

CRESTONE PEAK RESOURCES

WELD COUNTY

SEC 22-T1N-R68W

COSSLETT EAST 1C-22H-H168

OWB

Design: FINAL SURVEY

Standard Survey Report

20 April, 2023

Project: WELD COUNTY
 Site: SEC 22-T1N-R68W
 Well: COSSLETT EAST 1C-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 1C-22H-H168

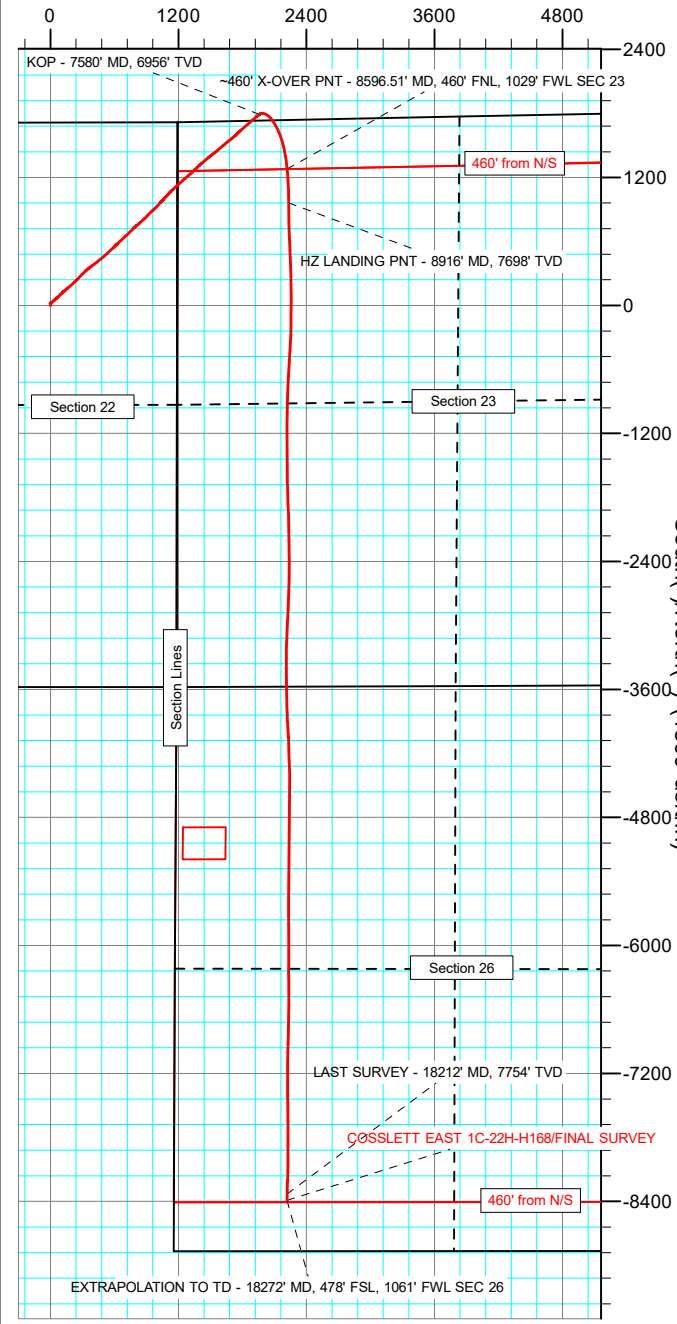
		5183.00			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1257557.55	3144392.96	40.039231°N	104.984294°W
Slot					

