

Crestone Peak Resources

Well Name: **Hingley 3I-18H-N167**

Surface Location: Sec.18-T1N-R67W (HINGLEY)

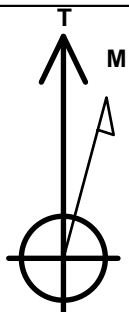
North American Datum 1983 , US State Plane 1983, Colorado Northern Zone

Ground Elevation: 5110.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1259879.88	3157519.94	40.045387	-104.937359	
RKB - 23' WELL @ 5133.0ft (RKB - 23')						

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 523'FSL & 1439'FWL	1.0	0.0	0.0	Point
Hingley 3I WP	5250.0	-520.0	455.0	Point
BHL 460'FSL & 2068'FWL	7832.0	4320.0	642.1	Point
TPZ 460'FSL & 2089'FWL	7832.0	-71.7	649.5	Point



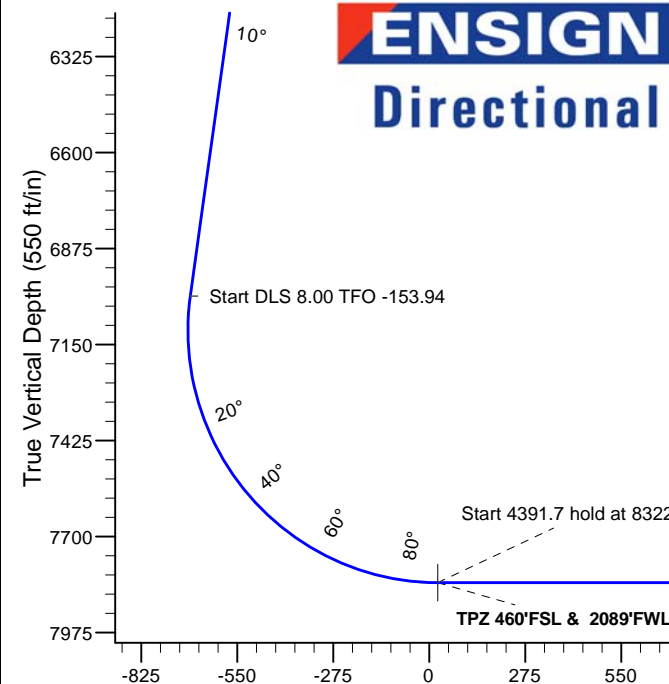
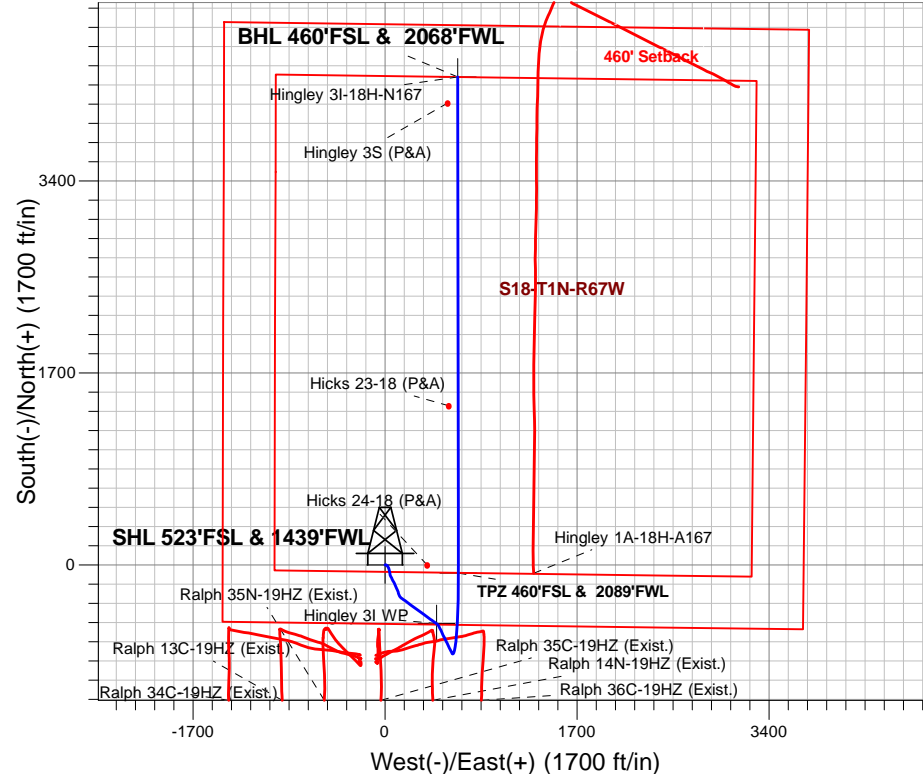
Azimuths to True North
Magnetic North: 8.20°

Magnetic Field
Strength: 51962.2snT
Dip Angle: 66.37°
Date: 10/28/2019
Model: HDGM

Sec.18-T1N-R67W (HINGLEY)
Hingley 3I-18H-N167
Plan #3 (10-25-19)
10:29, October 28 2019

