

CRESTONE PEAK RESOURCES

ARAPAHOE COUNTY

SEC 13-T5S-R65W

STATE HURON 5-65 13-18-17 1AH

OWB

Plan: PROPOSAL 1

Standard Planning Report

25 September, 2024

Project: ARAPAHOE COUNTY
 Site: SEC 13-T5S-R65W
 Well: STATE HURON 5-65 13-18-17 1AH
 Wellbore: OWB
 Design: PROPOSAL 1



Azimuths to True North
 Magnetic North: 7.36°

Magnetic Field
 Strength: 51205.2nT
 Dip Angle: 65.92°
 Date: 9/11/2024
 Model: IGRF2020

WELL DETAILS: STATE HURON 5-65 13-18-17 1AH

5892.00						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1649687.53	3248859.58	39.613862°N	104.616653°W	

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
1351.38	25.03	9.82	1311.96	265.05	45.89	100.88	268.99	Start 6626.82 hold at 1351.38 MD
7978.19	25.03	9.82	7316.55	3027.44	524.22	1152.31	3072.49	Start DLS 10.00 TFO 81.98
8840.94	90.00	90.99	7803.00	3241.97	1099.75	1760.18	3722.62	Start 12866.11 hold at 8840.94 MD
21707.04	90.00	90.99	7803.00	3019.91	13963.94	14286.76	16588.72	TD at 21707.04

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	1351.38	25.03	9.82	1311.96	265.05	45.89	2.00	9.82	100.88	
4	7978.19	25.03	9.82	7316.55	3027.44	524.22	0.00	0.00	1152.31	
5	8840.94	90.00	90.99	7803.00	3241.97	1099.75	10.00	81.98	1760.18	LP-ST. HURON 1AH
6	21707.04	90.00	90.99	7803.00	3019.91	13963.94	0.00	0.00	14286.76	PBHL-ST. HURON 1AH

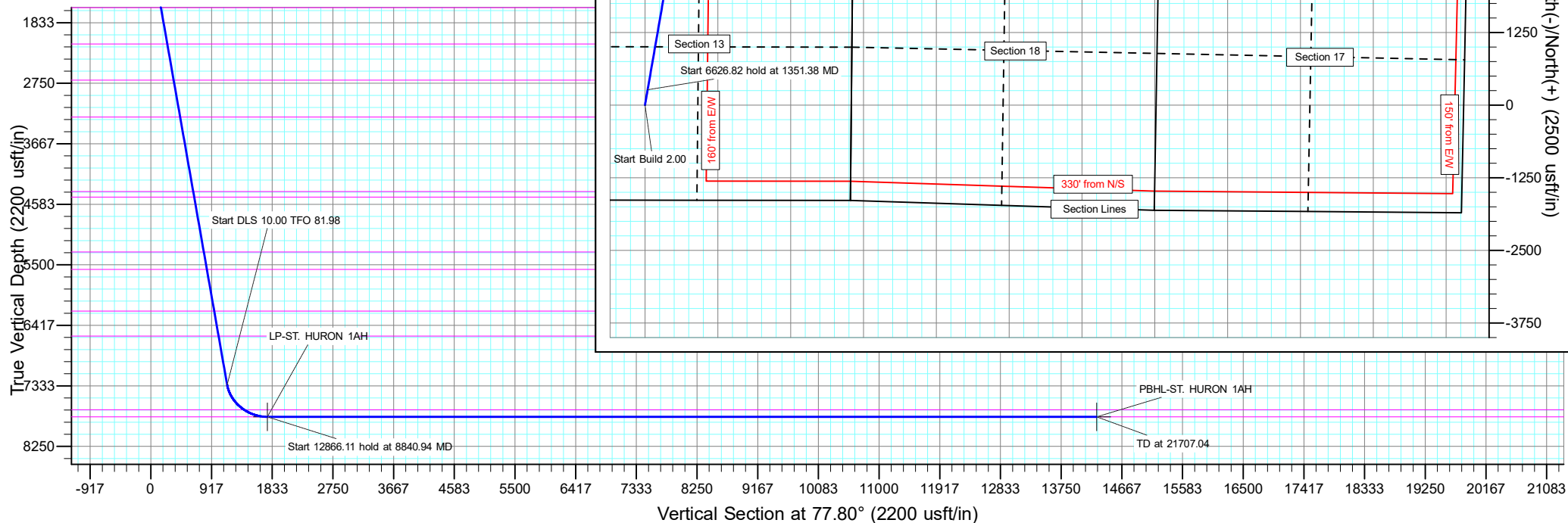
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
LP-ST. HURON 1AH - plan hits target center	7803.00	3241.97	1099.75	1652939.95	3249927.73	39.622762°N	104.612749°W	Point
PBHL-ST. HURON 1AH - plan hits target center	7803.00	3019.91	13963.94	1652842.99	3262793.16	39.622142°N	104.567083°W	Point

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:
 1635' FSL, 1727' FWL
 SEC 13-T5S-R65W
 LP:
 400' FNL, 2473' FEL
 SEC 13-T5S-R65W
 BHL:
 400' FNL, 150' FEL
 SEC 17-T5S-R64W



