

CRESTONE PEAK RESOURCES

ARAPAHOE COUNTY

SEC 19-T4S-R64W

LUSSING TRUST 4-64 19-20 2BH

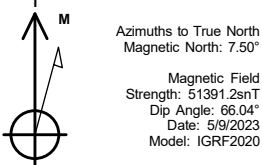
OWB

Plan: PROPOSAL 1

Standard Planning Report

11 May, 2023

Project: ARAPAHOE COUNTY
Site: SEC 19-T4S-R64W
Well: LUSSING TRUST 4-64 19-20 2BH
Wellbore: OWB
Design: PROPOSAL 1



WELL DETAILS: LUSSING TRUST 4-64 19-20 2BH

| 5696.00 | | | | | | | Slot |
|---------|-------|------------|------------|-------------|--------------|--|------|
| +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | | |
| 0.00 | 0.00 | 1678366.72 | 3252960.54 | 39.692481°N | 104.601090°W | | |

SECTION DETAILS

| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | TFace | VSect | Target |
|-----|----------|-------|--------|---------|---------|---------|-------|---------|---------|------------------------|
| 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2 | 500.00 | 0.00 | 0.00 | 500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 3 | 990.42 | 9.81 | 235.12 | 988.03 | -23.95 | -34.35 | 2.00 | 235.12 | -32.04 | |
| 4 | 7071.64 | 9.81 | 235.12 | 6980.36 | -616.44 | -884.17 | 0.00 | 0.00 | -824.68 | |
| 5 | 8050.91 | 90.00 | 91.07 | 7629.00 | -692.83 | -318.01 | 10.00 | -143.65 | -253.93 | LP-LT 4-64 19-20 2BH |
| 6 | 13191.74 | 90.00 | 91.07 | 7629.00 | -788.54 | 4821.93 | 0.00 | 0.00 | 4873.54 | MP-LT 4-64 19-20 2BH |
| 7 | 13197.56 | 90.00 | 91.18 | 7629.00 | -788.66 | 4827.75 | 2.00 | 90.00 | 4879.35 | PBHL-LT 4-64 19-20 2BH |
| 8 | 18167.58 | 90.00 | 91.18 | 7629.00 | -891.30 | 9796.71 | 0.00 | 0.00 | 9837.17 | PBHL-LT 4-64 19-20 2BH |

ANNOTATIONS

| MD | Inc | Azi | TVD | +N/-S | +E/-W | VSect | Departure | Annotation |
|----------|-------|--------|---------|---------|---------|---------|-----------|-----------------------------------|
| 500.00 | 0.00 | 0.00 | 500.00 | 0.00 | 0.00 | 0.00 | 0.00 | Start Build 2.00 |
| 990.42 | 9.81 | 235.12 | 988.03 | -23.95 | -34.35 | -32.04 | 41.88 | Start 6081.22 hold at 990.42 MD |
| 7071.64 | 9.81 | 235.12 | 6980.36 | -616.44 | -884.17 | -824.68 | 1077.84 | Start DLS 10.00 TFO -143.65 |
| 8050.91 | 90.00 | 91.07 | 7629.00 | -692.83 | -318.01 | -253.93 | 1670.77 | Start 5140.83 hold at 8050.91 MD |
| 13191.74 | 90.00 | 91.07 | 7629.00 | -788.54 | 4821.93 | 4873.54 | 6811.59 | Start DLS 2.00 TFO 90.00 |
| 13197.56 | 90.00 | 91.18 | 7629.00 | -788.66 | 4827.75 | 4879.35 | 6817.42 | Start 4970.01 hold at 13197.56 MD |
| 18167.58 | 90.00 | 91.18 | 7629.00 | -891.30 | 9796.71 | 9837.17 | 11787.43 | TD at 18167.58 |

DESIGN TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Shape |
|---------------------------|---------|---------|---------|------------|------------|-------------|--------------|-------|
| LP-LT 4-64 19-20 2BH | 7629.00 | -692.83 | -318.01 | 1677670.79 | 3252649.41 | 39.690579°N | 104.602220°W | Point |
| - plan hits target center | | | | | | | | |
| MP-LT 4-64 19-20 2BH | 7629.00 | -788.54 | 4821.93 | 1677625.94 | 3257789.98 | 39.690315°N | 104.583956°W | Point |
| - plan hits target center | | | | | | | | |
| PBHL-LT 4-64 19-20 2BH | 7629.00 | -891.30 | 9796.71 | 1677572.41 | 3262765.48 | 39.690029°N | 104.566279°W | Point |
| - plan hits target center | | | | | | | | |

PROJECT DETAILS: ARAPAHOE COUNTY

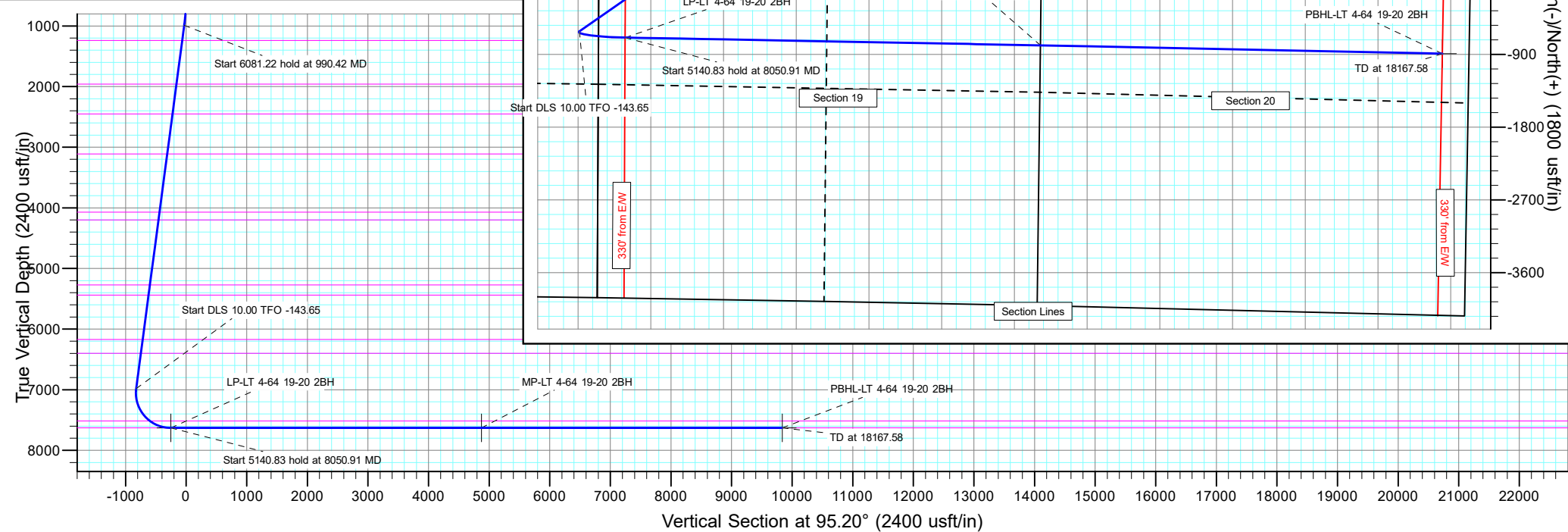
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Central Zone