ANNOTATIONS

TVD	MD	Annotation
2587.2	2606.0	Tie-On Pt. - Start 100.0 hold at 2606.0 MD
2686.1	2706.0	Start DLS 2.00 TFO -98.74
2959.7	2982.8	Start 2321.7 hold at 2982.8 MD
5250.0	5304.5	Start DLS 2.00 TFO 102.74
5476.9	5534.5	Start 1555.8 hold at 5534.5 MD
7011.2	7090.2	Start DLS 8.00 TFO -153.94
7832.0	8322.4	Start 4391.7 hold at 8322.4 MD
7832.0	12714.1	TD at 12714.1



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	2606.0	8.54	161.55	2587.2	-249.5	117.4	0.00	0.00	-229.6	
2	2706.0	8.54	161.55	2686.1	-263.6	122.1	0.00	0.00	-242.8	
3	2982.8	9.43	125.97	2959.7	-296.5	147.0	2.00	-98.74	-271.6	
4	5304.5	9.43	125.97	5250.0	-520.0	455.0	0.00	0.00	-447.5	Hingley 3I WP
5	5534.5	9.53	154.15	5476.9	-548.2	478.6	2.00	102.74	-471.9	
6	7090.2	9.53	154.15	7011.2	-780.0	590.9	0.00	0.00	-684.7	
7	8322.4	90.00	359.90	7832.0	-71.7	649.5	8.00	-153.94	24.5	TPZ 460'FSL & 2089'FWL
8	12714.1	90.00	359.90	7832.0	4320.0	642.1	0.00	0.00	4367.4	BHL 460'FSL & 2068'FWL

BHL 460'FSL & 2068'FWL

TD at 12714.1

Vertical Section at 8.45° (550 ft/in)



Crestone Peak Resources

DJ BASIN

Sec.18-T1N-R67W (HINGLEY)

Hingley 3I-18H-N167

Hingley 3I-18H-N167 Wellbore #1

Plan: Plan #3 (10-25-19)

Standard Planning Report

28 October, 2019



CRESTONE PEAK
RESOURCES

Database:	US_EDM	Local Co-ordinate Reference:	Well Hingley 3I-18H-N167
Company:	Crestone Peak Resources	TVD Reference:	WELL @ 5133.0ft (RKB - 23')
Project:	DJ BASIN	MD Reference:	WELL @ 5133.0ft (RKB - 23')
Site:	Sec.18-T1N-R67W (HINGLEY)	North Reference:	True
Well:	Hingley 3I-18H-N167	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hingley 3I-18H-N167 Wellbore #1		
Design:	Plan #3 (10-25-19)		

Project	DJ BASIN		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	Sec.18-T1N-R67W (HINGLEY)				
Site Position:		Northing:	1,264,132.76 usft	Latitude:	40.057007
From:	Lat/Long	Easting:	3,160,624.47 usft	Longitude:	-104.926172
Position Uncertainty:	0.0 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.37 °

Well	Hingley 3I-18H-N167					
Well Position	+N/-S	-4,232.7 ft	Northing:	1,259,879.88 usft	Latitude:	40.045387
	+E/-W	-3,132.0 ft	Easting:	3,157,519.94 usft	Longitude:	-104.937359
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	5,110.0 ft

Wellbore	Hingley 3I-18H-N167 Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	9/26/2019	8.22	66.37	51,972

Design	Plan #3 (10-25-19)			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	2,606.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	8.45

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
2,606.0	8.54	161.55	2,587.2	-249.5	117.4	0.00	0.00	0.00	0.00	
2,706.0	8.54	161.55	2,686.1	-263.6	122.1	0.00	0.00	0.00	0.00	
2,982.8	9.43	125.97	2,959.7	-296.5	147.0	2.00	0.32	-12.85	-98.74	
5,304.5	9.43	125.97	5,250.0	-520.0	455.0	0.00	0.00	0.00	0.00	Hingley 3I WP
5,534.5	9.53	154.15	5,476.9	-548.2	478.6	2.00	0.04	12.26	102.74	
7,090.2	9.53	154.15	7,011.2	-780.0	590.9	0.00	0.00	0.00	0.00	
8,322.4	90.00	359.90	7,832.0	-71.7	649.5	8.00	6.53	-12.52	-153.94	TPZ 460'FSL & 2089
12,714.1	90.00	359.90	7,832.0	4,320.0	642.1	0.00	0.00	0.00	0.00	BHL 460'FSL & 2068

