

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

1N-68W-08 PAPA JO 2-25 19-8HZ Pad

PAPA JO 2-25 28N-8HZ

Plan A

Plan: Permit Rev-1

Standard Planning Report

11 August, 2016



Azimuths to True North
Magnetic North: 8.28°

Magnetic Field
Strength: 52381.9snT
Dip Angle: 66.56°
Date: 8/9/2016
Model: IGRF2010

SITE: 1N-68W-08 PAPA JO 2-25 19-8HZ Pad

Well: PAPA JO 2-25 28N-8HZ
Wellbore: Plan A
Design: Permit Rev-1

FORMATION TOP DETAILS

| TVDPath | MDPath | Formation |
|---------|---------|----------------|
| 1020.00 | 1025.31 | Fox Hills |
| 4196.00 | 4450.69 | Parkman |
| 4624.00 | 4915.99 | Sussex |
| 7410.00 | 7823.85 | Sharon Springs |
| 7451.00 | 7883.99 | Niobrara |
| 7580.00 | 8163.73 | Nio B |

WELL DETAILS: PAPA JO 2-25 28N-8HZ

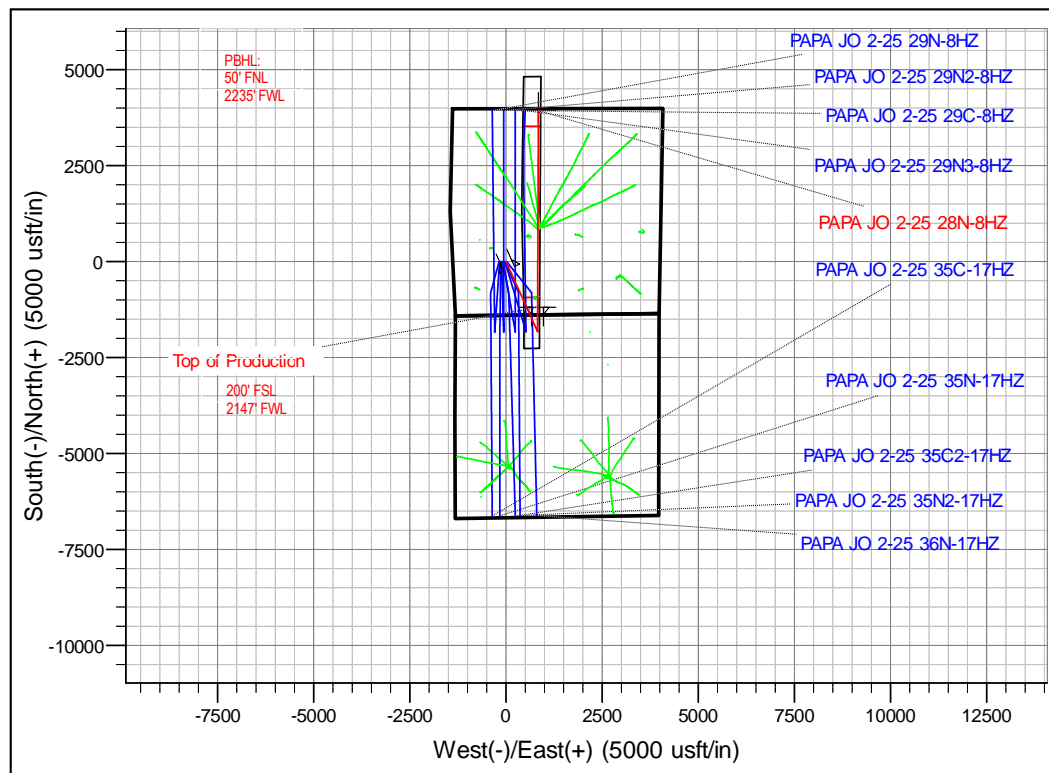
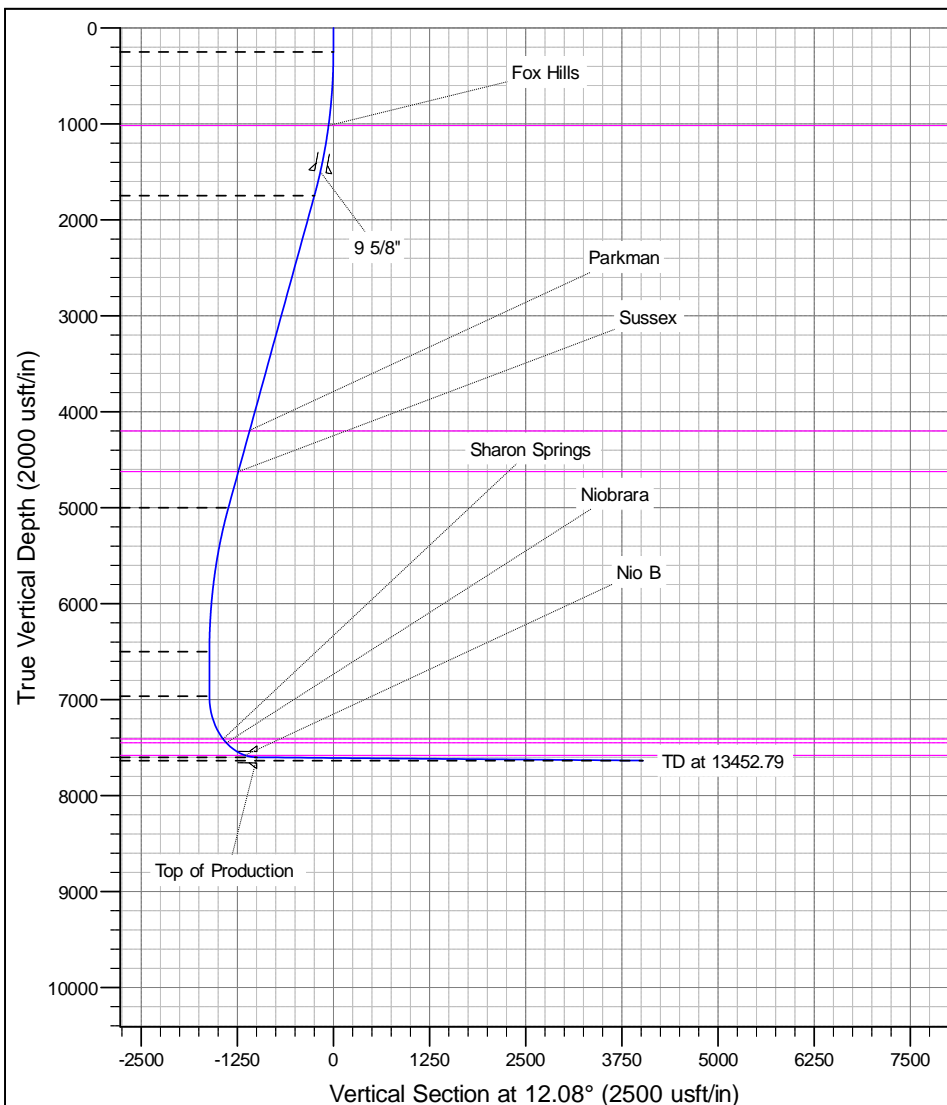
| +N/-S | +E/-W | GL: 5065.00 Northing | RKB @ 5082.00usft (Original Well Elev) Easting | Latitude | Longitude | Slot |
|-------|-------|-------------------------|---|-----------|-------------|------|
| 0.00 | 0.00 | 14549336.71 | 1631353.75 | 40.062068 | -105.032391 | |