System Datum: Mean Sea Level

SHL:
1361' FNL, 645' FWL
Sec 19-T4S-R64W

LP:
2060' FNL, 330' FWL
Sec 19-T4S-R64W

BHL:
2060' FNL, 330' FEL
Sec 20-T4S-R64W



Planning Report

| | | | |
|------------------|------------------------------|-------------------------------------|-----------------------------------|
| Database: | EDT_32Bit_ODBC | Local Co-ordinate Reference: | Well LUSSING TRUST 4-64 19-20 2BH |
| Company: | CRESTONE PEAK RESOURCES | TVD Reference: | KB 25' @ 5721.00usft |
| Project: | ARAPAHOE COUNTY | MD Reference: | KB 25' @ 5721.00usft |
| Site: | SEC 19-T4S-R64W | North Reference: | True |
| Well: | LUSSING TRUST 4-64 19-20 2BH | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OWB | | |
| Design: | PROPOSAL 1 | | |

| | | | |
|--------------------|---------------------------|----------------------|-----------------------------|
| Project | ARAPAHOE COUNTY | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | |
| Map Zone: | Colorado Central Zone | | Using geodetic scale factor |

| | | | | | |
|-----------------------|-----------|-----------------|-------------------|-------------------|--------------|
| Site | | SEC 19-T4S-R64W | | | |
| Site Position: | | Northing: | 1,679,733.25 usft | Latitude: | 39.696250°N |
| From: | Lat/Long | Easting: | 3,252,308.22 usft | Longitude: | 104.603360°W |
| Position Uncertainty: | 0.00 usft | Slot Radius: | 13.200 in | Grid Convergence: | 0.57 ° |

| Well | LUSSING TRUST 4-64 19-20 2BH | | | | | |
|----------------------|------------------------------|----------------|---------------------|-------------------|---------------|---------------|
| Well Position | +N/-S | -1,372.92 usft | Northing: | 1,678,366.72 usft | Latitude: | 39.692481°N |
| | +E/-W | 638.81 usft | Easting: | 3,252,960.54 usft | Longitude: | 104.601090°W |
| Position Uncertainty | | 0.00 usft | Wellhead Elevation: | | Ground Level: | 5,696.00 usft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | OWB | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2020 | 5/9/2023 | 7.50 | 66.04 | 51,391.24023327 |

| | | | | |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|
| Design | PROPOSAL 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 | 95.20 |

| | | | | |
|---------------------------------|------------------------|--------------------------|------------------|---------------------|
| Plan Survey Tool Program | Date | 5/11/2023 | | |
| Depth From (usft) | Depth To (usft) | Survey (Wellbore) | Tool Name | Remarks |
| 1 | 0.00 | 18,167.58 | PROPOSAL 1 (OWB) | MWD OWSG |
| | | | | OWSG MWD - Standard |

| | | | | | | | | | | |
|------------------------------|------------------------|--------------------|------------------------------|---------------------|---------------------|------------------------------|-----------------------------|----------------------------|----------------|----------------------|
| Plan Sections | | | | | | | | | | |
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | TFO (°) | Target |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 500.00 | 0.00 | 0.00 | 500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 990.42 | 9.81 | 235.12 | 988.03 | -23.95 | -34.35 | 2.00 | 2.00 | 0.00 | 235.12 | |
| 7,071.64 | 9.81 | 235.12 | 6,980.36 | -616.44 | -884.17 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 8,050.91 | 90.00 | 91.07 | 7,629.00 | -692.83 | -318.01 | 10.00 | 8.19 | -14.71 | -143.65 | LP-LT 4-64 19-20 2BH |
| 13,191.74 | 90.00 | 91.07 | 7,629.00 | -788.54 | 4,821.93 | 0.00 | 0.00 | 0.00 | 0.00 | MP-LT 4-64 19-20 2B |
| 13,197.56 | 90.00 | 91.18 | 7,629.00 | -788.66 | 4,827.75 | 2.00 | 0.00 | 2.00 | 90.00 | PBHL-LT 4-64 19-20 ; |
| 18,167.58 | 90.00 | 91.18 | 7,629.00 | -891.30 | 9,796.71 | 0.00 | 0.00 | 0.00 | 0.00 | PBHL-LT 4-64 19-20 ; |

Planning Report

| | | | |
|------------------|------------------------------|-------------------------------------|-----------------------------------|
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| Company: | CRESTONE PEAK RESOURCES | TVD Reference: | KB 25' @ 5721.00usft |
| Project: | ARAPAHOE COUNTY | MD Reference: | KB 25' @ 5721.00usft |
| Site: | SEC 19-T4S-R64W | North Reference: | True |
| Well: | LUSSING TRUST 4-64 19-20 2BH | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OWB | | |
| Design: | PROPOSAL 1 | | |

