

CRESTONE PEAK RESOURCES

WELD COUNTY

SEC 22-T1N-R68W

COSSLETT EAST 1B-22H-H168

OWB

Design: FINAL SURVEY

Standard Survey Report

20 April, 2023

Project: WELD COUNTY
 Site: SEC 22-T1N-R68W
 Well: COSSLETT EAST 1B-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: 51552.8nT
 Dip Angle: 66.26°
 Date: 3/21/2023
 Model: IGRF2020

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

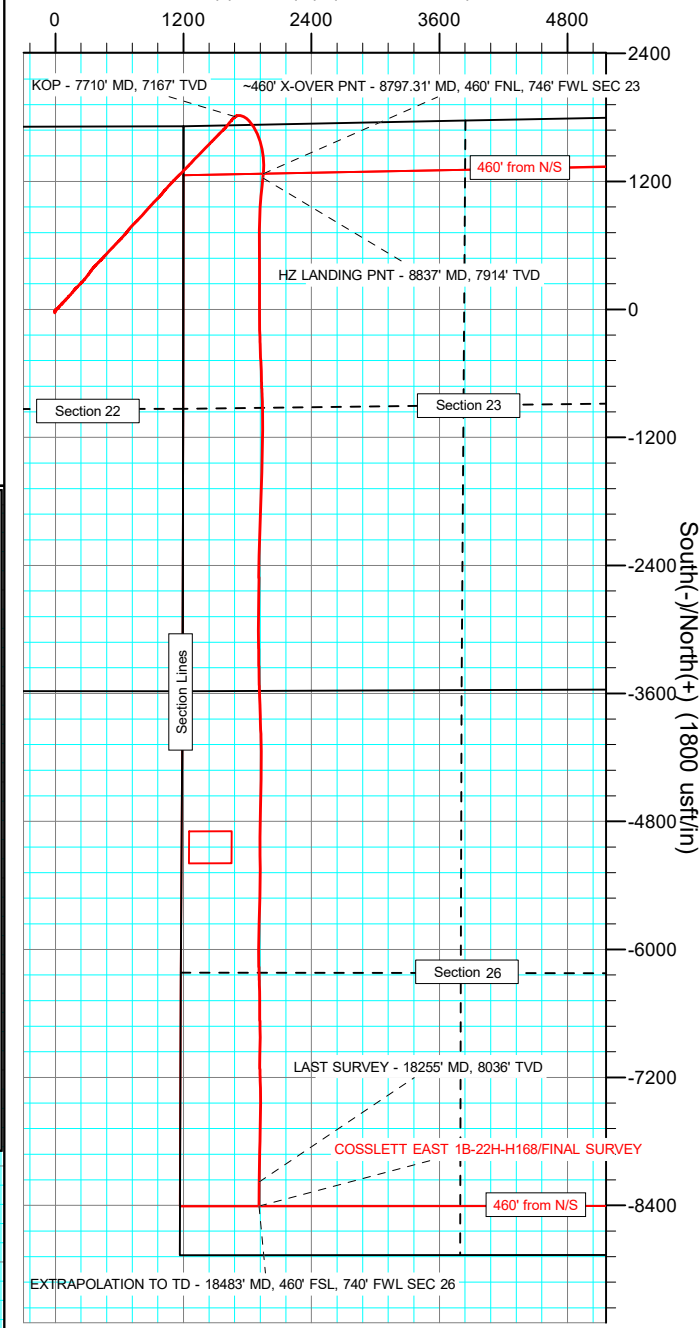
		5183.00						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot		
0.00	0.00	1257557.86	3144383.16	40.039232°N	104.984329°W			

