



Directional Survey Certification

2948 I-70 Business Loop
Grand Junction, CO 81504
(970)-245-9447 Fax (970)-245-9454

| | |
|----------------------------|---------------------------------|
| Operator | <u>TEP Rocky Mountain, LLC.</u> |
| Well Name & No. | <u>GM 332-10</u> |
| County & State | <u>Garfield County, CO</u> |
| SDI Job No. | <u>OP.004665</u> |
| Rig | <u>H&P 273</u> |

I, Mel Mireles Jr., having personal knowledge of all the facts, hereby certify that the attached directional survey run from a measured depth of 136 feet to a measured depth of 6,850 feet is true and correct as determined from all available records.


Signature

10-Oct-17
Date

Mel Mireles Jr.
Grand Junction Assistant Well Planner
Scientific Drilling - Colorado District

| | | | |
|------------------|---------------------------|-------------------------------------|--|
| Company: | TEP Rocky Mountain LLC | Local Co-ordinate Reference: | Well Federal GM 332-10 - Slot B15 |
| Project: | Garfield County, CO NAD83 | TVD Reference: | GL 6148' & RKB 24' @ 6172.00usft (H&P 318) |
| Site: | MV 5-10 Pad | MD Reference: | GL 6148' & RKB 24' @ 6172.00usft (H&P 318) |
| Well: | Federal GM 332-10 | North Reference: | True |
| Wellbore: | OH | Survey Calculation Method: | Minimum Curvature |
| Design: | OH | Database: | Grand Junction District |

| | | | |
|--------------------|---------------------------|----------------------|----------------|
| Project | Garfield County, CO NAD83 | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Central Zone | | |

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|------------------------------|-------------|---------------------|-------------------|--------------------------|--------------|
| Site | MV 5-10 Pad | | | | |
| Site Position: | | Northing: | 1,600,344.70 usft | Latitude: | 39.4529509 |
| From: | Map | Easting: | 2,266,881.70 usft | Longitude: | -108.0966291 |
| Position Uncertainty: | 0.00 usft | Slot Radius: | 13.20 in | Grid Convergence: | -1.64 ° |

| | | | | | | |
|-----------------------------|------------------------------|-----------|----------------------------|-------------------|----------------------|---------------|
| Well | Federal GM 332-10 - Slot B15 | | | | | |
| Well Position | +N/-S | 0.00 usft | Northing: | 1,600,368.20 usft | Latitude: | 39.4530185 |
| | +E/-W | 0.00 usft | Easting: | 2,266,921.30 usft | Longitude: | -108.0964913 |
| Position Uncertainty | | 0.00 usft | Wellhead Elevation: | 0.00 usft | Ground Level: | 6,148.00 usft |

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|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | OH | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | HDGM | 9/28/2017 | 9.52 | 65.75 | 51,760 |

| | | | | | |
|--------------------------|--------------------------------|---------------------|---------------------|----------------------|------|
| Design | OH | | | | |
| Audit Notes: | | | | | |
| Version: | 1.0 | Phase: | ACTUAL | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) | |
| | 0.00 | 0.00 | 0.00 | 51.12 | |

| | | | | | |
|-----------------------|------------------|--|------------------|------------------------------------|--|
| Survey Program | Date | 10/10/2017 | | | |
| From (usft) | To (usft) | Survey (Wellbore) | Tool Name | Description | |
| 136.00 | 962.00 | Survey #1 - Gyro MWD Survey (OH) | SDI Gyro MWD 104 | SDI Gyro MWD Error Model Ver 1.0.4 | |
| 1,088.00 | 6,850.00 | Survey #2 - Production MWD Survey (OH) | SDI MWD | SDI MWD - Standard ver 1.0.1 | |