| Planned Survey | | | | | | | | | |
|---------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-----------------------|----------------------|---------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | 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 |
| 24.00 | 0.00 | 0.00 | 24.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Denver | | | | | | | | | |
| 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 |
| 300.00 | 0.00 | 0.00 | 300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 400.00 | 0.00 | 0.00 | 400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 500.00 | 0.00 | 0.00 | 500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Start Build 2.00 | | | | | | | | | |
| 600.00 | 2.00 | 235.12 | 599.98 | -1.00 | -1.43 | -1.34 | 2.00 | 2.00 | 0.00 |
| 639.05 | 2.78 | 235.12 | 639.00 | -1.93 | -2.77 | -2.58 | 2.00 | 2.00 | 0.00 |
| Arapahoe | | | | | | | | | |
| 700.00 | 4.00 | 235.12 | 699.84 | -3.99 | -5.72 | -5.34 | 2.00 | 2.00 | 0.00 |
| 800.00 | 6.00 | 235.12 | 799.45 | -8.98 | -12.87 | -12.01 | 2.00 | 2.00 | 0.00 |
| 900.00 | 8.00 | 235.12 | 898.70 | -15.95 | -22.87 | -21.33 | 2.00 | 2.00 | 0.00 |
| 990.42 | 9.81 | 235.12 | 988.03 | -23.95 | -34.35 | -32.04 | 2.00 | 2.00 | 0.00 |
| Start 6081.22 hold at 990.42 MD | | | | | | | | | |
| 1,000.00 | 9.81 | 235.12 | 997.47 | -24.88 | -35.69 | -33.29 | 0.00 | 0.00 | 0.00 |
| 1,100.00 | 9.81 | 235.12 | 1,096.01 | -34.63 | -49.66 | -46.32 | 0.00 | 0.00 | 0.00 |
| 1,200.00 | 9.81 | 235.12 | 1,194.54 | -44.37 | -63.64 | -59.36 | 0.00 | 0.00 | 0.00 |
| 1,245.11 | 9.81 | 235.12 | 1,239.00 | -48.76 | -69.94 | -65.24 | 0.00 | 0.00 | 0.00 |
| Laramie-Fox Hills Formation | | | | | | | | | |
| 1,300.00 | 9.81 | 235.12 | 1,293.08 | -54.11 | -77.61 | -72.39 | 0.00 | 0.00 | 0.00 |
| 1,400.00 | 9.81 | 235.12 | 1,391.62 | -63.85 | -91.59 | -85.42 | 0.00 | 0.00 | 0.00 |
| 1,500.00 | 9.81 | 235.12 | 1,490.16 | -73.60 | -105.56 | -98.46 | 0.00 | 0.00 | 0.00 |
| 1,600.00 | 9.81 | 235.12 | 1,588.70 | -83.34 | -119.54 | -111.49 | 0.00 | 0.00 | 0.00 |
| 1,700.00 | 9.81 | 235.12 | 1,687.24 | -93.08 | -133.51 | -124.53 | 0.00 | 0.00 | 0.00 |
| 1,800.00 | 9.81 | 235.12 | 1,785.77 | -102.83 | -147.48 | -137.56 | 0.00 | 0.00 | 0.00 |
| 1,900.00 | 9.81 | 235.12 | 1,884.31 | -112.57 | -161.46 | -150.60 | 0.00 | 0.00 | 0.00 |
| 1,975.80 | 9.81 | 235.12 | 1,959.00 | -119.95 | -172.05 | -160.47 | 0.00 | 0.00 | 0.00 |
| Pierre Formation | | | | | | | | | |
| 2,000.00 | 9.81 | 235.12 | 1,982.85 | -122.31 | -175.43 | -163.63 | 0.00 | 0.00 | 0.00 |
| 2,100.00 | 9.81 | 235.12 | 2,081.39 | -132.05 | -189.41 | -176.66 | 0.00 | 0.00 | 0.00 |
| 2,200.00 | 9.81 | 235.12 | 2,179.93 | -141.80 | -203.38 | -189.70 | 0.00 | 0.00 | 0.00 |
| 2,300.00 | 9.81 | 235.12 | 2,278.47 | -151.54 | -217.36 | -202.73 | 0.00 | 0.00 | 0.00 |
| 2,400.00 | 9.81 | 235.12 | 2,377.00 | -161.28 | -231.33 | -215.77 | 0.00 | 0.00 | 0.00 |
| 2,473.06 | 9.81 | 235.12 | 2,449.00 | -168.40 | -241.54 | -225.29 | 0.00 | 0.00 | 0.00 |
| Upper Pierre aquifer | | | | | | | | | |
| 2,500.00 | 9.81 | 235.12 | 2,475.54 | -171.03 | -245.31 | -228.80 | 0.00 | 0.00 | 0.00 |
| 2,600.00 | 9.81 | 235.12 | 2,574.08 | -180.77 | -259.28 | -241.83 | 0.00 | 0.00 | 0.00 |
| 2,700.00 | 9.81 | 235.12 | 2,672.62 | -190.51 | -273.25 | -254.87 | 0.00 | 0.00 | 0.00 |
| 2,800.00 | 9.81 | 235.12 | 2,771.16 | -200.26 | -287.23 | -267.90 | 0.00 | 0.00 | 0.00 |
| 2,900.00 | 9.81 | 235.12 | 2,869.70 | -210.00 | -301.20 | -280.94 | 0.00 | 0.00 | 0.00 |
| 3,000.00 | 9.81 | 235.12 | 2,968.23 | -219.74 | -315.18 | -293.97 | 0.00 | 0.00 | 0.00 |
| 3,100.00 | 9.81 | 235.12 | 3,066.77 | -229.48 | -329.15 | -307.01 | 0.00 | 0.00 | 0.00 |
| 3,142.85 | 9.81 | 235.12 | 3,109.00 | -233.66 | -335.14 | -312.59 | 0.00 | 0.00 | 0.00 |
| Base of Upper Pierre aquifer | | | | | | | | | |
| 3,200.00 | 9.81 | 235.12 | 3,165.31 | -239.23 | -343.13 | -320.04 | 0.00 | 0.00 | 0.00 |
| 3,300.00 | 9.81 | 235.12 | 3,263.85 | -248.97 | -357.10 | -333.07 | 0.00 | 0.00 | 0.00 |
| 3,400.00 | 9.81 | 235.12 | 3,362.39 | -258.71 | -371.08 | -346.11 | 0.00 | 0.00 | 0.00 |
| 3,500.00 | 9.81 | 235.12 | 3,460.92 | -268.46 | -385.05 | -359.14 | 0.00 | 0.00 | 0.00 |
| 3,600.00 | 9.81 | 235.12 | 3,559.46 | -278.20 | -399.02 | -372.18 | 0.00 | 0.00 | 0.00 |
| 3,700.00 | 9.81 | 235.12 | 3,658.00 | -287.94 | -413.00 | -385.21 | 0.00 | 0.00 | 0.00 |

Planning Report

| | | | |
|------------------|------------------------------|-------------------------------------|-----------------------------------|
| Database: | EDT_32Bit_ODBC | Local Co-ordinate Reference: | Well LUSSING TRUST 4-64 19-20 2BH |
| Company: | CRESTONE PEAK RESOURCES | TVD Reference: | KB 25' @ 5721.00usft |
| Project: | ARAPAHOE COUNTY | MD Reference: | KB 25' @ 5721.00usft |
| Site: | SEC 19-T4S-R64W | North Reference: | True |
| Well: | LUSSING TRUST 4-64 19-20 2BH | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OWB | | |
| Design: | PROPOSAL 1 | | |