Database:	US_EDM	Local Co-ordinate Reference:	Well Hingley 3I-18H-N167
Company:	Crestone Peak Resources	TVD Reference:	WELL @ 5133.0ft (RKB - 23')
Project:	DJ BASIN	MD Reference:	WELL @ 5133.0ft (RKB - 23')
Site:	Sec.18-T1N-R67W (HINGLEY)	North Reference:	True
Well:	Hingley 3I-18H-N167	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hingley 3I-18H-N167 Wellbore #1		
Design:	Plan #3 (10-25-19)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,606.0	8.54	161.55	2,587.2	-249.5	117.4	-229.6	0.00	0.00	0.00
Tie-On Pt. - Start 100.0 hold at 2606.0 MD - SHL 523'FSL & 1439'FWL									
2,700.0	8.54	161.55	2,680.1	-262.8	121.9	-242.0	0.00	0.00	0.00
2,706.0	8.54	161.55	2,686.1	-263.6	122.1	-242.8	0.00	0.00	0.00
Start DLS 2.00 TFO -98.74									
2,800.0	8.46	148.82	2,779.0	-276.2	127.9	-254.4	2.00	-0.09	-13.55
2,900.0	8.82	135.69	2,877.9	-287.9	137.1	-264.7	2.00	0.36	-13.12
2,982.8	9.43	125.97	2,959.7	-296.5	147.0	-271.6	2.00	0.74	-11.73
Start 2321.7 hold at 2982.8 MD									
3,000.0	9.43	125.97	2,976.6	-298.1	149.3	-272.9	0.00	0.00	0.00
3,100.0	9.43	125.97	3,075.3	-307.8	162.6	-280.5	0.00	0.00	0.00
3,200.0	9.43	125.97	3,173.9	-317.4	175.8	-288.1	0.00	0.00	0.00
3,300.0	9.43	125.97	3,272.6	-327.0	189.1	-295.7	0.00	0.00	0.00
3,400.0	9.43	125.97	3,371.2	-336.6	202.4	-303.2	0.00	0.00	0.00
3,500.0	9.43	125.97	3,469.9	-346.3	215.6	-310.8	0.00	0.00	0.00
3,600.0	9.43	125.97	3,568.5	-355.9	228.9	-318.4	0.00	0.00	0.00
3,700.0	9.43	125.97	3,667.2	-365.5	242.2	-325.9	0.00	0.00	0.00
3,800.0	9.43	125.97	3,765.8	-375.2	255.4	-333.5	0.00	0.00	0.00
3,900.0	9.43	125.97	3,864.5	-384.8	268.7	-341.1	0.00	0.00	0.00
4,000.0	9.43	125.97	3,963.1	-394.4	282.0	-348.7	0.00	0.00	0.00
4,100.0	9.43	125.97	4,061.8	-404.0	295.2	-356.2	0.00	0.00	0.00
4,200.0	9.43	125.97	4,160.4	-413.7	308.5	-363.8	0.00	0.00	0.00
4,300.0	9.43	125.97	4,259.1	-423.3	321.7	-371.4	0.00	0.00	0.00
4,400.0	9.43	125.97	4,357.7	-432.9	335.0	-379.0	0.00	0.00	0.00
4,500.0	9.43	125.97	4,456.3	-442.5	348.3	-386.5	0.00	0.00	0.00
4,600.0	9.43	125.97	4,555.0	-452.2	361.5	-394.1	0.00	0.00	0.00
4,700.0	9.43	125.97	4,653.6	-461.8	374.8	-401.7	0.00	0.00	0.00
4,800.0	9.43	125.97	4,752.3	-471.4	388.1	-409.2	0.00	0.00	0.00
4,900.0	9.43	125.97	4,850.9	-481.1	401.3	-416.8	0.00	0.00	0.00
5,000.0	9.43	125.97	4,949.6	-490.7	414.6	-424.4	0.00	0.00	0.00
5,100.0	9.43	125.97	5,048.2	-500.3	427.9	-432.0	0.00	0.00	0.00
5,200.0	9.43	125.97	5,146.9	-509.9	441.1	-439.5	0.00	0.00	0.00
5,300.0	9.43	125.97	5,245.5	-519.6	454.4	-447.1	0.00	0.00	0.00
5,304.5	9.43	125.97	5,250.0	-520.0	455.0	-447.5	0.00	0.00	0.00
Start DLS 2.00 TFO 102.74 - Hingley 3I WP									
5,400.0	9.20	137.70	5,344.2	-530.2	466.5	-455.9	2.00	-0.24	12.28
5,500.0	9.37	150.07	5,442.9	-543.2	475.9	-467.3	2.00	0.17	12.37
5,534.5	9.53	154.15	5,476.9	-548.2	478.6	-471.9	2.00	0.45	11.87
Start 1555.8 hold at 5534.5 MD									
5,600.0	9.53	154.15	5,541.5	-558.0	483.3	-480.9	0.00	0.00	0.00
5,700.0	9.53	154.15	5,640.2	-572.9	490.5	-494.5	0.00	0.00	0.00
5,800.0	9.53	154.15	5,738.8	-587.8	497.7	-508.2	0.00	0.00	0.00
5,900.0	9.53	154.15	5,837.4	-602.7	504.9	-521.9	0.00	0.00	0.00
6,000.0	9.53	154.15	5,936.0	-617.6	512.2	-535.6	0.00	0.00	0.00
6,100.0	9.53	154.15	6,034.6	-632.5	519.4	-549.2	0.00	0.00	0.00
6,200.0	9.53	154.15	6,133.3	-647.4	526.6	-562.9	0.00	0.00	0.00
6,300.0	9.53	154.15	6,231.9	-662.3	533.8	-576.6	0.00	0.00	0.00
6,400.0	9.53	154.15	6,330.5	-677.2	541.0	-590.3	0.00	0.00	0.00
6,500.0	9.53	154.15	6,429.1	-692.1	548.3	-604.0	0.00	0.00	0.00
6,600.0	9.53	154.15	6,527.7	-707.0	555.5	-617.6	0.00	0.00	0.00
6,700.0	9.53	154.15	6,626.4	-721.9	562.7	-631.3	0.00	0.00	0.00
6,800.0	9.53	154.15	6,725.0	-736.8	569.9	-645.0	0.00	0.00	0.00
6,900.0	9.53	154.15	6,823.6	-751.7	577.1	-658.7	0.00	0.00	0.00
7,000.0	9.53	154.15	6,922.2	-766.6	584.3	-672.3	0.00	0.00	0.00

