

# **CRESTONE PEAK RESOURCES**

**ARAPAHOE COUNTY**

**SEC 19-T4S-R64W**

**GRIMM MOTOCROSS 4-65 24 1B2BUH**

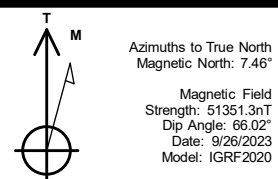
**OWB**

**Plan: PROPOSAL 2**

## **Standard Planning Report**

**15 November, 2023**

Project: ARAPAHOE COUNTY  
Site: SEC 19-T4S-R64W  
Well: GRIMM MOTOCROSS 4-65 24 1B2BUH  
Wellbore: OWB  
Design: PROPOSAL 2



WELL DETAILS: GRIMM MOTOCROSS 4-65 24 1B2BUH

5696.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1678346.66	3252960.46	39.692426°N	104.601091°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	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	514.88	4.30	307.76	514.68	4.93	-6.37	2.00	307.76	1.13	
4	7222.08	4.30	307.76	7203.02	312.69	-403.76	0.00	0.00	71.45	
5	8085.63	89.80	271.09	7741.00	347.56	-973.12	10.00	-36.75	455.32	LP-GRMC 4-65 24 1B2BUH (REV2)
6	11527.75	89.80	271.09	7753.00	412.88	-4414.61	0.00	0.00	2876.99	CURVE ENTRY-GRMC 4-65 1B2BUH (REV2)
7	12966.03	90.67	127.26	7738.53	-615.87	-4772.42	10.00	-89.13	3850.72	
8	13221.13	90.67	127.26	7735.54	-770.30	-4569.39	0.00	0.00	3812.83	CURVE EXIT-GRMC 4-65 1B2BUH (REV2)
9	13582.30	90.11	91.14	7733.00	-887.12	-4233.94	10.00	-90.74	3653.79	PBHL-GRMC 4-65 24 1B2BUH (REV2)
10	16837.81	90.11	91.14	7727.00	-952.14	-979.08	0.00	0.00	1365.72	

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	Start Build 2.00
514.88	4.30	307.76	514.68	4.93	-6.37	1.13	8.06	Start 6707.20 hold at 514.88 MD
7222.08	4.30	307.76	7203.02	312.69	-403.76	71.45	510.68	Start DLS 10.00 TFO -36.75
8085.63	89.80	271.09	7741.00	347.56	-973.12	455.32	1082.05	Start 3442.13 hold at 8085.63 MD
11527.75	89.80	271.09	7753.00	412.88	-4414.61	2876.99	4524.16	Start DLS 10.00 TFO -89.13
12966.03	90.67	127.26	7738.53	-615.87	-4772.42	3850.72	5962.33	Start 255.10 hold at 12966.03 MD
13221.13	90.67	127.26	7735.54	-770.30	-4569.39	3812.83	6217.42	Start DLS 10.00 TFO -90.74
13582.30	90.11	91.14	7733.00	-887.12	-4233.94	3653.79	6578.58	Start 3255.51 hold at 13582.30 MD
16837.81	90.11	91.14	7727.00	-952.14	-979.08	1365.72	9834.08	TD at 16837.81

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL-GRMC 4-65 24 1B2BUH (REV2)	7727.00	-952.14	-979.08	1677384.89	3251990.85	39.689812°N	104.604570°W	Point
- plan hits target center								
CURVE EXIT-GRMC 4-65 1B2BUH (REV2)	7733.00	-887.12	-4233.94	1677417.70	3248735.55	39.689990°N	104.616136°W	Point
- plan hits target center								
LP-GRMC 4-65 24 1B2BUH (REV2)	7741.00	347.56	-973.12	1678684.57	3251983.95	39.693380°N	104.604549°W	Point
- plan hits target center								
CURVE ENTRY-GRMC 4-65 1B2BUH (REV2)	7753.00	412.88	-4414.61	1678715.84	3248542.03	39.693558°N	104.616778°W	Point
- plan hits target center								

PROJECT DETAILS: ARAPAHOE COUNTY

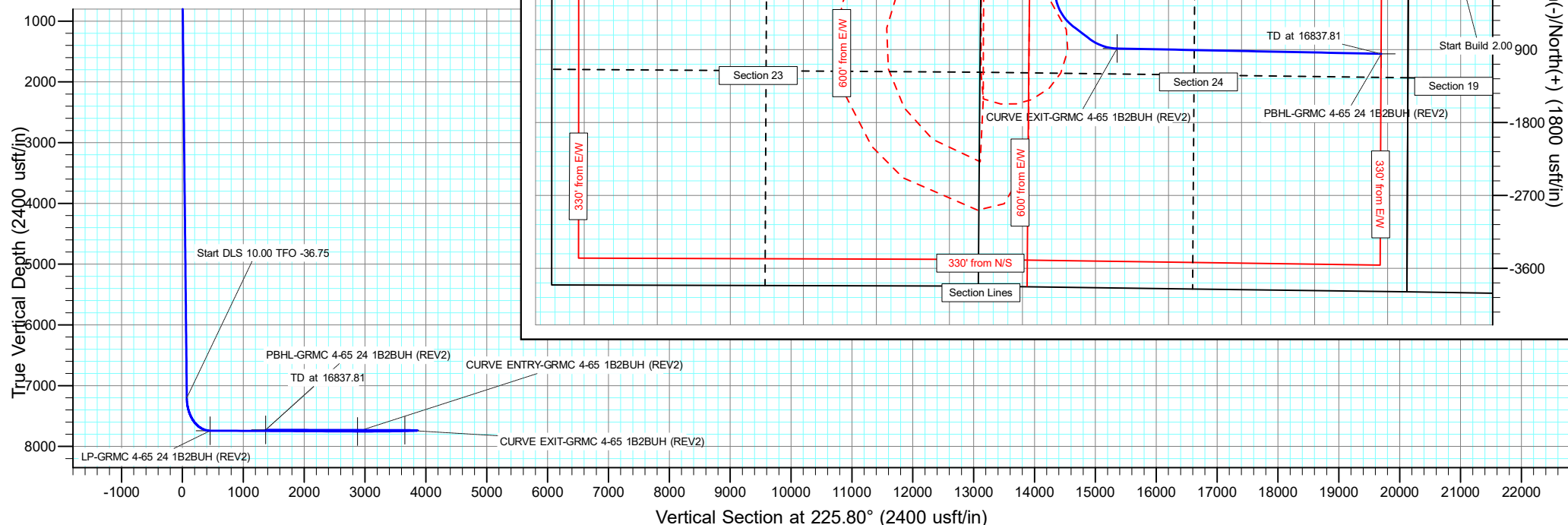
Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: Colorado Central Zone

