



Tamaroa Development , LLC.

Chaves County,N.M.

Section 25-8S-28E Hellcat 2H

Hellcat 2H

Original Hole

Plan: Plan #3

Standard Planning Report - Geographic

20 May, 2019



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Hellcat 2H
Company:	Tamaroa Development, LLC	TVD Reference:	3943 + 20 @ 3963.0usft
Project:	Chaves County, N.M.	MD Reference:	3943 + 20 @ 3963.0usft
Site:	Section 25-8S-28E Hellcat 2H	North Reference:	Grid
Well:	Hellcat 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #3		

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 25-8S-28E Hellcat 2H			
Site Position:		Northing:	942,965.80 usft	Latitude:	33° 35' 30.548 N
From:	Map	Easting:	590,609.30 usft	Longitude:	104° 2' 8.830 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.16 °

Well	Hellcat 2H					
Well Position	+N/-S	0.0 usft	Northing:	942,965.80 usft	Latitude:	33° 35' 30.548 N
	+E/-W	0.0 usft	Easting:	590,609.30 usft	Longitude:	104° 2' 8.830 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	20.0 usft	Ground Level:	3,943.0 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2015	05/06/19	7.07	61.20	48,494.56456061

Design	Plan #3			
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	356.16

Plan Survey Tool Program	Date	05/20/19		
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks
(usft)	(usft)			
1	0.0	7,085.0 Plan #3 (Original Hole)		

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(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	
1,681.0	0.00	0.00	1,681.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,514.3	50.00	327.00	2,412.5	286.1	-185.8	6.00	6.00	0.00	327.00	
2,614.3	50.00	327.00	2,476.8	350.3	-227.5	0.00	0.00	0.00	0.00	
3,031.2	90.00	0.01	2,620.0	716.2	-320.4	12.00	9.59	7.92	45.30	
7,085.0	90.00	0.01	2,620.0	4,770.0	-320.0	0.00	0.00	0.00	0.00	PBHL HellCat 2H

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Helicat 2H
Company:	Tamaroa Development, LLC	TVD Reference:	3943 + 20 @ 3963.0usft
Project:	Chaves County, N.M	MD Reference:	3943 + 20 @ 3963.0usft
Site:	Section 25-8S-28E Helicat 2H	North Reference:	Grid
Well:	Helicat 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #3		

