

CRESTONE PEAK RESOURCES

ARAPAHOE COUNTY

SEC 30-T4S-R64W

CHICO 4-65 25-26 4AH

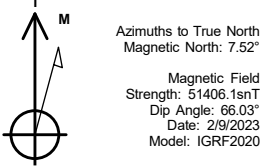
OWB

Plan: PROPOSAL 1

Standard Planning Report

20 February, 2023

Project: ARAPAHOE COUNTY
Site: SEC 30-T4S-R64W
Well: CHICO 4-65 25-26 4AH
Wellbore: OWB
Design: PROPOSAL 1



WELL DETAILS: CHICO 4-65 25-26 4AH						
			5766.00			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1671337.46	3252836.98	39.673188°N	104.601776°W	

ANNOTATIONS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	Start Build 2.00	
737.99	8.76	194.47	736.28	-32.36	-8.35	11.37	33.42	Start 6452.46 hold at 737.99 MD	
7190.45	8.76	194.47	7113.48	-983.86	-253.83	345.58	1016.07	Start DLS 10.00 TFO 75.97	
8069.06	90.00	270.28	7659.00	-1062.54	-826.78	923.40	1603.68	Start 9866.88 hold at 8069.06 MD	
17935.94	90.00	270.28	7659.00	-1014.06	-10693.54	10741.51	11470.56	TD at 17935.94	

SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00
3	737.99	8.76	194.47	736.28	-32.36	-8.35	2.00	194.47	11.37
4	7190.45	8.76	194.47	7113.48	-983.86	-253.83	0.00	0.00	345.58
5	8069.06	90.00	270.28	7659.00	-1062.54	-826.78	10.00	75.97	923.40
6	17935.94	90.00	270.28	7659.00	-1014.06	-10693.54	0.00	0.00	10741.51
									Target
									LP-CHICO 4-65 4AH
									PBHL-CHICO 4-65 4AH

DESIGN TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	
LP-CHICO 4-65 4AH	7659.00	-1062.54	-826.78	1670266.81	3252020.76	39.670271°N	104.604713°W	Point	
- plan hits target center									
PBHL-CHICO 4-65 4AH	7659.00	-1014.06	-10693.54	1670217.74	3242154.15	39.670398°N	104.639763°W	Point	
- plan hits target center									

PROJECT DETAILS: ARAPAHOE COUNTY

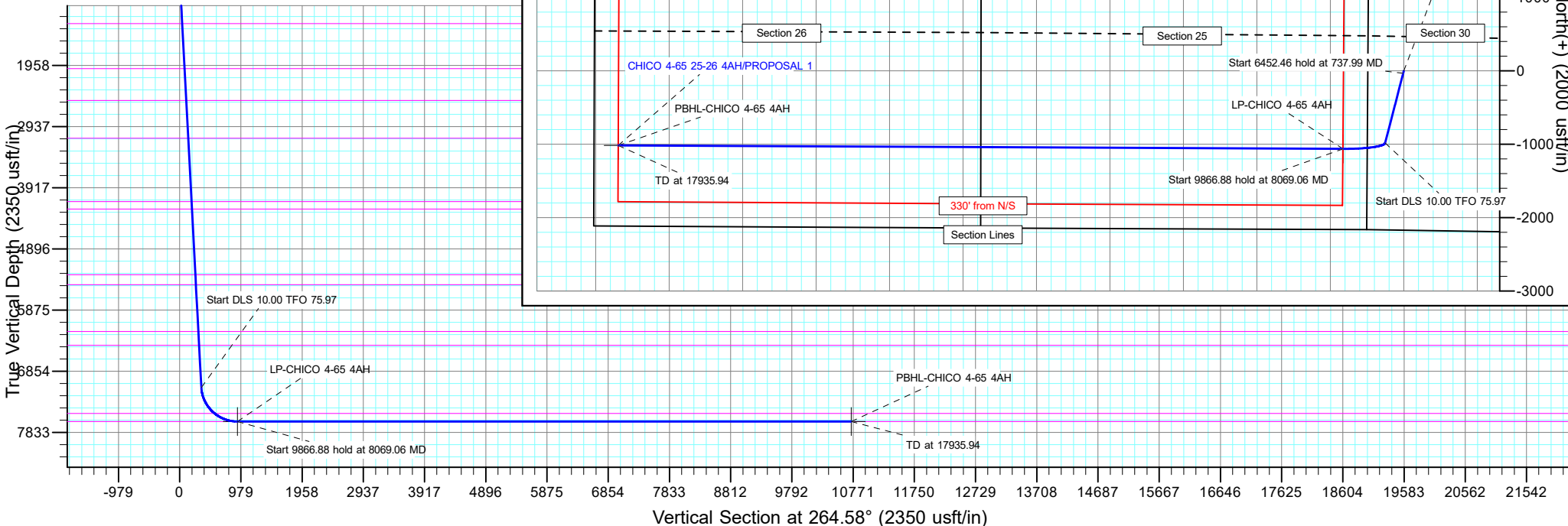
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Central Zone