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|----------------------------------|------------------------|--------------------|------------------------------|---------------------|---------------------|--------------------------------|--------------------------------|-------------------------------|------------------------------|------|
| Survey | | | | | | | | | | |
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 136.00 | 0.26 | 297.42 | 136.00 | 0.14 | -0.27 | -0.12 | 0.19 | 0.19 | 0.00 | |
| First SDI Gyro MWD Survey | | | | | | | | | | |
| 211.00 | 1.67 | 25.75 | 210.99 | 1.20 | 0.05 | 0.80 | 2.24 | 1.88 | 117.77 | |
| 303.00 | 5.01 | 39.02 | 302.82 | 5.53 | 3.16 | 5.94 | 3.70 | 3.63 | 14.42 | |
| 395.00 | 6.60 | 52.03 | 394.35 | 11.91 | 9.86 | 15.15 | 2.23 | 1.73 | 14.14 | |
| 488.00 | 7.21 | 61.35 | 486.68 | 18.00 | 19.20 | 26.24 | 1.37 | 0.66 | 10.02 | |
| 580.00 | 6.33 | 65.74 | 578.04 | 22.85 | 28.89 | 36.83 | 1.11 | -0.96 | 4.77 | |
| 673.00 | 5.45 | 57.57 | 670.55 | 27.32 | 37.29 | 46.18 | 1.30 | -0.95 | -8.78 | |
| 766.00 | 4.57 | 42.89 | 763.19 | 32.41 | 43.54 | 54.23 | 1.66 | -0.95 | -15.78 | |

| | | | |
|------------------|---------------------------|-------------------------------------|--|
| Company: | TEP Rocky Mountain LLC | Local Co-ordinate Reference: | Well Federal GM 332-10 - Slot B15 |
| Project: | Garfield County, CO NAD83 | TVD Reference: | GL 6148' & RKB 24' @ 6172.00usft (H&P 318) |
| Site: | MV 5-10 Pad | MD Reference: | GL 6148' & RKB 24' @ 6172.00usft (H&P 318) |
| Well: | Federal GM 332-10 | North Reference: | True |
| Wellbore: | OH | Survey Calculation Method: | Minimum Curvature |
| Design: | OH | Database: | Grand Junction District |

