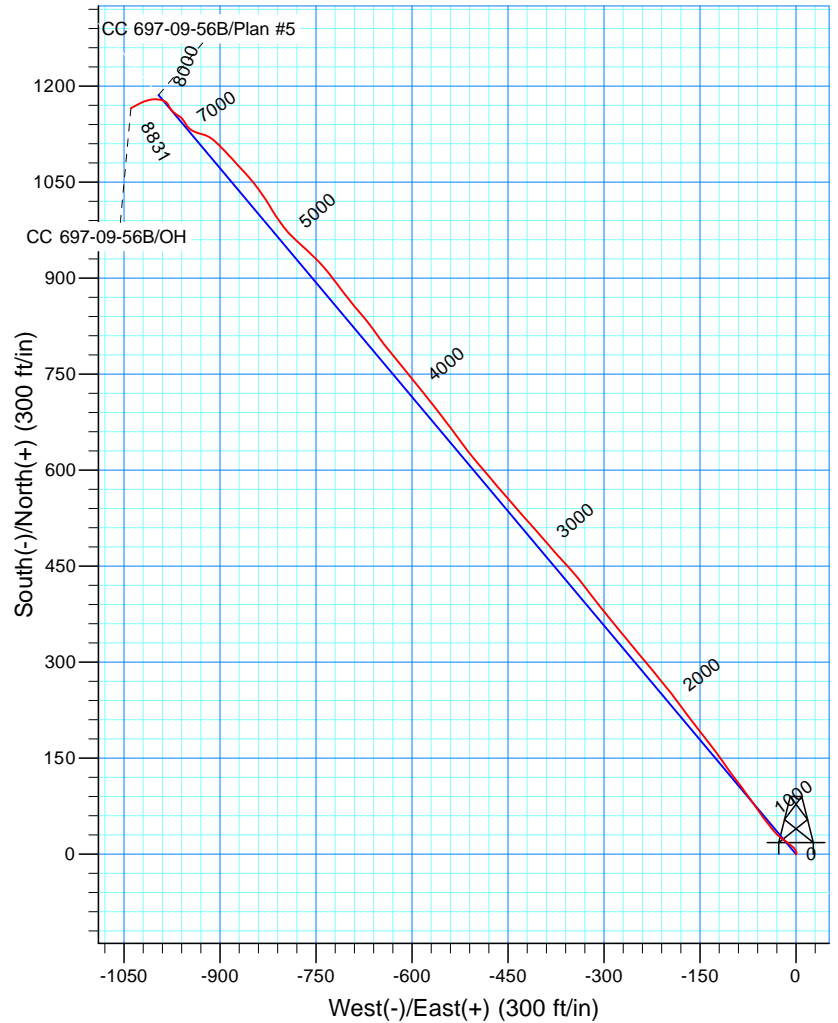
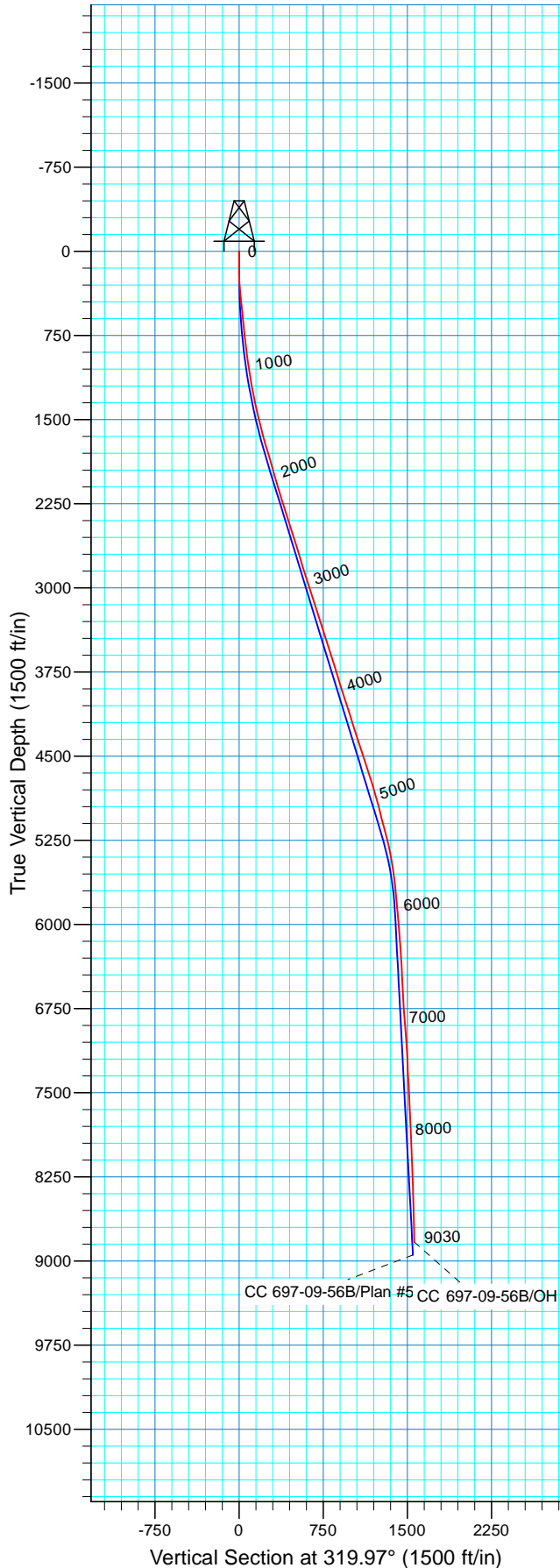
Signature

