

CRESTONE PEAK RESOURCES

WELD COUNTY

SEC 25-T4N-R65W

SHELTON 25W-25-16

OWB

Plan: PROPOSAL 1

Standard Planning Report

28 September, 2022

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

Project: WELD COUNTY
Site: SEC 25-T4N-R65W
Well: SHELTON 25W-25-16
Wellbore: OWB
Design: PROPOSAL 1



Azimuths to True North
Magnetic North: 7.62°

Magnetic Field
Strength: 51773.2nT
Dip Angle: 66.53°
Date: 9/26/2022
Model: IGRF2020

WELL DETAILS: SHELTON 25W-25-16

			4836.00			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1346726.34	3250146.97	40.281692°N	104.603389°W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	
3	1336.64	24.73	226.94	1298.59	-179.42	-192.01	2.00	226.94	212.16	
4	7019.25	24.73	226.94	6459.93	-1802.65	-1929.18	0.00	0.00	2131.67	
5	7742.10	90.00	270.28	6840.00	-1920.12	-2475.55	10.00	46.10	2688.19	LP-SHELTON 25W-16
6	20616.38	90.00	270.28	6840.00	-1856.46	-15349.68	0.00	0.00	15461.54	PBHL-SHELTON 25W-16

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	Start Build 2.00
1336.64	24.73	226.94	1298.59	-179.42	-192.01	212.16	262.79	Start 5682.61 hold at 1336.64 MD
7019.25	24.73	226.94	6459.93	-1802.65	-1929.18	2131.67	2640.32	Start DLS 10.00 TFO 46.10
7742.10	90.00	270.28	6840.00	-1920.12	-2475.55	2688.19	3208.18	Start 12874.29 hold at 7742.10 MD
20616.38	90.00	270.28	6840.00	-1856.46	-15349.68	15461.54	16082.47	TD at 20616.38

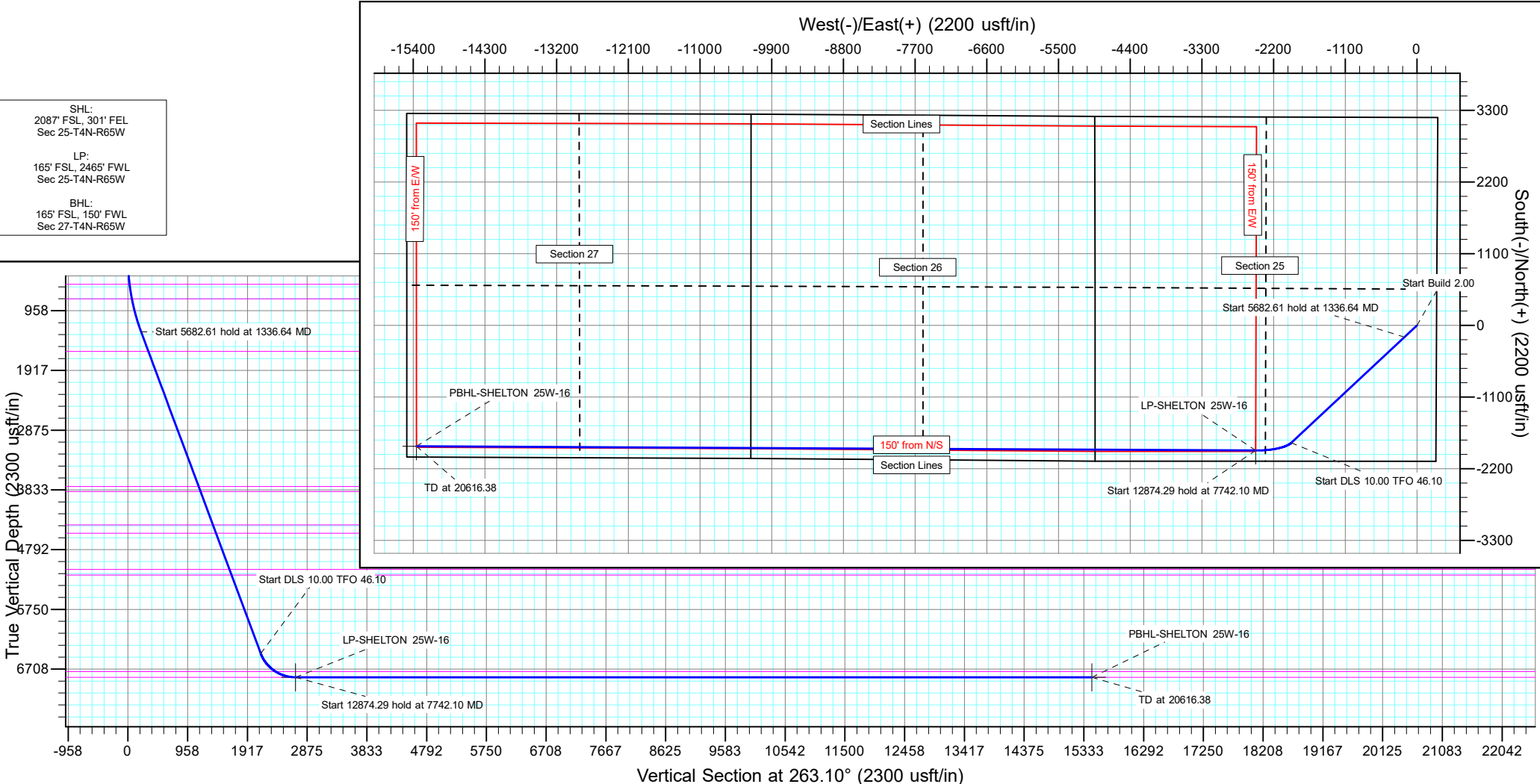
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
LP-SHELTON 25W-16	6840.00	-1920.12	-2475.55	1344781.37	3247691.06	40.276421°N	104.612261°W	Point
PBHL-SHELTON 25W-16	6840.00	-1856.46	-15349.68	1344714.85	3234817.50	40.276583°N	104.658400°W	Point

