

CRESTONE PEAK RESOURCES

WELD COUNTY

SEC 22-T1N-R68W

COSSLETT EAST 1J-22H-H168

OWB

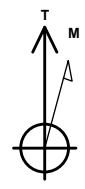
Design: FINAL SURVEY

Standard Survey Report

16 May, 2023

Project: WELD COUNTY
 Site: SEC 22-T1N-R68W
 Well: COSSLETT EAST 1J-22H-H168
 Wellbore: OWB
 Design: FINAL SURVEY

PROJECT DETAILS: WELD COUNTY
 Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Colorado Northern Zone
 System Datum: Mean Sea Level



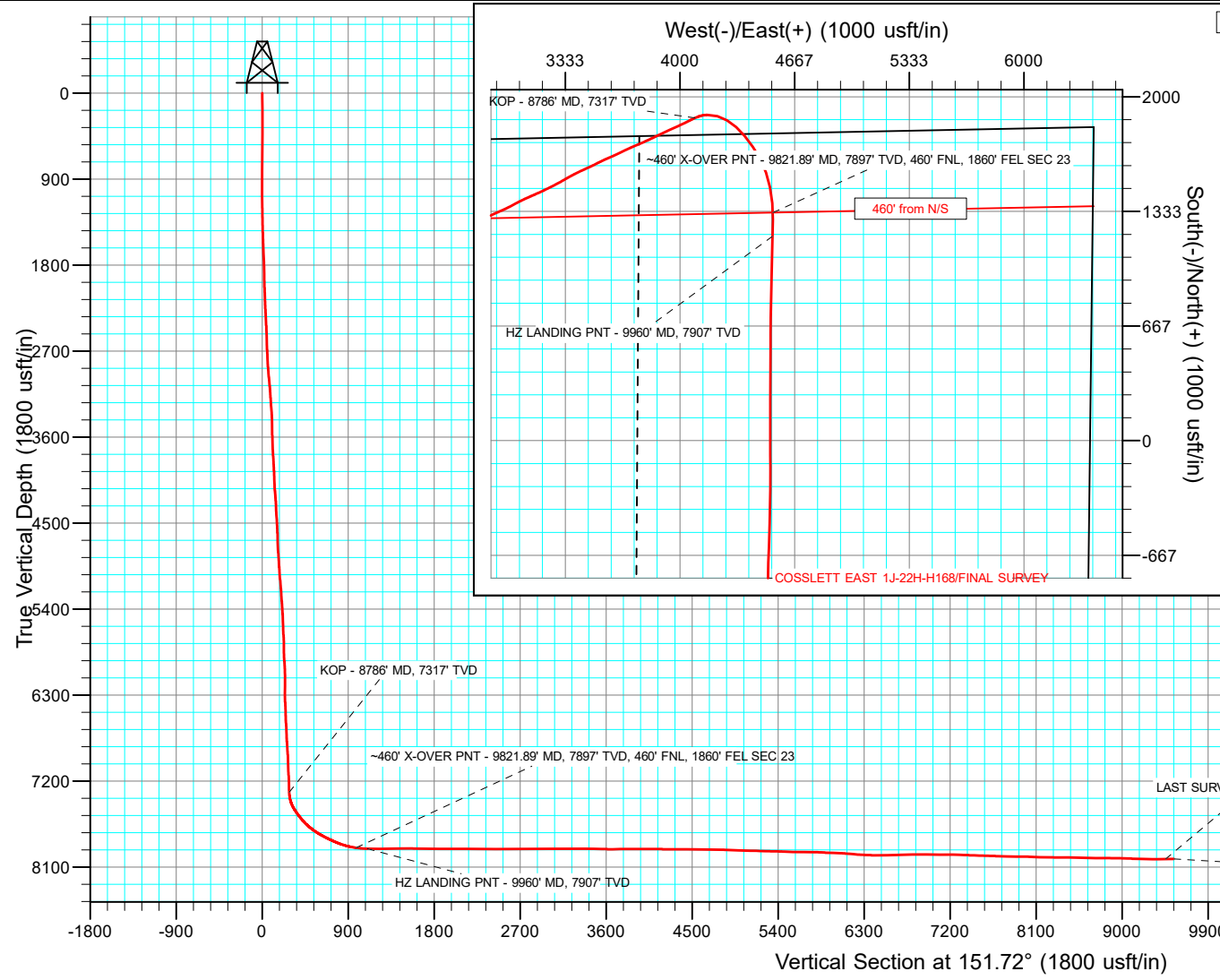
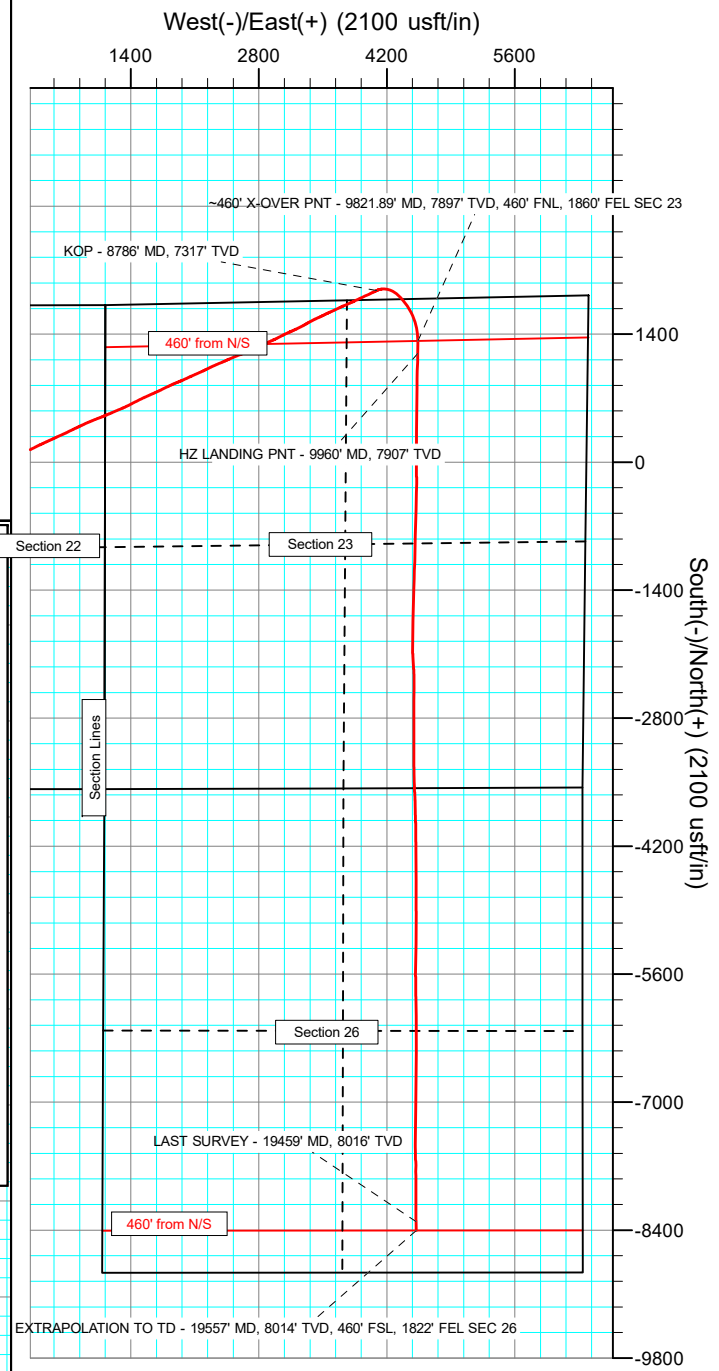
Azimuths to True North
 Magnetic North: 7.75°
 Magnetic Field
 Strength: 51552.8snT
 Dip Angle: 66.26°
 Date: 3/21/2023
 Model: IGRF2020