04-Feb-11

Date

Julie Cruse

Rockies Region Engineer
Scientific Drilling - Rocky Mountain District



WELL DETAILS: CC 697-09-56B

| Ground Level: GL 8348' & RKB 30' @ 8378.00ft | | | | | | |
|--|------|-----------|------------|------------------|-------------------|---|
| 0.00 | 0.00 | Northing | Easting | Latitude | Longitude | A |
| | | 629185.91 | 1234999.24 | 39° 31' 46.477 N | 108° 12' 44.885 W | |

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well CC 697-09-56B - Slot A, True North
 Vertical (TVD) Reference: GL 8348' & RKB 30' @ 8378.00ft
 Section (VS) Reference: Slot - A(0.00N, 0.00E)
 Measured Depth Reference: GL 8348' & RKB 30' @ 8378.00ft
 Calculation Method: Minimum Curvature
 Local North: True
 Location: Sec 15 T6S R97W

PROJECT DETAILS: Garfield County, CO NAD27

Design: OH (CC 697-09-56B/OH)

Geodetic System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: Colorado Central 502

Created By: Julie Cruse Date: 2011-02-04



Scientific Drilling

OXY USA RMAT

Garfield County, CO NAD27
Cascade Creek 697-15-01 Pad
CC 697-09-56B - Slot A

OH

Design: OH

Standard Survey Report

04 February, 2011



| | | | |
|------------------|-----------------------------|-------------------------------------|--------------------------------|
| Company: | OXY USA RMAT | Local Co-ordinate Reference: | Well CC 697-09-56B - Slot A |
| Project: | Garfield County, CO NAD27 | TVD Reference: | GL 8348' & RKB 30' @ 8378.00ft |
| Site: | Cascade Creek 697-15-01 Pad | MD Reference: | GL 8348' & RKB 30' @ 8378.00ft |
| Well: | CC 697-09-56B | North Reference: | True |
| Wellbore: | OH | Survey Calculation Method: | Minimum Curvature |
| Design: | OH | Database: | Rockies-R5000.1 |

| | | | |
|--------------------|--------------------------------------|----------------------|----------------|
| Project | Garfield County, CO NAD27 | | |
| Map System: | US State Plane 1927 (Exact solution) | System Datum: | Mean Sea Level |
| Geo Datum: | NAD 1927 (NADCON CONUS) | | |
| Map Zone: | Colorado Central 502 | | |