SHL:
2087' FSL, 301' FEL
Sec 25-T4N-R65W

LP:
165' FSL, 2465' FWL
Sec 25-T4N-R65W

BHL:
165' FSL, 150' FWL
Sec 27-T4N-R65W



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well SHELTON 25W-25-16
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 4861.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 4861.00usft
Site:	SEC 25-T4N-R65W	North Reference:	True
Well:	SHELTON 25W-25-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

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 25-T4N-R65W			
Site Position:		Northing:	1,344,643.82 usft	Latitude:	40.275967°N
From:	Lat/Long	Easting:	3,250,457.11 usft	Longitude:	104.602353°W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.58 °

Well	SHELTON 25W-25-16					
Well Position	+N/-S	2,085.64 usft	Northing:	1,346,726.34 usft	Latitude:	40.281692°N
	+E/-W	-289.05 usft	Easting:	3,250,146.97 usft	Longitude:	104.603389°W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	4,836.00 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	9/26/2022	7.62	66.53	51,773.22585755

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	263.10

Plan Survey Tool Program	Date	9/28/2022		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	20,616.38	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	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,336.64	24.73	226.94	1,298.59	-179.42	-192.01	2.00	2.00	0.00	226.94	
7,019.25	24.73	226.94	6,459.93	-1,802.65	-1,929.18	0.00	0.00	0.00	0.00	
7,742.10	90.00	270.28	6,840.00	-1,920.12	-2,475.55	10.00	9.03	6.00	46.10	LP-SHELTON 25W-16
20,616.38	90.00	270.28	6,840.00	-1,856.46	-15,349.68	0.00	0.00	0.00	0.00	PBHL-SHELTON 25W-16

