

# Crestone Peak Resources

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

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

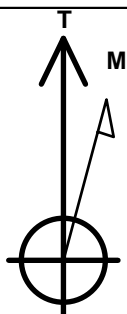
North American Datum 1983 , US State Plane 1983, Colorado Northern Zone

Ground Elevation: 5110.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1259880.01	3157540.09	40.045387	-104.937287	
RKB - 23' WELL @ 5133.0ft (RKB - 23')						

## WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 523'FSL & 1456'FWL	1.0	0.0	0.0	Point
BHL 460'FNL & 2280'FWL	7598.0	4317.1	833.6	Point
TPZ 460'FSL & 2280'FWL	7598.0	-73.9	820.6	Point



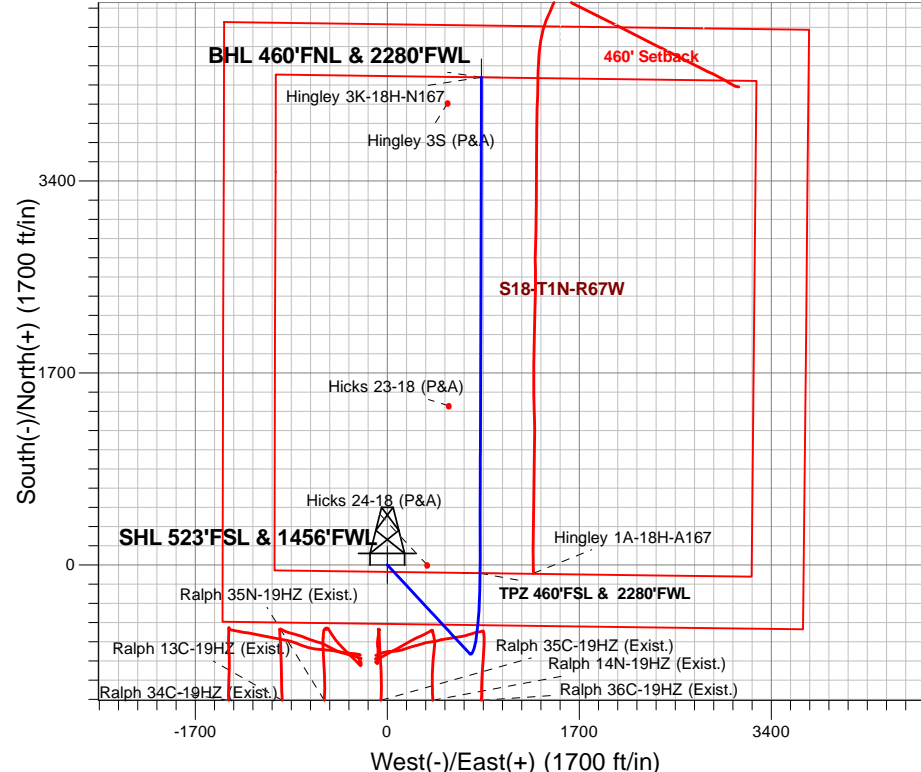
Azimuths to True North  
Magnetic North: 8.22°

Magnetic Field  
Strength: 51972.4snT  
Dip Angle: 66.37°  
Date: 9/26/2019  
Model: HDGM

Sec.18-T1N-R67W (HINGLEY)  
Hingley 3K-18H-N167  
Plan #2 (9-26-19)  
20:54, October 02 2019

