

CRESTONE PEAK RESOURCES

WELD COUNTY

SEC 22-T1N-R68W

COSSLETT EAST 1H-22H-H168

OWB

Design: FINAL SURVEY

Standard Survey Report

08 May, 2023

Project: WELD COUNTY
 Site: SEC 22-T1N-R68W
 Well: COSSLETT EAST 1H-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: 7.73°

Magnetic Field
 Strength: 51539.8snT
 Dip Angle: 66.26°
 Date: 5/5/2023
 Model: IGRF2020

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

				5182.00				
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot		
0.00	0.00	1257557.48	3144443.08	40.039230°N	104.984115°W			

ANNOTATIONS

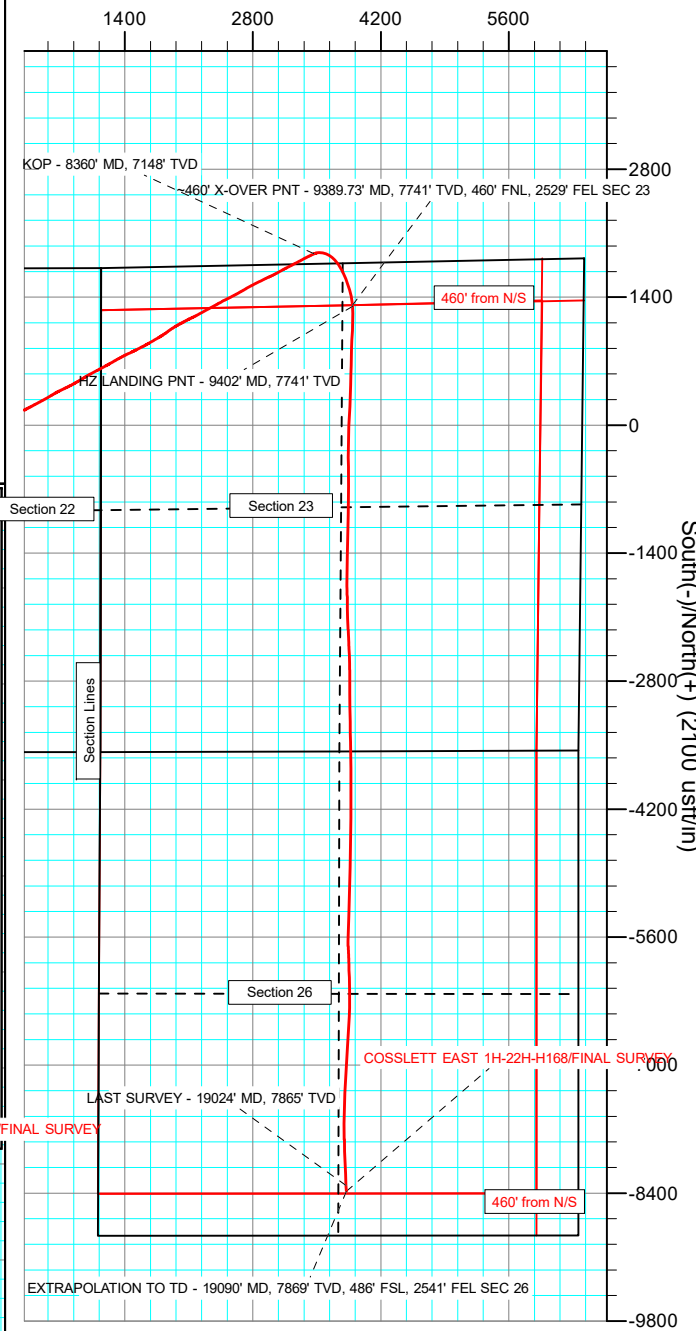
MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Departure	Annotation
8360.00	35.10	67.57	7147.50	1874.40	3468.42	-265.91	3986.42	KOP - 8360' MD, 7148' TVD
9389.73	89.92	176.42	7740.76	1312.48	3890.60	420.55	4779.22	-460' X-OVER PNT - 9389.73' MD, 7741' TVD, 460' FNL, 2529' FEL SEC 23
9402.00	89.77	176.84	7740.79	1300.23	3891.33	431.99	4791.49	HZ LANDING PNT - 9402' MD, 7741' TVD
19024.00	86.74	177.54	7864.88	-8313.54	3819.45	9148.91	14410.00	LAST SURVEY - 19024' MD, 7865' TVD
19090.00	86.74	177.54	7868.63	-8379.37	3822.28	9209.98	14475.89	EXTRAPOLATION TO TD - 19090' MD, 7869' TVD, 486' FSL, 2541' FEL SEC 26