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well SHELTON 25W-25-16
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 4861.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 4861.00usft
Site:	SEC 25-T4N-R65W	North Reference:	True
Well:	SHELTON 25W-25-16	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
Laramie-Fox Hills Formation									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
200.00	2.00	226.94	199.98	-1.19	-1.28	1.41	2.00	2.00	0.00
300.00	4.00	226.94	299.84	-4.76	-5.10	5.63	2.00	2.00	0.00
400.00	6.00	226.94	399.45	-10.71	-11.47	12.67	2.00	2.00	0.00
500.00	8.00	226.94	498.70	-19.03	-20.37	22.51	2.00	2.00	0.00
536.69	8.73	226.94	535.00	-22.68	-24.27	26.82	2.00	2.00	0.00
Pierre Formation									
600.00	10.00	226.94	597.47	-29.71	-31.80	35.14	2.00	2.00	0.00
700.00	12.00	226.94	695.62	-42.74	-45.74	50.54	2.00	2.00	0.00
776.26	13.53	226.94	770.00	-54.24	-58.05	64.14	2.00	2.00	0.00
Upper Pierre aquifer									
800.00	14.00	226.94	793.06	-58.10	-62.18	68.70	2.00	2.00	0.00
900.00	16.00	226.94	889.64	-75.77	-81.09	89.60	2.00	2.00	0.00
1,000.00	18.00	226.94	985.27	-95.73	-102.45	113.20	2.00	2.00	0.00
1,100.00	20.00	226.94	1,079.82	-117.96	-126.24	139.48	2.00	2.00	0.00
1,200.00	22.00	226.94	1,173.17	-142.42	-152.42	168.42	2.00	2.00	0.00
1,300.00	24.00	226.94	1,265.21	-169.10	-180.97	199.96	2.00	2.00	0.00
1,336.64	24.73	226.94	1,298.59	-179.42	-192.01	212.16	2.00	2.00	0.00
Start 5682.61 hold at 1336.64 MD									
1,400.00	24.73	226.94	1,356.14	-197.52	-211.38	233.57	0.00	0.00	0.00
1,500.00	24.73	226.94	1,446.97	-226.08	-241.95	267.35	0.00	0.00	0.00
1,600.00	24.73	226.94	1,537.79	-254.65	-272.52	301.12	0.00	0.00	0.00
1,679.50	24.73	226.94	1,610.00	-277.36	-296.82	327.98	0.00	0.00	0.00
Base of Upper Pierre aquifer									
1,700.00	24.73	226.94	1,628.62	-283.21	-303.09	334.90	0.00	0.00	0.00
1,800.00	24.73	226.94	1,719.45	-311.78	-333.66	368.68	0.00	0.00	0.00
1,900.00	24.73	226.94	1,810.27	-340.34	-364.23	402.46	0.00	0.00	0.00
2,000.00	24.73	226.94	1,901.10	-368.91	-394.80	436.24	0.00	0.00	0.00
2,100.00	24.73	226.94	1,991.93	-397.47	-425.37	470.02	0.00	0.00	0.00
2,200.00	24.73	226.94	2,082.75	-426.04	-455.94	503.80	0.00	0.00	0.00
2,300.00	24.73	226.94	2,173.58	-454.60	-486.51	537.57	0.00	0.00	0.00
2,400.00	24.73	226.94	2,264.41	-483.17	-517.08	571.35	0.00	0.00	0.00
2,500.00	24.73	226.94	2,355.23	-511.73	-547.65	605.13	0.00	0.00	0.00
2,600.00	24.73	226.94	2,446.06	-540.30	-578.22	638.91	0.00	0.00	0.00
2,700.00	24.73	226.94	2,536.89	-568.86	-608.79	672.69	0.00	0.00	0.00
2,800.00	24.73	226.94	2,627.72	-597.43	-639.36	706.47	0.00	0.00	0.00
2,900.00	24.73	226.94	2,718.54	-625.99	-669.93	740.24	0.00	0.00	0.00
3,000.00	24.73	226.94	2,809.37	-654.56	-700.50	774.02	0.00	0.00	0.00
3,100.00	24.73	226.94	2,900.20	-683.12	-731.07	807.80	0.00	0.00	0.00
3,200.00	24.73	226.94	2,991.02	-711.69	-761.64	841.58	0.00	0.00	0.00
3,300.00	24.73	226.94	3,081.85	-740.25	-792.21	875.36	0.00	0.00	0.00
3,400.00	24.73	226.94	3,172.68	-768.82	-822.78	909.14	0.00	0.00	0.00
3,500.00	24.73	226.94	3,263.50	-797.38	-853.35	942.92	0.00	0.00	0.00
3,600.00	24.73	226.94	3,354.33	-825.95	-883.92	976.69	0.00	0.00	0.00
3,700.00	24.73	226.94	3,445.16	-854.51	-914.49	1,010.47	0.00	0.00	0.00
3,800.00	24.73	226.94	3,535.98	-883.08	-945.06	1,044.25	0.00	0.00	0.00
3,900.00	24.73	226.94	3,626.81	-911.64	-975.63	1,078.03	0.00	0.00	0.00
4,000.00	24.73	226.94	3,717.64	-940.21	-1,006.20	1,111.81	0.00	0.00	0.00
4,068.66	24.73	226.94	3,780.00	-959.82	-1,027.19	1,135.00	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well SHELTON 25W-25-16
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 4861.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 4861.00usft
Site:	SEC 25-T4N-R65W	North Reference:	True