Civitas Resources

Planning Report

Database:	EDM	Local Co-ordinate Reference:	Well STATE HURON 5-65 13-18-17 1AH
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5917.00usft
Project:	ARAPAHOE COUNTY	MD Reference:	KB 25' @ 5917.00usft
Site:	SEC 13-T5S-R65W	North Reference:	True
Well:	STATE HURON 5-65 13-18-17 1AH	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 13-T5S-R65W				
Site Position:		Northing:	1,648,038.50 usft	Latitude:	39.609381°N
From:	Lat/Long	Easting:	3,247,131.81 usft	Longitude:	104.622842°W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.55 °

Well	STATE HURON 5-65 13-18-17 1AH					
Well Position	+N/-S	1,632.31 usft	Northing:	1,649,687.52 usft	Latitude:	39.613862°N
	+E/-W	1,743.66 usft	Easting:	3,248,859.58 usft	Longitude:	104.616653°W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	5,892.00 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	9/11/2024	7.36	65.92	51,205.24735148

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	77.80	

Plan Survey Tool Program	Date	9/25/2024			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	21,707.04	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	
1,351.38	25.03	9.82	1,311.96	265.05	45.89	2.00	2.00	0.00	9.82	
7,978.19	25.03	9.82	7,316.55	3,027.44	524.22	0.00	0.00	0.00	0.00	
8,840.94	90.00	90.99	7,803.00	3,241.97	1,099.75	10.00	7.53	9.41	81.98	LP-ST. HURON 1AH
21,707.04	90.00	90.99	7,803.00	3,019.91	13,963.94	0.00	0.00	0.00	0.00	PBHL-ST. HURON 1A

Civitas Resources

Planning Report

Database:	EDM	Local Co-ordinate Reference:	Well STATE HURON 5-65 13-18-17 1AH
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5917.00usft
Project:	ARAPAHOE COUNTY	MD Reference:	KB 25' @ 5917.00usft
Site:	SEC 13-T5S-R65W	North Reference:	True
Well:	STATE HURON 5-65 13-18-17 1AH	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	0.00
24.00	0.00	0.00	24.00	0.00	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	0.00
Start Build 2.00										
200.00	2.00	9.82	199.98	1.72	0.30	0.65	2.00	2.00	0.00	0.00
300.00	4.00	9.82	299.84	6.88	1.19	2.62	2.00	2.00	0.00	0.00
400.00	6.00	9.82	399.45	15.46	2.68	5.89	2.00	2.00	0.00	0.00
500.00	8.00	9.82	498.70	27.47	4.76	10.46	2.00	2.00	0.00	0.00
600.00	10.00	9.82	597.47	42.88	7.43	16.32	2.00	2.00	0.00	0.00
700.00	12.00	9.82	695.62	61.68	10.68	23.48	2.00	2.00	0.00	0.00
800.00	14.00	9.82	793.06	83.85	14.52	31.91	2.00	2.00	0.00	0.00
900.00	16.00	9.82	889.64	109.35	18.93	41.62	2.00	2.00	0.00	0.00
1,000.00	18.00	9.82	985.27	138.16	23.92	52.59	2.00	2.00	0.00	0.00