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Project:	DJ BASIN	MD Reference:	WELL @ 5133.0ft (RKB - 23')
Site:	Sec.18-T1N-R67W (HINGLEY)	North Reference:	True
Well:	Hingley 3I-18H-N167	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hingley 3I-18H-N167 Wellbore #1		
Design:	Plan #3 (10-25-19)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,090.2	9.53	154.15	7,011.2	-780.0	590.9	-684.7	0.00	0.00	0.00
Start DLS 8.00 TFO -153.94									
7,100.0	8.83	151.91	7,020.9	-781.4	591.6	-686.0	8.00	-7.12	-22.90
7,200.0	4.18	87.05	7,120.3	-788.0	598.8	-691.4	8.00	-4.66	-64.86
7,300.0	9.20	26.67	7,219.7	-780.7	606.1	-683.1	8.00	5.02	-60.39
7,400.0	16.72	13.95	7,317.1	-759.5	613.1	-661.1	8.00	7.52	-12.71
7,500.0	24.54	9.09	7,410.6	-725.0	619.9	-626.0	8.00	7.82	-4.86
7,600.0	32.45	6.49	7,498.4	-677.8	626.2	-578.3	8.00	7.90	-2.60
7,700.0	40.39	4.82	7,578.8	-618.7	632.0	-519.1	8.00	7.94	-1.67
7,800.0	48.34	3.62	7,650.3	-549.1	637.1	-449.4	8.00	7.96	-1.20
7,900.0	56.31	2.69	7,711.3	-470.1	641.4	-370.7	8.00	7.97	-0.93
8,000.0	64.28	1.92	7,760.8	-383.4	644.9	-284.4	8.00	7.97	-0.77
8,100.0	72.26	1.24	7,797.8	-290.6	647.4	-192.2	8.00	7.98	-0.68
8,200.0	80.23	0.62	7,821.6	-193.6	649.0	-96.0	8.00	7.98	-0.62
8,300.0	88.21	0.03	7,831.7	-94.1	649.5	2.4	8.00	7.98	-0.59
8,322.4	90.00	359.90	7,832.0	-71.7	649.5	24.5	8.00	7.98	-0.58
Start 4391.7 hold at 8322.4 MD - TPZ 460'FSL & 2089'FWL									
8,400.0	90.00	359.90	7,832.0	5.9	649.4	101.3	0.00	0.00	0.00
8,500.0	90.00	359.90	7,832.0	105.9	649.2	200.2	0.00	0.00	0.00
8,600.0	90.00	359.90	7,832.0	205.9	649.1	299.0	0.00	0.00	0.00
8,700.0	90.00	359.90	7,832.0	305.9	648.9	397.9	0.00	0.00	0.00
8,800.0	90.00	359.90	7,832.0	405.9	648.7	496.8	0.00	0.00	0.00
8,900.0	90.00	359.90	7,832.0	505.9	648.6	595.7	0.00	0.00	0.00
9,000.0	90.00	359.90	7,832.0	605.9	648.4	694.6	0.00	0.00	0.00
9,100.0	90.00	359.90	7,832.0	705.9	648.2	793.5	0.00	0.00	0.00
9,200.0	90.00	359.90	7,832.0	805.9	648.0	892.4	0.00	0.00	0.00
9,300.0	90.00	359.90	7,832.0	905.9	647.9	991.3	0.00	0.00	0.00
9,400.0	90.00	359.90	7,832.0	1,005.9	647.7	1,090.2	0.00	0.00	0.00
9,500.0	90.00	359.90	7,832.0	1,105.9	647.5	1,189.0	0.00	0.00	0.00
9,600.0	90.00	359.90	7,832.0	1,205.9	647.4	1,287.9	0.00	0.00	0.00
9,700.0	90.00	359.90	7,832.0	1,305.9	647.2	1,386.8	0.00	0.00	0.00
9,800.0	90.00	359.90	7,832.0	1,405.9	647.0	1,485.7	0.00	0.00	0.00
9,900.0	90.00	359.90	7,832.0	1,505.9	646.9	1,584.6	0.00	0.00	0.00
10,000.0	90.00	359.90	7,832.0	1,605.9	646.7	1,683.5	0.00	0.00	0.00
10,100.0	90.00	359.90	7,832.0	1,705.9	646.5	1,782.4	0.00	0.00	0.00
10,200.0	90.00	359.90	7,832.0	1,805.9	646.4	1,881.3	0.00	0.00	0.00
10,300.0	90.00	359.90	7,832.0	1,905.9	646.2	1,980.1	0.00	0.00	0.00
10,400.0	90.00	359.90	7,832.0	2,005.9	646.0	2,079.0	0.00	0.00	0.00
10,500.0	90.00	359.90	7,832.0	2,105.9	645.9	2,177.9	0.00	0.00	0.00
10,600.0	90.00	359.90	7,832.0	2,205.9	645.7	2,276.8	0.00	0.00	0.00
10,700.0	90.00	359.90	7,832.0	2,305.9	645.5	2,375.7	0.00	0.00	0.00
10,800.0	90.00	359.90	7,832.0	2,405.9	645.4	2,474.6	0.00	0.00	0.00
10,900.0	90.00	359.90	7,832.0	2,505.9	645.2	2,573.5	0.00	0.00	0.00
11,000.0	90.00	359.90	7,832.0	2,605.9	645.0	2,672.4	0.00	0.00	0.00
11,100.0	90.00	359.90	7,832.0	2,705.9	644.9	2,771.3	0.00	0.00	0.00
11,200.0	90.00	359.90	7,832.0	2,805.9	644.7	2,870.1	0.00	0.00	0.00
11,300.0	90.00	359.90	7,832.0	2,905.9	644.5	2,969.0	0.00	0.00	0.00
11,400.0	90.00	359.90	7,832.0	3,005.9	644.3	3,067.9	0.00	0.00	0.00
11,500.0	90.00	359.90	7,832.0	3,105.9	644.2	3,166.8	0.00	0.00	0.00
11,600.0	90.00	359.90	7,832.0	3,205.9	644.0	3,265.7	0.00	0.00	0.00
11,700.0	90.00	359.90	7,832.0	3,305.9	643.8	3,364.6	0.00	0.00	0.00
11,800.0	90.00	359.90	7,832.0	3,405.8	643.7	3,463.5	0.00	0.00	0.00
11,900.0	90.00	359.90	7,832.0	3,505.8	643.5	3,562.4	0.00	0.00	0.00