SECTION DETAILS

| MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | Vsect |
|----------|-------|--------|---------|----------|--------|------|---------|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 250.00 | 0.00 | 0.00 | 250.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1789.90 | 23.10 | 155.79 | 1748.53 | -279.30 | 125.56 | 1.50 | -246.84 |
| 5326.36 | 23.10 | 155.79 | 5001.47 | +1544.70 | 694.44 | 0.00 | 1365.18 |
| 6866.26 | 0.00 | 0.00 | 6500.00 | -1824.00 | 820.00 | 1.50 | 1612.01 |
| 7331.66 | 0.00 | 0.00 | 6965.40 | -1824.00 | 820.00 | 0.00 | 1612.01 |
| 8327.44 | 89.62 | 0.22 | 7602.01 | -1191.61 | 822.40 | 9.00 | -993.12 |
| 13452.79 | 89.62 | 0.22 | 7636.00 | 3933.59 | 841.81 | 0.00 | 4022.66 |

DESIGN TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
|---------------------------|---------|---------|--------|-------------|------------|-----------|-------------|
| PAPA JO 2-25 28N-8HZ PBHL | 7636.00 | 3933.59 | 841.81 | 14553270.00 | 1632197.00 | 40.072870 | -105.029382 |



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Planning Report

| | | | |
|------------------|-----------------------------------|-------------------------------------|--|
| Database: | PLANNING | Local Co-ordinate Reference: | Well PAPA JO 2-25 28N-8HZ |
| Company: | US ROCKIES WATTENBERG PLANNING | TVD Reference: | RKB @ 5082.00usft (Original Well Elev) |
| Project: | WELD-NAD83-UTMFT13N | MD Reference: | RKB @ 5082.00usft (Original Well Elev) |
| Site: | 1N-68W-08 PAPA JO 2-25 19-8HZ Pad | North Reference: | True |
| Well: | PAPA JO 2-25 28N-8HZ | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Plan A | | |
| Design: | Permit Rev-1 | | |

| | | | |
|--------------------|--|----------------------|----------------|
| Project | WELD-NAD83-UTMFT13N | | |
| Map System: | Universal Transverse Mercator (US Survey Feet) | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Zone 13N (108 W to 102 W) | | |

| | | | | | | | | | | | | | | | | | |
|-----------------------|--|--|-----------|--|--|-----------------------------------|--|--|--------------------|--|--|-------------------|--|--|-------------|--|--|
| Site | | | | | | 1N-68W-08 PAPA JO 2-25 19-8HZ Pad | | | | | | | | | | | |
| Site Position: | | | | | | Northing: | | | 14,549,337.87 usft | | | Latitude: | | | 40.062071 | | |
| From: | | | Lat/Long | | | Easting: | | | 1,631,173.84 usft | | | Longitude: | | | -105.033034 | | |
| Position Uncertainty: | | | 0.00 usft | | | Slot Radius: | | | 13-3/16 " | | | Grid Convergence: | | | -0.02 | | |