ANNOTATIONS

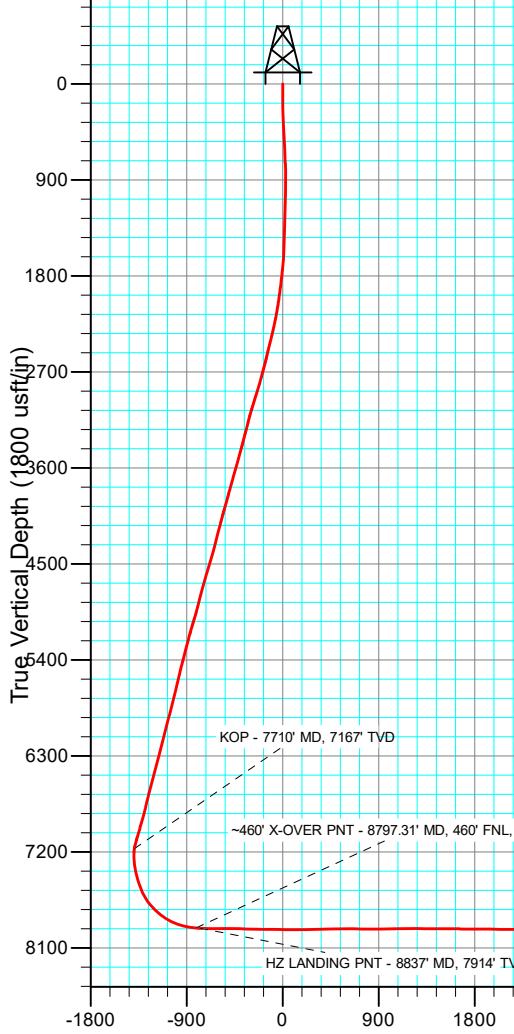
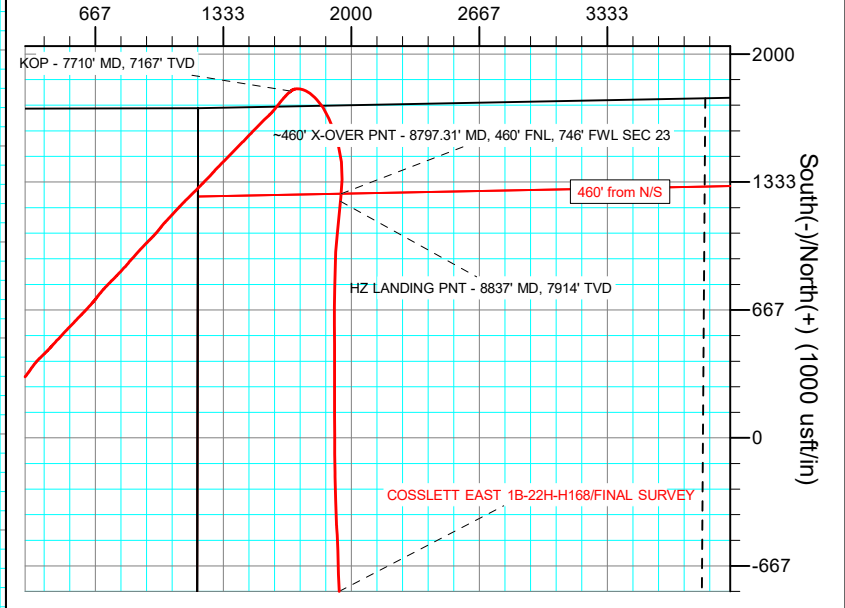
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
7710.00	22.70	53.63	7166.95	1806.30	1683.68	-1389.05	2534.34	KOP - 7710' MD, 7167' TVD
8797.31	85.37	184.68	7911.81	1271.45	1946.53	-809.30	3214.26	~460' X-OVER PNT - 8797.31' MD, 460' FNL, 746' FWL SEC 23
8837.00	86.78	185.27	7914.47	1232.00	1943.01	-771.61	3253.82	HZ LANDING PNT - 8837' MD, 7914' TVD
18255.00	89.15	180.62	8035.99	-8179.42	1909.74	8399.24	12668.90	LAST SURVEY - 18255' MD, 8036' TVD
18483.00	89.15	180.62	8039.37	-8407.39	1907.27	8621.01	12896.88	EXTRAPOLATION TO TD - 18483' MD, 460' FSL, 740' FWL SEC 26

SHL:
 1715' FNL, 1198' FEL
 Sec 22-T1N-R68W
 ~460' X-OVER PNT:
 460' FNL, 746' FWL
 Sec 23-T1N-R68W
 BHL:
 460' FSL, 740' FWL
 Sec 26-T1N-R68W

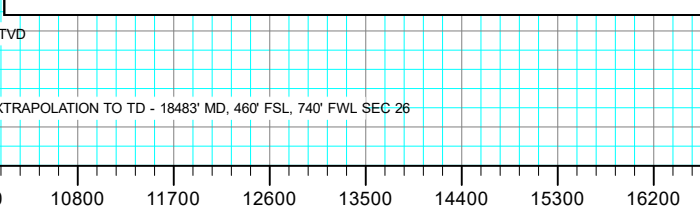
West(-)/East(+) (1800 usft/in)



West(-)/East(+) (1000 usft/in)



Vertical Section at 167.22° (1800 usft/in)



Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1B-22H-H168
Project:	WELD COUNTY	TVD Reference:	KB 25' @ 5208.00usft
Site:	SEC 22-T1N-R68W	MD Reference:	KB 25' @ 5208.00usft
Well:	COSSLETT EAST 1B-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
From:	Lat/Long	Easting:	3,145,574.24 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in
		Latitude:	40.043946°N
		Longitude:	104.980039°W
		Grid Convergence:	0.34 °