1,032.37	18.65	9.82	1,016.00	148.19	25.66	56.40	2.00	2.00	0.00	0.00
Arapahoe										
1,100.00	20.00	9.82	1,079.82	170.24	29.48	64.80	2.00	2.00	0.00	0.00
1,200.00	22.00	9.82	1,173.17	205.54	35.59	78.23	2.00	2.00	0.00	0.00
1,300.00	24.00	9.82	1,265.21	244.04	42.26	92.89	2.00	2.00	0.00	0.00
1,351.38	25.03	9.82	1,311.96	265.05	45.89	100.88	2.00	2.00	0.00	0.00
Start 6626.82 hold at 1351.38 MD										
1,400.00	25.03	9.82	1,356.02	285.32	49.40	108.60	0.00	0.00	0.00	0.00
1,500.00	25.03	9.82	1,446.63	327.00	56.62	124.46	0.00	0.00	0.00	0.00
1,600.00	25.03	9.82	1,537.24	368.69	63.84	140.33	0.00	0.00	0.00	0.00
1,675.89	25.03	9.82	1,606.00	400.32	69.32	152.37	0.00	0.00	0.00	0.00
Laramie-Fox Hills Formation										
1,700.00	25.03	9.82	1,627.85	410.37	71.06	156.20	0.00	0.00	0.00	0.00
1,800.00	25.03	9.82	1,718.46	452.06	78.28	172.06	0.00	0.00	0.00	0.00
1,900.00	25.03	9.82	1,809.07	493.74	85.49	187.93	0.00	0.00	0.00	0.00
2,000.00	25.03	9.82	1,899.68	535.43	92.71	203.79	0.00	0.00	0.00	0.00
2,100.00	25.03	9.82	1,990.29	577.11	99.93	219.66	0.00	0.00	0.00	0.00
2,200.00	25.03	9.82	2,080.90	618.80	107.15	235.53	0.00	0.00	0.00	0.00
2,282.88	25.03	9.82	2,156.00	653.35	113.13	248.68	0.00	0.00	0.00	0.00
Pierre Formation										
2,300.00	25.03	9.82	2,171.51	660.48	114.37	251.39	0.00	0.00	0.00	0.00
2,400.00	25.03	9.82	2,262.12	702.17	121.58	267.26	0.00	0.00	0.00	0.00
2,500.00	25.03	9.82	2,352.73	743.85	128.80	283.13	0.00	0.00	0.00	0.00
2,600.00	25.03	9.82	2,443.34	785.54	136.02	298.99	0.00	0.00	0.00	0.00
2,700.00	25.03	9.82	2,533.95	827.22	143.24	314.86	0.00	0.00	0.00	0.00
2,800.00	25.03	9.82	2,624.56	868.91	150.46	330.72	0.00	0.00	0.00	0.00
2,887.67	25.03	9.82	2,704.00	905.45	156.78	344.63	0.00	0.00	0.00	0.00
Upper Pierre aquifer										
2,900.00	25.03	9.82	2,715.17	910.59	157.67	346.59	0.00	0.00	0.00	0.00
3,000.00	25.03	9.82	2,805.78	952.28	164.89	362.46	0.00	0.00	0.00	0.00
3,100.00	25.03	9.82	2,896.40	993.96	172.11	378.32	0.00	0.00	0.00	0.00
3,200.00	25.03	9.82	2,987.01	1,035.65	179.33	394.19	0.00	0.00	0.00	0.00
3,300.00	25.03	9.82	3,077.62	1,077.33	186.55	410.06	0.00	0.00	0.00	0.00
3,400.00	25.03	9.82	3,168.23	1,119.02	193.76	425.92	0.00	0.00	0.00	0.00
3,500.00	25.03	9.82	3,258.84	1,160.70	200.98	441.79	0.00	0.00	0.00	0.00
3,503.49	25.03	9.82	3,262.00	1,162.16	201.23	442.34	0.00	0.00	0.00	0.00
Base of Upper Pierre aquifer										
3,600.00	25.03	9.82	3,349.45	1,202.39	208.20	457.65	0.00	0.00	0.00	0.00
3,700.00	25.03	9.82	3,440.06	1,244.07	215.42	473.52	0.00	0.00	0.00	0.00

