



Tamaroa Operating, LLC.

Chaves County, N.M.

Section 2-8S-28E Spitfire 5H

Spitfire 5H

Original Hole

Plan: Plan #3-Rev

Standard Planning Report

04 June, 2019



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Spitfire 5H
Company:	Tamaroa Operating, LLC	TVD Reference:	4025+15 @ 4040.0usft
Project:	Chaves County, N.M.	MD Reference:	4025+15 @ 4040.0usft
Site:	Section 2-8S-28E Spitfire 5H	North Reference:	Grid
Well:	Spitfire 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #3-Rev		

Project	Chaves County, N.M.		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Section 2-8S-28E Spitfire 5H		
Site Position:		Northing:	961,385.30 usft
From:	Map	Easting:	582,734.30 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	33° 38' 33.006 N
		Longitude:	104° 3' 41.354 W
		Grid Convergence:	0.15 °

Well	Spitfire 5H		
Well Position	+N/-S	0.0 usft	Northing: 961,385.30 usft
	+E/-W	0.0 usft	Easting: 582,734.30 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	15.0 usft
		Latitude:	33° 38' 33.006 N
		Longitude:	104° 3' 41.354 W
		Ground Level:	4,025.0 usft

Wellbore	Original Hole		
Magnetics	Model Name	Sample Date	Declination
	IGRF2015	05/06/19	(°)
			7.09
			Dip Angle (°)
			61.24
			Field Strength (nT)
			48,520.75179827

Design	Plan #3-Rev		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			355.97

Plan Survey Tool Program	Date	06/04/19		
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks
(usft)	(usft)			
1	0.0	7,113.7	Plan #3-Rev (Original Hole)	

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,665.7	0.00	0.00	1,665.7	0.0	0.0	0.00	0.00	0.00	0.00	
2,434.9	50.00	326.00	2,340.9	261.0	-176.1	6.50	6.50	0.00	326.00	
2,534.9	50.00	326.00	2,405.2	324.5	-218.9	0.00	0.00	0.00	0.00	
2,998.9	90.70	359.79	2,562.0	731.1	-326.3	11.00	8.77	7.28	45.66	
7,114.4	90.70	359.79	2,512.0	4,846.3	-341.5	0.00	0.00	0.00	0.00	PBHL P3 Spitfire 5H

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Spitfire 5H
Company:	Tamaroa Operating, LLC	TVD Reference:	4025+15 @ 4040.0usft
Project:	Chaves County, N.M.	MD Reference:	4025+15 @ 4040.0usft
Site:	Section 2-8S-28E Spitfire 5H	North Reference:	Grid
Well:	Spitfire 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #3-Rev		

