



Company: B.P.
Project: La Plata County, CO NAD83
Site: Tiffany Pad 4
Well: Tiffany 4-1
Wellbore: Lateral 1 ST1
Design: Plan #1

PROJECT DETAILS: La Plata County, CO NAD83

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Southern Zone
System Datum: Mean Sea Level
Local North: Grid



Plan: Plan #1 (Tiffany 4-1/Lateral 1 ST1)

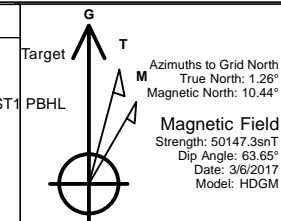
Created By: Janie Collins Date: 13:19, March 09 2017

WELL DETAILS: Tiffany 4-1

+N/-S +E/-W GL 6460' & RKB 11' @ 6471.00usft (Aztec 507) 6460.00
Northing Easting Latitude Longitude Slot
1159793.57 2402838.16 37.0875389 -107.5472999

SECTION DETAILS

| MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | TFace | VSec |
|---------|-------|--------|---------|---------|----------|------|--------|----------------------------|
| 3486.00 | 91.09 | 331.57 | 2990.05 | 732.70 | -396.67 | 0.00 | 0.00 | 757.61 |
| 4069.09 | 90.98 | 302.41 | 2979.29 | 1154.41 | -790.08 | 5.00 | -89.93 | 1325.55 |
| 9681.05 | 90.98 | 302.41 | 2883.00 | 4161.73 | -5527.25 | 0.00 | 0.00 | 6918.85 Tiff 4-1 Lat 1 ST1 |