Civitas Resources

Planning Report

Database:	EDM	Local Co-ordinate Reference:	Well STATE HURON 5-65 13-18-17 1AH
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5917.00usft
Project:	ARAPAHOE COUNTY	MD Reference:	KB 25' @ 5917.00usft
Site:	SEC 13-T5S-R65W	North Reference:	True
Well:	STATE HURON 5-65 13-18-17 1AH	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	25.03	9.82	3,530.67	1,285.76	222.64	489.39	0.00	0.00	0.00
3,900.00	25.03	9.82	3,621.28	1,327.44	229.85	505.25	0.00	0.00	0.00
4,000.00	25.03	9.82	3,711.89	1,369.13	237.07	521.12	0.00	0.00	0.00
4,100.00	25.03	9.82	3,802.50	1,410.81	244.29	536.99	0.00	0.00	0.00
4,200.00	25.03	9.82	3,893.11	1,452.50	251.51	552.85	0.00	0.00	0.00
4,300.00	25.03	9.82	3,983.72	1,494.18	258.73	568.72	0.00	0.00	0.00
4,400.00	25.03	9.82	4,074.33	1,535.87	265.94	584.58	0.00	0.00	0.00
4,500.00	25.03	9.82	4,164.94	1,577.55	273.16	600.45	0.00	0.00	0.00
4,600.00	25.03	9.82	4,255.55	1,619.24	280.38	616.32	0.00	0.00	0.00
4,700.00	25.03	9.82	4,346.16	1,660.92	287.60	632.18	0.00	0.00	0.00
4,748.38	25.03	9.82	4,390.00	1,681.09	291.09	639.86	0.00	0.00	0.00
Larimer ("Parkman") sandstone									
4,800.00	25.03	9.82	4,436.77	1,702.61	294.82	648.05	0.00	0.00	0.00
4,841.09	25.03	9.82	4,474.00	1,719.74	297.78	654.57	0.00	0.00	0.00
Pierre Formation									
4,900.00	25.03	9.82	4,527.38	1,744.29	302.03	663.92	0.00	0.00	0.00
5,000.00	25.03	9.82	4,617.99	1,785.98	309.25	679.78	0.00	0.00	0.00
5,100.00	25.03	9.82	4,708.60	1,827.66	316.47	695.65	0.00	0.00	0.00
5,200.00	25.03	9.82	4,799.21	1,869.35	323.69	711.51	0.00	0.00	0.00
5,300.00	25.03	9.82	4,889.82	1,911.03	330.91	727.38	0.00	0.00	0.00
5,400.00	25.03	9.82	4,980.44	1,952.72	338.12	743.25	0.00	0.00	0.00
5,500.00	25.03	9.82	5,071.05	1,994.40	345.34	759.11	0.00	0.00	0.00
5,600.00	25.03	9.82	5,161.66	2,036.09	352.56	774.98	0.00	0.00	0.00
5,700.00	25.03	9.82	5,252.27	2,077.77	359.78	790.85	0.00	0.00	0.00
5,759.30	25.03	9.82	5,306.00	2,102.49	364.06	800.25	0.00	0.00	0.00
Terry ("Sussex") sandstone									
5,800.00	25.03	9.82	5,342.88	2,119.46	367.00	806.71	0.00	0.00	0.00
5,900.00	25.03	9.82	5,433.49	2,161.15	374.21	822.58	0.00	0.00	0.00
6,000.00	25.03	9.82	5,524.10	2,202.83	381.43	838.44	0.00	0.00	0.00
6,050.66	25.03	9.82	5,570.00	2,223.95	385.09	846.48	0.00	0.00	0.00
Pierre Formation									
6,100.00	25.03	9.82	5,614.71	2,244.52	388.65	854.31	0.00	0.00	0.00
6,200.00	25.03	9.82	5,705.32	2,286.20	395.87	870.18	0.00	0.00	0.00
6,300.00	25.03	9.82	5,795.93	2,327.89	403.09	886.04	0.00	0.00	0.00
6,400.00	25.03	9.82	5,886.54	2,369.57	410.30	901.91	0.00	0.00	0.00
6,500.00	25.03	9.82	5,977.15	2,411.26	417.52	917.78	0.00	0.00	0.00
6,600.00	25.03	9.82	6,067.76	2,452.94	424.74	933.64	0.00	0.00	0.00
6,700.00	25.03	9.82	6,158.37	2,494.63	431.96	949.51	0.00	0.00	0.00
6,747.05	25.03	9.82	6,201.00	2,514.24	435.35	956.97	0.00	0.00	0.00
Hygiene ("Shannon") sandstone									
6,800.00	25.03	9.82	6,248.98	2,536.31	439.18	965.37	0.00	0.00	0.00
6,900.00	25.03	9.82	6,339.59	2,578.00	446.39	981.24	0.00	0.00	0.00
7,000.00	25.03	9.82	6,430.20	2,619.68	453.61	997.11	0.00	0.00	0.00
7,100.00	25.03	9.82	6,520.81	2,661.37	460.83	1,012.97	0.00	0.00	0.00
7,165.32	25.03	9.82	6,580.00	2,688.60	465.55	1,023.34	0.00	0.00	0.00
Pierre Formation									
7,200.00	25.03	9.82	6,611.42	2,703.05	468.05	1,028.84	0.00	0.00	0.00
7,300.00	25.03	9.82	6,702.03	2,744.74	475.27	1,044.71	0.00	0.00	0.00
7,400.00	25.03	9.82	6,792.64	2,786.42	482.48	1,060.57	0.00	0.00	0.00
7,500.00	25.03	9.82	6,883.25	2,828.11	489.70	1,076.44	0.00	0.00	0.00
7,600.00	25.03	9.82	6,973.87	2,869.79	496.92	1,092.30	0.00	0.00	0.00
7,700.00	25.03	9.82	7,064.48	2,911.48	504.14	1,108.17	0.00	0.00	0.00
7,800.00	25.03	9.82	7,155.09	2,953.16	511.36	1,124.04	0.00	0.00	0.00