Database:	US_EDM	Local Co-ordinate Reference:	Well Hingley 3I-18H-N167
Company:	Crestone Peak Resources	TVD Reference:	WELL @ 5133.0ft (RKB - 23')
Project:	DJ BASIN	MD Reference:	WELL @ 5133.0ft (RKB - 23')
Site:	Sec.18-T1N-R67W (HINGLEY)	North Reference:	True
Well:	Hingley 3I-18H-N167	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hingley 3I-18H-N167 Wellbore #1		
Design:	Plan #3 (10-25-19)		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
12,000.0	90.00	359.90	7,832.0	3,605.8	643.3	3,661.3	0.00	0.00	0.00	
12,100.0	90.00	359.90	7,832.0	3,705.8	643.2	3,760.1	0.00	0.00	0.00	
12,200.0	90.00	359.90	7,832.0	3,805.8	643.0	3,859.0	0.00	0.00	0.00	
12,300.0	90.00	359.90	7,832.0	3,905.8	642.8	3,957.9	0.00	0.00	0.00	
12,400.0	90.00	359.90	7,832.0	4,005.8	642.7	4,056.8	0.00	0.00	0.00	
12,500.0	90.00	359.90	7,832.0	4,105.8	642.5	4,155.7	0.00	0.00	0.00	
12,600.0	90.00	359.90	7,832.0	4,205.8	642.3	4,254.6	0.00	0.00	0.00	
12,700.0	90.00	359.90	7,832.0	4,305.8	642.2	4,353.5	0.00	0.00	0.00	
12,714.1	90.00	359.90	7,832.0	4,320.0	642.1	4,367.4	0.00	0.00	0.00	
TD at 12714.1 - BHL 460°FSL & 2068°FWL										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
SHL 523°FSL & 1439°FV - hit/miss target - Shape - Point	0.00	0.00	1.0	0.0	0.0	1,259,879.90	3,157,519.94	40.045387	-104.937359	
Hingley 3I WP - plan hits target center - Point	0.00	0.00	5,250.0	-520.0	455.0	1,259,362.78	3,157,978.23	40.043960	-104.935734	
BHL 460°FSL & 2068°FV - plan hits target center - Point	0.00	0.00	7,832.0	4,320.0	642.1	1,264,203.84	3,158,134.65	40.057246	-104.935065	
TPZ 460°FSL & 2089°FV - plan hits target center - Point	0.00	0.00	7,832.0	-71.7	649.5	1,259,812.27	3,158,169.90	40.045190	-104.935039	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2,606.0	2,587.2	-249.5	117.4	Tie-On Pt. - Start 100.0 hold at 2606.0 MD	
2,706.0	2,686.1	-263.6	122.1	Start DLS 2.00 TFO -98.74	
2,982.8	2,959.7	-296.5	147.0	Start 2321.7 hold at 2982.8 MD	
5,304.5	5,250.0	-520.0	455.0	Start DLS 2.00 TFO 102.74	
5,534.5	5,476.9	-548.2	478.6	Start 1555.8 hold at 5534.5 MD	
7,090.2	7,011.2	-780.0	590.9	Start DLS 8.00 TFO -153.94	
8,322.4	7,832.0	-71.7	649.5	Start 4391.7 hold at 8322.4 MD	
12,714.1	7,832.0	4,320.0	642.1	TD at 12714.1	