Well COSSLETT EAST 1B-22H-H168			
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	1,257,557.86 usft
			Latitude:
			40.039232°N
			Longitude:
			104.984329°W
Position Uncertainty		0.00 usft	Wellhead Elevation:
			usft
			Ground Level:
			5,183.00 usft

Wellbore OWB					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	3/21/2023	7.75	66.26	51,552.79232606

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	167.22	

Survey Program		Date	4/20/2023		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
158.00	2,449.00	SURFACE SURVEY (OWB)	MWD OWSG	OWSG MWD - Standard	
2,531.00	18,483.00	FINAL SURVEY (OWB)	MWD OWSG	OWSG MWD - Standard	

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
158.00	0.15	159.53	158.00	-0.19	0.07	0.20	0.09	0.09	0.00
249.00	2.22	198.09	248.98	-1.98	-0.43	1.84	2.31	2.27	42.37
341.00	3.32	196.73	340.87	-6.23	-1.75	5.68	1.20	1.20	-1.48
432.00	4.04	209.35	431.68	-11.54	-4.08	10.35	1.19	0.79	13.87
526.00	2.91	196.84	525.51	-16.71	-6.40	14.88	1.44	-1.20	-13.31
686.00	3.28	188.82	685.27	-25.12	-8.28	22.67	0.36	0.23	-5.01
781.00	1.81	164.75	780.18	-29.26	-8.30	26.70	1.88	-1.55	-25.34
876.00	1.24	71.72	875.16	-30.38	-6.93	28.10	2.37	-0.60	-97.93
971.00	1.32	33.91	970.14	-29.15	-5.34	27.25	0.88	0.08	-39.80

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1B-22H-H168
Project:	WELD COUNTY	TVD Reference:	KB 25' @ 5208.00usft
Site:	SEC 22-T1N-R68W	MD Reference:	KB 25' @ 5208.00usft
Well:	COSSLETT EAST 1B-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)	
1,067.00	1.36	15.03	1,066.11	-27.13	-4.43	25.48	0.46	0.04	-19.67	
1,161.00	1.58	12.43	1,160.08	-24.79	-3.86	23.32	0.24	0.23	-2.77	
1,257.00	1.50	357.95	1,256.04	-22.24	-3.62	20.89	0.41	-0.08	-15.08	
1,351.00	1.86	346.15	1,350.00	-19.53	-4.03	18.16	0.53	0.38	-12.55	
1,446.00	2.06	54.87	1,444.96	-17.05	-3.00	15.97	2.34	0.21	72.34	
1,541.00	4.02	52.79	1,539.82	-14.06	1.05	13.94	2.07	2.06	-2.19	
1,636.00	7.15	36.40	1,634.37	-7.28	7.21	8.70	3.67	3.29	-17.25	
1,731.00	9.44	36.84	1,728.36	3.71	15.39	-0.22	2.41	2.41	0.46	
1,825.00	10.79	40.27	1,820.90	16.60	25.70	-10.50	1.57	1.44	3.65	
1,921.00	12.89	43.61	1,914.86	31.21	38.90	-21.83	2.30	2.19	3.48	
2,016.00	14.34	43.28	2,007.18	47.45	54.27	-34.26	1.53	1.53	-0.35	