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	942,965.80	590,609.30	33° 35' 30.548 N	104° 2' 8.830 W
100.0	0.00	0.00	100.0	0.0	0.0	942,965.80	590,609.30	33° 35' 30.548 N	104° 2' 8.830 W
200.0	0.00	0.00	200.0	0.0	0.0	942,965.80	590,609.30	33° 35' 30.548 N	104° 2' 8.830 W
300.0	0.00	0.00	300.0	0.0	0.0	942,965.80	590,609.30	33° 35' 30.548 N	104° 2' 8.830 W
400.0	0.00	0.00	400.0	0.0	0.0	942,965.80	590,609.30	33° 35' 30.548 N	104° 2' 8.830 W
500.0	0.00	0.00	500.0	0.0	0.0	942,965.80	590,609.30	33° 35' 30.548 N	104° 2' 8.830 W
600.0	0.00	0.00	600.0	0.0	0.0	942,965.80	590,609.30	33° 35' 30.548 N	104° 2' 8.830 W
700.0	0.00	0.00	700.0	0.0	0.0	942,965.80	590,609.30	33° 35' 30.548 N	104° 2' 8.830 W
800.0	0.00	0.00	800.0	0.0	0.0	942,965.80	590,609.30	33° 35' 30.548 N	104° 2' 8.830 W
900.0	0.00	0.00	900.0	0.0	0.0	942,965.80	590,609.30	33° 35' 30.548 N	104° 2' 8.830 W
1,000.0	0.00	0.00	1,000.0	0.0	0.0	942,965.80	590,609.30	33° 35' 30.548 N	104° 2' 8.830 W
1,100.0	0.00	0.00	1,100.0	0.0	0.0	942,965.80	590,609.30	33° 35' 30.548 N	104° 2' 8.830 W
1,200.0	0.00	0.00	1,200.0	0.0	0.0	942,965.80	590,609.30	33° 35' 30.548 N	104° 2' 8.830 W
1,300.0	0.00	0.00	1,300.0	0.0	0.0	942,965.80	590,609.30	33° 35' 30.548 N	104° 2' 8.830 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	942,965.80	590,609.30	33° 35' 30.548 N	104° 2' 8.830 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	942,965.80	590,609.30	33° 35' 30.548 N	104° 2' 8.830 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	942,965.80	590,609.30	33° 35' 30.548 N	104° 2' 8.830 W
1,681.0	0.00	0.00	1,681.0	0.0	0.0	942,965.80	590,609.30	33° 35' 30.548 N	104° 2' 8.830 W
1,700.0	1.14	327.00	1,700.0	0.2	-0.1	942,965.96	590,609.20	33° 35' 30.550 N	104° 2' 8.831 W
1,800.0	7.14	327.00	1,799.7	6.2	-4.0	942,972.01	590,605.27	33° 35' 30.610 N	104° 2' 8.878 W
1,900.0	13.14	327.00	1,898.1	21.0	-13.6	942,986.77	590,595.69	33° 35' 30.756 N	104° 2' 8.990 W
2,000.0	19.14	327.00	1,994.1	44.3	-28.8	943,010.07	590,580.55	33° 35' 30.987 N	104° 2' 9.168 W
2,100.0	25.14	327.00	2,086.7	75.9	-49.3	943,041.67	590,560.04	33° 35' 31.300 N	104° 2' 9.410 W
2,200.0	31.14	327.00	2,174.8	115.4	-74.9	943,081.20	590,534.36	33° 35' 31.692 N	104° 2' 9.712 W
2,300.0	37.14	327.00	2,257.6	162.4	-105.5	943,128.25	590,503.81	33° 35' 32.159 N	104° 2' 10.072 W
2,400.0	43.14	327.00	2,334.0	216.5	-140.6	943,182.29	590,468.71	33° 35' 32.694 N	104° 2' 10.485 W
2,500.0	49.14	327.00	2,403.2	276.9	-179.8	943,242.73	590,429.46	33° 35' 33.293 N	104° 2' 10.947 W
2,514.3	50.00	327.00	2,412.5	286.1	-185.8	943,251.88	590,423.52	33° 35' 33.384 N	104° 2' 11.017 W