Well:	SHELTON 25W-25-16	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)	
Larimer ("Parkman") sandstone										
4,100.00	24.73	226.94	3,808.46	-968.77	-1,036.77	1,145.59	0.00	0.00	0.00	
4,156.74	24.73	226.94	3,860.00	-984.98	-1,054.11	1,164.75	0.00	0.00	0.00	
Pierre Formation										
4,200.00	24.73	226.94	3,899.29	-997.34	-1,067.34	1,179.37	0.00	0.00	0.00	
4,300.00	24.73	226.94	3,990.12	-1,025.90	-1,097.91	1,213.14	0.00	0.00	0.00	
4,400.00	24.73	226.94	4,080.95	-1,054.47	-1,128.48	1,246.92	0.00	0.00	0.00	
4,500.00	24.73	226.94	4,171.77	-1,083.03	-1,159.05	1,280.70	0.00	0.00	0.00	
4,600.00	24.73	226.94	4,262.60	-1,111.60	-1,189.62	1,314.48	0.00	0.00	0.00	
4,700.00	24.73	226.94	4,353.43	-1,140.16	-1,220.19	1,348.26	0.00	0.00	0.00	
4,745.77	24.73	226.94	4,395.00	-1,153.24	-1,234.18	1,363.72	0.00	0.00	0.00	
Terry ("Sussex") sandstone										
4,800.00	24.73	226.94	4,444.25	-1,168.73	-1,250.76	1,382.04	0.00	0.00	0.00	
4,894.41	24.73	226.94	4,530.00	-1,195.69	-1,279.62	1,413.93	0.00	0.00	0.00	
Pierre Formation										
4,900.00	24.73	226.94	4,535.08	-1,197.29	-1,281.33	1,415.82	0.00	0.00	0.00	
5,000.00	24.73	226.94	4,625.91	-1,225.86	-1,311.90	1,449.59	0.00	0.00	0.00	
5,100.00	24.73	226.94	4,716.73	-1,254.42	-1,342.47	1,483.37	0.00	0.00	0.00	
5,200.00	24.73	226.94	4,807.56	-1,282.99	-1,373.04	1,517.15	0.00	0.00	0.00	
5,300.00	24.73	226.94	4,898.39	-1,311.55	-1,403.61	1,550.93	0.00	0.00	0.00	
5,400.00	24.73	226.94	4,989.21	-1,340.12	-1,434.18	1,584.71	0.00	0.00	0.00	
5,500.00	24.73	226.94	5,080.04	-1,368.68	-1,464.75	1,618.49	0.00	0.00	0.00	
5,532.98	24.73	226.94	5,110.00	-1,378.10	-1,474.83	1,629.63	0.00	0.00	0.00	
Hygiene ("Shannon") sandstone										
5,600.00	24.73	226.94	5,170.87	-1,397.25	-1,495.32	1,652.27	0.00	0.00	0.00	
5,632.07	24.73	226.94	5,200.00	-1,406.41	-1,505.12	1,663.10	0.00	0.00	0.00	
Pierre Formation										
5,700.00	24.73	226.94	5,261.69	-1,425.81	-1,525.89	1,686.04	0.00	0.00	0.00	
5,800.00	24.73	226.94	5,352.52	-1,454.38	-1,556.46	1,719.82	0.00	0.00	0.00	
5,900.00	24.73	226.94	5,443.35	-1,482.94	-1,587.03	1,753.60	0.00	0.00	0.00	
6,000.00	24.73	226.94	5,534.18	-1,511.51	-1,617.60	1,787.38	0.00	0.00	0.00	
6,100.00	24.73	226.94	5,625.00	-1,540.07	-1,648.17	1,821.16	0.00	0.00	0.00	
6,200.00	24.73	226.94	5,715.83	-1,568.64	-1,678.74	1,854.94	0.00	0.00	0.00	
6,300.00	24.73	226.94	5,806.66	-1,597.20	-1,709.31	1,888.71	0.00	0.00	0.00	
6,400.00	24.73	226.94	5,897.48	-1,625.77	-1,739.88	1,922.49	0.00	0.00	0.00	
6,500.00	24.73	226.94	5,988.31	-1,654.33	-1,770.45	1,956.27	0.00	0.00	0.00	
6,600.00	24.73	226.94	6,079.14	-1,682.90	-1,801.02	1,990.05	0.00	0.00	0.00	
6,700.00	24.73	226.94	6,169.96	-1,711.46	-1,831.59	2,023.83	0.00	0.00	0.00	
6,800.00	24.73	226.94	6,260.79	-1,740.03	-1,862.15	2,057.61	0.00	0.00	0.00	
6,900.00	24.73	226.94	6,351.62	-1,768.59	-1,892.72	2,091.39	0.00	0.00	0.00	
7,000.00	24.73	226.94	6,442.44	-1,797.16	-1,923.29	2,125.16	0.00	0.00	0.00	
7,019.25	24.73	226.94	6,459.93	-1,802.65	-1,929.18	2,131.67	0.00	0.00	0.00	
Start DLS 10.00 TFO 46.10										
7,050.00	26.95	231.83	6,487.61	-1,811.35	-1,939.36	2,142.82	10.00	7.21	15.91	
7,100.00	30.85	238.33	6,531.38	-1,825.10	-1,959.19	2,164.16	10.00	7.80	12.98	
7,150.00	35.01	243.45	6,573.35	-1,838.25	-1,982.95	2,189.32	10.00	8.31	10.25	
7,200.00	39.34	247.59	6,613.19	-1,850.71	-2,010.44	2,218.11	10.00	8.66	8.29	
7,250.00	43.79	251.03	6,650.59	-1,862.38	-2,041.47	2,250.32	10.00	8.90	6.87	
7,300.00	48.33	253.94	6,685.28	-1,873.18	-2,075.80	2,285.70	10.00	9.08	5.83	
7,350.00	52.93	256.47	6,716.99	-1,883.02	-2,113.17	2,323.97	10.00	9.21	5.05	
7,400.00	57.58	258.70	6,745.48	-1,891.83	-2,153.28	2,364.85	10.00	9.30	4.47	
7,408.52	58.38	259.06	6,750.00	-1,893.22	-2,160.37	2,372.06	10.00	9.35	4.19	
Sharon Springs Member										