## ANNOTATIONS

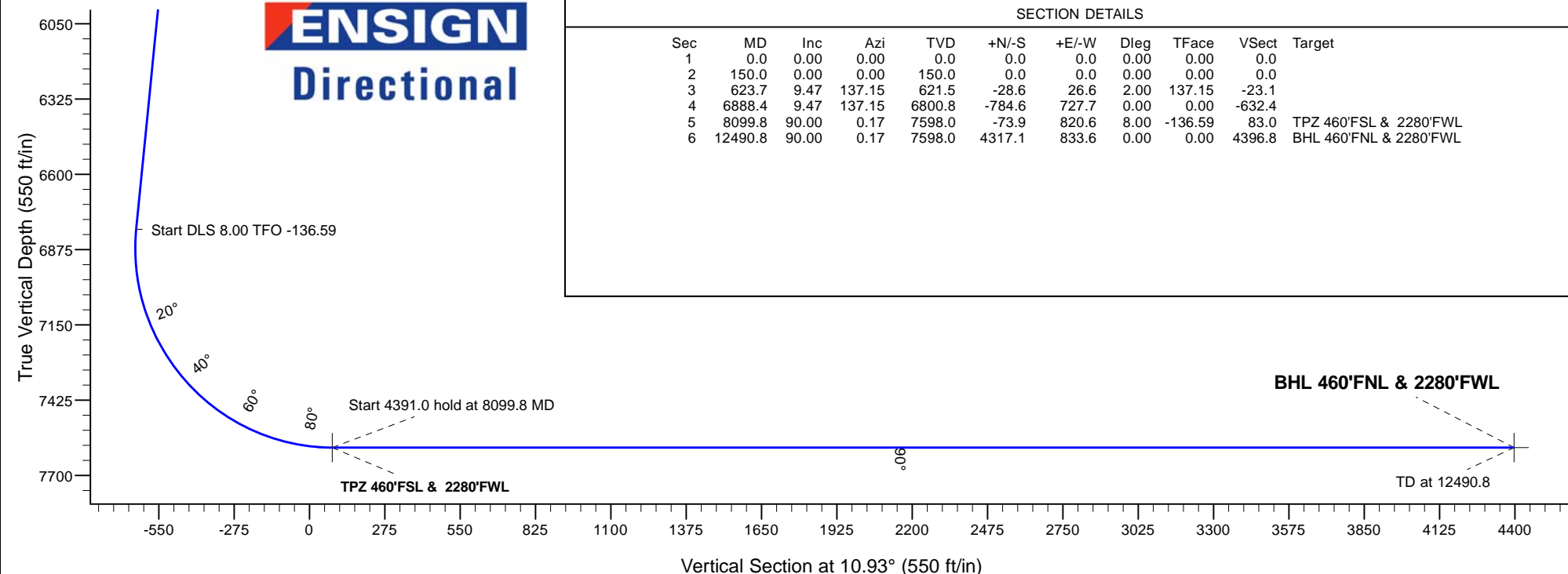
TVD	MD	Annotation
150.0	150.0	Start Build 2.00
621.5	623.7	Start 6264.7 hold at 623.7 MD
6800.8	6888.4	Start DLS 8.00 TFO -136.59
7598.0	8099.8	Start 4391.0 hold at 8099.8 MD
7598.0	12490.8	TD at 12490.8



**ENSIGN**  
Directional

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	150.0	0.00	0.00	150.0	0.0	0.0	0.00	0.00	0.0	
3	623.7	9.47	137.15	621.5	-28.6	26.6	2.00	137.15	-23.1	
4	6888.4	9.47	137.15	6800.8	-784.6	727.7	0.00	0.00	-632.4	
5	8099.8	90.00	0.17	7598.0	-73.9	820.6	8.00	-136.59	83.0	TPZ 460'FSL & 2280'FWL
6	12490.8	90.00	0.17	7598.0	4317.1	833.6	0.00	0.00	4396.8	BHL 460'FNL & 2280'FWL





## **Crestone Peak Resources**

**DJ BASIN**

**Sec.18-T1N-R67W (HINGLEY)**

**Hingley 3K-18H-N167**

**Hingley 3K-18H-N167 Wellbore #1**

**Plan: Plan #2 (9-26-19)**

## **Standard Planning Report**

**02 October, 2019**



**CRESTONE PEAK**  
RESOURCES

<b>Database:</b>	US_EDM	<b>Local Co-ordinate Reference:</b>	Well Hingley 3K-18H-N167
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	WELL @ 5133.0ft (RKB - 23')
<b>Project:</b>	DJ BASIN	<b>MD Reference:</b>	WELL @ 5133.0ft (RKB - 23')
<b>Site:</b>	Sec.18-T1N-R67W (HINGLEY)	<b>North Reference:</b>	True
<b>Well:</b>	Hingley 3K-18H-N167	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hingley 3K-18H-N167 Wellbore #1		
<b>Design:</b>	Plan #2 (9-26-19)		

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 3K-18H-N167					
Well Position	+N/-S	-4,232.7 ft	Northing:	1,259,880.01 usft	Latitude:	40.045387
	+E/-W	-3,111.8 ft	Easting:	3,157,540.09 usft	Longitude:	-104.937287
Position Uncertainty		0.0 ft	Wellhead Elevation:	0.0 ft	Ground Level:	5,110.0 ft

Wellbore	Hingley 3K-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 #2 (9-26-19)			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	10.93

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
150.0	0.00	0.00	150.0	0.0	0.0	0.00	0.00	0.00	0.00	
623.7	9.47	137.15	621.5	-28.6	26.6	2.00	2.00	0.00	137.15	
6,888.4	9.47	137.15	6,800.8	-784.6	727.7	0.00	0.00	0.00	0.00	
8,099.8	90.00	0.17	7,598.0	-73.9	820.6	8.00	6.65	-11.31	-136.59	TPZ 460'FSL & 2280
12,490.8	90.00	0.17	7,598.0	4,317.1	833.6	0.00	0.00	0.00	0.00	BHL 460'FNL & 2280'

Database:	US_EDM	Local Co-ordinate Reference:	Well Hingley 3K-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 3K-18H-N167	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hingley 3K-18H-N167 Wellbore #1		
Design:	Plan #2 (9-26-19)		

