

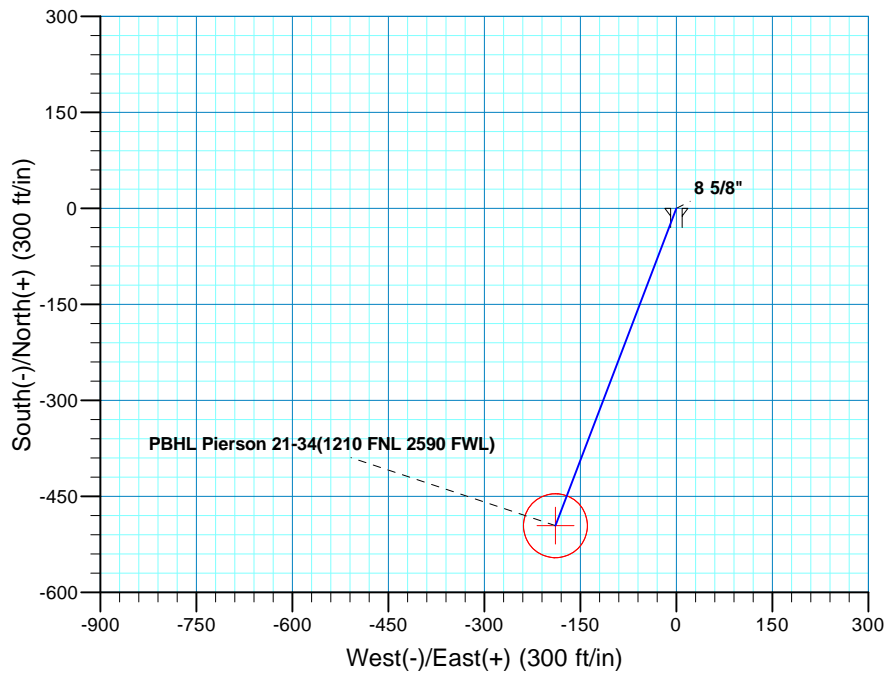
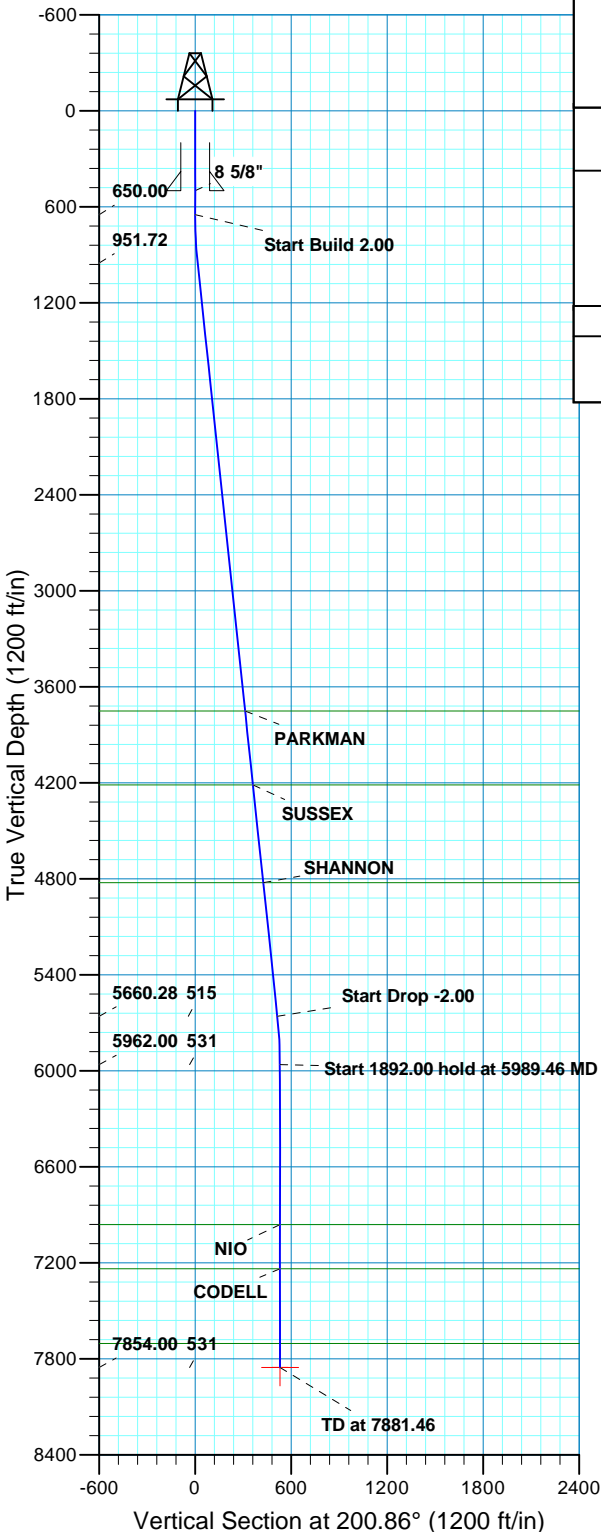
WELL DETAILS: P_Pierson 21-34						
GL 4783' & RKB 15' @ 4798.00ft (ASSUMED)						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	1343327.63	3205642.81	40° 16' 24.557 N	104° 45' 46.800 W	