2,111.00	16.56	43.98	2,098.75	65.76	71.74	-48.25	2.35	2.34	0.74	
2,206.00	19.44	43.45	2,189.09	86.98	92.02	-64.47	3.04	3.03	-0.56	
2,300.00	21.14	42.85	2,277.25	110.76	114.30	-82.73	1.82	1.81	-0.64	
2,396.00	23.18	42.20	2,366.15	137.45	138.77	-103.35	2.14	2.12	-0.68	
2,449.00	23.05	40.84	2,414.90	153.03	152.56	-115.49	1.04	-0.25	-2.57	
2,531.00	21.61	39.23	2,490.75	176.87	172.61	-134.30	1.91	-1.76	-1.96	
2,626.00	23.79	45.26	2,578.40	203.92	197.29	-155.22	3.35	2.29	6.35	
2,721.00	27.06	44.42	2,664.19	232.85	226.03	-177.07	3.46	3.44	-0.88	
2,816.00	24.54	42.11	2,749.71	262.92	254.39	-200.13	2.86	-2.65	-2.43	
2,911.00	26.29	39.60	2,835.52	293.77	281.03	-224.32	2.16	1.84	-2.64	
3,006.00	26.21	36.97	2,920.72	326.74	307.06	-250.71	1.23	-0.08	-2.77	
3,101.00	23.88	34.76	3,006.79	359.31	330.65	-277.25	2.64	-2.45	-2.33	
3,196.00	25.59	39.62	3,093.08	390.91	354.70	-302.76	2.80	1.80	5.12	
3,291.00	25.33	46.48	3,178.87	420.72	382.52	-325.67	3.11	-0.27	7.22	
3,385.00	27.00	44.79	3,263.23	449.71	412.14	-347.39	1.95	1.78	-1.80	
3,480.00	23.81	42.05	3,349.04	479.26	440.18	-370.00	3.58	-3.36	-2.88	
3,576.00	26.61	42.76	3,435.89	509.44	467.76	-393.33	2.93	2.92	0.74	
3,693.00	26.50	43.00	3,540.54	547.77	503.36	-422.84	0.13	-0.09	0.21	
3,787.00	26.56	44.87	3,624.65	578.00	532.49	-445.88	0.89	0.06	1.99	
3,882.00	26.45	42.65	3,709.67	608.62	561.80	-469.25	1.05	-0.12	-2.34	
3,977.00	27.59	44.76	3,794.30	639.80	591.63	-493.06	1.57	1.20	2.22	
4,072.00	25.43	43.23	3,879.30	670.29	621.10	-516.27	2.38	-2.27	-1.61	
4,166.00	26.45	40.93	3,963.83	700.81	648.64	-539.94	1.52	1.09	-2.45	
4,261.00	22.52	37.45	4,050.28	731.25	673.57	-564.11	4.40	-4.14	-3.66	
4,356.00	24.30	39.99	4,137.46	760.67	697.20	-587.58	2.15	1.87	2.67	
4,451.00	24.31	43.55	4,224.04	789.83	723.23	-610.25	1.54	0.01	3.75	
4,545.00	25.46	45.37	4,309.31	818.04	750.94	-631.64	1.47	1.22	1.94	
4,641.00	27.30	44.08	4,395.31	848.36	780.95	-654.56	2.01	1.92	-1.34	
4,736.00	27.43	42.43	4,479.69	880.16	810.87	-678.96	0.81	0.14	-1.74	
4,831.00	27.29	40.27	4,564.06	912.93	839.71	-704.53	1.06	-0.15	-2.27	
4,927.00	26.37	42.41	4,649.73	945.46	868.31	-729.93	1.39	-0.96	2.23	
5,022.00	25.33	42.04	4,735.22	976.13	896.15	-753.69	1.11	-1.09	-0.39	

