

OXY USA RMAT

Garfield County, CO NAD27

Shell 797-03B Pad

Shell 797-03-39A - Slot X

OH

Design: OH

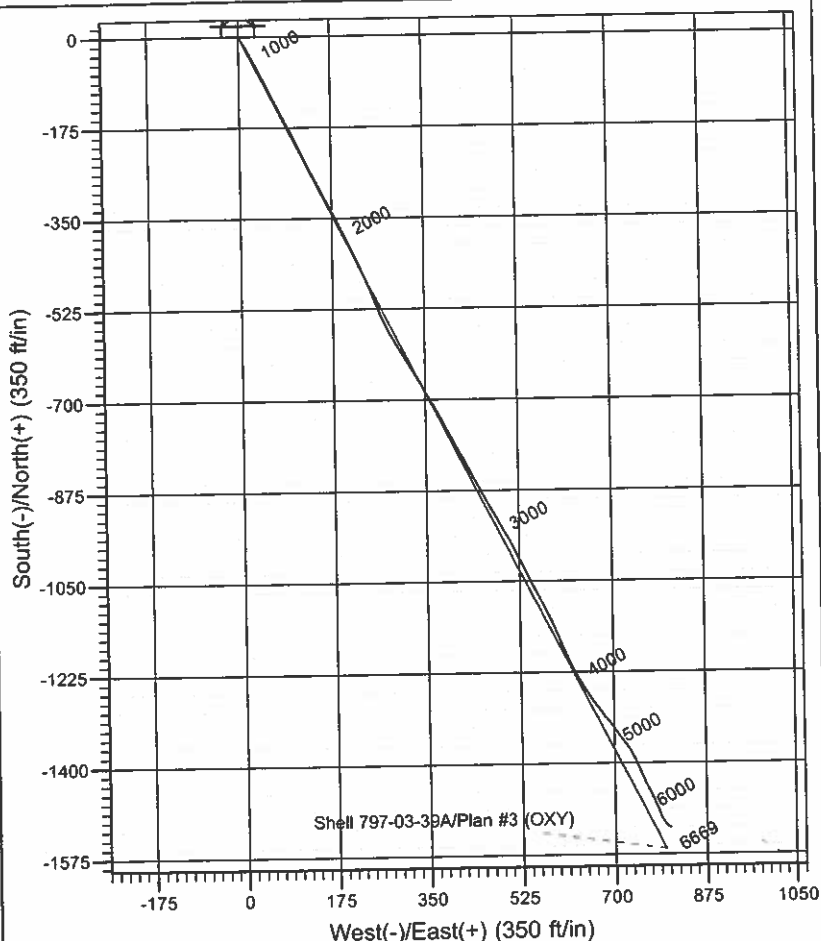
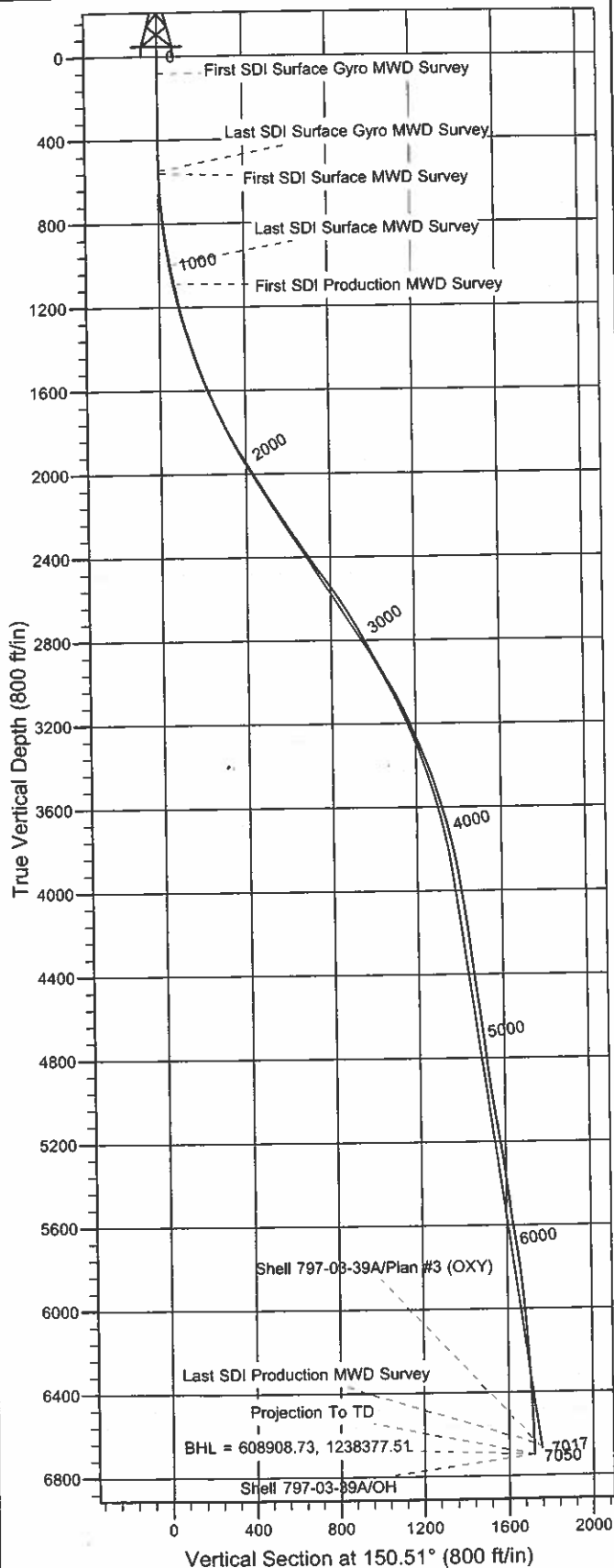
Standard Survey Report