| | | | |
|------------------------------|--|--------------------------|-------------------|
| Site | Cascade Creek 697-15-01 Pad, Sec 15 T6S R97W | | |
| Site Position: | | Northing: | 629,156.97 usft |
| From: | Map | Easting: | 1,234,961.93 usft |
| Position Uncertainty: | 0.00 ft | Slot Radius: | 13.200 in |
| | | Latitude: | 39° 31' 46.180 N |
| | | Longitude: | 108° 12' 45.350 W |
| | | Grid Convergence: | -1.71 ° |

| | | | |
|-----------------------------|---|----------------------------|-----------------------------------|
| Well | CC 697-09-56B - Slot A, 261' FNL 635' FWL | | |
| Well Position | +N/-S | 0.00 ft | Northing: 629,185.91 usft |
| | +E/-W | 0.00 ft | Easting: 1,234,999.24 usft |
| Position Uncertainty | 0.00 ft | Wellhead Elevation: | ft |
| | | Latitude: | 39° 31' 46.477 N |
| | | Longitude: | 108° 12' 44.885 W |
| | | Ground Level: | 8,348.00 ft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | OH | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2005-10 | 2008-09-24 | 10.78 | 65.81 | 52,519 |

| | | | | | |
|--------------------------|------------------------------|-------------------|-------------------|----------------------|--------|
| Design | OH | | | | |
| Audit Notes: | | | | | |
| Version: | 1.0 | Phase: | ACTUAL | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) | |
| | 0.00 | 0.00 | 0.00 | | 319.97 |

| | | | | | |
|-----------------------|----------------|-------------------------------|---------------------|------------------------------------|--|
| Survey Program | Date | 2011-02-04 | | | |
| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description | |
| 75.00 | 413.00 | Survey #1 - Surface Gyro (OH) | Standard Keeper 103 | Standard Wireline Keeper ver 1.0.3 | |
| 444.00 | 2,640.00 | Survey #2 - Surface MWD (OH) | MWD-SDI | MWD - Standard ISCWSA | |
| 2,693.00 | 9,030.00 | Survey #3 - Production (OH) | MWD-SDI | MWD - Standard ISCWSA | |

| | | | | | | | | | | |
|------------------------------|------------------------|--------------------|----------------------------|-------------------|-------------------|------------------------------|------------------------------|-----------------------------|----------------------------|--|
| Survey | | | | | | | | | | |
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 75.00 | 0.72 | 191.48 | 75.00 | -0.46 | -0.09 | -0.29 | 0.96 | 0.96 | 0.00 | |
| First SDI Gyro Survey | | | | | | | | | | |
| 105.00 | 0.28 | 211.66 | 105.00 | -0.71 | -0.17 | -0.43 | 1.56 | -1.47 | 67.27 | |
| 136.00 | 0.47 | 83.32 | 136.00 | -0.76 | -0.08 | -0.53 | 2.19 | 0.61 | -414.00 | |
| 167.00 | 1.00 | 39.87 | 166.99 | -0.54 | 0.22 | -0.55 | 2.37 | 1.71 | -140.16 | |
| 198.00 | 1.43 | 27.79 | 197.99 | 0.01 | 0.57 | -0.36 | 1.61 | 1.39 | -38.97 | |
| 228.00 | 2.20 | 3.75 | 227.97 | 0.92 | 0.78 | 0.20 | 3.56 | 2.57 | -80.13 | |
| 259.00 | 3.07 | 348.58 | 258.94 | 2.33 | 0.66 | 1.36 | 3.57 | 2.81 | -48.94 | |

| | | | |
|------------------|-----------------------------|-------------------------------------|--------------------------------|
| Company: | OXY USA RMAT | Local Co-ordinate Reference: | Well CC 697-09-56B - Slot A |
| Project: | Garfield County, CO NAD27 | TVD Reference: | GL 8348' & RKB 30' @ 8378.00ft |
| Site: | Cascade Creek 697-15-01 Pad | MD Reference: | GL 8348' & RKB 30' @ 8378.00ft |
| Well: | CC 697-09-56B | North Reference: | True |
| Wellbore: | OH | Survey Calculation Method: | Minimum Curvature |
| Design: | OH | Database: | Rockies-R5000.1 |

