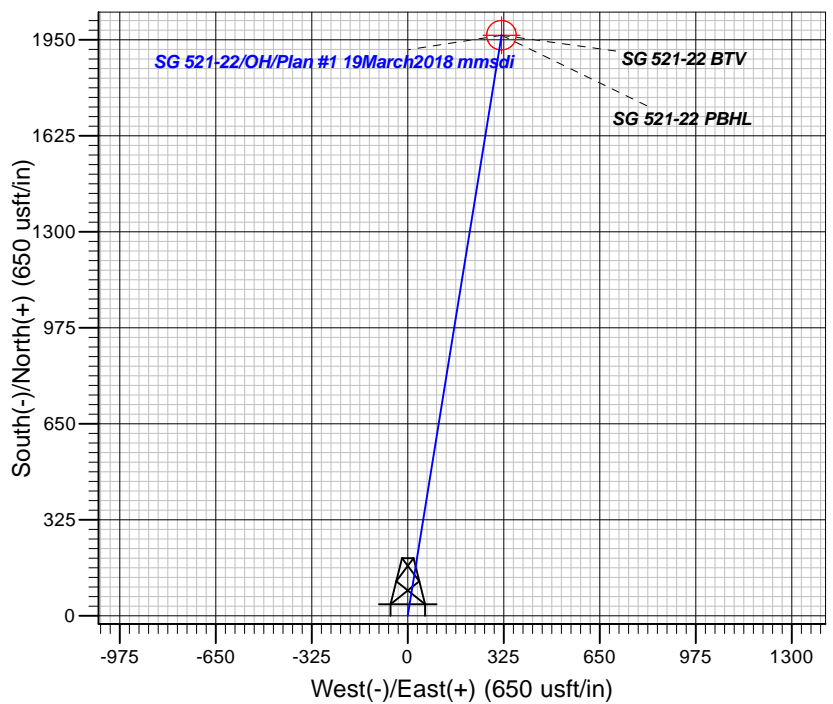
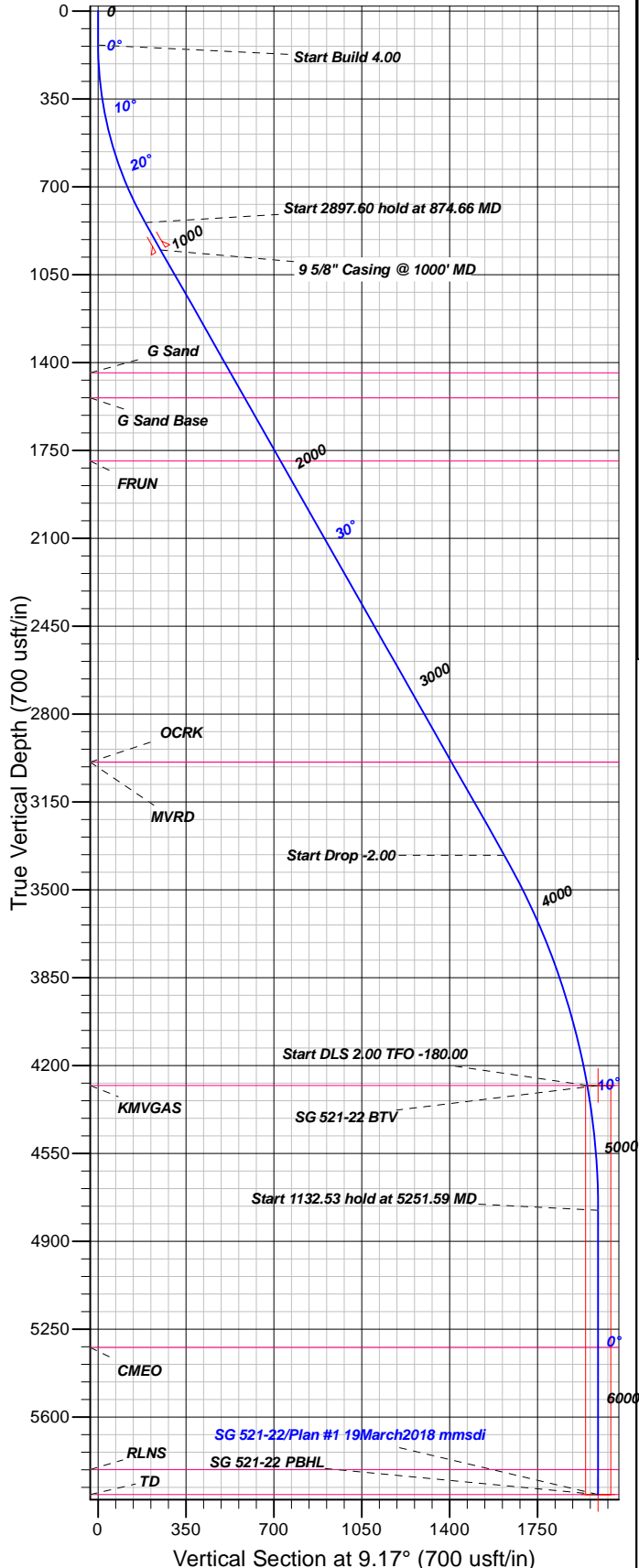




