



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_SATER 25-8 PAD

P_SATER 7-8

P_SATER 7-8

Plan: PLAN #1 5-10-10 RHS

Standard Planning Report

10 May, 2010





Project: COLORADO NORTHERN ZONE - 83
Site: WELD_SATER 25-8 PAD
Well: P_SATER 7-8
Wellbore: P_SATER 7-8
Section: SECTION 8 T2N R67W
SHL: 2466 FNL 2506 FEL
Design: PLAN #1 5-10-10 RHS
Latitude: 40° 9' 12.575 N
Longitude: 104° 54' 48.704 W
GL: 4908.00
KB: WELL @ 4923.00ft (Original Well Elev)



Weatherford®



Azimuths to True North
Magnetic North: 9.07°

Magnetic Field
Strength: 53100.4snT
Dip Angle: 66.86°
Date: 5/10/2010
Model: IGRF2010

LEGEND

— P_SATER 21-8, P_SATER 21-8, PLAN #1 5-10-10 RHS V0
— P_SATER 24-8, P_SATER 24-8, PLAN #1 5-10-10 RHS V0
— P_SATER 2-8, P_SATER 2-8, PLAN #1 5-10-10 RHS V0
— P_SATER 28-8, P_SATER 28-8, PLAN #1 5-10-10 RHS V0
— P_SATER 8-8, P_SATER 8-8, PLAN #1 5-10-10 RHS V0
— PLAN #1 5-10-10 RHS

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3841.00	3880.23	PARKMAN
4359.00	4401.09	SUSSEX
7149.00	7191.09	NIO
7409.00	7451.09	CODELL
7481.00	7523.09	GREEN HORN
7831.00	7873.09	JSAND