SHL:
 1715' FNL, 1138' FEL
 Sec 22-T1N-R68W

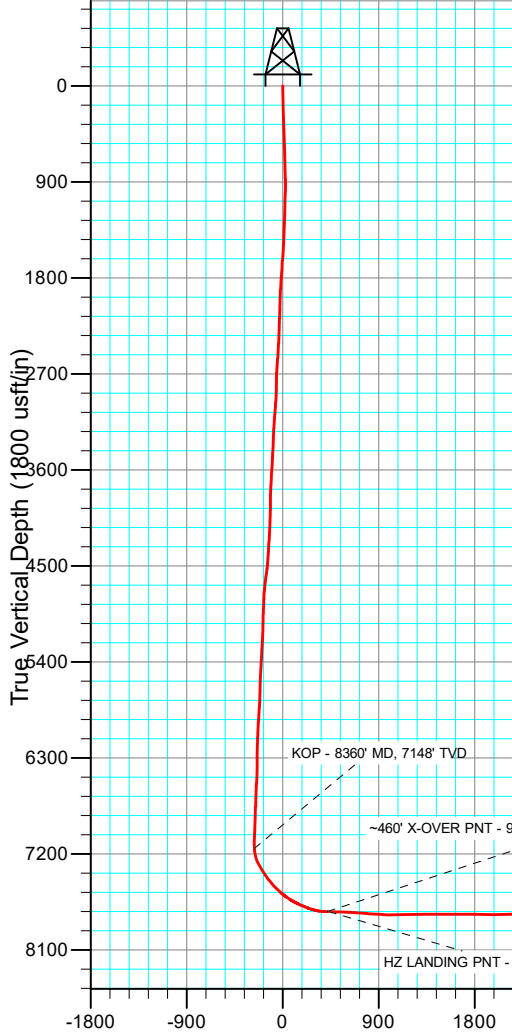
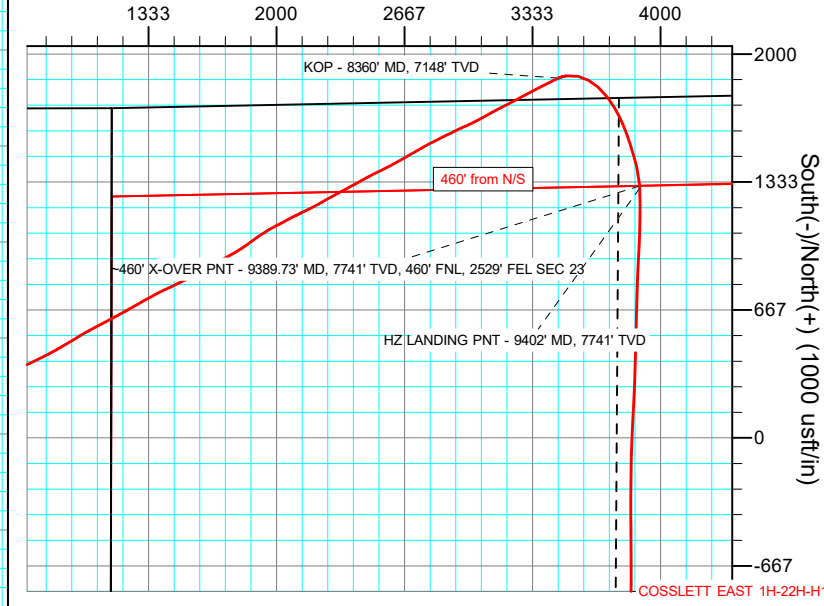
-460' X-OVER PNT:
 460' FNL, 2529' FEL
 Sec 23-T1N-R68W

BHL:
 486' FSL, 2541' FEL
 Sec 26-T1N-R68W

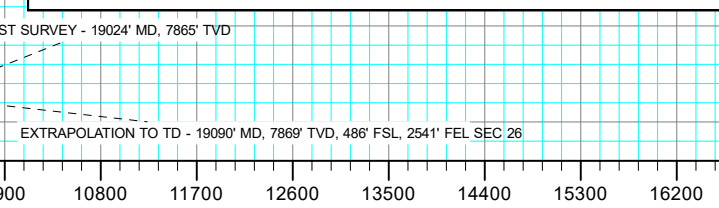
West(-)/East(+) (2100 usft/in)



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



Vertical Section at 155.48° (1800 usft/in)



Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1H-22H-H168
Project:	WELD COUNTY	TVD Reference:	KB 25' @ 5207.00usft
Site:	SEC 22-T1N-R68W	MD Reference:	KB 25' @ 5207.00usft
Well:	COSSLETT EAST 1H-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 1H-22H-H168			
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	1,257,557.48 usft
			Latitude:
			40.039230°N
			Longitude:
			104.984115°W
Position Uncertainty		0.00 usft	Wellhead Elevation:
			usft
			Ground Level:
			5,182.00 usft

Wellbore OWB					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	5/5/2023	7.73	66.26	51,539.83425991