| Planned Survey | | | | | | | | | |
|-------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-----------------------|----------------------|---------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 3,800.00 | 9.81 | 235.12 | 3,756.54 | -297.68 | -426.97 | -398.24 | 0.00 | 0.00 | 0.00 |
| 3,900.00 | 9.81 | 235.12 | 3,855.08 | -307.43 | -440.95 | -411.28 | 0.00 | 0.00 | 0.00 |
| 4,000.00 | 9.81 | 235.12 | 3,953.62 | -317.17 | -454.92 | -424.31 | 0.00 | 0.00 | 0.00 |
| 4,100.00 | 9.81 | 235.12 | 4,052.15 | -326.91 | -468.90 | -437.35 | 0.00 | 0.00 | 0.00 |
| 4,117.10 | 9.81 | 235.12 | 4,069.00 | -328.58 | -471.29 | -439.58 | 0.00 | 0.00 | 0.00 |
| Larimer ("Parkman") sandstone | | | | | | | | | |
| 4,200.00 | 9.81 | 235.12 | 4,150.69 | -336.66 | -482.87 | -450.38 | 0.00 | 0.00 | 0.00 |
| 4,249.02 | 9.81 | 235.12 | 4,199.00 | -341.43 | -489.72 | -456.77 | 0.00 | 0.00 | 0.00 |
| Pierre Formation | | | | | | | | | |
| 4,300.00 | 9.81 | 235.12 | 4,249.23 | -346.40 | -496.85 | -463.42 | 0.00 | 0.00 | 0.00 |
| 4,400.00 | 9.81 | 235.12 | 4,347.77 | -356.14 | -510.82 | -476.45 | 0.00 | 0.00 | 0.00 |
| 4,500.00 | 9.81 | 235.12 | 4,446.31 | -365.89 | -524.79 | -489.48 | 0.00 | 0.00 | 0.00 |
| 4,600.00 | 9.81 | 235.12 | 4,544.85 | -375.63 | -538.77 | -502.52 | 0.00 | 0.00 | 0.00 |
| 4,700.00 | 9.81 | 235.12 | 4,643.38 | -385.37 | -552.74 | -515.55 | 0.00 | 0.00 | 0.00 |
| 4,800.00 | 9.81 | 235.12 | 4,741.92 | -395.11 | -566.72 | -528.59 | 0.00 | 0.00 | 0.00 |
| 4,900.00 | 9.81 | 235.12 | 4,840.46 | -404.86 | -580.69 | -541.62 | 0.00 | 0.00 | 0.00 |
| 5,000.00 | 9.81 | 235.12 | 4,939.00 | -414.60 | -594.67 | -554.66 | 0.00 | 0.00 | 0.00 |
| 5,100.00 | 9.81 | 235.12 | 5,037.54 | -424.34 | -608.64 | -567.69 | 0.00 | 0.00 | 0.00 |
| 5,200.00 | 9.81 | 235.12 | 5,136.08 | -434.09 | -622.61 | -580.72 | 0.00 | 0.00 | 0.00 |
| 5,300.00 | 9.81 | 235.12 | 5,234.61 | -443.83 | -636.59 | -593.76 | 0.00 | 0.00 | 0.00 |
| 5,334.90 | 9.81 | 235.12 | 5,269.00 | -447.23 | -641.47 | -598.31 | 0.00 | 0.00 | 0.00 |
| Terry ("Sussex") sandstone | | | | | | | | | |
| 5,400.00 | 9.81 | 235.12 | 5,333.15 | -453.57 | -650.56 | -606.79 | 0.00 | 0.00 | 0.00 |
| 5,500.00 | 9.81 | 235.12 | 5,431.69 | -463.31 | -664.54 | -619.83 | 0.00 | 0.00 | 0.00 |
| 5,507.42 | 9.81 | 235.12 | 5,439.00 | -464.04 | -665.57 | -620.79 | 0.00 | 0.00 | 0.00 |
| Pierre Formation | | | | | | | | | |
| 5,600.00 | 9.81 | 235.12 | 5,530.23 | -473.06 | -678.51 | -632.86 | 0.00 | 0.00 | 0.00 |
| 5,700.00 | 9.81 | 235.12 | 5,628.77 | -482.80 | -692.49 | -645.89 | 0.00 | 0.00 | 0.00 |
| 5,800.00 | 9.81 | 235.12 | 5,727.31 | -492.54 | -706.46 | -658.93 | 0.00 | 0.00 | 0.00 |
| 5,900.00 | 9.81 | 235.12 | 5,825.84 | -502.29 | -720.44 | -671.96 | 0.00 | 0.00 | 0.00 |
| 6,000.00 | 9.81 | 235.12 | 5,924.38 | -512.03 | -734.41 | -685.00 | 0.00 | 0.00 | 0.00 |
| 6,100.00 | 9.81 | 235.12 | 6,022.92 | -521.77 | -748.38 | -698.03 | 0.00 | 0.00 | 0.00 |
| 6,200.00 | 9.81 | 235.12 | 6,121.46 | -531.52 | -762.36 | -711.07 | 0.00 | 0.00 | 0.00 |
| 6,248.25 | 9.81 | 235.12 | 6,169.00 | -536.22 | -769.10 | -717.35 | 0.00 | 0.00 | 0.00 |
| Hygiene ("Shannon") sandstone | | | | | | | | | |
| 6,300.00 | 9.81 | 235.12 | 6,220.00 | -541.26 | -776.33 | -724.10 | 0.00 | 0.00 | 0.00 |
| 6,400.00 | 9.81 | 235.12 | 6,318.53 | -551.00 | -790.31 | -737.13 | 0.00 | 0.00 | 0.00 |
| 6,481.66 | 9.81 | 235.12 | 6,399.00 | -558.96 | -801.72 | -747.78 | 0.00 | 0.00 | 0.00 |
| Pierre Formation | | | | | | | | | |
| 6,500.00 | 9.81 | 235.12 | 6,417.07 | -560.74 | -804.28 | -750.17 | 0.00 | 0.00 | 0.00 |
| 6,600.00 | 9.81 | 235.12 | 6,515.61 | -570.49 | -818.26 | -763.20 | 0.00 | 0.00 | 0.00 |
| 6,700.00 | 9.81 | 235.12 | 6,614.15 | -580.23 | -832.23 | -776.24 | 0.00 | 0.00 | 0.00 |
| 6,800.00 | 9.81 | 235.12 | 6,712.69 | -589.97 | -846.21 | -789.27 | 0.00 | 0.00 | 0.00 |
| 6,900.00 | 9.81 | 235.12 | 6,811.23 | -599.72 | -860.18 | -802.30 | 0.00 | 0.00 | 0.00 |
| 7,000.00 | 9.81 | 235.12 | 6,909.76 | -609.46 | -874.15 | -815.34 | 0.00 | 0.00 | 0.00 |
| 7,071.64 | 9.81 | 235.12 | 6,980.36 | -616.44 | -884.17 | -824.68 | 0.00 | 0.00 | 0.00 |
| Start DLS 10.00 TFO -143.65 | | | | | | | | | |
| 7,100.00 | 7.71 | 222.49 | 7,008.39 | -619.22 | -887.43 | -827.68 | 10.00 | -7.41 | -44.53 |
| 7,150.00 | 5.80 | 181.97 | 7,058.07 | -624.22 | -889.79 | -829.57 | 10.00 | -3.82 | -81.04 |
| 7,200.00 | 7.59 | 140.68 | 7,107.75 | -629.30 | -887.78 | -827.11 | 10.00 | 3.59 | -82.57 |
| 7,250.00 | 11.46 | 121.10 | 7,157.06 | -634.43 | -881.43 | -820.32 | 10.00 | 7.75 | -39.17 |
| 7,300.00 | 15.97 | 111.84 | 7,205.63 | -639.56 | -870.78 | -809.25 | 10.00 | 9.01 | -18.52 |
| 7,350.00 | 20.70 | 106.65 | 7,253.08 | -644.65 | -855.92 | -793.99 | 10.00 | 9.46 | -10.38 |