CASING DETAILS

TVD	MD	Name	Size
950.00	950.00	8 5/8"	8.62

SECTION DETAILS

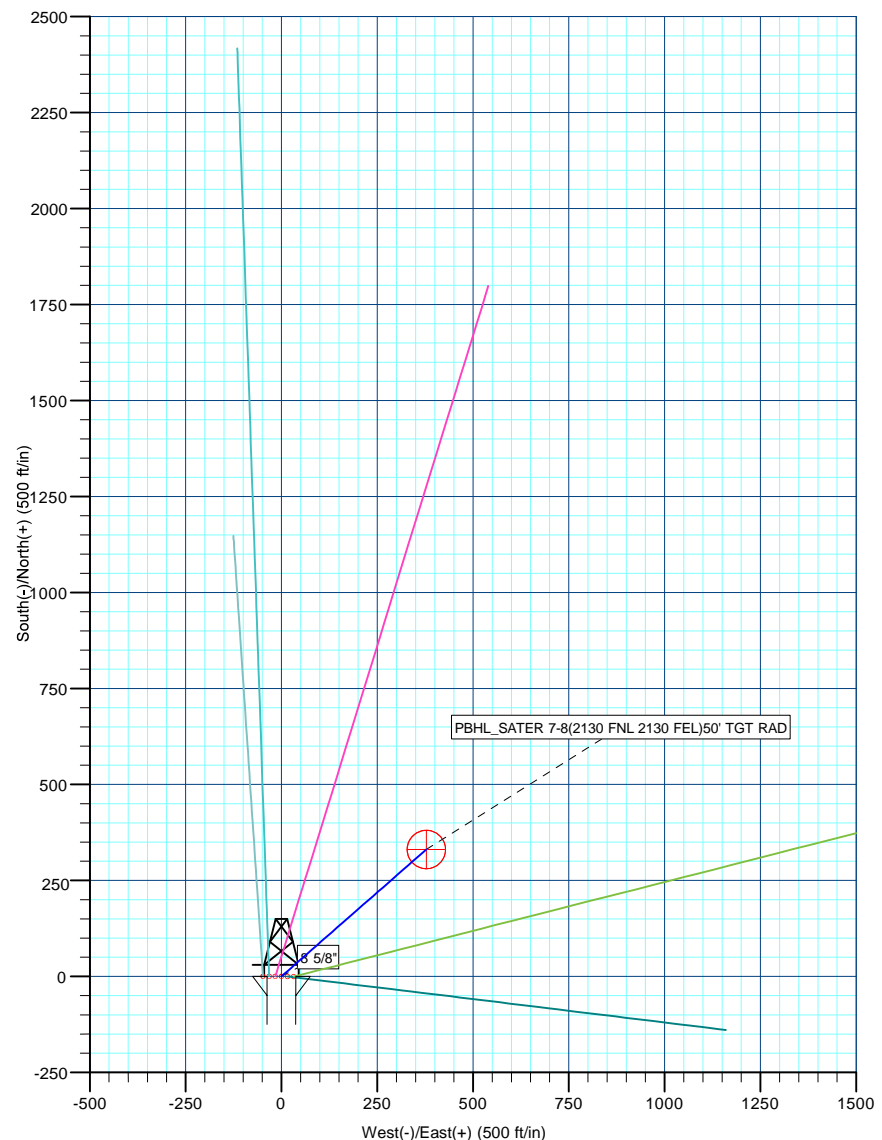
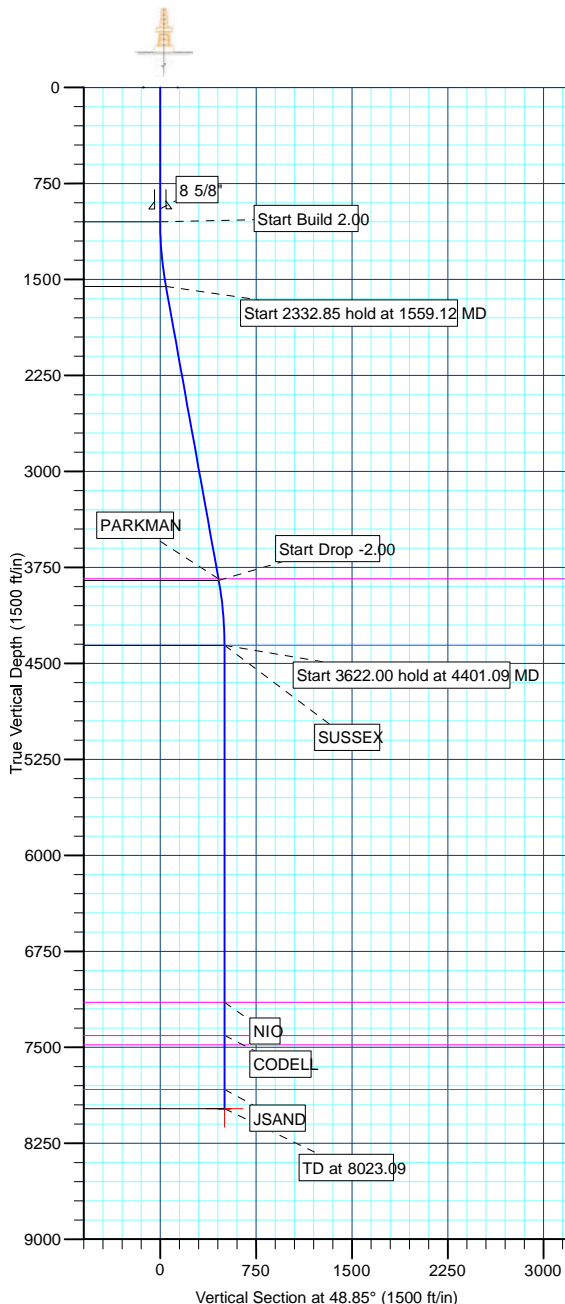
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1050.00	0.00	0.00	1050.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
1559.12	10.18	48.85	1556.45	29.69	33.97	2.00	48.85	45.12	Start 2332.85 hold at 1559.12 MD
3891.97	10.18	48.85	3852.55	301.09	344.50	0.00	0.00	457.53	Start Drop -2.00
4401.09	0.00	0.00	4359.00	330.78	378.47	2.00	180.00	502.65	Start 3622.00 hold at 4401.09 MD
8023.09	0.00	0.00	7981.00	330.78	378.47	0.00	0.00	502.65	TD at 8023.09

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	7981.00	330.78	378.47	40° 9' 15.844 N	104° 54' 43.830 W	Circle (Radius: 50.00)

WELL DETAILS: P_SATER 7-8

+N/-S	+E/-W	Northing	Ground Level: Easting	4908.00 Latitude	Longitude	Slot
0.00	0.00	1299302.89	3163930.96	40° 9' 12.575 N	104° 54' 48.704 W	