| | | | | | | |
|----------------------|----------------------|-------------|---------------------|--------------------|---------------|---------------|
| Well | PAPA JO 2-25 28N-8HZ | | | | | |
| Well Position | +N/-S | -1.09 usft | Northing: | 14,549,336.71 usft | Latitude: | 40.062068 |
| | +E/-W | 179.91 usft | Easting: | 1,631,353.75 usft | Longitude: | -105.032391 |
| Position Uncertainty | | 3.28 usft | Wellhead Elevation: | 0.00 usft | Ground Level: | 5,065.00 usft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Plan A | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2010 | 8/9/2016 | 8.29 | 66.56 | 52,382 |

| | | | | |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|
| Design | Permit Rev-1 | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PROTOTYPE | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
| | 0.00 | 0.00 | 0.00 | 12.08 |

| Plan Sections | | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|------------------------|-----------------------|---------|------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 250.00 | 0.00 | 0.00 | 250.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,789.90 | 23.10 | 155.79 | 1,748.53 | -279.30 | 125.56 | 1.50 | 1.50 | 0.00 | 155.79 | |
| 5,326.36 | 23.10 | 155.79 | 5,001.47 | -1,544.70 | 694.44 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 6,866.26 | 0.00 | 0.00 | 6,500.00 | -1,824.00 | 820.00 | 1.50 | -1.50 | 0.00 | 180.00 | |
| 7,331.66 | 0.00 | 0.00 | 6,965.40 | -1,824.00 | 820.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 8,327.44 | 89.62 | 0.22 | 7,602.01 | -1,191.61 | 822.40 | 9.00 | 9.00 | 0.00 | 0.22 | |
| 13,452.79 | 89.62 | 0.22 | 7,636.00 | 3,933.59 | 841.81 | 0.00 | 0.00 | 0.00 | 0.00 | PAPA JO 2-25 28N |

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Planning Report

Database: PLANNING
Company: US ROCKIES WATTENBERG PLANNING
Project: WELD-NAD83-UTMFT13N
Site: 1N-68W-08 PAPA JO 2-25 19-8HZ Pad
Well: PAPA JO 2-25 28N-8HZ
Wellbore: Plan A
Design: Permit Rev-1

Local Co-ordinate Reference: Well PAPA JO 2-25 28N-8HZ
TVD Reference: RKB @ 5082.00usft (Original Well Elev)
MD Reference: RKB @ 5082.00usft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