2,600.0	50.00	327.00	2,467.6	341.1	-221.5	943,306.92	590,387.78	33° 35' 33.930 N	104° 2' 11.437 W
2,614.3	50.00	327.00	2,476.8	350.3	-227.5	943,316.13	590,381.80	33° 35' 34.021 N	104° 2' 11.508 W
2,700.0	57.57	335.64	2,527.4	410.9	-260.4	943,376.74	590,348.93	33° 35' 34.622 N	104° 2' 11.894 W
2,800.0	67.01	344.02	2,573.9	493.9	-290.6	943,459.74	590,318.74	33° 35' 35.444 N	104° 2' 12.248 W
2,900.0	76.84	351.28	2,605.0	586.7	-310.7	943,552.46	590,298.62	33° 35' 36.362 N	104° 2' 12.483 W
3,000.0	86.86	357.96	2,619.1	685.0	-319.9	943,650.84	590,289.42	33° 35' 37.335 N	104° 2' 12.588 W
3,031.2	90.00	0.01	2,620.0	716.2	-320.4	943,682.05	590,288.87	33° 35' 37.644 N	104° 2' 12.594 W
3,100.0	90.00	0.01	2,620.0	785.0	-320.4	943,750.81	590,288.88	33° 35' 38.324 N	104° 2' 12.591 W
3,200.0	90.00	0.01	2,620.0	885.0	-320.4	943,850.81	590,288.89	33° 35' 39.314 N	104° 2' 12.588 W
3,300.0	90.00	0.01	2,620.0	985.0	-320.4	943,950.81	590,288.90	33° 35' 40.303 N	104° 2' 12.584 W
3,400.0	90.00	0.01	2,620.0	1,085.0	-320.4	944,050.81	590,288.91	33° 35' 41.293 N	104° 2' 12.581 W
3,500.0	90.00	0.01	2,620.0	1,185.0	-320.4	944,150.81	590,288.92	33° 35' 42.282 N	104° 2' 12.577 W
3,600.0	90.00	0.01	2,620.0	1,285.0	-320.4	944,250.81	590,288.93	33° 35' 43.271 N	104° 2' 12.574 W
3,700.0	90.00	0.01	2,620.0	1,385.0	-320.4	944,350.81	590,288.94	33° 35' 44.261 N	104° 2' 12.570 W
3,800.0	90.00	0.01	2,620.0	1,485.0	-320.4	944,450.81	590,288.95	33° 35' 45.250 N	104° 2' 12.567 W
3,900.0	90.00	0.01	2,620.0	1,585.0	-320.3	944,550.81	590,288.96	33° 35' 46.240 N	104° 2' 12.563 W
4,000.0	90.00	0.01	2,620.0	1,685.0	-320.3	944,650.81	590,288.97	33° 35' 47.229 N	104° 2' 12.560 W
4,100.0	90.00	0.01	2,620.0	1,785.0	-320.3	944,750.81	590,288.99	33° 35' 48.218 N	104° 2' 12.556 W
4,200.0	90.00	0.01	2,620.0	1,885.0	-320.3	944,850.81	590,289.00	33° 35' 49.208 N	104° 2' 12.553 W
4,300.0	90.00	0.01	2,620.0	1,985.0	-320.3	944,950.81	590,289.01	33° 35' 50.197 N	104° 2' 12.549 W
4,400.0	90.00	0.01	2,620.0	2,085.0	-320.3	945,050.81	590,289.02	33° 35' 51.187 N	104° 2' 12.546 W
4,500.0	90.00	0.01	2,620.0	2,185.0	-320.3	945,150.81	590,289.03	33° 35' 52.176 N	104° 2' 12.542 W
4,600.0	90.00	0.01	2,620.0	2,285.0	-320.3	945,250.81	590,289.04	33° 35' 53.165 N	104° 2' 12.539 W
4,700.0	90.00	0.01	2,620.0	2,385.0	-320.3	945,350.81	590,289.05	33° 35' 54.155 N	104° 2' 12.535 W
4,800.0	90.00	0.01	2,620.0	2,485.0	-320.2	945,450.81	590,289.06	33° 35' 55.144 N	104° 2' 12.532 W
4,900.0	90.00	0.01	2,620.0	2,585.0	-320.2	945,550.81	590,289.07	33° 35' 56.134 N	104° 2' 12.528 W
5,000.0	90.00	0.01	2,620.0	2,685.0	-320.2	945,650.81	590,289.08	33° 35' 57.123 N	104° 2' 12.525 W