Civitas Resources

Planning Report

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Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5917.00usft
Project:	ARAPAHOE COUNTY	MD Reference:	KB 25' @ 5917.00usft
Site:	SEC 13-T5S-R65W	North Reference:	True
Well:	STATE HURON 5-65 13-18-17 1AH	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)	
7,900.00	25.03	9.82	7,245.70	2,994.85	518.57	1,139.90	0.00	0.00	0.00	
7,978.19	25.03	9.82	7,316.55	3,027.44	524.22	1,152.31	0.00	0.00	0.00	
Start DLS 10.00 TFO 81.98										
8,000.00	25.42	14.86	7,336.28	3,036.51	526.21	1,156.17	10.00	1.79	23.09	
8,050.00	26.92	25.69	7,381.18	3,057.10	533.87	1,168.01	10.00	3.01	21.66	
8,100.00	29.16	35.22	7,425.33	3,077.26	545.81	1,183.94	10.00	4.48	19.05	
8,150.00	31.98	43.35	7,468.39	3,096.86	561.93	1,203.84	10.00	5.64	16.27	
8,200.00	35.24	50.21	7,510.04	3,115.73	582.12	1,227.56	10.00	6.52	13.73	
8,250.00	38.82	56.01	7,549.97	3,133.73	606.21	1,254.91	10.00	7.17	11.59	
8,300.00	42.65	60.94	7,587.85	3,150.73	634.03	1,285.70	10.00	7.66	9.86	
8,350.00	46.66	65.18	7,623.42	3,166.60	665.36	1,319.67	10.00	8.02	8.50	
8,400.00	50.81	68.90	7,656.39	3,181.22	699.96	1,356.59	10.00	8.30	7.43	
8,450.00	55.07	72.19	7,686.52	3,194.47	737.58	1,396.16	10.00	8.51	6.59	
8,463.25	56.21	73.01	7,694.00	3,197.74	748.01	1,407.05	10.00	8.62	6.15	
Sharon Springs Member										
8,500.00	59.40	75.16	7,713.58	3,206.26	777.92	1,438.08	10.00	8.69	5.85	
8,550.00	63.80	77.87	7,737.36	3,216.50	820.68	1,482.03	10.00	8.79	5.42	
8,600.00	68.24	80.38	7,757.68	3,225.10	865.53	1,527.69	10.00	8.89	5.02	
8,650.00	72.72	82.74	7,774.38	3,232.00	912.13	1,574.70	10.00	8.96	4.72	
8,700.00	77.23	84.98	7,787.34	3,237.15	960.13	1,622.70	10.00	9.01	4.49	
8,750.00	81.75	87.15	7,796.46	3,240.51	1,009.16	1,671.33	10.00	9.05	4.34	
8,800.00	86.28	89.27	7,801.67	3,242.06	1,058.85	1,720.22	10.00	9.07	4.24	
8,840.94	90.00	90.99	7,803.00	3,241.97	1,099.75	1,760.18	10.00	9.08	4.20	
Start 12866.11 hold at 8840.94 MD - Niobrara Formation										
8,900.00	90.00	90.99	7,803.00	3,240.95	1,158.81	1,817.69	0.00	0.00	0.00	
9,000.00	90.00	90.99	7,803.00	3,239.22	1,258.79	1,915.05	0.00	0.00	0.00	
9,100.00	90.00	90.99	7,803.00	3,237.50	1,358.78	2,012.41	0.00	0.00	0.00	
9,200.00	90.00	90.99	7,803.00	3,235.77	1,458.76	2,109.77	0.00	0.00	0.00	
9,300.00	90.00	90.99	7,803.00	3,234.04	1,558.75	2,207.13	0.00	0.00	0.00	
9,400.00	90.00	90.99	7,803.00	3,232.32	1,658.73	2,304.50	0.00	0.00	0.00	
9,500.00	90.00	90.99	7,803.00	3,230.59	1,758.72	2,401.86	0.00	0.00	0.00	
9,600.00	90.00	90.99	7,803.00	3,228.87	1,858.70	2,499.22	0.00	0.00	0.00	
9,700.00	90.00	90.99	7,803.00	3,227.14	1,958.69	2,596.58	0.00	0.00	0.00	
9,800.00	90.00	90.99	7,803.00	3,225.41	2,058.67	2,693.94	0.00	0.00	0.00	
9,900.00	90.00	90.99	7,803.00	3,223.69	2,158.66	2,791.30	0.00	0.00	0.00	
10,000.00	90.00	90.99	7,803.00	3,221.96	2,258.65	2,888.66	0.00	0.00	0.00	
10,100.00	90.00	90.99	7,803.00	3,220.24	2,358.63	2,986.02	0.00	0.00	0.00	
10,200.00	90.00	90.99	7,803.00	3,218.51	2,458.62	3,083.38	0.00	0.00	0.00	
10,300.00	90.00	90.99	7,803.00	3,216.79	2,558.60	3,180.75	0.00	0.00	0.00	
10,400.00	90.00	90.99	7,803.00	3,215.06	2,658.59	3,278.11	0.00	0.00	0.00	
10,500.00	90.00	90.99	7,803.00	3,213.33	2,758.57	3,375.47	0.00	0.00	0.00	
10,600.00	90.00	90.99	7,803.00	3,211.61	2,858.56	3,472.83	0.00	0.00	0.00	
10,700.00	90.00	90.99	7,803.00	3,209.88	2,958.54	3,570.19	0.00	0.00	0.00	
10,800.00	90.00	90.99	7,803.00	3,208.16	3,058.53	3,667.55	0.00	0.00	0.00	
10,900.00	90.00	90.99	7,803.00	3,206.43	3,158.51	3,764.91	0.00	0.00	0.00	
11,000.00	90.00	90.99	7,803.00	3,204.70	3,258.50	3,862.27	0.00	0.00	0.00	
11,100.00	90.00	90.99	7,803.00	3,202.98	3,358.48	3,959.63	0.00	0.00	0.00	
11,200.00	90.00	90.99	7,803.00	3,201.25	3,458.47	4,056.99	0.00	0.00	0.00	
11,300.00	90.00	90.99	7,803.00	3,199.53	3,558.45	4,154.36	0.00	0.00	0.00	
11,400.00	90.00	90.99	7,803.00	3,197.80	3,658.44	4,251.72	0.00	0.00	0.00	
11,500.00	90.00	90.99	7,803.00	3,196.07	3,758.42	4,349.08	0.00	0.00	0.00	
11,600.00	90.00	90.99	7,803.00	3,194.35	3,858.41	4,446.44	0.00	0.00	0.00	
11,700.00	90.00	90.99	7,803.00	3,192.62	3,958.39	4,543.80	0.00	0.00	0.00	