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
SHL 523'FSL & 1456'FWL									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
150.0	0.00	0.00	150.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
200.0	1.00	137.15	200.0	-0.3	0.3	-0.3	2.00	2.00	0.00
300.0	3.00	137.15	299.9	-2.9	2.7	-2.3	2.00	2.00	0.00
400.0	5.00	137.15	399.7	-8.0	7.4	-6.4	2.00	2.00	0.00
500.0	7.00	137.15	499.1	-15.7	14.5	-12.6	2.00	2.00	0.00
600.0	9.00	137.15	598.2	-25.9	24.0	-20.8	2.00	2.00	0.00
623.7	9.47	137.15	621.5	-28.6	26.6	-23.1	2.00	2.00	0.00
Start 6264.7 hold at 623.7 MD									
700.0	9.47	137.15	696.8	-37.9	35.1	-30.5	0.00	0.00	0.00
800.0	9.47	137.15	795.4	-49.9	46.3	-40.2	0.00	0.00	0.00
900.0	9.47	137.15	894.1	-62.0	57.5	-50.0	0.00	0.00	0.00
1,000.0	9.47	137.15	992.7	-74.1	68.7	-59.7	0.00	0.00	0.00
1,100.0	9.47	137.15	1,091.3	-86.1	79.9	-69.4	0.00	0.00	0.00
1,200.0	9.47	137.15	1,190.0	-98.2	91.1	-79.1	0.00	0.00	0.00
1,300.0	9.47	137.15	1,288.6	-110.3	102.3	-88.9	0.00	0.00	0.00
1,400.0	9.47	137.15	1,387.3	-122.3	113.5	-98.6	0.00	0.00	0.00
1,500.0	9.47	137.15	1,485.9	-134.4	124.6	-108.3	0.00	0.00	0.00
1,600.0	9.47	137.15	1,584.5	-146.5	135.8	-118.1	0.00	0.00	0.00
1,700.0	9.47	137.15	1,683.2	-158.5	147.0	-127.8	0.00	0.00	0.00
1,800.0	9.47	137.15	1,781.8	-170.6	158.2	-137.5	0.00	0.00	0.00
1,900.0	9.47	137.15	1,880.4	-182.7	169.4	-147.2	0.00	0.00	0.00
2,000.0	9.47	137.15	1,979.1	-194.7	180.6	-157.0	0.00	0.00	0.00
2,100.0	9.47	137.15	2,077.7	-206.8	191.8	-166.7	0.00	0.00	0.00
2,200.0	9.47	137.15	2,176.3	-218.9	203.0	-176.4	0.00	0.00	0.00
2,300.0	9.47	137.15	2,275.0	-230.9	214.2	-186.1	0.00	0.00	0.00
2,400.0	9.47	137.15	2,373.6	-243.0	225.4	-195.9	0.00	0.00	0.00
2,500.0	9.47	137.15	2,472.3	-255.1	236.6	-205.6	0.00	0.00	0.00
2,600.0	9.47	137.15	2,570.9	-267.1	247.8	-215.3	0.00	0.00	0.00
2,700.0	9.47	137.15	2,669.5	-279.2	259.0	-225.0	0.00	0.00	0.00
2,800.0	9.47	137.15	2,768.2	-291.3	270.1	-234.8	0.00	0.00	0.00
2,900.0	9.47	137.15	2,866.8	-303.3	281.3	-244.5	0.00	0.00	0.00
3,000.0	9.47	137.15	2,965.4	-315.4	292.5	-254.2	0.00	0.00	0.00
3,100.0	9.47	137.15	3,064.1	-327.5	303.7	-264.0	0.00	0.00	0.00
3,200.0	9.47	137.15	3,162.7	-339.5	314.9	-273.7	0.00	0.00	0.00
3,300.0	9.47	137.15	3,261.3	-351.6	326.1	-283.4	0.00	0.00	0.00
3,400.0	9.47	137.15	3,360.0	-363.7	337.3	-293.1	0.00	0.00	0.00
3,500.0	9.47	137.15	3,458.6	-375.7	348.5	-302.9	0.00	0.00	0.00
3,600.0	9.47	137.15	3,557.3	-387.8	359.7	-312.6	0.00	0.00	0.00
3,700.0	9.47	137.15	3,655.9	-399.9	370.9	-322.3	0.00	0.00	0.00
3,800.0	9.47	137.15	3,754.5	-411.9	382.1	-332.0	0.00	0.00	0.00
3,900.0	9.47	137.15	3,853.2	-424.0	393.3	-341.8	0.00	0.00	0.00
4,000.0	9.47	137.15	3,951.8	-436.1	404.5	-351.5	0.00	0.00	0.00
4,100.0	9.47	137.15	4,050.4	-448.2	415.6	-361.2	0.00	0.00	0.00
4,200.0	9.47	137.15	4,149.1	-460.2	426.8	-370.9	0.00	0.00	0.00
4,300.0	9.47	137.15	4,247.7	-472.3	438.0	-380.7	0.00	0.00	0.00
4,400.0	9.47	137.15	4,346.3	-484.4	449.2	-390.4	0.00	0.00	0.00
4,500.0	9.47	137.15	4,445.0	-496.4	460.4	-400.1	0.00	0.00	0.00
4,600.0	9.47	137.15	4,543.6	-508.5	471.6	-409.9	0.00	0.00	0.00

