

TEP Rocky Mountain LLC

Garfield County, CO NAD83

PA 44-13

PA 21-24 - Slot A3

OH

Plan: Plan #1

Standard Planning Report

17 July, 2018

N/A
Planning Report

| | | | |
|------------------|---------------------------|-------------------------------------|--------------------------------------|
| Database: | EDM_PROD | Local Co-ordinate Reference: | Well PA 21-24 - Slot A3 |
| Company: | TEP Rocky Mountain LLC | TVD Reference: | WELL @ 6594.0ft (Original Well Elev) |
| Project: | Garfield County, CO NAD83 | MD Reference: | WELL @ 6594.0ft (Original Well Elev) |
| Site: | PA 44-13 | North Reference: | True |
| Well: | PA 21-24 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | Plan #1 | | |

| | | | |
|--------------------|---------------------------|----------------------|----------------|
| 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 | | |

| | | | | |
|------------------------------|----------|---------------------|-----------------|-------------------------------------|
| Site | PA 44-13 | | | |
| Site Position: | | Northing: | 1,623,782.10 ft | Latitude: 39° 31' 14.301 N |
| From: Map | | Easting: | 2,311,231.60 ft | Longitude: 107° 56' 30.736 W |
| Position Uncertainty: | 0.0 ft | Slot Radius: | 13.200 in | Grid Convergence: -1.54 ° |

| | | | | |
|-----------------------------|--------------------|----------|----------------------------|-------------------------------------|
| Well | PA 21-24 - Slot A3 | | | |
| Well Position | +N/-S | -25.8 ft | Northing: | 1,623,755.80 ft |
| | +E/-W | 18.2 ft | Easting: | 2,311,249.10 ft |
| Position Uncertainty | | 0.0 ft | Wellhead Elevation: | Latitude: 39° 31' 14.046 N |
| | | | | Longitude: 107° 56' 30.504 W |
| | | | | Ground Level: 6,570.0 ft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | OH | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2000 | 12/31/2004 | 11.43 | 66.02 | 53,064.30628233 |

| | | | | |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| Design | Plan #1 | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PLAN | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) |
| | 0.0 | 0.0 | 0.0 | 238.52 |

| | | | | |
|---------------------------------|----------------------|--------------------------|------------------------------|----------------|
| Plan Survey Tool Program | Date | 7/17/2018 | | |
| Depth From (ft) | Depth To (ft) | Survey (Wellbore) | Tool Name | Remarks |
| 1 | 0.0 | 9,994.2 Plan #1 (OH) | SDI MWD | |
| | | | SDI MWD - Standard ver 1.0.1 | |

| | | | | | | | | | | |
|----------------------------|------------------------|--------------------|----------------------------|-------------------|-------------------|--------------------------------|-------------------------------|------------------------------|----------------|---------------|
| Plan Sections | | | | | | | | | | |
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target |
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 150.0 | 0.00 | 0.00 | 150.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 987.9 | 25.14 | 238.52 | 961.3 | -94.5 | -154.3 | 3.00 | 3.00 | 0.00 | 238.52 | |
| 5,858.3 | 25.14 | 238.52 | 5,370.4 | -1,175.0 | -1,918.6 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 7,534.2 | 0.00 | 0.00 | 6,993.0 | -1,363.9 | -2,227.1 | 1.50 | -1.50 | 0.00 | 180.00 | |
| 9,994.2 | 0.00 | 0.00 | 9,453.0 | -1,363.9 | -2,227.1 | 0.00 | 0.00 | 0.00 | 0.00 | PA 21-24 TD |