DESIGN TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	
PBHL	7854.00	-495.78	-188.91	1342830.30	3205458.03	40° 16' 19.657 N	104° 45' 49.237 W	Circle (Radius: 50.00)	
- plan hits target center									

SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
650.00	0.00	0.00	650.00	0.00	0.00	0.00	0.00	0.00		
952.29	6.05	200.86	951.72	-14.89	-5.67	2.00	200.86	15.93		
5687.17	6.05	200.86	5660.28	-480.89	-183.23	0.00	0.00	514.62		
5989.46	0.00	0.00	5962.00	-495.78	-188.91	2.00	180.00	530.55		
7881.46	0.00	0.00	7854.00	-495.78	-188.91	0.00	0.00	530.55	PBHL Pierson 21-34(1210 FNL 2590 FWL)	

PROJECT DETAILS: COLORADO NORTHERN ZONE - 83				FORMATION TOP DETAILS		
Geodetic System: US State Plane 1983				TVDPath	MDFPath	Formation
Datum: North American Datum 1983				4214.00	4232.81	PARKMAN
Ellipsoid: GRS 1980				4825.00	4847.22	SUSSEX
Zone: Colorado Northern Zone				6962.00	6989.46	SHANNON
Location: SECTION 34 T4N R66W				7238.00	7265.46	NIO
System Datum: Mean Sea Level				7704.00	7731.46	CODELL
						JSAND

CASING DETAILS			
TVD	MD	Name	Size
500.00	500.00	8 5/8"	8.625





Scientific Drilling
Rocky Mountain Operations

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_Pierson 21-34 Pad

P_Pierson 21-34

P_Pierson 21-34

Plan: PLAN #1 8-13-10 RHS

Standard Planning Report

13 August, 2010



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_Pierson 21-34
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4783' & RKB 15' @ 4798.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4783' & RKB 15' @ 4798.00ft (ASSUMED)
Site:	WELD_Pierson 21-34 Pad	North Reference:	True
Well:	P_Pierson 21-34	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Pierson 21-34		
Design:	PLAN #1 8-13-10 RHS		

Project	COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	WELD_Pierson 21-34 Pad, SECTION 34 T4N R66W				
Site Position:		Northing:	1,343,326.02 usft	Latitude:	40° 16' 24.546 N
From:	Lat/Long	Easting:	3,205,578.92 usft	Longitude:	104° 45' 47.624 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.48 °

Well	P_Pierson 21-34, 717 FNL 2549 FEL					
Well Position	+N/-S	1.08 ft	Northing:	1,343,327.63 usft	Latitude:	40° 16' 24.557 N
	+E/-W	63.90 ft	Easting:	3,205,642.81 usft	Longitude:	104° 45' 46.800 W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,783.00 ft

Wellbore	P_Pierson 21-34				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	08/13/2010	8.97	66.98	53,154