System Datum: Mean Sea Level

SHL:  
1381' FNL, 645' FWL  
Sec 19-T4S-R64W

LP:  
1050' FNL, 330' FEL  
Sec 24-T4S-R65W

BHL:  
2350' FNL, 330' FEL  
Sec 24-T4S-R65W



# Civitas Resources

## Planning Report

<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Well GRIMM MOTOCROSS 4-65 24 1B2BUH
<b>Company:</b>	CRESTONE PEAK RESOURCES	<b>TVD Reference:</b>	KB 25' @ 5721.00usft
<b>Project:</b>	ARAPAHOE COUNTY	<b>MD Reference:</b>	KB 25' @ 5721.00usft
<b>Site:</b>	SEC 19-T4S-R64W	<b>North Reference:</b>	True
<b>Well:</b>	GRIMM MOTOCROSS 4-65 24 1B2BUH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PROPOSAL 2		

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

Site		SEC 19-T4S-R64W			
Site Position:		Northing:	1,679,733.25 usft	Latitude:	39.696250°N
From:	Lat/Long	Easting:	3,252,308.22 usft	Longitude:	104.603360°W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.57 °

Well	GRIMM MOTOCROSS 4-65 24 1B2BUH					
Well Position	+N/-S	-1,392.98 usft	Northing:	1,678,346.66 usft	Latitude:	39.692426°N
	+E/-W	638.53 usft	Easting:	3,252,960.46 usft	Longitude:	104.601091°W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	5,696.00 usft

<b>Wellbore</b>	OWB				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	9/26/2023	7.46	66.02	51,351.32958075

<b>Design</b>	PROPOSAL 2				
<b>Audit Notes:</b>					
<b>Version:</b>		<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	225.80	

<b>Plan Survey Tool Program</b>	<b>Date</b>	11/15/2023			
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	16,837.81	PROPOSAL 2 (OWB)	MWD OWSG	
				OWSG MWD - Standard	

# Civitas Resources

## Planning Report

<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Well GRIMM MOTOCROSS 4-65 24 1B2BUH
<b>Company:</b>	CRESTONE PEAK RESOURCES	<b>TVD Reference:</b>	KB 25' @ 5721.00usft
<b>Project:</b>	ARAPAHOE COUNTY	<b>MD Reference:</b>	KB 25' @ 5721.00usft
<b>Site:</b>	SEC 19-T4S-R64W	<b>North Reference:</b>	True
<b>Well:</b>	GRIMM MOTOCROSS 4-65 24 1B2BUH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PROPOSAL 2		

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	
514.88	4.30	307.76	514.68	4.93	-6.37	2.00	2.00	0.00	307.76	
7,222.08	4.30	307.76	7,203.02	312.69	-403.76	0.00	0.00	0.00	0.00	
8,085.63	89.80	271.09	7,741.00	347.56	-973.12	10.00	9.90	-4.25	-36.75	LP-GRMC 4-65 24 1E
11,527.76	89.80	271.09	7,753.00	412.88	-4,414.61	0.00	0.00	0.00	0.00	CURVE ENTRY-GRM
12,966.03	90.67	127.26	7,738.53	-615.87	-4,772.42	10.00	0.06	-10.00	-89.13	
13,221.13	90.67	127.26	7,735.54	-770.30	-4,569.39	0.00	0.00	0.00	0.00	
13,582.30	90.11	91.14	7,733.00	-887.12	-4,233.94	10.00	-0.16	-10.00	-90.74	CURVE EXIT-GRMC
16,837.81	90.11	91.14	7,727.00	-952.14	-979.08	0.00	0.00	0.00	0.00	PBHL-GRMC 4-65 24

# Civitas Resources

## Planning Report

<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Well GRIMM MOTOCROSS 4-65 24 1B2BUH
<b>Company:</b>	CRESTONE PEAK RESOURCES	<b>TVD Reference:</b>	KB 25' @ 5721.00usft
<b>Project:</b>	ARAPAHOE COUNTY	<b>MD Reference:</b>	KB 25' @ 5721.00usft
<b>Site:</b>	SEC 19-T4S-R64W	<b>North Reference:</b>	True
<b>Well:</b>	GRIMM MOTOCROSS 4-65 24 1B2BUH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PROPOSAL 2		