T M Azimuths to True North
 Magnetic North: 9.47°
 Magnetic Field
 Strength: 51729.1snT
 Dip Angle: 65.62°
 Date: 3/19/2018
 Model: HDGM

Well Details: SG 521-22

GL 5665' & RKB 24' @ 5689.00usft
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.00 0.00 1588957.40 2265672.20 39.4216050 -108.0997568 SG 521-22 (B1)



FORMATION TOP DETAILS

TVDP	MD	Formation
1441.00	1563.22	G Sand
1541.00	1678.21	G Sand Base
1792.00	1966.85	FRUN
2991.00	3345.62	MVRD
2991.00	3345.62	OCRK
4279.00	4751.59	KMVGAS
5323.00	5798.13	CMEQ
5809.00	6284.13	RLNS

Plan: Plan #1 19March2018 mmsdi

17:05, March 20 2018
Created By: Mel Mireles

PROJECT DETAILS: Garfield County, CO NAD83

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

System Datum: Mean Sea Level

CASING DETAILS

TVD	MD	Name	Size
951.22	1000.00	5/8" Casing @ 1000' MD	9.62

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	
3	874.66	29.59	9.17	842.23	184.38	29.76	4.00	9.17	186.77	
4	3772.26	29.59	9.17	3362.01	1596.76	257.71	0.00	0.00	1617.42	
5	4751.59	10.00	9.17	4279.00	1922.56	310.29	2.00	180.00	1947.44	
6	5251.59	0.00	0.00	4776.47	1965.53	317.22	2.00	-180.00	1990.96	
7	6384.13	0.00	0.00	5909.00	1965.53	317.22	0.00	0.00	1990.96	SG 521-22 PBHL

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
SG 521-22 BTV	4279.00	1965.53	317.22	1590913.05	2266045.53	39.4270014	-108.0986338	Circle (Radius: 50.00)
- plan misses target center by 42.88usft at 4758.79usft MD (4286.09 TVD, 1923.78 N, 310.49 E)								
SG 521-22 PBHL	5909.00	1965.53	317.22	1590913.05	2266045.53	39.4270014	-108.0986338	Point
- plan misses target center by 0.01usft at 6384.13usft MD (5909.00 TVD, 1965.53 N, 317.22 E)								



TEP Rocky Mountain LLC

Garfield County, CO NAD83

SG 23-22 Pad

SG 521-22 - Slot SG 521-22 (B1)

OH

Plan: Plan #1 19March2018 mmsdi

Standard Planning Report

20 March, 2018



Database:	Grand Junction District	Local Co-ordinate Reference:	Well SG 521-22 - Slot SG 521-22 (B1)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5665' & RKB 24' @ 5689.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5665' & RKB 24' @ 5689.00usft
Site:	SG 23-22 Pad	North Reference:	True
Well:	SG 521-22	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 19March2018 mmsdi		

Project	Garfield County, CO NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site	SG 23-22 Pad			
Site Position:		Northing:	1,588,957.40 usft	Latitude: 39.4216042
From: Map		Easting:	2,265,662.20 usft	Longitude: -108.0997922
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence: -1.64 °

Well	SG 521-22 - Slot SG 521-22 (B1)			
Well Position	+N/-S	0.29 usft	Northing:	1,588,957.40 usft
	+E/-W	10.00 usft	Easting:	2,265,672.20 usft
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft
			Ground Level:	5,665.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	3/19/2018	9.47	65.62	51,729