Planning Report

| | | | |
|------------------|------------------------------|-------------------------------------|-----------------------------------|
| Database: | EDT_32Bit_ODBC | Local Co-ordinate Reference: | Well LUSSING TRUST 4-64 19-20 2BH |
| Company: | CRESTONE PEAK RESOURCES | TVD Reference: | KB 25' @ 5721.00usft |
| Project: | ARAPAHOE COUNTY | MD Reference: | KB 25' @ 5721.00usft |
| Site: | SEC 19-T4S-R64W | North Reference: | True |
| Well: | LUSSING TRUST 4-64 19-20 2BH | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OWB | | |
| Design: | PROPOSAL 1 | | |

| Planned Survey | | | | | | | | | |
|---|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-----------------------|----------------------|---------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 7,400.00 | 25.53 | 103.33 | 7,299.05 | -649.67 | -836.95 | -774.65 | 10.00 | 9.66 | -6.62 |
| 7,450.00 | 30.41 | 101.02 | 7,343.20 | -654.58 | -814.03 | -751.38 | 10.00 | 9.76 | -4.62 |
| 7,500.00 | 35.33 | 99.30 | 7,385.18 | -659.34 | -787.33 | -724.35 | 10.00 | 9.82 | -3.45 |
| 7,550.00 | 40.26 | 97.95 | 7,424.68 | -663.91 | -757.04 | -693.77 | 10.00 | 9.86 | -2.70 |
| 7,600.00 | 45.20 | 96.85 | 7,461.40 | -668.27 | -723.41 | -659.88 | 10.00 | 9.89 | -2.20 |
| 7,650.00 | 50.16 | 95.93 | 7,495.06 | -672.37 | -686.68 | -622.93 | 10.00 | 9.91 | -1.85 |
| 7,680.55 | 53.18 | 95.42 | 7,514.00 | -674.73 | -662.83 | -598.97 | 10.00 | 9.92 | -1.64 |
| Sharon Springs Member | | | | | | | | | |
| 7,700.00 | 55.11 | 95.12 | 7,525.39 | -676.18 | -647.14 | -583.21 | 10.00 | 9.92 | -1.54 |
| 7,750.00 | 60.08 | 94.42 | 7,552.18 | -679.68 | -605.08 | -541.01 | 10.00 | 9.93 | -1.42 |
| 7,800.00 | 65.05 | 93.77 | 7,575.21 | -682.85 | -560.83 | -496.65 | 10.00 | 9.93 | -1.28 |
| 7,850.00 | 70.02 | 93.18 | 7,594.31 | -685.64 | -514.73 | -450.49 | 10.00 | 9.94 | -1.18 |
| 7,900.00 | 74.99 | 92.63 | 7,609.34 | -688.06 | -467.12 | -402.85 | 10.00 | 9.94 | -1.11 |
| 7,950.00 | 79.96 | 92.10 | 7,620.18 | -690.06 | -418.36 | -354.12 | 10.00 | 9.95 | -1.06 |
| 8,000.00 | 84.94 | 91.58 | 7,626.75 | -691.65 | -368.84 | -304.65 | 10.00 | 9.95 | -1.03 |
| 8,050.91 | 90.00 | 91.07 | 7,629.00 | -692.83 | -318.01 | -253.93 | 10.00 | 9.95 | -1.01 |
| Start 5140.83 hold at 8050.91 MD - Niobrara Formation | | | | | | | | | |
| 8,100.00 | 90.00 | 91.07 | 7,629.00 | -693.74 | -268.93 | -204.96 | 0.00 | 0.00 | 0.00 |
| 8,200.00 | 90.00 | 91.07 | 7,629.00 | -695.60 | -168.94 | -105.22 | 0.00 | 0.00 | 0.00 |
| 8,300.00 | 90.00 | 91.07 | 7,629.00 | -697.47 | -68.96 | -5.48 | 0.00 | 0.00 | 0.00 |
| 8,400.00 | 90.00 | 91.07 | 7,629.00 | -699.33 | 31.02 | 94.26 | 0.00 | 0.00 | 0.00 |
| 8,500.00 | 90.00 | 91.07 | 7,629.00 | -701.19 | 131.00 | 194.00 | 0.00 | 0.00 | 0.00 |
| 8,600.00 | 90.00 | 91.07 | 7,629.00 | -703.05 | 230.99 | 293.74 | 0.00 | 0.00 | 0.00 |
| 8,700.00 | 90.00 | 91.07 | 7,629.00 | -704.91 | 330.97 | 393.48 | 0.00 | 0.00 | 0.00 |
| 8,800.00 | 90.00 | 91.07 | 7,629.00 | -706.78 | 430.95 | 493.22 | 0.00 | 0.00 | 0.00 |
| 8,900.00 | 90.00 | 91.07 | 7,629.00 | -708.64 | 530.93 | 592.96 | 0.00 | 0.00 | 0.00 |
| 9,000.00 | 90.00 | 91.07 | 7,629.00 | -710.50 | 630.92 | 692.70 | 0.00 | 0.00 | 0.00 |
| 9,100.00 | 90.00 | 91.07 | 7,629.00 | -712.36 | 730.90 | 792.44 | 0.00 | 0.00 | 0.00 |
| 9,200.00 | 90.00 | 91.07 | 7,629.00 | -714.22 | 830.88 | 892.18 | 0.00 | 0.00 | 0.00 |
| 9,300.00 | 90.00 | 91.07 | 7,629.00 | -716.08 | 930.87 | 991.92 | 0.00 | 0.00 | 0.00 |
| 9,400.00 | 90.00 | 91.07 | 7,629.00 | -717.95 | 1,030.85 | 1,091.66 | 0.00 | 0.00 | 0.00 |
| 9,500.00 | 90.00 | 91.07 | 7,629.00 | -719.81 | 1,130.83 | 1,191.40 | 0.00 | 0.00 | 0.00 |
| 9,600.00 | 90.00 | 91.07 | 7,629.00 | -721.67 | 1,230.81 | 1,291.14 | 0.00 | 0.00 | 0.00 |
| 9,700.00 | 90.00 | 91.07 | 7,629.00 | -723.53 | 1,330.80 | 1,390.88 | 0.00 | 0.00 | 0.00 |
| 9,800.00 | 90.00 | 91.07 | 7,629.00 | -725.39 | 1,430.78 | 1,490.62 | 0.00 | 0.00 | 0.00 |
| 9,900.00 | 90.00 | 91.07 | 7,629.00 | -727.26 | 1,530.76 | 1,590.36 | 0.00 | 0.00 | 0.00 |
| 10,000.00 | 90.00 | 91.07 | 7,629.00 | -729.12 | 1,630.74 | 1,690.10 | 0.00 | 0.00 | 0.00 |
| 10,100.00 | 90.00 | 91.07 | 7,629.00 | -730.98 | 1,730.73 | 1,789.84 | 0.00 | 0.00 | 0.00 |
| 10,200.00 | 90.00 | 91.07 | 7,629.00 | -732.84 | 1,830.71 | 1,889.58 | 0.00 | 0.00 | 0.00 |
| 10,300.00 | 90.00 | 91.07 | 7,629.00 | -734.70 | 1,930.69 | 1,989.32 | 0.00 | 0.00 | 0.00 |
| 10,400.00 | 90.00 | 91.07 | 7,629.00 | -736.56 | 2,030.67 | 2,089.06 | 0.00 | 0.00 | 0.00 |
| 10,500.00 | 90.00 | 91.07 | 7,629.00 | -738.43 | 2,130.66 | 2,188.80 | 0.00 | 0.00 | 0.00 |
| 10,600.00 | 90.00 | 91.07 | 7,629.00 | -740.29 | 2,230.64 | 2,288.54 | 0.00 | 0.00 | 0.00 |
| 10,700.00 | 90.00 | 91.07 | 7,629.00 | -742.15 | 2,330.62 | 2,388.28 | 0.00 | 0.00 | 0.00 |
| 10,800.00 | 90.00 | 91.07 | 7,629.00 | -744.01 | 2,430.61 | 2,488.02 | 0.00 | 0.00 | 0.00 |
| 10,900.00 | 90.00 | 91.07 | 7,629.00 | -745.87 | 2,530.59 | 2,587.76 | 0.00 | 0.00 | 0.00 |
| 11,000.00 | 90.00 | 91.07 | 7,629.00 | -747.74 | 2,630.57 | 2,687.50 | 0.00 | 0.00 | 0.00 |
| 11,100.00 | 90.00 | 91.07 | 7,629.00 | -749.60 | 2,730.55 | 2,787.24 | 0.00 | 0.00 | 0.00 |
| 11,200.00 | 90.00 | 91.07 | 7,629.00 | -751.46 | 2,830.54 | 2,886.98 | 0.00 | 0.00 | 0.00 |
| 11,300.00 | 90.00 | 91.07 | 7,629.00 | -753.32 | 2,930.52 | 2,986.72 | 0.00 | 0.00 | 0.00 |
| 11,400.00 | 90.00 | 91.07 | 7,629.00 | -755.18 | 3,030.50 | 3,086.46 | 0.00 | 0.00 | 0.00 |
| 11,500.00 | 90.00 | 91.07 | 7,629.00 | -757.05 | 3,130.48 | 3,186.20 | 0.00 | 0.00 | 0.00 |
| 11,600.00 | 90.00 | 91.07 | 7,629.00 | -758.91 | 3,230.47 | 3,285.94 | 0.00 | 0.00 | 0.00 |
| 11,700.00 | 90.00 | 91.07 | 7,629.00 | -760.77 | 3,330.45 | 3,385.68 | 0.00 | 0.00 | 0.00 |