| Survey | | | | | | | | | |
|------------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 290.00 | 4.02 | 337.55 | 289.88 | 4.14 | 0.08 | 3.12 | 3.76 | 3.06 | -35.58 |
| 321.00 | 5.02 | 328.21 | 320.78 | 6.30 | -1.05 | 5.50 | 4.00 | 3.23 | -30.13 |
| 351.00 | 5.34 | 323.12 | 350.66 | 8.53 | -2.58 | 8.20 | 1.87 | 1.07 | -16.97 |
| 382.00 | 6.01 | 314.75 | 381.51 | 10.83 | -4.60 | 11.25 | 3.43 | 2.16 | -27.00 |
| 413.00 | 6.50 | 307.77 | 412.33 | 13.05 | -7.14 | 14.58 | 2.92 | 1.58 | -22.52 |
| Last SDI Gyro Survey | | | | | | | | | |
| 444.00 | 6.59 | 309.99 | 443.12 | 15.27 | -9.89 | 18.05 | 0.87 | 0.29 | 7.16 |
| First SDI MWD Survey | | | | | | | | | |
| 522.00 | 5.89 | 303.09 | 520.66 | 20.33 | -16.67 | 26.29 | 1.31 | -0.90 | -8.85 |
| 615.00 | 5.98 | 308.45 | 613.16 | 25.95 | -24.46 | 35.60 | 0.60 | 0.10 | 5.76 |
| 708.00 | 5.98 | 316.63 | 705.66 | 32.48 | -31.58 | 45.18 | 0.92 | 0.00 | 8.80 |
| 800.00 | 6.24 | 322.78 | 797.14 | 39.94 | -37.90 | 54.96 | 0.77 | 0.28 | 6.68 |
| 895.00 | 6.86 | 322.24 | 891.52 | 48.54 | -44.50 | 65.79 | 0.66 | 0.65 | -0.57 |
| 989.00 | 7.56 | 322.87 | 984.77 | 57.91 | -51.67 | 77.57 | 0.75 | 0.74 | 0.67 |
| 1,084.00 | 9.50 | 324.71 | 1,078.72 | 69.29 | -59.97 | 91.63 | 2.06 | 2.04 | 1.94 |
| 1,178.00 | 10.11 | 324.80 | 1,171.35 | 82.37 | -69.21 | 107.58 | 0.65 | 0.65 | 0.10 |
| 1,273.00 | 11.87 | 324.36 | 1,264.60 | 97.12 | -79.71 | 125.63 | 1.85 | 1.85 | -0.46 |
| 1,367.00 | 11.78 | 321.90 | 1,356.61 | 112.53 | -91.26 | 144.86 | 0.54 | -0.10 | -2.62 |
| 1,462.00 | 12.66 | 324.18 | 1,449.45 | 128.60 | -103.34 | 164.94 | 1.06 | 0.93 | 2.40 |
| 1,556.00 | 13.54 | 325.33 | 1,541.01 | 146.00 | -115.63 | 186.17 | 0.98 | 0.94 | 1.22 |
| 1,651.00 | 14.86 | 323.30 | 1,633.10 | 164.92 | -129.23 | 209.40 | 1.48 | 1.39 | -2.14 |
| 1,746.00 | 16.44 | 320.93 | 1,724.58 | 185.12 | -144.99 | 235.00 | 1.79 | 1.66 | -2.49 |