Plan: PLAN #1 5-10-10 RHS (P_SATER 7-8/P_SATER 7-8)

Created By: Robert H. Scott Date: 11:17, May 10 2010

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_SATER 7-8
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4923.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4923.00ft (Original Well Elev)
Site:	WELD_SATER 25-8 PAD	North Reference:	True
Well:	P_SATER 7-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_SATER 7-8		
Design:	PLAN #1 5-10-10 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_SATER 25-8 PAD, SECTION 8 T2N R67W			
Site Position:		Northing:	1,299,302.95ft	Latitude:	40° 9' 12.578 N
From:	Lat/Long	Easting:	3,163,883.16ft	Longitude:	104° 54' 49.320 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	0.38 °

Well	P_SATER 7-8					
Well Position	+N/-S	-0.38 ft	Northing:	1,299,302.89 ft	Latitude:	40° 9' 12.575 N
	+E/-W	47.80 ft	Easting:	3,163,930.96 ft	Longitude:	104° 54' 48.704 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,908.00 ft

Wellbore	P_SATER 7-8				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/10/2010	9.07	66.86	53,100

Design	PLAN #1 5-10-10 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	48.85

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	
1,050.00	0.00	0.00	1,050.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,559.12	10.18	48.85	1,556.45	29.69	33.97	2.00	2.00	0.00	48.85	
3,891.97	10.18	48.85	3,852.55	301.09	344.50	0.00	0.00	0.00	0.00	
4,401.09	0.00	0.00	4,359.00	330.78	378.47	2.00	-2.00	0.00	180.00	
8,023.09	0.00	0.00	7,981.00	330.78	378.47	0.00	0.00	0.00	0.00	PBHL_SATER 7-8(