| Planned 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 |
| 100.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 200.00 | 0.00 | 0.00 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 250.00 | 0.00 | 0.00 | 250.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 300.00 | 0.75 | 155.79 | 300.00 | -0.30 | 0.13 | -0.26 | 1.50 | 1.50 | 0.00 |
| 400.00 | 2.25 | 155.79 | 399.96 | -2.69 | 1.21 | -2.37 | 1.50 | 1.50 | 0.00 |
| 500.00 | 3.75 | 155.79 | 499.82 | -7.46 | 3.35 | -6.59 | 1.50 | 1.50 | 0.00 |
| 600.00 | 5.25 | 155.79 | 599.51 | -14.62 | 6.57 | -12.92 | 1.50 | 1.50 | 0.00 |
| 700.00 | 6.75 | 155.79 | 698.96 | -24.15 | 10.86 | -21.34 | 1.50 | 1.50 | 0.00 |
| 800.00 | 8.25 | 155.79 | 798.10 | -36.05 | 16.21 | -31.86 | 1.50 | 1.50 | 0.00 |
| 900.00 | 9.75 | 155.79 | 896.87 | -50.32 | 22.62 | -44.47 | 1.50 | 1.50 | 0.00 |
| 1,000.00 | 11.25 | 155.79 | 995.19 | -66.94 | 30.09 | -59.16 | 1.50 | 1.50 | 0.00 |
| 1,025.31 | 11.63 | 155.79 | 1,020.00 | -71.52 | 32.15 | -63.21 | 1.50 | 1.50 | 0.00 |
| Fox Hills | | | | | | | | | |
| 1,100.00 | 12.75 | 155.79 | 1,093.00 | -85.90 | 38.62 | -75.92 | 1.50 | 1.50 | 0.00 |
| 1,200.00 | 14.25 | 155.79 | 1,190.24 | -107.20 | 48.19 | -94.74 | 1.50 | 1.50 | 0.00 |
| 1,300.00 | 15.75 | 155.79 | 1,286.83 | -130.80 | 58.80 | -115.60 | 1.50 | 1.50 | 0.00 |
| 1,400.00 | 17.25 | 155.79 | 1,382.71 | -156.70 | 70.45 | -138.49 | 1.50 | 1.50 | 0.00 |
| 1,500.00 | 18.75 | 155.79 | 1,477.81 | -184.89 | 83.12 | -163.40 | 1.50 | 1.50 | 0.00 |
| 1,523.46 | 19.10 | 155.79 | 1,500.00 | -191.83 | 86.24 | -169.53 | 1.50 | 1.50 | 0.00 |
| 9 5/8" | | | | | | | | | |
| 1,600.00 | 20.25 | 155.79 | 1,572.07 | -215.33 | 96.81 | -190.31 | 1.50 | 1.50 | 0.00 |
| 1,700.00 | 21.75 | 155.79 | 1,665.43 | -248.02 | 111.50 | -219.19 | 1.50 | 1.50 | 0.00 |
| 1,789.90 | 23.10 | 155.79 | 1,748.53 | -279.30 | 125.56 | -246.84 | 1.50 | 1.50 | 0.00 |
| 1,800.00 | 23.10 | 155.79 | 1,757.82 | -282.91 | 127.18 | -250.03 | 0.00 | 0.00 | 0.00 |
| 1,900.00 | 23.10 | 155.79 | 1,849.80 | -318.69 | 143.27 | -281.65 | 0.00 | 0.00 | 0.00 |
| 2,000.00 | 23.10 | 155.79 | 1,941.78 | -354.47 | 159.36 | -313.28 | 0.00 | 0.00 | 0.00 |
| 2,100.00 | 23.10 | 155.79 | 2,033.77 | -390.25 | 175.44 | -344.90 | 0.00 | 0.00 | 0.00 |
| 2,200.00 | 23.10 | 155.79 | 2,125.75 | -426.04 | 191.53 | -376.52 | 0.00 | 0.00 | 0.00 |
| 2,300.00 | 23.10 | 155.79 | 2,217.73 | -461.82 | 207.62 | -408.15 | 0.00 | 0.00 | 0.00 |
| 2,400.00 | 23.10 | 155.79 | 2,309.71 | -497.60 | 223.70 | -439.77 | 0.00 | 0.00 | 0.00 |
| 2,500.00 | 23.10 | 155.79 | 2,401.70 | -533.38 | 239.79 | -471.39 | 0.00 | 0.00 | 0.00 |
| 2,600.00 | 23.10 | 155.79 | 2,493.68 | -569.16 | 255.87 | -503.01 | 0.00 | 0.00 | 0.00 |
| 2,700.00 | 23.10 | 155.79 | 2,585.66 | -604.94 | 271.96 | -534.64 | 0.00 | 0.00 | 0.00 |
| 2,800.00 | 23.10 | 155.79 | 2,677.65 | -640.73 | 288.05 | -566.26 | 0.00 | 0.00 | 0.00 |
| 2,900.00 | 23.10 | 155.79 | 2,769.63 | -676.51 | 304.13 | -597.88 | 0.00 | 0.00 | 0.00 |
| 3,000.00 | 23.10 | 155.79 | 2,861.61 | -712.29 | 320.22 | -629.51 | 0.00 | 0.00 | 0.00 |
| 3,100.00 | 23.10 | 155.79 | 2,953.60 | -748.07 | 336.30 | -661.13 | 0.00 | 0.00 | 0.00 |
| 3,200.00 | 23.10 | 155.79 | 3,045.58 | -783.85 | 352.39 | -692.75 | 0.00 | 0.00 | 0.00 |
| 3,300.00 | 23.10 | 155.79 | 3,137.56 | -819.64 | 368.48 | -724.38 | 0.00 | 0.00 | 0.00 |
| 3,400.00 | 23.10 | 155.79 | 3,229.55 | -855.42 | 384.56 | -756.00 | 0.00 | 0.00 | 0.00 |
| 3,500.00 | 23.10 | 155.79 | 3,321.53 | -891.20 | 400.65 | -787.62 | 0.00 | 0.00 | 0.00 |
| 3,600.00 | 23.10 | 155.79 | 3,413.51 | -926.98 | 416.74 | -819.25 | 0.00 | 0.00 | 0.00 |
| 3,700.00 | 23.10 | 155.79 | 3,505.50 | -962.76 | 432.82 | -850.87 | 0.00 | 0.00 | 0.00 |
| 3,800.00 | 23.10 | 155.79 | 3,597.48 | -998.55 | 448.91 | -882.49 | 0.00 | 0.00 | 0.00 |
| 3,900.00 | 23.10 | 155.79 | 3,689.46 | -1,034.33 | 464.99 | -914.12 | 0.00 | 0.00 | 0.00 |
| 4,000.00 | 23.10 | 155.79 | 3,781.44 | -1,070.11 | 481.08 | -945.74 | 0.00 | 0.00 | 0.00 |
| 4,100.00 | 23.10 | 155.79 | 3,873.43 | -1,105.89 | 497.17 | -977.36 | 0.00 | 0.00 | 0.00 |
| 4,200.00 | 23.10 | 155.79 | 3,965.41 | -1,141.67 | 513.25 | -1,008.99 | 0.00 | 0.00 | 0.00 |
| 4,300.00 | 23.10 | 155.79 | 4,057.39 | -1,177.45 | 529.34 | -1,040.61 | 0.00 | 0.00 | 0.00 |
| 4,400.00 | 23.10 | 155.79 | 4,149.38 | -1,213.24 | 545.42 | -1,072.23 | 0.00 | 0.00 | 0.00 |
| 4,450.69 | 23.10 | 155.79 | 4,196.00 | -1,231.37 | 553.58 | -1,088.26 | 0.00 | 0.00 | 0.00 |
| Parkman | | | | | | | | | |