Database:	US_EDM	Local Co-ordinate Reference:	Well Hingley 3K-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 3K-18H-N167	Survey Calculation Method:	Minimum Curvature
Wellbore:	Hingley 3K-18H-N167 Wellbore #1		
Design:	Plan #2 (9-26-19)		

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)
4,700.0	9.47	137.15	4,642.3	-520.6	482.8	-419.6	0.00	0.00	0.00
4,800.0	9.47	137.15	4,740.9	-532.6	494.0	-429.3	0.00	0.00	0.00
4,900.0	9.47	137.15	4,839.5	-544.7	505.2	-439.0	0.00	0.00	0.00
5,000.0	9.47	137.15	4,938.2	-556.8	516.4	-448.8	0.00	0.00	0.00
5,100.0	9.47	137.15	5,036.8	-568.8	527.6	-458.5	0.00	0.00	0.00
5,200.0	9.47	137.15	5,135.4	-580.9	538.8	-468.2	0.00	0.00	0.00
5,300.0	9.47	137.15	5,234.1	-593.0	550.0	-477.9	0.00	0.00	0.00
5,400.0	9.47	137.15	5,332.7	-605.0	561.1	-487.7	0.00	0.00	0.00
5,500.0	9.47	137.15	5,431.3	-617.1	572.3	-497.4	0.00	0.00	0.00
5,600.0	9.47	137.15	5,530.0	-629.2	583.5	-507.1	0.00	0.00	0.00
5,700.0	9.47	137.15	5,628.6	-641.2	594.7	-516.8	0.00	0.00	0.00
5,800.0	9.47	137.15	5,727.3	-653.3	605.9	-526.6	0.00	0.00	0.00
5,900.0	9.47	137.15	5,825.9	-665.4	617.1	-536.3	0.00	0.00	0.00
6,000.0	9.47	137.15	5,924.5	-677.4	628.3	-546.0	0.00	0.00	0.00
6,100.0	9.47	137.15	6,023.2	-689.5	639.5	-555.8	0.00	0.00	0.00
6,200.0	9.47	137.15	6,121.8	-701.6	650.7	-565.5	0.00	0.00	0.00
6,300.0	9.47	137.15	6,220.4	-713.6	661.9	-575.2	0.00	0.00	0.00
6,400.0	9.47	137.15	6,319.1	-725.7	673.1	-584.9	0.00	0.00	0.00
6,500.0	9.47	137.15	6,417.7	-737.8	684.3	-594.7	0.00	0.00	0.00
6,600.0	9.47	137.15	6,516.3	-749.8	695.5	-604.4	0.00	0.00	0.00
6,700.0	9.47	137.15	6,615.0	-761.9	706.6	-614.1	0.00	0.00	0.00
6,800.0	9.47	137.15	6,713.6	-774.0	717.8	-623.8	0.00	0.00	0.00
6,888.4	9.47	137.15	6,800.8	-784.6	727.7	-632.4	0.00	0.00	0.00
Start DLS 8.00 TFO -136.59									
6,900.0	8.82	132.97	6,812.3	-785.9	729.0	-633.5	8.00	-5.61	-35.89
7,000.0	6.80	72.85	6,911.5	-789.4	740.3	-634.8	8.00	-2.02	-60.12
7,100.0	11.92	32.79	7,010.2	-779.0	751.6	-622.4	8.00	5.12	-40.06
7,200.0	19.12	19.34	7,106.5	-754.8	762.6	-596.5	8.00	7.20	-13.45
7,300.0	26.76	13.21	7,198.6	-717.4	773.2	-557.8	8.00	7.65	-6.13
7,400.0	34.56	9.68	7,284.5	-667.4	783.1	-506.8	8.00	7.80	-3.53
7,500.0	42.43	7.32	7,362.7	-605.9	792.2	-444.7	8.00	7.87	-2.36
7,600.0	50.33	5.59	7,431.7	-534.0	800.3	-372.6	8.00	7.90	-1.74
7,700.0	58.25	4.21	7,490.0	-453.2	807.2	-291.9	8.00	7.92	-1.38
7,800.0	66.18	3.05	7,536.6	-365.0	812.7	-204.3	8.00	7.93	-1.16
7,900.0	74.13	2.02	7,570.5	-271.1	816.9	-111.3	8.00	7.94	-1.02
8,000.0	82.07	1.08	7,591.1	-173.3	819.5	-14.8	8.00	7.95	-0.95
8,099.8	90.00	0.17	7,598.0	-73.9	820.6	83.0	8.00	7.95	-0.91
Start 4391.0 hold at 8099.8 MD - TPZ 460°FSL & 2280°FWL									
8,100.0	90.00	0.17	7,598.0	-73.7	820.6	83.2	0.00	0.00	0.00
8,200.0	90.00	0.17	7,598.0	26.3	820.9	181.5	0.00	0.00	0.00
8,300.0	90.00	0.17	7,598.0	126.3	821.2	279.7	0.00	0.00	0.00
8,400.0	90.00	0.17	7,598.0	226.3	821.5	378.0	0.00	0.00	0.00
8,500.0	90.00	0.17	7,598.0	326.3	821.8	476.2	0.00	0.00	0.00
8,600.0	90.00	0.17	7,598.0	426.3	822.1	574.5	0.00	0.00	0.00
8,700.0	90.00	0.17	7,598.0	526.3	822.4	672.7	0.00	0.00	0.00
8,800.0	90.00	0.17	7,598.0	626.3	822.7	770.9	0.00	0.00	0.00
8,900.0	90.00	0.17	7,598.0	726.3	823.0	869.2	0.00	0.00	0.00
9,000.0	90.00	0.17	7,598.0	826.3	823.3	967.4	0.00	0.00	0.00
9,100.0	90.00	0.17	7,598.0	926.3	823.6	1,065.7	0.00	0.00	0.00
9,200.0	90.00	0.17	7,598.0	1,026.3	823.8	1,163.9	0.00	0.00	0.00
9,300.0	90.00	0.17	7,598.0	1,126.3	824.1	1,262.2	0.00	0.00	0.00
9,400.0	90.00	0.17	7,598.0	1,226.3	824.4	1,360.4	0.00	0.00	0.00
9,500.0	90.00	0.17	7,598.0	1,326.3	824.7	1,458.6	0.00	0.00	0.00
9,600.0	90.00	0.17	7,598.0	1,426.3	825.0	1,556.9	0.00	0.00	0.00