| 1,840.00 | 17.85 | 322.87 | 1,814.40 | 206.94 | -162.07 | 262.69 | 1.62 | 1.50 | 2.06 |
| 1,935.00 | 16.09 | 324.01 | 1,905.26 | 229.20 | -178.59 | 290.37 | 1.89 | -1.85 | 1.20 |
| 2,029.00 | 15.39 | 321.90 | 1,995.73 | 249.56 | -193.94 | 315.83 | 0.96 | -0.74 | -2.24 |
| 2,123.00 | 16.00 | 320.93 | 2,086.23 | 269.43 | -209.81 | 341.25 | 0.71 | 0.65 | -1.03 |
| 2,218.00 | 16.88 | 320.05 | 2,177.34 | 290.17 | -226.91 | 368.13 | 0.96 | 0.93 | -0.93 |
| 2,313.00 | 18.20 | 320.32 | 2,267.93 | 312.16 | -245.24 | 396.76 | 1.39 | 1.39 | 0.28 |
| 2,407.00 | 17.50 | 321.37 | 2,357.40 | 334.50 | -263.44 | 425.57 | 0.82 | -0.74 | 1.12 |
| 2,501.00 | 18.11 | 320.05 | 2,446.90 | 356.74 | -281.65 | 454.31 | 0.78 | 0.65 | -1.40 |
| 2,596.00 | 17.94 | 320.93 | 2,537.24 | 379.42 | -300.35 | 483.70 | 0.34 | -0.18 | 0.93 |
| 2,640.00 | 17.59 | 321.81 | 2,579.14 | 389.90 | -308.73 | 497.12 | 1.00 | -0.80 | 2.00 |
| Last Survey in 14 3/4" Hole | | | | | | | | | |
| 2,693.00 | 16.88 | 322.35 | 2,629.76 | 402.29 | -318.38 | 512.82 | 1.37 | -1.34 | 1.02 |
| First Survey in 8 3/4" Hole | | | | | | | | | |
| 2,787.00 | 16.62 | 322.44 | 2,719.77 | 423.75 | -334.91 | 539.88 | 0.28 | -0.28 | 0.10 |
| 2,882.00 | 16.71 | 318.04 | 2,810.78 | 444.68 | -352.33 | 567.11 | 1.33 | 0.09 | -4.63 |
| 2,976.00 | 18.11 | 317.78 | 2,900.47 | 465.55 | -371.18 | 595.21 | 1.49 | 1.49 | -0.28 |
| 3,071.00 | 17.15 | 319.89 | 2,991.01 | 487.20 | -390.13 | 623.98 | 1.21 | -1.01 | 2.22 |
| 3,166.00 | 17.41 | 318.04 | 3,081.72 | 508.48 | -408.65 | 652.19 | 0.64 | 0.27 | -1.95 |
| 3,260.00 | 18.91 | 318.66 | 3,171.04 | 530.37 | -428.12 | 681.47 | 1.61 | 1.60 | 0.66 |
| 3,354.00 | 17.94 | 318.66 | 3,260.22 | 552.68 | -447.74 | 711.17 | 1.03 | -1.03 | 0.00 |
| 3,449.00 | 18.47 | 320.06 | 3,350.47 | 575.20 | -467.07 | 740.85 | 0.72 | 0.56 | 1.47 |
| 3,543.00 | 17.06 | 318.57 | 3,439.98 | 596.96 | -485.75 | 769.53 | 1.58 | -1.50 | -1.59 |