WELL DETAILS: COSSLETT EAST 1J-22H-H168

+N/-S	+E/-W	Northing	Easting	5181.00	Latitude	Longitude	Slot
0.00	0.00	1257557.60	3144462.96		40.039230°N	104.984044°W	

ANNOTATIONS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	V Sect	Departure	Annotation
8786.00	35.36	66.67	7317.07	1876.58	4087.80	283.85	4506.22	KOP - 8786' MD, 7317' TVD
9821.89	82.77	179.10	7897.44	1325.70	4539.61	983.04	5324.96	~460' X-OVER PNT - 9821.89' MD, 7897' TVD, 460' FNL, 1860' FEL SEC 23
9960.00	88.67	180.52	7907.27	1188.02	4537.36	1103.21	5462.53	HZ LANDING PNT - 9960' MD, 7907' TVD
19459.00	91.30	178.91	8015.80	-8306.74	4519.16	9456.36	14959.23	LAST SURVEY - 19459' MD, 8016' TVD
19557.00	91.30	178.91	8013.58	-8404.69	4521.02	9543.51	15057.21	EXTRAPOLATION TO TD - 19557' MD, 8014' TVD, 460' FSL, 1822' FEL SEC 26

SHL:
 1715' FNL, 1118' FEL
 Sec 22-T1N-R68W
 ~460' X-OVER PNT:
 460' FNL, 1860' FEL
 Sec 23-T1N-R68W
 BHL:
 486' FSL, 1822' FEL
 Sec 26-T1N-R68W



Vertical Section at 151.72° (1800 usft/in)

Survey Report

Company: CRESTONE PEAK RESOURCES	Local Co-ordinate Reference: Well COSSLETT EAST 1J-22H-H168
Project: WELD COUNTY	TVD Reference: KB 25' @ 5206.00usft
Site: SEC 22-T1N-R68W	MD Reference: KB 25' @ 5206.00usft
Well: COSSLETT EAST 1J-22H-H168	North Reference: True
Wellbore: OWB	Survey Calculation Method: Minimum Curvature
Design: FINAL SURVEY	Database: EDT_32Bit_ODBC

Project WELD COUNTY		
Map System: US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum: North American Datum 1983		
Map Zone: Colorado Northern Zone		Using geodetic scale factor