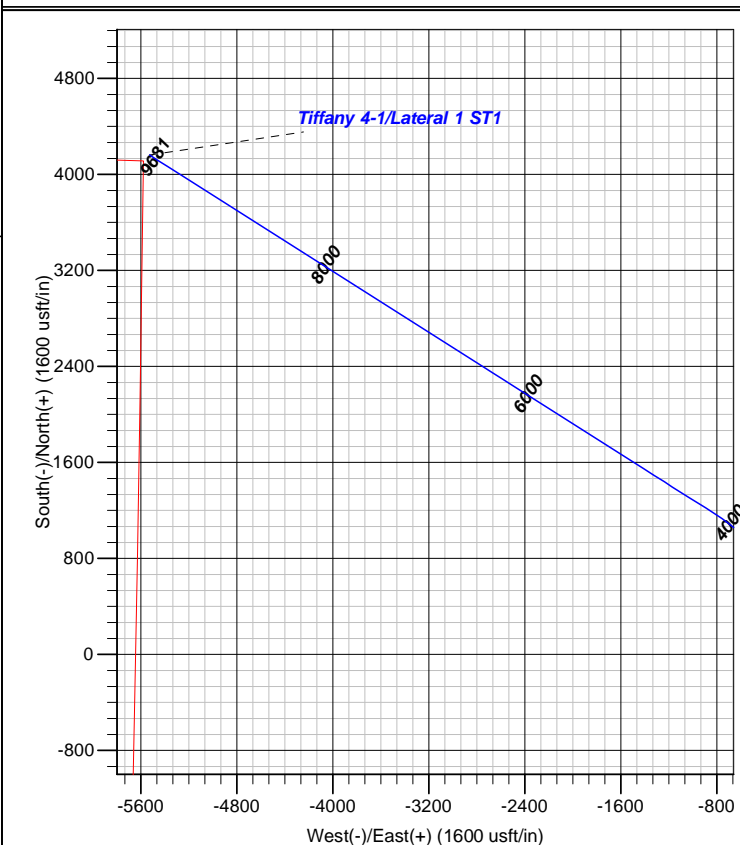
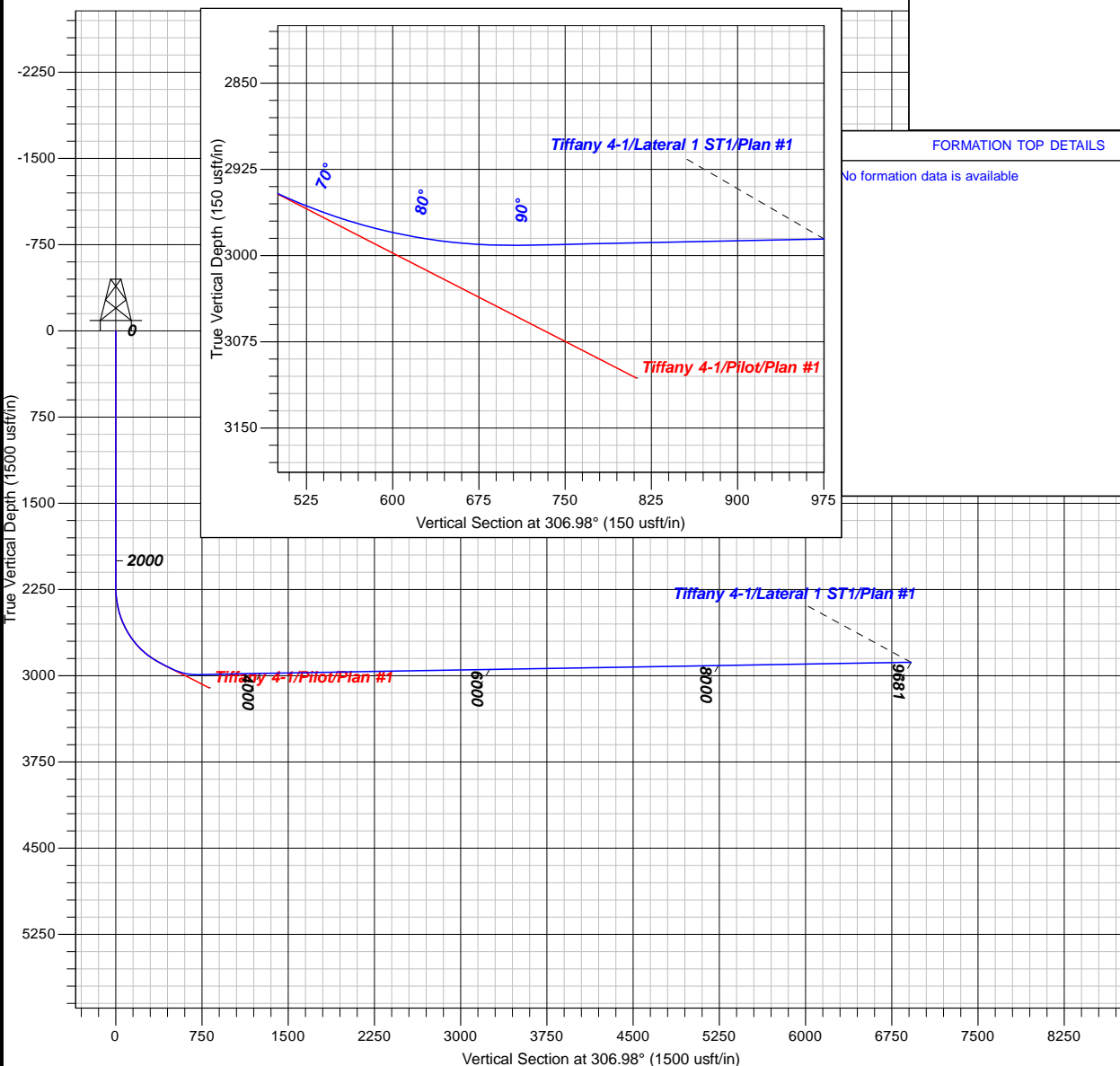


FORMATION TOP DETAILS

No formation data is available

TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
|-------------------------|---------|---------|----------|------------|------------|------------|-------------|
| Tiff 4-1 Lat 1 ST1 PBHL | 2883.00 | 4161.73 | -5527.25 | 1163955.30 | 2397310.91 | 37.0986316 | -107.568555 |





B.P.