ANNOTATIONS

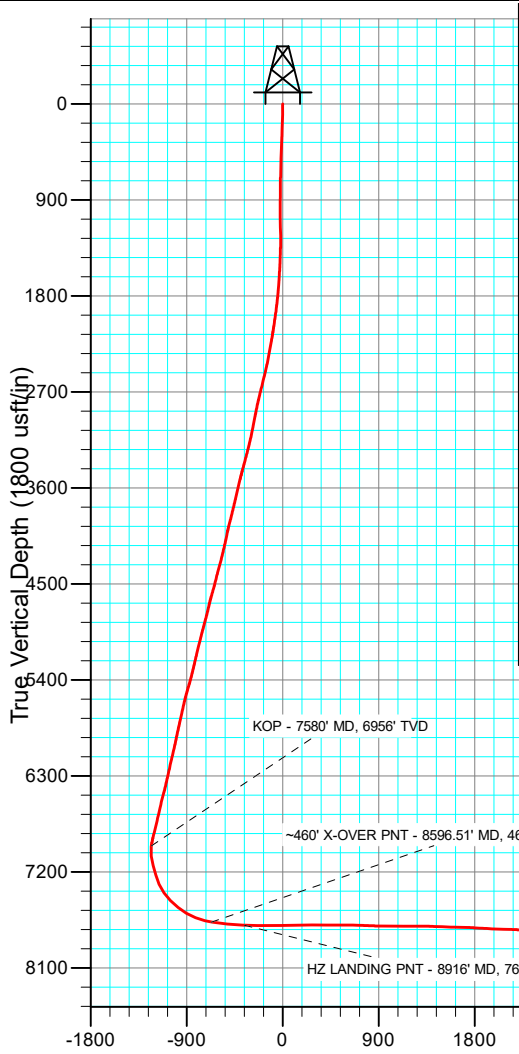
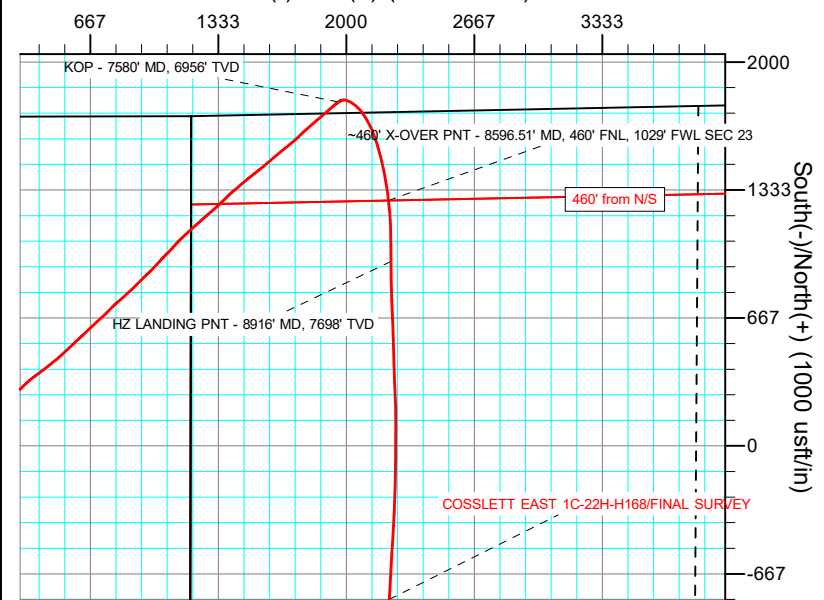
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
7580.00	24.91	55.10	6956.82	1791.06	1958.88	-1230.83	2674.25	KOP - 7580' MD, 6956' TVD
8596.51	79.74	172.86	7670.40	1278.40	2218.94	-668.73	3309.22	~460' X-OVER PNT - 8596.51' MD, 460' FNL, 1029' FWL SEC 23
8916.00	88.08	179.67	7698.08	960.90	2232.64	-358.27	3627.05	HZ LANDING PNT - 8916' MD, 7698' TVD
18212.00	89.84	180.90	7753.97	-8329.43	2219.13	8619.96	12920.62	LAST SURVEY - 18212' MD, 7754' TVD
18272.00	89.84	180.90	7754.14	-8389.42	2218.18	8677.71	12980.62	EXTRAPOLATION TO TD - 18272' MD, 478' FSL, 1061' FWL SEC 26

SHL:
 1715' FNL, 1188' FEL
 Sec 22-T1N-R68W
 ~460' X-OVER PNT:
 460' FNL, 1029' FWL
 Sec 23-T1N-R68W
 BHL:
 478' FSL, 1061' FWL
 Sec 26-T1N-R68W

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



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



Vertical Section at 165.19° (1800 usft/in)

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1C-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 1C-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 1C-22H-H168			
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	1,257,557.55 usft
			Latitude:
			40.039231°N
			Longitude:
			104.984294°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	51,552.79547999