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1B-22H-H168
Project:	WELD COUNTY	TVD Reference:	KB 25' @ 5208.00usft
Site:	SEC 22-T1N-R68W	MD Reference:	KB 25' @ 5208.00usft
Well:	COSSLETT EAST 1B-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)	
5,117.00	24.64	43.53	4,821.33	1,005.59	923.40	-776.38	0.98	-0.73	1.57	
5,212.00	25.86	45.76	4,907.25	1,034.40	951.88	-798.18	1.63	1.28	2.35	
5,307.00	27.26	41.68	4,992.23	1,065.11	981.20	-821.64	2.42	1.47	-4.29	
5,402.00	25.30	37.45	5,077.42	1,097.48	1,008.01	-847.27	2.85	-2.06	-4.45	
5,497.00	25.62	43.29	5,163.21	1,128.55	1,034.45	-871.73	2.66	0.34	6.15	
5,591.00	25.41	42.68	5,248.04	1,158.17	1,062.05	-894.50	0.36	-0.22	-0.65	
5,685.00	23.71	43.02	5,333.53	1,186.81	1,088.62	-916.56	1.81	-1.81	0.36	
5,781.00	25.81	43.72	5,420.70	1,216.03	1,116.24	-938.95	2.21	2.19	0.73	
5,876.00	24.91	45.70	5,506.55	1,244.95	1,144.85	-960.82	1.30	-0.95	2.08	
5,971.00	23.94	44.95	5,593.04	1,272.57	1,172.79	-981.57	1.07	-1.02	-0.79	
6,067.00	23.47	44.66	5,680.94	1,299.95	1,199.98	-1,002.26	0.50	-0.49	-0.30	
6,161.00	24.47	44.41	5,766.84	1,327.17	1,226.76	-1,022.88	1.07	1.06	-0.27	
6,256.00	25.64	44.07	5,852.89	1,356.00	1,254.83	-1,044.78	1.24	1.23	-0.36	
6,351.00	24.68	41.53	5,938.88	1,385.61	1,282.28	-1,067.59	1.52	-1.01	-2.67	
6,446.00	25.16	44.62	6,025.04	1,414.84	1,309.61	-1,090.04	1.46	0.51	3.25	
6,541.00	25.30	44.41	6,110.98	1,443.71	1,338.00	-1,111.92	0.17	0.15	-0.22	
6,635.00	25.59	44.42	6,195.86	1,472.56	1,366.27	-1,133.80	0.31	0.31	0.01	
6,730.00	25.86	44.04	6,281.44	1,502.11	1,395.03	-1,156.25	0.33	0.28	-0.40	
6,826.00	26.23	44.89	6,367.70	1,532.19	1,424.56	-1,179.06	0.55	0.39	0.89	
6,920.00	25.64	43.19	6,452.23	1,561.73	1,453.14	-1,201.55	1.01	-0.63	-1.81	
7,015.00	25.47	45.58	6,537.94	1,591.01	1,481.80	-1,223.76	1.10	-0.18	2.52	
7,109.00	25.22	42.39	6,622.90	1,619.95	1,509.73	-1,245.80	1.48	-0.27	-3.39	
7,205.00	24.90	45.90	6,709.86	1,649.13	1,538.04	-1,267.99	1.58	-0.33	3.66	
7,300.00	25.08	47.07	6,795.97	1,676.76	1,567.14	-1,288.50	0.55	0.19	1.23	
7,395.00	24.98	40.02	6,882.07	1,705.84	1,594.79	-1,310.74	3.14	-0.11	-7.42	
7,490.00	25.43	38.59	6,968.02	1,737.14	1,620.41	-1,335.61	0.80	0.47	-1.51	
7,584.00	25.63	39.97	7,052.85	1,768.50	1,646.06	-1,360.51	0.67	0.21	1.47	
7,680.00	25.30	46.75	7,139.54	1,798.47	1,674.35	-1,383.48	3.05	-0.34	7.06	
7,710.00	22.70	53.63	7,166.95	1,806.30	1,683.68	-1,389.05	12.72	-8.67	22.94	
KOP - 7710' MD, 7167' TVD										
7,773.00	18.57	73.31	7,225.96	1,816.41	1,703.11	-1,394.61	12.72	-6.55	31.24	
7,868.00	18.68	101.90	7,316.18	1,817.62	1,732.54	-1,389.28	9.52	0.12	30.09	
7,962.00	21.91	114.65	7,404.37	1,807.19	1,763.24	-1,372.32	5.81	3.44	13.56	
8,057.00	21.13	131.61	7,492.84	1,788.41	1,792.18	-1,347.60	6.58	-0.82	17.85	
8,153.00	27.53	136.09	7,580.27	1,760.90	1,820.53	-1,314.50	6.93	6.67	4.67	
8,248.00	37.39	145.93	7,660.39	1,721.07	1,852.02	-1,268.69	11.74	10.38	10.36	
8,344.00	46.71	156.73	7,731.69	1,664.63	1,882.26	-1,206.96	12.26	9.71	11.25	
8,439.00	51.49	159.25	7,793.87	1,598.06	1,909.10	-1,136.10	5.42	5.03	2.65	
8,534.00	61.75	165.71	7,846.11	1,522.50	1,932.68	-1,057.20	12.19	10.80	6.80	
8,628.00	72.45	173.28	7,882.68	1,437.52	1,948.21	-970.89	13.58	11.38	8.05	
8,723.00	82.05	182.71	7,903.67	1,345.14	1,951.30	-880.11	13.99	10.11	9.93	
8,797.31	85.37	184.68	7,911.81	1,271.45	1,946.53	-809.30	5.18	4.46	2.66	
~460' X-OVER PNT - 8797.31' MD, 460' FNL, 746' FWL SEC 23										
8,818.00	86.29	185.23	7,913.32	1,250.89	1,944.75	-789.64	5.18	4.47	2.64	

