

STRYKER

DIRECTIONAL

November 19, 2019

RECEIVED

NOV 22 2019

New Mexico Energy, Minerals and Natural Resources Department
Attn: Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

DISTRICT 7 - ARTESIA O.C.D.

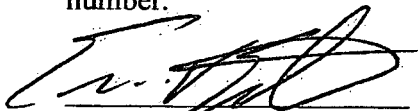
Attn: Bill Bahlberg

Re: Tamaroa Operating, LLC.
Spitfire #005H
Twin Lake; San Andres
Chaves County, New Mexico
API# 30-005-64332

Enclosed please find the original and one (1) copy of the survey performed on the reference well by STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C. Other information required by your office is as follows:

<u>Name & Title</u>	<u>Drainhole No.</u>	<u>Survey Depths</u>	<u>Dates Performed</u>	<u>Type Survey</u>
Keith Broussard	Original Hole	1,615ft. to 6,952ft.	07-28-19 to 08-04-19	MWD Survey

A certified plat on which the bottom-hole location is oriented to both surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.



Eric Estes

Enclosures

CC:

Tamaroa Operating, LLC.
Attn: Geoff Bahlberg
P.O. Box 866937
Plano, Texas 75086

NMEMaNRD\Tamaroa Op, LLC\Spitfire #5H\M191138

STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C.

P.O. Box 1250

Montgomery, TX 77356

Office (936) 582-7296 * Fax (936)-588-4163



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Survey Certification Report

DISTRICT 7 - ARTESIA O.C.D.

STATE OF TEXAS

COUNTY OF Montgomery

I, Eric Estes, certify that I am employed by STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C., and that I did on the day(s) of July 28, 2019, through August 4, 2019 conduct or supervise the taking of a SEDS Original Hole MWD Survey from a depth of 1,615 feet to a depth of 6,952 feet; that I am authorized and qualified to make this report; that this survey was conducted at the request of Tamaroa Operating, LLC., for the Spitfire #005H, well API # 30-005-64332 in Chaves County, New Mexico; and that I have reviewed this report and find that it conforms to the principles as set forth by STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C.

A handwritten signature in black ink, appearing to read "Eric Estes", written over a horizontal line.

Eric Estes

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OCD Permitting

Home > Wells > Well Details

30-005-64332 SPITFIRE #005H [325412]

General Well Information

Operator: [328666] Tamaroa Operating, LLC
 Status: New Direction: Horizontal
 Well Type: Oil Multi-Lateral: No
 Work Type: New Mineral Owner: Private
 Surface Owner: Private
 Surface Location: N-02-08S-28E 330 FSL 1650 FWL
 Lat/Long: 33.642612,-104.062178 NAD83
 GL Elevation: 4025
 KB Elevation: Sing/Mult Compl: Single
 DF Elevation: Potash Waiver: False

Quick Links

- [General Well Information](#)
- [History](#)
- [Comments](#)
- [Operator](#)
- [Pits](#)
- [Casing](#)
- [Well Completions](#)
- [Financial Assurance](#)
- [Compliance](#)
- [Complaints, Incidents and Spills](#)
- [Orders](#)
- [Production](#)
- [Transporters](#)
- [Points of Disposition](#)

Associated Images

- [Well Files](#)
- [Well Logs](#)
- [Administrative Orders](#)

New Searches

- [New Well Search](#)

Proposed Formation and/or Notes

Depths

Proposed: 7114 True Vertical Depth: 2550
 Measured Vertical Depth: 0 Plugback Measured: 0

Formation Tops

Formation	Top	Producing	Method Obtained
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Event Dates

Initial APD Approval: 04/23/2019
 Most Recent APD Approval: 04/23/2019 Current APD Expiration: 04/23/2021
 APD Cancellation:
 APD Extension Approval:
 Spud: 06/13/2019 Gas Capture Plan Received:
 Approved Temporary TA Expiration:
 Abandonment:
 Shut In:
 Plug and Abandoned Intent PNR Expiration:
 Received: Last MIT/BHT:
 Well Plugged:
 Site Release:
 Last Inspection:

History

Effective Date	Property	Well Number	Operator	C-101 Work Type	Well Type	Well Status	Apd Cancelled	Plug Date
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Wells Operator Data ▾

Comments**Operator****General Contact Information**

Company:	[328666] Tamaroa Operating, LLC	Main Phone:	972-867-2575
Address:	PO Box 866937	Main Fax:	972-867-6745
	Piano, TX 750866937		
Country:	U.S.A.		