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	165.19	

Survey Program		Date	4/20/2023		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
158.00	2,479.00	SURFACE SURVEY (OWB)	MWD OWSG	OWSG MWD - Standard	
2,627.00	18,272.00	FINAL SURVEY (OWB)	MWD OWSG	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	1.75	19.63	157.98	2.27	0.81	-1.99	1.11	1.11	0.00	
249.00	2.80	18.61	248.90	5.69	1.99	-4.99	1.15	1.15	-1.12	
341.00	2.08	358.70	340.82	9.49	2.67	-8.49	1.20	-0.78	-21.64	
432.00	2.34	354.79	431.75	12.99	2.46	-11.93	0.33	0.29	-4.30	
526.00	1.69	356.17	525.69	16.28	2.19	-15.18	0.69	-0.69	1.47	
686.00	1.60	326.67	685.63	20.50	0.81	-19.61	0.53	-0.06	-18.44	
781.00	0.63	281.11	780.61	21.71	-0.43	-21.10	1.31	-1.02	-47.96	
876.00	0.60	283.80	875.61	21.93	-1.43	-21.57	0.04	-0.03	2.83	
971.00	0.84	266.52	970.60	22.01	-2.61	-21.94	0.34	0.25	-18.19	

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1C-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 1C-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	0.67	126.92	1,066.60	21.63	-2.86	-21.64	1.48	-0.18	-145.42	
1,161.00	0.99	127.10	1,160.59	20.81	-1.77	-20.57	0.34	0.34	0.19	
1,257.00	0.78	123.88	1,256.58	19.94	-0.57	-19.43	0.22	-0.22	-3.35	
1,351.00	2.20	46.07	1,350.55	20.84	1.26	-19.82	2.31	1.51	-82.78	
1,446.00	4.96	44.86	1,445.35	25.01	5.47	-22.78	2.91	2.91	-1.27	
1,541.00	7.49	52.50	1,539.79	31.70	13.28	-27.25	2.80	2.66	8.04	
1,636.00	9.58	52.59	1,633.73	40.27	24.48	-32.67	2.20	2.20	0.09	
1,731.00	10.97	50.03	1,727.20	50.88	37.68	-39.56	1.54	1.46	-2.69	
1,825.00	13.08	49.08	1,819.14	63.59	52.58	-48.04	2.25	2.24	-1.01	
1,921.00	14.91	46.89	1,912.28	79.15	69.80	-58.68	1.98	1.91	-2.28	
2,016.00	15.78	44.79	2,003.90	96.67	87.83	-71.01	1.09	0.92	-2.21	
2,111.00	17.93	47.10	2,094.81	115.79	107.64	-84.43	2.37	2.26	2.43	
2,206.00	21.16	49.54	2,184.33	136.88	131.41	-98.74	3.51	3.40	2.57	
2,300.00	22.98	49.36	2,271.44	159.84	158.24	-114.08	1.94	1.94	-0.19	
2,396.00	23.48	48.78	2,359.65	184.65	186.85	-130.75	0.57	0.52	-0.60	