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well SHELTON 25W-25-16
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 4861.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 4861.00usft
Site:	SEC 25-T4N-R65W	North Reference:	True
Well:	SHELTON 25W-25-16	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	62.27	260.72	6,770.53	-1,899.54	-2,195.84	2,408.03	10.00	9.38		4.00
7,500.00	66.98	262.56	6,791.95	-1,906.09	-2,240.53	2,453.18	10.00	9.43		3.70
7,550.00	71.72	264.29	6,809.58	-1,911.43	-2,286.99	2,499.95	10.00	9.47		3.45
7,600.00	76.46	265.92	6,823.29	-1,915.53	-2,334.89	2,547.99	10.00	9.50		3.26
7,650.00	81.22	267.49	6,832.96	-1,918.34	-2,383.84	2,596.93	10.00	9.52		3.13
7,700.00	85.99	269.01	6,838.53	-1,919.86	-2,433.49	2,646.41	10.00	9.53		3.05
7,742.10	90.00	270.28	6,840.00	-1,920.12	-2,475.55	2,688.19	10.00	9.53		3.02
Start 12874.29 hold at 7742.10 MD - Niobrara Formation										
7,800.00	90.00	270.28	6,840.00	-1,919.83	-2,533.46	2,745.64	0.00	0.00		0.00
7,900.00	90.00	270.28	6,840.00	-1,919.34	-2,633.46	2,844.86	0.00	0.00		0.00
8,000.00	90.00	270.28	6,840.00	-1,918.84	-2,733.45	2,944.07	0.00	0.00		0.00
8,100.00	90.00	270.28	6,840.00	-1,918.35	-2,833.45	3,043.29	0.00	0.00		0.00
8,200.00	90.00	270.28	6,840.00	-1,917.85	-2,933.45	3,142.51	0.00	0.00		0.00
8,300.00	90.00	270.28	6,840.00	-1,917.36	-3,033.45	3,241.72	0.00	0.00		0.00
8,400.00	90.00	270.28	6,840.00	-1,916.86	-3,133.45	3,340.94	0.00	0.00		0.00
8,500.00	90.00	270.28	6,840.00	-1,916.37	-3,233.45	3,440.15	0.00	0.00		0.00
8,600.00	90.00	270.28	6,840.00	-1,915.88	-3,333.45	3,539.37	0.00	0.00		0.00
8,700.00	90.00	270.28	6,840.00	-1,915.38	-3,433.45	3,638.59	0.00	0.00		0.00
8,800.00	90.00	270.28	6,840.00	-1,914.89	-3,533.44	3,737.80	0.00	0.00		0.00
8,900.00	90.00	270.28	6,840.00	-1,914.39	-3,633.44	3,837.02	0.00	0.00		0.00
9,000.00	90.00	270.28	6,840.00	-1,913.90	-3,733.44	3,936.23	0.00	0.00		0.00
9,100.00	90.00	270.28	6,840.00	-1,913.40	-3,833.44	4,035.45	0.00	0.00		0.00
9,200.00	90.00	270.28	6,840.00	-1,912.91	-3,933.44	4,134.67	0.00	0.00		0.00
9,300.00	90.00	270.28	6,840.00	-1,912.41	-4,033.44	4,233.88	0.00	0.00		0.00
9,400.00	90.00	270.28	6,840.00	-1,911.92	-4,133.44	4,333.10	0.00	0.00		0.00
9,500.00	90.00	270.28	6,840.00	-1,911.43	-4,233.44	4,432.31	0.00	0.00		0.00
9,600.00	90.00	270.28	6,840.00	-1,910.93	-4,333.43	4,531.53	0.00	0.00		0.00
9,700.00	90.00	270.28	6,840.00	-1,910.44	-4,433.43	4,630.75	0.00	0.00		0.00
9,800.00	90.00	270.28	6,840.00	-1,909.94	-4,533.43	4,729.96	0.00	0.00		0.00
9,900.00	90.00	270.28	6,840.00	-1,909.45	-4,633.43	4,829.18	0.00	0.00		0.00
10,000.00	90.00	270.28	6,840.00	-1,908.95	-4,733.43	4,928.39	0.00	0.00		0.00
10,100.00	90.00	270.28	6,840.00	-1,908.46	-4,833.43	5,027.61	0.00	0.00		0.00
10,200.00	90.00	270.28	6,840.00	-1,907.96	-4,933.43	5,126.83	0.00	0.00		0.00
10,300.00	90.00	270.28	6,840.00	-1,907.47	-5,033.43	5,226.04	0.00	0.00		0.00
10,400.00	90.00	270.28	6,840.00	-1,906.98	-5,133.43	5,325.26	0.00	0.00		0.00
10,500.00	90.00	270.28	6,840.00	-1,906.48	-5,233.42	5,424.47	0.00	0.00		0.00
10,600.00	90.00	270.28	6,840.00	-1,905.99	-5,333.42	5,523.69	0.00	0.00		0.00
10,700.00	90.00	270.28	6,840.00	-1,905.49	-5,433.42	5,622.91	0.00	0.00		0.00
10,800.00	90.00	270.28	6,840.00	-1,905.00	-5,533.42	5,722.12	0.00	0.00		0.00
10,900.00	90.00	270.28	6,840.00	-1,904.50	-5,633.42	5,821.34	0.00	0.00		0.00
11,000.00	90.00	270.28	6,840.00	-1,904.01	-5,733.42	5,920.55	0.00	0.00		0.00
11,100.00	90.00	270.28	6,840.00	-1,903.51	-5,833.42	6,019.77	0.00	0.00		0.00
11,200.00	90.00	270.28	6,840.00	-1,903.02	-5,933.42	6,118.98	0.00	0.00		0.00
11,300.00	90.00	270.28	6,840.00	-1,902.53	-6,033.41	6,218.20	0.00	0.00		0.00
11,400.00	90.00	270.28	6,840.00	-1,902.03	-6,133.41	6,317.42	0.00	0.00		0.00
11,500.00	90.00	270.28	6,840.00	-1,901.54	-6,233.41	6,416.63	0.00	0.00		0.00
11,600.00	90.00	270.28	6,840.00	-1,901.04	-6,333.41	6,515.85	0.00	0.00		0.00
11,700.00	90.00	270.28	6,840.00	-1,900.55	-6,433.41	6,615.06	0.00	0.00		0.00