Central Contact

Name:	Bill Bahlberg	Phone Number:	972-867-2575
Title:	President	Cell Number:	972-740-8969
E-Mail Address:	bill@tamaroadev.com	Fax Number:	972-867-6745

Hobbs Contact

Name:	Phelps White	Phone Number:	575-622-1001
Title:	Consultant	Cell Number:	575-626-7660
E-Mail Address:	pwiv@zianet.com	Fax Number:	

Artesia Contact

Name:	Phelps White	Phone Number:	575-622-1001
Title:	Consultant	Cell Number:	575-626-7660
E-Mail Address:	pwiv@zianet.com	Fax Number:	

Pits

No Pits Found

Casing

No Casing Found

Well Completions**[61570] TWIN LAKE; SAN ANDRES (ASSOC)**

Status:	New, Not Drilled	Last Produced:	
Bottomhole Location:	C-02-08S-28E Lot: 3	100 FNL	1336 FWL
Lat/Long:	33.655916,-104.063087	NAD83	
Acreage:	319.84	02-08S-28E Units: C(3) D(4) E F K L M N	
DHC:		Consolidation Code:	
		Production Method:	

Company: Tamaroa Operating, LLC.
Project: Chaves County, N.M. (NAD 27)
Site: Section 2-8S-28E Spitfire 5H
Well: Spitfire 5H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Spitfire 5H
TVD Reference: 4025+15 @ 4040.0usft
MD Reference: 4025+15 @ 4040.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.15 Single User Db

Survey Program		Date 08/05/19		
From (usft)	To (usft)	Survey (Wellbore)		Tool Name
88.3	1,593.0	Gyro Surveys (Original Hole)		Gyrodata
1,615.0	7,010.0	Stryker MWD (Original Hole)		MWD+IGRF
		Description		
		Gyrodata multishot		
		OWSG MWD + IGRF or WMM		

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	961,385.30	582,734.30
88.3	0.25	338.93	88.3	0.2	-0.1	0.2	338.93	0.28	961,385.48	582,734.23
179.8	0.37	0.16	179.8	0.7	-0.1	0.7	348.04	0.18	961,385.96	582,734.16
273.4	0.48	351.60	273.4	1.4	-0.2	1.4	351.72	0.14	961,386.65	582,734.10
368.9	0.56	333.26	368.8	2.1	-0.5	2.2	347.92	0.20	961,387.45	582,733.84
461.4	0.55	324.59	461.4	2.9	-0.9	3.1	342.38	0.09	961,388.23	582,733.37
555.8	0.66	321.54	555.8	3.7	-1.5	4.0	337.66	0.12	961,389.02	582,732.77
650.0	0.77	329.98	649.9	4.7	-2.2	5.2	335.06	0.16	961,390.00	582,732.12
743.9	0.62	351.40	743.9	5.7	-2.6	6.3	335.85	0.32	961,391.05	582,731.72
838.4	0.50	7.59	838.4	6.7	-2.6	7.1	338.69	0.21	961,391.96	582,731.70
932.6	0.56	7.18	932.6	7.5	-2.5	7.9	341.71	0.06	961,392.82	582,731.81
1,025.7	0.52	21.09	1,025.7	8.4	-2.3	8.7	344.78	0.15	961,393.67	582,732.02
1,120.0	0.70	38.02	1,120.0	9.2	-1.8	9.4	349.14	0.27	961,394.52	582,732.53
1,214.4	0.89	43.39	1,214.4	10.2	-0.9	10.3	354.91	0.22	961,395.51	582,733.39
1,309.1	0.96	46.22	1,309.0	11.3	0.2	11.3	0.85	0.09	961,396.59	582,734.47
1,403.8	1.01	43.12	1,403.7	12.5	1.3	12.5	6.01	0.08	961,397.75	582,735.61
1,498.4	0.91	50.56	1,498.3	13.5	2.5	13.8	10.30	0.17	961,398.84	582,736.76
1,593.0	0.81	49.15	1,592.9	14.5	3.5	14.9	13.79	0.11	961,399.75	582,737.85
1,615.0	0.80	59.90	1,614.9	14.6	3.8	15.1	14.55	0.69	961,399.93	582,738.10
1,728.0	5.40	329.10	1,727.7	19.6	1.7	19.7	5.10	4.84	961,404.89	582,736.05
1,820.0	14.20	354.50	1,818.3	34.6	-1.6	34.6	357.41	10.43	961,419.87	582,732.74

Company: Tamaroa Operating, LLC.
Project: Chaves County, N.M. (NAD 27)
Site: Section 2-8S-28E Spitfire 5H
Well: Spitfire 5H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Spitfire 5H
TVD Reference: 4025+15 @ 4040.0usft
MD Reference: 4025+15 @ 4040.0usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.15 Single User Db