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	155.48	

Survey Program		Date	5/8/2023		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
158.00	2,578.00	SURFACE SURVEY (OWB)	MWD OWSG	OWSG MWD - Standard	
2,719.00	19,090.00	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	
158.00	2.24	153.17	157.96	-2.76	1.39	3.09	1.42	1.42	0.00	
219.00	2.46	168.37	218.91	-5.10	2.20	5.55	1.08	0.36	24.92	
310.00	2.63	179.78	309.82	-9.10	2.60	9.36	0.59	0.19	12.54	
402.00	2.01	195.91	401.74	-12.76	2.16	12.51	0.97	-0.67	17.53	
496.00	1.84	198.76	495.69	-15.78	1.23	14.86	0.21	-0.18	3.03	
548.00	1.86	197.91	547.66	-17.37	0.70	16.10	0.07	0.04	-1.63	
685.00	2.08	187.86	684.58	-21.95	-0.33	19.84	0.30	0.16	-7.34	
780.00	1.94	132.33	779.53	-24.74	0.63	22.77	1.98	-0.15	-58.45	
876.00	2.68	98.94	875.46	-26.19	4.05	25.50	1.57	0.77	-34.78	

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1H-22H-H168
Project:	WELD COUNTY	TVD Reference:	KB 25' @ 5207.00usft
Site:	SEC 22-T1N-R68W	MD Reference:	KB 25' @ 5207.00usft
Well:	COSSLETT EAST 1H-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	4.14	47.91	970.31	-24.23	8.79	25.69	3.39	1.54	-53.72
1,066.00	6.33	49.23	1,064.91	-18.51	15.30	23.19	2.31	2.31	1.39
1,161.00	9.11	54.92	1,159.04	-10.77	25.42	20.35	3.03	2.93	5.99
1,256.00	10.96	57.70	1,252.58	-1.62	39.21	17.75	2.01	1.95	2.93
1,350.00	13.58	57.42	1,344.43	9.10	56.07	14.99	2.79	2.79	-0.30
1,446.00	17.24	55.27	1,436.96	23.28	77.26	10.89	3.86	3.81	-2.24
1,541.00	19.81	55.83	1,527.03	40.34	102.15	5.69	2.71	2.71	0.59
1,635.00	21.51	55.44	1,614.98	59.07	129.53	0.02	1.81	1.81	-0.41
1,731.00	22.42	55.95	1,704.01	79.30	159.19	-6.08	0.97	0.95	0.53
1,825.00	23.31	55.80	1,790.62	99.79	189.42	-12.18	0.95	0.95	-0.16
1,920.00	25.03	58.01	1,877.30	121.01	222.02	-17.95	2.05	1.81	2.33
2,015.00	25.99	60.67	1,963.04	141.85	257.21	-22.31	1.57	1.01	2.80
2,111.00	27.09	62.38	2,048.92	162.29	294.92	-25.26	1.40	1.15	1.78
2,205.00	29.90	62.64	2,131.52	182.98	334.70	-27.57	2.99	2.99	0.28