Database:	EDM:5000.15 Single User Db	Local Co-ordinate Reference:	Well Hellcat 2H
Company:	Tamaroa Development, LLC	TVD Reference:	3943 + 20 @ 3963.0usft
Project:	Chaves County, N.M	MD Reference:	3943 + 20 @ 3963.0usft
Site:	Section 25-8S-28E Hellcat 2H	North Reference:	Grid
Well:	Hellcat 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #3		

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	90.00	0.01	2,620.0	2,785.0	-320.2	945,750.81	590,289.09	33° 35' 58.112 N	104° 2' 12.521 W	
5,200.0	90.00	0.01	2,620.0	2,885.0	-320.2	945,850.81	590,289.10	33° 35' 59.102 N	104° 2' 12.518 W	
5,300.0	90.00	0.01	2,620.0	2,985.0	-320.2	945,950.81	590,289.11	33° 36' 0.091 N	104° 2' 12.514 W	
5,400.0	90.00	0.01	2,620.0	3,085.0	-320.2	946,050.81	590,289.12	33° 36' 1.081 N	104° 2' 12.511 W	
5,500.0	90.00	0.01	2,620.0	3,185.0	-320.2	946,150.81	590,289.13	33° 36' 2.070 N	104° 2' 12.507 W	
5,600.0	90.00	0.01	2,620.0	3,285.0	-320.2	946,250.81	590,289.14	33° 36' 3.059 N	104° 2' 12.504 W	
5,700.0	90.00	0.01	2,620.0	3,385.0	-320.1	946,350.81	590,289.16	33° 36' 4.049 N	104° 2' 12.500 W	
5,800.0	90.00	0.01	2,620.0	3,485.0	-320.1	946,450.81	590,289.17	33° 36' 5.038 N	104° 2' 12.497 W	
5,900.0	90.00	0.01	2,620.0	3,585.0	-320.1	946,550.81	590,289.18	33° 36' 6.028 N	104° 2' 12.493 W	
6,000.0	90.00	0.01	2,620.0	3,685.0	-320.1	946,650.81	590,289.19	33° 36' 7.017 N	104° 2' 12.490 W	
6,100.0	90.00	0.01	2,620.0	3,785.0	-320.1	946,750.81	590,289.20	33° 36' 8.006 N	104° 2' 12.486 W	
6,200.0	90.00	0.01	2,620.0	3,885.0	-320.1	946,850.81	590,289.21	33° 36' 8.996 N	104° 2' 12.483 W	
6,300.0	90.00	0.01	2,620.0	3,985.0	-320.1	946,950.81	590,289.22	33° 36' 9.985 N	104° 2' 12.479 W	
6,400.0	90.00	0.01	2,620.0	4,085.0	-320.1	947,050.81	590,289.23	33° 36' 10.975 N	104° 2' 12.476 W	
6,500.0	90.00	0.01	2,620.0	4,185.0	-320.1	947,150.81	590,289.24	33° 36' 11.964 N	104° 2' 12.472 W	
6,600.0	90.00	0.01	2,620.0	4,285.0	-320.1	947,250.81	590,289.25	33° 36' 12.953 N	104° 2' 12.469 W	
6,700.0	90.00	0.01	2,620.0	4,385.0	-320.0	947,350.81	590,289.26	33° 36' 13.943 N	104° 2' 12.465 W	
6,800.0	90.00	0.01	2,620.0	4,485.0	-320.0	947,450.81	590,289.27	33° 36' 14.932 N	104° 2' 12.462 W	
6,900.0	90.00	0.01	2,620.0	4,585.0	-320.0	947,550.81	590,289.28	33° 36' 15.922 N	104° 2' 12.458 W	
7,000.0	90.00	0.01	2,620.0	4,685.0	-320.0	947,650.81	590,289.29	33° 36' 16.911 N	104° 2' 12.455 W	
7,085.0	90.00	0.01	2,620.0	4,770.0	-320.0	947,735.80	590,289.30	33° 36' 17.752 N	104° 2' 12.452 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 HellCat 2H	0.00	0.00	2,620.0	4,770.0	-320.0	947,735.80	590,289.30	33° 36' 17.752 N	104° 2' 12.452 W	
- plan hits target center										
- Point										
FTP Hellcat 2H	0.00	0.00	2,620.0	570.0	-320.0	943,535.80	590,289.30	33° 35' 36.197 N	104° 2' 12.594 W	
- plan misses target center by 21.7usft at 2891.1usft MD (2602.9 TVD, 578.1 N, -309.3 E)										
- Point										