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)
0.0	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
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,665.7	0.00	0.00	1,665.7	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	2.23	326.00	1,700.0	0.6	-0.4	0.6	6.50	6.50	0.00
1,800.0	8.73	326.00	1,799.5	8.5	-5.7	8.8	6.50	6.50	0.00
1,900.0	15.23	326.00	1,897.3	25.7	-17.3	26.8	6.50	6.50	0.00
2,000.0	21.73	326.00	1,992.0	51.9	-35.0	54.3	6.50	6.50	0.00
2,100.0	28.23	326.00	2,082.6	86.9	-58.6	90.8	6.50	6.50	0.00
2,200.0	34.73	326.00	2,167.9	130.2	-87.8	136.0	6.50	6.50	0.00
2,300.0	41.23	326.00	2,246.7	181.2	-122.2	189.3	6.50	6.50	0.00
2,400.0	47.73	326.00	2,318.0	239.2	-161.4	250.0	6.50	6.50	0.00
2,434.9	50.00	326.00	2,340.9	261.0	-176.1	272.8	6.50	6.50	0.00
2,500.0	50.00	326.00	2,382.8	302.4	-203.9	316.0	0.00	0.00	0.00
2,534.9	50.00	326.00	2,405.2	324.5	-218.9	339.1	0.00	0.00	0.00
2,600.0	55.18	332.23	2,444.8	368.9	-245.3	385.2	11.00	7.95	9.58
2,700.0	63.65	340.40	2,495.7	447.7	-279.6	466.2	11.00	8.47	8.17
2,800.0	72.51	347.43	2,533.0	536.7	-305.1	556.8	11.00	8.87	7.03
2,900.0	81.61	353.79	2,555.4	632.7	-320.9	653.7	11.00	9.09	6.36
2,998.9	90.70	359.79	2,562.0	731.1	-326.3	752.2	11.00	9.19	6.07
3,000.0	90.70	359.79	2,562.0	732.2	-326.3	753.3	0.00	0.00	0.00
3,100.0	90.70	359.79	2,560.8	832.2	-326.7	853.1	0.00	0.00	0.00
3,200.0	90.70	359.79	2,559.6	932.2	-327.1	952.9	0.00	0.00	0.00
3,300.0	90.70	359.79	2,558.4	1,032.2	-327.5	1,052.6	0.00	0.00	0.00
3,400.0	90.70	359.79	2,557.2	1,132.2	-327.8	1,152.4	0.00	0.00	0.00
3,500.0	90.70	359.79	2,555.9	1,232.1	-328.2	1,252.2	0.00	0.00	0.00
3,600.0	90.70	359.79	2,554.7	1,332.1	-328.6	1,351.9	0.00	0.00	0.00
3,700.0	90.70	359.79	2,553.5	1,432.1	-328.9	1,451.7	0.00	0.00	0.00
3,800.0	90.70	359.79	2,552.3	1,532.1	-329.3	1,551.5	0.00	0.00	0.00
3,900.0	90.70	359.79	2,551.1	1,632.1	-329.7	1,651.3	0.00	0.00	0.00
4,000.0	90.70	359.79	2,549.9	1,732.1	-330.0	1,751.0	0.00	0.00	0.00
4,100.0	90.70	359.79	2,548.7	1,832.1	-330.4	1,850.8	0.00	0.00	0.00
4,200.0	90.70	359.79	2,547.4	1,932.1	-330.8	1,950.6	0.00	0.00	0.00
4,300.0	90.70	359.79	2,546.2	2,032.1	-331.1	2,050.3	0.00	0.00	0.00
4,400.0	90.70	359.79	2,545.0	2,132.1	-331.5	2,150.1	0.00	0.00	0.00
4,500.0	90.70	359.79	2,543.8	2,232.1	-331.9	2,249.9	0.00	0.00	0.00
4,600.0	90.70	359.79	2,542.6	2,332.1	-332.2	2,349.6	0.00	0.00	0.00
4,700.0	90.70	359.79	2,541.4	2,432.0	-332.6	2,449.4	0.00	0.00	0.00
4,800.0	90.70	359.79	2,540.1	2,532.0	-333.0	2,549.2	0.00	0.00	0.00
4,900.0	90.70	359.79	2,538.9	2,632.0	-333.3	2,649.0	0.00	0.00	0.00

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Spitfire 5H
Company:	Tamaroa Operating, LLC	TVD Reference:	4025+15 @ 4040.0usft
Project:	Chaves County, N.M.	MD Reference:	4025+15 @ 4040.0usft
Site:	Section 2-8S-28E Spitfire 5H	North Reference:	Grid
Well:	Spitfire 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #3-Rev		

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)
5,000.0	90.70	359.79	2,537.7	2,732.0	-333.7	2,748.7	0.00	0.00	0.00
5,100.0	90.70	359.79	2,536.5	2,832.0	-334.1	2,848.5	0.00	0.00	0.00
5,200.0	90.70	359.79	2,535.3	2,932.0	-334.5	2,948.3	0.00	0.00	0.00
5,300.0	90.70	359.79	2,534.1	3,032.0	-334.8	3,048.0	0.00	0.00	0.00
5,400.0	90.70	359.79	2,532.8	3,132.0	-335.2	3,147.8	0.00	0.00	0.00
5,500.0	90.70	359.79	2,531.6	3,232.0	-335.6	3,247.6	0.00	0.00	0.00
5,600.0	90.70	359.79	2,530.4	3,332.0	-335.9	3,347.3	0.00	0.00	0.00
5,700.0	90.70	359.79	2,529.2	3,432.0	-336.3	3,447.1	0.00	0.00	0.00
5,800.0	90.70	359.79	2,528.0	3,532.0	-336.7	3,546.9	0.00	0.00	0.00
5,900.0	90.70	359.79	2,526.8	3,632.0	-337.0	3,646.7	0.00	0.00	0.00
6,000.0	90.70	359.79	2,525.6	3,731.9	-337.4	3,746.4	0.00	0.00	0.00
6,100.0	90.70	359.79	2,524.3	3,831.9	-337.8	3,846.2	0.00	0.00	0.00
6,200.0	90.70	359.79	2,523.1	3,931.9	-338.1	3,946.0	0.00	0.00	0.00
6,300.0	90.70	359.79	2,521.9	4,031.9	-338.5	4,045.7	0.00	0.00	0.00
6,400.0	90.70	359.79	2,520.7	4,131.9	-338.9	4,145.5	0.00	0.00	0.00
6,500.0	90.70	359.79	2,519.5	4,231.9	-339.2	4,245.3	0.00	0.00	0.00
6,600.0	90.70	359.79	2,518.3	4,331.9	-339.6	4,345.1	0.00	0.00	0.00
6,700.0	90.70	359.79	2,517.0	4,431.9	-340.0	4,444.8	0.00	0.00	0.00
6,800.0	90.70	359.79	2,515.8	4,531.9	-340.3	4,544.6	0.00	0.00	0.00
6,900.0	90.70	359.79	2,514.6	4,631.9	-340.7	4,644.4	0.00	0.00	0.00
7,000.0	90.70	359.79	2,513.4	4,731.9	-341.1	4,744.1	0.00	0.00	0.00
7,100.0	90.70	359.79	2,512.2	4,831.9	-341.4	4,843.9	0.00	0.00	0.00
7,114.4	90.70	359.79	2,512.0	4,846.3	-341.5	4,858.3	0.00	0.00	0.00