Planning Report

| | | | |
|------------------|------------------------------|-------------------------------------|-----------------------------------|
| Database: | EDT_32Bit_ODBC | Local Co-ordinate Reference: | Well LUSSING TRUST 4-64 19-20 2BH |
| Company: | CRESTONE PEAK RESOURCES | TVD Reference: | KB 25' @ 5721.00usft |
| Project: | ARAPAHOE COUNTY | MD Reference: | KB 25' @ 5721.00usft |
| Site: | SEC 19-T4S-R64W | North Reference: | True |
| Well: | LUSSING TRUST 4-64 19-20 2BH | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OWB | | |
| Design: | PROPOSAL 1 | | |

| Planned Survey | | | | | | | | | |
|-----------------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-----------------------|----------------------|---------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 11,800.00 | 90.00 | 91.07 | 7,629.00 | -762.63 | 3,430.43 | 3,485.42 | 0.00 | 0.00 | 0.00 |
| 11,900.00 | 90.00 | 91.07 | 7,629.00 | -764.49 | 3,530.41 | 3,585.16 | 0.00 | 0.00 | 0.00 |
| 12,000.00 | 90.00 | 91.07 | 7,629.00 | -766.35 | 3,630.40 | 3,684.90 | 0.00 | 0.00 | 0.00 |
| 12,100.00 | 90.00 | 91.07 | 7,629.00 | -768.22 | 3,730.38 | 3,784.64 | 0.00 | 0.00 | 0.00 |
| 12,200.00 | 90.00 | 91.07 | 7,629.00 | -770.08 | 3,830.36 | 3,884.38 | 0.00 | 0.00 | 0.00 |
| 12,300.00 | 90.00 | 91.07 | 7,629.00 | -771.94 | 3,930.35 | 3,984.12 | 0.00 | 0.00 | 0.00 |
| 12,400.00 | 90.00 | 91.07 | 7,629.00 | -773.80 | 4,030.33 | 4,083.86 | 0.00 | 0.00 | 0.00 |
| 12,500.00 | 90.00 | 91.07 | 7,629.00 | -775.66 | 4,130.31 | 4,183.60 | 0.00 | 0.00 | 0.00 |
| 12,600.00 | 90.00 | 91.07 | 7,629.00 | -777.53 | 4,230.29 | 4,283.34 | 0.00 | 0.00 | 0.00 |
| 12,700.00 | 90.00 | 91.07 | 7,629.00 | -779.39 | 4,330.28 | 4,383.08 | 0.00 | 0.00 | 0.00 |
| 12,800.00 | 90.00 | 91.07 | 7,629.00 | -781.25 | 4,430.26 | 4,482.82 | 0.00 | 0.00 | 0.00 |
| 12,900.00 | 90.00 | 91.07 | 7,629.00 | -783.11 | 4,530.24 | 4,582.56 | 0.00 | 0.00 | 0.00 |
| 13,000.00 | 90.00 | 91.07 | 7,629.00 | -784.97 | 4,630.22 | 4,682.30 | 0.00 | 0.00 | 0.00 |
| 13,100.00 | 90.00 | 91.07 | 7,629.00 | -786.83 | 4,730.21 | 4,782.04 | 0.00 | 0.00 | 0.00 |
| 13,191.74 | 90.00 | 91.07 | 7,629.00 | -788.54 | 4,821.93 | 4,873.54 | 0.00 | 0.00 | 0.00 |
| Start DLS 2.00 TFO 90.00 | | | | | | | | | |
| 13,197.56 | 90.00 | 91.18 | 7,629.00 | -788.66 | 4,827.75 | 4,879.35 | 2.00 | 0.00 | 2.00 |
| Start 4970.01 hold at 13197.56 MD | | | | | | | | | |
| 13,200.00 | 90.00 | 91.18 | 7,629.00 | -788.71 | 4,830.19 | 4,881.78 | 0.00 | 0.00 | 0.00 |
| 13,300.00 | 90.00 | 91.18 | 7,629.00 | -790.77 | 4,930.17 | 4,981.54 | 0.00 | 0.00 | 0.00 |
| 13,400.00 | 90.00 | 91.18 | 7,629.00 | -792.84 | 5,030.15 | 5,081.29 | 0.00 | 0.00 | 0.00 |
| 13,500.00 | 90.00 | 91.18 | 7,629.00 | -794.90 | 5,130.13 | 5,181.05 | 0.00 | 0.00 | 0.00 |
| 13,600.00 | 90.00 | 91.18 | 7,629.00 | -796.97 | 5,230.10 | 5,280.80 | 0.00 | 0.00 | 0.00 |