2,300.00	31.96	62.51	2,213.01	205.47	378.04	-30.05	2.17	2.17	-0.14
2,491.00	34.61	61.84	2,372.66	254.41	470.72	-36.11	1.40	1.39	-0.35
2,578.00	36.15	61.29	2,443.59	278.40	515.01	-39.56	1.81	1.77	-0.63
2,719.00	34.84	59.19	2,558.39	319.01	586.09	-47.01	1.27	-0.93	-1.49
2,814.00	36.88	59.82	2,635.38	347.25	634.04	-52.79	2.18	2.15	0.66
2,909.00	38.41	64.07	2,710.62	374.49	685.23	-56.33	3.17	1.61	4.47
3,004.00	39.19	64.42	2,784.65	400.35	738.85	-57.61	0.85	0.82	0.37
3,099.00	36.72	63.26	2,859.55	426.09	791.29	-59.27	2.71	-2.60	-1.22
3,194.00	38.44	60.73	2,934.84	453.31	842.42	-62.81	2.43	1.81	-2.66
3,288.00	35.90	59.87	3,009.74	481.44	891.76	-67.93	2.76	-2.70	-0.91
3,383.00	35.16	58.41	3,087.05	509.75	939.15	-74.02	1.19	-0.78	-1.54
3,478.00	32.49	59.32	3,165.97	537.10	984.40	-80.12	2.86	-2.81	0.96
3,573.00	33.71	62.15	3,245.56	562.44	1,029.66	-84.39	2.07	1.28	2.98
3,690.00	34.78	62.12	3,342.27	593.21	1,087.86	-88.23	0.91	0.91	-0.03
3,784.00	36.91	62.01	3,418.46	619.00	1,136.49	-91.51	2.27	2.27	-0.12
3,879.00	37.95	61.64	3,493.90	646.26	1,187.39	-95.20	1.12	1.09	-0.39
3,974.00	34.83	60.59	3,570.37	673.47	1,236.74	-99.47	3.35	-3.28	-1.11
4,069.00	34.47	59.60	3,648.52	700.39	1,283.56	-104.53	0.70	-0.38	-1.04
4,163.00	32.95	61.64	3,726.71	726.00	1,329.00	-108.97	2.02	-1.62	2.17
4,258.00	35.42	61.81	3,805.29	751.28	1,376.01	-112.46	2.60	2.60	0.18
4,353.00	35.21	65.51	3,882.82	775.64	1,425.20	-114.21	2.26	-0.22	3.89
4,448.00	35.62	64.12	3,960.25	799.07	1,475.02	-114.85	0.95	0.43	-1.46
4,542.00	38.44	62.80	4,035.28	824.38	1,525.64	-116.87	3.12	3.00	-1.40
4,638.00	38.17	63.46	4,110.61	851.28	1,578.72	-119.31	0.51	-0.28	0.69
4,733.00	36.18	61.44	4,186.31	877.80	1,629.62	-122.32	2.46	-2.09	-2.13
4,828.00	33.38	59.57	4,264.33	904.45	1,676.79	-126.99	3.15	-2.95	-1.97
4,924.00	33.70	60.25	4,344.35	931.04	1,722.69	-132.13	0.51	0.33	0.71
5,019.00	33.98	60.29	4,423.25	957.28	1,768.63	-136.94	0.30	0.29	0.04
5,114.00	36.15	57.15	4,501.01	985.64	1,815.23	-143.40	2.97	2.28	-3.31