Anadarko

Planning Report

| | | | |
|------------------|-----------------------------------|-------------------------------------|--|
| Database: | PLANNING | Local Co-ordinate Reference: | Well PAPA JO 2-25 28N-8HZ |
| Company: | US ROCKIES WATTENBERG PLANNING | TVD Reference: | RKB @ 5082.00usft (Original Well Elev) |
| Project: | WELD-NAD83-UTMFT13N | MD Reference: | RKB @ 5082.00usft (Original Well Elev) |
| Site: | 1N-68W-08 PAPA JO 2-25 19-8HZ Pad | North Reference: | True |
| Well: | PAPA JO 2-25 28N-8HZ | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Plan A | | |
| Design: | Permit Rev-1 | | |

| Planned 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) |
| 4,500.00 | 23.10 | 155.79 | 4,241.36 | -1,249.02 | 561.51 | -1,103.86 | 0.00 | 0.00 | 0.00 |
| 4,600.00 | 23.10 | 155.79 | 4,333.34 | -1,284.80 | 577.60 | -1,135.48 | 0.00 | 0.00 | 0.00 |
| 4,700.00 | 23.10 | 155.79 | 4,425.33 | -1,320.58 | 593.68 | -1,167.10 | 0.00 | 0.00 | 0.00 |
| 4,800.00 | 23.10 | 155.79 | 4,517.31 | -1,356.36 | 609.77 | -1,198.73 | 0.00 | 0.00 | 0.00 |
| 4,900.00 | 23.10 | 155.79 | 4,609.29 | -1,392.15 | 625.85 | -1,230.35 | 0.00 | 0.00 | 0.00 |
| 4,915.99 | 23.10 | 155.79 | 4,624.00 | -1,397.87 | 628.43 | -1,235.41 | 0.00 | 0.00 | 0.00 |
| Sussex | | | | | | | | | |
| 5,000.00 | 23.10 | 155.79 | 4,701.28 | -1,427.93 | 641.94 | -1,261.97 | 0.00 | 0.00 | 0.00 |
| 5,100.00 | 23.10 | 155.79 | 4,793.26 | -1,463.71 | 658.03 | -1,293.60 | 0.00 | 0.00 | 0.00 |
| 5,200.00 | 23.10 | 155.79 | 4,885.24 | -1,499.49 | 674.11 | -1,325.22 | 0.00 | 0.00 | 0.00 |
| 5,300.00 | 23.10 | 155.79 | 4,977.23 | -1,535.27 | 690.20 | -1,356.84 | 0.00 | 0.00 | 0.00 |
| 5,326.36 | 23.10 | 155.79 | 5,001.47 | -1,544.70 | 694.44 | -1,365.18 | 0.00 | 0.00 | 0.00 |
| 5,400.00 | 21.99 | 155.79 | 5,069.48 | -1,570.46 | 706.02 | -1,387.94 | 1.50 | -1.50 | 0.00 |
| 5,500.00 | 20.49 | 155.79 | 5,162.68 | -1,603.50 | 720.87 | -1,417.14 | 1.50 | -1.50 | 0.00 |
| 5,600.00 | 18.99 | 155.79 | 5,256.80 | -1,634.31 | 734.72 | -1,444.37 | 1.50 | -1.50 | 0.00 |
| 5,700.00 | 17.49 | 155.79 | 5,351.77 | -1,662.87 | 747.56 | -1,469.61 | 1.50 | -1.50 | 0.00 |
| 5,800.00 | 15.99 | 155.79 | 5,447.53 | -1,689.14 | 759.37 | -1,492.83 | 1.50 | -1.50 | 0.00 |
| 5,900.00 | 14.49 | 155.79 | 5,544.01 | -1,713.12 | 770.15 | -1,514.02 | 1.50 | -1.50 | 0.00 |
| 6,000.00 | 12.99 | 155.79 | 5,641.14 | -1,734.79 | 779.90 | -1,533.17 | 1.50 | -1.50 | 0.00 |
| 6,100.00 | 11.49 | 155.79 | 5,738.87 | -1,754.13 | 788.59 | -1,550.27 | 1.50 | -1.50 | 0.00 |
| 6,200.00 | 9.99 | 155.79 | 5,837.11 | -1,771.14 | 796.23 | -1,565.29 | 1.50 | -1.50 | 0.00 |
| 6,300.00 | 8.49 | 155.79 | 5,935.81 | -1,785.79 | 802.82 | -1,578.24 | 1.50 | -1.50 | 0.00 |