Civitas Resources

Planning Report

Database:	EDM	Local Co-ordinate Reference:	Well STATE HURON 5-65 13-18-17 1AH
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5917.00usft
Project:	ARAPAHOE COUNTY	MD Reference:	KB 25' @ 5917.00usft
Site:	SEC 13-T5S-R65W	North Reference:	True
Well:	STATE HURON 5-65 13-18-17 1AH	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)
11,800.00	90.00	90.99	7,803.00	3,190.90	4,058.38	4,641.16	0.00	0.00	0.00
11,900.00	90.00	90.99	7,803.00	3,189.17	4,158.36	4,738.52	0.00	0.00	0.00
12,000.00	90.00	90.99	7,803.00	3,187.44	4,258.35	4,835.88	0.00	0.00	0.00
12,100.00	90.00	90.99	7,803.00	3,185.72	4,358.33	4,933.24	0.00	0.00	0.00
12,200.00	90.00	90.99	7,803.00	3,183.99	4,458.32	5,030.61	0.00	0.00	0.00
12,300.00	90.00	90.99	7,803.00	3,182.27	4,558.30	5,127.97	0.00	0.00	0.00
12,400.00	90.00	90.99	7,803.00	3,180.54	4,658.29	5,225.33	0.00	0.00	0.00
12,500.00	90.00	90.99	7,803.00	3,178.82	4,758.27	5,322.69	0.00	0.00	0.00
12,600.00	90.00	90.99	7,803.00	3,177.09	4,858.26	5,420.05	0.00	0.00	0.00
12,700.00	90.00	90.99	7,803.00	3,175.36	4,958.24	5,517.41	0.00	0.00	0.00
12,800.00	90.00	90.99	7,803.00	3,173.64	5,058.23	5,614.77	0.00	0.00	0.00
12,900.00	90.00	90.99	7,803.00	3,171.91	5,158.21	5,712.13	0.00	0.00	0.00
13,000.00	90.00	90.99	7,803.00	3,170.19	5,258.20	5,809.49	0.00	0.00	0.00
13,100.00	90.00	90.99	7,803.00	3,168.46	5,358.18	5,906.86	0.00	0.00	0.00
13,200.00	90.00	90.99	7,803.00	3,166.73	5,458.17	6,004.22	0.00	0.00	0.00
13,300.00	90.00	90.99	7,803.00	3,165.01	5,558.15	6,101.58	0.00	0.00	0.00
13,400.00	90.00	90.99	7,803.00	3,163.28	5,658.14	6,198.94	0.00	0.00	0.00
13,500.00	90.00	90.99	7,803.00	3,161.56	5,758.12	6,296.30	0.00	0.00	0.00
13,600.00	90.00	90.99	7,803.00	3,159.83	5,858.11	6,393.66	0.00	0.00	0.00
13,700.00	90.00	90.99	7,803.00	3,158.10	5,958.09	6,491.02	0.00	0.00	0.00
13,800.00	90.00	90.99	7,803.00	3,156.38	6,058.08	6,588.38	0.00	0.00	0.00
13,900.00	90.00	90.99	7,803.00	3,154.65	6,158.06	6,685.74	0.00	0.00	0.00
14,000.00	90.00	90.99	7,803.00	3,152.93	6,258.05	6,783.10	0.00	0.00	0.00
14,100.00	90.00	90.99	7,803.00	3,151.20	6,358.03	6,880.47	0.00	0.00	0.00
14,200.00	90.00	90.99	7,803.00	3,149.47	6,458.02	6,977.83	0.00	0.00	0.00
14,300.00	90.00	90.99	7,803.00	3,147.75	6,558.00	7,075.19	0.00	0.00	0.00
14,400.00	90.00	90.99	7,803.00	3,146.02	6,657.99	7,172.55	0.00	0.00	0.00
14,500.00	90.00	90.99	7,803.00	3,144.30	6,757.97	7,269.91	0.00	0.00	0.00
14,600.00	90.00	90.99	7,803.00	3,142.57	6,857.96	7,367.27	0.00	0.00	0.00
14,700.00	90.00	90.99	7,803.00	3,140.85	6,957.95	7,464.63	0.00	0.00	0.00
14,800.00	90.00	90.99	7,803.00	3,139.12	7,057.93	7,561.99	0.00	0.00	0.00
14,900.00	90.00	90.99	7,803.00	3,137.39	7,157.92	7,659.35	0.00	0.00	0.00
15,000.00	90.00	90.99	7,803.00	3,135.67	7,257.90	7,756.72	0.00	0.00	0.00
15,100.00	90.00	90.99	7,803.00	3,133.94	7,357.89	7,854.08	0.00	0.00	0.00
15,200.00	90.00	90.99	7,803.00	3,132.22	7,457.87	7,951.44	0.00	0.00	0.00
15,300.00	90.00	90.99	7,803.00	3,130.49	7,557.86	8,048.80	0.00	0.00	0.00
15,400.00	90.00	90.99	7,803.00	3,128.76	7,657.84	8,146.16	0.00	0.00	0.00
15,500.00	90.00	90.99	7,803.00	3,127.04	7,757.83	8,243.52	0.00	0.00	0.00
15,600.00	90.00	90.99	7,803.00	3,125.31	7,857.81	8,340.88	0.00	0.00	0.00
15,700.00	90.00	90.99	7,803.00	3,123.59	7,957.80	8,438.24	0.00	0.00	0.00
15,800.00	90.00	90.99	7,803.00	3,121.86	8,057.78	8,535.60	0.00	0.00	0.00
15,900.00	90.00	90.99	7,803.00	3,120.13	8,157.77	8,632.96	0.00	0.00	0.00
16,000.00	90.00	90.99	7,803.00	3,118.41	8,257.75	8,730.33	0.00	0.00	0.00
16,100.00	90.00	90.99	7,803.00	3,116.68	8,357.74	8,827.69	0.00	0.00	0.00
16,200.00	90.00	90.99	7,803.00	3,114.96	8,457.72	8,925.05	0.00	0.00	0.00
16,300.00	90.00	90.99	7,803.00	3,113.23	8,557.71	9,022.41	0.00	0.00	0.00
16,400.00	90.00	90.99	7,803.00	3,111.50	8,657.69	9,119.77	0.00	0.00	0.00
16,500.00	90.00	90.99	7,803.00	3,109.78	8,757.68	9,217.13	0.00	0.00	0.00
16,600.00	90.00	90.99	7,803.00	3,108.05	8,857.66	9,314.49	0.00	0.00	0.00
16,700.00	90.00	90.99	7,803.00	3,106.33	8,957.65	9,411.85	0.00	0.00	0.00
16,800.00	90.00	90.99	7,803.00	3,104.60	9,057.63	9,509.21	0.00	0.00	0.00
16,900.00	90.00	90.99	7,803.00	3,102.88	9,157.62	9,606.58	0.00	0.00	0.00
17,000.00	90.00	90.99	7,803.00	3,101.15	9,257.60	9,703.94	0.00	0.00	0.00
17,100.00	90.00	90.99	7,803.00	3,099.42	9,357.59	9,801.30	0.00	0.00	0.00