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1H-22H-H168
Project:	WELD COUNTY	TVD Reference:	KB 25' @ 5207.00usft
Site:	SEC 22-T1N-R68W	MD Reference:	KB 25' @ 5207.00usft
Well:	COSSLETT EAST 1H-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)	
5,209.00	35.72	53.07	4,577.94	1,017.51	1,860.95	-153.42	2.56	-0.45	-4.29	
5,304.00	34.87	56.08	4,655.49	1,049.32	1,905.65	-163.82	2.04	-0.89	3.17	
5,399.00	35.81	58.41	4,732.99	1,079.04	1,951.87	-171.67	1.73	0.99	2.45	
5,494.00	35.57	63.03	4,810.16	1,106.13	2,000.18	-176.27	2.85	-0.25	4.86	
5,588.00	32.79	61.15	4,887.92	1,130.82	2,046.85	-179.37	3.16	-2.96	-2.00	
5,683.00	34.01	63.60	4,967.23	1,155.05	2,093.18	-182.18	1.91	1.28	2.58	
5,778.00	37.61	64.21	5,044.26	1,179.48	2,143.10	-183.69	3.81	3.79	0.64	
5,873.00	35.78	62.55	5,120.43	1,204.90	2,193.85	-185.76	2.19	-1.93	-1.75	
5,968.00	36.13	60.44	5,197.33	1,231.52	2,242.86	-189.64	1.36	0.37	-2.22	
6,064.00	35.56	61.00	5,275.15	1,259.02	2,291.89	-194.30	0.68	-0.59	0.58	
6,159.00	36.40	61.96	5,352.03	1,285.66	2,340.93	-198.19	1.07	0.88	1.01	
6,253.00	37.63	61.72	5,427.08	1,312.37	2,390.82	-201.78	1.32	1.31	-0.26	
6,349.00	35.70	60.61	5,504.09	1,340.00	2,441.04	-206.08	2.13	-2.01	-1.16	
6,444.00	35.67	62.65	5,581.25	1,366.33	2,489.79	-209.80	1.25	-0.03	2.15	
6,538.00	34.35	64.13	5,658.24	1,390.49	2,538.00	-211.78	1.67	-1.40	1.57	
6,633.00	34.71	62.36	5,736.51	1,414.74	2,586.08	-213.89	1.12	0.38	-1.86	
6,728.00	36.00	61.35	5,813.99	1,440.67	2,634.54	-217.37	1.49	1.36	-1.06	
6,823.00	35.35	59.23	5,891.16	1,468.12	2,682.66	-222.37	1.47	-0.68	-2.23	
6,917.00	34.69	61.03	5,968.14	1,494.99	2,729.43	-227.41	1.30	-0.70	1.91	
7,012.00	34.69	60.95	6,046.26	1,521.21	2,776.71	-231.64	0.05	0.00	-0.08	
7,107.00	35.03	62.97	6,124.21	1,546.73	2,824.64	-234.97	1.27	0.36	2.13	
7,202.00	35.78	63.68	6,201.64	1,571.43	2,873.82	-237.03	0.90	0.79	0.75	
7,297.00	35.43	63.89	6,278.88	1,595.87	2,923.44	-238.67	0.39	-0.37	0.22	
7,392.00	36.08	66.10	6,355.98	1,619.32	2,973.74	-239.13	1.52	0.68	2.33	
7,487.00	37.42	63.62	6,432.10	1,643.48	3,025.18	-239.77	2.10	1.41	-2.61	
7,581.00	36.69	61.05	6,507.12	1,669.76	3,075.34	-242.86	1.82	-0.78	-2.73	
7,677.00	36.97	61.25	6,583.96	1,697.53	3,125.74	-247.21	0.32	0.29	0.21	
7,771.00	35.47	63.36	6,659.80	1,723.36	3,174.91	-250.30	2.07	-1.60	2.24	
7,865.00	35.43	62.07	6,736.38	1,748.35	3,223.36	-252.93	0.80	-0.04	-1.37	
7,959.00	34.12	62.74	6,813.59	1,773.19	3,270.87	-255.81	1.45	-1.39	0.71	
8,054.00	33.71	61.80	6,892.42	1,797.85	3,317.79	-258.78	0.70	-0.43	-0.99	
8,150.00	32.77	61.92	6,972.72	1,822.67	3,364.19	-262.10	0.98	-0.98	0.12	
8,245.00	33.33	63.98	7,052.35	1,846.22	3,410.33	-264.38	1.32	0.59	2.17	
8,341.00	34.70	63.66	7,131.92	1,869.91	3,458.52	-265.94	1.44	1.43	-0.33	
8,360.00	35.10	67.57	7,147.50	1,874.40	3,468.42	-265.91	11.97	2.11	20.59	
KOP - 8360' MD, 7148' TVD										
8,436.00	37.88	82.17	7,208.71	1,885.94	3,511.82	-258.39	11.97	3.66	19.21	
8,531.00	38.88	102.64	7,283.49	1,883.38	3,570.05	-231.90	13.37	1.05	21.55	
8,625.00	38.86	118.46	7,356.86	1,862.82	3,624.90	-190.43	10.54	-0.02	16.83	
8,720.00	39.51	132.30	7,430.64	1,828.21	3,673.54	-138.75	9.22	0.68	14.57	
8,815.00	43.28	142.03	7,501.96	1,782.13	3,715.99	-79.22	7.84	3.97	10.24	
8,910.00	50.19	147.28	7,567.06	1,725.67	3,755.81	-11.33	8.31	7.27	5.53	
9,005.00	57.55	155.15	7,623.09	1,658.44	3,792.47	65.06	10.23	7.75	8.28	

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1H-22H-H168
Project:	WELD COUNTY	TVD Reference:	KB 25' @ 5207.00usft
Site:	SEC 22-T1N-R68W	MD Reference:	KB 25' @ 5207.00usft
Well:	COSSLETT EAST 1H-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)	
9,099.00	64.98	160.53	7,668.28	1,582.15	3,823.39	147.30	9.36	7.90	5.72	
9,195.00	69.31	162.59	7,705.56	1,498.25	3,851.34	235.24	4.92	4.51	2.15	
9,289.00	78.80	166.01	7,731.36	1,411.33	3,875.70	324.43	10.68	10.10	3.64	
9,385.00	89.98	176.26	7,740.75	1,317.20	3,890.30	416.13	15.75	11.65	10.68	
9,389.73	89.92	176.42	7,740.76	1,312.48	3,890.60	420.55	3.63	-1.21	3.42	
~460' X-OVER PNT - 9389.73' MD, 7741' TVD, 460' FNL, 2529' FEL SEC 23										
9,402.00	89.77	176.84	7,740.79	1,300.23	3,891.33	431.99	3.63	-1.21	3.42	
HZ LANDING PNT - 9402' MD, 7741' TVD										
9,480.00	88.83	179.51	7,741.74	1,222.28	3,893.81	503.94	3.63	-1.21	3.42	
9,575.00	87.03	181.96	7,745.17	1,127.36	3,892.59	589.79	3.20	-1.89	2.58	
9,670.00	87.57	182.15	7,749.65	1,032.53	3,889.19	674.66	0.60	0.57	0.20	
9,766.00	85.34	183.25	7,755.58	936.83	3,884.68	759.86	2.59	-2.32	1.15	
9,861.00	86.83	182.32	7,762.07	842.16	3,880.07	844.08	1.85	1.57	-0.98	
9,956.00	86.59	181.57	7,767.52	747.38	3,876.85	928.98	0.83	-0.25	-0.79	
10,052.00	90.21	181.12	7,770.20	651.46	3,874.60	1,015.31	3.80	3.77	-0.47	
10,145.00	90.49	181.14	7,769.63	558.48	3,872.77	1,099.15	0.30	0.30	0.02	
10,241.00	91.77	181.54	7,767.74	462.52	3,870.52	1,185.52	1.40	1.33	0.42	
10,337.00	90.30	182.15	7,766.00	366.59	3,867.43	1,271.51	1.66	-1.53	0.64	
10,432.00	90.92	182.07	7,764.99	271.66	3,863.94	1,356.43	0.66	0.65	-0.08	
10,526.00	88.89	182.96	7,765.15	177.76	3,859.81	1,440.15	2.36	-2.16	0.95	
10,622.00	89.86	182.90	7,766.20	81.89	3,854.90	1,525.34	1.01	1.01	-0.06	
10,716.00	90.39	182.24	7,765.99	-12.01	3,850.69	1,609.02	0.90	0.56	-0.70	
10,811.00	90.20	181.43	7,765.50	-106.96	3,847.65	1,694.15	0.88	-0.20	-0.85	
10,906.00	89.05	181.01	7,766.12	-201.94	3,845.62	1,779.72	1.29	-1.21	-0.44	
11,002.00	89.12	180.23	7,767.66	-297.92	3,844.59	1,866.61	0.82	0.07	-0.81	
11,097.00	90.37	179.74	7,768.08	-392.92	3,844.61	1,953.05	1.41	1.32	-0.52	
11,192.00	92.14	179.35	7,766.00	-487.89	3,845.37	2,039.77	1.91	1.86	-0.41	
11,287.00	88.93	179.86	7,765.11	-582.87	3,846.02	2,126.46	3.42	-3.38	0.54	
11,382.00	90.39	180.03	7,765.68	-677.86	3,846.11	2,212.92	1.55	1.54	0.18	
11,477.00	89.05	179.82	7,766.14	-772.86	3,846.24	2,299.40	1.43	-1.41	-0.22	
11,572.00	89.21	181.04	7,767.58	-867.84	3,845.52	2,385.53	1.30	0.17	1.28	
11,668.00	90.79	180.84	7,767.58	-963.83	3,843.95	2,472.20	1.66	1.65	-0.21	
11,762.00	89.43	180.47	7,767.40	-1,057.82	3,842.87	2,557.27	1.50	-1.45	-0.39	
11,858.00	89.57	180.45	7,768.24	-1,153.81	3,842.10	2,644.29	0.15	0.15	-0.02	
11,953.00	90.39	181.43	7,768.27	-1,248.80	3,840.54	2,730.06	1.35	0.86	1.03	
12,048.00	88.10	183.11	7,769.53	-1,343.70	3,836.78	2,814.84	2.99	-2.41	1.77	
12,144.00	88.34	182.95	7,772.51	-1,439.52	3,831.71	2,899.92	0.30	0.25	-0.17	
12,238.00	88.03	180.17	7,775.48	-1,533.43	3,829.15	2,984.30	2.97	-0.33	-2.96	
12,333.00	88.13	180.07	7,778.67	-1,628.38	3,828.95	3,070.60	0.15	0.11	-0.11	
12,428.00	88.17	179.67	7,781.73	-1,723.33	3,829.17	3,157.07	0.42	0.04	-0.42	
12,523.00	89.68	178.20	7,783.52	-1,818.29	3,830.93	3,244.20	2.22	1.59	-1.55	
12,617.00	90.37	179.52	7,783.48	-1,912.27	3,832.80	3,330.48	1.58	0.73	1.40	
12,712.00	91.25	179.45	7,782.13	-2,007.26	3,833.66	3,417.26	0.93	0.93	-0.07	
12,808.00	90.51	177.64	7,780.66	-2,103.21	3,836.10	3,505.57	2.04	-0.77	-1.89	