| 6,400.00 | 6.99 | 155.79 | 6,034.89 | -1,798.08 | 808.35 | -1,589.10 | 1.50 | -1.50 | 0.00 |
| 6,500.00 | 5.49 | 155.79 | 6,134.30 | -1,808.00 | 812.81 | -1,597.87 | 1.50 | -1.50 | 0.00 |
| 6,600.00 | 3.99 | 155.79 | 6,233.95 | -1,815.54 | 816.20 | -1,604.54 | 1.50 | -1.50 | 0.00 |
| 6,700.00 | 2.49 | 155.79 | 6,333.79 | -1,820.70 | 818.52 | -1,609.10 | 1.50 | -1.50 | 0.00 |
| 6,800.00 | 0.99 | 155.79 | 6,433.74 | -1,823.48 | 819.76 | -1,611.55 | 1.50 | -1.50 | 0.00 |
| 6,866.26 | 0.00 | 0.00 | 6,500.00 | -1,824.00 | 820.00 | -1,612.01 | 1.50 | -1.50 | 0.00 |
| 6,900.00 | 0.00 | 0.00 | 6,533.74 | -1,824.00 | 820.00 | -1,612.01 | 0.00 | 0.00 | 0.00 |
| 7,000.00 | 0.00 | 0.00 | 6,633.74 | -1,824.00 | 820.00 | -1,612.01 | 0.00 | 0.00 | 0.00 |
| 7,100.00 | 0.00 | 0.00 | 6,733.74 | -1,824.00 | 820.00 | -1,612.01 | 0.00 | 0.00 | 0.00 |
| 7,200.00 | 0.00 | 0.00 | 6,833.74 | -1,824.00 | 820.00 | -1,612.01 | 0.00 | 0.00 | 0.00 |
| 7,300.00 | 0.00 | 0.00 | 6,933.74 | -1,824.00 | 820.00 | -1,612.01 | 0.00 | 0.00 | 0.00 |
| 7,331.66 | 0.00 | 0.00 | 6,965.40 | -1,824.00 | 820.00 | -1,612.01 | 0.00 | 0.00 | 0.00 |
| 7,400.00 | 6.15 | 0.22 | 7,033.61 | -1,820.34 | 820.01 | -1,608.43 | 9.00 | 9.00 | 0.00 |
| 7,500.00 | 15.15 | 0.22 | 7,131.78 | -1,801.87 | 820.08 | -1,590.36 | 9.00 | 9.00 | 0.00 |
| 7,600.00 | 24.15 | 0.22 | 7,225.86 | -1,768.28 | 820.21 | -1,557.48 | 9.00 | 9.00 | 0.00 |
| 7,700.00 | 33.15 | 0.22 | 7,313.53 | -1,720.38 | 820.39 | -1,510.61 | 9.00 | 9.00 | 0.00 |
| 7,800.00 | 42.15 | 0.22 | 7,392.62 | -1,659.36 | 820.62 | -1,450.89 | 9.00 | 9.00 | 0.00 |
| 7,823.85 | 44.30 | 0.22 | 7,410.00 | -1,643.03 | 820.69 | -1,434.91 | 9.00 | 9.00 | 0.00 |
| Sharon Springs | | | | | | | | | |
| 7,883.99 | 49.71 | 0.22 | 7,451.00 | -1,599.06 | 820.85 | -1,391.88 | 9.00 | 9.00 | 0.00 |
| Niobrara | | | | | | | | | |
| 7,900.00 | 51.15 | 0.22 | 7,461.20 | -1,586.72 | 820.90 | -1,379.80 | 9.00 | 9.00 | 0.00 |
| 8,000.00 | 60.15 | 0.22 | 7,517.56 | -1,504.25 | 821.21 | -1,299.09 | 9.00 | 9.00 | 0.00 |
| 8,100.00 | 69.15 | 0.22 | 7,560.33 | -1,413.97 | 821.55 | -1,210.74 | 9.00 | 9.00 | 0.00 |
| 8,163.73 | 74.89 | 0.22 | 7,580.00 | -1,353.38 | 821.78 | -1,151.44 | 9.00 | 9.00 | 0.00 |
| Nio B | | | | | | | | | |
| 8,200.00 | 78.15 | 0.22 | 7,588.45 | -1,318.11 | 821.92 | -1,116.93 | 9.00 | 9.00 | 0.00 |
| 8,300.00 | 87.15 | 0.22 | 7,601.23 | -1,219.04 | 822.29 | -1,019.97 | 9.00 | 9.00 | 0.00 |
| 8,327.44 | 89.62 | 0.22 | 7,602.01 | -1,191.61 | 822.40 | -993.12 | 9.00 | 9.00 | 0.00 |
| Top of Production - PAPA JO 2-25 25N-8HZ_PHL | | | | | | | | | |
| 8,400.00 | 89.62 | 0.22 | 7,602.49 | -1,119.05 | 822.67 | -922.12 | 0.00 | 0.00 | 0.00 |
| 8,500.00 | 89.62 | 0.22 | 7,603.15 | -1,019.05 | 823.05 | -824.25 | 0.00 | 0.00 | 0.00 |