Design	PLAN #1 8-13-10 RHS			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	200.86

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	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	
650.00	0.00	0.00	650.00	0.00	0.00	0.00	0.00	0.00	0.00	
952.29	6.05	200.86	951.72	-14.89	-5.67	2.00	2.00	0.00	200.86	
5,687.17	6.05	200.86	5,660.28	-480.89	-183.23	0.00	0.00	0.00	0.00	
5,989.46	0.00	0.00	5,962.00	-495.78	-188.91	2.00	-2.00	0.00	180.00	
7,881.46	0.00	0.00	7,854.00	-495.78	-188.91	0.00	0.00	0.00	0.00	PBHL Pierson 21-34(

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_Pierson 21-34
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4783' & RKB 15' @ 4798.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4783' & RKB 15' @ 4798.00ft (ASSUMED)
Site:	WELD_Pierson 21-34 Pad	North Reference:	True
Well:	P_Pierson 21-34	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Pierson 21-34		
Design:	PLAN #1 8-13-10 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	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	
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	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
8 5/8"										
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	
650.00	0.00	0.00	650.00	0.00	0.00	0.00	0.00	0.00	0.00	
Start Build 2.00										
700.00	1.00	200.86	700.00	-0.41	-0.16	0.44	2.00	2.00	0.00	
800.00	3.00	200.86	799.93	-3.67	-1.40	3.93	2.00	2.00	0.00	
900.00	5.00	200.86	899.68	-10.19	-3.88	10.90	2.00	2.00	0.00	
952.29	6.05	200.86	951.72	-14.89	-5.67	15.93	2.00	2.00	0.00	
Start 4734.88 hold at 952.29 MD										
1,000.00	6.05	200.86	999.17	-19.59	-7.46	20.96	0.00	0.00	0.00	
1,100.00	6.05	200.86	1,098.62	-29.43	-11.21	31.49	0.00	0.00	0.00	
1,200.00	6.05	200.86	1,198.06	-39.27	-14.96	42.02	0.00	0.00	0.00	
1,300.00	6.05	200.86	1,297.51	-49.11	-18.71	52.56	0.00	0.00	0.00	
1,400.00	6.05	200.86	1,396.95	-58.95	-22.46	63.09	0.00	0.00	0.00	
1,500.00	6.05	200.86	1,496.39	-68.79	-26.21	73.62	0.00	0.00	0.00	
1,600.00	6.05	200.86	1,595.84	-78.64	-29.96	84.15	0.00	0.00	0.00	
1,700.00	6.05	200.86	1,695.28	-88.48	-33.71	94.68	0.00	0.00	0.00	
1,800.00	6.05	200.86	1,794.72	-98.32	-37.46	105.22	0.00	0.00	0.00	
1,900.00	6.05	200.86	1,894.17	-108.16	-41.21	115.75	0.00	0.00	0.00	
2,000.00	6.05	200.86	1,993.61	-118.00	-44.96	126.28	0.00	0.00	0.00	
2,100.00	6.05	200.86	2,093.06	-127.85	-48.71	136.81	0.00	0.00	0.00	
2,200.00	6.05	200.86	2,192.50	-137.69	-52.46	147.35	0.00	0.00	0.00	
2,300.00	6.05	200.86	2,291.94	-147.53	-56.21	157.88	0.00	0.00	0.00	
2,400.00	6.05	200.86	2,391.39	-157.37	-59.96	168.41	0.00	0.00	0.00	
2,500.00	6.05	200.86	2,490.83	-167.21	-63.71	178.94	0.00	0.00	0.00	
2,600.00	6.05	200.86	2,590.28	-177.06	-67.46	189.47	0.00	0.00	0.00	
2,700.00	6.05	200.86	2,689.72	-186.90	-71.21	200.01	0.00	0.00	0.00	
2,800.00	6.05	200.86	2,789.16	-196.74	-74.96	210.54	0.00	0.00	0.00	
2,900.00	6.05	200.86	2,888.61	-206.58	-78.71	221.07	0.00	0.00	0.00	
3,000.00	6.05	200.86	2,988.05	-216.42	-82.46	231.60	0.00	0.00	0.00	
3,100.00	6.05	200.86	3,087.49	-226.27	-86.21	242.13	0.00	0.00	0.00	
3,200.00	6.05	200.86	3,186.94	-236.11	-89.96	252.67	0.00	0.00	0.00	
3,300.00	6.05	200.86	3,286.38	-245.95	-93.71	263.20	0.00	0.00	0.00	
3,400.00	6.05	200.86	3,385.83	-255.79	-97.46	273.73	0.00	0.00	0.00	
3,500.00	6.05	200.86	3,485.27	-265.63	-101.21	284.26	0.00	0.00	0.00	
3,600.00	6.05	200.86	3,584.71	-275.48	-104.96	294.80	0.00	0.00	0.00	
3,700.00	6.05	200.86	3,684.16	-285.32	-108.71	305.33	0.00	0.00	0.00	
3,768.22	6.05	200.86	3,752.00	-292.03	-111.27	312.51	0.00	0.00	0.00	
PARKMAN										
3,800.00	6.05	200.86	3,783.60	-295.16	-112.46	315.86	0.00	0.00	0.00	
3,900.00	6.05	200.86	3,883.04	-305.00	-116.21	326.39	0.00	0.00	0.00	
4,000.00	6.05	200.86	3,982.49	-314.84	-119.96	336.92	0.00	0.00	0.00	
4,100.00	6.05	200.86	4,081.93	-324.69	-123.71	347.46	0.00	0.00	0.00	
4,200.00	6.05	200.86	4,181.38	-334.53	-127.46	357.99	0.00	0.00	0.00	
4,232.81	6.05	200.86	4,214.00	-337.76	-128.69	361.44	0.00	0.00	0.00	