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL P3 Spitfire 5H - hit/miss target - Shape - plan hits target center - Point	0.00	0.01	2,512.0	4,846.3	-341.5	966,231.60	582,392.80	33° 39' 20.964 N	104° 3' 45.244 W
FTP P3 Spitfire 5H - plan misses target center by 23.4usft at 2839.8usft MD (2543.8 TVD, 574.3 N, -312.6 E) - Point	0.00	0.00	2,562.0	567.9	-325.8	961,953.20	582,408.50	33° 38' 38.633 N	104° 3' 45.190 W



Tamaroa Operating, LLC.

Chaves County, N.M.

Section 2-8S-28E Spitfire 5H

Spitfire 5H

Original Hole

Plan: Plan #3-Rev

Standard Planning Report - Geographic

04 June, 2019



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Spitfire 5H
Company:	Tamaroa Operating, LLC	TVD Reference:	4025+15 @ 4040.0usft
Project:	Chaves County,N.M.	MD Reference:	4025+15 @ 4040.0usft
Site:	Section 2-8S-28E Spitfire 5H	North Reference:	Grid
Well:	Spitfire 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #3-Rev		

Project	Chaves County,N.M.		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		Section 2-8S-28E Spitfire 5H			
Site Position:		Northing:	961,385.30 usft	Latitude:	33° 38' 33.006 N
From:	Map	Easting:	582,734.30 usft	Longitude:	104° 3' 41.354 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.15

Well	Spitfire 5H					
Well Position	+N/-S	0.0 usft	Northing:	961,385.30 usft	Latitude:	33° 38' 33.006 N
	+E/-W	0.0 usft	Easting:	582,734.30 usft	Longitude:	104° 3' 41.354 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	15.0 usft	Ground Level:	4,025.0 usft

Wellbore	Original Hole
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	05/06/19	7.09	61.24	48,520.75179827

Design	Plan #3-Rev
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Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	355.97

Plan Survey Tool Program		Date 06/04/19		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	7,113.7 Plan #3-Rev (Original Hole)		

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,665.7	0.00	0.00	1,665.7	0.0	0.0	0.00	0.00	0.00	0.00	
2,434.9	50.00	326.00	2,340.9	261.0	-176.1	6.50	6.50	0.00	326.00	
2,534.9	50.00	326.00	2,405.2	324.5	-218.9	0.00	0.00	0.00	0.00	
2,998.9	90.70	359.79	2,562.0	731.1	-326.3	11.00	8.77	7.28	45.66	
7,114.4	90.70	359.79	2,512.0	4,846.3	-341.5	0.00	0.00	0.00	0.00	PBHL P3 Spitfire 5H