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_SATER 7-8
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4923.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4923.00ft (Original Well Elev)
Site:	WELD_SATER 25-8 PAD	North Reference:	True
Well:	P_SATER 7-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_SATER 7-8		
Design:	PLAN #1 5-10-10 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)
Start Build 2.00									
1,050.00	0.00	0.00	1,050.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	1.00	48.85	1,100.00	0.29	0.33	0.44	2.00	2.00	0.00
1,200.00	3.00	48.85	1,199.93	2.58	2.96	3.93	2.00	2.00	0.00
1,300.00	5.00	48.85	1,299.68	7.17	8.21	10.90	2.00	2.00	0.00
1,400.00	7.00	48.85	1,399.13	14.05	16.08	21.35	2.00	2.00	0.00
1,500.00	9.00	48.85	1,498.15	23.21	26.56	35.27	2.00	2.00	0.00
Start 2332.85 hold at 1559.12 MD									
1,559.12	10.18	48.85	1,556.45	29.69	33.97	45.12	2.00	2.00	0.00
1,600.00	10.18	48.85	1,596.68	34.45	39.41	52.35	0.00	0.00	0.00
1,700.00	10.18	48.85	1,695.11	46.08	52.73	70.03	0.00	0.00	0.00
1,800.00	10.18	48.85	1,793.53	57.72	66.04	87.70	0.00	0.00	0.00
1,900.00	10.18	48.85	1,891.96	69.35	79.35	105.38	0.00	0.00	0.00
2,000.00	10.18	48.85	1,990.38	80.98	92.66	123.06	0.00	0.00	0.00
2,100.00	10.18	48.85	2,088.81	92.62	105.97	140.74	0.00	0.00	0.00
2,200.00	10.18	48.85	2,187.23	104.25	119.28	158.42	0.00	0.00	0.00
2,300.00	10.18	48.85	2,285.66	115.88	132.59	176.10	0.00	0.00	0.00
2,400.00	10.18	48.85	2,384.08	127.52	145.90	193.77	0.00	0.00	0.00
2,500.00	10.18	48.85	2,482.51	139.15	159.21	211.45	0.00	0.00	0.00
2,600.00	10.18	48.85	2,580.93	150.79	172.52	229.13	0.00	0.00	0.00
2,700.00	10.18	48.85	2,679.36	162.42	185.83	246.81	0.00	0.00	0.00
2,800.00	10.18	48.85	2,777.78	174.05	199.15	264.49	0.00	0.00	0.00
2,900.00	10.18	48.85	2,876.21	185.69	212.46	282.17	0.00	0.00	0.00
3,000.00	10.18	48.85	2,974.63	197.32	225.77	299.84	0.00	0.00	0.00
3,100.00	10.18	48.85	3,073.06	208.95	239.08	317.52	0.00	0.00	0.00
3,200.00	10.18	48.85	3,171.48	220.59	252.39	335.20	0.00	0.00	0.00
3,300.00	10.18	48.85	3,269.91	232.22	265.70	352.88	0.00	0.00	0.00
3,400.00	10.18	48.85	3,368.33	243.86	279.01	370.56	0.00	0.00	0.00
3,500.00	10.18	48.85	3,466.76	255.49	292.32	388.23	0.00	0.00	0.00
3,600.00	10.18	48.85	3,565.18	267.12	305.63	405.91	0.00	0.00	0.00
3,700.00	10.18	48.85	3,663.61	278.76	318.94	423.59	0.00	0.00	0.00
3,800.00	10.18	48.85	3,762.03	290.39	332.25	441.27	0.00	0.00	0.00
PARKMAN									
3,880.23	10.18	48.85	3,841.00	299.72	342.93	455.45	0.00	0.00	0.00
Start Drop -2.00									
3,891.97	10.18	48.85	3,852.55	301.09	344.50	457.53	0.00	0.00	0.00
3,900.00	10.02	48.85	3,860.46	302.02	345.56	458.94	2.00	-2.00	0.00
4,000.00	8.02	48.85	3,959.21	312.34	357.36	474.62	2.00	-2.00	0.00
4,100.00	6.02	48.85	4,058.46	320.38	366.57	486.84	2.00	-2.00	0.00
4,200.00	4.02	48.85	4,158.07	326.14	373.16	495.59	2.00	-2.00	0.00
4,300.00	2.02	48.85	4,257.93	329.61	377.13	500.87	2.00	-2.00	0.00
4,400.00	0.02	48.85	4,357.91	330.78	378.47	502.65	2.00	-2.00	0.00
Start 3622.00 hold at 4401.09 MD - SUSSEX									
4,401.09	0.00	0.00	4,359.00	330.78	378.47	502.65	2.00	-2.00	0.00
4,500.00	0.00	0.00	4,457.91	330.78	378.47	502.65	0.00	0.00	0.00
4,600.00	0.00	0.00	4,557.91	330.78	378.47	502.65	0.00	0.00	0.00
4,700.00	0.00	0.00	4,657.91	330.78	378.47	502.65	0.00	0.00	0.00
4,800.00	0.00	0.00	4,757.91	330.78	378.47	502.65	0.00	0.00	0.00
4,900.00	0.00	0.00	4,857.91	330.78	378.47	502.65	0.00	0.00	0.00
5,000.00	0.00	0.00	4,957.91	330.78	378.47	502.65	0.00	0.00	0.00
5,100.00	0.00	0.00	5,057.91	330.78	378.47	502.65	0.00	0.00	0.00
5,200.00	0.00	0.00	5,157.91	330.78	378.47	502.65	0.00	0.00	0.00
5,300.00	0.00	0.00	5,257.91	330.78	378.47	502.65	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_SATER 7-8