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<b>Project:</b>	DJ BASIN	<b>MD Reference:</b>	WELL @ 5133.0ft (RKB - 23')
<b>Site:</b>	Sec.18-T1N-R67W (HINGLEY)	<b>North Reference:</b>	True
<b>Well:</b>	Hingley 3K-18H-N167	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hingley 3K-18H-N167 Wellbore #1		
<b>Design:</b>	Plan #2 (9-26-19)		

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)	
9,700.0	90.00	0.17	7,598.0	1,526.3	825.3	1,655.1	0.00	0.00	0.00	
9,800.0	90.00	0.17	7,598.0	1,626.3	825.6	1,753.4	0.00	0.00	0.00	
9,900.0	90.00	0.17	7,598.0	1,726.3	825.9	1,851.6	0.00	0.00	0.00	
10,000.0	90.00	0.17	7,598.0	1,826.3	826.2	1,949.8	0.00	0.00	0.00	
10,100.0	90.00	0.17	7,598.0	1,926.3	826.5	2,048.1	0.00	0.00	0.00	
10,200.0	90.00	0.17	7,598.0	2,026.3	826.8	2,146.3	0.00	0.00	0.00	
10,300.0	90.00	0.17	7,598.0	2,126.3	827.1	2,244.6	0.00	0.00	0.00	
10,400.0	90.00	0.17	7,598.0	2,226.3	827.4	2,342.8	0.00	0.00	0.00	
10,500.0	90.00	0.17	7,598.0	2,326.3	827.7	2,441.1	0.00	0.00	0.00	
10,600.0	90.00	0.17	7,598.0	2,426.3	828.0	2,539.3	0.00	0.00	0.00	
10,700.0	90.00	0.17	7,598.0	2,526.3	828.3	2,637.5	0.00	0.00	0.00	
10,800.0	90.00	0.17	7,598.0	2,626.3	828.6	2,735.8	0.00	0.00	0.00	
10,900.0	90.00	0.17	7,598.0	2,726.3	828.9	2,834.0	0.00	0.00	0.00	
11,000.0	90.00	0.17	7,598.0	2,826.3	829.2	2,932.3	0.00	0.00	0.00	
11,100.0	90.00	0.17	7,598.0	2,926.3	829.5	3,030.5	0.00	0.00	0.00	
11,200.0	90.00	0.17	7,598.0	3,026.3	829.8	3,128.8	0.00	0.00	0.00	
11,300.0	90.00	0.17	7,598.0	3,126.3	830.1	3,227.0	0.00	0.00	0.00	
11,400.0	90.00	0.17	7,598.0	3,226.3	830.4	3,325.2	0.00	0.00	0.00	
11,500.0	90.00	0.17	7,598.0	3,326.3	830.7	3,423.5	0.00	0.00	0.00	
11,600.0	90.00	0.17	7,598.0	3,426.3	831.0	3,521.7	0.00	0.00	0.00	
11,700.0	90.00	0.17	7,598.0	3,526.3	831.3	3,620.0	0.00	0.00	0.00	
11,800.0	90.00	0.17	7,598.0	3,626.3	831.6	3,718.2	0.00	0.00	0.00	
11,900.0	90.00	0.17	7,598.0	3,726.3	831.8	3,816.4	0.00	0.00	0.00	
12,000.0	90.00	0.17	7,598.0	3,826.3	832.1	3,914.7	0.00	0.00	0.00	
12,100.0	90.00	0.17	7,598.0	3,926.3	832.4	4,012.9	0.00	0.00	0.00	
12,200.0	90.00	0.17	7,598.0	4,026.3	832.7	4,111.2	0.00	0.00	0.00	
12,300.0	90.00	0.17	7,598.0	4,126.3	833.0	4,209.4	0.00	0.00	0.00	
12,400.0	90.00	0.17	7,598.0	4,226.3	833.3	4,307.7	0.00	0.00	0.00	
12,490.8	90.00	0.17	7,598.0	4,317.1	833.6	4,396.8	0.00	0.00	0.00	
TD at 12490.8 - BHL 460°FNL & 2280°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 & 1456°FW - hit/miss target - Shape - Point	0.00	0.00	1.0	0.0	0.0	1,259,880.03	3,157,540.09	40.045387 -104.937287		
TPZ 460°FSL & 2280°FV - plan hits target center - Point	0.00	0.00	7,598.0	-73.9	820.6	1,259,811.30	3,158,361.13	40.045184 -104.934356		
BHL 460°FNL & 2280°FV - plan hits target center - Point	0.00	0.00	7,598.0	4,317.1	833.6	1,264,202.28	3,158,346.28	40.057238 -104.934309		