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
1,912.0	22.20	357.90	1,905.6	63.2	-3.3	63.3	357.03	8.77	961,448.52	582,731.01
2,005.0	27.30	350.20	1,990.1	101.8	-7.6	102.1	355.75	6.48	961,487.13	582,726.74
2,097.0	31.30	342.80	2,070.3	145.5	-18.2	146.6	352.86	5.86	961,530.78	582,716.07
2,189.0	36.90	338.60	2,146.5	194.1	-35.4	197.3	349.67	6.60	961,579.37	582,698.91
2,281.0	43.10	334.80	2,217.0	248.3	-58.9	255.2	346.66	7.24	961,633.59	582,675.42
2,373.0	48.40	333.50	2,281.1	307.6	-87.6	319.8	344.10	5.85	961,692.86	582,646.67
2,465.0	52.20	333.30	2,339.9	370.8	-119.3	389.6	342.16	4.13	961,756.14	582,614.98
2,560.0	58.20	333.50	2,394.1	440.6	-154.2	466.8	340.71	6.32	961,825.86	582,580.07
2,655.0	60.50	335.50	2,442.5	514.3	-189.4	548.1	339.78	3.02	961,899.62	582,544.91
2,750.0	70.50	340.70	2,481.9	594.4	-221.4	634.4	339.57	11.64	961,979.75	582,512.86
2,844.0	80.40	344.40	2,505.5	681.1	-248.6	725.1	339.95	11.20	962,066.44	582,485.68
2,939.0	87.30	347.20	2,515.6	772.6	-271.8	819.0	340.62	7.83	962,157.95	582,462.54
3,034.0	89.90	347.30	2,518.0	865.3	-292.7	913.4	341.31	2.74	962,250.57	582,441.58
3,128.0	90.50	347.30	2,517.6	957.0	-313.4	1,007.0	341.87	0.64	962,342.27	582,420.92
3,223.0	90.10	350.70	2,517.1	1,050.2	-331.5	1,101.3	342.48	3.60	962,435.51	582,402.80
3,317.0	90.00	354.20	2,517.1	1,143.4	-343.9	1,194.0	343.28	3.72	962,528.68	582,390.45
3,411.0	92.10	0.20	2,515.3	1,237.2	-348.4	1,285.3	344.27	6.76	962,622.50	582,385.86
3,505.0	92.00	0.40	2,512.0	1,331.1	-348.0	1,375.9	345.35	0.24	962,716.44	582,386.35
3,599.0	91.40	0.40	2,509.2	1,425.1	-347.3	1,466.8	346.30	0.64	962,810.40	582,387.00
3,694.0	90.80	0.20	2,507.4	1,520.1	-346.8	1,559.1	347.15	0.67	962,905.38	582,387.50
3,789.0	90.30	0.50	2,506.4	1,615.1	-346.2	1,651.8	347.90	0.61	963,000.37	582,388.08
3,884.0	89.80	1.00	2,506.4	1,710.1	-345.0	1,744.5	348.59	0.74	963,095.36	582,389.32
3,978.0	89.10	1.40	2,507.3	1,804.0	-343.0	1,836.4	349.23	0.86	963,189.34	582,391.29
4,079.0	88.80	1.20	2,509.1	1,905.0	-340.7	1,935.2	349.86	0.36	963,290.29	582,393.58
4,173.0	90.90	1.20	2,509.4	1,999.0	-338.7	2,027.5	350.38	2.23	963,384.27	582,395.55
4,268.0	90.70	1.30	2,508.0	2,093.9	-336.7	2,120.8	350.87	0.24	963,479.24	582,397.62
4,362.0	91.40	0.30	2,506.3	2,187.9	-335.4	2,213.5	351.29	1.30	963,573.21	582,398.94