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1H-22H-H168
Project:	WELD COUNTY	TVD Reference:	KB 25' @ 5207.00usft
Site:	SEC 22-T1N-R68W	MD Reference:	KB 25' @ 5207.00usft
Well:	COSSLETT EAST 1H-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)	
12,902.00	90.02	177.00	7,780.22	-2,197.10	3,840.49	3,592.82	0.86	-0.52	-0.68	
12,998.00	91.06	176.72	7,779.32	-2,292.95	3,845.75	3,682.21	1.12	1.08	-0.29	
13,093.00	89.75	178.10	7,778.65	-2,387.85	3,850.04	3,770.33	2.00	-1.38	1.45	
13,188.00	90.20	177.19	7,778.69	-2,482.77	3,853.95	3,858.30	1.07	0.47	-0.96	
13,283.00	88.78	178.83	7,779.53	-2,577.70	3,857.24	3,946.05	2.28	-1.49	1.73	
13,379.00	89.72	178.54	7,780.79	-2,673.67	3,859.45	4,034.27	1.02	0.98	-0.30	
13,474.00	87.50	179.93	7,783.10	-2,768.62	3,860.72	4,121.19	2.76	-2.34	1.46	
13,569.00	87.34	179.83	7,787.37	-2,863.53	3,860.91	4,207.62	0.20	-0.17	-0.11	
13,664.00	86.69	179.73	7,792.32	-2,958.40	3,861.28	4,294.08	0.69	-0.68	-0.11	
13,759.00	87.40	179.21	7,797.22	-3,053.26	3,862.16	4,380.76	0.93	0.75	-0.55	
13,854.00	86.69	179.31	7,802.11	-3,148.13	3,863.38	4,467.58	0.75	-0.75	0.11	
13,949.00	88.07	179.38	7,806.46	-3,243.02	3,864.47	4,554.36	1.45	1.45	0.07	
14,044.00	88.47	178.93	7,809.32	-3,337.97	3,865.87	4,641.32	0.63	0.42	-0.47	
14,139.00	87.40	179.01	7,812.75	-3,432.89	3,867.57	4,728.39	1.13	-1.13	0.08	
14,234.00	89.25	178.64	7,815.52	-3,527.82	3,869.52	4,815.58	1.99	1.95	-0.39	
14,329.00	88.47	178.54	7,817.41	-3,622.78	3,871.86	4,902.93	0.83	-0.82	-0.11	
14,424.00	89.44	180.21	7,819.15	-3,717.75	3,872.89	4,989.77	2.03	1.02	1.76	
14,518.00	88.81	179.61	7,820.58	-3,811.74	3,873.04	5,075.35	0.93	-0.67	-0.64	
14,614.00	88.74	179.62	7,822.63	-3,907.71	3,873.69	5,162.93	0.07	-0.07	0.01	
14,708.00	88.17	179.60	7,825.17	-4,001.68	3,874.33	5,248.69	0.61	-0.61	-0.02	
14,804.00	89.50	181.12	7,827.12	-4,097.65	3,873.72	5,335.76	2.10	1.39	1.58	
14,899.00	89.05	180.82	7,828.32	-4,192.63	3,872.11	5,421.50	0.57	-0.47	-0.32	
14,993.00	88.51	180.65	7,830.32	-4,286.60	3,870.91	5,506.50	0.60	-0.57	-0.18	
15,088.00	88.55	180.20	7,832.76	-4,381.57	3,870.20	5,592.61	0.48	0.04	-0.47	
15,184.00	88.87	180.64	7,834.92	-4,477.54	3,869.50	5,679.63	0.57	0.33	0.46	
15,279.00	88.88	180.47	7,836.79	-4,572.52	3,868.58	5,765.66	0.18	0.01	-0.18	
15,374.00	89.97	180.52	7,837.74	-4,667.51	3,867.76	5,851.74	1.15	1.15	0.05	
15,469.00	89.64	180.47	7,838.06	-4,762.50	3,866.94	5,937.83	0.35	-0.35	-0.05	
15,563.00	91.06	181.26	7,837.49	-4,856.49	3,865.52	6,022.75	1.73	1.51	0.84	
15,658.00	90.26	182.34	7,836.40	-4,951.43	3,862.54	6,107.89	1.41	-0.84	1.14	
15,753.00	90.40	181.73	7,835.85	-5,046.37	3,859.16	6,192.87	0.66	0.15	-0.64	
15,848.00	91.01	181.49	7,834.68	-5,141.32	3,856.49	6,278.15	0.69	0.64	-0.25	
16,039.00	89.49	181.44	7,833.85	-5,332.25	3,851.61	6,449.84	0.80	-0.80	-0.03	
16,134.00	90.47	182.30	7,833.88	-5,427.20	3,848.51	6,534.94	1.37	1.03	0.91	
16,229.00	88.61	182.43	7,834.64	-5,522.11	3,844.59	6,619.66	1.96	-1.96	0.14	
16,322.00	87.94	181.12	7,837.44	-5,615.02	3,841.71	6,703.00	1.58	-0.72	-1.41	
16,417.00	88.78	177.08	7,840.16	-5,709.95	3,843.20	6,789.99	4.34	0.88	-4.25	
16,512.00	90.13	177.27	7,841.07	-5,804.83	3,847.89	6,878.25	1.44	1.42	0.20	
16,607.00	91.76	178.65	7,839.50	-5,899.75	3,851.27	6,966.01	2.25	1.72	1.45	
16,702.00	91.49	178.21	7,836.80	-5,994.68	3,853.87	7,053.46	0.54	-0.28	-0.46	
16,796.00	91.67	178.26	7,834.21	-6,088.60	3,856.76	7,140.11	0.20	0.19	0.05	
16,891.00	91.09	180.08	7,831.92	-6,183.56	3,858.14	7,227.07	2.01	-0.61	1.92	
16,986.00	91.58	179.59	7,829.71	-6,278.53	3,858.41	7,313.60	0.73	0.52	-0.52	