| | | | |
|------------------|-----------------------------|-------------------------------------|--------------------------------|
| Company: | OXY USA RMAT | Local Co-ordinate Reference: | Well CC 697-09-56B - Slot A |
| Project: | Garfield County, CO NAD27 | TVD Reference: | GL 8348' & RKB 30' @ 8378.00ft |
| Site: | Cascade Creek 697-15-01 Pad | MD Reference: | GL 8348' & RKB 30' @ 8378.00ft |
| Well: | CC 697-09-56B | North Reference: | True |
| Wellbore: | OH | Survey Calculation Method: | Minimum Curvature |
| Design: | OH | Database: | Rockies-R5000.1 |

| Survey | | | | | | | | | |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 3,638.00 | 16.80 | 321.21 | 3,530.87 | 618.11 | -503.57 | 797.18 | 0.85 | -0.27 | 2.78 |
| 3,732.00 | 17.59 | 323.49 | 3,620.66 | 640.11 | -520.53 | 824.94 | 1.10 | 0.84 | 2.43 |
| 3,827.00 | 18.55 | 323.23 | 3,710.98 | 663.76 | -538.12 | 854.36 | 1.01 | 1.01 | -0.27 |
| 3,921.00 | 16.88 | 321.82 | 3,800.52 | 686.46 | -555.51 | 882.93 | 1.83 | -1.78 | -1.50 |
| 4,016.00 | 17.06 | 322.08 | 3,891.38 | 708.30 | -572.60 | 910.64 | 0.21 | 0.19 | 0.27 |
| 4,110.00 | 17.67 | 321.21 | 3,981.10 | 730.29 | -590.01 | 938.68 | 0.71 | 0.65 | -0.93 |
| 4,205.00 | 18.03 | 320.59 | 4,071.52 | 752.89 | -608.38 | 967.80 | 0.43 | 0.38 | -0.65 |
| 4,300.00 | 17.85 | 320.94 | 4,161.90 | 775.56 | -626.88 | 997.06 | 0.22 | -0.19 | 0.37 |
| 4,395.00 | 16.80 | 322.44 | 4,252.59 | 797.75 | -644.43 | 1,025.33 | 1.20 | -1.11 | 1.58 |
| 4,489.00 | 18.47 | 324.28 | 4,342.17 | 820.61 | -661.40 | 1,053.75 | 1.87 | 1.78 | 1.96 |
| 4,583.00 | 18.64 | 319.10 | 4,431.29 | 844.05 | -679.93 | 1,083.62 | 1.76 | 0.18 | -5.51 |
| 4,678.00 | 17.76 | 321.64 | 4,521.54 | 866.89 | -698.87 | 1,113.29 | 1.25 | -0.93 | 2.67 |
| 4,772.00 | 18.73 | 323.84 | 4,610.82 | 890.32 | -716.67 | 1,142.68 | 1.27 | 1.03 | 2.34 |
| 4,867.00 | 18.38 | 319.54 | 4,700.88 | 914.03 | -735.39 | 1,172.87 | 1.49 | -0.37 | -4.53 |
| 4,961.00 | 15.83 | 314.00 | 4,790.72 | 934.21 | -754.23 | 1,200.45 | 3.22 | -2.71 | -5.89 |
| 5,056.00 | 14.51 | 311.19 | 4,882.41 | 951.05 | -772.51 | 1,225.10 | 1.59 | -1.39 | -2.96 |
| 5,150.00 | 14.51 | 315.84 | 4,973.42 | 967.26 | -789.58 | 1,248.48 | 1.24 | 0.00 | 4.95 |
| 5,245.00 | 15.48 | 324.81 | 5,065.19 | 986.16 | -805.18 | 1,272.99 | 2.64 | 1.02 | 9.44 |