Site SEC 22-T1N-R68W			
Site Position:	Northing: 1,259,282.05 usft	Latitude:	40.043946°N
From: Lat/Long	Easting: 3,145,574.24 usft	Longitude:	104.980039°W
Position Uncertainty: 0.00 usft	Slot Radius: 13.200 in	Grid Convergence:	0.34 °

Well COSSLETT EAST 1J-22H-H168					
Well Position	+N/-S 0.00 usft	Northing: 1,257,557.59 usft	Latitude:	40.039230°N	
	+E/-W 0.00 usft	Easting: 3,144,462.96 usft	Longitude:	104.984044°W	
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level:	5,181.00 usft

Wellbore OWB					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	3/21/2023	7.75	66.26	51,552.83707390

Design FINAL SURVEY					
Audit Notes:					
Version: 1.0	Phase: ACTUAL	Tie On Depth:	0.00		
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	151.72	

Survey Program		Date 5/16/2023
From (usft)	To (usft)	Survey (Wellbore)
158.00	2,586.00	SURFACE SURVEY (OWB)
2,719.00	19,557.00	FINAL SURVEY (OWB)
		Tool Name
		MWD OWSG
		MWD OWSG
		Description
		OWSG MWD - Standard
		OWSG MWD - Standard

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
158.00	1.49	153.03	157.98	-1.83	0.93	2.05	0.94	0.94	0.00	
219.00	1.37	157.20	218.96	-3.21	1.57	3.57	0.26	-0.20	6.84	
310.00	0.75	107.79	309.95	-4.39	2.56	5.08	1.15	-0.68	-54.30	
402.00	1.42	40.07	401.93	-3.71	3.87	5.10	1.45	0.73	-73.61	
496.00	2.09	26.91	495.89	-1.29	5.40	3.69	0.83	0.71	-14.00	
556.00	1.79	37.15	555.86	0.44	6.46	2.67	0.76	-0.50	17.07	
685.00	2.37	47.02	684.77	3.86	9.62	1.16	0.53	0.45	7.65	
780.00	3.21	50.84	779.66	6.88	13.12	0.16	0.91	0.88	4.02	
876.00	4.73	56.95	875.43	10.74	18.53	-0.68	1.64	1.58	6.36	

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1J-22H-H168
Project:	WELD COUNTY	TVD Reference:	KB 25' @ 5206.00usft
Site:	SEC 22-T1N-R68W	MD Reference:	KB 25' @ 5206.00usft
Well:	COSSLETT EAST 1J-22H-H168	North Reference:	True
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEY	Database:	EDT_32Bit_ODBC