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Spitfire 5H
Company:	Tamaroa Operating, LLC	TVD Reference:	4025+15 @ 4040.0usft
Project:	Chaves County, N.M.	MD Reference:	4025+15 @ 4040.0usft
Site:	Section 2-8S-28E Spitfire 5H	North Reference:	Grid
Well:	Spitfire 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #3-Rev		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	961,385.30	582,734.30	33° 38' 33.006 N	104° 3' 41.354 W
100.0	0.00	0.00	100.0	0.0	0.0	961,385.30	582,734.30	33° 38' 33.006 N	104° 3' 41.354 W
200.0	0.00	0.00	200.0	0.0	0.0	961,385.30	582,734.30	33° 38' 33.006 N	104° 3' 41.354 W
300.0	0.00	0.00	300.0	0.0	0.0	961,385.30	582,734.30	33° 38' 33.006 N	104° 3' 41.354 W
400.0	0.00	0.00	400.0	0.0	0.0	961,385.30	582,734.30	33° 38' 33.006 N	104° 3' 41.354 W
500.0	0.00	0.00	500.0	0.0	0.0	961,385.30	582,734.30	33° 38' 33.006 N	104° 3' 41.354 W
600.0	0.00	0.00	600.0	0.0	0.0	961,385.30	582,734.30	33° 38' 33.006 N	104° 3' 41.354 W
700.0	0.00	0.00	700.0	0.0	0.0	961,385.30	582,734.30	33° 38' 33.006 N	104° 3' 41.354 W
800.0	0.00	0.00	800.0	0.0	0.0	961,385.30	582,734.30	33° 38' 33.006 N	104° 3' 41.354 W
900.0	0.00	0.00	900.0	0.0	0.0	961,385.30	582,734.30	33° 38' 33.006 N	104° 3' 41.354 W
1,000.0	0.00	0.00	1,000.0	0.0	0.0	961,385.30	582,734.30	33° 38' 33.006 N	104° 3' 41.354 W
1,100.0	0.00	0.00	1,100.0	0.0	0.0	961,385.30	582,734.30	33° 38' 33.006 N	104° 3' 41.354 W
1,200.0	0.00	0.00	1,200.0	0.0	0.0	961,385.30	582,734.30	33° 38' 33.006 N	104° 3' 41.354 W
1,300.0	0.00	0.00	1,300.0	0.0	0.0	961,385.30	582,734.30	33° 38' 33.006 N	104° 3' 41.354 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	961,385.30	582,734.30	33° 38' 33.006 N	104° 3' 41.354 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	961,385.30	582,734.30	33° 38' 33.006 N	104° 3' 41.354 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	961,385.30	582,734.30	33° 38' 33.006 N	104° 3' 41.354 W
1,665.7	0.00	0.00	1,665.7	0.0	0.0	961,385.30	582,734.30	33° 38' 33.006 N	104° 3' 41.354 W
1,700.0	2.23	326.00	1,700.0	0.6	-0.4	961,385.85	582,733.93	33° 38' 33.011 N	104° 3' 41.359 W
1,800.0	8.73	326.00	1,799.5	8.5	-5.7	961,393.77	582,728.59	33° 38' 33.090 N	104° 3' 41.421 W
1,900.0	15.23	326.00	1,897.3	25.7	-17.3	961,410.97	582,716.99	33° 38' 33.260 N	104° 3' 41.558 W
2,000.0	21.73	326.00	1,992.0	51.9	-35.0	961,437.23	582,699.28	33° 38' 33.520 N	104° 3' 41.767 W
2,100.0	28.23	326.00	2,082.6	86.9	-58.6	961,472.22	582,675.68	33° 38' 33.867 N	104° 3' 42.045 W
2,200.0	34.73	326.00	2,167.9	130.2	-87.8	961,515.49	582,646.49	33° 38' 34.296 N	104° 3' 42.389 W
2,300.0	41.23	326.00	2,246.7	181.2	-122.2	961,566.48	582,612.10	33° 38' 34.801 N	104° 3' 42.794 W
2,400.0	47.73	326.00	2,318.0	239.2	-161.4	961,624.53	582,572.94	33° 38' 35.377 N	104° 3' 43.256 W
2,434.9	50.00	326.00	2,340.9	261.0	-176.1	961,646.34	582,558.23	33° 38' 35.593 N	104° 3' 43.429 W