N/A
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| | | | |
|------------------|---------------------------|-------------------------------------|--------------------------------------|
| Database: | EDM_PROD | Local Co-ordinate Reference: | Well PA 21-24 - Slot A3 |
| Company: | TEP Rocky Mountain LLC | TVD Reference: | WELL @ 6594.0ft (Original Well Elev) |
| Project: | Garfield County, CO NAD83 | MD Reference: | WELL @ 6594.0ft (Original Well Elev) |
| Site: | PA 44-13 | North Reference: | True |
| Well: | PA 21-24 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | Plan #1 | | |

| Planned Survey | | | | | | | | | |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 100.0 | 0.00 | 0.00 | 100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 150.0 | 0.00 | 0.00 | 150.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 200.0 | 1.50 | 238.52 | 200.0 | -0.3 | -0.6 | 0.7 | 3.00 | 3.00 | 0.00 |
| 300.0 | 4.50 | 238.52 | 299.8 | -3.1 | -5.0 | 5.9 | 3.00 | 3.00 | 0.00 |
| 400.0 | 7.50 | 238.52 | 399.3 | -8.5 | -13.9 | 16.3 | 3.00 | 3.00 | 0.00 |
| 500.0 | 10.50 | 238.52 | 498.0 | -16.7 | -27.3 | 32.0 | 3.00 | 3.00 | 0.00 |
| 600.0 | 13.50 | 238.52 | 595.8 | -27.6 | -45.0 | 52.8 | 3.00 | 3.00 | 0.00 |
| 700.0 | 16.50 | 238.52 | 692.4 | -41.1 | -67.1 | 78.6 | 3.00 | 3.00 | 0.00 |
| 800.0 | 19.50 | 238.52 | 787.5 | -57.2 | -93.4 | 109.5 | 3.00 | 3.00 | 0.00 |
| 900.0 | 22.50 | 238.52 | 880.9 | -75.9 | -124.0 | 145.4 | 3.00 | 3.00 | 0.00 |
| 987.9 | 25.14 | 238.52 | 961.3 | -94.5 | -154.3 | 180.9 | 3.00 | 3.00 | 0.00 |
| 1,000.0 | 25.14 | 238.52 | 972.2 | -97.1 | -158.6 | 186.0 | 0.00 | 0.00 | 0.00 |
| 1,100.0 | 25.14 | 238.52 | 1,062.8 | -119.3 | -194.9 | 228.5 | 0.00 | 0.00 | 0.00 |
| 9 5/8" | | | | | | | | | |
| 1,200.0 | 25.14 | 238.52 | 1,153.3 | -141.5 | -231.1 | 271.0 | 0.00 | 0.00 | 0.00 |
| 1,300.0 | 25.14 | 238.52 | 1,243.8 | -163.7 | -267.3 | 313.5 | 0.00 | 0.00 | 0.00 |
| 1,400.0 | 25.14 | 238.52 | 1,334.3 | -185.9 | -303.5 | 355.9 | 0.00 | 0.00 | 0.00 |
| 1,500.0 | 25.14 | 238.52 | 1,424.9 | -208.1 | -339.8 | 398.4 | 0.00 | 0.00 | 0.00 |
| 1,600.0 | 25.14 | 238.52 | 1,515.4 | -230.3 | -376.0 | 440.9 | 0.00 | 0.00 | 0.00 |
| 1,700.0 | 25.14 | 238.52 | 1,605.9 | -252.4 | -412.2 | 483.4 | 0.00 | 0.00 | 0.00 |
| 1,800.0 | 25.14 | 238.52 | 1,696.5 | -274.6 | -448.4 | 525.9 | 0.00 | 0.00 | 0.00 |
| 1,900.0 | 25.14 | 238.52 | 1,787.0 | -296.8 | -484.7 | 568.3 | 0.00 | 0.00 | 0.00 |
| 2,000.0 | 25.14 | 238.52 | 1,877.5 | -319.0 | -520.9 | 610.8 | 0.00 | 0.00 | 0.00 |
| 2,100.0 | 25.14 | 238.52 | 1,968.0 | -341.2 | -557.1 | 653.3 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 25.14 | 238.52 | 2,058.6 | -363.4 | -593.4 | 695.8 | 0.00 | 0.00 | 0.00 |
| 2,300.0 | 25.14 | 238.52 | 2,149.1 | -385.6 | -629.6 | 738.3 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 25.14 | 238.52 | 2,239.6 | -407.8 | -665.8 | 780.7 | 0.00 | 0.00 | 0.00 |
| 2,500.0 | 25.14 | 238.52 | 2,330.2 | -429.9 | -702.0 | 823.2 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 25.14 | 238.52 | 2,420.7 | -452.1 | -738.3 | 865.7 | 0.00 | 0.00 | 0.00 |
| 2,700.0 | 25.14 | 238.52 | 2,511.2 | -474.3 | -774.5 | 908.2 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 25.14 | 238.52 | 2,601.8 | -496.5 | -810.7 | 950.7 | 0.00 | 0.00 | 0.00 |
| 2,900.0 | 25.14 | 238.52 | 2,692.3 | -518.7 | -846.9 | 993.1 | 0.00 | 0.00 | 0.00 |
| 3,000.0 | 25.14 | 238.52 | 2,782.8 | -540.9 | -883.2 | 1,035.6 | 0.00 | 0.00 | 0.00 |
| 3,100.0 | 25.14 | 238.52 | 2,873.3 | -563.1 | -919.4 | 1,078.1 | 0.00 | 0.00 | 0.00 |
| 3,200.0 | 25.14 | 238.52 | 2,963.9 | -585.2 | -955.6 | 1,120.6 | 0.00 | 0.00 | 0.00 |
| 3,300.0 | 25.14 | 238.52 | 3,054.4 | -607.4 | -991.8 | 1,163.1 | 0.00 | 0.00 | 0.00 |
| 3,400.0 | 25.14 | 238.52 | 3,144.9 | -629.6 | -1,028.1 | 1,205.5 | 0.00 | 0.00 | 0.00 |
| 3,500.0 | 25.14 | 238.52 | 3,235.5 | -651.8 | -1,064.3 | 1,248.0 | 0.00 | 0.00 | 0.00 |
| 3,600.0 | 25.14 | 238.52 | 3,326.0 | -674.0 | -1,100.5 | 1,290.5 | 0.00 | 0.00 | 0.00 |
| 3,634.3 | 25.14 | 238.52 | 3,357.0 | -681.6 | -1,112.9 | 1,305.1 | 0.00 | 0.00 | 0.00 |
| G SAND | | | | | | | | | |
| 3,700.0 | 25.14 | 238.52 | 3,416.5 | -696.2 | -1,136.8 | 1,333.0 | 0.00 | 0.00 | 0.00 |
| 3,737.0 | 25.14 | 238.52 | 3,450.0 | -704.4 | -1,150.2 | 1,348.7 | 0.00 | 0.00 | 0.00 |
| G SAND BASE | | | | | | | | | |
| 3,800.0 | 25.14 | 238.52 | 3,507.0 | -718.4 | -1,173.0 | 1,375.5 | 0.00 | 0.00 | 0.00 |
| 3,900.0 | 25.14 | 238.52 | 3,597.6 | -740.5 | -1,209.2 | 1,417.9 | 0.00 | 0.00 | 0.00 |
| 4,000.0 | 25.14 | 238.52 | 3,688.1 | -762.7 | -1,245.4 | 1,460.4 | 0.00 | 0.00 | 0.00 |
| 4,100.0 | 25.14 | 238.52 | 3,778.6 | -784.9 | -1,281.7 | 1,502.9 | 0.00 | 0.00 | 0.00 |
| 4,200.0 | 25.14 | 238.52 | 3,869.2 | -807.1 | -1,317.9 | 1,545.4 | 0.00 | 0.00 | 0.00 |
| 4,300.0 | 25.14 | 238.52 | 3,959.7 | -829.3 | -1,354.1 | 1,587.9 | 0.00 | 0.00 | 0.00 |
| 4,400.0 | 25.14 | 238.52 | 4,050.2 | -851.5 | -1,390.3 | 1,630.4 | 0.00 | 0.00 | 0.00 |
| 4,500.0 | 25.14 | 238.52 | 4,140.7 | -873.7 | -1,426.6 | 1,672.8 | 0.00 | 0.00 | 0.00 |

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| Well: | PA 21-24 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | Plan #1 | | |

| Planned Survey | | | | | | | | | | |
|---------------------------|--------------------|----------------|---------------------------|---------------|---------------|-----------------------------|-------------------------------|------------------------------|-----------------------------|--|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | |
| 4,600.0 | 25.14 | 238.52 | 4,231.3 | -895.8 | -1,462.8 | 1,715.3 | 0.00 | 0.00 | 0.00 | |
| 4,700.0 | 25.14 | 238.52 | 4,321.8 | -918.0 | -1,499.0 | 1,757.8 | 0.00 | 0.00 | 0.00 | |
| 4,800.0 | 25.14 | 238.52 | 4,412.3 | -940.2 | -1,535.2 | 1,800.3 | 0.00 | 0.00 | 0.00 | |
| 4,900.0 | 25.14 | 238.52 | 4,502.9 | -962.4 | -1,571.5 | 1,842.8 | 0.00 | 0.00 | 0.00 | |
| 5,000.0 | 25.14 | 238.52 | 4,593.4 | -984.6 | -1,607.7 | 1,885.2 | 0.00 | 0.00 | 0.00 | |
| 5,100.0 | 25.14 | 238.52 | 4,683.9 | -1,006.8 | -1,643.9 | 1,927.7 | 0.00 | 0.00 | 0.00 | |
| 5,200.0 | 25.14 | 238.52 | 4,774.4 | -1,029.0 | -1,680.2 | 1,970.2 | 0.00 | 0.00 | 0.00 | |
| 5,300.0 | 25.14 | 238.52 | 4,865.0 | -1,051.1 | -1,716.4 | 2,012.7 | 0.00 | 0.00 | 0.00 | |
| 5,400.0 | 25.14 | 238.52 | 4,955.5 | -1,073.3 | -1,752.6 | 2,055.2 | 0.00 | 0.00 | 0.00 | |
| 5,500.0 | 25.14 | 238.52 | 5,046.0 | -1,095.5 | -1,788.8 | 2,097.6 | 0.00 | 0.00 | 0.00 | |
| 5,600.0 | 25.14 | 238.52 | 5,136.6 | -1,117.7 | -1,825.1 | 2,140.1 | 0.00 | 0.00 | 0.00 | |
| 5,700.0 | 25.14 | 238.52 | 5,227.1 | -1,139.9 | -1,861.3 | 2,182.6 | 0.00 | 0.00 | 0.00 | |
| 5,800.0 | 25.14 | 238.52 | 5,317.6 | -1,162.1 | -1,897.5 | 2,225.1 | 0.00 | 0.00 | 0.00 | |
| 5,858.3 | 25.14 | 238.52 | 5,370.4 | -1,175.0 | -1,918.6 | 2,249.8 | 0.00 | 0.00 | 0.00 | |
| 5,900.0 | 24.51 | 238.52 | 5,408.2 | -1,184.2 | -1,933.6 | 2,267.4 | 1.50 | -1.50 | 0.00 | |
| 6,000.0 | 23.01 | 238.52 | 5,499.8 | -1,205.2 | -1,967.9 | 2,307.6 | 1.50 | -1.50 | 0.00 | |
| 6,100.0 | 21.51 | 238.52 | 5,592.3 | -1,225.0 | -2,000.2 | 2,345.5 | 1.50 | -1.50 | 0.00 | |
| 6,200.0 | 20.01 | 238.52 | 5,685.8 | -1,243.5 | -2,030.5 | 2,381.0 | 1.50 | -1.50 | 0.00 | |
| 6,291.4 | 18.64 | 238.52 | 5,772.0 | -1,259.3 | -2,056.2 | 2,411.2 | 1.50 | -1.50 | 0.00 | |
| MVRD | | | | | | | | | | |
| 6,300.0 | 18.51 | 238.52 | 5,780.2 | -1,260.7 | -2,058.6 | 2,414.0 | 1.50 | -1.50 | 0.00 | |
| 6,350.3 | 17.76 | 238.52 | 5,828.0 | -1,268.9 | -2,071.9 | 2,429.6 | 1.50 | -1.50 | 0.00 | |
| WFRK/UMVRD | | | | | | | | | | |
| 6,400.0 | 17.01 | 238.52 | 5,875.4 | -1,276.7 | -2,084.6 | 2,444.5 | 1.50 | -1.50 | 0.00 | |
| 6,500.0 | 15.51 | 238.52 | 5,971.4 | -1,291.3 | -2,108.5 | 2,472.5 | 1.50 | -1.50 | 0.00 | |
| 6,600.0 | 14.01 | 238.52 | 6,068.1 | -1,304.6 | -2,130.2 | 2,498.0 | 1.50 | -1.50 | 0.00 | |
| 6,700.0 | 12.51 | 238.52 | 6,165.5 | -1,316.6 | -2,149.8 | 2,520.9 | 1.50 | -1.50 | 0.00 | |
| 6,800.0 | 11.01 | 238.52 | 6,263.4 | -1,327.2 | -2,167.2 | 2,541.3 | 1.50 | -1.50 | 0.00 | |
| 6,900.0 | 9.51 | 238.52 | 6,361.8 | -1,336.5 | -2,182.4 | 2,559.1 | 1.50 | -1.50 | 0.00 | |
| 7,000.0 | 8.01 | 238.52 | 6,460.6 | -1,344.5 | -2,195.3 | 2,574.3 | 1.50 | -1.50 | 0.00 | |
| 7,100.0 | 6.51 | 238.52 | 6,559.8 | -1,351.1 | -2,206.1 | 2,587.0 | 1.50 | -1.50 | 0.00 | |
| 7,200.0 | 5.01 | 238.52 | 6,659.3 | -1,356.3 | -2,214.7 | 2,597.0 | 1.50 | -1.50 | 0.00 | |
| 7,300.0 | 3.51 | 238.52 | 6,759.0 | -1,360.2 | -2,221.0 | 2,604.4 | 1.50 | -1.50 | 0.00 | |
| 7,400.0 | 2.01 | 238.52 | 6,858.9 | -1,362.7 | -2,225.1 | 2,609.3 | 1.50 | -1.50 | 0.00 | |
| 7,484.2 | 0.75 | 238.52 | 6,943.0 | -1,363.8 | -2,226.9 | 2,611.3 | 1.50 | -1.50 | 0.00 | |
| TOP GAS | | | | | | | | | | |
| 7,500.0 | 0.51 | 238.52 | 6,958.8 | -1,363.9 | -2,227.0 | 2,611.5 | 1.50 | -1.50 | 0.00 | |
| 7,534.2 | 0.00 | 0.00 | 6,993.0 | -1,363.9 | -2,227.1 | 2,611.6 | 1.50 | -1.50 | 0.00 | |
| 7,600.0 | 0.00 | 0.00 | 7,058.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 | |
| 7,700.0 | 0.00 | 0.00 | 7,158.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 | |
| 7,800.0 | 0.00 | 0.00 | 7,258.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 | |
| 7,900.0 | 0.00 | 0.00 | 7,358.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 | |
| 8,000.0 | 0.00 | 0.00 | 7,458.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 | |
| 8,100.0 | 0.00 | 0.00 | 7,558.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 | |
| 8,200.0 | 0.00 | 0.00 | 7,658.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 | |
| 8,300.0 | 0.00 | 0.00 | 7,758.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 | |
| 8,400.0 | 0.00 | 0.00 | 7,858.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 | |
| 8,500.0 | 0.00 | 0.00 | 7,958.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 | |
| 8,600.0 | 0.00 | 0.00 | 8,058.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 | |
| 8,700.0 | 0.00 | 0.00 | 8,158.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 | |
| 8,800.0 | 0.00 | 0.00 | 8,258.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 | |
| 8,900.0 | 0.00 | 0.00 | 8,358.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 | |
| 8,948.2 | 0.00 | 0.00 | 8,407.0 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 | |
| CMEO | | | | | | | | | | |