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
971.00	6.56	61.75	969.96	15.44	26.59	-1.00	1.99	1.93	5.05
1,066.00	8.29	66.04	1,064.16	20.79	37.63	-0.48	1.91	1.82	4.52
1,161.00	11.00	67.47	1,157.81	27.05	52.26	0.94	2.86	2.85	1.51
1,256.00	14.16	65.72	1,250.52	35.30	71.23	2.66	3.35	3.33	-1.84
1,350.00	18.10	65.72	1,340.80	46.03	95.03	4.48	4.19	4.19	0.00
1,446.00	20.52	65.25	1,431.39	59.21	123.91	6.55	2.53	2.52	-0.49
1,541.00	22.96	65.81	1,519.63	73.78	155.94	8.90	2.58	2.57	0.59
1,635.00	26.03	66.52	1,605.16	89.51	191.59	11.93	3.28	3.27	0.76
1,731.00	27.17	66.78	1,691.00	106.55	231.05	15.62	1.19	1.19	0.27
1,825.00	27.96	65.21	1,774.33	124.25	270.78	18.85	1.14	0.84	-1.67
1,920.00	29.02	64.35	1,857.82	143.56	311.77	21.26	1.20	1.12	-0.91
2,015.00	29.13	63.42	1,940.85	163.88	353.23	23.01	0.49	0.12	-0.98
2,111.00	30.17	64.68	2,024.28	184.66	395.93	24.94	1.26	1.08	1.31
2,205.00	32.04	65.37	2,104.76	205.15	439.95	27.75	2.03	1.99	0.73
2,300.00	34.12	65.05	2,184.36	226.90	487.02	30.89	2.20	2.19	-0.34
2,395.00	35.95	65.37	2,262.14	249.76	536.53	34.21	1.94	1.93	0.34
2,491.00	37.97	65.71	2,338.85	273.65	589.07	38.06	2.11	2.10	0.35
2,586.00	38.99	65.52	2,413.21	298.06	642.91	42.07	1.08	1.07	-0.20
2,719.00	37.31	64.47	2,517.80	332.77	717.37	46.77	1.35	-1.26	-0.79
2,814.00	37.87	62.80	2,593.08	358.51	769.28	48.70	1.22	0.59	-1.76
2,909.00	38.02	65.70	2,668.00	383.88	821.89	51.28	1.88	0.16	3.05
3,003.00	36.04	64.57	2,743.04	407.67	873.25	54.66	2.23	-2.11	-1.20
3,193.00	38.08	67.53	2,894.67	454.07	977.89	63.36	1.43	1.07	1.56
3,288.00	37.46	69.13	2,969.77	475.56	1,031.96	70.05	1.22	-0.65	1.68
3,383.00	39.08	68.51	3,044.35	496.83	1,086.82	77.32	1.75	1.71	-0.65
3,478.00	36.40	67.29	3,119.47	518.68	1,140.69	83.59	2.93	-2.82	-1.28
3,573.00	37.80	66.73	3,195.24	541.07	1,193.44	88.86	1.52	1.47	-0.59
3,762.00	38.88	67.01	3,343.48	587.12	1,301.26	99.39	0.58	0.57	0.15
3,857.00	38.28	64.26	3,417.75	611.54	1,355.22	103.43	1.91	-0.63	-2.89
3,974.00	38.30	62.23	3,509.58	644.18	1,419.95	105.36	1.08	0.02	-1.74
4,070.00	37.90	63.14	3,585.13	671.36	1,472.58	106.35	0.72	-0.42	0.95
4,259.00	37.21	65.88	3,734.97	720.95	1,576.53	111.93	0.96	-0.37	1.45
4,354.00	37.97	66.16	3,810.25	744.50	1,629.48	116.27	0.82	0.80	0.29
4,449.00	40.12	65.84	3,884.03	768.84	1,684.14	120.73	2.27	2.26	-0.34
4,543.00	41.28	64.18	3,955.29	794.74	1,739.69	124.23	1.69	1.23	-1.77
4,639.00	40.52	64.15	4,027.85	822.13	1,796.27	126.91	0.79	-0.79	-0.03
4,734.00	38.80	64.73	4,100.98	848.30	1,850.96	129.78	1.85	-1.81	0.61
4,829.00	39.62	68.60	4,174.60	872.06	1,906.09	134.97	2.72	0.86	4.07
4,924.00	36.72	66.74	4,249.29	894.33	1,960.39	141.08	3.28	-3.05	-1.96
5,020.00	37.63	64.63	4,325.78	918.22	2,013.24	145.08	1.63	0.95	-2.20
5,115.00	39.23	66.27	4,400.20	942.74	2,066.95	148.93	2.00	1.68	1.73
5,305.00	37.49	66.13	4,549.18	990.32	2,174.84	158.13	0.92	-0.92	-0.07
5,400.00	36.20	62.61	4,625.21	1,014.93	2,226.19	160.79	2.60	-1.36	-3.71

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1J-22H-H168
Project:	WELD COUNTY	TVD Reference:	KB 25' @ 5206.00usft
Site:	SEC 22-T1N-R68W	MD Reference:	KB 25' @ 5206.00usft
Well:	COSSLETT EAST 1J-22H-H168	North Reference:	True
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEY	Database:	EDT_32Bit_ODBC