<b>Database:</b>	US_EDM	<b>Local Co-ordinate Reference:</b>	Well Hingley 3K-18H-N167
<b>Company:</b>	Crestone Peak Resources	<b>TVD Reference:</b>	WELL @ 5133.0ft (RKB - 23')
<b>Project:</b>	DJ BASIN	<b>MD Reference:</b>	WELL @ 5133.0ft (RKB - 23')
<b>Site:</b>	Sec.18-T1N-R67W (HINGLEY)	<b>North Reference:</b>	True
<b>Well:</b>	Hingley 3K-18H-N167	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Hingley 3K-18H-N167 Wellbore #1		
<b>Design:</b>	Plan #2 (9-26-19)		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
150.0	150.0	0.0	0.0	Start Build 2.00
623.7	621.5	-28.6	26.6	Start 6264.7 hold at 623.7 MD
6,888.4	6,800.8	-784.6	727.7	Start DLS 8.00 TFO -136.59
8,099.8	7,598.0	-73.9	820.6	Start 4391.0 hold at 8099.8 MD
12,490.8	7,598.0	4,317.1	833.6	TD at 12490.8

## **Crestone Peak Resources**

**DJ BASIN**

**Sec.18-T1N-R67W (HINGLEY)**

**Hingley 3K-18H-N167**

**Hingley 3K-18H-N167 Wellbore #1**

**Plan #2 (9-26-19)**

## **Anticollision Report**

**02 October, 2019**



**CRESTONE PEAK**  
RESOURCES



<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well Hingley 3K-18H-N167
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	WELL @ 5133.0ft (RKB - 23')
<b>Reference Site:</b>	Sec.18-T1N-R67W (HINGLEY)	<b>MD Reference:</b>	WELL @ 5133.0ft (RKB - 23')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hingley 3K-18H-N167	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Hingley 3K-18H-N167 Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #2 (9-26-19)	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	Plan #2 (9-26-19)		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD Interval 100.0ft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 500.0 ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	<b>Date</b>	10/2/2019		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	12,490.8	Plan #2 (9-26-19) (Hingley 3K-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 #	8,100.0	12,649.0	478.5	369.8	4.402	SF
Hingley 1A-18H-A167 - Hingley 1A-18H-A167 Wellbore #	8,300.0	12,461.0	473.8	367.1	4.443	ES
Hingley 1A-18H-A167 - Hingley 1A-18H-A167 Wellbore #	8,431.8	12,332.7	473.0	367.6	4.486	CC
Hingley 3A-18H-N167 - Hingley 3A-18H-N167 Wellbore #	100.0	99.0	100.2	100.0	364.950	CC
Hingley 3A-18H-N167 - Hingley 3A-18H-N167 Wellbore #	200.0	199.0	100.5	99.5	101.265	ES
Hingley 3A-18H-N167 - Hingley 3A-18H-N167 Wellbore #	700.0	676.0	170.5	165.7	35.979	SF
Hingley 3B-18H-N167 - Hingley 3B-18H-N167 Wellbore #	100.0	99.0	90.2	89.9	328.254	CC
Hingley 3B-18H-N167 - Hingley 3B-18H-N167 Wellbore #	200.0	199.0	90.5	89.5	91.111	ES
Hingley 3B-18H-N167 - Hingley 3B-18H-N167 Wellbore #	700.0	683.9	147.2	142.5	31.070	SF
Hingley 3C-18H-N167 - Hingley 3C-18H-N167 Wellbore #	100.0	100.0	80.1	79.8	290.090	CC