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
<b>Denver</b>									
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
<b>Start Build 2.00</b>									
400.00	2.00	307.76	399.98	1.07	-1.38	0.24	2.00	2.00	0.00
500.00	4.00	307.76	499.84	4.27	-5.52	0.98	2.00	2.00	0.00
514.88	4.30	307.76	514.68	4.93	-6.37	1.13	2.00	2.00	0.00
<b>Start 6707.20 hold at 514.88 MD</b>									
600.00	4.30	307.76	599.56	8.84	-11.41	2.02	0.00	0.00	0.00
639.55	4.30	307.76	639.00	10.65	-13.76	2.43	0.00	0.00	0.00
<b>Arapahoe</b>									
700.00	4.30	307.76	699.28	13.43	-17.34	3.07	0.00	0.00	0.00
800.00	4.30	307.76	799.00	18.01	-23.26	4.12	0.00	0.00	0.00
900.00	4.30	307.76	898.72	22.60	-29.19	5.17	0.00	0.00	0.00
1,000.00	4.30	307.76	998.43	27.19	-35.11	6.21	0.00	0.00	0.00
1,100.00	4.30	307.76	1,098.15	31.78	-41.04	7.26	0.00	0.00	0.00
1,200.00	4.30	307.76	1,197.87	36.37	-46.96	8.31	0.00	0.00	0.00
1,241.24	4.30	307.76	1,239.00	38.26	-49.40	8.74	0.00	0.00	0.00
<b>Laramie-Fox Hills Formation</b>									
1,300.00	4.30	307.76	1,297.59	40.96	-52.89	9.36	0.00	0.00	0.00
1,400.00	4.30	307.76	1,397.31	45.55	-58.81	10.41	0.00	0.00	0.00
1,500.00	4.30	307.76	1,497.03	50.13	-64.73	11.46	0.00	0.00	0.00
1,600.00	4.30	307.76	1,596.75	54.72	-70.66	12.50	0.00	0.00	0.00
1,700.00	4.30	307.76	1,696.47	59.31	-76.58	13.55	0.00	0.00	0.00
1,800.00	4.30	307.76	1,796.19	63.90	-82.51	14.60	0.00	0.00	0.00
1,900.00	4.30	307.76	1,895.90	68.49	-88.43	15.65	0.00	0.00	0.00
1,963.27	4.30	307.76	1,959.00	71.39	-92.18	16.31	0.00	0.00	0.00
<b>Pierre Formation</b>									
2,000.00	4.30	307.76	1,995.62	73.08	-94.36	16.70	0.00	0.00	0.00
2,100.00	4.30	307.76	2,095.34	77.66	-100.28	17.75	0.00	0.00	0.00
2,200.00	4.30	307.76	2,195.06	82.25	-106.21	18.80	0.00	0.00	0.00
2,300.00	4.30	307.76	2,294.78	86.84	-112.13	19.84	0.00	0.00	0.00
2,400.00	4.30	307.76	2,394.50	91.43	-118.06	20.89	0.00	0.00	0.00
2,454.66	4.30	307.76	2,449.00	93.94	-121.30	21.47	0.00	0.00	0.00
<b>Upper Pierre aquifer</b>									
2,500.00	4.30	307.76	2,494.22	96.02	-123.98	21.94	0.00	0.00	0.00
2,600.00	4.30	307.76	2,593.94	100.61	-129.91	22.99	0.00	0.00	0.00
2,700.00	4.30	307.76	2,693.65	105.20	-135.83	24.04	0.00	0.00	0.00
2,800.00	4.30	307.76	2,793.37	109.78	-141.76	25.09	0.00	0.00	0.00
2,900.00	4.30	307.76	2,893.09	114.37	-147.68	26.14	0.00	0.00	0.00
3,000.00	4.30	307.76	2,992.81	118.96	-153.61	27.18	0.00	0.00	0.00
3,100.00	4.30	307.76	3,092.53	123.55	-159.53	28.23	0.00	0.00	0.00
3,116.52	4.30	307.76	3,109.00	124.31	-160.51	28.41	0.00	0.00	0.00
<b>Base of Upper Pierre aquifer</b>									
3,200.00	4.30	307.76	3,192.25	128.14	-165.46	29.28	0.00	0.00	0.00
3,300.00	4.30	307.76	3,291.97	132.73	-171.38	30.33	0.00	0.00	0.00
3,400.00	4.30	307.76	3,391.69	137.31	-177.31	31.38	0.00	0.00	0.00
3,500.00	4.30	307.76	3,491.41	141.90	-183.23	32.43	0.00	0.00	0.00
3,600.00	4.30	307.76	3,591.12	146.49	-189.16	33.48	0.00	0.00	0.00
3,700.00	4.30	307.76	3,690.84	151.08	-195.08	34.52	0.00	0.00	0.00

# Civitas Resources

## Planning Report

<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Well GRIMM MOTOCROSS 4-65 24 1B2BUH
<b>Company:</b>	CRESTONE PEAK RESOURCES	<b>TVD Reference:</b>	KB 25' @ 5721.00usft
<b>Project:</b>	ARAPAHOE COUNTY	<b>MD Reference:</b>	KB 25' @ 5721.00usft
<b>Site:</b>	SEC 19-T4S-R64W	<b>North Reference:</b>	True
<b>Well:</b>	GRIMM MOTOCROSS 4-65 24 1B2BUH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PROPOSAL 2		