Civitas Resources

Planning Report

Database:	EDM	Local Co-ordinate Reference:	Well STATE HURON 5-65 13-18-17 1AH
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5917.00usft
Project:	ARAPAHOE COUNTY	MD Reference:	KB 25' @ 5917.00usft
Site:	SEC 13-T5S-R65W	North Reference:	True
Well:	STATE HURON 5-65 13-18-17 1AH	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)
17,200.00	90.00	90.99	7,803.00	3,097.70	9,457.57	9,898.66	0.00	0.00	0.00
17,300.00	90.00	90.99	7,803.00	3,095.97	9,557.56	9,996.02	0.00	0.00	0.00
17,400.00	90.00	90.99	7,803.00	3,094.25	9,657.54	10,093.38	0.00	0.00	0.00
17,500.00	90.00	90.99	7,803.00	3,092.52	9,757.53	10,190.74	0.00	0.00	0.00
17,600.00	90.00	90.99	7,803.00	3,090.79	9,857.51	10,288.10	0.00	0.00	0.00
17,700.00	90.00	90.99	7,803.00	3,089.07	9,957.50	10,385.46	0.00	0.00	0.00
17,800.00	90.00	90.99	7,803.00	3,087.34	10,057.48	10,482.82	0.00	0.00	0.00
17,900.00	90.00	90.99	7,803.00	3,085.62	10,157.47	10,580.19	0.00	0.00	0.00
18,000.00	90.00	90.99	7,803.00	3,083.89	10,257.45	10,677.55	0.00	0.00	0.00
18,100.00	90.00	90.99	7,803.00	3,082.16	10,357.44	10,774.91	0.00	0.00	0.00
18,200.00	90.00	90.99	7,803.00	3,080.44	10,457.42	10,872.27	0.00	0.00	0.00
18,300.00	90.00	90.99	7,803.00	3,078.71	10,557.41	10,969.63	0.00	0.00	0.00
18,400.00	90.00	90.99	7,803.00	3,076.99	10,657.39	11,066.99	0.00	0.00	0.00
18,500.00	90.00	90.99	7,803.00	3,075.26	10,757.38	11,164.35	0.00	0.00	0.00
18,600.00	90.00	90.99	7,803.00	3,073.53	10,857.36	11,261.71	0.00	0.00	0.00
18,700.00	90.00	90.99	7,803.00	3,071.81	10,957.35	11,359.07	0.00	0.00	0.00
18,800.00	90.00	90.99	7,803.00	3,070.08	11,057.33	11,456.44	0.00	0.00	0.00
18,900.00	90.00	90.99	7,803.00	3,068.36	11,157.32	11,553.80	0.00	0.00	0.00
19,000.00	90.00	90.99	7,803.00	3,066.63	11,257.30	11,651.16	0.00	0.00	0.00
19,100.00	90.00	90.99	7,803.00	3,064.91	11,357.29	11,748.52	0.00	0.00	0.00
19,200.00	90.00	90.99	7,803.00	3,063.18	11,457.27	11,845.88	0.00	0.00	0.00
19,300.00	90.00	90.99	7,803.00	3,061.45	11,557.26	11,943.24	0.00	0.00	0.00
19,400.00	90.00	90.99	7,803.00	3,059.73	11,657.25	12,040.60	0.00	0.00	0.00
19,500.00	90.00	90.99	7,803.00	3,058.00	11,757.23	12,137.96	0.00	0.00	0.00
19,600.00	90.00	90.99	7,803.00	3,056.28	11,857.22	12,235.32	0.00	0.00	0.00
19,700.00	90.00	90.99	7,803.00	3,054.55	11,957.20	12,332.68	0.00	0.00	0.00
19,800.00	90.00	90.99	7,803.00	3,052.82	12,057.19	12,430.05	0.00	0.00	0.00
19,900.00	90.00	90.99	7,803.00	3,051.10	12,157.17	12,527.41	0.00	0.00	0.00
20,000.00	90.00	90.99	7,803.00	3,049.37	12,257.16	12,624.77	0.00	0.00	0.00
20,100.00	90.00	90.99	7,803.00	3,047.65	12,357.14	12,722.13	0.00	0.00	0.00
20,200.00	90.00	90.99	7,803.00	3,045.92	12,457.13	12,819.49	0.00	0.00	0.00
20,300.00	90.00	90.99	7,803.00	3,044.19	12,557.11	12,916.85	0.00	0.00	0.00
20,400.00	90.00	90.99	7,803.00	3,042.47	12,657.10	13,014.21	0.00	0.00	0.00
20,500.00	90.00	90.99	7,803.00	3,040.74	12,757.08	13,111.57	0.00	0.00	0.00
20,600.00	90.00	90.99	7,803.00	3,039.02	12,857.07	13,208.93	0.00	0.00	0.00
20,700.00	90.00	90.99	7,803.00	3,037.29	12,957.05	13,306.30	0.00	0.00	0.00
20,800.00	90.00	90.99	7,803.00	3,035.57	13,057.04	13,403.66	0.00	0.00	0.00
20,900.00	90.00	90.99	7,803.00	3,033.84	13,157.02	13,501.02	0.00	0.00	0.00
21,000.00	90.00	90.99	7,803.00	3,032.11	13,257.01	13,598.38	0.00	0.00	0.00
21,100.00	90.00	90.99	7,803.00	3,030.39	13,356.99	13,695.74	0.00	0.00	0.00
21,200.00	90.00	90.99	7,803.00	3,028.66	13,456.98	13,793.10	0.00	0.00	0.00
21,300.00	90.00	90.99	7,803.00	3,026.94	13,556.96	13,890.46	0.00	0.00	0.00
21,400.00	90.00	90.99	7,803.00	3,025.21	13,656.95	13,987.82	0.00	0.00	0.00
21,500.00	90.00	90.99	7,803.00	3,023.48	13,756.93	14,085.18	0.00	0.00	0.00
21,600.00	90.00	90.99	7,803.00	3,021.76	13,856.92	14,182.55	0.00	0.00	0.00
21,707.04	90.00	90.99	7,803.00	3,019.91	13,963.94	14,286.76	0.00	0.00	0.00
TD at 21707.04									