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
5,494.00	36.98	64.56	4,700.69	1,039.85	2,276.37	162.62	1.49	0.83	2.07	
5,589.00	37.44	66.57	4,776.35	1,063.60	2,328.67	166.47	1.37	0.48	2.12	
5,683.00	37.74	67.48	4,850.84	1,085.98	2,381.46	171.77	0.67	0.32	0.97	
5,779.00	35.59	65.86	4,927.84	1,108.66	2,434.10	176.73	2.46	-2.24	-1.69	
5,874.00	38.16	66.88	5,003.83	1,131.50	2,486.33	181.37	2.78	2.71	1.07	
5,969.00	38.09	67.93	5,078.56	1,154.03	2,540.48	187.17	0.69	-0.07	1.11	
6,064.00	38.25	68.18	5,153.25	1,175.97	2,594.93	193.65	0.23	0.17	0.26	
6,159.00	35.44	66.61	5,229.27	1,197.84	2,647.52	199.30	3.12	-2.96	-1.65	
6,254.00	36.63	67.41	5,306.09	1,219.66	2,698.97	204.46	1.35	1.25	0.84	
6,349.00	38.74	67.05	5,381.27	1,242.14	2,752.52	210.02	2.23	2.22	-0.38	
6,444.00	35.20	65.64	5,457.16	1,265.03	2,804.85	214.65	3.83	-3.73	-1.48	
6,538.00	36.15	64.33	5,533.52	1,288.22	2,854.52	217.77	1.30	1.01	-1.39	
6,633.00	35.94	64.72	5,610.33	1,312.26	2,904.98	220.50	0.33	-0.22	0.41	
6,728.00	36.53	67.07	5,686.96	1,335.19	2,956.24	224.59	1.59	0.62	2.47	
6,824.00	37.11	62.03	5,763.83	1,359.91	3,008.14	227.41	3.20	0.60	-5.25	
6,918.00	37.87	62.56	5,838.41	1,386.50	3,058.79	227.98	0.88	0.81	0.56	
7,012.00	38.30	65.95	5,912.41	1,411.67	3,111.01	230.55	2.27	0.46	3.61	
7,107.00	41.50	66.37	5,985.28	1,436.29	3,166.74	235.27	3.38	3.37	0.44	
7,202.00	39.24	64.00	6,057.66	1,462.09	3,222.59	239.01	2.88	-2.38	-2.49	
7,298.00	38.07	62.35	6,132.63	1,489.13	3,276.10	240.54	1.62	-1.22	-1.72	
7,392.00	36.08	59.82	6,207.62	1,516.50	3,325.71	239.94	2.67	-2.12	-2.69	
7,487.00	34.62	61.93	6,285.11	1,543.26	3,373.71	239.11	2.00	-1.54	2.22	
7,582.00	34.56	65.08	6,363.32	1,567.32	3,421.96	240.78	1.88	-0.06	3.32	
7,677.00	37.12	65.47	6,440.33	1,590.58	3,472.48	244.24	2.71	2.69	0.41	
7,771.00	39.30	62.70	6,514.19	1,616.01	3,524.75	246.60	2.95	2.32	-2.95	
7,866.00	37.80	66.95	6,588.50	1,641.21	3,578.29	249.76	3.20	-1.58	4.47	
7,960.00	36.75	64.78	6,663.30	1,664.48	3,630.24	253.89	1.79	-1.12	-2.31	
8,055.00	38.08	64.51	6,738.75	1,689.20	3,682.40	256.83	1.41	1.40	-0.28	
8,150.00	40.59	66.50	6,812.23	1,714.13	3,737.19	260.82	2.96	2.64	2.09	
8,246.00	39.97	66.55	6,885.47	1,738.86	3,794.12	266.02	0.65	-0.65	0.05	
8,341.00	37.47	64.09	6,959.58	1,763.63	3,848.12	269.78	3.09	-2.63	-2.59	
8,437.00	36.29	64.70	7,036.37	1,788.53	3,900.07	272.46	1.29	-1.23	0.64	
8,531.00	36.15	65.74	7,112.21	1,811.81	3,950.50	275.85	0.67	-0.15	1.11	
8,626.00	36.79	65.31	7,188.60	1,835.21	4,001.89	279.59	0.73	0.67	-0.45	
8,720.00	36.99	62.74	7,263.79	1,859.92	4,052.61	281.85	1.65	0.21	-2.73	
8,786.00	35.36	66.67	7,317.07	1,876.58	4,087.80	283.85	4.29	-2.47	5.96	
KOP - 8786' MD, 7317' TVD										
8,815.00	34.69	68.50	7,340.82	1,882.93	4,103.19	285.55	4.29	-2.32	6.30	
8,911.00	37.70	86.91	7,418.51	1,894.56	4,158.09	301.32	11.71	3.14	19.18	
9,006.00	40.92	107.29	7,492.32	1,886.84	4,217.07	336.05	13.96	3.39	21.45	
9,100.00	41.95	119.78	7,562.91	1,862.05	4,273.83	384.78	8.85	1.10	13.29	
9,195.00	45.42	132.29	7,631.73	1,823.43	4,326.53	443.76	9.79	3.65	13.17	
9,290.00	52.24	139.77	7,694.28	1,771.89	4,375.91	512.54	9.30	7.18	7.87	

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1J-22H-H168
Project:	WELD COUNTY	TVD Reference:	KB 25' @ 5206.00usft
Site:	SEC 22-T1N-R68W	MD Reference:	KB 25' @ 5206.00usft
Well:	COSSLETT EAST 1J-22H-H168	North Reference:	True
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEY	Database:	EDT_32Bit_ODBC