Crestone Peak Resources

DJ BASIN

Sec.18-T1N-R67W (HINGLEY)

Hingley 3I-18H-N167

Hingley 3I-18H-N167 Wellbore #1

Plan #3 (10-25-19)

Anticollision Report

28 October, 2019



CRESTONE PEAK
RESOURCES

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well Hingley 3I-18H-N167
Project:	DJ BASIN	TVD Reference:	WELL @ 5133.0ft (RKB - 23')
Reference Site:	Sec.18-T1N-R67W (HINGLEY)	MD Reference:	WELL @ 5133.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Hingley 3I-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Hingley 3I-18H-N167 Wellbore #1	Database:	US_EDM
Reference Design:	Plan #3 (10-25-19)	Offset TVD Reference:	Offset Datum

Reference	Plan #3 (10-25-19)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 500.0 ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	10/28/2019		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
173.0	2,606.0	Survey #1 (Hingley 3I-18H-N167 Wellbore	MWD+HDGM	OWSG MWD + HDGM
2,606.0	12,714.1	Plan #3 (10-25-19) (Hingley 3I-18H-N167 W	MWD+HDGM	OWSG MWD + HDGM

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Sec.18-T1N-R67W (HINGLEY)						
Hingley 1A-18H-A167 - Hingley 1A-18H-A167 Wellbore #						Out of range
Hingley 1A-18H-A167 - Hingley 1A-18H-A167 Wellbore #						Out of range
Hingley 1A-18H-A167 - Hingley 1A-18H-A167 Wellbore #						Out of range
Hingley 1A-18H-A167 - Hingley 1A-18H-A167 Wellbore #						Out of range
Hingley 1A-18H-A167 - Hingley 1A-18H-A167 Wellbore #						Out of range
Hingley 3A-18H-N167 - Hingley 3A-18H-N167 Wellbore #	0.0	0.0	80.1			
Hingley 3A-18H-N167 - Hingley 3A-18H-N167 Wellbore #	2,200.0	2,146.3	480.2	464.0	29.550	SF
Hingley 3B-18H-N167 - Hingley 3B-18H-N167 Wellbore #	300.0	300.2	69.6	68.0	44.657	CC, ES
Hingley 3B-18H-N167 - Hingley 3B-18H-N167 Wellbore #	600.0	590.1	90.5	86.8	24.486	SF
Hingley 3C-18H-N167 - Hingley 3C-18H-N167 Wellbore #	0.0	0.0	59.9			
Hingley 3C-18H-N167 - Hingley 3C-18H-N167 Wellbore #	900.0	893.1	106.1	100.3	18.216	SF
Hingley 3D-18H-N167 - Hingley 3D-18H-N167 Wellbore #	227.7	228.4	49.3	48.3	47.472	CC, ES
Hingley 3D-18H-N167 - Hingley 3D-18H-N167 Wellbore #	1,400.0	1,388.2	144.4	134.7	14.910	SF
Hingley 3F-18H-N167 - Hingley 3F-18H-N167 Wellbore #	0.0	0.0	30.0			
Hingley 3F-18H-N167 - Hingley 3F-18H-N167 Wellbore #	200.0	200.2	30.4	29.6	36.098	ES
Hingley 3F-18H-N167 - Hingley 3F-18H-N167 Wellbore #	1,400.0	1,392.8	118.3	108.5	12.058	SF
Hingley 3G-18H-N167 - Hingley 3G-18H-N167 Wellbore	0.0	0.0	19.9			
Hingley 3G-18H-N167 - Hingley 3G-18H-N167 Wellbore	2,100.0	2,098.4	99.5	84.0	6.431	SF
Hingley 3H-18H-N167 - Hingley 3H-18H-N167 Wellbore #	0.0	0.0	10.1			
Hingley 3H-18H-N167 - Hingley 3H-18H-N167 Wellbore #	12,714.1	12,548.1	285.0	144.6	2.030	SF
Hingley 3K-18H-N167 - Hingley 3K-18H-N167 Wellbore #	538.2	537.0	17.5	14.2	5.440	CC
Hingley 3K-18H-N167 - Hingley 3K-18H-N167 Wellbore #	600.0	598.4	17.8	14.1	4.852	ES
Hingley 3K-18H-N167 - Hingley 3K-18H-N167 Wellbore #	12,714.1	12,494.2	315.5	190.1	2.516	SF
Sec.18-T1N-R67W Existing Wells						
Hicks 23-18 (P&A) - Wellbore #1 - Wellbore #1						Out of range
Hicks 24-18 (P&A) - Wellbore #1 - Wellbore #1	1,831.5	1,796.5	331.8	289.3	7.800	CC
Hicks 24-18 (P&A) - Wellbore #1 - Wellbore #1	2,200.0	2,161.6	336.7	285.4	6.561	ES
Hicks 24-18 (P&A) - Wellbore #1 - Wellbore #1	4,600.0	4,531.0	451.2	348.3	4.384	SF
Hingley 3S (P&A) - Wellbore #1 - Wellbore #1						Out of range