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4923.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4923.00ft (Original Well Elev)
Site:	WELD_SATER 25-8 PAD	North Reference:	True
Well:	P_SATER 7-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_SATER 7-8		
Design:	PLAN #1 5-10-10 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)
5,400.00	0.00	0.00	5,357.91	330.78	378.47	502.65	0.00	0.00	0.00
5,500.00	0.00	0.00	5,457.91	330.78	378.47	502.65	0.00	0.00	0.00
5,600.00	0.00	0.00	5,557.91	330.78	378.47	502.65	0.00	0.00	0.00
5,700.00	0.00	0.00	5,657.91	330.78	378.47	502.65	0.00	0.00	0.00
5,800.00	0.00	0.00	5,757.91	330.78	378.47	502.65	0.00	0.00	0.00
5,900.00	0.00	0.00	5,857.91	330.78	378.47	502.65	0.00	0.00	0.00
6,000.00	0.00	0.00	5,957.91	330.78	378.47	502.65	0.00	0.00	0.00
6,100.00	0.00	0.00	6,057.91	330.78	378.47	502.65	0.00	0.00	0.00
6,200.00	0.00	0.00	6,157.91	330.78	378.47	502.65	0.00	0.00	0.00
6,300.00	0.00	0.00	6,257.91	330.78	378.47	502.65	0.00	0.00	0.00
6,400.00	0.00	0.00	6,357.91	330.78	378.47	502.65	0.00	0.00	0.00
6,500.00	0.00	0.00	6,457.91	330.78	378.47	502.65	0.00	0.00	0.00
6,600.00	0.00	0.00	6,557.91	330.78	378.47	502.65	0.00	0.00	0.00
6,700.00	0.00	0.00	6,657.91	330.78	378.47	502.65	0.00	0.00	0.00
6,800.00	0.00	0.00	6,757.91	330.78	378.47	502.65	0.00	0.00	0.00
6,900.00	0.00	0.00	6,857.91	330.78	378.47	502.65	0.00	0.00	0.00
7,000.00	0.00	0.00	6,957.91	330.78	378.47	502.65	0.00	0.00	0.00
7,100.00	0.00	0.00	7,057.91	330.78	378.47	502.65	0.00	0.00	0.00
NIO									
7,191.09	0.00	0.00	7,149.00	330.78	378.47	502.65	0.00	0.00	0.00
7,200.00	0.00	0.00	7,157.91	330.78	378.47	502.65	0.00	0.00	0.00
7,300.00	0.00	0.00	7,257.91	330.78	378.47	502.65	0.00	0.00	0.00
7,400.00	0.00	0.00	7,357.91	330.78	378.47	502.65	0.00	0.00	0.00
CODELL									
7,451.09	0.00	0.00	7,409.00	330.78	378.47	502.65	0.00	0.00	0.00
7,500.00	0.00	0.00	7,457.91	330.78	378.47	502.65	0.00	0.00	0.00
GREEN HORN									
7,523.09	0.00	0.00	7,481.00	330.78	378.47	502.65	0.00	0.00	0.00
7,600.00	0.00	0.00	7,557.91	330.78	378.47	502.65	0.00	0.00	0.00
7,700.00	0.00	0.00	7,657.91	330.78	378.47	502.65	0.00	0.00	0.00
7,800.00	0.00	0.00	7,757.91	330.78	378.47	502.65	0.00	0.00	0.00
JSAND									
7,873.09	0.00	0.00	7,831.00	330.78	378.47	502.65	0.00	0.00	0.00
7,900.00	0.00	0.00	7,857.91	330.78	378.47	502.65	0.00	0.00	0.00
8,000.00	0.00	0.00	7,957.91	330.78	378.47	502.65	0.00	0.00	0.00
PBHL_SATER 7-8(2130 FNL 2130 FEL)50' TGT RAD									
8,023.09	0.00	0.00	7,981.00	330.78	378.47	502.65	0.00	0.00	0.00

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL_SATER 7-8(21	0.00	0.00	7,981.00	330.78	378.47	1,299,636.17	3,164,307.24	40° 9' 15.844 N	104° 54' 43.830 W
- plan hits target center									
- Circle (radius 50.00)									

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_SATER 7-8
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4923.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4923.00ft (Original Well Elev)
Site:	WELD_SATER 25-8 PAD	North Reference:	True
Well:	P_SATER 7-8	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_SATER 7-8		
Design:	PLAN #1 5-10-10 RHS		

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
950.00	950.00	8 5/8"	8.62	11.00

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,880.23	3,841.00	PARKMAN			
4,401.09	4,359.00	SUSSEX			
7,191.09	7,149.00	NIO			
7,451.09	7,409.00	CODELL			
7,523.09	7,481.00	GREEN HORN			
7,873.09	7,831.00	JSAND			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,050.00	1,050.00	0.00	0.00	Start Build 2.00
1,559.12	1,556.45	29.69	33.97	Start 2332.85 hold at 1559.12 MD
3,891.97	3,852.55	301.09	344.50	Start Drop -2.00
4,401.09	4,359.00	330.78	378.47	Start 3622.00 hold at 4401.09 MD
8,023.09	7,981.00	330.78	378.47	TD at 8023.09