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
9,386.00	59.26	145.93	7,748.31	1,708.62	4,423.62	590.86	9.03	7.31	6.42	
9,480.00	63.31	151.57	7,793.49	1,638.16	4,466.29	673.13	6.80	4.31	6.00	
9,575.00	66.88	162.28	7,833.59	1,559.01	4,499.88	758.74	10.89	3.76	11.27	
9,671.00	72.83	167.55	7,866.66	1,472.04	4,523.24	846.40	8.06	6.20	5.49	
9,766.00	79.94	175.28	7,889.04	1,380.87	4,536.91	933.17	10.88	7.48	8.14	
9,821.89	82.77	179.10	7,897.44	1,325.70	4,539.61	983.04	8.44	5.06	6.83	
~460' X-OVER PNT - 9821.89' MD, 7897' TVD, 460' FNL, 1860' FEL SEC 23										
9,862.00	84.82	181.81	7,901.78	1,285.83	4,539.29	1,018.00	8.44	5.11	6.76	
9,957.00	88.64	180.50	7,907.20	1,191.02	4,537.39	1,100.58	4.25	4.02	-1.38	
9,960.00	88.67	180.52	7,907.27	1,188.02	4,537.36	1,103.21	1.27	1.02	0.75	
HZ LANDING PNT - 9960' MD, 7907' TVD										
10,052.00	89.61	181.21	7,908.65	1,096.05	4,535.97	1,183.56	1.27	1.02	0.75	
10,146.00	91.12	181.86	7,908.05	1,002.09	4,533.45	1,265.11	1.75	1.61	0.69	
10,242.00	90.33	180.89	7,906.83	906.12	4,531.15	1,348.53	1.30	-0.82	-1.01	
10,337.00	91.57	181.12	7,905.26	811.15	4,529.48	1,431.38	1.33	1.31	0.24	
10,433.00	89.98	180.91	7,903.96	715.18	4,527.78	1,515.10	1.67	-1.66	-0.22	
10,527.00	88.32	180.12	7,905.35	621.20	4,526.94	1,597.46	1.96	-1.77	-0.84	
10,622.00	88.96	180.14	7,907.61	526.22	4,526.72	1,681.00	0.67	0.67	0.02	
10,717.00	90.14	180.50	7,908.36	431.23	4,526.19	1,764.41	1.30	1.24	0.38	
10,812.00	89.26	180.53	7,908.85	336.24	4,525.34	1,847.66	0.93	-0.93	0.03	
10,907.00	90.55	180.54	7,909.01	241.24	4,524.45	1,930.90	1.36	1.36	0.01	
11,002.00	89.01	179.57	7,909.37	146.25	4,524.36	2,014.52	1.92	-1.62	-1.02	
11,097.00	90.45	179.99	7,909.82	51.25	4,524.72	2,098.35	1.58	1.52	0.44	
11,193.00	89.03	180.07	7,910.26	-44.74	4,524.67	2,182.87	1.48	-1.48	0.08	
11,288.00	89.69	179.49	7,911.32	-139.74	4,525.04	2,266.70	0.92	0.69	-0.61	
11,383.00	91.02	180.18	7,910.73	-234.73	4,525.31	2,350.49	1.58	1.40	0.73	
11,478.00	89.21	180.84	7,910.54	-329.72	4,524.46	2,433.74	2.03	-1.91	0.69	
11,573.00	90.65	181.70	7,910.66	-424.70	4,522.36	2,516.38	1.77	1.52	0.91	
11,668.00	89.03	181.30	7,910.92	-519.66	4,519.87	2,598.84	1.76	-1.71	-0.42	
11,763.00	90.37	181.89	7,911.42	-614.62	4,517.23	2,681.21	1.54	1.41	0.62	
11,858.00	91.09	182.13	7,910.21	-709.55	4,513.90	2,763.24	0.80	0.76	0.25	
11,953.00	89.58	181.12	7,909.65	-804.51	4,511.20	2,845.59	1.91	-1.59	-1.06	
12,049.00	89.91	180.87	7,910.08	-900.49	4,509.54	2,929.33	0.43	0.34	-0.26	
12,144.00	91.24	181.93	7,909.13	-995.46	4,507.21	3,011.86	1.79	1.40	1.12	
12,239.00	89.64	181.56	7,908.40	-1,090.41	4,504.32	3,094.11	1.73	-1.68	-0.39	
12,334.00	89.72	181.21	7,908.93	-1,185.38	4,502.03	3,176.66	0.38	0.08	-0.37	
12,428.00	91.43	182.05	7,907.98	-1,279.33	4,499.35	3,258.14	2.03	1.82	0.89	
12,523.00	89.65	182.84	7,907.09	-1,374.23	4,495.30	3,339.80	2.05	-1.87	0.83	
12,618.00	89.18	181.36	7,908.06	-1,469.16	4,491.82	3,421.75	1.63	-0.49	-1.56	
12,808.00	88.74	181.13	7,911.51	-1,659.09	4,487.69	3,587.05	0.26	-0.23	-0.12	
12,903.00	89.90	180.87	7,912.64	-1,754.06	4,486.03	3,669.91	1.25	1.22	-0.27	
12,998.00	91.32	181.32	7,911.62	-1,849.04	4,484.22	3,752.69	1.57	1.49	0.47	
13,094.00	89.72	181.91	7,910.75	-1,944.99	4,481.51	3,835.92	1.78	-1.67	0.61	
13,189.00	89.58	178.44	7,911.33	-2,039.98	4,481.22	3,919.43	3.66	-0.15	-3.65	

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1J-22H-H168
Project:	WELD COUNTY	TVD Reference:	KB 25' @ 5206.00usft
Site:	SEC 22-T1N-R68W	MD Reference:	KB 25' @ 5206.00usft
Well:	COSSLETT EAST 1J-22H-H168	North Reference:	True
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEY	Database:	EDT_32Bit_ODBC