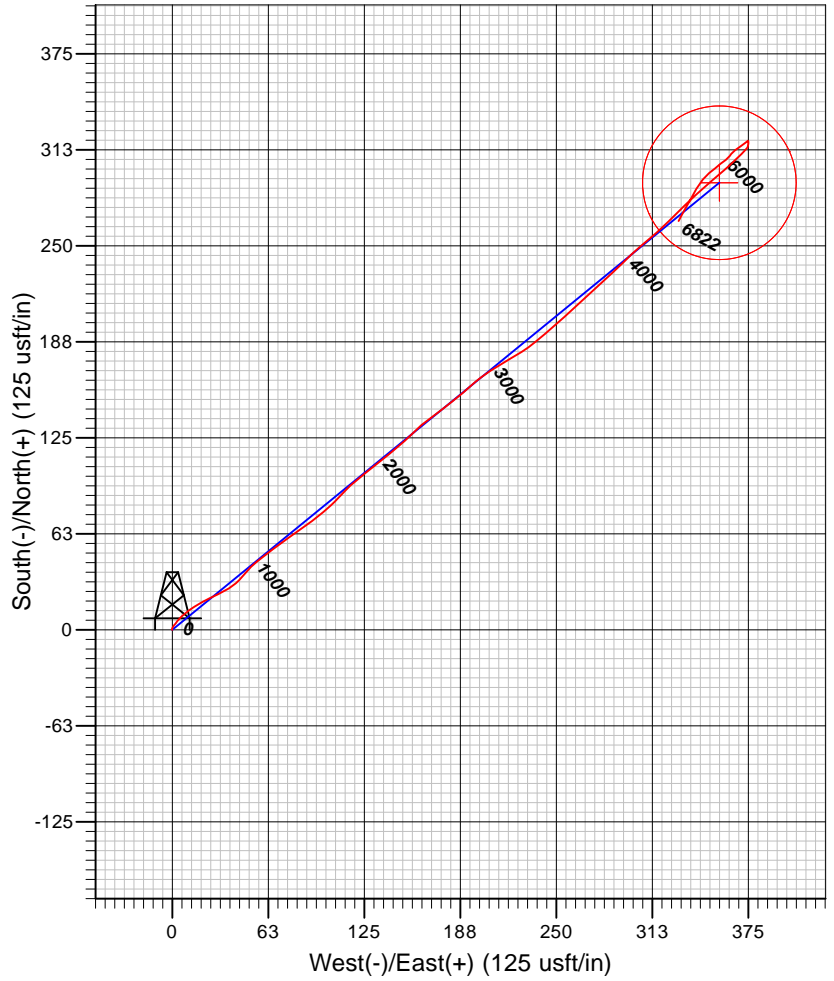
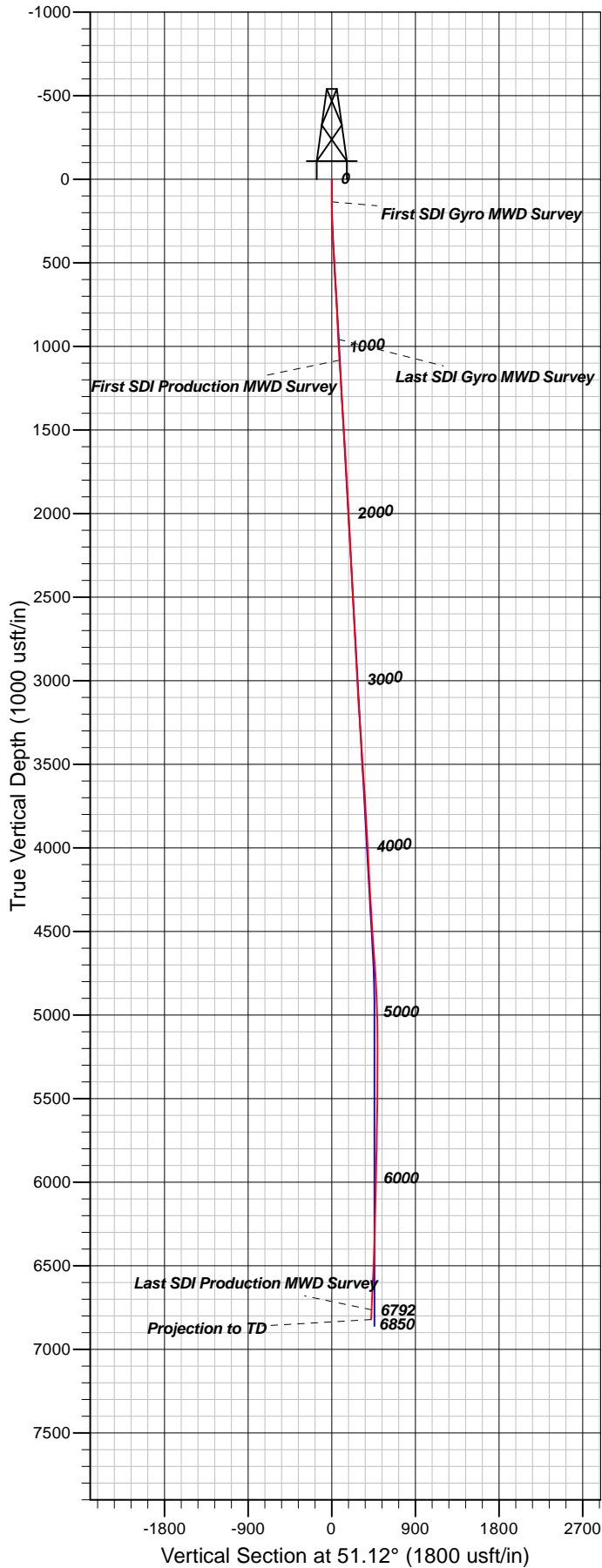
| Survey | | | | | | | | | | |
|--|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|--|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | |
| 858.00 | 4.49 | 40.17 | 854.91 | 37.84 | 48.36 | 61.40 | 0.25 | -0.09 | -2.96 | |
| 962.00 | 5.72 | 49.83 | 958.49 | 44.30 | 54.94 | 70.58 | 1.44 | 1.18 | 9.29 | |
| Last SDI Gyro MWD Survey | | | | | | | | | | |
| 1,088.00 | 6.19 | 54.15 | 1,083.81 | 52.33 | 65.25 | 83.64 | 0.52 | 0.37 | 3.43 | |
| First SDI Production MWD Survey | | | | | | | | | | |
| 1,180.00 | 5.74 | 52.88 | 1,175.32 | 58.01 | 72.93 | 93.19 | 0.51 | -0.49 | -1.38 | |
| 1,274.00 | 6.31 | 57.20 | 1,268.80 | 63.64 | 81.03 | 103.02 | 0.77 | 0.61 | 4.60 | |
| 1,369.00 | 6.62 | 50.71 | 1,363.19 | 69.94 | 89.65 | 113.69 | 0.83 | 0.33 | -6.83 | |
| 1,463.00 | 6.19 | 52.70 | 1,456.61 | 76.44 | 97.88 | 124.17 | 0.51 | -0.46 | 2.12 | |
| 1,558.00 | 6.42 | 44.92 | 1,551.03 | 83.31 | 105.70 | 134.57 | 0.93 | 0.24 | -8.19 | |
| 1,653.00 | 5.67 | 42.29 | 1,645.50 | 90.54 | 112.61 | 144.49 | 0.84 | -0.79 | -2.77 | |
| 1,747.00 | 6.11 | 51.44 | 1,739.01 | 97.09 | 119.65 | 154.08 | 1.10 | 0.47 | 9.73 | |
| 1,842.00 | 5.60 | 49.73 | 1,833.51 | 103.24 | 127.14 | 163.77 | 0.57 | -0.54 | -1.80 | |
| 1,936.00 | 6.09 | 51.90 | 1,927.03 | 109.28 | 134.56 | 173.34 | 0.57 | 0.52 | 2.31 | |
| 2,031.00 | 5.72 | 51.54 | 2,021.52 | 115.33 | 142.23 | 183.12 | 0.39 | -0.39 | -0.38 | |
| 2,125.00 | 5.54 | 48.81 | 2,115.07 | 121.24 | 149.31 | 192.33 | 0.34 | -0.19 | -2.90 | |
| 2,220.00 | 5.21 | 44.29 | 2,209.65 | 127.34 | 155.78 | 201.20 | 0.56 | -0.35 | -4.76 | |
| 2,315.00 | 5.40 | 50.07 | 2,304.24 | 133.30 | 162.22 | 209.95 | 0.60 | 0.20 | 6.08 | |
| 2,409.00 | 5.19 | 55.02 | 2,397.84 | 138.58 | 169.09 | 218.62 | 0.53 | -0.22 | 5.27 | |
| 2,503.00 | 5.36 | 51.09 | 2,491.45 | 143.77 | 175.99 | 227.25 | 0.42 | 0.18 | -4.18 | |
| 2,598.00 | 4.91 | 52.33 | 2,586.06 | 149.04 | 182.66 | 235.75 | 0.49 | -0.47 | 1.31 | |