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1H-22H-H168
Project:	WELD COUNTY	TVD Reference:	KB 25' @ 5207.00usft
Site:	SEC 22-T1N-R68W	MD Reference:	KB 25' @ 5207.00usft
Well:	COSSLETT EAST 1H-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)	
17,082.00	91.86	180.68	7,826.83	-6,374.48	3,858.19	7,400.80	1.17	0.29	1.14	
17,177.00	89.58	182.83	7,825.64	-6,469.42	3,855.28	7,485.97	3.30	-2.40	2.26	
17,272.00	90.88	183.26	7,825.25	-6,564.28	3,850.23	7,570.18	1.44	1.37	0.45	
17,367.00	87.59	183.98	7,826.52	-6,659.07	3,844.23	7,653.93	3.55	-3.46	0.76	
17,462.00	87.88	184.07	7,830.28	-6,753.76	3,837.57	7,737.32	0.32	0.31	0.09	
17,558.00	88.81	183.82	7,833.05	-6,849.49	3,830.97	7,821.68	1.00	0.97	-0.26	
17,653.00	89.65	183.27	7,834.33	-6,944.30	3,825.10	7,905.50	1.06	0.88	-0.58	
17,748.00	88.03	182.73	7,836.25	-7,039.15	3,820.12	7,989.73	1.80	-1.71	-0.57	
17,843.00	87.81	182.39	7,839.70	-7,133.99	3,815.88	8,074.26	0.43	-0.23	-0.36	
17,938.00	88.62	182.21	7,842.66	-7,228.87	3,812.07	8,159.00	0.87	0.85	-0.19	
18,032.00	89.84	182.78	7,843.92	-7,322.77	3,807.98	8,242.73	1.43	1.30	0.61	
18,127.00	91.06	182.86	7,843.17	-7,417.65	3,803.31	8,327.11	1.29	1.28	0.08	
18,222.00	89.85	181.58	7,842.42	-7,512.57	3,799.63	8,411.95	1.85	-1.27	-1.35	
18,317.00	89.01	180.10	7,843.37	-7,607.55	3,798.24	8,497.79	1.79	-0.88	-1.56	
18,412.00	89.98	179.12	7,844.20	-7,702.54	3,798.88	8,584.48	1.45	1.02	-1.03	
18,507.00	91.93	179.07	7,842.62	-7,797.51	3,800.38	8,671.51	2.05	2.05	-0.05	
18,602.00	87.81	178.46	7,842.83	-7,892.47	3,802.43	8,758.75	4.38	-4.34	-0.64	
18,697.00	87.30	177.86	7,846.89	-7,987.34	3,805.48	8,846.32	0.83	-0.54	-0.63	
18,792.00	86.68	177.66	7,851.88	-8,082.13	3,809.19	8,934.11	0.69	-0.65	-0.21	
18,888.00	86.86	177.33	7,857.28	-8,177.89	3,813.37	9,022.97	0.39	0.19	-0.34	
19,024.00	86.74	177.54	7,864.88	-8,313.54	3,819.45	9,148.91	0.18	-0.09	0.15	
LAST SURVEY - 19024' MD, 7865' TVD										
19,090.00	86.74	177.54	7,868.63	-8,379.37	3,822.28	9,209.98	0.00	0.00	0.00	
EXTRAPOLATION TO TD - 19090' MD, 7869' TVD, 486' FSL, 2541' 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 1H-H1 - hit/miss target - Shape - Point	0.00	0.00	7,765.00	1,312.48	3,869.71	1,258,892.40	3,148,304.95	40.042832°N	104.970294°W	
- actual wellpath misses target center by 31.98usft at 9388.42usft MD (7740.75 TVD, 1313.79 N, 3890.52 E)										
PBHL-COSSLETT E 1H - actual wellpath misses target center by 34.02usft at 19090.00usft MD (7868.63 TVD, -8379.37 N, 3822.28 E) - Point	0.00	0.00	7,885.00	-8,405.28	3,837.05	1,249,174.97	3,148,328.83	40.016156°N	104.970416°W	

Survey Report

Company:	CRESTONE PEAK RESOURCES	Local Co-ordinate Reference:	Well COSSLETT EAST 1H-22H-H168
Project:	WELD COUNTY	TVD Reference:	KB 25' @ 5207.00usft
Site:	SEC 22-T1N-R68W	MD Reference:	KB 25' @ 5207.00usft
Well:	COSSLETT EAST 1H-22H-H168	North Reference:	True
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	FINAL SURVEY	Database:	EDT_32Bit_ODBC

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,360.00	7,147.50	1,874.40	3,468.42	KOP - 8360' MD, 7148' TVD
9,389.73	7,740.76	1,312.48	3,890.60	~460' X-OVER PNT - 9389.73' MD, 7741' TVD, 460' FNL, 2529' FEL SEC 23
9,402.00	7,740.79	1,300.23	3,891.33	HZ LANDING PNT - 9402' MD, 7741' TVD
19,024.00	7,864.88	-8,313.54	3,819.45	LAST SURVEY - 19024' MD, 7865' TVD
19,090.00	7,868.63	-8,379.37	3,822.28	EXTRAPOLATION TO TD - 19090' MD, 7869' TVD, 486' FSL, 2541' FEL SEC 2

Checked By: _____ Approved By: _____ Date: _____