La Plata County, CO NAD83

Tiffany Pad 4

Tiffany 4-1

Lateral 1 ST1

Plan: Plan #1

Standard Planning Report

09 March, 2017





| | | | |
|------------------|---------------------------|-------------------------------------|--|
| Database: | Grand Junction District | Local Co-ordinate Reference: | Well Tiffany 4-1 |
| Company: | B.P. | TVD Reference: | GL 6460' & RKB 11' @ 6471.00usft (Aztec 507) |
| Project: | La Plata County, CO NAD83 | MD Reference: | GL 6460' & RKB 11' @ 6471.00usft (Aztec 507) |
| Site: | Tiffany Pad 4 | North Reference: | Grid |
| Well: | Tiffany 4-1 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Lateral 1 ST1 | | |
| Design: | Plan #1 | | |

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

| | | | | | |
|-----------------------|-----------|---------------|-------------------|-------------------|--------------|
| Site | | Tiffany Pad 4 | | | |
| Site Position: | | Northing: | 1,159,793.57 usft | Latitude: | 37.0875389 |
| From: | Map | Easting: | 2,402,838.16 usft | Longitude: | -107.5473000 |
| Position Uncertainty: | 0.00 usft | Slot Radius: | 13.20 in | Grid Convergence: | -1.26 ° |

| Well | Tiffany 4-1 | | | | | |
|----------------------|-------------|-----------|---------------------|-------------------|---------------|---------------|
| Well Position | +N/-S | 0.00 usft | Northing: | 1,159,793.57 usft | Latitude: | 37.0875389 |
| | +E/-W | 0.00 usft | Easting: | 2,402,838.16 usft | Longitude: | -107.5473000 |
| Position Uncertainty | | 0.00 usft | Wellhead Elevation: | 0.00 usft | Ground Level: | 6,460.00 usft |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Lateral 1 ST1 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | HDGM | 3/6/2017 | 9.18 | 63.65 | 50,147 |

| | | | | |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|
| Design | Plan #1 | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PLAN | Tie On Depth: | 3,486.00 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
| | 0.00 | 0.00 | 0.00 | 306.98 |

| 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 |
| 3,486.00 | 91.09 | 331.57 | 2,990.05 | 732.70 | -396.67 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 4,069.09 | 90.98 | 302.41 | 2,979.29 | 1,154.41 | -790.08 | 5.00 | -0.02 | -5.00 | -89.93 | |
| 9,681.05 | 90.98 | 302.41 | 2,883.00 | 4,161.73 | -5,527.25 | 0.00 | 0.00 | 0.00 | 0.00 | Tiff 4-1 Lat 1 ST1 PB† |