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
13,284.00	89.73	176.59	7,911.91	-2,134.88	4,485.34	4,004.96	1.95	0.16	-1.95	
13,380.00	90.42	175.98	7,911.78	-2,230.68	4,491.56	4,092.27	0.96	0.72	-0.64	
13,474.00	89.48	178.63	7,911.86	-2,324.56	4,495.98	4,177.05	2.99	-1.00	2.82	
13,569.00	89.34	180.51	7,912.84	-2,419.55	4,496.69	4,261.04	1.98	-0.15	1.98	
13,664.00	90.04	180.38	7,913.35	-2,514.55	4,495.96	4,344.35	0.75	0.74	-0.14	
13,759.00	90.99	180.26	7,912.50	-2,609.54	4,495.43	4,427.76	1.01	1.00	-0.13	
13,854.00	88.52	179.97	7,912.91	-2,704.53	4,495.23	4,511.32	2.62	-2.60	-0.31	
13,950.00	89.06	179.31	7,914.93	-2,800.51	4,495.84	4,596.13	0.89	0.56	-0.69	
14,044.00	88.89	180.70	7,916.62	-2,894.49	4,495.83	4,678.89	1.49	-0.18	1.48	
14,139.00	89.57	179.83	7,917.89	-2,989.48	4,495.39	4,762.34	1.16	0.72	-0.92	
14,329.00	87.75	180.10	7,922.33	-3,179.42	4,495.51	4,929.67	0.97	-0.96	0.14	
14,424.00	88.20	180.00	7,925.69	-3,274.36	4,495.42	5,013.24	0.49	0.47	-0.11	
14,519.00	88.72	178.95	7,928.24	-3,369.32	4,496.29	5,097.28	1.23	0.55	-1.11	
14,614.00	89.21	177.81	7,929.96	-3,464.26	4,498.98	5,182.17	1.31	0.52	-1.20	
14,709.00	88.18	178.15	7,932.12	-3,559.18	4,502.33	5,267.34	1.14	-1.08	0.36	
14,804.00	89.08	176.90	7,934.40	-3,654.06	4,506.43	5,352.85	1.62	0.95	-1.32	
14,899.00	87.74	178.77	7,937.03	-3,748.95	4,510.02	5,438.11	2.42	-1.41	1.97	
14,994.00	88.69	178.58	7,939.99	-3,843.88	4,512.21	5,522.75	1.02	1.00	-0.20	
15,089.00	90.20	178.42	7,940.91	-3,938.84	4,514.70	5,607.56	1.60	1.59	-0.17	
15,184.00	88.67	180.42	7,941.85	-4,033.82	4,515.66	5,691.66	2.65	-1.61	2.11	
15,279.00	89.58	178.81	7,943.30	-4,128.80	4,516.30	5,775.61	1.95	0.96	-1.69	
15,374.00	86.96	179.50	7,946.17	-4,223.74	4,517.70	5,859.89	2.85	-2.76	0.73	
15,469.00	88.54	178.93	7,949.90	-4,318.66	4,519.00	5,944.09	1.77	1.66	-0.60	
15,563.00	87.82	180.14	7,952.88	-4,412.60	4,519.76	6,027.19	1.50	-0.77	1.29	
15,658.00	86.10	179.51	7,957.92	-4,507.46	4,520.05	6,110.87	1.93	-1.81	-0.66	
15,754.00	85.61	180.02	7,964.86	-4,603.21	4,520.44	6,195.38	0.74	-0.51	0.53	
15,849.00	86.96	180.53	7,971.01	-4,698.01	4,519.99	6,278.65	1.52	1.42	0.54	
15,944.00	88.58	180.08	7,974.71	-4,792.93	4,519.48	6,362.00	1.77	1.71	-0.47	
16,039.00	89.98	178.66	7,975.90	-4,887.91	4,520.53	6,446.15	2.10	1.47	-1.49	
16,134.00	90.92	179.88	7,975.16	-4,982.90	4,521.74	6,530.37	1.62	0.99	1.28	
16,229.00	91.53	179.74	7,973.13	-5,077.88	4,522.05	6,614.16	0.66	0.64	-0.15	
16,323.00	90.70	181.14	7,971.30	-5,171.85	4,521.33	6,696.58	1.73	-0.88	1.49	
16,418.00	92.36	180.85	7,968.76	-5,266.80	4,519.68	6,779.42	1.77	1.75	-0.31	
16,512.00	90.37	181.30	7,966.52	-5,360.75	4,517.92	6,861.33	2.17	-2.12	0.48	
16,608.00	88.88	181.65	7,967.15	-5,456.72	4,515.45	6,944.67	1.59	-1.55	0.36	
16,703.00	89.00	179.87	7,968.91	-5,551.69	4,514.19	7,027.71	1.88	0.13	-1.87	
16,797.00	90.76	179.15	7,969.11	-5,645.68	4,514.99	7,110.87	2.02	1.87	-0.77	
16,892.00	89.99	179.72	7,968.48	-5,740.67	4,515.93	7,194.97	1.01	-0.81	0.60	
16,987.00	87.71	179.32	7,970.39	-5,835.64	4,516.73	7,278.98	2.44	-2.40	-0.42	
17,082.00	88.28	177.67	7,973.71	-5,930.55	4,519.22	7,363.74	1.84	0.60	-1.74	
17,178.00	88.07	179.21	7,976.77	-6,026.46	4,521.83	7,449.45	1.62	-0.22	1.60	
17,368.00	88.62	179.88	7,982.26	-6,216.38	4,523.34	7,617.41	0.46	0.29	0.35	
17,463.00	87.96	180.68	7,985.09	-6,311.33	4,522.88	7,700.82	1.09	-0.69	0.84	