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	4.30	307.76	3,790.56	155.67	-201.01	35.57	0.00	0.00	0.00
3,900.00	4.30	307.76	3,890.28	160.26	-206.93	36.62	0.00	0.00	0.00
4,000.00	4.30	307.76	3,990.00	164.85	-212.85	37.67	0.00	0.00	0.00
4,079.22	4.30	307.76	4,069.00	168.48	-217.55	38.50	0.00	0.00	0.00
Larimer ("Parkman") sandstone									
4,100.00	4.30	307.76	4,089.72	169.43	-218.78	38.72	0.00	0.00	0.00
4,200.00	4.30	307.76	4,189.44	174.02	-224.70	39.77	0.00	0.00	0.00
4,209.59	4.30	307.76	4,199.00	174.46	-225.27	39.87	0.00	0.00	0.00
Pierre Formation									
4,300.00	4.30	307.76	4,289.16	178.61	-230.63	40.82	0.00	0.00	0.00
4,400.00	4.30	307.76	4,388.87	183.20	-236.55	41.86	0.00	0.00	0.00
4,500.00	4.30	307.76	4,488.59	187.79	-242.48	42.91	0.00	0.00	0.00
4,600.00	4.30	307.76	4,588.31	192.38	-248.40	43.96	0.00	0.00	0.00
4,700.00	4.30	307.76	4,688.03	196.96	-254.33	45.01	0.00	0.00	0.00
4,800.00	4.30	307.76	4,787.75	201.55	-260.25	46.06	0.00	0.00	0.00
4,900.00	4.30	307.76	4,887.47	206.14	-266.18	47.11	0.00	0.00	0.00
5,000.00	4.30	307.76	4,987.19	210.73	-272.10	48.16	0.00	0.00	0.00
5,100.00	4.30	307.76	5,086.91	215.32	-278.03	49.20	0.00	0.00	0.00
5,200.00	4.30	307.76	5,186.63	219.91	-283.95	50.25	0.00	0.00	0.00
5,282.61	4.30	307.76	5,269.00	223.70	-288.85	51.12	0.00	0.00	0.00
Terry ("Sussex") sandstone									
5,300.00	4.30	307.76	5,286.34	224.50	-289.88	51.30	0.00	0.00	0.00
5,400.00	4.30	307.76	5,386.06	229.08	-295.80	52.35	0.00	0.00	0.00
5,453.09	4.30	307.76	5,439.00	231.52	-298.95	52.91	0.00	0.00	0.00
Pierre Formation									
5,500.00	4.30	307.76	5,485.78	233.67	-301.73	53.40	0.00	0.00	0.00
5,600.00	4.30	307.76	5,585.50	238.26	-307.65	54.45	0.00	0.00	0.00
5,700.00	4.30	307.76	5,685.22	242.85	-313.58	55.49	0.00	0.00	0.00
5,800.00	4.30	307.76	5,784.94	247.44	-319.50	56.54	0.00	0.00	0.00
5,900.00	4.30	307.76	5,884.66	252.03	-325.43	57.59	0.00	0.00	0.00
6,000.00	4.30	307.76	5,984.38	256.61	-331.35	58.64	0.00	0.00	0.00
6,100.00	4.30	307.76	6,084.09	261.20	-337.28	59.69	0.00	0.00	0.00
6,185.15	4.30	307.76	6,169.00	265.11	-342.32	60.58	0.00	0.00	0.00
Hygiene ("Shannon") sandstone									
6,200.00	4.30	307.76	6,183.81	265.79	-343.20	60.74	0.00	0.00	0.00
6,300.00	4.30	307.76	6,283.53	270.38	-349.13	61.79	0.00	0.00	0.00
6,400.00	4.30	307.76	6,383.25	274.97	-355.05	62.83	0.00	0.00	0.00
6,415.79	4.30	307.76	6,399.00	275.69	-355.99	63.00	0.00	0.00	0.00
Pierre Formation									
6,500.00	4.30	307.76	6,482.97	279.56	-360.98	63.88	0.00	0.00	0.00
6,600.00	4.30	307.76	6,582.69	284.14	-366.90	64.93	0.00	0.00	0.00
6,700.00	4.30	307.76	6,682.41	288.73	-372.82	65.98	0.00	0.00	0.00
6,800.00	4.30	307.76	6,782.13	293.32	-378.75	67.03	0.00	0.00	0.00
6,900.00	4.30	307.76	6,881.84	297.91	-384.67	68.08	0.00	0.00	0.00
7,000.00	4.30	307.76	6,981.56	302.50	-390.60	69.13	0.00	0.00	0.00
7,100.00	4.30	307.76	7,081.28	307.09	-396.52	70.17	0.00	0.00	0.00
7,200.00	4.30	307.76	7,181.00	311.68	-402.45	71.22	0.00	0.00	0.00
7,222.08	4.30	307.76	7,203.02	312.69	-403.76	71.45	0.00	0.00	0.00
Start DLS 10.00 TFO -36.75									
7,250.00	6.74	293.39	7,230.81	313.98	-406.09	72.23	10.00	8.76	-51.47
7,300.00	11.52	283.80	7,280.16	316.34	-413.64	75.99	10.00	9.56	-19.18
7,350.00	16.43	279.83	7,328.67	318.74	-425.47	82.80	10.00	9.82	-7.93
7,400.00	21.39	277.66	7,375.96	321.16	-441.48	92.59	10.00	9.90	-4.34