| | | | |
|------------------|---------------------------|-------------------------------------|--|
| Database: | Grand Junction District | Local Co-ordinate Reference: | Well Tiffany 4-1 |
| Company: | B.P. | TVD Reference: | GL 6460' & RKB 11' @ 6471.00usft (Aztec 507) |
| Project: | La Plata County, CO NAD83 | MD Reference: | GL 6460' & RKB 11' @ 6471.00usft (Aztec 507) |
| Site: | Tiffany Pad 4 | North Reference: | Grid |
| Well: | Tiffany 4-1 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Lateral 1 ST1 | | |
| Design: | Plan #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) |
| 3,486.00 | 91.09 | 331.57 | 2,990.05 | 732.70 | -396.67 | 757.61 | 0.00 | 0.00 | 0.00 |
| 3,500.00 | 91.09 | 330.87 | 2,989.79 | 744.97 | -403.41 | 770.38 | 5.00 | 0.01 | -5.00 |
| 3,600.00 | 91.09 | 325.87 | 2,987.89 | 830.07 | -455.83 | 863.44 | 5.00 | 0.00 | -5.00 |
| 3,700.00 | 91.08 | 320.87 | 2,985.99 | 910.28 | -515.47 | 959.33 | 5.00 | -0.01 | -5.00 |
| 3,800.00 | 91.06 | 315.87 | 2,984.12 | 984.98 | -581.88 | 1,057.31 | 5.00 | -0.02 | -5.00 |
| 3,900.00 | 91.04 | 310.86 | 2,982.28 | 1,053.61 | -654.54 | 1,156.65 | 5.00 | -0.02 | -5.00 |
| 4,000.00 | 91.01 | 305.86 | 2,980.49 | 1,115.65 | -732.91 | 1,256.57 | 5.00 | -0.03 | -5.00 |
| 4,069.09 | 90.98 | 302.41 | 2,979.29 | 1,154.41 | -790.08 | 1,325.55 | 5.00 | -0.04 | -5.00 |
| 4,100.00 | 90.98 | 302.41 | 2,978.76 | 1,170.97 | -816.17 | 1,356.36 | 0.00 | 0.00 | 0.00 |
| 4,200.00 | 90.98 | 302.41 | 2,977.04 | 1,224.56 | -900.58 | 1,456.03 | 0.00 | 0.00 | 0.00 |
| 4,300.00 | 90.98 | 302.41 | 2,975.33 | 1,278.15 | -985.00 | 1,555.69 | 0.00 | 0.00 | 0.00 |
| 4,400.00 | 90.98 | 302.41 | 2,973.61 | 1,331.73 | -1,069.41 | 1,655.36 | 0.00 | 0.00 | 0.00 |
| 4,500.00 | 90.98 | 302.41 | 2,971.90 | 1,385.32 | -1,153.82 | 1,755.03 | 0.00 | 0.00 | 0.00 |
| 4,600.00 | 90.98 | 302.41 | 2,970.18 | 1,438.91 | -1,238.23 | 1,854.70 | 0.00 | 0.00 | 0.00 |
| 4,700.00 | 90.98 | 302.41 | 2,968.47 | 1,492.50 | -1,322.65 | 1,954.37 | 0.00 | 0.00 | 0.00 |
| 4,800.00 | 90.98 | 302.41 | 2,966.75 | 1,546.08 | -1,407.06 | 2,054.03 | 0.00 | 0.00 | 0.00 |
| 4,900.00 | 90.98 | 302.41 | 2,965.03 | 1,599.67 | -1,491.47 | 2,153.70 | 0.00 | 0.00 | 0.00 |
| 5,000.00 | 90.98 | 302.41 | 2,963.32 | 1,653.26 | -1,575.88 | 2,253.37 | 0.00 | 0.00 | 0.00 |
| 5,100.00 | 90.98 | 302.41 | 2,961.60 | 1,706.85 | -1,660.29 | 2,353.04 | 0.00 | 0.00 | 0.00 |
| 5,200.00 | 90.98 | 302.41 | 2,959.89 | 1,760.44 | -1,744.71 | 2,452.70 | 0.00 | 0.00 | 0.00 |
| 5,300.00 | 90.98 | 302.41 | 2,958.17 | 1,814.02 | -1,829.12 | 2,552.37 | 0.00 | 0.00 | 0.00 |
| 5,400.00 | 90.98 | 302.41 | 2,956.45 | 1,867.61 | -1,913.53 | 2,652.04 | 0.00 | 0.00 | 0.00 |
| 5,500.00 | 90.98 | 302.41 | 2,954.74 | 1,921.20 | -1,997.94 | 2,751.71 | 0.00 | 0.00 | 0.00 |