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_Pierson 21-34
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4783' & RKB 15' @ 4798.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4783' & RKB 15' @ 4798.00ft (ASSUMED)
Site:	WELD_Pierson 21-34 Pad	North Reference:	True
Well:	P_Pierson 21-34	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Pierson 21-34		
Design:	PLAN #1 8-13-10 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
SUSSEX										
4,300.00	6.05	200.86	4,280.82	-344.37	-131.21	368.52	0.00	0.00	0.00	
4,400.00	6.05	200.86	4,380.26	-354.21	-134.96	379.05	0.00	0.00	0.00	
4,500.00	6.05	200.86	4,479.71	-364.05	-138.71	389.59	0.00	0.00	0.00	
4,600.00	6.05	200.86	4,579.15	-373.90	-142.46	400.12	0.00	0.00	0.00	
4,700.00	6.05	200.86	4,678.60	-383.74	-146.21	410.65	0.00	0.00	0.00	
4,800.00	6.05	200.86	4,778.04	-393.58	-149.96	421.18	0.00	0.00	0.00	
4,847.22	6.05	200.86	4,825.00	-398.23	-151.74	426.16	0.00	0.00	0.00	
SHANNON										
4,900.00	6.05	200.86	4,877.48	-403.42	-153.71	431.71	0.00	0.00	0.00	
5,000.00	6.05	200.86	4,976.93	-413.26	-157.47	442.25	0.00	0.00	0.00	
5,100.00	6.05	200.86	5,076.37	-423.11	-161.22	452.78	0.00	0.00	0.00	
5,200.00	6.05	200.86	5,175.81	-432.95	-164.97	463.31	0.00	0.00	0.00	
5,300.00	6.05	200.86	5,275.26	-442.79	-168.72	473.84	0.00	0.00	0.00	
5,400.00	6.05	200.86	5,374.70	-452.63	-172.47	484.37	0.00	0.00	0.00	
5,500.00	6.05	200.86	5,474.15	-462.47	-176.22	494.91	0.00	0.00	0.00	
5,600.00	6.05	200.86	5,573.59	-472.31	-179.97	505.44	0.00	0.00	0.00	
5,687.17	6.05	200.86	5,660.28	-480.89	-183.23	514.62	0.00	0.00	0.00	
Start Drop -2.00										
5,700.00	5.79	200.86	5,673.04	-482.13	-183.71	515.94	2.00	-2.00	0.00	
5,800.00	3.79	200.86	5,772.68	-489.93	-186.68	524.29	2.00	-2.00	0.00	
5,900.00	1.79	200.86	5,872.56	-494.48	-188.41	529.16	2.00	-2.00	0.00	
5,989.46	0.00	0.00	5,962.00	-495.78	-188.91	530.55	2.00	-2.00	0.00	
Start 1892.00 hold at 5989.46 MD										
6,000.00	0.00	0.00	5,972.54	-495.78	-188.91	530.55	0.00	0.00	0.00	
6,100.00	0.00	0.00	6,072.54	-495.78	-188.91	530.55	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,172.54	-495.78	-188.91	530.55	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,272.54	-495.78	-188.91	530.55	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,372.54	-495.78	-188.91	530.55	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,472.54	-495.78	-188.91	530.55	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,572.54	-495.78	-188.91	530.55	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,672.54	-495.78	-188.91	530.55	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,772.54	-495.78	-188.91	530.55	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,872.54	-495.78	-188.91	530.55	0.00	0.00	0.00	
6,989.46	0.00	0.00	6,962.00	-495.78	-188.91	530.55	0.00	0.00	0.00	
NIO										
7,000.00	0.00	0.00	6,972.54	-495.78	-188.91	530.55	0.00	0.00	0.00	
7,100.00	0.00	0.00	7,072.54	-495.78	-188.91	530.55	0.00	0.00	0.00	
7,200.00	0.00	0.00	7,172.54	-495.78	-188.91	530.55	0.00	0.00	0.00	
7,265.46	0.00	0.00	7,238.00	-495.78	-188.91	530.55	0.00	0.00	0.00	
CODELL										
7,300.00	0.00	0.00	7,272.54	-495.78	-188.91	530.55	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,372.54	-495.78	-188.91	530.55	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,472.54	-495.78	-188.91	530.55	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,572.54	-495.78	-188.91	530.55	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,672.54	-495.78	-188.91	530.55	0.00	0.00	0.00	
7,731.46	0.00	0.00	7,704.00	-495.78	-188.91	530.55	0.00	0.00	0.00	
JSAND										
7,800.00	0.00	0.00	7,772.54	-495.78	-188.91	530.55	0.00	0.00	0.00	
7,881.46	0.00	0.00	7,854.00	-495.78	-188.91	530.55	0.00	0.00	0.00	
PBHL Pierson 21-34(1210 FNL 2590 FWL)										

Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well P_Pierson 21-34
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL 4783' & RKB 15' @ 4798.00ft (ASSUMED)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL 4783' & RKB 15' @ 4798.00ft (ASSUMED)
Site:	WELD_Pierson 21-34 Pad	North Reference:	True
Well:	P_Pierson 21-34	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_Pierson 21-34		
Design:	PLAN #1 8-13-10 RHS		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
PBHL Pierson 21-34(12' - plan hits target center - Circle (radius 50.00)	0.00	0.00	7,854.00	-495.78	-188.91	1,342,830.30	3,205,458.03	40° 16' 19.657 N	104° 45' 49.237 W

Casing Points					
Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter	
(ft)	(ft)		(in)	(in)	
500.00	500.00	8 5/8"	8.625	11.000	

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
3,768.22	3,752.00	PARKMAN			
4,232.81	4,214.00	SUSSEX			
4,847.22	4,825.00	SHANNON			
6,989.46	6,962.00	NIO			
7,265.46	7,238.00	CODELL			
7,731.46	7,704.00	JSAND			

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(ft)	(ft)	+N/-S	+E/-W		
		(ft)	(ft)		
650.00	650.00	0.00	0.00	Start Build 2.00	
952.29	951.72	-14.89	-5.67	Start 4734.88 hold at 952.29 MD	
5,687.17	5,660.28	-480.89	-183.23	Start Drop -2.00	
5,989.46	5,962.00	-495.78	-188.91	Start 1892.00 hold at 5989.46 MD	
7,881.46	7,854.00	-495.78	-188.91	TD at 7881.46	