11,800.00	90.00	270.28	6,840.00	-1,900.05	-6,533.41	6,714.28	0.00	0.00		0.00
11,900.00	90.00	270.28	6,840.00	-1,899.56	-6,633.41	6,813.50	0.00	0.00		0.00
12,000.00	90.00	270.28	6,840.00	-1,899.06	-6,733.41	6,912.71	0.00	0.00		0.00
12,100.00	90.00	270.28	6,840.00	-1,898.57	-6,833.40	7,011.93	0.00	0.00		0.00
12,200.00	90.00	270.28	6,840.00	-1,898.08	-6,933.40	7,111.14	0.00	0.00		0.00
12,300.00	90.00	270.28	6,840.00	-1,897.58	-7,033.40	7,210.36	0.00	0.00		0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well SHELTON 25W-25-16
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 4861.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 4861.00usft
Site:	SEC 25-T4N-R65W	North Reference:	True
Well:	SHELTON 25W-25-16	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)
12,400.00	90.00	270.28	6,840.00	-1,897.09	-7,133.40	7,309.58	0.00	0.00	0.00
12,500.00	90.00	270.28	6,840.00	-1,896.59	-7,233.40	7,408.79	0.00	0.00	0.00
12,600.00	90.00	270.28	6,840.00	-1,896.10	-7,333.40	7,508.01	0.00	0.00	0.00
12,700.00	90.00	270.28	6,840.00	-1,895.60	-7,433.40	7,607.22	0.00	0.00	0.00
12,800.00	90.00	270.28	6,840.00	-1,895.11	-7,533.40	7,706.44	0.00	0.00	0.00
12,900.00	90.00	270.28	6,840.00	-1,894.61	-7,633.39	7,805.66	0.00	0.00	0.00
13,000.00	90.00	270.28	6,840.00	-1,894.12	-7,733.39	7,904.87	0.00	0.00	0.00
13,100.00	90.00	270.28	6,840.00	-1,893.63	-7,833.39	8,004.09	0.00	0.00	0.00
13,200.00	90.00	270.28	6,840.00	-1,893.13	-7,933.39	8,103.30	0.00	0.00	0.00
13,300.00	90.00	270.28	6,840.00	-1,892.64	-8,033.39	8,202.52	0.00	0.00	0.00
13,400.00	90.00	270.28	6,840.00	-1,892.14	-8,133.39	8,301.74	0.00	0.00	0.00
13,500.00	90.00	270.28	6,840.00	-1,891.65	-8,233.39	8,400.95	0.00	0.00	0.00
13,600.00	90.00	270.28	6,840.00	-1,891.15	-8,333.39	8,500.17	0.00	0.00	0.00
13,700.00	90.00	270.28	6,840.00	-1,890.66	-8,433.38	8,599.38	0.00	0.00	0.00
13,800.00	90.00	270.28	6,840.00	-1,890.16	-8,533.38	8,698.60	0.00	0.00	0.00
13,900.00	90.00	270.28	6,840.00	-1,889.67	-8,633.38	8,797.82	0.00	0.00	0.00
14,000.00	90.00	270.28	6,840.00	-1,889.18	-8,733.38	8,897.03	0.00	0.00	0.00
14,100.00	90.00	270.28	6,840.00	-1,888.68	-8,833.38	8,996.25	0.00	0.00	0.00
14,200.00	90.00	270.28	6,840.00	-1,888.19	-8,933.38	9,095.46	0.00	0.00	0.00
14,300.00	90.00	270.28	6,840.00	-1,887.69	-9,033.38	9,194.68	0.00	0.00	0.00
14,400.00	90.00	270.28	6,840.00	-1,887.20	-9,133.38	9,293.90	0.00	0.00	0.00
14,500.00	90.00	270.28	6,840.00	-1,886.70	-9,233.38	9,393.11	0.00	0.00	0.00
14,600.00	90.00	270.28	6,840.00	-1,886.21	-9,333.37	9,492.33	0.00	0.00	0.00
14,700.00	90.00	270.28	6,840.00	-1,885.71	-9,433.37	9,591.54	0.00	0.00	0.00
14,800.00	90.00	270.28	6,840.00	-1,885.22	-9,533.37	9,690.76	0.00	0.00	0.00
14,900.00	90.00	270.28	6,840.00	-1,884.73	-9,633.37	9,789.98	0.00	0.00	0.00
15,000.00	90.00	270.28	6,840.00	-1,884.23	-9,733.37	9,889.19	0.00	0.00	0.00
15,100.00	90.00	270.28	6,840.00	-1,883.74	-9,833.37	9,988.41	0.00	0.00	0.00
15,200.00	90.00	270.28	6,840.00	-1,883.24	-9,933.37	10,087.62	0.00	0.00	0.00
15,300.00	90.00	270.28	6,840.00	-1,882.75	-10,033.37	10,186.84	0.00	0.00	0.00
15,400.00	90.00	270.28	6,840.00	-1,882.25	-10,133.36	10,286.06	0.00	0.00	0.00
15,500.00	90.00	270.28	6,840.00	-1,881.76	-10,233.36	10,385.27	0.00	0.00	0.00
15,600.00	90.00	270.28	6,840.00	-1,881.27	-10,333.36	10,484.49	0.00	0.00	0.00
15,700.00	90.00	270.28	6,840.00	-1,880.77	-10,433.36	10,583.70	0.00	0.00	0.00
15,800.00	90.00	270.28	6,840.00	-1,880.28	-10,533.36	10,682.92	0.00	0.00	0.00
15,900.00	90.00	270.28	6,840.00	-1,879.78	-10,633.36	10,782.14	0.00	0.00	0.00
16,000.00	90.00	270.28	6,840.00	-1,879.29	-10,733.36	10,881.35	0.00	0.00	0.00
16,100.00	90.00	270.28	6,840.00	-1,878.79	-10,833.36	10,980.57	0.00	0.00	0.00
16,200.00	90.00	270.28	6,840.00	-1,878.30	-10,933.35	11,079.78	0.00	0.00	0.00
16,300.00	90.00	270.28	6,840.00	-1,877.80	-11,033.35	11,179.00	0.00	0.00	0.00
16,400.00	90.00	270.28	6,840.00	-1,877.31	-11,133.35	11,278.22	0.00	0.00	0.00
16,500.00	90.00	270.28	6,840.00	-1,876.82	-11,233.35	11,377.43	0.00	0.00	0.00