2,479.00	23.97	48.08	2,435.64	206.81	211.83	-145.79	0.68	0.59	-0.84	
2,627.00	26.09	43.85	2,569.74	250.37	256.75	-176.42	1.87	1.43	-2.86	
2,722.00	25.60	44.41	2,655.24	280.10	285.59	-197.79	0.58	-0.52	0.59	
2,841.00	25.71	45.72	2,762.51	316.49	322.06	-223.65	0.49	0.09	1.10	
3,031.00	27.46	54.63	2,932.48	370.64	387.32	-259.32	2.29	0.92	4.69	
3,126.00	27.53	52.16	3,016.75	396.79	422.52	-275.61	1.20	0.07	-2.60	
3,221.00	28.17	51.17	3,100.75	424.32	457.32	-293.32	0.83	0.67	-1.04	
3,316.00	28.67	50.21	3,184.30	452.97	492.30	-312.08	0.71	0.53	-1.01	
3,410.00	29.74	47.37	3,266.36	483.19	526.79	-332.48	1.86	1.14	-3.02	
3,506.00	28.84	46.54	3,350.08	515.24	561.11	-354.69	1.03	-0.94	-0.86	
3,601.00	30.29	47.39	3,432.71	547.22	595.38	-376.85	1.59	1.53	0.89	
3,695.00	26.71	45.78	3,515.31	578.02	627.98	-398.29	3.89	-3.81	-1.71	
3,789.00	26.46	46.98	3,599.37	607.04	658.43	-418.56	0.63	-0.27	1.28	
3,885.00	25.62	46.96	3,685.62	635.80	689.23	-438.49	0.88	-0.87	-0.02	
3,979.00	26.92	47.57	3,769.91	664.02	719.79	-457.97	1.41	1.38	0.65	
4,169.00	27.07	43.98	3,939.22	724.16	781.57	-500.32	0.86	0.08	-1.89	
4,264.00	25.39	50.67	4,024.46	752.63	812.34	-519.97	3.58	-1.77	7.04	
4,359.00	25.76	47.22	4,110.15	779.56	843.25	-538.11	1.62	0.39	-3.63	
4,454.00	27.00	47.64	4,195.26	808.11	874.33	-557.77	1.32	1.31	0.44	
4,548.00	27.70	44.70	4,278.76	838.02	905.47	-578.72	1.62	0.74	-3.13	
4,644.00	28.26	45.02	4,363.53	869.94	937.24	-601.46	0.60	0.58	0.33	
4,739.00	27.12	47.08	4,447.65	900.59	969.01	-622.97	1.57	-1.20	2.17	
4,834.00	27.64	43.11	4,532.02	931.42	999.93	-644.88	2.00	0.55	-4.18	
4,929.00	27.54	41.41	4,616.22	963.98	1,029.51	-668.79	0.84	-0.11	-1.79	
5,025.00	25.02	46.33	4,702.30	994.65	1,058.89	-690.94	3.47	-2.62	5.12	
5,120.00	24.87	42.02	4,788.44	1,023.37	1,086.79	-711.57	1.92	-0.16	-4.54	
5,215.00	26.73	42.74	4,873.97	1,053.90	1,114.67	-733.96	1.99	1.96	0.76	
5,310.00	28.53	46.48	4,958.14	1,085.22	1,145.62	-756.33	2.63	1.89	3.94	