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1J-22H-H168
Project:	WELD COUNTY	TVD Reference:	KB 25' @ 5206.00usft
Site:	SEC 22-T1N-R68W	MD Reference:	KB 25' @ 5206.00usft
Well:	COSSLETT EAST 1J-22H-H168	North Reference:	True
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEY	Database:	EDT_32Bit_ODBC

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
17,653.00	89.35	178.87	7,989.55	-6,501.26	4,523.62	7,868.44	1.20	0.73	-0.95	
17,748.00	90.09	181.10	7,990.02	-6,596.26	4,523.65	7,952.11	2.47	0.78	2.35	
17,844.00	87.74	181.49	7,991.84	-6,692.21	4,521.48	8,035.59	2.48	-2.45	0.41	
17,938.00	88.40	180.89	7,995.00	-6,786.13	4,519.53	8,117.38	0.95	0.70	-0.64	
18,032.00	89.29	180.16	7,996.90	-6,880.11	4,518.67	8,199.73	1.22	0.95	-0.78	
18,127.00	88.94	180.55	7,998.36	-6,975.10	4,518.08	8,283.11	0.55	-0.37	0.41	
18,223.00	90.65	180.97	7,998.71	-7,071.08	4,516.80	8,367.04	1.83	1.78	0.44	
18,317.00	89.11	181.60	7,998.90	-7,165.06	4,514.70	8,448.80	1.77	-1.64	0.67	
18,507.00	88.51	180.47	8,002.85	-7,354.98	4,511.27	8,614.43	0.67	-0.32	-0.59	
18,603.00	89.38	179.42	8,004.62	-7,450.96	4,511.36	8,699.00	1.42	0.91	-1.09	
18,697.00	90.23	178.62	8,004.94	-7,544.94	4,512.97	8,782.53	1.24	0.90	-0.85	
18,793.00	89.10	179.11	8,005.50	-7,640.92	4,514.87	8,867.96	1.28	-1.18	0.51	
18,888.00	89.46	179.16	8,006.69	-7,735.90	4,516.30	8,952.29	0.38	0.38	0.05	
18,984.00	87.98	180.01	8,008.84	-7,831.87	4,517.00	9,037.13	1.78	-1.54	0.89	
19,079.00	88.94	179.70	8,011.39	-7,926.84	4,517.24	9,120.88	1.06	1.01	-0.33	
19,174.00	87.97	180.40	8,013.95	-8,021.80	4,517.15	9,204.47	1.26	-1.02	0.74	
19,270.00	88.94	179.73	8,016.54	-8,117.77	4,517.04	9,288.93	1.23	1.01	-0.70	
19,364.00	90.32	179.40	8,017.15	-8,211.76	4,517.76	9,372.05	1.51	1.47	-0.35	
19,459.00	91.30	178.91	8,015.80	-8,306.74	4,519.16	9,456.36	1.15	1.03	-0.52	
LAST SURVEY - 19459' MD, 8016' TVD										
19,557.00	91.30	178.91	8,013.58	-8,404.69	4,521.02	9,543.51	0.00	0.00	0.00	
EXTRAPOLATION TO TD - 19557' MD, 8014' TVD, 460' FSL, 1822' FEL SEC 26										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
LP-COSSLETT E 1J-H1 - hit/miss target - Shape	0.00	0.00	7,920.00	1,325.70	4,519.84	1,258,909.52	3,148,974.85	40.042868°N	104.967901°W	
- actual wellpath misses target center by 29.89usft at 9824.48usft MD (7897.76 TVD, 1323.13 N, 4539.65 E)										
- Point										
PBHL-COSSLETT E 1J- - hit/miss target - Shape	0.00	0.00	8,010.00	-8,404.81	4,486.88	1,249,179.34	3,148,998.51	40.016157°N	104.968025°W	
- actual wellpath misses target center by 34.33usft at 19556.54usft MD (8013.59 TVD, -8404.24 N, 4521.01 E)										
- Point										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
8,786.00	7,317.07	1,876.58	4,087.80	KOP - 8786' MD, 7317' TVD	
9,821.89	7,897.44	1,325.70	4,539.61	~460' X-OVER PNT - 9821.89' MD, 7897' TVD, 460' FNL, 1860' FEL SEC 23	
9,960.00	7,907.27	1,188.02	4,537.36	HZ LANDING PNT - 9960' MD, 7907' TVD	
19,459.00	8,015.80	-8,306.74	4,519.16	LAST SURVEY - 19459' MD, 8016' TVD	
19,557.00	8,013.58	-8,404.69	4,521.02	EXTRAPOLATION TO TD - 19557' MD, 8014' TVD, 460' FSL, 1822' FEL SEC 2	

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1J-22H-H168
Project:	WELD COUNTY	TVD Reference:	KB 25' @ 5206.00usft
Site:	SEC 22-T1N-R68W	MD Reference:	KB 25' @ 5206.00usft
Well:	COSSLETT EAST 1J-22H-H168	North Reference:	True
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEY	Database:	EDT_32Bit_ODBC

Checked By: _____ Approved By: _____ Date: _____