N/A
Planning Report

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|------------------|---------------------------|-------------------------------------|--------------------------------------|
| Database: | EDM_PROD | Local Co-ordinate Reference: | Well PA 21-24 - Slot A3 |
| Company: | TEP Rocky Mountain LLC | TVD Reference: | WELL @ 6594.0ft (Original Well Elev) |
| Project: | Garfield County, CO NAD83 | MD Reference: | WELL @ 6594.0ft (Original Well Elev) |
| Site: | PA 44-13 | North Reference: | True |
| Well: | PA 21-24 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | Plan #1 | | |

| Planned Survey | | | | | | | | | |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 9,000.0 | 0.00 | 0.00 | 8,458.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 |
| 9,100.0 | 0.00 | 0.00 | 8,558.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 |
| 9,200.0 | 0.00 | 0.00 | 8,658.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 |
| 9,300.0 | 0.00 | 0.00 | 8,758.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 |
| 9,400.0 | 0.00 | 0.00 | 8,858.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 |
| 9,500.0 | 0.00 | 0.00 | 8,958.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 |
| 9,600.0 | 0.00 | 0.00 | 9,058.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 |
| 9,700.0 | 0.00 | 0.00 | 9,158.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 |
| 9,800.0 | 0.00 | 0.00 | 9,258.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 |
| 9,844.2 | 0.00 | 0.00 | 9,303.0 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 |
| RLNS | | | | | | | | | |
| 9,900.0 | 0.00 | 0.00 | 9,358.8 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 |
| 9,994.2 | 0.00 | 0.00 | 9,453.0 | -1,363.9 | -2,227.1 | 2,611.6 | 0.00 | 0.00 | 0.00 |
| PA 21-24 TD | | | | | | | | | |

| Design Targets | | | | | | | | | |
|---------------------------|---------------|--------------|----------|------------|------------|---------------|--------------|-----------------|-------------------|
| Target Name | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude | Longitude |
| PA 21-24 TD | 0.00 | 0.00 | 9,453.0 | -1,363.9 | -2,227.1 | 1,622,452.20 | 2,308,986.10 | 39° 31' 0.565 N | 107° 56' 58.924 W |
| - hit/miss target | | | | | | | | | |
| - Shape | | | | | | | | | |
| - plan hits target center | | | | | | | | | |
| - Point | | | | | | | | | |

| Casing Points | | | | | |
|---------------------|---------------------|--------|----------------------|--------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (in) | Hole Diameter (in) | |
| 1,100.0 | 1,062.8 | 9 5/8" | 9.625 | 13.500 | |

| Formations | | | | | | |
|---------------------|---------------------|-------------|-----------|---------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name | Lithology | Dip (°) | Dip Direction (°) | |
| 3,634.3 | 3,357.0 | G SAND | | 0.00 | | |
| 3,737.0 | 3,450.0 | G SAND BASE | | 0.00 | | |
| 6,291.4 | 5,772.0 | MVRD | | 0.00 | | |
| 6,350.3 | 5,828.0 | WFRK/UMVRD | | 0.00 | | |
| 7,484.2 | 6,943.0 | TOP GAS | | 0.00 | | |
| 8,948.2 | 8,407.0 | CME0 | | 0.00 | | |
| 9,844.2 | 9,303.0 | RLNS | | 0.00 | | |