Survey Report

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Project:	WELD COUNTY	TVD Reference:	KB 25' @ 5208.00usft
Site:	SEC 22-T1N-R68W	MD Reference:	KB 25' @ 5208.00usft
Well:	COSSLETT EAST 1C-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)	
5,499.00	28.14	48.45	5,124.50	1,145.86	1,211.71	-798.06	0.54	-0.21	1.04	
5,594.00	26.84	47.71	5,208.77	1,175.16	1,244.34	-818.04	1.41	-1.37	-0.78	
5,688.00	28.55	49.54	5,292.00	1,204.01	1,277.13	-837.56	2.03	1.82	1.95	
5,784.00	30.35	48.78	5,375.59	1,234.88	1,312.83	-858.28	1.91	1.87	-0.79	
5,879.00	31.53	45.70	5,457.08	1,268.05	1,348.67	-881.18	2.08	1.24	-3.24	
5,974.00	28.93	45.52	5,539.15	1,301.51	1,382.84	-904.79	2.74	-2.74	-0.19	
6,069.00	28.50	50.67	5,622.48	1,331.98	1,416.78	-925.57	2.64	-0.45	5.42	
6,164.00	27.27	48.57	5,706.45	1,360.74	1,450.63	-944.73	1.66	-1.29	-2.21	
6,259.00	27.27	51.17	5,790.90	1,388.79	1,483.90	-963.34	1.25	0.00	2.74	
6,354.00	29.41	51.02	5,874.50	1,417.11	1,518.99	-981.75	2.25	2.25	-0.16	
6,449.00	27.20	52.52	5,958.14	1,445.00	1,554.36	-999.67	2.44	-2.33	1.58	
6,543.00	27.92	48.84	6,041.48	1,472.56	1,587.98	-1,017.72	1.97	0.77	-3.91	
6,638.00	29.03	49.77	6,124.99	1,502.09	1,622.32	-1,037.49	1.26	1.17	0.98	
6,733.00	27.67	50.43	6,208.59	1,531.03	1,656.92	-1,056.62	1.47	-1.43	0.69	
6,829.00	28.95	51.07	6,293.11	1,559.83	1,692.18	-1,075.45	1.37	1.33	0.67	
6,923.00	27.30	50.02	6,376.01	1,587.98	1,726.40	-1,093.92	1.83	-1.76	-1.12	
7,017.00	28.21	44.49	6,459.20	1,617.68	1,758.49	-1,114.43	2.90	0.97	-5.88	
7,112.00	28.20	48.94	6,542.93	1,648.45	1,791.16	-1,135.83	2.21	-0.01	4.68	
7,207.00	27.95	48.99	6,626.76	1,677.80	1,824.88	-1,155.58	0.26	-0.26	0.05	
7,303.00	28.10	50.02	6,711.50	1,707.09	1,859.18	-1,175.13	0.53	0.16	1.07	
7,397.00	28.98	48.32	6,794.08	1,736.46	1,893.16	-1,194.84	1.27	0.94	-1.81	
7,492.00	28.72	49.27	6,877.29	1,766.65	1,927.64	-1,215.22	0.55	-0.27	1.00	
7,580.00	24.91	55.10	6,955.82	1,791.06	1,958.88	-1,230.83	5.26	-4.33	6.63	
KOP - 7580' MD, 6956' TVD										
7,587.00	24.62	55.64	6,962.18	1,792.73	1,961.29	-1,231.83	5.26	-4.17	7.64	
7,682.00	20.29	98.78	7,050.54	1,801.45	1,994.14	-1,231.86	17.52	-4.56	45.41	
7,776.00	18.75	123.99	7,139.29	1,790.49	2,022.83	-1,213.94	9.04	-1.64	26.82	
7,871.00	20.19	126.01	7,228.85	1,772.32	2,048.75	-1,189.74	1.67	1.52	2.13	
7,965.00	26.78	142.50	7,315.11	1,745.92	2,074.82	-1,157.56	9.84	7.01	17.54	
8,060.00	35.81	147.61	7,396.22	1,705.38	2,102.80	-1,111.21	9.90	9.51	5.38	
8,155.00	44.56	156.50	7,468.79	1,651.20	2,131.05	-1,051.61	10.99	9.21	9.36	
8,251.00	51.37	162.67	7,533.06	1,584.41	2,155.69	-980.73	8.54	7.09	6.43	
8,346.00	59.67	164.74	7,586.80	1,509.29	2,177.58	-902.52	8.92	8.74	2.18	
8,442.00	68.45	169.37	7,628.77	1,425.24	2,196.76	-816.36	10.12	9.15	4.82	
8,536.00	75.82	172.03	7,657.59	1,337.02	2,211.17	-727.38	8.29	7.84	2.83	
8,596.51	79.74	172.86	7,670.40	1,278.40	2,218.94	-668.73	6.62	6.48	1.38	
-460' X-OVER PNT - 8596.51' MD, 460' FNL, 1029' FWL SEC 23										
8,631.00	81.98	173.33	7,675.87	1,244.60	2,223.03	-635.00	6.62	6.49	1.35	
8,725.00	84.88	178.25	7,686.64	1,151.51	2,229.87	-543.25	6.05	3.09	5.23	
8,820.00	86.64	179.37	7,693.66	1,056.79	2,231.84	-451.18	2.19	1.85	1.18	
8,916.00	88.08	179.67	7,698.08	960.90	2,232.64	-358.27	1.53	1.50	0.31	
HZ LANDING PNT - 8916' MD, 7698' TVD										
9,011.00	89.09	178.81	7,700.43	865.94	2,233.90	-266.14	1.40	1.06	-0.91	
9,105.00	89.41	178.67	7,701.66	771.97	2,235.97	-174.77	0.37	0.34	-0.15	