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well Hingley 3I-18H-N167
Project:	DJ BASIN	TVD Reference:	WELL @ 5133.0ft (RKB - 23')
Reference Site:	Sec.18-T1N-R67W (HINGLEY)	MD Reference:	WELL @ 5133.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Hingley 3I-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Hingley 3I-18H-N167 Wellbore #1	Database:	US_EDM
Reference Design:	Plan #3 (10-25-19)	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Sec.19-T1N-R67W Existing Wells						
Ralph 13C-19HZ (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Ralph 13C-19HZ (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Ralph 13C-19HZ (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Ralph 14N-19HZ (Exist.) - Wellbore #1 - Wellbore #1	5,519.1	5,509.3	69.2	30.8	1.804	CC, ES, SF
Ralph 34C-19HZ (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Ralph 34C-19HZ (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Ralph 35C-19HZ (Exist.) - Wellbore #1 - Wellbore #1	3,922.8	3,934.2	390.3	362.5	14.050	CC, ES
Ralph 35C-19HZ (Exist.) - Wellbore #1 - Wellbore #1	4,500.0	4,482.3	428.8	397.0	13.506	SF
Ralph 35N-19HZ (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Ralph 35N-19HZ (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Ralph 36C-19HZ (Exist.) - Wellbore #1 - Wellbore #1	5,522.9	5,502.0	180.9	138.2	4.238	CC, ES, SF

Offset Design													Offset Site Error:	0.0 ft
Sec.18-T1N-R67W (HINGLEY) - Hingley 3A-18H-N167 - Hingley 3A-18H-N167 Wellbore #1 - Plan #2 (9)													Offset Well Error:	0.0 ft
Survey Program: 112-MWD+HDGM, 2617-MWD+HDGM														
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Separation Factor		Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-89.48	0.7	-80.1	80.1					
100.0	100.0	98.9	98.9	0.1	0.1	-142.68	0.8	-80.1	80.4	80.1	0.28	283.391		
200.0	200.0	198.5	198.5	0.4	0.5	-155.32	0.7	-80.3	81.4	80.6	0.84	97.400		
300.0	300.0	296.0	296.0	0.7	0.8	-172.89	-0.2	-82.1	84.8	83.2	1.55	54.814		
400.0	400.0	391.8	391.5	1.1	1.2	169.65	-3.8	-87.6	93.0	90.7	2.28	40.827		
500.0	499.8	487.3	486.5	1.4	1.5	150.35	-9.5	-96.7	107.5	104.5	3.03	35.508		
600.0	599.5	583.6	581.8	1.8	1.9	136.29	-16.8	-108.1	126.0	122.3	3.73	33.742		
700.0	699.2	678.8	675.8	2.2	2.3	113.15	-25.4	-120.6	144.7	140.3	4.42	32.737		
800.0	798.8	773.3	768.5	2.5	2.7	110.44	-36.3	-135.4	164.6	159.5	5.15	31.968		
900.0	898.3	867.6	860.4	2.9	3.2	106.41	-49.1	-151.6	186.8	180.9	5.89	31.699		
1,000.0	997.6	964.6	954.6	3.3	3.6	97.08	-64.1	-169.2	209.3	202.6	6.66	31.434		
1,100.0	1,096.9	1,061.4	1,048.4	3.7	4.1	93.26	-80.8	-186.5	230.7	223.2	7.44	31.011		
1,200.0	1,196.0	1,155.9	1,139.7	4.1	4.6	91.22	-97.8	-204.1	252.6	244.4	8.22	30.712		
1,300.0	1,295.1	1,255.5	1,236.2	4.5	5.1	90.68	-112.6	-223.6	274.6	265.5	9.03	30.396		
1,400.0	1,394.1	1,359.9	1,338.3	4.9	5.6	99.62	-122.9	-242.7	295.1	285.2	9.84	29.992		
1,500.0	1,493.2	1,454.1	1,430.6	5.3	6.0	108.89	-131.3	-259.7	317.5	306.9	10.60	29.959		
1,600.0	1,592.2	1,549.3	1,523.6	5.7	6.5	110.37	-140.8	-277.9	342.6	331.2	11.38	30.103		
1,700.0	1,690.8	1,651.3	1,623.3	6.1	7.0	111.85	-151.7	-296.2	367.4	355.2	12.20	30.123		
1,800.0	1,789.4	1,746.7	1,716.7	6.5	7.4	111.59	-161.7	-312.9	391.7	378.7	13.01	30.100		
1,900.0	1,888.4	1,839.1	1,807.1	6.9	7.9	112.61	-170.7	-329.8	416.1	402.3	13.81	30.124		
2,000.0	1,987.5	1,950.8	1,916.6	7.3	8.4	111.77	-181.1	-349.5	439.2	424.6	14.67	29.945		
2,100.0	2,086.6	2,053.1	2,017.2	7.8	8.9	112.52	-190.1	-364.8	459.6	444.1	15.47	29.700		
2,200.0	2,185.6	2,146.3	2,109.0	8.2	9.3	111.69	-198.1	-378.8	480.2	464.0	16.25	29.550 SF		