07 December, 2010



Scientific Drilling
Rocky Mountain Operations

Company: OXY USA RMAT
Project: Garfield County, CO NAD27
Site: Shell 797-03B Pad
Well: Shell 797-03-39A
Wellbore: OH
Design: OH



Well Details: Shell 797-03-39A

| +N/-S | +E/-W | North | East | Latitude | Longitude | Slot |
|-------|-------|-----------|------------|------------------|------------------|------|
| 0.00 | 0.00 | 610456.13 | 1237618.82 | 39° 28' 42.210 N | 108° 12' 4.360 W | X |

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Shell 797-03-39A - Slot X, True North
Vertical (TVD) Reference: GL 6325' & RKB 22' @ 6347.00ft (M37)
Section (VS) Reference: Slot - X(0.00N, 0.00E)
Measured Depth Reference: GL 6325' & RKB 22' @ 6347.00ft (M37)
Calculation Method: Minimum Curvature

PROJECT DETAILS: Garfield County, CO NAD27

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

System Datum: Mean Sea Level

Plan: OH

6:42, December 07 2010
Created By: Rex Hall

Scientific Drilling International

Survey Report

| | | | |
|------------------|---------------------------|-------------------------------------|--------------------------------------|
| Company: | OXY USA RMAT | Local Co-ordinate Reference: | Well Shell 797-03-39A - Slot X |
| Project: | Garfield County, CO NAD27 | TVD Reference: | GL 6325' & RKB 22' @ 6347.00ft (M37) |
| Site: | Shell 797-03B Pad | MD Reference: | GL 6325' & RKB 22' @ 6347.00ft (M37) |
| Well: | Shell 797-03-39A | 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 | Shell 797-03B Pad, Sec 3 T7S R97W | | | |
| Site Position: | | Northing: | 610,470.20 usft | Latitude: 39° 28' 42.340 N |
| From: | Lat/Long | Easting: | 1,237,588.64 usft | Longitude: 108° 12' 4.750 W |
| Position Uncertainty: | 0.00 ft | Slot Radius: | 13.200 in | Grid Convergence: -1.70 ° |