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1C-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 1C-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)	
9,200.00	90.70	177.52	7,701.57	677.03	2,239.12	-82.17	1.82	1.36	-1.21	
9,295.00	91.54	177.50	7,699.71	582.13	2,243.25	10.62	0.88	0.88	-0.02	
9,391.00	89.06	178.68	7,699.21	486.20	2,246.45	104.19	2.86	-2.58	1.23	
9,581.00	91.80	177.57	7,697.78	296.33	2,252.67	289.34	1.56	1.44	-0.58	
9,676.00	90.03	178.07	7,696.26	201.41	2,256.28	382.03	1.94	-1.86	0.53	
9,771.00	89.29	180.95	7,696.83	106.43	2,257.09	474.06	3.13	-0.78	3.03	
9,867.00	91.21	179.77	7,696.41	10.44	2,256.49	566.71	2.35	2.00	-1.23	
9,962.00	87.95	180.87	7,697.11	-84.55	2,255.96	658.40	3.62	-3.43	1.16	
10,057.00	87.43	180.41	7,700.93	-179.46	2,254.90	749.89	0.73	-0.55	-0.48	
10,151.00	88.31	182.31	7,704.43	-273.37	2,252.67	840.11	2.23	0.94	2.02	
10,247.00	89.97	183.13	7,705.87	-369.24	2,248.11	931.63	1.93	1.73	0.85	
10,342.00	89.02	183.75	7,706.71	-464.07	2,242.41	1,021.85	1.19	-1.00	0.65	
10,438.00	89.65	183.20	7,707.82	-559.88	2,236.59	1,113.00	0.87	0.66	-0.57	
10,532.00	89.78	183.12	7,708.29	-653.74	2,231.41	1,202.41	0.16	0.14	-0.09	
10,627.00	90.92	182.92	7,707.71	-748.60	2,226.41	1,292.84	1.22	1.20	-0.21	
10,722.00	87.55	181.63	7,708.98	-843.50	2,222.64	1,383.63	3.80	-3.55	-1.36	
10,817.00	87.95	180.99	7,712.71	-938.41	2,220.47	1,474.82	0.79	0.42	-0.67	
10,912.00	88.17	181.03	7,715.92	-1,033.34	2,218.79	1,566.17	0.24	0.23	0.04	
11,007.00	88.91	180.69	7,718.34	-1,128.29	2,217.37	1,657.61	0.86	0.78	-0.36	
11,102.00	87.91	179.18	7,720.98	-1,223.25	2,217.48	1,749.44	1.91	-1.05	-1.59	
11,198.00	86.28	179.67	7,725.84	-1,319.12	2,218.44	1,842.37	1.77	-1.70	0.51	
11,293.00	86.99	179.56	7,731.42	-1,413.95	2,219.07	1,934.22	0.76	0.75	-0.12	
11,483.00	88.83	179.55	7,738.35	-1,603.81	2,220.55	2,118.15	0.97	0.97	-0.01	
11,578.00	87.40	178.46	7,741.47	-1,698.74	2,222.20	2,210.34	1.89	-1.51	-1.15	
11,673.00	87.77	178.02	7,745.48	-1,793.62	2,225.11	2,302.81	0.60	0.39	-0.46	
11,768.00	88.57	178.04	7,748.51	-1,888.51	2,228.38	2,395.38	0.84	0.84	0.02	
11,863.00	89.48	177.90	7,750.13	-1,983.44	2,231.74	2,488.02	0.97	0.96	-0.15	
11,958.00	88.33	179.67	7,751.94	-2,078.39	2,233.76	2,580.33	2.22	-1.21	1.86	
12,054.00	89.01	178.96	7,754.17	-2,174.36	2,234.90	2,673.40	1.02	0.71	-0.74	
12,149.00	90.16	179.06	7,754.86	-2,269.34	2,236.54	2,765.65	1.22	1.21	0.11	
12,244.00	92.14	178.69	7,752.95	-2,364.30	2,238.41	2,857.93	2.12	2.08	-0.39	
12,339.00	91.19	180.30	7,750.19	-2,459.25	2,239.25	2,949.94	1.97	-1.00	1.69	
12,434.00	90.55	181.45	7,748.75	-2,554.22	2,237.80	3,041.39	1.39	-0.67	1.21	
12,528.00	91.63	180.72	7,746.96	-2,648.19	2,236.02	3,131.78	1.39	1.15	-0.78	
12,623.00	89.90	182.99	7,745.69	-2,743.12	2,232.94	3,222.77	3.00	-1.82	2.39	
12,718.00	91.90	183.07	7,744.20	-2,837.97	2,227.92	3,313.19	2.11	2.11	0.08	
12,813.00	91.22	182.75	7,741.61	-2,932.81	2,223.10	3,403.64	0.79	-0.72	-0.34	
12,908.00	88.70	181.90	7,741.68	-3,027.73	2,219.25	3,494.42	2.80	-2.65	-0.89	
13,003.00	89.35	181.95	7,743.30	-3,122.66	2,216.05	3,585.38	0.69	0.68	0.05	
13,099.00	90.32	182.37	7,743.57	-3,218.59	2,212.44	3,677.20	1.10	1.01	0.44	
13,194.00	88.83	179.15	7,744.28	-3,313.56	2,211.18	3,768.70	3.73	-1.57	-3.39	
13,289.00	89.73	179.78	7,745.47	-3,408.55	2,212.06	3,860.75	1.16	0.95	0.66	
13,385.00	90.48	179.47	7,745.30	-3,504.55	2,212.69	3,953.72	0.85	0.78	-0.32	