2,500.0	50.00	326.00	2,382.8	302.4	-203.9	961,687.67	582,530.35	33° 38' 36.003 N	104° 3' 43.757 W
2,534.9	50.00	326.00	2,405.2	324.5	-218.9	961,709.85	582,515.39	33° 38' 36.222 N	104° 3' 43.934 W
2,600.0	55.18	332.23	2,444.8	368.9	-245.3	961,754.20	582,488.98	33° 38' 36.662 N	104° 3' 44.245 W
2,700.0	63.65	340.40	2,495.7	447.7	-279.6	961,832.97	582,454.72	33° 38' 37.442 N	104° 3' 44.647 W
2,800.0	72.51	347.43	2,533.0	536.7	-305.1	961,922.00	582,429.23	33° 38' 38.324 N	104° 3' 44.946 W
2,900.0	81.61	353.79	2,555.4	632.7	-320.9	962,018.01	582,413.45	33° 38' 39.274 N	104° 3' 45.130 W
2,998.9	90.70	359.79	2,562.0	731.1	-326.3	962,116.41	582,407.96	33° 38' 40.248 N	104° 3' 45.192 W
3,000.0	90.70	359.79	2,562.0	732.2	-326.3	962,117.49	582,407.95	33° 38' 40.258 N	104° 3' 45.192 W
3,100.0	90.70	359.79	2,560.8	832.2	-326.7	962,217.48	582,407.59	33° 38' 41.248 N	104° 3' 45.193 W
3,200.0	90.70	359.79	2,559.6	932.2	-327.1	962,317.47	582,407.22	33° 38' 42.237 N	104° 3' 45.194 W
3,300.0	90.70	359.79	2,558.4	1,032.2	-327.5	962,417.46	582,406.85	33° 38' 43.226 N	104° 3' 45.196 W
3,400.0	90.70	359.79	2,557.2	1,132.2	-327.8	962,517.46	582,406.48	33° 38' 44.216 N	104° 3' 45.197 W
3,500.0	90.70	359.79	2,555.9	1,232.1	-328.2	962,617.45	582,406.11	33° 38' 45.205 N	104° 3' 45.198 W
3,600.0	90.70	359.79	2,554.7	1,332.1	-328.6	962,717.44	582,405.74	33° 38' 46.194 N	104° 3' 45.199 W
3,700.0	90.70	359.79	2,553.5	1,432.1	-328.9	962,817.43	582,405.38	33° 38' 47.184 N	104° 3' 45.201 W
3,800.0	90.70	359.79	2,552.3	1,532.1	-329.3	962,917.42	582,405.01	33° 38' 48.173 N	104° 3' 45.202 W
3,900.0	90.70	359.79	2,551.1	1,632.1	-329.7	963,017.42	582,404.64	33° 38' 49.162 N	104° 3' 45.203 W
4,000.0	90.70	359.79	2,549.9	1,732.1	-330.0	963,117.41	582,404.27	33° 38' 50.152 N	104° 3' 45.204 W
4,100.0	90.70	359.79	2,548.7	1,832.1	-330.4	963,217.40	582,403.90	33° 38' 51.141 N	104° 3' 45.206 W
4,200.0	90.70	359.79	2,547.4	1,932.1	-330.8	963,317.39	582,403.54	33° 38' 52.130 N	104° 3' 45.207 W
4,300.0	90.70	359.79	2,546.2	2,032.1	-331.1	963,417.38	582,403.17	33° 38' 53.120 N	104° 3' 45.208 W
4,400.0	90.70	359.79	2,545.0	2,132.1	-331.5	963,517.38	582,402.80	33° 38' 54.109 N	104° 3' 45.209 W
4,500.0	90.70	359.79	2,543.8	2,232.1	-331.9	963,617.37	582,402.43	33° 38' 55.098 N	104° 3' 45.211 W
4,600.0	90.70	359.79	2,542.6	2,332.1	-332.2	963,717.36	582,402.06	33° 38' 56.088 N	104° 3' 45.212 W
4,700.0	90.70	359.79	2,541.4	2,432.0	-332.6	963,817.35	582,401.69	33° 38' 57.077 N	104° 3' 45.213 W
4,800.0	90.70	359.79	2,540.1	2,532.0	-333.0	963,917.34	582,401.33	33° 38' 58.066 N	104° 3' 45.214 W
4,900.0	90.70	359.79	2,538.9	2,632.0	-333.3	964,017.34	582,400.96	33° 38' 59.056 N	104° 3' 45.216 W
5,000.0	90.70	359.79	2,537.7	2,732.0	-333.7	964,117.33	582,400.59	33° 39' 0.045 N	104° 3' 45.217 W