| | | | | |
|-----------------------------|----------------------------|----------------------------|-----------------------------------|------------------------------------|
| Well | Shell 797-03-39A - Slot X, | | | |
| Well Position | +N/-S | 0.00 ft | Northing: 610,456.13 usft | Latitude: 39° 28' 42.210 N |
| | +E/-W | 0.00 ft | Easting: 1,237,618.82 usft | Longitude: 108° 12' 4.360 W |
| Position Uncertainty | 0.00 ft | Wellhead Elevation: | ft | Ground Level: 6,325.00 ft |

| | | | | |
|-----------------|----|--|--|--|
| Wellbore | OH | | | |
|-----------------|----|--|--|--|

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|-----------|-------------|-------------|-----------------|---------------|---------------------|
| | IGRF2005-10 | 9/15/2008 | 10.78 | 65.77 | 52,511 |

| | | | | |
|---------------|----|--|--|--|
| 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 | 150.51 |

| | | | | |
|-----------------------|----------------|--|--|--|
| Survey Program | Date 12/6/2010 | | | |
|-----------------------|----------------|--|--|--|

| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description |
|-----------|----------|-----------------------------------|---------------------|------------------------------------|
| 81.00 | 548.00 | Survey #1 - Surface Gyro MWD (OH) | Standard Keeper 103 | Standard Wireline Keeper ver 1.0.3 |
| 561.00 | 998.00 | Survey #2 - Surface MWD (OH) | MWD-SDI | MWD - Standard ISCWSA |
| 1,094.00 | 7,050.00 | Survey #3 - Production MWD (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 |
| 81.00 | 0.53 | 57.04 | 81.00 | 0.20 | 0.31 | -0.02 | 0.65 | 0.65 | 0.00 |
| First SDI Surface Gyro MWD Survey | | | | | | | | | |
| 113.00 | 0.18 | 51.50 | 113.00 | 0.32 | 0.48 | -0.04 | 1.10 | -1.09 | -17.31 |
| 143.00 | 0.18 | 211.64 | 143.00 | 0.30 | 0.49 | -0.02 | 1.18 | 0.00 | 533.80 |
| 174.00 | 0.44 | 208.48 | 174.00 | 0.16 | 0.41 | 0.06 | 0.84 | 0.84 | -10.19 |
| 206.00 | 0.26 | 199.34 | 206.00 | -0.02 | 0.33 | 0.18 | 0.59 | -0.56 | -28.56 |
| 237.00 | 0.53 | 191.60 | 237.00 | -0.22 | 0.27 | 0.33 | 0.89 | 0.87 | -24.97 |
| 268.00 | 0.44 | 161.46 | 268.00 | -0.48 | 0.28 | 0.55 | 0.86 | -0.29 | -97.23 |