# Civitas Resources

## Planning Report

<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Well GRIMM MOTOCROSS 4-65 24 1B2BUH
<b>Company:</b>	CRESTONE PEAK RESOURCES	<b>TVD Reference:</b>	KB 25' @ 5721.00usft
<b>Project:</b>	ARAPAHOE COUNTY	<b>MD Reference:</b>	KB 25' @ 5721.00usft
<b>Site:</b>	SEC 19-T4S-R64W	<b>North Reference:</b>	True
<b>Well:</b>	GRIMM MOTOCROSS 4-65 24 1B2BUH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PROPOSAL 2		

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	26.35	276.28	7,421.67	323.59	-461.56	105.29	10.00	9.94	-2.77
7,500.00	31.33	275.31	7,465.45	326.01	-485.55	120.80	10.00	9.96	-1.94
7,550.00	36.32	274.58	7,506.97	328.40	-513.27	139.01	10.00	9.97	-1.45
7,558.77	37.19	274.47	7,514.00	328.81	-518.50	142.47	10.00	9.97	-1.25
Sharon Springs Member									
7,600.00	41.30	274.01	7,545.92	330.73	-544.51	159.78	10.00	9.97	-1.12
7,650.00	46.29	273.54	7,582.00	333.00	-579.03	182.94	10.00	9.98	-0.94
7,700.00	51.28	273.14	7,614.93	335.19	-616.57	208.33	10.00	9.98	-0.79
7,723.07	53.59	272.98	7,629.00	336.16	-634.83	220.74	10.00	9.98	-0.71
Niobrara Formation									
7,750.00	56.28	272.80	7,644.47	337.27	-656.84	235.75	10.00	9.98	-0.67
7,800.00	61.27	272.49	7,670.38	339.24	-699.53	264.99	10.00	9.99	-0.61
7,850.00	66.26	272.21	7,692.48	341.07	-744.33	295.82	10.00	9.99	-0.56
7,900.00	71.26	271.95	7,710.59	342.76	-790.89	328.02	10.00	9.99	-0.52
7,950.00	76.25	271.71	7,724.57	344.29	-838.85	361.34	10.00	9.99	-0.49
8,000.00	81.25	271.47	7,734.32	345.65	-887.86	395.52	10.00	9.99	-0.47
8,050.00	86.24	271.25	7,739.77	346.83	-937.53	430.31	10.00	9.99	-0.45
8,085.63	89.80	271.09	7,741.00	347.56	-973.12	455.32	10.00	9.99	-0.45
Start 3442.13 hold at 8085.63 MD									
8,100.00	89.80	271.09	7,741.05	347.83	-987.49	465.43	0.00	0.00	0.00
8,200.00	89.80	271.09	7,741.40	349.73	-1,087.47	535.79	0.00	0.00	0.00
8,300.00	89.80	271.09	7,741.75	351.63	-1,187.46	606.14	0.00	0.00	0.00
8,400.00	89.80	271.09	7,742.10	353.53	-1,287.44	676.50	0.00	0.00	0.00
8,500.00	89.80	271.09	7,742.44	355.42	-1,387.42	746.85	0.00	0.00	0.00
8,600.00	89.80	271.09	7,742.79	357.32	-1,487.40	817.20	0.00	0.00	0.00
8,700.00	89.80	271.09	7,743.14	359.22	-1,587.38	887.56	0.00	0.00	0.00
8,800.00	89.80	271.09	7,743.49	361.12	-1,687.36	957.91	0.00	0.00	0.00
8,900.00	89.80	271.09	7,743.84	363.01	-1,787.34	1,028.26	0.00	0.00	0.00
9,000.00	89.80	271.09	7,744.19	364.91	-1,887.33	1,098.62	0.00	0.00	0.00
9,100.00	89.80	271.09	7,744.54	366.81	-1,987.31	1,168.97	0.00	0.00	0.00
9,200.00	89.80	271.09	7,744.89	368.71	-2,087.29	1,239.32	0.00	0.00	0.00
9,300.00	89.80	271.09	7,745.23	370.60	-2,187.27	1,309.68	0.00	0.00	0.00
9,400.00	89.80	271.09	7,745.58	372.50	-2,287.25	1,380.03	0.00	0.00	0.00
9,500.00	89.80	271.09	7,745.93	374.40	-2,387.23	1,450.39	0.00	0.00	0.00
9,600.00	89.80	271.09	7,746.28	376.30	-2,487.21	1,520.74	0.00	0.00	0.00
9,700.00	89.80	271.09	7,746.63	378.20	-2,587.20	1,591.09	0.00	0.00	0.00
9,800.00	89.80	271.09	7,746.98	380.09	-2,687.18	1,661.45	0.00	0.00	0.00
9,900.00	89.80	271.09	7,747.33	381.99	-2,787.16	1,731.80	0.00	0.00	0.00
10,000.00	89.80	271.09	7,747.67	383.89	-2,887.14	1,802.15	0.00	0.00	0.00
10,100.00	89.80	271.09	7,748.02	385.79	-2,987.12	1,872.51	0.00	0.00	0.00
10,200.00	89.80	271.09	7,748.37	387.68	-3,087.10	1,942.86	0.00	0.00	0.00
10,300.00	89.80	271.09	7,748.72	389.58	-3,187.08	2,013.22	0.00	0.00	0.00
10,400.00	89.80	271.09	7,749.07	391.48	-3,287.07	2,083.57	0.00	0.00	0.00
10,500.00	89.80	271.09	7,749.42	393.38	-3,387.05	2,153.92	0.00	0.00	0.00
10,600.00	89.80	271.09	7,749.77	395.27	-3,487.03	2,224.28	0.00	0.00	0.00
10,700.00	89.80	271.09	7,750.11	397.17	-3,587.01	2,294.63	0.00	0.00	0.00
10,800.00	89.80	271.09	7,750.46	399.07	-3,686.99	2,364.98	0.00	0.00	0.00
10,900.00	89.80	271.09	7,750.81	400.97	-3,786.97	2,435.34	0.00	0.00	0.00
11,000.00	89.80	271.09	7,751.16	402.86	-3,886.95	2,505.69	0.00	0.00	0.00
11,100.00	89.80	271.09	7,751.51	404.76	-3,986.93	2,576.05	0.00	0.00	0.00
11,200.00	89.80	271.09	7,751.86	406.66	-4,086.92	2,646.40	0.00	0.00	0.00
11,300.00	89.80	271.09	7,752.21	408.56	-4,186.90	2,716.75	0.00	0.00	0.00
11,400.00	89.80	271.09	7,752.55	410.46	-4,286.88	2,787.11	0.00	0.00	0.00