| 5,339.00 | 14.60 | 327.53 | 5,155.97 | 1,006.41 | -818.77 | 1,297.24 | 1.20 | -0.94 | 2.89 |
| 5,434.00 | 14.25 | 327.80 | 5,247.98 | 1,026.40 | -831.43 | 1,320.69 | 0.38 | -0.37 | 0.28 |
| 5,529.00 | 11.96 | 321.91 | 5,340.50 | 1,044.05 | -843.73 | 1,342.11 | 2.79 | -2.41 | -6.20 |
| 5,623.00 | 9.85 | 319.45 | 5,432.80 | 1,057.82 | -854.97 | 1,359.89 | 2.30 | -2.24 | -2.62 |
| 5,717.00 | 7.74 | 314.97 | 5,525.69 | 1,068.41 | -864.67 | 1,374.24 | 2.36 | -2.24 | -4.77 |
| 5,812.00 | 6.51 | 318.66 | 5,619.96 | 1,076.97 | -872.76 | 1,385.99 | 1.38 | -1.29 | 3.88 |
| 5,906.00 | 6.33 | 318.57 | 5,713.37 | 1,084.86 | -879.71 | 1,396.50 | 0.19 | -0.19 | -0.10 |
| 6,001.00 | 4.84 | 317.25 | 5,807.91 | 1,091.73 | -885.89 | 1,405.74 | 1.57 | -1.57 | -1.39 |
| 6,095.00 | 4.48 | 313.73 | 5,901.60 | 1,097.18 | -891.24 | 1,413.35 | 0.49 | -0.38 | -3.74 |
| 6,190.00 | 4.75 | 315.67 | 5,996.29 | 1,102.56 | -896.67 | 1,420.96 | 0.33 | 0.28 | 2.04 |
| 6,285.00 | 5.01 | 315.93 | 6,090.95 | 1,108.35 | -902.30 | 1,429.02 | 0.27 | 0.27 | 0.27 |
| 6,379.00 | 4.04 | 311.63 | 6,184.65 | 1,113.50 | -907.63 | 1,436.39 | 1.09 | -1.03 | -4.57 |
| 6,474.00 | 3.61 | 306.09 | 6,279.44 | 1,117.48 | -912.55 | 1,442.61 | 0.60 | -0.45 | -5.83 |
| 6,568.00 | 3.25 | 301.25 | 6,373.28 | 1,120.61 | -917.22 | 1,448.00 | 0.49 | -0.38 | -5.15 |
| 6,663.00 | 2.81 | 286.22 | 6,468.14 | 1,122.66 | -921.76 | 1,452.49 | 0.95 | -0.46 | -15.82 |
| 6,757.00 | 3.25 | 292.97 | 6,562.01 | 1,124.34 | -926.42 | 1,456.78 | 0.60 | 0.47 | 7.18 |
| 6,852.00 | 4.31 | 283.68 | 6,656.81 | 1,126.24 | -932.37 | 1,462.06 | 1.29 | 1.12 | -9.78 |
| 6,946.00 | 4.75 | 290.88 | 6,750.51 | 1,128.46 | -939.44 | 1,468.31 | 0.76 | 0.47 | 7.66 |
| 7,041.00 | 4.92 | 308.11 | 6,845.18 | 1,132.37 | -946.32 | 1,475.73 | 1.53 | 0.18 | 18.14 |
| 7,136.00 | 4.66 | 325.86 | 6,939.85 | 1,138.08 | -951.69 | 1,483.56 | 1.58 | -0.27 | 18.68 |
| 7,230.00 | 4.13 | 327.01 | 7,033.58 | 1,144.08 | -955.68 | 1,490.71 | 0.57 | -0.56 | 1.22 |
| 7,325.00 | 2.55 | 321.64 | 7,128.41 | 1,148.61 | -958.85 | 1,496.22 | 1.69 | -1.66 | -5.65 |
| 7,419.00 | 2.37 | 310.13 | 7,222.33 | 1,151.50 | -961.64 | 1,500.23 | 0.56 | -0.19 | -12.24 |
| 7,514.00 | 3.08 | 298.18 | 7,317.22 | 1,153.97 | -965.39 | 1,504.53 | 0.95 | 0.75 | -12.58 |
| 7,608.00 | 3.08 | 306.53 | 7,411.08 | 1,156.67 | -969.64 | 1,509.33 | 0.48 | 0.00 | 8.88 |