Civitas Resources

Planning Report

Database:	EDM	Local Co-ordinate Reference:	Well STATE HURON 5-65 13-18-17 1AH
Company:	CRESTONE PEAK RESOURCES	TVD Reference:	KB 25' @ 5917.00usft
Project:	ARAPAHOE COUNTY	MD Reference:	KB 25' @ 5917.00usft
Site:	SEC 13-T5S-R65W	North Reference:	True
Well:	STATE HURON 5-65 13-18-17 1AH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PROPOSAL 1		

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-ST. HURON 1AH - plan hits target center - Point	0.00	0.00	7,803.00	3,019.91	13,963.94	1,652,842.99	3,262,793.17	39.622142°N	104.567083°W
LP-ST. HURON 1AH - plan hits target center - Point	0.00	0.00	7,803.00	3,241.97	1,099.75	1,652,939.95	3,249,927.73	39.622762°N	104.612749°W

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
24.00	24.00	Denver				
1,032.37	1,016.00	Arapahoe				
1,675.89	1,606.00	Laramie-Fox Hills Formation				
2,282.88	2,156.00	Pierre Formation				
2,887.67	2,704.00	Upper Pierre aquifer				
3,503.49	3,262.00	Base of Upper Pierre aquifer				
4,748.38	4,390.00	Larimer ("Parkman") sandstone				
4,841.09	4,474.00	Pierre Formation				
5,759.30	5,306.00	Terry ("Sussex") sandstone				
6,050.66	5,570.00	Pierre Formation				
6,747.05	6,201.00	Hygiene ("Shannon") sandstone				
7,165.32	6,580.00	Pierre Formation				
8,463.25	7,694.00	Sharon Springs Member				
8,840.94	7,803.00	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	
1,351.38	1,311.96	265.05	45.89	Start 6626.82 hold at 1351.38 MD	
7,978.19	7,316.55	3,027.44	524.22	Start DLS 10.00 TFO 81.98	
8,840.94	7,803.00	3,241.97	1,099.75	Start 12866.11 hold at 8840.94 MD	
21,707.04	7,803.00	3,019.91	13,963.94	TD at 21707.04	