Hingley 3C-18H-N167 - Hingley 3C-18H-N167 Wellbore #	200.0	200.0	80.4	79.4	80.673	ES
Hingley 3C-18H-N167 - Hingley 3C-18H-N167 Wellbore #	700.0	689.0	130.3	125.5	27.398	SF
Hingley 3D-18H-N167 - Hingley 3D-18H-N167 Wellbore #	100.0	100.0	70.3	70.0	254.590	CC
Hingley 3D-18H-N167 - Hingley 3D-18H-N167 Wellbore #	200.0	200.0	70.6	69.6	70.836	ES
Hingley 3D-18H-N167 - Hingley 3D-18H-N167 Wellbore #	2,900.0	2,860.1	492.0	470.1	22.433	SF
Hingley 3F-18H-N167 - Hingley 3F-18H-N167 Wellbore #	100.0	100.0	50.1	49.8	181.562	CC
Hingley 3F-18H-N167 - Hingley 3F-18H-N167 Wellbore #	200.0	200.0	50.4	49.4	50.600	ES
Hingley 3F-18H-N167 - Hingley 3F-18H-N167 Wellbore #	3,800.0	3,771.6	491.6	462.2	16.729	SF
Hingley 3G-18H-N167 - Hingley 3G-18H-N167 Wellbore	100.0	100.0	40.0	39.8	145.049	CC
Hingley 3G-18H-N167 - Hingley 3G-18H-N167 Wellbore	200.0	200.0	40.3	39.3	40.483	ES
Hingley 3G-18H-N167 - Hingley 3G-18H-N167 Wellbore	4,700.0	4,678.5	494.7	457.9	13.456	SF
Hingley 3H-18H-N167 - Hingley 3H-18H-N167 Wellbore #	100.0	100.0	30.2	30.0	109.550	CC
Hingley 3H-18H-N167 - Hingley 3H-18H-N167 Wellbore #	200.0	200.0	30.5	29.5	30.647	ES
Hingley 3H-18H-N167 - Hingley 3H-18H-N167 Wellbore #	12,490.8	12,543.8	469.4	310.6	2.956	SF
Hingley 3I-18H-N167 - Hingley 3I-18H-N167 Wellbore #1	100.0	100.0	20.2	19.9	73.029	CC
Hingley 3I-18H-N167 - Hingley 3I-18H-N167 Wellbore #1	6,900.0	6,913.9	59.2	1.6	1.027	Level 2, ES, 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	1,841.9	1,799.1	256.7	213.4	5.933	CC
Hicks 24-18 (P&A) - Wellbore #1 - Wellbore #1	2,100.0	2,053.7	260.2	210.8	5.263	ES
Hicks 24-18 (P&A) - Wellbore #1 - Wellbore #1	3,100.0	3,040.1	329.8	257.2	4.542	SF
Hingley 3S (P&A) - Wellbore #1 - Wellbore #1						Out of range

<b>Company:</b>	Crestone Peak Resources	<b>Local Co-ordinate Reference:</b>	Well Hingley 3K-18H-N167
<b>Project:</b>	DJ BASIN	<b>TVD Reference:</b>	WELL @ 5133.0ft (RKB - 23')
<b>Reference Site:</b>	Sec.18-T1N-R67W (HINGLEY)	<b>MD Reference:</b>	WELL @ 5133.0ft (RKB - 23')
<b>Site Error:</b>	0.0 ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	Hingley 3K-18H-N167	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	Hingley 3K-18H-N167 Wellbore #1	<b>Database:</b>	US_EDM
<b>Reference Design:</b>	Plan #2 (9-26-19)	<b>Offset TVD Reference:</b>	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 14N-19HZ (Exist.) - Wellbore #1 - Wellbore #1	4,950.0	4,946.4	132.7	92.5	3.298	CC
Ralph 14N-19HZ (Exist.) - Wellbore #1 - Wellbore #1	5,000.0	4,994.9	133.1	92.4	3.270	ES, SF
Ralph 34C-19HZ (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Ralph 35C-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	5,541.6	5,528.7	42.1	-6.4	0.868	Level 1, CC, ES, SF