# Civitas Resources

## Planning Report

<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Well GRIMM MOTOCROSS 4-65 24 1B2BUH
<b>Company:</b>	CRESTONE PEAK RESOURCES	<b>TVD Reference:</b>	KB 25' @ 5721.00usft
<b>Project:</b>	ARAPAHOE COUNTY	<b>MD Reference:</b>	KB 25' @ 5721.00usft
<b>Site:</b>	SEC 19-T4S-R64W	<b>North Reference:</b>	True
<b>Well:</b>	GRIMM MOTOCROSS 4-65 24 1B2BUH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PROPOSAL 2		

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	89.80	271.09	7,752.90	412.35	-4,386.86	2,857.46	0.00	0.00	0.00
11,527.76	89.80	271.09	7,753.00	412.88	-4,414.61	2,876.99	0.00	0.00	0.00
<b>Start DLS 10.00 TFO -89.13</b>									
11,550.00	89.83	268.86	7,753.07	412.87	-4,436.85	2,892.94	10.00	0.15	-10.00
11,600.00	89.91	263.86	7,753.18	409.70	-4,486.74	2,930.91	10.00	0.15	-10.00
11,650.00	89.99	258.86	7,753.23	402.19	-4,536.15	2,971.57	10.00	0.15	-10.00
11,700.00	90.07	253.86	7,753.20	390.41	-4,584.73	3,014.61	10.00	0.15	-10.00
11,750.00	90.14	248.87	7,753.11	374.44	-4,632.09	3,059.70	10.00	0.15	-10.00
11,800.00	90.22	243.87	7,752.95	354.40	-4,677.88	3,106.50	10.00	0.15	-10.00
11,850.00	90.29	238.87	7,752.73	330.45	-4,721.76	3,154.65	10.00	0.15	-10.00
11,900.00	90.36	233.87	7,752.44	302.76	-4,763.37	3,203.78	10.00	0.14	-10.00
11,950.00	90.43	228.87	7,752.10	271.56	-4,802.42	3,253.53	10.00	0.14	-10.00
12,000.00	90.50	223.87	7,751.69	237.07	-4,838.59	3,303.51	10.00	0.13	-10.00
12,050.00	90.56	218.87	7,751.22	199.56	-4,871.62	3,353.34	10.00	0.12	-10.00
12,100.00	90.62	213.87	7,750.71	159.31	-4,901.26	3,402.65	10.00	0.12	-10.00
12,150.00	90.67	208.87	7,750.14	116.64	-4,927.28	3,451.05	10.00	0.11	-10.00
12,200.00	90.72	203.87	7,749.53	71.85	-4,949.48	3,498.19	10.00	0.10	-10.00
12,250.00	90.76	198.87	7,748.89	25.31	-4,967.69	3,543.69	10.00	0.09	-10.00
12,300.00	90.80	193.87	7,748.20	-22.64	-4,981.77	3,587.22	10.00	0.07	-10.00
12,350.00	90.83	188.87	7,747.49	-71.64	-4,991.62	3,628.44	10.00	0.06	-10.00
12,400.00	90.86	183.87	7,746.76	-121.31	-4,997.16	3,667.04	10.00	0.05	-10.00
12,450.00	90.87	178.87	7,746.00	-171.28	-4,998.35	3,702.73	10.00	0.04	-10.00
12,500.00	90.88	173.86	7,745.23	-221.16	-4,995.18	3,735.23	10.00	0.02	-10.00
12,550.00	90.89	168.86	7,744.46	-270.57	-4,987.68	3,764.30	10.00	0.01	-10.00
12,600.00	90.89	163.86	7,743.68	-319.14	-4,975.90	3,789.72	10.00	0.00	-10.00
12,650.00	90.88	158.86	7,742.91	-366.49	-4,959.93	3,811.28	10.00	-0.02	-10.00
12,700.00	90.86	153.86	7,742.16	-412.28	-4,939.89	3,828.84	10.00	-0.03	-10.00
12,750.00	90.84	148.86	7,741.41	-456.14	-4,915.94	3,842.25	10.00	-0.04	-10.00
12,800.00	90.81	143.86	7,740.69	-497.75	-4,888.25	3,851.41	10.00	-0.06	-10.00
12,850.00	90.78	138.86	7,740.00	-536.79	-4,857.04	3,856.25	10.00	-0.07	-10.00
12,900.00	90.73	133.86	7,739.34	-572.96	-4,822.55	3,856.74	10.00	-0.08	-10.00
12,950.00	90.69	128.86	7,738.72	-605.99	-4,785.04	3,852.88	10.00	-0.09	-10.00
12,966.03	90.67	127.26	7,738.53	-615.87	-4,772.42	3,850.72	10.00	-0.10	-10.00
<b>Start 255.10 hold at 12966.03 MD</b>									
13,000.00	90.67	127.26	7,738.13	-636.44	-4,745.38	3,845.67	0.00	0.00	0.00
13,100.00	90.67	127.26	7,736.96	-696.97	-4,665.79	3,830.82	0.00	0.00	0.00
13,200.00	90.67	127.26	7,735.78	-757.51	-4,586.21	3,815.97	0.00	0.00	0.00
13,221.13	90.67	127.26	7,735.54	-770.30	-4,569.39	3,812.83	0.00	0.00	0.00
<b>Start DLS 10.00 TFO -90.74</b>									
13,250.00	90.63	124.37	7,735.21	-787.19	-4,545.98	3,807.83	10.00	-0.13	-10.00
13,300.00	90.56	119.37	7,734.68	-813.58	-4,503.54	3,795.80	10.00	-0.14	-10.00
13,350.00	90.49	114.37	7,734.22	-836.17	-4,458.95	3,779.58	10.00	-0.15	-10.00
13,400.00	90.41	109.37	7,733.83	-854.79	-4,412.57	3,759.31	10.00	-0.16	-10.00
13,450.00	90.33	104.37	7,733.51	-869.30	-4,364.74	3,735.14	10.00	-0.16	-10.00
13,500.00	90.25	99.37	7,733.25	-879.58	-4,315.82	3,707.24	10.00	-0.17	-10.00
13,550.00	90.16	94.37	7,733.08	-885.57	-4,266.20	3,675.83	10.00	-0.17	-10.00
13,582.30	90.11	91.14	7,733.00	-887.12	-4,233.94	3,653.79	10.00	-0.17	-10.00
<b>Start 3255.51 hold at 13582.30 MD</b>									
13,600.00	90.11	91.14	7,732.97	-887.47	-4,216.24	3,641.35	0.00	0.00	0.00
13,700.00	90.11	91.14	7,732.78	-889.47	-4,116.26	3,571.07	0.00	0.00	0.00
13,800.00	90.11	91.14	7,732.60	-891.47	-4,016.28	3,500.79	0.00	0.00	0.00
13,900.00	90.11	91.14	7,732.41	-893.47	-3,916.30	3,430.50	0.00	0.00	0.00
14,000.00	90.11	91.14	7,732.23	-895.46	-3,816.32	3,360.22	0.00	0.00	0.00



# Civitas Resources

## Planning Report

<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Well GRIMM MOTOCROSS 4-65 24 1B2BUH
<b>Company:</b>	CRESTONE PEAK RESOURCES	<b>TVD Reference:</b>	KB 25' @ 5721.00usft
<b>Project:</b>	ARAPAHOE COUNTY	<b>MD Reference:</b>	KB 25' @ 5721.00usft
<b>Site:</b>	SEC 19-T4S-R64W	<b>North Reference:</b>	True
<b>Well:</b>	GRIMM MOTOCROSS 4-65 24 1B2BUH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PROPOSAL 2		

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)	
14,100.00	90.11	91.14	7,732.05	-897.46	-3,716.34	3,289.94	0.00	0.00	0.00	
14,200.00	90.11	91.14	7,731.86	-899.46	-3,616.36	3,219.65	0.00	0.00	0.00	
14,300.00	90.11	91.14	7,731.68	-901.45	-3,516.38	3,149.37	0.00	0.00	0.00	
14,400.00	90.11	91.14	7,731.49	-903.45	-3,416.40	3,079.09	0.00	0.00	0.00	
14,500.00	90.11	91.14	7,731.31	-905.45	-3,316.43	3,008.80	0.00	0.00	0.00	
14,600.00	90.11	91.14	7,731.12	-907.45	-3,216.45	2,938.52	0.00	0.00	0.00	
14,700.00	90.11	91.14	7,730.94	-909.44	-3,116.47	2,868.24	0.00	0.00	0.00	
14,800.00	90.11	91.14	7,730.76	-911.44	-3,016.49	2,797.95	0.00	0.00	0.00	
14,900.00	90.11	91.14	7,730.57	-913.44	-2,916.51	2,727.67	0.00	0.00	0.00	
15,000.00	90.11	91.14	7,730.39	-915.44	-2,816.53	2,657.39	0.00	0.00	0.00	
15,100.00	90.11	91.14	7,730.20	-917.43	-2,716.55	2,587.11	0.00	0.00	0.00	
15,200.00	90.11	91.14	7,730.02	-919.43	-2,616.57	2,516.82	0.00	0.00	0.00	
15,300.00	90.11	91.14	7,729.83	-921.43	-2,516.59	2,446.54	0.00	0.00	0.00	
15,400.00	90.11	91.14	7,729.65	-923.43	-2,416.61	2,376.26	0.00	0.00	0.00	
15,500.00	90.11	91.14	7,729.47	-925.42	-2,316.63	2,305.97	0.00	0.00	0.00	
15,600.00	90.11	91.14	7,729.28	-927.42	-2,216.65	2,235.69	0.00	0.00	0.00	
15,700.00	90.11	91.14	7,729.10	-929.42	-2,116.67	2,165.41	0.00	0.00	0.00	
15,800.00	90.11	91.14	7,728.91	-931.42	-2,016.69	2,095.12	0.00	0.00	0.00	
15,900.00	90.11	91.14	7,728.73	-933.41	-1,916.71	2,024.84	0.00	0.00	0.00	
16,000.00	90.11	91.14	7,728.54	-935.41	-1,816.73	1,954.56	0.00	0.00	0.00	
16,100.00	90.11	91.14	7,728.36	-937.41	-1,716.75	1,884.27	0.00	0.00	0.00	
16,200.00	90.11	91.14	7,728.18	-939.40	-1,616.77	1,813.99	0.00	0.00	0.00	
16,300.00	90.11	91.14	7,727.99	-941.40	-1,516.79	1,743.71	0.00	0.00	0.00	
16,400.00	90.11	91.14	7,727.81	-943.40	-1,416.81	1,673.42	0.00	0.00	0.00	
16,500.00	90.11	91.14	7,727.62	-945.40	-1,316.83	1,603.14	0.00	0.00	0.00	
16,600.00	90.11	91.14	7,727.44	-947.39	-1,216.85	1,532.86	0.00	0.00	0.00	
16,700.00	90.11	91.14	7,727.25	-949.39	-1,116.87	1,462.58	0.00	0.00	0.00	
16,800.00	90.11	91.14	7,727.07	-951.39	-1,016.89	1,392.29	0.00	0.00	0.00	