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Spitfire 5H
Company:	Tamaroa Operating, LLC	TVD Reference:	4025+15 @ 4040.0usft
Project:	Chaves County, N.M.	MD Reference:	4025+15 @ 4040.0usft
Site:	Section 2-8S-28E Spitfire 5H	North Reference:	Grid
Well:	Spitfire 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #3-Rev		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,100.0	90.70	359.79	2,536.5	2,832.0	-334.1	964,217.32	582,400.22	33° 39' 1.034 N	104° 3' 45.218 W
5,200.0	90.70	359.79	2,535.3	2,932.0	-334.5	964,317.31	582,399.85	33° 39' 2.024 N	104° 3' 45.220 W
5,300.0	90.70	359.79	2,534.1	3,032.0	-334.8	964,417.30	582,399.48	33° 39' 3.013 N	104° 3' 45.221 W
5,400.0	90.70	359.79	2,532.8	3,132.0	-335.2	964,517.30	582,399.12	33° 39' 4.002 N	104° 3' 45.222 W
5,500.0	90.70	359.79	2,531.6	3,232.0	-335.6	964,617.29	582,398.75	33° 39' 4.992 N	104° 3' 45.223 W
5,600.0	90.70	359.79	2,530.4	3,332.0	-335.9	964,717.28	582,398.38	33° 39' 5.981 N	104° 3' 45.225 W
5,700.0	90.70	359.79	2,529.2	3,432.0	-336.3	964,817.27	582,398.01	33° 39' 6.970 N	104° 3' 45.226 W
5,800.0	90.70	359.79	2,528.0	3,532.0	-336.7	964,917.26	582,397.64	33° 39' 7.960 N	104° 3' 45.227 W
5,900.0	90.70	359.79	2,526.8	3,632.0	-337.0	965,017.25	582,397.28	33° 39' 8.949 N	104° 3' 45.228 W
6,000.0	90.70	359.79	2,525.6	3,731.9	-337.4	965,117.25	582,396.91	33° 39' 9.938 N	104° 3' 45.230 W
6,100.0	90.70	359.79	2,524.3	3,831.9	-337.8	965,217.24	582,396.54	33° 39' 10.928 N	104° 3' 45.231 W
6,200.0	90.70	359.79	2,523.1	3,931.9	-338.1	965,317.23	582,396.17	33° 39' 11.917 N	104° 3' 45.232 W
6,300.0	90.70	359.79	2,521.9	4,031.9	-338.5	965,417.22	582,395.80	33° 39' 12.906 N	104° 3' 45.233 W
6,400.0	90.70	359.79	2,520.7	4,131.9	-338.9	965,517.21	582,395.43	33° 39' 13.896 N	104° 3' 45.235 W
6,500.0	90.70	359.79	2,519.5	4,231.9	-339.2	965,617.21	582,395.07	33° 39' 14.885 N	104° 3' 45.236 W
6,600.0	90.70	359.79	2,518.3	4,331.9	-339.6	965,717.20	582,394.70	33° 39' 15.874 N	104° 3' 45.237 W
6,700.0	90.70	359.79	2,517.0	4,431.9	-340.0	965,817.19	582,394.33	33° 39' 16.864 N	104° 3' 45.238 W
6,800.0	90.70	359.79	2,515.8	4,531.9	-340.3	965,917.18	582,393.96	33° 39' 17.853 N	104° 3' 45.240 W
6,900.0	90.70	359.79	2,514.6	4,631.9	-340.7	966,017.17	582,393.59	33° 39' 18.842 N	104° 3' 45.241 W
7,000.0	90.70	359.79	2,513.4	4,731.9	-341.1	966,117.17	582,393.22	33° 39' 19.832 N	104° 3' 45.242 W
7,100.0	90.70	359.79	2,512.2	4,831.9	-341.4	966,217.16	582,392.86	33° 39' 20.821 N	104° 3' 45.243 W
7,114.4	90.70	359.79	2,512.0	4,846.3	-341.5	966,231.60	582,392.80	33° 39' 20.964 N	104° 3' 45.244 W

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									
PBHL P3 Spitfire 5H	0.00	0.01	2,512.0	4,846.3	-341.5	966,231.60	582,392.80	33° 39' 20.964 N	104° 3' 45.244 W
- plan hits target center									
- Point									
FTP P3 Spitfire 5H	0.00	0.00	2,562.0	567.9	-325.8	961,953.20	582,408.50	33° 38' 38.633 N	104° 3' 45.190 W
- plan misses target center by 23.4usft at 2839.8usft MD (2543.8 TVD, 574.3 N, -312.6 E)									
- Point									