Offset Design														Offset Site Error:	0.0 ft
Survey Program: 172-MWD+HDGM														Offset Well Error:	0.0 ft
Reference															
Offset															
Semi Major Axis															
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
8,000.0	7,591.1	12,664.0	7,609.8	30.5	80.4	97.12	-74.4	1,294.5	490.9	381.8	109.10	4.500			
8,100.0	7,598.0	12,649.0	7,609.5	30.5	80.2	98.11	-59.5	1,294.1	478.5	369.8	108.70	4.402	SF		
8,200.0	7,598.0	12,553.0	7,607.4	30.6	78.8	97.91	36.5	1,291.7	475.4	367.8	107.59	4.419			
8,300.0	7,598.0	12,461.0	7,605.6	30.7	77.5	97.72	128.5	1,290.7	473.8	367.1	106.65	4.443	ES		
8,400.0	7,598.0	12,362.2	7,604.3	31.1	76.1	97.57	227.3	1,290.4	473.1	367.4	105.68	4.476			
8,431.8	7,598.0	12,332.7	7,604.0	31.2	75.7	97.53	256.8	1,290.5	473.0	367.6	105.43	4.486	CC		
8,500.0	7,598.0	12,269.4	7,603.4	31.5	74.8	97.45	320.1	1,291.1	473.4	368.5	104.88	4.513			
8,600.0	7,598.0	12,175.5	7,602.9	32.1	73.5	97.37	413.9	1,293.0	475.1	370.9	104.16	4.561			
8,700.0	7,598.0	12,074.7	7,602.8	32.7	72.1	97.31	514.7	1,296.0	477.7	374.3	103.40	4.620			
8,800.0	7,598.0	11,973.3	7,603.0	33.4	70.7	97.31	616.1	1,297.7	479.0	376.3	102.70	4.664			
8,900.0	7,598.0	11,869.4	7,603.6	34.2	69.2	97.35	720.0	1,300.2	481.2	379.2	102.03	4.716			
9,000.0	7,598.0	11,764.6	7,605.0	35.1	67.8	97.52	824.8	1,300.5	481.4	380.0	101.38	4.749			
9,100.0	7,598.0	11,663.0	7,606.8	36.0	66.4	97.74	926.3	1,300.1	481.0	380.1	100.82	4.770			
9,138.8	7,598.0	11,625.7	7,607.0	36.3	65.9	97.77	963.7	1,300.0	480.8	380.1	100.66	4.776			
9,200.0	7,598.0	11,571.3	7,607.3	36.9	65.1	97.80	1,018.1	1,300.5	481.2	380.7	100.48	4.789			
9,300.0	7,598.0	11,471.5	7,607.5	37.9	63.8	97.80	1,117.8	1,302.5	482.9	382.8	100.10	4.824			
9,400.0	7,598.0	11,355.9	7,607.1	38.9	62.2	97.76	1,233.4	1,302.7	482.7	383.2	99.54	4.849			
9,500.0	7,598.0	11,253.4	7,606.1	40.0	60.9	97.68	1,335.8	1,300.5	480.1	380.9	99.20	4.840			
9,600.0	7,598.0	11,155.2	7,606.7	41.1	59.6	97.78	1,434.1	1,298.8	478.2	379.3	98.94	4.834			
9,700.0	7,598.0	11,053.5	7,610.5	42.2	58.3	98.28	1,535.7	1,296.4	476.2	377.5	98.63	4.828			
9,800.0	7,598.0	10,960.6	7,612.9	43.3	57.1	98.59	1,628.5	1,294.8	474.5	376.0	98.51	4.817			
9,835.5	7,598.0	10,928.7	7,613.2	43.8	56.7	98.63	1,660.4	1,294.7	474.4	375.9	98.50	4.816			
9,900.0	7,598.0	10,871.0	7,614.3	44.5	55.9	98.76	1,718.0	1,295.2	474.9	376.4	98.49	4.821			
10,000.0	7,598.0	10,776.8	7,617.1	45.7	54.7	99.06	1,812.2	1,297.0	477.0	378.5	98.45	4.845			
10,100.0	7,598.0	10,674.7	7,620.5	46.9	53.5	99.42	1,914.2	1,299.4	479.5	381.1	98.34	4.876			
10,200.0	7,598.0	10,572.2	7,624.0	48.2	52.2	99.81	2,016.6	1,301.1	481.4	383.2	98.25	4.900			
10,300.0	7,598.0	10,472.8	7,624.7	49.4	51.0	99.86	2,116.1	1,302.9	483.0	384.7	98.28	4.915			
10,400.0	7,598.0	10,376.1	7,626.1	50.7	49.9	99.98	2,212.7	1,305.2	485.3	387.0	98.37	4.934			
10,500.0	7,598.0	10,272.4	7,627.8	52.0	48.7	100.13	2,316.3	1,307.6	487.6	389.2	98.41	4.955			
10,600.0	7,598.0	10,173.1	7,628.3	53.3	47.6	100.17	2,415.7	1,309.4	489.2	390.6	98.56	4.964			
10,700.0	7,598.0	10,064.7	7,629.6	54.7	46.4	100.29	2,524.0	1,311.0	490.6	392.0	98.62	4.974			
10,800.0	7,598.0	9,956.2	7,629.9	56.0	45.3	100.34	2,632.5	1,310.3	489.7	390.9	98.72	4.960			
10,900.0	7,598.0	9,862.4	7,629.4	57.3	44.4	100.30	2,726.3	1,309.7	488.7	389.7	99.04	4.935			
10,924.1	7,598.0	9,839.7	7,629.3	57.7	44.1	100.29	2,749.0	1,309.8	488.7	389.6	99.13	4.930			
11,000.0	7,598.0	9,768.1	7,629.1	58.7	43.5	100.26	2,820.6	1,310.4	489.1	389.7	99.40	4.920			
11,100.0	7,598.0	9,674.7	7,629.4	60.1	42.7	100.27	2,914.0	1,312.0	490.5	390.7	99.80	4.915			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation