

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_BERGER PAD

Berger 29-2

Berger 29-2

Plan: Berger 29-2 (wp01)

Standard Planning Report

06 October, 2011

Project: COLORADO NORTHERN ZONE - 83
Site: WELD_BERGER PAD
Well: Berger 29-2
Wellbore: Berger 29-2
Section:
SHL:
Design: Berger 29-2 (wp01)
Latitude: 40.083916
Longitude: -104.863672
GL: 4959.01
KB: 15' rkb + 4959' gl @ 4974.00ft

FORMATION TOP DETAILS			
TVDPath	MDPath	PK Depth	Formation
4060.00	4229.77		
4520.00	4706.14	SX Depth	
7240.00	7429.72	NIO Depth	
7550.00	7739.72	CD Depth	
7638.00	7827.72	GH Depth	
7990.00	8179.72	J Depth	

WELL DETAILS: Berger 29-2						
+N/-S	+E/-W	Northing	Ground Level: Easting	4959.01 Latitude	Longitude	Slot
0.00	0.00	1274054.20	3178048.69	40.083916	-104.863672	

CASING DETAILS
No casing data is available

T

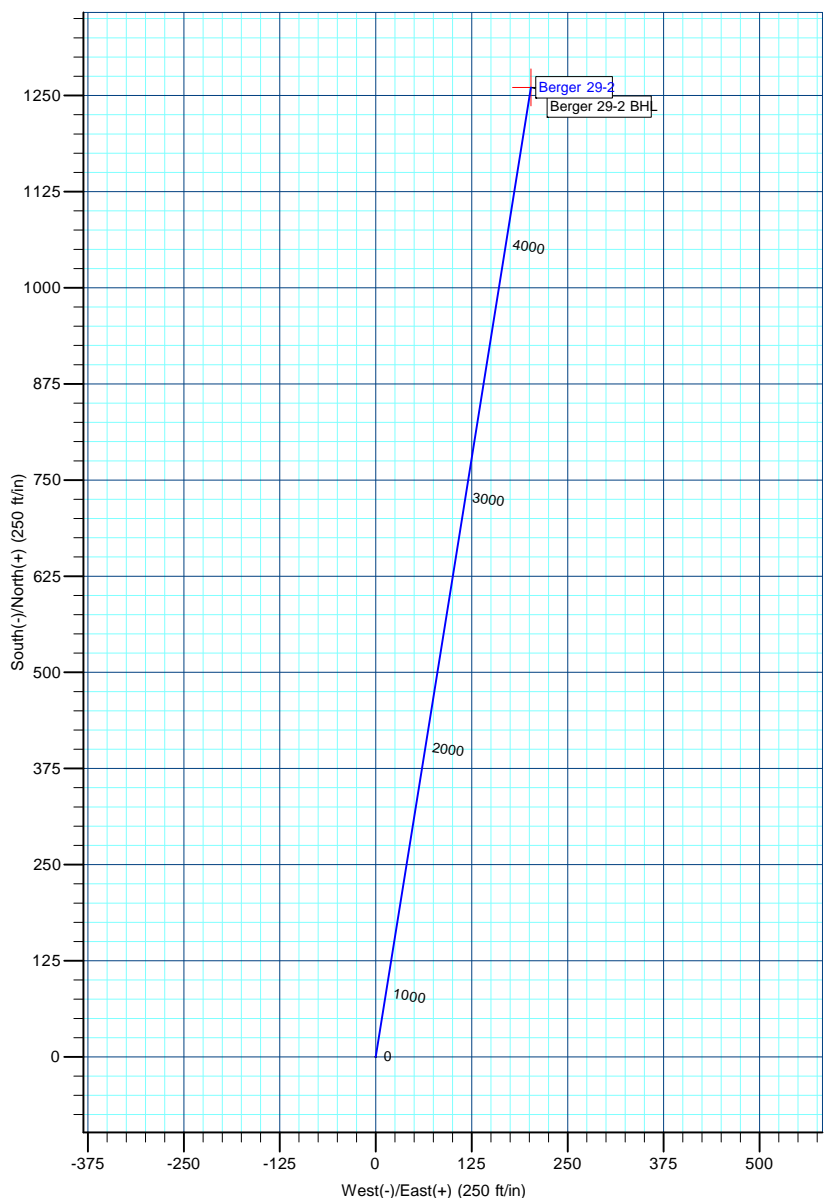
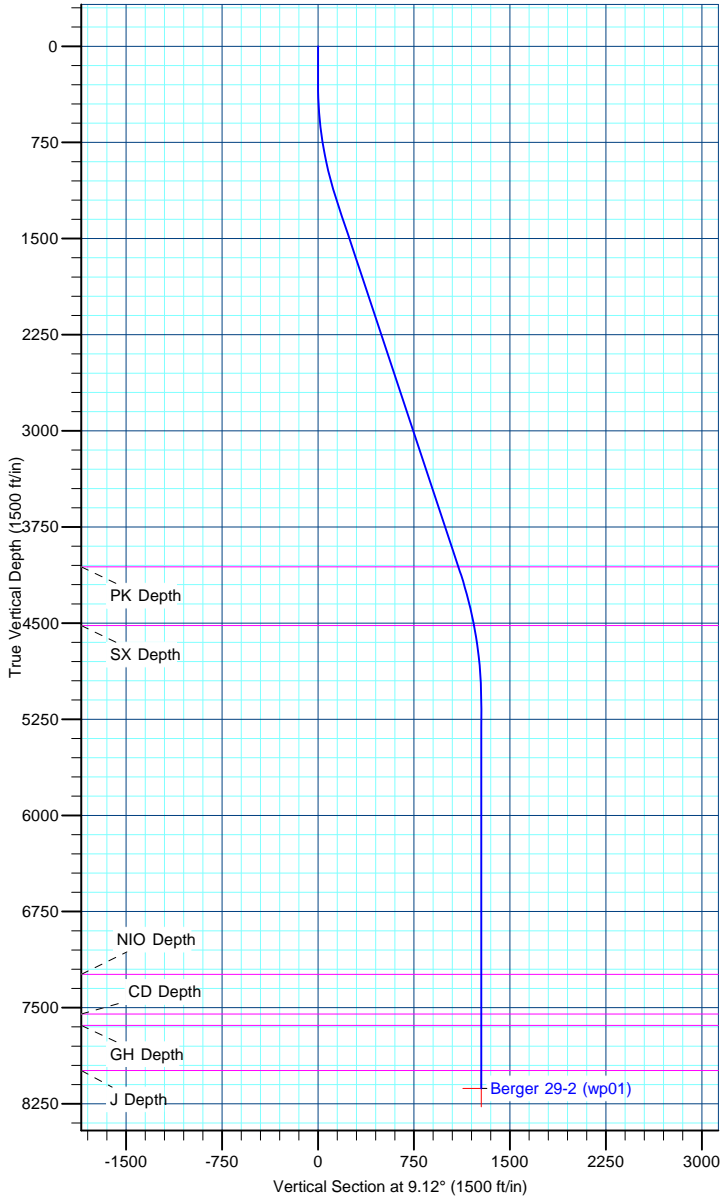
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Azimuths to True North
Magnetic North: 8.85°