| 5,600.00 | 90.98 | 302.41 | 2,953.02 | 1,974.79 | -2,082.35 | 2,851.37 | 0.00 | 0.00 | 0.00 |
| 5,700.00 | 90.98 | 302.41 | 2,951.31 | 2,028.37 | -2,166.77 | 2,951.04 | 0.00 | 0.00 | 0.00 |
| 5,800.00 | 90.98 | 302.41 | 2,949.59 | 2,081.96 | -2,251.18 | 3,050.71 | 0.00 | 0.00 | 0.00 |
| 5,900.00 | 90.98 | 302.41 | 2,947.88 | 2,135.55 | -2,335.59 | 3,150.38 | 0.00 | 0.00 | 0.00 |
| 6,000.00 | 90.98 | 302.41 | 2,946.16 | 2,189.14 | -2,420.00 | 3,250.04 | 0.00 | 0.00 | 0.00 |
| 6,100.00 | 90.98 | 302.41 | 2,944.44 | 2,242.73 | -2,504.41 | 3,349.71 | 0.00 | 0.00 | 0.00 |
| 6,200.00 | 90.98 | 302.41 | 2,942.73 | 2,296.31 | -2,588.83 | 3,449.38 | 0.00 | 0.00 | 0.00 |
| 6,300.00 | 90.98 | 302.41 | 2,941.01 | 2,349.90 | -2,673.24 | 3,549.05 | 0.00 | 0.00 | 0.00 |
| 6,400.00 | 90.98 | 302.41 | 2,939.30 | 2,403.49 | -2,757.65 | 3,648.71 | 0.00 | 0.00 | 0.00 |
| 6,500.00 | 90.98 | 302.41 | 2,937.58 | 2,457.08 | -2,842.06 | 3,748.38 | 0.00 | 0.00 | 0.00 |
| 6,600.00 | 90.98 | 302.41 | 2,935.86 | 2,510.67 | -2,926.48 | 3,848.05 | 0.00 | 0.00 | 0.00 |
| 6,700.00 | 90.98 | 302.41 | 2,934.15 | 2,564.25 | -3,010.89 | 3,947.72 | 0.00 | 0.00 | 0.00 |
| 6,800.00 | 90.98 | 302.41 | 2,932.43 | 2,617.84 | -3,095.30 | 4,047.38 | 0.00 | 0.00 | 0.00 |
| 6,900.00 | 90.98 | 302.41 | 2,930.72 | 2,671.43 | -3,179.71 | 4,147.05 | 0.00 | 0.00 | 0.00 |
| 7,000.00 | 90.98 | 302.41 | 2,929.00 | 2,725.02 | -3,264.12 | 4,246.72 | 0.00 | 0.00 | 0.00 |
| 7,100.00 | 90.98 | 302.41 | 2,927.29 | 2,778.60 | -3,348.54 | 4,346.39 | 0.00 | 0.00 | 0.00 |
| 7,200.00 | 90.98 | 302.41 | 2,925.57 | 2,832.19 | -3,432.95 | 4,446.05 | 0.00 | 0.00 | 0.00 |
| 7,300.00 | 90.98 | 302.41 | 2,923.85 | 2,885.78 | -3,517.36 | 4,545.72 | 0.00 | 0.00 | 0.00 |
| 7,400.00 | 90.98 | 302.41 | 2,922.14 | 2,939.37 | -3,601.77 | 4,645.39 | 0.00 | 0.00 | 0.00 |
| 7,500.00 | 90.98 | 302.41 | 2,920.42 | 2,992.96 | -3,686.18 | 4,745.06 | 0.00 | 0.00 | 0.00 |
| 7,600.00 | 90.98 | 302.41 | 2,918.71 | 3,046.54 | -3,770.60 | 4,844.72 | 0.00 | 0.00 | 0.00 |
| 7,700.00 | 90.98 | 302.41 | 2,916.99 | 3,100.13 | -3,855.01 | 4,944.39 | 0.00 | 0.00 | 0.00 |
| 7,800.00 | 90.98 | 302.41 | 2,915.28 | 3,153.72 | -3,939.42 | 5,044.06 | 0.00 | 0.00 | 0.00 |
| 7,900.00 | 90.98 | 302.41 | 2,913.56 | 3,207.31 | -4,023.83 | 5,143.73 | 0.00 | 0.00 | 0.00 |
| 8,000.00 | 90.98 | 302.41 | 2,911.84 | 3,260.89 | -4,108.24 | 5,243.39 | 0.00 | 0.00 | 0.00 |
| 8,100.00 | 90.98 | 302.41 | 2,910.13 | 3,314.48 | -4,192.66 | 5,343.06 | 0.00 | 0.00 | 0.00 |
| 8,200.00 | 90.98 | 302.41 | 2,908.41 | 3,368.07 | -4,277.07 | 5,442.73 | 0.00 | 0.00 | 0.00 |
| 8,300.00 | 90.98 | 302.41 | 2,906.70 | 3,421.66 | -4,361.48 | 5,542.40 | 0.00 | 0.00 | 0.00 |
| 8,400.00 | 90.98 | 302.41 | 2,904.98 | 3,475.25 | -4,445.89 | 5,642.06 | 0.00 | 0.00 | 0.00 |