16,600.00	90.00	270.28	6,840.00	-1,876.32	-11,333.35	11,476.65	0.00	0.00	0.00
16,700.00	90.00	270.28	6,840.00	-1,875.83	-11,433.35	11,575.86	0.00	0.00	0.00
16,800.00	90.00	270.28	6,840.00	-1,875.33	-11,533.35	11,675.08	0.00	0.00	0.00
16,900.00	90.00	270.28	6,840.00	-1,874.84	-11,633.35	11,774.30	0.00	0.00	0.00
17,000.00	90.00	270.28	6,840.00	-1,874.34	-11,733.34	11,873.51	0.00	0.00	0.00
17,100.00	90.00	270.28	6,840.00	-1,873.85	-11,833.34	11,972.73	0.00	0.00	0.00
17,200.00	90.00	270.28	6,840.00	-1,873.35	-11,933.34	12,071.94	0.00	0.00	0.00
17,300.00	90.00	270.28	6,840.00	-1,872.86	-12,033.34	12,171.16	0.00	0.00	0.00
17,400.00	90.00	270.28	6,840.00	-1,872.37	-12,133.34	12,270.38	0.00	0.00	0.00
17,500.00	90.00	270.28	6,840.00	-1,871.87	-12,233.34	12,369.59	0.00	0.00	0.00
17,600.00	90.00	270.28	6,840.00	-1,871.38	-12,333.34	12,468.81	0.00	0.00	0.00
17,700.00	90.00	270.28	6,840.00	-1,870.88	-12,433.34	12,568.02	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well SHELTON 25W-25-16
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 4861.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 4861.00usft
Site:	SEC 25-T4N-R65W	North Reference:	True
Well:	SHELTON 25W-25-16	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)	
17,800.00	90.00	270.28	6,840.00	-1,870.39	-12,533.33	12,667.24	0.00	0.00	0.00	
17,900.00	90.00	270.28	6,840.00	-1,869.89	-12,633.33	12,766.45	0.00	0.00	0.00	
18,000.00	90.00	270.28	6,840.00	-1,869.40	-12,733.33	12,865.67	0.00	0.00	0.00	
18,100.00	90.00	270.28	6,840.00	-1,868.90	-12,833.33	12,964.89	0.00	0.00	0.00	
18,200.00	90.00	270.28	6,840.00	-1,868.41	-12,933.33	13,064.10	0.00	0.00	0.00	
18,300.00	90.00	270.28	6,840.00	-1,867.92	-13,033.33	13,163.32	0.00	0.00	0.00	
18,400.00	90.00	270.28	6,840.00	-1,867.42	-13,133.33	13,262.53	0.00	0.00	0.00	
18,500.00	90.00	270.28	6,840.00	-1,866.93	-13,233.33	13,361.75	0.00	0.00	0.00	
18,600.00	90.00	270.28	6,840.00	-1,866.43	-13,333.33	13,460.97	0.00	0.00	0.00	
18,700.00	90.00	270.28	6,840.00	-1,865.94	-13,433.32	13,560.18	0.00	0.00	0.00	
18,800.00	90.00	270.28	6,840.00	-1,865.44	-13,533.32	13,659.40	0.00	0.00	0.00	
18,900.00	90.00	270.28	6,840.00	-1,864.95	-13,633.32	13,758.61	0.00	0.00	0.00	
19,000.00	90.00	270.28	6,840.00	-1,864.45	-13,733.32	13,857.83	0.00	0.00	0.00	
19,100.00	90.00	270.28	6,840.00	-1,863.96	-13,833.32	13,957.05	0.00	0.00	0.00	
19,200.00	90.00	270.28	6,840.00	-1,863.47	-13,933.32	14,056.26	0.00	0.00	0.00	
19,300.00	90.00	270.28	6,840.00	-1,862.97	-14,033.32	14,155.48	0.00	0.00	0.00	
19,400.00	90.00	270.28	6,840.00	-1,862.48	-14,133.32	14,254.69	0.00	0.00	0.00	
19,500.00	90.00	270.28	6,840.00	-1,861.98	-14,233.31	14,353.91	0.00	0.00	0.00	
19,600.00	90.00	270.28	6,840.00	-1,861.49	-14,333.31	14,453.13	0.00	0.00	0.00	
19,700.00	90.00	270.28	6,840.00	-1,860.99	-14,433.31	14,552.34	0.00	0.00	0.00	
19,800.00	90.00	270.28	6,840.00	-1,860.50	-14,533.31	14,651.56	0.00	0.00	0.00	
19,900.00	90.00	270.28	6,840.00	-1,860.00	-14,633.31	14,750.77	0.00	0.00	0.00	
20,000.00	90.00	270.28	6,840.00	-1,859.51	-14,733.31	14,849.99	0.00	0.00	0.00	
20,100.00	90.00	270.28	6,840.00	-1,859.02	-14,833.31	14,949.21	0.00	0.00	0.00	
20,200.00	90.00	270.28	6,840.00	-1,858.52	-14,933.31	15,048.42	0.00	0.00	0.00	
20,300.00	90.00	270.28	6,840.00	-1,858.03	-15,033.30	15,147.64	0.00	0.00	0.00	
20,400.00	90.00	270.28	6,840.00	-1,857.53	-15,133.30	15,246.85	0.00	0.00	0.00	
20,500.00	90.00	270.28	6,840.00	-1,857.04	-15,233.30	15,346.07	0.00	0.00	0.00	
20,600.00	90.00	270.28	6,840.00	-1,856.54	-15,333.30	15,445.29	0.00	0.00	0.00	
20,616.38	90.00	270.28	6,840.00	-1,856.46	-15,349.68	15,461.54	0.00	0.00	0.00	
TD at 20616.38										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
PBHL-SHELTON 25W-1	0.00	0.00	6,840.00	-1,856.46	-15,349.68	1,344,714.85	3,234,817.50	40.276583°N	104.658400°W	
- plan hits target center										
- Point										
LP-SHELTON 25W-16	0.00	0.00	6,840.00	-1,920.12	-2,475.55	1,344,781.37	3,247,691.06	40.276421°N	104.612261°W	
- plan hits target center										
- Point										