Design	Plan #1 19March2018 mmsdi			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	9.17

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00	
874.66	29.59	9.17	842.23	184.38	29.76	4.00	4.00	0.00	9.17	
3,772.26	29.59	9.17	3,362.01	1,596.76	257.71	0.00	0.00	0.00	0.00	
4,751.59	10.00	9.17	4,279.00	1,922.56	310.29	2.00	-2.00	0.00	180.00	
5,251.59	0.00	0.00	4,776.47	1,965.53	317.22	2.00	-2.00	-1.83	-180.00	
6,384.13	0.00	0.00	5,909.00	1,965.53	317.22	0.00	0.00	0.00	0.00	SG 521-22 PBHL

Database: Grand Junction District
Company: TEP Rocky Mountain LLC
Project: Garfield County, CO NAD83
Site: SG 23-22 Pad
Well: SG 521-22
Wellbore: OH
Design: Plan #1 19March2018 mmsdi

Local Co-ordinate Reference: Well SG 521-22 - Slot SG 521-22 (B1)
TVD Reference: GL 5665' & RKB 24' @ 5689.00usft
MD Reference: GL 5665' & RKB 24' @ 5689.00usft
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
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
135.00	0.00	0.00	135.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 4.00									
200.00	2.60	9.17	199.98	1.46	0.23	1.47	4.00	4.00	0.00
300.00	6.60	9.17	299.64	9.37	1.51	9.49	4.00	4.00	0.00
400.00	10.60	9.17	398.49	24.13	3.89	24.44	4.00	4.00	0.00
500.00	14.60	9.17	496.06	45.66	7.37	46.25	4.00	4.00	0.00
600.00	18.60	9.17	591.88	73.86	11.92	74.82	4.00	4.00	0.00
700.00	22.60	9.17	685.46	108.59	17.53	109.99	4.00	4.00	0.00
800.00	26.60	9.17	776.37	149.68	24.16	151.61	4.00	4.00	0.00
874.66	29.59	9.17	842.23	184.38	29.76	186.77	4.00	4.00	0.00
Start 2897.60 hold at 874.66 MD									
900.00	29.59	9.17	864.26	196.73	31.75	199.28	0.00	0.00	0.00
1,000.00	29.59	9.17	951.22	245.48	39.62	248.65	0.00	0.00	0.00
9 5/8" Casing @ 1000' MD									
1,100.00	29.59	9.17	1,038.18	294.22	47.49	298.03	0.00	0.00	0.00
1,200.00	29.59	9.17	1,125.14	342.96	55.35	347.40	0.00	0.00	0.00
1,300.00	29.59	9.17	1,212.10	391.70	63.22	396.77	0.00	0.00	0.00
1,400.00	29.59	9.17	1,299.07	440.45	71.09	446.15	0.00	0.00	0.00
1,500.00	29.59	9.17	1,386.03	489.19	78.95	495.52	0.00	0.00	0.00
1,563.22	29.59	9.17	1,441.00	520.00	83.93	526.73	0.00	0.00	0.00
G Sand									
1,600.00	29.59	9.17	1,472.99	537.93	86.82	544.89	0.00	0.00	0.00
1,678.21	29.59	9.17	1,541.00	576.06	92.97	583.51	0.00	0.00	0.00
G Sand Base									
1,700.00	29.59	9.17	1,559.95	586.68	94.69	594.27	0.00	0.00	0.00
1,800.00	29.59	9.17	1,646.91	635.42	102.55	643.64	0.00	0.00	0.00
1,900.00	29.59	9.17	1,733.87	684.16	110.42	693.02	0.00	0.00	0.00
1,966.85	29.59	9.17	1,792.00	716.75	115.68	726.02	0.00	0.00	0.00
FRUN									
2,000.00	29.59	9.17	1,820.83	732.91	118.29	742.39	0.00	0.00	0.00
2,100.00	29.59	9.17	1,907.79	781.65	126.15	791.76	0.00	0.00	0.00
2,200.00	29.59	9.17	1,994.75	830.39	134.02	841.14	0.00	0.00	0.00
2,300.00	29.59	9.17	2,081.71	879.14	141.89	890.51	0.00	0.00	0.00
2,400.00	29.59	9.17	2,168.68	927.88	149.75	939.89	0.00	0.00	0.00
2,500.00	29.59	9.17	2,255.64	976.62	157.62	989.26	0.00	0.00	0.00
2,600.00	29.59	9.17	2,342.60	1,025.36	165.49	1,038.63	0.00	0.00	0.00
2,700.00	29.59	9.17	2,429.56	1,074.11	173.35	1,088.01	0.00	0.00	0.00
2,800.00	29.59	9.17	2,516.52	1,122.85	181.22	1,137.38	0.00	0.00	0.00
2,900.00	29.59	9.17	2,603.48	1,171.59	189.09	1,186.75	0.00	0.00	0.00
3,000.00	29.59	9.17	2,690.44	1,220.34	196.96	1,236.13	0.00	0.00	0.00
3,100.00	29.59	9.17	2,777.40	1,269.08	204.82	1,285.50	0.00	0.00	0.00
3,200.00	29.59	9.17	2,864.36	1,317.82	212.69	1,334.88	0.00	0.00	0.00
3,300.00	29.59	9.17	2,951.33	1,366.57	220.56	1,384.25	0.00	0.00	0.00
3,345.62	29.59	9.17	2,991.00	1,388.80	224.14	1,406.78	0.00	0.00	0.00
OCRK - MVRD									
3,400.00	29.59	9.17	3,038.29	1,415.31	228.42	1,433.62	0.00	0.00	0.00
3,500.00	29.59	9.17	3,125.25	1,464.05	236.29	1,483.00	0.00	0.00	0.00
3,600.00	29.59	9.17	3,212.21	1,512.79	244.16	1,532.37	0.00	0.00	0.00
3,700.00	29.59	9.17	3,299.17	1,561.54	252.02	1,581.74	0.00	0.00	0.00
3,772.26	29.59	9.17	3,362.01	1,596.76	257.71	1,617.42	0.00	0.00	0.00
Start Drop -2.00									