| 13,700.00 | 90.00 | 91.18 | 7,629.00 | -799.03 | 5,330.08 | 5,380.56 | 0.00 | 0.00 | 0.00 |
| 13,800.00 | 90.00 | 91.18 | 7,629.00 | -801.10 | 5,430.06 | 5,480.31 | 0.00 | 0.00 | 0.00 |
| 13,900.00 | 90.00 | 91.18 | 7,629.00 | -803.16 | 5,530.04 | 5,580.07 | 0.00 | 0.00 | 0.00 |
| 14,000.00 | 90.00 | 91.18 | 7,629.00 | -805.23 | 5,630.02 | 5,679.82 | 0.00 | 0.00 | 0.00 |
| 14,100.00 | 90.00 | 91.18 | 7,629.00 | -807.29 | 5,730.00 | 5,779.57 | 0.00 | 0.00 | 0.00 |
| 14,200.00 | 90.00 | 91.18 | 7,629.00 | -809.36 | 5,829.98 | 5,879.33 | 0.00 | 0.00 | 0.00 |
| 14,300.00 | 90.00 | 91.18 | 7,629.00 | -811.43 | 5,929.95 | 5,979.08 | 0.00 | 0.00 | 0.00 |
| 14,400.00 | 90.00 | 91.18 | 7,629.00 | -813.49 | 6,029.93 | 6,078.84 | 0.00 | 0.00 | 0.00 |
| 14,500.00 | 90.00 | 91.18 | 7,629.00 | -815.56 | 6,129.91 | 6,178.59 | 0.00 | 0.00 | 0.00 |
| 14,600.00 | 90.00 | 91.18 | 7,629.00 | -817.62 | 6,229.89 | 6,278.35 | 0.00 | 0.00 | 0.00 |
| 14,700.00 | 90.00 | 91.18 | 7,629.00 | -819.69 | 6,329.87 | 6,378.10 | 0.00 | 0.00 | 0.00 |
| 14,800.00 | 90.00 | 91.18 | 7,629.00 | -821.75 | 6,429.85 | 6,477.86 | 0.00 | 0.00 | 0.00 |
| 14,900.00 | 90.00 | 91.18 | 7,629.00 | -823.82 | 6,529.83 | 6,577.61 | 0.00 | 0.00 | 0.00 |
| 15,000.00 | 90.00 | 91.18 | 7,629.00 | -825.88 | 6,629.81 | 6,677.37 | 0.00 | 0.00 | 0.00 |
| 15,100.00 | 90.00 | 91.18 | 7,629.00 | -827.95 | 6,729.78 | 6,777.12 | 0.00 | 0.00 | 0.00 |
| 15,200.00 | 90.00 | 91.18 | 7,629.00 | -830.01 | 6,829.76 | 6,876.87 | 0.00 | 0.00 | 0.00 |
| 15,300.00 | 90.00 | 91.18 | 7,629.00 | -832.08 | 6,929.74 | 6,976.63 | 0.00 | 0.00 | 0.00 |
| 15,400.00 | 90.00 | 91.18 | 7,629.00 | -834.14 | 7,029.72 | 7,076.38 | 0.00 | 0.00 | 0.00 |
| 15,500.00 | 90.00 | 91.18 | 7,629.00 | -836.21 | 7,129.70 | 7,176.14 | 0.00 | 0.00 | 0.00 |
| 15,600.00 | 90.00 | 91.18 | 7,629.00 | -838.27 | 7,229.68 | 7,275.89 | 0.00 | 0.00 | 0.00 |
| 15,700.00 | 90.00 | 91.18 | 7,629.00 | -840.34 | 7,329.66 | 7,375.65 | 0.00 | 0.00 | 0.00 |
| 15,800.00 | 90.00 | 91.18 | 7,629.00 | -842.40 | 7,429.63 | 7,475.40 | 0.00 | 0.00 | 0.00 |
| 15,900.00 | 90.00 | 91.18 | 7,629.00 | -844.47 | 7,529.61 | 7,575.16 | 0.00 | 0.00 | 0.00 |
| 16,000.00 | 90.00 | 91.18 | 7,629.00 | -846.53 | 7,629.59 | 7,674.91 | 0.00 | 0.00 | 0.00 |
| 16,100.00 | 90.00 | 91.18 | 7,629.00 | -848.60 | 7,729.57 | 7,774.67 | 0.00 | 0.00 | 0.00 |
| 16,200.00 | 90.00 | 91.18 | 7,629.00 | -850.66 | 7,829.55 | 7,874.42 | 0.00 | 0.00 | 0.00 |
| 16,300.00 | 90.00 | 91.18 | 7,629.00 | -852.73 | 7,929.53 | 7,974.17 | 0.00 | 0.00 | 0.00 |
| 16,400.00 | 90.00 | 91.18 | 7,629.00 | -854.80 | 8,029.51 | 8,073.93 | 0.00 | 0.00 | 0.00 |
| 16,500.00 | 90.00 | 91.18 | 7,629.00 | -856.86 | 8,129.49 | 8,173.68 | 0.00 | 0.00 | 0.00 |
| 16,600.00 | 90.00 | 91.18 | 7,629.00 | -858.93 | 8,229.46 | 8,273.44 | 0.00 | 0.00 | 0.00 |
| 16,700.00 | 90.00 | 91.18 | 7,629.00 | -860.99 | 8,329.44 | 8,373.19 | 0.00 | 0.00 | 0.00 |