| 2,692.00 | 5.51 | 49.90 | 2,679.68 | 154.41 | 189.30 | 244.28 | 0.68 | 0.64 | -2.59 | |
| 2,787.00 | 4.86 | 46.87 | 2,774.29 | 160.10 | 195.73 | 252.86 | 0.74 | -0.68 | -3.19 | |
| 2,881.00 | 6.07 | 55.53 | 2,867.86 | 165.63 | 202.73 | 261.78 | 1.55 | 1.29 | 9.21 | |
| 2,976.00 | 5.86 | 57.56 | 2,962.34 | 171.08 | 210.96 | 271.61 | 0.31 | -0.22 | 2.14 | |
| 3,070.00 | 5.49 | 59.84 | 3,055.88 | 175.91 | 218.90 | 280.82 | 0.46 | -0.39 | 2.43 | |
| 3,165.00 | 6.45 | 59.19 | 3,150.37 | 180.93 | 227.41 | 290.60 | 1.01 | 1.01 | -0.68 | |
| 3,259.00 | 7.03 | 49.16 | 3,243.72 | 187.39 | 236.30 | 301.58 | 1.39 | 0.62 | -10.67 | |
| 3,353.00 | 6.53 | 49.17 | 3,337.06 | 194.65 | 244.70 | 312.67 | 0.53 | -0.53 | 0.01 | |
| 3,448.00 | 6.95 | 50.56 | 3,431.41 | 201.83 | 253.22 | 323.81 | 0.47 | 0.44 | 1.46 | |
| 3,542.00 | 6.88 | 45.72 | 3,524.72 | 209.38 | 261.65 | 335.11 | 0.62 | -0.07 | -5.15 | |
| 3,637.00 | 6.84 | 46.22 | 3,619.04 | 217.26 | 269.80 | 346.41 | 0.08 | -0.04 | 0.53 | |
| 3,732.00 | 6.43 | 49.62 | 3,713.41 | 224.62 | 277.94 | 357.36 | 0.60 | -0.43 | 3.58 | |
| 3,826.00 | 6.16 | 46.12 | 3,806.84 | 231.53 | 285.59 | 367.65 | 0.50 | -0.29 | -3.72 | |
| 3,920.00 | 5.63 | 45.99 | 3,900.34 | 238.23 | 292.54 | 377.26 | 0.56 | -0.56 | -0.14 | |
| 4,015.00 | 4.97 | 46.31 | 3,994.94 | 244.31 | 298.86 | 386.00 | 0.70 | -0.69 | 0.34 | |
| 4,110.00 | 4.93 | 50.12 | 4,089.58 | 249.77 | 304.97 | 394.19 | 0.35 | -0.04 | 4.01 | |
| 4,204.00 | 5.54 | 48.58 | 4,183.19 | 255.36 | 311.47 | 402.76 | 0.67 | 0.65 | -1.64 | |
| 4,299.00 | 5.94 | 48.14 | 4,277.71 | 261.67 | 318.57 | 412.25 | 0.42 | 0.42 | -0.46 | |
| 4,393.00 | 6.51 | 44.85 | 4,371.16 | 268.70 | 325.95 | 422.40 | 0.72 | 0.61 | -3.50 | |
| 4,488.00 | 6.07 | 45.12 | 4,465.59 | 276.06 | 333.31 | 432.75 | 0.46 | -0.46 | 0.28 | |
| 4,582.00 | 7.65 | 47.55 | 4,558.91 | 283.79 | 341.45 | 443.94 | 1.71 | 1.68 | 2.59 | |
| 4,677.00 | 7.25 | 49.51 | 4,653.11 | 291.95 | 350.68 | 456.24 | 0.50 | -0.42 | 2.06 | |