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1C-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 1C-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)	
13,479.00	90.81	179.26	7,744.24	-3,598.53	2,213.73	4,044.85	0.42	0.35	-0.22	
13,574.00	91.77	179.52	7,742.10	-3,693.50	2,214.74	4,136.93	1.05	1.01	0.27	
13,669.00	89.81	177.72	7,740.79	-3,788.46	2,217.03	4,229.31	2.80	-2.06	-1.89	
13,764.00	89.93	177.65	7,741.00	-3,883.38	2,220.87	4,322.06	0.15	0.13	-0.07	
13,859.00	90.16	175.44	7,740.93	-3,978.20	2,226.59	4,415.20	2.34	0.24	-2.33	
13,955.00	90.70	178.20	7,740.21	-4,074.04	2,231.92	4,509.21	2.93	0.56	2.87	
14,049.00	90.90	178.20	7,738.90	-4,167.99	2,234.87	4,600.79	0.21	0.21	0.00	
14,144.00	91.68	178.26	7,736.76	-4,262.92	2,237.81	4,693.32	0.82	0.82	0.06	
14,240.00	92.36	177.93	7,733.37	-4,358.80	2,240.99	4,786.83	0.79	0.71	-0.34	
14,334.00	91.92	179.68	7,729.86	-4,452.71	2,242.95	4,878.12	1.92	-0.47	1.86	
14,429.00	90.99	181.22	7,727.45	-4,547.68	2,242.21	4,969.74	1.89	-0.98	1.62	
14,524.00	92.02	180.30	7,724.96	-4,642.63	2,240.95	5,061.22	1.45	1.08	-0.97	
14,619.00	89.72	181.23	7,723.51	-4,737.61	2,239.68	5,152.71	2.61	-2.42	0.98	
14,714.00	90.59	179.85	7,723.26	-4,832.60	2,238.78	5,244.32	1.72	0.92	-1.45	
14,810.00	91.41	180.18	7,721.58	-4,928.58	2,238.76	5,337.11	0.92	0.85	0.34	
14,904.00	89.78	181.11	7,720.61	-5,022.57	2,237.70	5,427.70	2.00	-1.73	0.99	
14,999.00	88.85	179.77	7,721.74	-5,117.55	2,236.97	5,519.35	1.72	-0.98	-1.41	
15,094.00	89.35	180.80	7,723.23	-5,212.54	2,236.50	5,611.06	1.21	0.53	1.08	
15,189.00	90.15	181.42	7,723.65	-5,307.52	2,234.66	5,702.41	1.07	0.84	0.65	
15,284.00	90.13	180.48	7,723.42	-5,402.51	2,233.08	5,793.84	0.99	-0.02	-0.99	
15,380.00	91.15	180.32	7,722.34	-5,498.50	2,232.41	5,886.47	1.08	1.06	-0.17	
15,474.00	92.30	180.10	7,719.51	-5,592.45	2,232.07	5,977.21	1.25	1.22	-0.23	
15,568.00	90.47	180.22	7,717.24	-5,686.42	2,231.81	6,067.99	1.95	-1.95	0.13	
15,663.00	91.85	179.41	7,715.32	-5,781.40	2,232.11	6,159.89	1.68	1.45	-0.85	
15,759.00	90.05	179.07	7,713.73	-5,877.37	2,233.39	6,253.01	1.91	-1.87	-0.35	
15,854.00	88.61	180.14	7,714.84	-5,972.36	2,234.04	6,345.00	1.89	-1.52	1.13	
15,949.00	89.51	180.29	7,716.40	-6,067.34	2,233.68	6,436.74	0.96	0.95	0.16	
16,044.00	88.07	180.69	7,718.40	-6,162.32	2,232.87	6,528.35	1.57	-1.52	0.42	
16,139.00	88.14	179.86	7,721.54	-6,257.26	2,232.42	6,620.03	0.88	0.07	-0.87	
16,234.00	88.68	179.66	7,724.18	-6,352.22	2,232.81	6,711.94	0.61	0.57	-0.21	
16,328.00	89.58	178.27	7,725.61	-6,446.19	2,234.51	6,803.22	1.76	0.96	-1.48	
16,423.00	88.49	179.90	7,727.21	-6,541.16	2,236.03	6,895.42	2.06	-1.15	1.72	
16,613.00	88.10	182.50	7,732.86	-6,731.02	2,232.05	7,077.96	1.38	-0.21	1.37	
16,708.00	88.38	181.59	7,735.78	-6,825.92	2,228.66	7,168.83	1.00	0.29	-0.96	
16,802.00	89.88	181.50	7,737.21	-6,919.87	2,226.13	7,259.01	1.60	1.60	-0.10	
16,897.00	88.29	181.00	7,738.72	-7,014.83	2,224.06	7,350.29	1.75	-1.67	-0.53	
16,992.00	88.77	180.46	7,741.16	-7,109.79	2,222.85	7,441.79	0.76	0.51	-0.57	
17,087.00	88.29	180.12	7,743.60	-7,204.76	2,222.37	7,533.48	0.62	-0.51	-0.36	
17,183.00	88.51	179.76	7,746.28	-7,300.72	2,222.47	7,626.28	0.44	0.23	-0.37	
17,278.00	89.57	179.48	7,747.87	-7,395.70	2,223.10	7,718.27	1.15	1.12	-0.29	
17,373.00	91.60	178.69	7,746.90	-7,490.68	2,224.61	7,810.48	2.29	2.14	-0.83	
17,468.00	89.28	178.69	7,746.17	-7,585.65	2,226.79	7,902.84	2.44	-2.44	0.00	
17,563.00	88.78	180.86	7,747.78	-7,680.63	2,227.16	7,994.76	2.34	-0.53	2.28	