Planning Report

| | | | |
|------------------|------------------------------|-------------------------------------|-----------------------------------|
| Database: | EDT_32Bit_ODBC | Local Co-ordinate Reference: | Well LUSSING TRUST 4-64 19-20 2BH |
| Company: | CRESTONE PEAK RESOURCES | TVD Reference: | KB 25' @ 5721.00usft |
| Project: | ARAPAHOE COUNTY | MD Reference: | KB 25' @ 5721.00usft |
| Site: | SEC 19-T4S-R64W | North Reference: | True |
| Well: | LUSSING TRUST 4-64 19-20 2BH | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OWB | | |
| Design: | PROPOSAL 1 | | |

| Planned Survey | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-----------------------|----------------------|---------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 16,800.00 | 90.00 | 91.18 | 7,629.00 | -863.06 | 8,429.42 | 8,472.95 | 0.00 | 0.00 | 0.00 |
| 16,900.00 | 90.00 | 91.18 | 7,629.00 | -865.12 | 8,529.40 | 8,572.70 | 0.00 | 0.00 | 0.00 |
| 17,000.00 | 90.00 | 91.18 | 7,629.00 | -867.19 | 8,629.38 | 8,672.46 | 0.00 | 0.00 | 0.00 |
| 17,100.00 | 90.00 | 91.18 | 7,629.00 | -869.25 | 8,729.36 | 8,772.21 | 0.00 | 0.00 | 0.00 |
| 17,200.00 | 90.00 | 91.18 | 7,629.00 | -871.32 | 8,829.34 | 8,871.97 | 0.00 | 0.00 | 0.00 |
| 17,300.00 | 90.00 | 91.18 | 7,629.00 | -873.38 | 8,929.31 | 8,971.72 | 0.00 | 0.00 | 0.00 |
| 17,400.00 | 90.00 | 91.18 | 7,629.00 | -875.45 | 9,029.29 | 9,071.48 | 0.00 | 0.00 | 0.00 |
| 17,500.00 | 90.00 | 91.18 | 7,629.00 | -877.51 | 9,129.27 | 9,171.23 | 0.00 | 0.00 | 0.00 |
| 17,600.00 | 90.00 | 91.18 | 7,629.00 | -879.58 | 9,229.25 | 9,270.98 | 0.00 | 0.00 | 0.00 |
| 17,700.00 | 90.00 | 91.18 | 7,629.00 | -881.64 | 9,329.23 | 9,370.74 | 0.00 | 0.00 | 0.00 |
| 17,800.00 | 90.00 | 91.18 | 7,629.00 | -883.71 | 9,429.21 | 9,470.49 | 0.00 | 0.00 | 0.00 |
| 17,900.00 | 90.00 | 91.18 | 7,629.00 | -885.77 | 9,529.19 | 9,570.25 | 0.00 | 0.00 | 0.00 |
| 18,000.00 | 90.00 | 91.18 | 7,629.00 | -887.84 | 9,629.17 | 9,670.00 | 0.00 | 0.00 | 0.00 |
| 18,100.00 | 90.00 | 91.18 | 7,629.00 | -889.90 | 9,729.14 | 9,769.76 | 0.00 | 0.00 | 0.00 |
| 18,167.58 | 90.00 | 91.18 | 7,629.00 | -891.30 | 9,796.71 | 9,837.17 | 0.00 | 0.00 | 0.00 |
| TD at 18167.58 | | | | | | | | | |

| Design Targets | | | | | | | | | |
|--|---------------|--------------|------------|--------------|--------------|-----------------|----------------|-------------|--------------|
| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
| MP-LT 4-64 19-20 2BH - plan hits target center - Point | 0.00 | 0.00 | 7,629.00 | -788.54 | 4,821.93 | 1,677,625.94 | 3,257,789.98 | 39.690315°N | 104.583956°W |
| LP-LT 4-64 19-20 2BH - plan hits target center - Point | 0.00 | 0.00 | 7,629.00 | -692.83 | -318.01 | 1,677,670.79 | 3,252,649.41 | 39.690579°N | 104.602220°W |
| PBHL-LT 4-64 19-20 2BH - plan hits target center - Point | 0.00 | 0.00 | 7,629.00 | -891.30 | 9,796.71 | 1,677,572.41 | 3,262,765.48 | 39.690029°N | 104.566279°W |

Planning Report

| | | | |
|------------------|------------------------------|-------------------------------------|-----------------------------------|
| Database: | EDT_32Bit_ODBC | Local Co-ordinate Reference: | Well LUSSING TRUST 4-64 19-20 2BH |
| Company: | CRESTONE PEAK RESOURCES | TVD Reference: | KB 25' @ 5721.00usft |
| Project: | ARAPAHOE COUNTY | MD Reference: | KB 25' @ 5721.00usft |
| Site: | SEC 19-T4S-R64W | North Reference: | True |
| Well: | LUSSING TRUST 4-64 19-20 2BH | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OWB | | |
| Design: | PROPOSAL 1 | | |

| Formations | | | | | | |
|-----------------------|-----------------------|-------------------------------|-----------|---------|-------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Name | Lithology | Dip (°) | Dip Direction (°) | |
| 24.00 | 24.00 | Denver | | | | |
| 639.05 | 639.00 | Arapahoe | | | | |
| 1,245.11 | 1,239.00 | Laramie-Fox Hills Formation | | | | |
| 1,975.80 | 1,959.00 | Pierre Formation | | | | |
| 2,473.06 | 2,449.00 | Upper Pierre aquifer | | | | |
| 3,142.85 | 3,109.00 | Base of Upper Pierre aquifer | | | | |
| 4,117.10 | 4,069.00 | Larimer ("Parkman") sandstone | | | | |
| 4,249.02 | 4,199.00 | Pierre Formation | | | | |
| 5,334.90 | 5,269.00 | Terry ("Sussex") sandstone | | | | |
| 5,507.42 | 5,439.00 | Pierre Formation | | | | |
| 6,248.25 | 6,169.00 | Hygiene ("Shannon") sandstone | | | | |
| 6,481.66 | 6,399.00 | Pierre Formation | | | | |
| 7,680.55 | 7,514.00 | Sharon Springs Member | | | | |
| 8,050.91 | 7,629.00 | Niobrara Formation | | | | |

| Plan Annotations | | | | | |
|-----------------------|-----------------------|-------------------|--------------|-----------------------------------|--|
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates | | | |
| | | +N/-S (usft) | +E/-W (usft) | Comment | |
| 500.00 | 500.00 | 0.00 | 0.00 | Start Build 2.00 | |
| 990.42 | 988.03 | -23.95 | -34.35 | Start 6081.22 hold at 990.42 MD | |
| 7,071.64 | 6,980.36 | -616.44 | -884.17 | Start DLS 10.00 TFO -143.65 | |
| 8,050.91 | 7,629.00 | -692.83 | -318.01 | Start 5140.83 hold at 8050.91 MD | |
| 13,191.74 | 7,629.00 | -788.54 | 4,821.93 | Start DLS 2.00 TFO 90.00 | |
| 13,197.56 | 7,629.00 | -788.66 | 4,827.75 | Start 4970.01 hold at 13197.56 MD | |
| 18,167.58 | 7,629.00 | -891.30 | 9,796.71 | TD at 18167.58 | |