Magnetic Field
Strength: 52920.5snT
Dip Angle: 66.77°
Date: 10/6/2011
Model: IGRF2010

DESIGN TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape Point
Berger 29-2 BHL	8130.00	1260.42	202.29	1275316.03	3178241.93	40.087376	-104.862949	

SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
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
1220.51	18.41	9.12	1204.75	144.77	23.23	2.00	9.12	146.62
4267.71	18.41	9.12	4096.00	1094.97	175.74	0.00	0.00	1108.98
5319.72	0.00	0.00	5130.00	1260.42	202.29	1.75	180.00	1276.55
8319.72	0.00	0.00	8130.00	1260.42	202.29	0.00	0.00	1276.55



Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well Berger 29-2
Company:	US ROCKIES REGION PLANNING	TVD Reference:	15' rkb + 4959' gl @ 4974.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	15' rkb + 4959' gl @ 4974.00ft
Site:	WELD_BERGER PAD	North Reference:	True
Well:	Berger 29-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Berger 29-2		
Design:	Berger 29-2 (wp01)		

Project	COLORADO NORTHERN ZONE - 83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	WELD_BERGER PAD			
Site Position:		Northing:	1,274,067.38 usft	Latitude: 40.083952
From:	Lat/Long	Easting:	3,178,056.15 usft	Longitude: -104.863645
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence: 0.41 °

Well	Berger 29-2			
Well Position	+N/-S	-13.13 ft	Northing:	1,274,054.20 usft
	+E/-W	-7.55 ft	Easting:	3,178,048.69 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	Latitude: 40.083916
				Longitude: -104.863672
				Ground Level: 4,959.01 ft

Wellbore	Berger 29-2				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/6/2011	8.85	66.77	52,920

Design	Berger 29-2 (wp01)			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	9.12

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,220.51	18.41	9.12	1,204.75	144.77	23.23	2.00	2.00	0.00	9.12	
4,267.71	18.41	9.12	4,096.00	1,094.97	175.74	0.00	0.00	0.00	0.00	
5,319.72	0.00	0.00	5,130.00	1,260.42	202.29	1.75	-1.75	0.00	180.00	
8,319.72	0.00	0.00	8,130.00	1,260.42	202.29	0.00	0.00	0.00	0.00	Berger 29-2 BHL