System Datum: Mean Sea Level

SHL:
2172' FSL, 490' FWL
Sec 30-T4S-R64W

LP:
1100' FSL, 330' FEL
Sec 25-T4S-R65W

BHL:
1100' FSL, 330' FWL
Sec 26-T4S-R65W



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well CHICO 4-65 25-26 4AH
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5791.00usft
Project:	ARAPAHOE COUNTY	MD Reference:	KB 25' @ 5791.00usft
Site:	SEC 30-T4S-R64W	North Reference:	True
Well:	CHICO 4-65 25-26 4AH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

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

Site		SEC 30-T4S-R64W			
Site Position:		Northing:	1,669,168.52 usft	Latitude:	39.667247°N
From:	Lat/Long	Easting:	3,252,354.22 usft	Longitude:	104.603567°W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.57 °

Well	CHICO 4-65 25-26 4AH					
Well Position	+N/-S	2,164.10 usft	Northing:	1,671,337.45 usft	Latitude:	39.673188°N
	+E/-W	504.16 usft	Easting:	3,252,836.99 usft	Longitude:	104.601776°W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	5,766.00 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	2/9/2023	7.52	66.03	51,406.12176617

Design	PROPOSAL 1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	264.58

Plan Survey Tool Program	Date	2/20/2023			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	17,935.94	PROPOSAL 1 (OWB)	MWD OWSG	
				OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
737.99	8.76	194.47	736.28	-32.36	-8.35	2.00	2.00	0.00	194.47	
7,190.45	8.76	194.47	7,113.48	-983.86	-253.83	0.00	0.00	0.00	0.00	
8,069.06	90.00	270.28	7,659.00	-1,062.54	-826.78	10.00	9.25	8.63	75.97	LP-CHICO 4-65 4AH
17,935.94	90.00	270.28	7,659.00	-1,014.06	-10,693.54	0.00	0.00	0.00	0.00	PBHL-CHICO 4-65 4A