16,837.81	90.11	91.14	7,727.00	-952.14	-979.08	1,365.72	0.00	0.00	0.00	
TD at 16837.81										

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-GRMC 4-65 24 1B2E	0.00	0.00	7,727.00	-952.14	-979.08	1,677,384.88	3,251,990.86	39.689812°N	104.604570°W	
- plan hits target center										
- Point										
CURVE EXIT-GRMC 4-65 24 1B2E	0.00	0.00	7,733.00	-887.12	-4,233.94	1,677,417.70	3,248,735.55	39.689990°N	104.616136°W	
- plan hits target center										
- Point										
LP-GRMC 4-65 24 1B2E	0.00	0.00	7,741.00	347.56	-973.12	1,678,684.57	3,251,983.96	39.693380°N	104.604549°W	
- plan hits target center										
- Point										
CURVE ENTRY-GRMC 4-65 24 1B2E	0.00	0.00	7,753.00	412.88	-4,414.61	1,678,715.83	3,248,542.03	39.693558°N	104.616779°W	
- plan hits target center										
- Point										

# Civitas Resources

## Planning Report

<b>Database:</b>	EDM	<b>Local Co-ordinate Reference:</b>	Well GRIMM MOTOCROSS 4-65 24 1B2BUH
<b>Company:</b>	CRESTONE PEAK RESOURCES	<b>TVD Reference:</b>	KB 25' @ 5721.00usft
<b>Project:</b>	ARAPAHOE COUNTY	<b>MD Reference:</b>	KB 25' @ 5721.00usft
<b>Site:</b>	SEC 19-T4S-R64W	<b>North Reference:</b>	True
<b>Well:</b>	GRIMM MOTOCROSS 4-65 24 1B2BUH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PROPOSAL 2		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
24.00	24.00	Denver				
639.55	639.00	Arapahoe				
1,241.24	1,239.00	Laramie-Fox Hills Formation				
1,963.27	1,959.00	Pierre Formation				
2,454.66	2,449.00	Upper Pierre aquifer				
3,116.52	3,109.00	Base of Upper Pierre aquifer				
4,079.22	4,069.00	Larimer ("Parkman") sandstone				
4,209.59	4,199.00	Pierre Formation				
5,282.61	5,269.00	Terry ("Sussex") sandstone				
5,453.09	5,439.00	Pierre Formation				
6,185.15	6,169.00	Hygiene ("Shannon") sandstone				
6,415.79	6,399.00	Pierre Formation				
7,558.77	7,514.00	Sharon Springs Member				
7,723.07	7,629.00	Niobrara Formation				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
300.00	300.00	0.00	0.00	Start Build 2.00	
514.88	514.68	4.93	-6.37	Start 6707.20 hold at 514.88 MD	
7,222.08	7,203.02	312.69	-403.76	Start DLS 10.00 TFO -36.75	
8,085.63	7,741.00	347.56	-973.12	Start 3442.13 hold at 8085.63 MD	
11,527.76	7,753.00	412.88	-4,414.61	Start DLS 10.00 TFO -89.13	
12,966.03	7,738.53	-615.87	-4,772.42	Start 255.10 hold at 12966.03 MD	
13,221.13	7,735.54	-770.30	-4,569.39	Start DLS 10.00 TFO -90.74	
13,582.30	7,733.00	-887.12	-4,233.94	Start 3255.51 hold at 13582.30 MD	
16,837.81	7,727.00	-952.14	-979.08	TD at 16837.81	