Anadarko

Planning Report

Database: PLANNING
Company: US ROCKIES WATTENBERG PLANNING
Project: WELD-NAD83-UTMFT13N
Site: 1N-68W-08 PAPA JO 2-25 19-8HZ Pad
Well: PAPA JO 2-25 28N-8HZ
Wellbore: Plan A
Design: Permit Rev-1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well PAPA JO 2-25 28N-8HZ
 RKB @ 5082.00usft (Original Well Elev)
 RKB @ 5082.00usft (Original Well Elev)
 True
 Minimum Curvature

| Planned 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) |
| 8,600.00 | 89.62 | 0.22 | 7,603.82 | -919.06 | 823.43 | -726.39 | 0.00 | 0.00 | 0.00 |
| 8,700.00 | 89.62 | 0.22 | 7,604.48 | -819.06 | 823.81 | -628.53 | 0.00 | 0.00 | 0.00 |
| 8,800.00 | 89.62 | 0.22 | 7,605.14 | -719.06 | 824.19 | -530.67 | 0.00 | 0.00 | 0.00 |
| 8,900.00 | 89.62 | 0.22 | 7,605.81 | -619.07 | 824.57 | -432.80 | 0.00 | 0.00 | 0.00 |
| 9,000.00 | 89.62 | 0.22 | 7,606.47 | -519.07 | 824.94 | -334.94 | 0.00 | 0.00 | 0.00 |
| 9,100.00 | 89.62 | 0.22 | 7,607.13 | -419.07 | 825.32 | -237.08 | 0.00 | 0.00 | 0.00 |
| 9,200.00 | 89.62 | 0.22 | 7,607.79 | -319.07 | 825.70 | -139.22 | 0.00 | 0.00 | 0.00 |
| 9,300.00 | 89.62 | 0.22 | 7,608.46 | -219.08 | 826.08 | -41.35 | 0.00 | 0.00 | 0.00 |
| 9,400.00 | 89.62 | 0.22 | 7,609.12 | -119.08 | 826.46 | 56.51 | 0.00 | 0.00 | 0.00 |
| 9,500.00 | 89.62 | 0.22 | 7,609.78 | -19.08 | 826.84 | 154.37 | 0.00 | 0.00 | 0.00 |
| 9,600.00 | 89.62 | 0.22 | 7,610.45 | 80.91 | 827.22 | 252.23 | 0.00 | 0.00 | 0.00 |
| 9,700.00 | 89.62 | 0.22 | 7,611.11 | 180.91 | 827.60 | 350.09 | 0.00 | 0.00 | 0.00 |
| 9,800.00 | 89.62 | 0.22 | 7,611.77 | 280.91 | 827.97 | 447.96 | 0.00 | 0.00 | 0.00 |
| 9,900.00 | 89.62 | 0.22 | 7,612.44 | 380.90 | 828.35 | 545.82 | 0.00 | 0.00 | 0.00 |
| 10,000.00 | 89.62 | 0.22 | 7,613.10 | 480.90 | 828.73 | 643.68 | 0.00 | 0.00 | 0.00 |
| 10,100.00 | 89.62 | 0.22 | 7,613.76 | 580.90 | 829.11 | 741.54 | 0.00 | 0.00 | 0.00 |
| 10,200.00 | 89.62 | 0.22 | 7,614.43 | 680.90 | 829.49 | 839.41 | 0.00 | 0.00 | 0.00 |
| 10,300.00 | 89.62 | 0.22 | 7,615.09 | 780.89 | 829.87 | 937.27 | 0.00 | 0.00 | 0.00 |
| 10,400.00 | 89.62 | 0.22 | 7,615.75 | 880.89 | 830.25 | 1,035.13 | 0.00 | 0.00 | 0.00 |
| 10,500.00 | 89.62 | 0.22 | 7,616.42 | 980.89 | 830.63 | 1,132.99 | 0.00 | 0.00 | 0.00 |
| 10,600.00 | 89.62 | 0.22 | 7,617.08 | 1,080.88 | 831.01 | 1,230.85 | 0.00 | 0.00 | 0.00 |
| 10,700.00 | 89.62 | 0.22 | 7,617.74 | 1,180.88 | 831.38 | 1,328.72 | 0.00 | 0.00 | 0.00 |
| 10,800.00 | 89.62 | 0.22 | 7,618.41 | 1,280.88 | 831.76 | 1,426.58 | 0.00 | 0.00 | 0.00 |
| 10,900.00 | 89.62 | 0.22 | 7,619.07 | 1,380.88 | 832.14 | 1,524.44 | 0.00 | 0.00 | 0.00 |
| 11,000.00 | 89.62 | 0.22 | 7,619.73 | 1,480.87 | 832.52 | 1,622.30 | 0.00 | 0.00 | 0.00 |
| 11,100.00 | 89.62 | 0.22 | 7,620.40 | 1,580.87 | 832.90 | 1,720.17 | 0.00 | 0.00 | 0.00 |
| 11,200.00 | 89.62 | 0.22 | 7,621.06 | 1,680.87 | 833.28 | 1,818.03 | 0.00 | 0.00 | 0.00 |
| 11,300.00 | 89.62 | 0.22 | 7,621.72 | 1,780.86 | 833.66 | 1,915.89 | 0.00 | 0.00 | 0.00 |
| 11,400.00 | 89.62 | 0.22 | 7,622.39 | 1,880.86 | 834.04 | 2,013.75 | 0.00 | 0.00 | 0.00 |
| 11,500.00 | 89.62 | 0.22 | 7,623.05 | 1,980.86 | 834.42 | 2,111.62 | 0.00 | 0.00 | 0.00 |
| 11,600.00 | 89.62 | 0.22 | 7,623.71 | 2,080.86 | 834.79 | 2,209.48 | 0.00 | 0.00 | 0.00 |
| 11,700.00 | 89.62 | 0.22 | 7,624.38 | 2,180.85 | 835.17 | 2,307.34 | 0.00 | 0.00 | 0.00 |
| 11,800.00 | 89.62 | 0.22 | 7,625.04 | 2,280.85 | 835.55 | 2,405.20 | 0.00 | 0.00 | 0.00 |
| 11,900.00 | 89.62 | 0.22 | 7,625.70 | 2,380.85 | 835.93 | 2,503.06 | 0.00 | 0.00 | 0.00 |
| 12,000.00 | 89.62 | 0.22 | 7,626.36 | 2,480.84 | 836.31 | 2,600.93 | 0.00 | 0.00 | 0.00 |
| 12,100.00 | 89.62 | 0.22 | 7,627.03 | 2,580.84 | 836.69 | 2,698.79 | 0.00 | 0.00 | 0.00 |
| 12,200.00 | 89.62 | 0.22 | 7,627.69 | 2,680.84 | 837.07 | 2,796.65 | 0.00 | 0.00 | 0.00 |
| 12,300.00 | 89.62 | 0.22 | 7,628.35 | 2,780.83 | 837.45 | 2,894.51 | 0.00 | 0.00 | 0.00 |
| 12,400.00 | 89.62 | 0.22 | 7,629.02 | 2,880.83 | 837.83 | 2,992.38 | 0.00 | 0.00 | 0.00 |
| 12,500.00 | 89.62 | 0.22 | 7,629.68 | 2,980.83 | 838.20 | 3,090.24 | 0.00 | 0.00 | 0.00 |
| 12,600.00 | 89.62 | 0.22 | 7,630.34 | 3,080.83 | 838.58 | 3,188.10 | 0.00 | 0.00 | 0.00 |
| 12,700.00 | 89.62 | 0.22 | 7,631.01 | 3,180.82 | 838.96 | 3,285.96 | 0.00 | 0.00 | 0.00 |
| 12,800.00 | 89.62 | 0.22 | 7,631.67 | 3,280.82 | 839.34 | 3,383.82 | 0.00 | 0.00 | 0.00 |
| 12,900.00 | 89.62 | 0.22 | 7,632.33 | 3,380.82 | 839.72 | 3,481.69 | 0.00 | 0.00 | 0.00 |
| 13,000.00 | 89.62 | 0.22 | 7,633.00 | 3,480.81 | 840.10 | 3,579.55 | 0.00 | 0.00 | 0.00 |
| 13,100.00 | 89.62 | 0.22 | 7,633.66 | 3,580.81 | 840.48 | 3,677.41 | 0.00 | 0.00 | 0.00 |
| 13,200.00 | 89.62 | 0.22 | 7,634.32 | 3,680.81 | 840.86 | 3,775.27 | 0.00 | 0.00 | 0.00 |
| 13,300.00 | 89.62 | 0.22 | 7,634.99 | 3,780.81 | 841.24 | 3,873.14 | 0.00 | 0.00 | 0.00 |
| 13,400.00 | 89.62 | 0.22 | 7,635.65 | 3,880.80 | 841.61 | 3,971.00 | 0.00 | 0.00 | 0.00 |
| 13,452.79 | 89.62 | 0.22 | 7,636.00 | 3,933.59 | 841.81 | 4,022.66 | 0.00 | 0.00 | 0.00 |
| PAPA JO 2-25 28N-8HZ_PBHL | | | | | | | | | |