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well CHICO 4-65 25-26 4AH
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5791.00usft
Project:	ARAPAHOE COUNTY	MD Reference:	KB 25' @ 5791.00usft
Site:	SEC 30-T4S-R64W	North Reference:	True
Well:	CHICO 4-65 25-26 4AH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned 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
24.00	0.00	0.00	24.00	0.00	0.00	0.00	0.00	0.00	0.00
Denver									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
400.00	2.00	194.47	399.98	-1.69	-0.44	0.59	2.00	2.00	0.00
500.00	4.00	194.47	499.84	-6.76	-1.74	2.37	2.00	2.00	0.00
600.00	6.00	194.47	599.45	-15.20	-3.92	5.34	2.00	2.00	0.00
690.21	7.80	194.47	689.00	-25.69	-6.63	9.02	2.00	2.00	0.00
Arapahoe									
700.00	8.00	194.47	698.70	-27.00	-6.96	9.48	2.00	2.00	0.00
737.99	8.76	194.47	736.28	-32.36	-8.35	11.37	2.00	2.00	0.00
Start 6452.46 hold at 737.99 MD									
800.00	8.76	194.47	797.57	-41.50	-10.71	14.58	0.00	0.00	0.00
900.00	8.76	194.47	896.41	-56.25	-14.51	19.76	0.00	0.00	0.00
1,000.00	8.76	194.47	995.24	-70.99	-18.32	24.94	0.00	0.00	0.00
1,100.00	8.76	194.47	1,094.07	-85.74	-22.12	30.12	0.00	0.00	0.00
1,200.00	8.76	194.47	1,192.91	-100.49	-25.93	35.30	0.00	0.00	0.00
1,297.23	8.76	194.47	1,289.00	-114.82	-29.62	40.33	0.00	0.00	0.00
Laramie-Fox Hills Formation									
1,300.00	8.76	194.47	1,291.74	-115.23	-29.73	40.48	0.00	0.00	0.00
1,400.00	8.76	194.47	1,390.57	-129.98	-33.53	45.66	0.00	0.00	0.00
1,500.00	8.76	194.47	1,489.41	-144.73	-37.34	50.83	0.00	0.00	0.00
1,600.00	8.76	194.47	1,588.24	-159.47	-41.14	56.01	0.00	0.00	0.00
1,700.00	8.76	194.47	1,687.07	-174.22	-44.95	61.19	0.00	0.00	0.00
1,800.00	8.76	194.47	1,785.91	-188.96	-48.75	66.37	0.00	0.00	0.00
1,900.00	8.76	194.47	1,884.74	-203.71	-52.56	71.55	0.00	0.00	0.00
2,000.00	8.76	194.47	1,983.58	-218.46	-56.36	76.73	0.00	0.00	0.00
2,025.73	8.76	194.47	2,009.00	-222.25	-57.34	78.07	0.00	0.00	0.00
Pierre Formation									
2,100.00	8.76	194.47	2,082.41	-233.20	-60.17	81.91	0.00	0.00	0.00
2,200.00	8.76	194.47	2,181.24	-247.95	-63.97	87.09	0.00	0.00	0.00
2,300.00	8.76	194.47	2,280.08	-262.70	-67.77	92.27	0.00	0.00	0.00
2,400.00	8.76	194.47	2,378.91	-277.44	-71.58	97.45	0.00	0.00	0.00
2,500.00	8.76	194.47	2,477.74	-292.19	-75.38	102.63	0.00	0.00	0.00
2,541.74	8.76	194.47	2,519.00	-298.34	-76.97	104.79	0.00	0.00	0.00
Upper Pierre aquifer									
2,600.00	8.76	194.47	2,576.58	-306.94	-79.19	107.81	0.00	0.00	0.00
2,700.00	8.76	194.47	2,675.41	-321.68	-82.99	112.99	0.00	0.00	0.00
2,800.00	8.76	194.47	2,774.24	-336.43	-86.80	118.17	0.00	0.00	0.00
2,900.00	8.76	194.47	2,873.08	-351.17	-90.60	123.35	0.00	0.00	0.00
3,000.00	8.76	194.47	2,971.91	-365.92	-94.41	128.53	0.00	0.00	0.00
3,100.00	8.76	194.47	3,070.74	-380.67	-98.21	133.71	0.00	0.00	0.00
3,153.88	8.76	194.47	3,124.00	-388.61	-100.26	136.50	0.00	0.00	0.00
Base of Upper Pierre aquifer									
3,200.00	8.76	194.47	3,169.58	-395.41	-102.01	138.89	0.00	0.00	0.00
3,300.00	8.76	194.47	3,268.41	-410.16	-105.82	144.07	0.00	0.00	0.00
3,400.00	8.76	194.47	3,367.24	-424.91	-109.62	149.25	0.00	0.00	0.00
3,500.00	8.76	194.47	3,466.08	-439.65	-113.43	154.43	0.00	0.00	0.00
3,600.00	8.76	194.47	3,564.91	-454.40	-117.23	159.61	0.00	0.00	0.00
3,700.00	8.76	194.47	3,663.75	-469.15	-121.04	164.79	0.00	0.00	0.00