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1B-22H-H168
Project:	WELD COUNTY	TVD Reference:	KB 25' @ 5208.00usft
Site:	SEC 22-T1N-R68W	MD Reference:	KB 25' @ 5208.00usft
Well:	COSSLETT EAST 1B-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)
8,837.00	86.78	185.27	7,914.47	1,232.00	1,943.01	-771.61	2.59	2.58	0.19
HZ LANDING PNT - 8837' MD, 7914' TVD									
8,913.00	88.74	185.41	7,917.44	1,156.39	1,935.95	-699.44	2.59	2.58	0.19
9,008.00	90.20	186.44	7,918.31	1,061.91	1,926.14	-609.46	1.88	1.54	1.08
9,102.00	88.81	182.35	7,919.13	968.21	1,918.94	-519.68	4.60	-1.48	-4.35
9,197.00	89.54	181.75	7,920.49	873.28	1,915.54	-427.86	0.99	0.77	-0.63
9,292.00	88.69	181.30	7,921.96	778.33	1,913.01	-335.82	1.01	-0.89	-0.47
9,388.00	89.82	180.82	7,923.21	682.35	1,911.24	-242.61	1.28	1.18	-0.50
9,483.00	88.39	179.42	7,924.69	587.37	1,911.04	-150.03	2.11	-1.51	-1.47
9,578.00	89.64	179.41	7,926.33	492.39	1,912.01	-57.19	1.32	1.32	-0.01
9,673.00	88.50	179.93	7,927.87	397.41	1,912.56	35.56	1.32	-1.20	0.55
9,768.00	89.86	180.19	7,929.23	302.42	1,912.46	128.18	1.46	1.43	0.27
9,864.00	91.32	179.97	7,928.24	206.43	1,912.32	221.76	1.54	1.52	-0.23
9,959.00	90.94	179.60	7,926.37	111.45	1,912.68	314.47	0.56	-0.40	-0.39
10,054.00	92.66	179.70	7,923.38	16.50	1,913.26	407.19	1.81	1.81	0.11
10,148.00	91.19	179.53	7,920.23	-77.44	1,913.89	498.94	1.57	-1.56	-0.18
10,244.00	89.12	179.54	7,919.97	-173.43	1,914.67	592.73	2.16	-2.16	0.01
10,339.00	89.63	178.38	7,921.00	-268.41	1,916.39	685.73	1.33	0.54	-1.22
10,465.00	90.08	177.98	7,921.32	-394.35	1,920.39	809.43	0.48	0.36	-0.32
10,559.00	90.29	176.45	7,921.02	-488.23	1,924.96	902.00	1.64	0.22	-1.63
10,654.00	90.63	178.13	7,920.25	-583.12	1,929.45	995.53	1.80	0.36	1.77
10,749.00	89.98	178.80	7,919.75	-678.08	1,932.00	1,088.71	0.98	-0.68	0.71
10,844.00	90.95	177.22	7,918.98	-773.02	1,935.30	1,182.02	1.95	1.02	-1.66
10,939.00	89.18	177.84	7,918.87	-867.93	1,939.39	1,275.48	1.97	-1.86	0.65
11,034.00	89.35	179.55	7,920.09	-962.89	1,941.55	1,368.57	1.81	0.18	1.80
11,129.00	89.62	180.31	7,920.94	-1,057.88	1,941.67	1,461.24	0.85	0.28	0.80
11,225.00	90.80	179.07	7,920.59	-1,153.88	1,942.19	1,554.97	1.78	1.23	-1.29
11,320.00	88.98	181.00	7,920.77	-1,248.87	1,942.13	1,647.59	2.79	-1.92	2.03
11,415.00	90.51	180.81	7,921.20	-1,343.85	1,940.63	1,739.89	1.62	1.61	-0.20
11,510.00	89.18	182.10	7,921.45	-1,438.82	1,938.22	1,831.97	1.95	-1.40	1.36
11,605.00	89.80	181.32	7,922.30	-1,533.77	1,935.38	1,923.94	1.05	0.65	-0.82
11,700.00	87.89	182.37	7,924.21	-1,628.70	1,932.33	2,015.84	2.29	-2.01	1.11
11,795.00	89.25	182.19	7,926.58	-1,723.59	1,928.55	2,107.54	1.44	1.43	-0.19
11,890.00	91.48	182.37	7,925.98	-1,818.51	1,924.77	2,199.27	2.35	2.35	0.19
11,986.00	90.82	181.35	7,924.05	-1,914.44	1,921.65	2,292.14	1.27	-0.69	-1.06
12,081.00	88.64	182.27	7,924.50	-2,009.38	1,918.65	2,384.06	2.49	-2.29	0.97
12,177.00	88.98	182.28	7,926.49	-2,105.28	1,914.84	2,476.75	0.35	0.35	0.01
12,272.00	90.92	182.12	7,926.58	-2,200.21	1,911.20	2,568.51	2.05	2.04	-0.17
12,366.00	89.61	181.22	7,926.14	-2,294.17	1,908.46	2,659.54	1.69	-1.39	-0.96
12,461.00	91.99	181.33	7,924.82	-2,389.13	1,906.34	2,751.68	2.51	2.51	0.12
12,556.00	89.09	178.77	7,923.92	-2,484.10	1,906.26	2,844.28	4.07	-3.05	-2.69
12,651.00	85.59	180.05	7,928.33	-2,578.98	1,907.24	2,937.02	3.92	-3.68	1.35
12,746.00	85.35	181.17	7,935.83	-2,673.68	1,906.23	3,029.15	1.20	-0.25	1.18