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|------------------|---------------------------|-------------------------------------|--|
| Company: | TEP Rocky Mountain LLC | Local Co-ordinate Reference: | Well Federal GM 332-10 - Slot B15 |
| Project: | Garfield County, CO NAD83 | TVD Reference: | GL 6148' & RKB 24' @ 6172.00usft (H&P 318) |
| Site: | MV 5-10 Pad | MD Reference: | GL 6148' & RKB 24' @ 6172.00usft (H&P 318) |
| Well: | Federal GM 332-10 | North Reference: | True |
| Wellbore: | OH | Survey Calculation Method: | Minimum Curvature |
| Design: | OH | Database: | Grand Junction District |

| Survey | | | | | | | | | | |
|--|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|--|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | |
| 4,772.00 | 6.32 | 49.55 | 4,747.44 | 299.24 | 359.21 | 467.46 | 0.98 | -0.98 | 0.04 | |
| 4,866.00 | 5.37 | 45.30 | 4,840.95 | 305.69 | 366.28 | 477.01 | 1.11 | -1.01 | -4.52 | |
| 4,961.00 | 3.96 | 46.35 | 4,935.64 | 311.08 | 371.81 | 484.70 | 1.49 | -1.48 | 1.11 | |
| 5,030.12 | 2.06 | 33.23 | 5,004.66 | 313.77 | 374.22 | 488.26 | 2.91 | -2.75 | -18.98 | |
| GM 332-10 KMV | | | | | | | | | | |
| 5,055.00 | 1.45 | 20.35 | 5,029.53 | 314.43 | 374.57 | 488.96 | 2.91 | -2.45 | -51.78 | |
| 5,150.00 | 1.12 | 7.71 | 5,124.50 | 316.48 | 375.12 | 490.67 | 0.46 | -0.35 | -13.31 | |
| 5,245.00 | 0.71 | 341.59 | 5,219.49 | 317.96 | 375.05 | 491.55 | 0.61 | -0.43 | -27.49 | |
| 5,339.00 | 0.27 | 242.17 | 5,313.49 | 318.41 | 374.68 | 491.53 | 0.85 | -0.47 | -105.77 | |
| 5,434.00 | 0.37 | 224.87 | 5,408.49 | 318.09 | 374.26 | 491.01 | 0.15 | 0.11 | -18.21 | |
| 5,528.00 | 1.08 | 233.04 | 5,502.48 | 317.34 | 373.34 | 489.82 | 0.76 | 0.76 | 8.69 | |
| 5,623.00 | 1.54 | 234.46 | 5,597.45 | 316.06 | 371.58 | 487.65 | 0.49 | 0.48 | 1.49 | |
| 5,718.00 | 1.93 | 231.88 | 5,692.41 | 314.33 | 369.29 | 484.78 | 0.42 | 0.41 | -2.72 | |
| 5,812.00 | 1.27 | 242.40 | 5,786.37 | 312.87 | 367.12 | 482.17 | 0.77 | -0.70 | 11.19 | |
| 5,907.00 | 2.08 | 220.56 | 5,881.33 | 311.07 | 365.06 | 479.45 | 1.07 | 0.85 | -22.99 | |
| 6,001.00 | 2.00 | 220.67 | 5,975.27 | 308.53 | 362.89 | 476.16 | 0.09 | -0.09 | 0.12 | |
| 6,096.00 | 2.44 | 230.03 | 6,070.20 | 305.98 | 360.26 | 472.50 | 0.60 | 0.46 | 9.85 | |
| 6,190.00 | 2.60 | 234.15 | 6,164.11 | 303.44 | 356.99 | 468.37 | 0.26 | 0.17 | 4.38 | |
| 6,285.00 | 3.13 | 229.31 | 6,258.99 | 300.49 | 353.28 | 463.63 | 0.61 | 0.56 | -5.09 | |
| 6,379.00 | 3.01 | 232.58 | 6,352.86 | 297.32 | 349.38 | 458.60 | 0.23 | -0.13 | 3.48 | |
| 6,473.00 | 4.13 | 218.26 | 6,446.68 | 293.16 | 345.32 | 452.83 | 1.51 | 1.19 | -15.23 | |
| 6,567.00 | 4.95 | 210.71 | 6,540.38 | 287.01 | 341.15 | 445.73 | 1.08 | 0.87 | -8.03 | |
| 6,662.00 | 5.10 | 207.56 | 6,635.02 | 279.75 | 337.11 | 438.02 | 0.33 | 0.16 | -3.32 | |
| 6,757.00 | 4.55 | 210.43 | 6,729.68 | 272.75 | 333.24 | 430.62 | 0.63 | -0.58 | 3.02 | |
| 6,792.00 | 4.66 | 208.77 | 6,764.57 | 270.31 | 331.86 | 428.01 | 0.49 | 0.31 | -4.74 | |
| Last SDI Production MWD Survey | | | | | | | | | | |
| 6,850.00 | 4.66 | 208.77 | 6,822.37 | 266.18 | 329.59 | 423.65 | 0.00 | 0.00 | 0.00 | |
| Projection to TD - GM 332-10 PBHL | | | | | | | | | | |