Planning Report

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Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5791.00usft
Project:	ARAPAHOE COUNTY	MD Reference:	KB 25' @ 5791.00usft
Site:	SEC 30-T4S-R64W	North Reference:	True
Well:	CHICO 4-65 25-26 4AH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned 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)
3,800.00	8.76	194.47	3,762.58	-483.89	-124.84	169.97	0.00	0.00	0.00
3,900.00	8.76	194.47	3,861.41	-498.64	-128.65	175.15	0.00	0.00	0.00
4,000.00	8.76	194.47	3,960.25	-513.38	-132.45	180.33	0.00	0.00	0.00
4,100.00	8.76	194.47	4,059.08	-528.13	-136.26	185.51	0.00	0.00	0.00
4,180.86	8.76	194.47	4,139.00	-540.05	-139.33	189.69	0.00	0.00	0.00
Larimer ("Parkman") sandstone									
4,200.00	8.76	194.47	4,157.91	-542.88	-140.06	190.68	0.00	0.00	0.00
4,300.00	8.76	194.47	4,256.75	-557.62	-143.86	195.86	0.00	0.00	0.00
4,302.28	8.76	194.47	4,259.00	-557.96	-143.95	195.98	0.00	0.00	0.00
Pierre Formation									
4,400.00	8.76	194.47	4,355.58	-572.37	-147.67	201.04	0.00	0.00	0.00
4,500.00	8.76	194.47	4,454.41	-587.12	-151.47	206.22	0.00	0.00	0.00
4,600.00	8.76	194.47	4,553.25	-601.86	-155.28	211.40	0.00	0.00	0.00
4,700.00	8.76	194.47	4,652.08	-616.61	-159.08	216.58	0.00	0.00	0.00
4,800.00	8.76	194.47	4,750.91	-631.35	-162.89	221.76	0.00	0.00	0.00
4,900.00	8.76	194.47	4,849.75	-646.10	-166.69	226.94	0.00	0.00	0.00
5,000.00	8.76	194.47	4,948.58	-660.85	-170.50	232.12	0.00	0.00	0.00
5,100.00	8.76	194.47	5,047.42	-675.59	-174.30	237.30	0.00	0.00	0.00
5,200.00	8.76	194.47	5,146.25	-690.34	-178.10	242.48	0.00	0.00	0.00
5,300.00	8.76	194.47	5,245.08	-705.09	-181.91	247.66	0.00	0.00	0.00
5,364.67	8.76	194.47	5,309.00	-714.62	-184.37	251.01	0.00	0.00	0.00
Terry ("Sussex") sandstone									
5,400.00	8.76	194.47	5,343.92	-719.83	-185.71	252.84	0.00	0.00	0.00
5,500.00	8.76	194.47	5,442.75	-734.58	-189.52	258.02	0.00	0.00	0.00
5,526.56	8.76	194.47	5,469.00	-738.50	-190.53	259.40	0.00	0.00	0.00
Pierre Formation									
5,600.00	8.76	194.47	5,541.58	-749.33	-193.32	263.20	0.00	0.00	0.00
5,700.00	8.76	194.47	5,640.42	-764.07	-197.13	268.38	0.00	0.00	0.00
5,800.00	8.76	194.47	5,739.25	-778.82	-200.93	273.56	0.00	0.00	0.00
5,900.00	8.76	194.47	5,838.08	-793.56	-204.74	278.74	0.00	0.00	0.00
6,000.00	8.76	194.47	5,936.92	-808.31	-208.54	283.92	0.00	0.00	0.00
6,100.00	8.76	194.47	6,035.75	-823.06	-212.35	289.10	0.00	0.00	0.00
6,200.00	8.76	194.47	6,134.58	-837.80	-216.15	294.28	0.00	0.00	0.00
6,285.41	8.76	194.47	6,219.00	-850.40	-219.40	298.70	0.00	0.00	0.00
Hygiene ("Shannon") sandstone									
6,300.00	8.76	194.47	6,233.42	-852.55	-219.95	299.46	0.00	0.00	0.00
6,400.00	8.76	194.47	6,332.25	-867.30	-223.76	304.64	0.00	0.00	0.00
6,500.00	8.76	194.47	6,431.09	-882.04	-227.56	309.82	0.00	0.00	0.00
6,508.01	8.76	194.47	6,439.00	-883.22	-227.87	310.23	0.00	0.00	0.00
Pierre Formation									
6,600.00	8.76	194.47	6,529.92	-896.79	-231.37	315.00	0.00	0.00	0.00
6,700.00	8.76	194.47	6,628.75	-911.54	-235.17	320.18	0.00	0.00	0.00
6,800.00	8.76	194.47	6,727.59	-926.28	-238.98	325.36	0.00	0.00	0.00
6,900.00	8.76	194.47	6,826.42	-941.03	-242.78	330.54	0.00	0.00	0.00
7,000.00	8.76	194.47	6,925.25	-955.77	-246.59	335.71	0.00	0.00	0.00
7,100.00	8.76	194.47	7,024.09	-970.52	-250.39	340.89	0.00	0.00	0.00
7,190.45	8.76	194.47	7,113.48	-983.86	-253.83	345.58	0.00	0.00	0.00
Start DLS 10.00 TFO 75.97									
7,200.00	9.04	200.38	7,122.92	-985.27	-254.27	346.15	10.00	2.92	61.86
7,250.00	11.71	224.19	7,172.12	-992.59	-259.18	351.73	10.00	5.35	47.62
7,300.00	15.57	237.86	7,220.71	-999.81	-268.41	361.60	10.00	7.71	27.34
7,350.00	19.93	245.95	7,268.33	-1,006.85	-281.88	375.67	10.00	8.72	16.18
7,400.00	24.53	251.17	7,314.60	-1,013.68	-299.49	393.85	10.00	9.20	10.44

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well CHICO 4-65 25-26 4AH
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5791.00usft
Project:	ARAPAHOE COUNTY	MD Reference:	KB 25' @ 5791.00usft
Site:	SEC 30-T4S-R64W	North Reference:	True
Well:	CHICO 4-65 25-26 4AH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned 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)
7,450.00	29.25	254.81	7,359.19	-1,020.23	-321.12	416.00	10.00	9.45	7.28
7,500.00	34.05	257.51	7,401.74	-1,026.47	-346.59	441.95	10.00	9.59	5.40
7,550.00	38.89	259.61	7,441.94	-1,032.33	-375.71	471.49	10.00	9.68	4.20
7,600.00	43.76	261.31	7,479.48	-1,037.78	-408.26	504.41	10.00	9.75	3.40
7,650.00	48.66	262.73	7,514.07	-1,042.77	-444.00	540.46	10.00	9.79	2.84
7,673.13	50.92	263.31	7,529.00	-1,044.91	-461.53	558.11	10.00	9.81	2.53
Sharon Springs Member									
7,700.00	53.56	263.95	7,545.45	-1,047.27	-482.64	579.35	10.00	9.82	2.36
7,750.00	58.48	265.03	7,573.39	-1,051.24	-523.90	620.80	10.00	9.84	2.15
7,800.00	63.41	265.99	7,597.66	-1,054.65	-567.46	664.49	10.00	9.86	1.94
7,850.00	68.35	266.88	7,618.09	-1,057.48	-612.99	710.09	10.00	9.87	1.78
7,900.00	73.29	267.71	7,634.51	-1,059.70	-660.15	757.24	10.00	9.88	1.66
7,950.00	78.23	268.50	7,646.81	-1,061.30	-708.57	805.60	10.00	9.88	1.57
8,000.00	83.17	269.26	7,654.89	-1,062.26	-757.89	854.79	10.00	9.89	1.52
8,050.00	88.12	270.00	7,658.69	-1,062.59	-807.73	904.43	10.00	9.89	1.49
8,069.03	90.00	270.28	7,659.00	-1,062.54	-826.75	923.37	10.00	9.89	1.48
Niobrara Formation									
8,069.06	90.00	270.28	7,659.00	-1,062.54	-826.78	923.40	10.00	9.89	1.48
Start 9866.88 hold at 8069.06 MD									
8,100.00	90.00	270.28	7,659.00	-1,062.39	-857.72	954.19	0.00	0.00	0.00
8,200.00	90.00	270.28	7,659.00	-1,061.90	-957.72	1,053.69	0.00	0.00	0.00
8,300.00	90.00	270.28	7,659.00	-1,061.41	-1,057.72	1,153.20	0.00	0.00	0.00
8,400.00	90.00	270.28	7,659.00	-1,060.91	-1,157.72	1,252.70	0.00	0.00	0.00
8,500.00	90.00	270.28	7,659.00	-1,060.42	-1,257.72	1,352.21	0.00	0.00	0.00
8,600.00	90.00	270.28	7,659.00	-1,059.93	-1,357.72	1,451.72	0.00	0.00	0.00
8,700.00	90.00	270.28	7,659.00	-1,059.44	-1,457.72	1,551.22	0.00	0.00	0.00
8,800.00	90.00	270.28	7,659.00	-1,058.95	-1,557.71	1,650.73	0.00	0.00	0.00
8,900.00	90.00	270.28	7,659.00	-1,058.46	-1,657.71	1,750.23	0.00	0.00	0.00
9,000.00	90.00	270.28	7,659.00	-1,057.97	-1,757.71	1,849.74	0.00	0.00	0.00
9,100.00	90.00	270.28	7,659.00	-1,057.47	-1,857.71	1,949.25	0.00	0.00	0.00
9,200.00	90.00	270.28	7,659.00	-1,056.98	-1,957.71	2,048.75	0.00	0.00	0.00
9,300.00	90.00	270.28	7,659.00	-1,056.49	-2,057.71	2,148.26	0.00	0.00	0.00
9,400.00	90.00	270.28	7,659.00	-1,056.00	-2,157.71	2,247.76	0.00	0.00	0.00
9,500.00	90.00	270.28	7,659.00	-1,055.51	-2,257.71	2,347.27	0.00	0.00	0.00
9,600.00	90.00	270.28	7,659.00	-1,055.02	-2,357.70	2,446.77	0.00	0.00	0.00
9,700.00	90.00	270.28	7,659.00	-1,054.53	-2,457.70	2,546.28	0.00	0.00	0.00
9,800.00	90.00	270.28	7,659.00	-1,054.03	-2,557.70	2,645.79	0.00	0.00	0.00
9,900.00	90.00	270.28	7,659.00	-1,053.54	-2,657.70	2,745.29	0.00	0.00	0.00
10,000.00	90.00	270.28	7,659.00	-1,053.05	-2,757.70	2,844.80	0.00	0.00	0.00
10,100.00	90.00	270.28	7,659.00	-1,052.56	-2,857.70	2,944.30	0.00	0.00	0.00
10,200.00	90.00	270.28	7,659.00	-1,052.07	-2,957.70	3,043.81	0.00	0.00	0.00
10,300.00	90.00	270.28	7,659.00	-1,051.58	-3,057.70	3,143.31	0.00	0.00	0.00
10,400.00	90.00	270.28	7,659.00	-1,051.09	-3,157.70	3,242.82	0.00	0.00	0.00
10,500.00	90.00	270.28	7,659.00	-1,050.59	-3,257.69	3,342.33	0.00	0.00	0.00
10,600.00	90.00	270.28	7,659.00	-1,050.10	-3,357.69	3,441.83	0.00	0.00	0.00
10,700.00	90.00	270.28	7,659.00	-1,049.61	-3,457.69	3,541.34	0.00	0.00	0.00
10,800.00	90.00	270.28	7,659.00	-1,049.12	-3,557.69	3,640.84	0.00	0.00	0.00
10,900.00	90.00	270.28	7,659.00	-1,048.63	-3,657.69	3,740.35	0.00	0.00	0.00
11,000.00	90.00	270.28	7,659.00	-1,048.14	-3,757.69	3,839.86	0.00	0.00	0.00
11,100.00	90.00	270.28	7,659.00	-1,047.65	-3,857.69	3,939.36	0.00	0.00	0.00
11,200.00	90.00	270.28	7,659.00	-1,047.16	-3,957.69	4,038.87	0.00	0.00	0.00
11,300.00	90.00	270.28	7,659.00	-1,046.66	-4,057.68	4,138.37	0.00	0.00	0.00
11,400.00	90.00	270.28	7,659.00	-1,046.17	-4,157.68	4,237.88	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well CHICO 4-65 25-26 4AH
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5791.00usft
Project:	ARAPAHOE COUNTY	MD Reference:	KB 25' @ 5791.00usft
Site:	SEC 30-T4S-R64W	North Reference:	True
Well:	CHICO 4-65 25-26 4AH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned 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)	
11,500.00	90.00	270.28	7,659.00	-1,045.68	-4,257.68	4,337.38	0.00	0.00	0.00	
11,600.00	90.00	270.28	7,659.00	-1,045.19	-4,357.68	4,436.89	0.00	0.00	0.00	
11,700.00	90.00	270.28	7,659.00	-1,044.70	-4,457.68	4,536.40	0.00	0.00	0.00	
11,800.00	90.00	270.28	7,659.00	-1,044.21	-4,557.68	4,635.90	0.00	0.00	0.00	
11,900.00	90.00	270.28	7,659.00	-1,043.72	-4,657.68	4,735.41	0.00	0.00	0.00	
12,000.00	90.00	270.28	7,659.00	-1,043.22	-4,757.68	4,834.91	0.00	0.00	0.00	
12,100.00	90.00	270.28	7,659.00	-1,042.73	-4,857.67	4,934.42	0.00	0.00	0.00	
12,200.00	90.00	270.28	7,659.00	-1,042.24	-4,957.67	5,033.92	0.00	0.00	0.00	
12,300.00	90.00	270.28	7,659.00	-1,041.75	-5,057.67	5,133.43	0.00	0.00	0.00	
12,400.00	90.00	270.28	7,659.00	-1,041.26	-5,157.67	5,232.94	0.00	0.00	0.00	
12,500.00	90.00	270.28	7,659.00	-1,040.77	-5,257.67	5,332.44	0.00	0.00	0.00	
12,600.00	90.00	270.28	7,659.00	-1,040.28	-5,357.67	5,431.95	0.00	0.00	0.00	
12,700.00	90.00	270.28	7,659.00	-1,039.78	-5,457.67	5,531.45	0.00	0.00	0.00	
12,800.00	90.00	270.28	7,659.00	-1,039.29	-5,557.67	5,630.96	0.00	0.00	0.00	
12,900.00	90.00	270.28	7,659.00	-1,038.80	-5,657.67	5,730.47	0.00	0.00	0.00	
13,000.00	90.00	270.28	7,659.00	-1,038.31	-5,757.66	5,829.97	0.00	0.00	0.00	
13,100.00	90.00	270.28	7,659.00	-1,037.82	-5,857.66	5,929.48	0.00	0.00	0.00	
13,200.00	90.00	270.28	7,659.00	-1,037.33	-5,957.66	6,028.98	0.00	0.00	0.00	
13,300.00	90.00	270.28	7,659.00	-1,036.84	-6,057.66	6,128.49	0.00	0.00	0.00	
13,400.00	90.00	270.28	7,659.00	-1,036.34	-6,157.66	6,227.99	0.00	0.00	0.00	
13,500.00	90.00	270.28	7,659.00	-1,035.85	-6,257.66	6,327.50	0.00	0.00	0.00	
13,600.00	90.00	270.28	7,659.00	-1,035.36	-6,357.66	6,427.01	0.00	0.00	0.00	
13,700.00	90.00	270.28	7,659.00	-1,034.87	-6,457.66	6,526.51	0.00	0.00	0.00	
13,800.00	90.00	270.28	7,659.00	-1,034.38	-6,557.65	6,626.02	0.00	0.00	0.00	
13,900.00	90.00	270.28	7,659.00	-1,033.89	-6,657.65	6,725.52	0.00	0.00	0.00	
14,000.00	90.00	270.28	7,659.00	-1,033.40	-6,757.65	6,825.03	0.00	0.00	0.00	
14,100.00	90.00	270.28	7,659.00	-1,032.90	-6,857.65	6,924.53	0.00	0.00	0.00	
14,200.00	90.00	270.28	7,659.00	-1,032.41	-6,957.65	7,024.04	0.00	0.00	0.00	
14,300.00	90.00	270.28	7,659.00	-1,031.92	-7,057.65	7,123.55	0.00	0.00	0.00	
14,400.00	90.00	270.28	7,659.00	-1,031.43	-7,157.65	7,223.05	0.00	0.00	0.00	
14,500.00	90.00	270.28	7,659.00	-1,030.94	-7,257.65	7,322.56	0.00	0.00	0.00	
14,600.00	90.00	270.28	7,659.00	-1,030.45	-7,357.64	7,422.06	0.00	0.00	0.00	
14,700.00	90.00	270.28	7,659.00	-1,029.96	-7,457.64	7,521.57	0.00	0.00	0.00	
14,800.00	90.00	270.28	7,659.00	-1,029.47	-7,557.64	7,621.08	0.00	0.00	0.00	
14,900.00	90.00	270.28	7,659.00	-1,028.97	-7,657.64	7,720.58	0.00	0.00	0.00	
15,000.00	90.00	270.28	7,659.00	-1,028.48	-7,757.64	7,820.09	0.00	0.00	0.00	
15,100.00	90.00	270.28	7,659.00	-1,027.99	-7,857.64	7,919.59	0.00	0.00	0.00	
15,200.00	90.00	270.28	7,659.00	-1,027.50	-7,957.64	8,019.10	0.00	0.00	0.00	
15,300.00	90.00	270.28	7,659.00	-1,027.01	-8,057.64	8,118.60	0.00	0.00	0.00	
15,400.00	90.00	270.28	7,659.00	-1,026.52	-8,157.63	8,218.11	0.00	0.00	0.00	
15,500.00	90.00	270.28	7,659.00	-1,026.03	-8,257.63	8,317.62	0.00	0.00	0.00	
15,600.00	90.00	270.28	7,659.00	-1,025.53	-8,357.63	8,417.12	0.00	0.00	0.00	
15,700.00	90.00	270.28	7,659.00	-1,025.04	-8,457.63	8,516.63	0.00	0.00	0.00	
15,800.00	90.00	270.28	7,659.00	-1,024.55	-8,557.63	8,616.13	0.00	0.00	0.00	
15,900.00	90.00	270.28	7,659.00	-1,024.06	-8,657.63	8,715.64	0.00	0.00	0.00	
16,000.00	90.00	270.28	7,659.00	-1,023.57	-8,757.63	8,815.15	0.00	0.00	0.00	
16,100.00	90.00	270.28	7,659.00	-1,023.08	-8,857.63	8,914.65	0.00	0.00	0.00	
16,200.00	90.00	270.28	7,659.00	-1,022.59	-8,957.63	9,014.16	0.00	0.00	0.00	
16,300.00	90.00	270.28	7,659.00	-1,022.09	-9,057.62	9,113.66	0.00	0.00	0.00	
16,400.00	90.00	270.28	7,659.00	-1,021.60	-9,157.62	9,213.17	0.00	0.00	0.00	
16,500.00	90.00	270.28	7,659.00	-1,021.11	-9,257.62	9,312.67	0.00	0.00	0.00	
16,600.00	90.00	270.28	7,659.00	-1,020.62	-9,357.62	9,412.18	0.00	0.00	0.00	
16,700.00	90.00	270.28	7,659.00	-1,020.13	-9,457.62	9,511.69	0.00	0.00	0.00	
16,800.00	90.00	270.28	7,659.00	-1,019.64	-9,557.62	9,611.19	0.00	0.00	0.00	

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well CHICO 4-65 25-26 4AH
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5791.00usft
Project:	ARAPAHOE COUNTY	MD Reference:	KB 25' @ 5791.00usft
Site:	SEC 30-T4S-R64W	North Reference:	True
Well:	CHICO 4-65 25-26 4AH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Planned 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)	
16,900.00	90.00	270.28	7,659.00	-1,019.15	-9,657.62	9,710.70	0.00	0.00	0.00	
17,000.00	90.00	270.28	7,659.00	-1,018.65	-9,757.62	9,810.20	0.00	0.00	0.00	
17,100.00	90.00	270.28	7,659.00	-1,018.16	-9,857.61	9,909.71	0.00	0.00	0.00	
17,200.00	90.00	270.28	7,659.00	-1,017.67	-9,957.61	10,009.21	0.00	0.00	0.00	
17,300.00	90.00	270.28	7,659.00	-1,017.18	-10,057.61	10,108.72	0.00	0.00	0.00	
17,400.00	90.00	270.28	7,659.00	-1,016.69	-10,157.61	10,208.23	0.00	0.00	0.00	
17,500.00	90.00	270.28	7,659.00	-1,016.20	-10,257.61	10,307.73	0.00	0.00	0.00	
17,600.00	90.00	270.28	7,659.00	-1,015.71	-10,357.61	10,407.24	0.00	0.00	0.00	
17,700.00	90.00	270.28	7,659.00	-1,015.22	-10,457.61	10,506.74	0.00	0.00	0.00	
17,800.00	90.00	270.28	7,659.00	-1,014.72	-10,557.61	10,606.25	0.00	0.00	0.00	
17,900.00	90.00	270.28	7,659.00	-1,014.23	-10,657.60	10,705.76	0.00	0.00	0.00	
17,935.94	90.00	270.28	7,659.00	-1,014.06	-10,693.54	10,741.51	0.00	0.00	0.00	
TD at 17935.94										