Database:	Grand Junction District	Local Co-ordinate Reference:	Well SG 521-22 - Slot SG 521-22 (B1)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5665' & RKB 24' @ 5689.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5665' & RKB 24' @ 5689.00usft
Site:	SG 23-22 Pad	North Reference:	True
Well:	SG 521-22	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 19March2018 mmsdi		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,800.00	29.03	9.17	3,386.20	1,610.17	259.87	1,631.00	2.00	-2.00	0.00
3,900.00	27.03	9.17	3,474.46	1,656.56	267.36	1,678.00	2.00	-2.00	0.00
4,000.00	25.03	9.17	3,564.31	1,699.88	274.35	1,721.88	2.00	-2.00	0.00
4,100.00	23.03	9.17	3,655.64	1,740.09	280.84	1,762.60	2.00	-2.00	0.00
4,200.00	21.03	9.17	3,748.33	1,777.12	286.82	1,800.11	2.00	-2.00	0.00
4,300.00	19.03	9.17	3,842.28	1,810.93	292.27	1,834.36	2.00	-2.00	0.00
4,400.00	17.03	9.17	3,937.36	1,841.49	297.21	1,865.32	2.00	-2.00	0.00
4,500.00	15.03	9.17	4,033.47	1,868.75	301.61	1,892.93	2.00	-2.00	0.00
4,600.00	13.03	9.17	4,130.48	1,892.69	305.47	1,917.18	2.00	-2.00	0.00
4,700.00	11.03	9.17	4,228.28	1,913.26	308.79	1,938.02	2.00	-2.00	0.00
4,751.59	10.00	9.17	4,279.00	1,922.56	310.29	1,947.44	2.00	-2.00	0.00
Start DLS 2.00 TFO -180.00 - KMGAS									
4,758.79	9.86	9.17	4,286.09	1,923.78	310.49	1,948.68	2.00	-2.00	0.00
SG 521-22 BTV									
4,800.00	9.03	9.17	4,326.74	1,930.46	311.57	1,955.44	2.00	-2.00	0.00
4,900.00	7.03	9.17	4,425.76	1,944.25	313.79	1,969.41	2.00	-2.00	0.00
5,000.00	5.03	9.17	4,525.20	1,954.63	315.47	1,979.92	2.00	-2.00	0.00
5,100.00	3.03	9.17	4,624.95	1,961.57	316.59	1,986.95	2.00	-2.00	0.00
5,200.00	1.03	9.17	4,724.88	1,965.07	317.15	1,990.50	2.00	-2.00	0.00
5,251.59	0.00	0.00	4,776.47	1,965.53	317.22	1,990.96	2.00	-2.00	-17.77
Start 1132.53 hold at 5251.59 MD									
5,300.00	0.00	0.00	4,824.87	1,965.53	317.22	1,990.96	0.00	0.00	0.00
5,400.00	0.00	0.00	4,924.87	1,965.53	317.22	1,990.96	0.00	0.00	0.00
5,500.00	0.00	0.00	5,024.87	1,965.53	317.22	1,990.96	0.00	0.00	0.00
5,600.00	0.00	0.00	5,124.87	1,965.53	317.22	1,990.96	0.00	0.00	0.00
5,700.00	0.00	0.00	5,224.87	1,965.53	317.22	1,990.96	0.00	0.00	0.00
5,798.13	0.00	0.00	5,323.00	1,965.53	317.22	1,990.96	0.00	0.00	0.00
CME0									
5,800.00	0.00	0.00	5,324.87	1,965.53	317.22	1,990.96	0.00	0.00	0.00
5,900.00	0.00	0.00	5,424.87	1,965.53	317.22	1,990.96	0.00	0.00	0.00
6,000.00	0.00	0.00	5,524.87	1,965.53	317.22	1,990.96	0.00	0.00	0.00
6,100.00	0.00	0.00	5,624.87	1,965.53	317.22	1,990.96	0.00	0.00	0.00
6,200.00	0.00	0.00	5,724.87	1,965.53	317.22	1,990.96	0.00	0.00	0.00
6,284.13	0.00	0.00	5,809.00	1,965.53	317.22	1,990.96	0.00	0.00	0.00
RLNS									
6,300.00	0.00	0.00	5,824.87	1,965.53	317.22	1,990.96	0.00	0.00	0.00
6,384.13	0.00	0.00	5,909.00	1,965.53	317.22	1,990.96	0.00	0.00	0.00
TD at 6384.13 - SG 521-22 PBHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SG 521-22 BTV	0.00	0.00	4,279.00	1,965.53	317.22	1,590,913.05	2,266,045.53	39.4270014	-108.0986338
- plan misses target center by 42.88usft at 4758.79usft MD (4286.09 TVD, 1923.78 N, 310.49 E)									
- Circle (radius 50.00)									
SG 521-22 PBHL	0.00	0.00	5,909.00	1,965.53	317.22	1,590,913.05	2,266,045.53	39.4270014	-108.0986338
- plan misses target center by 0.01usft at 6384.13usft MD (5909.00 TVD, 1965.53 N, 317.22 E)									
- Point									