| | | | |
|------------------|-----------------------------|-------------------------------------|--------------------------------|
| Company: | OXY USA RMAT | Local Co-ordinate Reference: | Well CC 697-09-56B - Slot A |
| Project: | Garfield County, CO NAD27 | TVD Reference: | GL 8348' & RKB 30' @ 8378.00ft |
| Site: | Cascade Creek 697-15-01 Pad | MD Reference: | GL 8348' & RKB 30' @ 8378.00ft |
| Well: | CC 697-09-56B | North Reference: | True |
| Wellbore: | OH | Survey Calculation Method: | Minimum Curvature |
| Design: | OH | Database: | Rockies-R5000.1 |

| Survey | | | | | | | | | |
|---|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 7,703.00 | 3.17 | 317.34 | 7,505.94 | 1,160.12 | -973.47 | 1,514.44 | 0.63 | 0.09 | 11.38 |
| 7,797.00 | 2.55 | 319.97 | 7,599.82 | 1,163.63 | -976.58 | 1,519.13 | 0.67 | -0.66 | 2.80 |
| 7,892.00 | 2.90 | 330.08 | 7,694.72 | 1,167.33 | -979.14 | 1,523.61 | 0.62 | 0.37 | 10.64 |
| 7,987.00 | 2.81 | 329.55 | 7,789.60 | 1,171.42 | -981.52 | 1,528.27 | 0.10 | -0.09 | -0.56 |
| 8,081.00 | 2.20 | 311.80 | 7,883.51 | 1,174.61 | -984.03 | 1,532.33 | 1.04 | -0.65 | -18.88 |
| 8,176.00 | 2.29 | 292.47 | 7,978.44 | 1,176.55 | -987.14 | 1,535.81 | 0.80 | 0.09 | -20.35 |
| 8,270.00 | 2.46 | 286.84 | 8,072.36 | 1,177.86 | -990.81 | 1,539.17 | 0.31 | 0.18 | -5.99 |
| 8,365.00 | 2.90 | 282.89 | 8,167.25 | 1,178.98 | -995.10 | 1,542.79 | 0.50 | 0.46 | -4.16 |
| 8,459.00 | 3.25 | 270.05 | 8,261.12 | 1,179.51 | -1,000.08 | 1,546.41 | 0.82 | 0.37 | -13.66 |
| 8,554.00 | 3.61 | 261.18 | 8,355.95 | 1,179.06 | -1,005.73 | 1,549.69 | 0.67 | 0.38 | -9.34 |
| 8,648.00 | 3.69 | 258.80 | 8,449.76 | 1,178.02 | -1,011.62 | 1,552.68 | 0.18 | 0.09 | -2.53 |
| 8,743.00 | 4.40 | 250.80 | 8,544.52 | 1,176.23 | -1,018.07 | 1,555.45 | 0.95 | 0.75 | -8.42 |
| 8,838.00 | 4.66 | 243.51 | 8,639.23 | 1,173.31 | -1,024.96 | 1,557.65 | 0.66 | 0.27 | -7.67 |
| 8,932.00 | 4.84 | 240.43 | 8,732.90 | 1,169.65 | -1,031.83 | 1,559.27 | 0.33 | 0.19 | -3.28 |
| 8,975.00 | 5.01 | 240.79 | 8,775.75 | 1,167.83 | -1,035.04 | 1,559.95 | 0.40 | 0.40 | 0.84 |
| Last SDI MWD Survey | | | | | | | | | |
| 9,030.00 | 5.01 | 240.79 | 8,830.54 | 1,165.49 | -1,039.24 | 1,560.85 | 0.00 | 0.00 | 0.00 |
| Projection to TD - BHL = 630381.90 ft N, 1233995.26 ft E | | | | | | | | | |

| Design Annotations | | | | |
|---------------------|---------------------|-------------------|------------|---------------------------------------|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates | | Comment |
| | | +N/-S (ft) | +E/-W (ft) | |
| 75.00 | 75.00 | -0.46 | -0.09 | First SDI Gyro Survey |
| 413.00 | 412.33 | 13.05 | -7.14 | Last SDI Gyro Survey |
| 444.00 | 443.12 | 15.27 | -9.89 | First SDI MWD Survey |
| 2,640.00 | 2,579.14 | 389.90 | -308.73 | Last Survey in 14 3/4" Hole |
| 2,693.00 | 2,629.76 | 402.29 | -318.38 | First Survey in 8 3/4" Hole |
| 8,975.00 | 8,775.75 | 1,167.83 | -1,035.04 | Last SDI MWD Survey |
| 9,030.00 | 8,830.54 | 1,165.49 | -1,039.24 | Projection to TD |
| 9,030.00 | 8,830.54 | 1,165.49 | -1,039.24 | BHL = 630381.90 ft N, 1233995.26 ft E |

| | | |
|-------------------|--------------------|-------------|
| Checked By: _____ | Approved By: _____ | Date: _____ |
|-------------------|--------------------|-------------|