| Design Annotations | | | | | |
|-----------------------|-----------------------|-------------------|--------------|---------------------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | Comment | |
| | | +N/-S (usft) | +E/-W (usft) | | |
| 136.00 | 136.00 | 0.14 | -0.27 | First SDI Gyro MWD Survey | |
| 962.00 | 958.49 | 44.30 | 54.94 | Last SDI Gyro MWD Survey | |
| 1,088.00 | 1,083.81 | 52.33 | 65.25 | First SDI Production MWD Survey | |
| 6,792.00 | 6,764.57 | 270.31 | 331.86 | Last SDI Production MWD Survey | |
| 6,850.00 | 6,822.37 | 266.18 | 329.59 | Projection to TD | |

Checked By: _____ Approved By: _____ Date: _____



Well Details: Federal GM 332-10

| | | | | | | |
|--|-------|------------|------------|------------|--------------|------|
| TVD Reference: GL 6148' & RKB 24' @ 6172.00usft (H&P 318) Level: 6148.00 | | | | | | |
| +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Slot |
| 0.00 | 0.00 | 1600368.20 | 2266921.30 | 39.4530185 | -108.0964913 | B15 |

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Federal GM 332-10 - Slot B15, True North
 Vertical (TVD) Reference: GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
 Section (VS) Reference: Slot - B15(0.00N, 0.00E)
 Measured Depth Reference: GL 6148' & RKB 24' @ 6172.00usft (H&P 318)
 Calculation Method: Minimum Curvature

PROJECT DETAILS: Garfield County, CO NAD83

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Central Zone

System Datum: Mean Sea Level

Plan: OH

12:28, October 10 2017
 Created By: Mel Mireles Jr.