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1C-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 1C-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)	
17,753.00	90.04	179.45	7,749.74	-7,870.61	2,226.65	8,178.30	1.00	0.66	-0.74	
17,849.00	89.45	180.89	7,750.16	-7,966.60	2,226.36	8,271.03	1.62	-0.61	1.50	
17,943.00	91.56	180.22	7,749.33	-8,060.59	2,225.45	8,361.66	2.36	2.24	-0.71	
18,038.00	87.88	182.01	7,749.80	-8,155.55	2,223.60	8,453.00	4.31	-3.87	1.88	
18,132.00	88.47	181.45	7,752.79	-8,249.46	2,220.77	8,543.06	0.87	0.63	-0.60	
18,212.00	89.84	180.90	7,753.97	-8,329.43	2,219.13	8,619.96	1.85	1.71	-0.69	
LAST SURVEY - 18212' MD, 7754' TVD										
18,272.00	89.84	180.90	7,754.14	-8,389.42	2,218.18	8,677.71	0.00	0.00	0.00	
EXTRAPOLATION TO TD - 18272' MD, 478' FSL, 1061' 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 1C-H1	0.00	0.00	7,690.00	1,278.40	2,230.39	1,258,848.85	3,146,615.80	40.042740°N	104.976328°W	
- actual wellpath misses target center by 22.18usft at 8600.98usft MD (7671.18 TVD, 1274.03 N, 2219.48 E)										
- Point										
PBHL-COSSLETT E 1C	0.00	0.00	7,790.00	-8,406.94	2,197.36	1,249,163.84	3,146,639.10	40.016153°N	104.976449°W	
- actual wellpath misses target center by 45.01usft at 18272.00usft MD (7754.14 TVD, -8389.42 N, 2218.18 E)										
- Point										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
7,580.00	6,955.82	1,791.06	1,958.88	KOP - 7580' MD, 6956' TVD	
8,596.51	7,670.40	1,278.40	2,218.94	~460' X-OVER PNT - 8596.51' MD, 460' FNL, 1029' FWL SEC 23	
8,916.00	7,698.08	960.90	2,232.64	HZ LANDING PNT - 8916' MD, 7698' TVD	
18,212.00	7,753.97	-8,329.43	2,219.13	LAST SURVEY - 18212' MD, 7754' TVD	
18,272.00	7,754.14	-8,389.42	2,218.18	EXTRAPOLATION TO TD - 18272' MD, 478' FSL, 1061' FWL SEC 26	

Checked By: _____ Approved By: _____ Date: _____