Anadarko

Planning Report

| | | | |
|------------------|-----------------------------------|-------------------------------------|--|
| Database: | PLANNING | Local Co-ordinate Reference: | Well PAPA JO 2-25 28N-8HZ |
| Company: | US ROCKIES WATTENBERG PLANNING | TVD Reference: | RKB @ 5082.00usft (Original Well Elev) |
| Project: | WELD-NAD83-UTMFT13N | MD Reference: | RKB @ 5082.00usft (Original Well Elev) |
| Site: | 1N-68W-08 PAPA JO 2-25 19-8HZ Pad | North Reference: | True |
| Well: | PAPA JO 2-25 28N-8HZ | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Plan A | | |
| Design: | Permit Rev-1 | | |

| Design Targets | | | | | | | | | |
|---|-----------|----------|----------|-----------|--------|---------------|--------------|-----------|-------------|
| Target Name | | | | | | | | | |
| - hit/miss target | Dip Angle | Dip Dir. | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
| - Shape | (°) | (°) | (usft) | (usft) | (usft) | (usft) | (usft) | | |
| PAPA JO 2-25 25N-8H - plan hits target center - Point | 0.00 | 0.00 | 7,602.01 | -1,191.61 | 822.40 | 14,548,144.80 | 1,632,175.71 | 40.058796 | -105.029452 |
| PAPA JO 2-25 28N-8H - plan hits target center - Point | 0.00 | 0.00 | 7,636.00 | 3,933.59 | 841.81 | 14,553,270.00 | 1,632,197.00 | 40.072870 | -105.029382 |

| Casing Points | | | | | |
|-----------------------|-----------------------|-------------------|---------------------|-------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Name | Casing Diameter (") | Hole Diameter (") | |
| 1,523.46 | 1,500.00 | 9 5/8" | 9-5/8 | 13-1/2 | |
| 8,327.44 | 7,602.01 | Top of Production | 5-1/2 | 8-1/2 | |

| Formations | | | | | | |
|-----------------------|-----------------------|----------------|-----------|---------|-------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) | |
| 1,025.31 | 1,020.00 | Fox Hills | | | | |
| 4,450.69 | 4,196.00 | Parkman | | | | |
| 4,915.99 | 4,624.00 | Sussex | | | | |
| 7,823.85 | 7,410.00 | Sharon Springs | | | | |
| 7,883.99 | 7,451.00 | Niobrara | | | | |
| 8,163.73 | 7,580.00 | Nio B | | | | |