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well SHELTON 25W-25-16
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 4861.00usft
Project:	WELD COUNTY	MD Reference:	KB 25' @ 4861.00usft
Site:	SEC 25-T4N-R65W	North Reference:	True
Well:	SHELTON 25W-25-16	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
24.00	24.00	Laramie-Fox Hills Formation			
536.69	535.00	Pierre Formation			
776.26	770.00	Upper Pierre aquifer			
1,679.50	1,610.00	Base of Upper Pierre aquifer			
4,068.66	3,780.00	Larimer ("Parkman") sandstone			
4,156.74	3,860.00	Pierre Formation			
4,745.77	4,395.00	Terry ("Sussex") sandstone			
4,894.41	4,530.00	Pierre Formation			
5,532.98	5,110.00	Hygiene ("Shannon") sandstone			
5,632.07	5,200.00	Pierre Formation			
7,408.52	6,750.00	Sharon Springs Member			
7,742.10	6,840.00	Niobrara Formation			

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
100.00	100.00	0.00	0.00	Start Build 2.00
1,336.64	1,298.59	-179.42	-192.01	Start 5682.61 hold at 1336.64 MD
7,019.25	6,459.93	-1,802.65	-1,929.18	Start DLS 10.00 TFO 46.10
7,742.10	6,840.00	-1,920.12	-2,475.55	Start 12874.29 hold at 7742.10 MD
20,616.38	6,840.00	-1,856.46	-15,349.68	TD at 20616.38