| | | | |
|------------------|---------------------------|-------------------------------------|--|
| Database: | Grand Junction District | Local Co-ordinate Reference: | Well Tiffany 4-1 |
| Company: | B.P. | TVD Reference: | GL 6460' & RKB 11' @ 6471.00usft (Aztec 507) |
| Project: | La Plata County, CO NAD83 | MD Reference: | GL 6460' & RKB 11' @ 6471.00usft (Aztec 507) |
| Site: | Tiffany Pad 4 | North Reference: | Grid |
| Well: | Tiffany 4-1 | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Lateral 1 ST1 | | |
| Design: | Plan #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) |
| 8,500.00 | 90.98 | 302.41 | 2,903.26 | 3,528.83 | -4,530.31 | 5,741.73 | 0.00 | 0.00 | 0.00 |
| 8,600.00 | 90.98 | 302.41 | 2,901.55 | 3,582.42 | -4,614.72 | 5,841.40 | 0.00 | 0.00 | 0.00 |
| 8,700.00 | 90.98 | 302.41 | 2,899.83 | 3,636.01 | -4,699.13 | 5,941.07 | 0.00 | 0.00 | 0.00 |
| 8,800.00 | 90.98 | 302.41 | 2,898.12 | 3,689.60 | -4,783.54 | 6,040.73 | 0.00 | 0.00 | 0.00 |
| 8,900.00 | 90.98 | 302.41 | 2,896.40 | 3,743.18 | -4,867.95 | 6,140.40 | 0.00 | 0.00 | 0.00 |
| 9,000.00 | 90.98 | 302.41 | 2,894.69 | 3,796.77 | -4,952.37 | 6,240.07 | 0.00 | 0.00 | 0.00 |
| 9,100.00 | 90.98 | 302.41 | 2,892.97 | 3,850.36 | -5,036.78 | 6,339.74 | 0.00 | 0.00 | 0.00 |
| 9,200.00 | 90.98 | 302.41 | 2,891.25 | 3,903.95 | -5,121.19 | 6,439.40 | 0.00 | 0.00 | 0.00 |
| 9,300.00 | 90.98 | 302.41 | 2,889.54 | 3,957.54 | -5,205.60 | 6,539.07 | 0.00 | 0.00 | 0.00 |
| 9,400.00 | 90.98 | 302.41 | 2,887.82 | 4,011.12 | -5,290.01 | 6,638.74 | 0.00 | 0.00 | 0.00 |
| 9,500.00 | 90.98 | 302.41 | 2,886.11 | 4,064.71 | -5,374.43 | 6,738.41 | 0.00 | 0.00 | 0.00 |
| 9,600.00 | 90.98 | 302.41 | 2,884.39 | 4,118.30 | -5,458.84 | 6,838.07 | 0.00 | 0.00 | 0.00 |
| 9,681.05 | 90.98 | 302.41 | 2,883.00 | 4,161.73 | -5,527.25 | 6,918.85 | 0.00 | 0.00 | 0.00 |
| Tiff 4-1 Lat 1 ST1 PBHL | | | | | | | | | |

| Design Targets | | | | | | | | | |
|---------------------------|---------------|--------------|------------|--------------|--------------|-----------------|----------------|------------|--------------|
| Target Name | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
| - hit/miss target | | | | | | | | | |
| - Shape | | | | | | | | | |
| Tiff 4-1 Lat 1 ST1 PBHL | 0.00 | 360.00 | 2,883.00 | 4,161.73 | -5,527.25 | 1,163,955.30 | 2,397,310.91 | 37.0986316 | -107.5665590 |
| - plan hits target center | | | | | | | | | |
| - Point | | | | | | | | | |