Company:	Crestone Peak Resources	Local Co-ordinate Reference:	Well Hingley 3I-18H-N167
Project:	DJ BASIN	TVD Reference:	WELL @ 5133.0ft (RKB - 23')
Reference Site:	Sec.18-T1N-R67W (HINGLEY)	MD Reference:	WELL @ 5133.0ft (RKB - 23')
Site Error:	0.0 ft	North Reference:	True
Reference Well:	Hingley 3I-18H-N167	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	Hingley 3I-18H-N167 Wellbore #1	Database:	US_EDM
Reference Design:	Plan #3 (10-25-19)	Offset TVD Reference:	Offset Datum

Offset Design Sec.18-T1N-R67W (HINGLEY) - Hingley 3B-18H-N167 - Hingley 3B-18H-N167 Wellbore #1 - Plan #3 (9)													Offset Site Error:		0.0 ft
Survey Program: 112-MWD+HDGM, 2601-MWD+HDGM													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
0.0	0.0	0.0	0.0	0.0	0.0	-89.40	0.7	-70.0	70.0						
100.0	100.0	99.5	99.5	0.1	0.1	-142.55	0.9	-69.6	69.9	69.6	0.28	248.537			
200.0	200.0	199.8	199.8	0.4	0.5	-155.07	1.0	-68.6	69.7	68.9	0.84	82.976			
284.5	284.5	284.8	284.7	0.7	0.8	-170.27	1.1	-67.3	69.6	68.2	1.45	48.064			
300.0	300.0	300.2	300.1	0.7	0.8	-172.05	1.0	-67.0	69.6	68.0	1.56	44.657	CC, ES		
400.0	400.0	399.0	399.0	1.1	1.2	171.49	-0.4	-65.9	70.9	68.6	2.28	31.108			
500.0	499.8	495.7	495.6	1.4	1.5	153.00	-3.6	-67.4	77.3	74.3	3.01	25.714			
600.0	599.5	590.1	589.7	1.8	1.9	139.92	-7.7	-73.8	90.5	86.8	3.70	24.486	SF		
700.0	699.2	685.0	683.8	2.2	2.2	118.05	-12.5	-85.1	107.6	103.2	4.37	24.614			
800.0	798.8	781.7	779.4	2.5	2.6	116.96	-18.3	-98.7	125.6	120.5	5.08	24.725			
900.0	898.3	878.7	874.9	2.9	2.9	114.22	-25.6	-113.3	145.3	139.5	5.80	25.037			
1,000.0	997.6	975.7	970.4	3.3	3.3	105.92	-34.4	-128.6	164.9	158.4	6.53	25.242			
1,100.0	1,096.9	1,072.0	1,064.7	3.7	3.8	102.96	-44.8	-144.4	184.3	177.0	7.28	25.302			
1,200.0	1,196.0	1,167.7	1,158.0	4.1	4.2	100.88	-58.4	-161.3	204.5	196.4	8.05	25.398			
1,300.0	1,295.1	1,265.7	1,252.9	4.5	4.7	99.06	-74.6	-179.4	225.4	216.6	8.85	25.476			
1,400.0	1,394.1	1,369.9	1,354.4	4.9	5.2	106.04	-91.1	-196.5	244.9	235.2	9.67	25.334			
1,500.0	1,493.2	1,471.6	1,453.9	5.3	5.6	114.08	-104.7	-211.9	265.1	254.7	10.46	25.344			
1,600.0	1,592.2	1,573.6	1,554.4	5.7	6.1	115.30	-115.2	-225.5	284.8	273.5	11.26	25.292			
1,700.0	1,690.8	1,677.9	1,657.5	6.1	6.5	116.73	-125.9	-237.9	304.1	292.0	12.07	25.184			
1,800.0	1,789.4	1,775.6	1,753.9	6.5	6.9	115.95	-138.1	-248.4	322.1	309.2	12.89	24.989			
1,900.0	1,888.4	1,868.7	1,845.4	6.9	7.4	116.11	-150.9	-259.3	340.2	326.5	13.69	24.849			
2,000.0	1,987.5	1,963.4	1,938.7	7.3	7.8	114.72	-161.8	-271.6	358.9	344.4	14.48	24.783			
2,100.0	2,086.6	2,059.1	2,033.1	7.8	8.2	115.33	-170.8	-284.7	378.1	362.9	15.26	24.776			
2,200.0	2,185.6	2,152.2	2,124.8	8.2	8.6	114.42	-179.0	-298.4	398.6	382.6	16.04	24.855			
2,300.0	2,284.5	2,244.2	2,215.3	8.6	9.0	114.63	-187.2	-313.0	420.3	403.5	16.81	25.003			
2,400.0	2,383.4	2,340.8	2,310.0	9.0	9.5	114.80	-195.6	-329.6	443.3	425.7	17.61	25.174			
2,500.0	2,482.3	2,444.2	2,411.7	9.4	9.9	112.16	-204.6	-346.1	464.7	446.2	18.44	25.198			
2,600.0	2,581.2	2,542.0	2,508.0	9.8	10.4	111.33	-212.7	-361.1	485.1	465.8	19.25	25.203			