Scientific Drilling International

Survey Report

Company: OXY USA RMAT
 Project: Garfield County, CO NAD27
 Site: Shell 797-03B Pad
 Well: Shell 797-03-39A
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Well Shell 797-03-39A - Slot X
 TVD Reference: GL 6325' & RKB 22' @ 6347.00ft (M37)
 MD Reference: GL 6325' & RKB 22' @ 6347.00ft (M37)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 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) |
|----------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 299.00 | 0.44 | 184.04 | 298.99 | -0.71 | 0.31 | 0.77 | 0.56 | 0.00 | 72.84 |
| 331.00 | 0.35 | 158.99 | 330.99 | -0.92 | 0.34 | 0.97 | 0.60 | -0.28 | -78.28 |
| 362.00 | 0.26 | 142.12 | 361.99 | -1.07 | 0.41 | 1.13 | 0.41 | -0.29 | -54.42 |
| 424.00 | 0.18 | 160.31 | 423.99 | -1.27 | 0.53 | 1.37 | 0.17 | -0.13 | 29.34 |
| 487.00 | 0.35 | 114.79 | 486.99 | -1.44 | 0.74 | 1.62 | 0.41 | 0.27 | -72.25 |
| 518.00 | 0.70 | 145.20 | 517.99 | -1.64 | 0.94 | 1.89 | 1.41 | 1.13 | 98.10 |
| 548.00 | 1.41 | 160.58 | 547.99 | -2.14 | 1.16 | 2.43 | 2.53 | 2.37 | 51.27 |
| Last SDI Surface Gyro MWD Survey | | | | | | | | | |
| 561.00 | 1.76 | 158.08 | 560.98 | -2.47 | 1.29 | 2.79 | 2.74 | 2.69 | -19.23 |
| First SDI Surface MWD Survey | | | | | | | | | |
| 592.00 | 2.11 | 152.19 | 591.96 | -3.42 | 1.74 | 3.83 | 1.30 | 1.13 | -19.00 |
| 654.00 | 3.61 | 142.44 | 653.88 | -5.98 | 3.46 | 6.90 | 2.53 | 2.42 | -15.73 |
| 686.00 | 4.31 | 143.93 | 685.81 | -7.75 | 4.78 | 9.10 | 2.21 | 2.19 | 4.66 |
| 717.00 | 5.10 | 146.65 | 716.70 | -9.84 | 6.22 | 11.63 | 2.65 | 2.55 | 8.77 |
| 779.00 | 6.24 | 146.83 | 778.40 | -14.96 | 9.58 | 17.74 | 1.84 | 1.84 | 0.29 |
| 873.00 | 8.35 | 153.25 | 871.63 | -25.34 | 15.45 | 29.66 | 2.40 | 2.24 | 6.83 |
| 966.00 | 10.38 | 153.33 | 963.39 | -38.85 | 22.25 | 44.77 | 2.18 | 2.18 | 0.09 |
| 998.00 | 10.46 | 152.54 | 994.86 | -44.01 | 24.88 | 50.55 | 0.51 | 0.25 | -2.47 |
| Last SDI Surface MWD Survey | | | | | | | | | |
| 1,094.00 | 11.34 | 152.72 | 1,089.13 | -60.13 | 33.23 | 68.70 | 0.92 | 0.92 | 0.19 |
| First SDI Production MWD Survey | | | | | | | | | |
| 1,189.00 | 12.57 | 151.75 | 1,182.07 | -77.54 | 42.40 | 88.36 | 1.31 | 1.29 | -1.02 |
| 1,284.00 | 15.74 | 154.13 | 1,274.17 | -98.24 | 52.92 | 111.57 | 3.39 | 3.34 | 2.51 |
| 1,379.00 | 17.67 | 153.86 | 1,365.16 | -122.78 | 64.90 | 138.82 | 2.03 | 2.03 | -0.28 |
| 1,474.00 | 19.26 | 151.40 | 1,455.27 | -149.48 | 78.75 | 168.88 | 1.86 | 1.67 | -2.59 |
| 1,569.00 | 20.93 | 153.07 | 1,544.48 | -178.37 | 93.94 | 201.50 | 1.86 | 1.76 | 1.76 |
| 1,665.00 | 23.57 | 154.21 | 1,633.32 | -210.95 | 110.06 | 237.79 | 2.79 | 2.75 | 1.19 |
| 1,759.00 | 25.41 | 153.42 | 1,718.86 | -245.91 | 127.26 | 276.69 | 1.99 | 1.96 | -0.84 |
| 1,855.00 | 27.61 | 152.28 | 1,804.77 | -284.02 | 146.82 | 319.50 | 2.35 | 2.29 | -1.19 |
| 1,950.00 | 30.60 | 152.19 | 1,887.76 | -324.91 | 168.35 | 365.69 | 3.15 | 3.15 | -0.09 |
| 2,046.00 | 31.83 | 152.72 | 1,969.86 | -369.02 | 191.35 | 415.41 | 1.31 | 1.28 | 0.55 |
| 2,141.00 | 31.66 | 153.77 | 2,050.65 | -413.65 | 213.85 | 465.33 | 0.61 | -0.18 | 1.11 |
| 2,236.00 | 33.68 | 157.03 | 2,130.62 | -460.28 | 235.16 | 516.41 | 2.82 | 2.13 | 3.43 |
| 2,331.00 | 33.77 | 158.61 | 2,209.64 | -509.11 | 255.07 | 568.72 | 0.93 | 0.09 | 1.66 |
| 2,427.00 | 33.41 | 153.60 | 2,289.62 | -557.64 | 276.55 | 621.54 | 2.91 | -0.38 | -5.22 |
| 2,522.00 | 34.12 | 148.50 | 2,368.61 | -603.80 | 302.11 | 674.29 | 3.08 | 0.75 | -5.37 |
| 2,617.00 | 36.67 | 149.73 | 2,446.05 | -651.02 | 330.33 | 729.29 | 2.79 | 2.68 | 1.29 |
| 2,712.00 | 35.44 | 149.99 | 2,522.85 | -699.37 | 358.41 | 785.20 | 1.30 | -1.29 | 0.27 |
| 2,808.00 | 33.94 | 152.28 | 2,601.79 | -747.20 | 384.80 | 839.83 | 2.07 | -1.56 | 2.39 |
| 2,904.00 | 31.39 | 151.66 | 2,682.60 | -792.94 | 409.14 | 891.62 | 2.68 | -2.66 | -0.65 |
| 2,999.00 | 28.93 | 152.02 | 2,764.73 | -835.01 | 431.67 | 939.33 | 2.60 | -2.59 | 0.38 |
| 3,095.00 | 28.75 | 151.58 | 2,848.82 | -875.82 | 453.55 | 985.63 | 0.29 | -0.19 | -0.46 |
| 3,190.00 | 29.81 | 151.31 | 2,931.69 | -916.63 | 475.76 | 1,032.08 | 1.12 | 1.12 | -0.28 |
| 3,286.00 | 29.55 | 150.43 | 3,015.09 | -958.16 | 498.90 | 1,079.61 | 0.53 | -0.27 | -0.92 |