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1B-22H-H168
Project:	WELD COUNTY	TVD Reference:	KB 25' @ 5208.00usft
Site:	SEC 22-T1N-R68W	MD Reference:	KB 25' @ 5208.00usft
Well:	COSSLETT EAST 1B-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)	
12,841.00	88.23	181.54	7,941.15	-2,768.49	1,903.99	3,121.12	3.06	3.03	0.39	
12,935.00	89.19	180.54	7,943.27	-2,862.45	1,902.28	3,212.37	1.47	1.02	-1.06	
13,031.00	89.79	179.67	7,944.12	-2,958.44	1,902.11	3,305.95	1.10	0.62	-0.91	
13,126.00	91.26	179.40	7,943.25	-3,053.43	1,902.88	3,398.75	1.57	1.55	-0.28	
13,221.00	89.78	178.76	7,942.39	-3,148.41	1,904.40	3,491.72	1.70	-1.56	-0.67	
13,317.00	88.25	179.39	7,944.04	-3,244.38	1,905.95	3,585.65	1.72	-1.59	0.66	
13,412.00	89.48	179.64	7,945.92	-3,339.36	1,906.76	3,678.45	1.32	1.29	0.26	
13,507.00	87.26	178.64	7,948.62	-3,434.30	1,908.18	3,771.36	2.56	-2.34	-1.05	
13,602.00	88.27	178.40	7,952.33	-3,529.20	1,910.63	3,864.45	1.09	1.06	-0.25	
13,697.00	90.06	177.66	7,953.71	-3,624.13	1,913.90	3,957.75	2.04	1.88	-0.78	
13,792.00	89.01	178.57	7,954.48	-3,719.07	1,917.02	4,051.03	1.46	-1.11	0.96	
13,887.00	90.15	178.53	7,955.18	-3,814.04	1,919.43	4,144.17	1.20	1.20	-0.04	
13,982.00	88.03	178.01	7,956.69	-3,908.98	1,922.30	4,237.39	2.30	-2.23	-0.55	
14,077.00	88.74	177.68	7,959.37	-4,003.87	1,925.87	4,330.73	0.82	0.75	-0.35	
14,172.00	88.44	179.90	7,961.70	-4,098.81	1,927.87	4,423.76	2.36	-0.32	2.34	
14,267.00	89.64	179.80	7,963.30	-4,193.80	1,928.12	4,516.45	1.27	1.26	-0.11	
14,362.00	91.18	179.53	7,962.62	-4,288.79	1,928.68	4,609.21	1.65	1.62	-0.28	
14,457.00	90.38	179.88	7,961.32	-4,383.78	1,929.17	4,701.95	0.92	-0.84	0.37	
14,551.00	90.01	181.77	7,961.00	-4,477.77	1,927.81	4,793.31	2.05	-0.39	2.01	
14,647.00	91.36	182.13	7,959.86	-4,573.70	1,924.55	4,886.14	1.46	1.41	0.37	
14,741.00	90.13	182.06	7,958.63	-4,667.63	1,921.11	4,976.98	1.31	-1.31	-0.07	
14,837.00	88.73	180.60	7,959.59	-4,763.59	1,918.88	5,070.08	2.11	-1.46	-1.52	
14,932.00	89.76	180.31	7,960.84	-4,858.58	1,918.13	5,162.54	1.13	1.08	-0.31	
15,026.00	88.76	180.38	7,962.05	-4,952.57	1,917.56	5,254.08	1.07	-1.06	0.07	
15,122.00	90.06	180.18	7,963.04	-5,048.56	1,917.09	5,347.59	1.37	1.35	-0.21	
15,217.00	91.25	179.23	7,961.96	-5,143.55	1,917.58	5,440.33	1.60	1.25	-1.00	
15,312.00	88.99	179.67	7,961.76	-5,238.54	1,918.49	5,533.17	2.42	-2.38	0.46	
15,407.00	88.29	180.47	7,964.01	-5,333.51	1,918.38	5,625.76	1.12	-0.74	0.84	
15,502.00	89.95	180.97	7,965.47	-5,428.49	1,917.18	5,718.12	1.82	1.75	0.53	
15,596.00	90.33	180.88	7,965.24	-5,522.48	1,915.67	5,809.45	0.42	0.40	-0.10	
15,691.00	89.15	180.02	7,965.67	-5,617.47	1,914.92	5,901.92	1.54	-1.24	-0.91	
15,786.00	88.74	181.87	7,967.42	-5,712.44	1,913.35	5,994.19	1.99	-0.43	1.95	
15,881.00	88.94	183.53	7,969.35	-5,807.31	1,908.88	6,085.72	1.76	0.21	1.75	
16,072.00	88.91	179.34	7,972.93	-5,998.17	1,904.10	6,270.79	2.19	-0.02	-2.19	
16,167.00	87.75	179.18	7,975.70	-6,093.12	1,905.32	6,363.66	1.23	-1.22	-0.17	
16,262.00	85.42	178.16	7,981.36	-6,187.92	1,907.52	6,456.60	2.68	-2.45	-1.07	
16,356.00	85.94	178.54	7,988.44	-6,281.61	1,910.22	6,548.57	0.68	0.55	0.40	
16,450.00	88.33	177.87	7,993.14	-6,375.44	1,913.16	6,640.72	2.64	2.54	-0.71	
16,545.00	87.79	179.59	7,996.35	-6,470.36	1,915.27	6,733.75	1.90	-0.57	1.81	
16,640.00	89.45	180.00	7,998.64	-6,565.33	1,915.61	6,826.44	1.80	1.75	0.43	
16,735.00	90.90	179.80	7,998.35	-6,660.33	1,915.77	6,919.12	1.54	1.53	-0.21	
16,829.00	89.32	179.09	7,998.17	-6,754.32	1,916.68	7,010.99	1.84	-1.68	-0.76	
17,019.00	88.66	181.30	8,001.52	-6,944.27	1,916.04	7,196.09	1.21	-0.35	1.16	