Database:	Grand Junction District	Local Co-ordinate Reference:	Well SG 521-22 - Slot SG 521-22 (B1)
Company:	TEP Rocky Mountain LLC	TVD Reference:	GL 5665' & RKB 24' @ 5689.00usft
Project:	Garfield County, CO NAD83	MD Reference:	GL 5665' & RKB 24' @ 5689.00usft
Site:	SG 23-22 Pad	North Reference:	True
Well:	SG 521-22	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1 19March2018 mmsdi		

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,000.00	951.22	9 5/8" Casing @ 1000' MD	9.62	13.50

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,563.22	1,441.00	G Sand		0.00	0.00
1,678.21	1,541.00	G Sand Base		0.00	0.00
1,966.85	1,792.00	FRUN		0.00	0.00
3,345.62	2,991.00	OCRK		0.00	0.00
3,345.62	2,991.00	MVRD		0.00	0.00
4,751.59	4,279.00	KMVGAS		0.00	0.00
5,798.13	5,323.00	CMEO		0.00	0.00
6,284.13	5,809.00	RLNS		0.00	0.00

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
135.00	135.00	0.00	0.00	Start Build 4.00
874.66	842.23	184.38	29.76	Start 2897.60 hold at 874.66 MD
3,772.26	3,362.01	1,596.76	257.71	Start Drop -2.00
4,751.59	4,279.00	1,922.56	310.29	Start DLS 2.00 TFO -180.00
5,251.59	4,776.47	1,965.53	317.22	Start 1132.53 hold at 5251.59 MD
6,384.13	5,909.00	1,965.53	317.22	TD at 6384.13