Scientific Drilling International

Survey Report

| | | | |
|------------------|---------------------------|-------------------------------------|--------------------------------------|
| Company: | OXY USA RMAT | Local Co-ordinate Reference: | Well Shell 797-03-39A - Slot X |
| Project: | Garfield County, CO NAD27 | TVD Reference: | GL 6325' & RKB 22' @ 6347.00ft (M37) |
| Site: | Shell 797-03B Pad | MD Reference: | GL 6325' & RKB 22' @ 6347.00ft (M37) |
| Well: | Shell 797-03-39A | 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) |
|---|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 3,382.00 | 26.82 | 153.42 | 3,099.70 | -998.12 | 520.27 | 1,124.93 | 3.20 | -2.84 | 3.11 |
| 3,478.00 | 24.09 | 153.95 | 3,186.38 | -1,035.10 | 538.57 | 1,166.12 | 2.85 | -2.84 | 0.55 |
| 3,574.00 | 22.60 | 153.95 | 3,274.52 | -1,069.28 | 555.28 | 1,204.09 | 1.55 | -1.55 | 0.00 |
| 3,670.00 | 21.63 | 152.10 | 3,363.45 | -1,101.49 | 571.66 | 1,240.19 | 1.24 | -1.01 | -1.93 |
| 3,765.00 | 19.43 | 156.59 | 3,452.42 | -1,131.47 | 586.13 | 1,273.42 | 2.85 | -2.32 | 4.73 |
| 3,861.00 | 17.85 | 158.61 | 3,543.38 | -1,159.82 | 597.84 | 1,303.86 | 1.78 | -1.65 | 2.10 |
| 3,956.00 | 15.92 | 156.41 | 3,634.28 | -1,185.32 | 608.37 | 1,331.24 | 2.14 | -2.03 | -2.32 |
| 4,050.00 | 13.98 | 153.25 | 3,725.10 | -1,207.28 | 618.64 | 1,355.41 | 2.24 | -2.06 | -3.36 |
| 4,146.00 | 11.78 | 154.13 | 3,818.68 | -1,226.45 | 628.14 | 1,376.77 | 2.30 | -2.29 | 0.92 |
| 4,241.00 | 9.41 | 149.29 | 3,912.05 | -1,241.86 | 636.33 | 1,394.22 | 2.66 | -2.49 | -5.09 |
| 4,336.00 | 9.32 | 147.01 | 4,005.79 | -1,254.99 | 644.49 | 1,409.66 | 0.40 | -0.09 | -2.40 |
| 4,431.00 | 8.44 | 147.80 | 4,099.65 | -1,267.34 | 652.39 | 1,424.30 | 0.94 | -0.93 | 0.83 |
| 4,526.00 | 7.65 | 149.82 | 4,193.71 | -1,278.70 | 659.29 | 1,437.59 | 0.88 | -0.83 | 2.13 |
| 4,621.00 | 7.21 | 140.06 | 4,287.92 | -1,288.74 | 666.29 | 1,449.78 | 1.40 | -0.46 | -10.27 |
| 4,716.00 | 7.47 | 145.86 | 4,382.14 | -1,298.42 | 673.59 | 1,461.79 | 0.83 | 0.27 | 6.11 |
| 4,812.00 | 8.00 | 140.33 | 4,477.27 | -1,308.73 | 681.35 | 1,474.59 | 0.95 | 0.55 | -5.76 |
| 4,907.00 | 7.21 | 139.97 | 4,571.43 | -1,318.38 | 689.41 | 1,486.96 | 0.83 | -0.83 | -0.38 |