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1B-22H-H168
Project:	WELD COUNTY	TVD Reference:	KB 25' @ 5208.00usft
Site:	SEC 22-T1N-R68W	MD Reference:	KB 25' @ 5208.00usft
Well:	COSSLETT EAST 1B-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)	
17,115.00	89.08	180.03	8,003.41	-7,040.25	1,914.92	7,289.44	1.39	0.44	-1.32	
17,210.00	89.54	178.52	8,004.56	-7,135.23	1,916.13	7,382.34	1.66	0.48	-1.59	
17,305.00	87.18	177.58	8,007.28	-7,230.13	1,919.36	7,475.60	2.67	-2.48	-0.99	
17,401.00	87.56	178.74	8,011.68	-7,325.98	1,922.44	7,569.75	1.27	0.40	1.21	
17,495.00	87.87	180.23	8,015.43	-7,419.89	1,923.28	7,661.53	1.62	0.33	1.59	
17,591.00	87.28	181.25	8,019.49	-7,515.80	1,922.04	7,754.78	1.23	-0.61	1.06	
17,686.00	88.18	180.66	8,023.25	-7,610.71	1,920.46	7,846.99	1.13	0.95	-0.62	
17,781.00	89.12	180.66	8,025.49	-7,705.68	1,919.37	7,939.36	0.99	0.99	0.00	
17,876.00	89.21	181.96	8,026.88	-7,800.64	1,917.19	8,031.49	1.37	0.09	1.37	
17,971.00	89.64	181.18	8,027.83	-7,895.60	1,914.59	8,123.52	0.94	0.45	-0.82	
18,065.00	87.76	181.34	8,029.96	-7,989.55	1,912.52	8,214.69	2.01	-2.00	0.17	
18,160.00	87.91	180.70	8,033.55	-8,084.46	1,910.84	8,306.88	0.69	0.16	-0.67	
18,255.00	89.15	180.62	8,035.99	-8,179.42	1,909.74	8,399.24	1.31	1.31	-0.08	
LAST SURVEY - 18255' MD, 8036' TVD										
18,483.00	89.15	180.62	8,039.37	-8,407.39	1,907.27	8,621.01	0.00	0.00	0.00	
EXTRAPOLATION TO TD - 18483' MD, 460' FSL, 740' FWL 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 1B-H1 - hit/miss target - Shape	0.00	0.00	7,920.00	1,271.45	1,920.16	1,258,840.41	3,146,295.83	40.042722°N	104.977471°W	
- actual wellpath misses target center by 27.47usft at 8800.17usft MD (7912.04 TVD, 1268.60 N, 1946.29 E)										
- Point										
PBHL-COSSLETT E 1B- - hit/miss target - Shape	0.00	0.00	8,025.00	-8,407.69	1,887.30	1,249,161.59	3,146,319.25	40.016152°N	104.977591°W	
- actual wellpath misses target center by 24.61usft at 18483.00usft MD (8039.37 TVD, -8407.39 N, 1907.27 E)										
- Point										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
7,710.00	7,166.95	1,806.30	1,683.68	KOP - 7710' MD, 7167' TVD	
8,797.31	7,911.81	1,271.45	1,946.53	~460' X-OVER PNT - 8797.31' MD, 460' FNL, 746' FWL SEC 23	
8,837.00	7,914.47	1,232.00	1,943.01	HZ LANDING PNT - 8837' MD, 7914' TVD	
18,255.00	8,035.99	-8,179.42	1,909.74	LAST SURVEY - 18255' MD, 8036' TVD	
18,483.00	8,039.37	-8,407.39	1,907.27	EXTRAPOLATION TO TD - 18483' MD, 460' FSL, 740' FWL SEC 26	

Checked By: _____ Approved By: _____ Date: _____