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL-CHICO 4-65 4AH - plan hits target center - Point	0.00	0.00	7,659.00	-1,014.06	-10,693.54	1,670,217.73	3,242,154.15	39.670398°N	104.639763°W
LP-CHICO 4-65 4AH - plan hits target center - Point	0.00	0.00	7,659.00	-1,062.54	-826.78	1,670,266.81	3,252,020.76	39.670271°N	104.604713°W

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
24.00	24.00	Denver				
690.21	689.00	Arapahoe				
1,297.23	1,289.00	Laramie-Fox Hills Formation				
2,025.73	2,009.00	Pierre Formation				
2,541.74	2,519.00	Upper Pierre aquifer				
3,153.88	3,124.00	Base of Upper Pierre aquifer				
4,180.86	4,139.00	Larimer ("Parkman") sandstone				
4,302.28	4,259.00	Pierre Formation				
5,364.67	5,309.00	Terry ("Sussex") sandstone				
5,526.56	5,469.00	Pierre Formation				
6,285.41	6,219.00	Hygiene ("Shannon") sandstone				
6,508.01	6,439.00	Pierre Formation				
7,673.13	7,529.00	Sharon Springs Member				
8,069.03	7,659.00	Niobrara Formation				

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well CHICO 4-65 25-26 4AH
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5791.00usft
Project:	ARAPAHOE COUNTY	MD Reference:	KB 25' @ 5791.00usft
Site:	SEC 30-T4S-R64W	North Reference:	True
Well:	CHICO 4-65 25-26 4AH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
300.00	300.00	0.00	0.00	Start Build 2.00
737.99	736.28	-32.36	-8.35	Start 6452.46 hold at 737.99 MD
7,190.45	7,113.48	-983.86	-253.83	Start DLS 10.00 TFO 75.97
8,069.06	7,659.00	-1,062.54	-826.78	Start 9866.88 hold at 8069.06 MD
17,935.94	7,659.00	-1,014.06	-10,693.54	TD at 17935.94