| 5,002.00 | 7.83 | 145.25 | 4,665.62 | -1,328.27 | 696.93 | 1,499.26 | 0.98 | 0.65 | 5.56 |
| 5,097.00 | 6.80 | 147.62 | 4,759.86 | -1,338.19 | 703.54 | 1,511.16 | 1.33 | -1.29 | 2.49 |
| 5,193.00 | 7.21 | 146.13 | 4,855.17 | -1,347.86 | 709.86 | 1,522.67 | 0.66 | 0.64 | -1.55 |
| 5,288.00 | 8.53 | 140.68 | 4,949.27 | -1,358.26 | 717.64 | 1,535.56 | 1.59 | 1.39 | -5.74 |
| 5,382.00 | 8.62 | 145.78 | 5,042.22 | -1,369.48 | 726.02 | 1,549.45 | 0.81 | 0.10 | 5.43 |
| 5,468.00 | 9.67 | 153.07 | 5,127.13 | -1,381.24 | 732.92 | 1,563.09 | 1.82 | 1.22 | 8.48 |
| 5,574.00 | 9.15 | 155.80 | 5,231.70 | -1,396.87 | 740.40 | 1,580.38 | 0.65 | -0.49 | 2.58 |
| 5,669.00 | 7.65 | 156.85 | 5,325.68 | -1,409.57 | 745.99 | 1,594.18 | 1.59 | -1.58 | 1.11 |
| 5,764.00 | 7.47 | 157.20 | 5,419.85 | -1,421.08 | 750.87 | 1,606.60 | 0.20 | -0.19 | 0.37 |
| 5,859.00 | 7.39 | 155.00 | 5,514.06 | -1,432.31 | 755.84 | 1,618.83 | 0.31 | -0.08 | -2.32 |
| 5,955.00 | 9.23 | 151.05 | 5,609.05 | -1,444.64 | 762.18 | 1,632.68 | 2.01 | 1.92 | -4.11 |
| 6,050.00 | 8.88 | 155.53 | 5,702.86 | -1,457.99 | 768.90 | 1,647.60 | 0.83 | -0.37 | 4.72 |
| 6,145.00 | 7.21 | 155.71 | 5,796.92 | -1,470.09 | 774.39 | 1,660.85 | 1.76 | -1.76 | 0.19 |
| 6,240.00 | 5.72 | 156.23 | 5,891.32 | -1,479.86 | 778.75 | 1,671.49 | 1.57 | -1.57 | 0.55 |
| 6,336.00 | 5.63 | 158.34 | 5,986.85 | -1,488.62 | 782.42 | 1,680.92 | 0.24 | -0.09 | 2.20 |
| 6,431.00 | 4.04 | 158.97 | 6,081.51 | -1,496.07 | 785.34 | 1,688.85 | 1.67 | -1.67 | 0.66 |
| 6,526.00 | 4.40 | 154.92 | 6,176.25 | -1,502.49 | 788.09 | 1,695.79 | 0.49 | 0.38 | -4.26 |
| 6,620.00 | 4.22 | 150.17 | 6,269.98 | -1,508.76 | 791.34 | 1,702.84 | 0.43 | -0.19 | -5.05 |
| 6,716.00 | 2.99 | 143.14 | 6,365.79 | -1,513.83 | 794.59 | 1,708.86 | 1.36 | -1.28 | -7.32 |
| 6,809.00 | 2.73 | 139.54 | 6,458.68 | -1,517.45 | 797.49 | 1,713.44 | 0.34 | -0.28 | -3.87 |
| 6,904.00 | 2.46 | 136.90 | 6,553.58 | -1,520.66 | 800.35 | 1,717.64 | 0.31 | -0.28 | -2.78 |
| 6,995.00 | 1.93 | 127.85 | 6,644.51 | -1,523.03 | 802.89 | 1,720.95 | 0.89 | -0.58 | -9.95 |
| Last SDI Production MWD Survey | | | | | | | | | |
| 7,050.00 | 1.93 | 127.85 | 6,699.48 | -1,524.17 | 804.35 | 1,722.66 | 0.00 | 0.00 | 0.00 |
| Projection To TD - BHL = 608908.73, 1238377.51 | | | | | | | | | |