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Survey											
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4,457.0	90.90	1.10	2,504.4	2,282.9	-334.2	2,307.2	351.67	0.99	963,668.18	582,400.10	
4,552.0	90.20	1.00	2,503.5	2,377.9	-332.5	2,401.0	352.04	0.74	963,763.16	582,401.84	
4,647.0	91.50	0.70	2,502.1	2,472.8	-331.1	2,494.9	352.37	1.40	963,858.14	582,403.25	
4,741.0	91.00	0.40	2,500.0	2,566.8	-330.2	2,588.0	352.67	0.62	963,952.11	582,404.15	
4,836.0	90.80	359.90	2,498.5	2,661.8	-329.9	2,682.2	352.93	0.57	964,047.10	582,404.40	
4,930.0	91.30	0.30	2,496.8	2,755.8	-329.7	2,775.4	353.18	0.68	964,141.08	582,404.56	
5,025.0	91.30	0.40	2,494.7	2,850.8	-329.2	2,869.7	353.41	0.11	964,236.06	582,405.14	
5,120.0	91.40	1.10	2,492.4	2,945.7	-327.9	2,963.9	353.65	0.74	964,331.02	582,406.39	
5,214.0	91.50	1.30	2,490.1	3,039.7	-325.9	3,057.1	353.88	0.24	964,424.97	582,408.35	
5,309.0	89.20	359.60	2,489.5	3,134.7	-325.2	3,151.5	354.08	3.01	964,519.96	582,409.10	
5,403.0	89.20	359.60	2,490.8	3,228.6	-325.9	3,245.0	354.24	0.00	964,613.94	582,408.44	
5,498.0	90.60	0.00	2,490.9	3,323.6	-326.2	3,339.6	354.39	1.53	964,708.94	582,408.11	
5,593.0	90.10	0.20	2,490.4	3,418.6	-326.0	3,434.1	354.55	0.57	964,803.94	582,408.28	
5,688.0	89.90	0.80	2,490.4	3,513.6	-325.2	3,528.7	354.71	0.67	964,898.93	582,409.11	
5,781.0	89.50	1.10	2,490.9	3,606.6	-323.7	3,621.1	354.87	0.54	964,991.92	582,410.65	
5,876.0	92.10	2.30	2,489.5	3,701.6	-320.8	3,715.4	355.05	3.01	965,086.86	582,413.47	
5,971.0	91.60	2.20	2,486.5	3,796.4	-317.1	3,809.7	355.23	0.54	965,181.74	582,417.19	
6,066.0	91.90	0.90	2,483.6	3,891.4	-314.5	3,904.0	355.38	1.40	965,276.65	582,419.76	
6,161.0	91.70	0.30	2,480.6	3,986.3	-313.5	3,998.6	355.50	0.67	965,371.60	582,420.76	
6,256.0	90.80	1.00	2,478.5	4,081.3	-312.5	4,093.2	355.62	1.20	965,466.57	582,421.83	
6,351.0	90.30	358.90	2,477.6	4,176.3	-312.5	4,187.9	355.72	2.27	965,561.56	582,421.75	
6,445.0	90.30	359.10	2,477.1	4,270.2	-314.2	4,281.8	355.79	0.21	965,655.55	582,420.11	
6,539.0	89.50	359.80	2,477.3	4,364.2	-315.1	4,375.6	355.87	1.13	965,749.54	582,419.21	
6,634.0	88.80	0.20	2,478.7	4,459.2	-315.1	4,470.3	355.96	0.85	965,844.53	582,419.21	
6,728.0	89.30	359.30	2,480.2	4,553.2	-315.5	4,564.1	356.04	1.10	965,938.51	582,418.80	
6,823.0	89.50	0.10	2,481.2	4,648.2	-316.0	4,658.9	356.11	0.87	966,033.51	582,418.30	
6,918.0	88.70	359.80	2,482.7	4,743.2	-316.1	4,753.7	356.19	0.90	966,128.49	582,418.22	

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Survey Calculation Method: Minimum Curvature
Database: EDM 5000.15 Single User Db

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
6,952.0	88.50	359.70	2,483.5	4,777.2	-316.2	4,787.6	356.21	0.66	966,162.48	582,418.07
7,010.0	88.50	359.70	2,485.1	4,835.2	-316.5	4,845.5	356.25	0.00	966,220.46	582,417.77

PBHL P5 Spitfire 5H

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,010.0	2,485.1	4,835.2	-316.5	7010.0' Projection to bit

Checked By: _____ Approved By: _____ Date: _____

GRID CORRECTION: To convert a Magnetic Direction to a Grid Direction, Add 6.92°

GEODETIC ZONE: New Mexico East 3001										
4025+15 @ 4040.Dust										
GROUND ELEVATION: 4025.0										
+N-S	+E-W	Northing	Easting	Latitude	Longitude	Slot				
0.0	0.0	961385.30	582734.30	33° 38' 33.006 N	104° 3' 41.354 W					
PLAN SECTIONS										
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSect	Target
1	1637.0	0.75	46.22	1636.9	14.9	4.0	0.00	0.00	14.5	
2	2555.0	60.00	329.64	2395.6	397.4	-212.6	6.52	-77.00	411.4	
3	2625.0	60.00	329.64	2430.6	449.8	-243.3	0.00	0.00	465.7	
4	2975.2	90.70	359.76	2520.0	770.1	-324.3	12.00	48.55	791.0	
5	7051.7	90.70	359.76	2470.0	4846.3	-341.5	0.00	0.00	4858.3	PBHL P5 Spitfire 5H

SHL: 330' FSL: 1650' FWL
Section 2-8S-28E
PBHL: 100' FNL: 1336.5' FWL
Section 2-8S-28E