Scientific Drilling International
Survey Report

Company: OXY USA RMAT
Project: Garfield County, CO NAD27
Site: Shell 797-03B Pad
Well: Shell 797-03-39A
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Shell 797-03-39A - Slot X
TVD Reference: GL 6325' & RKB 22' @ 6347.00ft (M37)
MD Reference: GL 6325' & RKB 22' @ 6347.00ft (M37)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: Rockies-R5000.1

Design Annotations

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates | | Comment |
|---------------------------|---------------------------|-------------------|---------------|-----------------------------------|
| | | +N/-S (ft) | +E/-W (ft) | |
| 81.00 | 81.00 | 0.20 | 0.31 | First SDI Surface Gyro MWD Survey |
| 548.00 | 547.99 | -2.14 | 1.16 | Last SDI Surface Gyro MWD Survey |
| 561.00 | 560.98 | -2.47 | 1.29 | First SDI Surface MWD Survey |
| 998.00 | 994.86 | -44.01 | 24.88 | Last SDI Surface MWD Survey |
| 1,094.00 | 1,089.13 | -60.13 | 33.23 | First SDI Production MWD Survey |
| 6,995.00 | 6,644.51 | -1,523.03 | 802.89 | Last SDI Production MWD Survey |
| 7,050.00 | 6,699.48 | -1,524.17 | 804.35 | Projection To TD |
| 7,050.00 | 6,699.48 | -1,524.17 | 804.35 | BHL = 608908.73, 1238377.51 |

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