Anadarko Petroleum Corp

Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well Berger 29-2
Company:	US ROCKIES REGION PLANNING	TVD Reference:	15' rkb + 4959' gl @ 4974.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	15' rkb + 4959' gl @ 4974.00ft
Site:	WELD_BERGER PAD	North Reference:	True
Well:	Berger 29-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Berger 29-2		
Design:	Berger 29-2 (wp01)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	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
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	2.00	9.12	399.98	1.72	0.28	1.75	2.00	2.00	0.00
500.00	4.00	9.12	499.84	6.89	1.11	6.98	2.00	2.00	0.00
600.00	6.00	9.12	599.45	15.50	2.49	15.69	2.00	2.00	0.00
700.00	8.00	9.12	698.70	27.53	4.42	27.88	2.00	2.00	0.00
800.00	10.00	9.12	797.47	42.97	6.90	43.52	2.00	2.00	0.00
900.00	12.00	9.12	895.62	61.81	9.92	62.60	2.00	2.00	0.00
1,000.00	14.00	9.12	993.06	84.02	13.49	85.10	2.00	2.00	0.00
1,100.00	16.00	9.12	1,089.64	109.57	17.59	110.98	2.00	2.00	0.00
1,200.00	18.00	9.12	1,185.27	138.44	22.22	140.21	2.00	2.00	0.00
1,220.51	18.41	9.12	1,204.75	144.77	23.23	146.62	2.00	2.00	0.00
1,300.00	18.41	9.12	1,280.17	169.55	27.21	171.72	0.00	0.00	0.00
1,400.00	18.41	9.12	1,375.06	200.74	32.22	203.31	0.00	0.00	0.00
1,500.00	18.41	9.12	1,469.94	231.92	37.22	234.89	0.00	0.00	0.00
1,600.00	18.41	9.12	1,564.82	263.10	42.23	266.47	0.00	0.00	0.00
1,700.00	18.41	9.12	1,659.70	294.29	47.23	298.05	0.00	0.00	0.00
1,800.00	18.41	9.12	1,754.58	325.47	52.24	329.63	0.00	0.00	0.00
1,900.00	18.41	9.12	1,849.47	356.65	57.24	361.22	0.00	0.00	0.00
2,000.00	18.41	9.12	1,944.35	387.83	62.25	392.80	0.00	0.00	0.00
2,100.00	18.41	9.12	2,039.23	419.02	67.25	424.38	0.00	0.00	0.00
2,200.00	18.41	9.12	2,134.11	450.20	72.26	455.96	0.00	0.00	0.00
2,300.00	18.41	9.12	2,228.99	481.38	77.26	487.54	0.00	0.00	0.00
2,400.00	18.41	9.12	2,323.88	512.56	82.26	519.12	0.00	0.00	0.00
2,500.00	18.41	9.12	2,418.76	543.75	87.27	550.71	0.00	0.00	0.00
2,600.00	18.41	9.12	2,513.64	574.93	92.27	582.29	0.00	0.00	0.00
2,700.00	18.41	9.12	2,608.52	606.11	97.28	613.87	0.00	0.00	0.00
2,800.00	18.41	9.12	2,703.40	637.29	102.28	645.45	0.00	0.00	0.00
2,900.00	18.41	9.12	2,798.29	668.48	107.29	677.03	0.00	0.00	0.00
3,000.00	18.41	9.12	2,893.17	699.66	112.29	708.61	0.00	0.00	0.00
3,100.00	18.41	9.12	2,988.05	730.84	117.30	740.20	0.00	0.00	0.00
3,200.00	18.41	9.12	3,082.93	762.03	122.30	771.78	0.00	0.00	0.00
3,300.00	18.41	9.12	3,177.81	793.21	127.31	803.36	0.00	0.00	0.00
3,400.00	18.41	9.12	3,272.70	824.39	132.31	834.94	0.00	0.00	0.00
3,500.00	18.41	9.12	3,367.58	855.57	137.32	866.52	0.00	0.00	0.00
3,600.00	18.41	9.12	3,462.46	886.76	142.32	898.10	0.00	0.00	0.00
3,700.00	18.41	9.12	3,557.34	917.94	147.33	929.69	0.00	0.00	0.00
3,800.00	18.41	9.12	3,652.22	949.12	152.33	961.27	0.00	0.00	0.00
3,900.00	18.41	9.12	3,747.11	980.30	157.34	992.85	0.00	0.00	0.00
4,000.00	18.41	9.12	3,841.99	1,011.49	162.34	1,024.43	0.00	0.00	0.00
4,100.00	18.41	9.12	3,936.87	1,042.67	167.34	1,056.01	0.00	0.00	0.00
4,200.00	18.41	9.12	4,031.75	1,073.85	172.35	1,087.60	0.00	0.00	0.00
4,229.77	18.41	9.12	4,060.00	1,083.14	173.84	1,097.00	0.00	0.00	0.00
PK Depth									
4,267.71	18.41	9.12	4,096.00	1,094.97	175.74	1,108.98	0.00	0.00	0.00
4,300.00	17.85	9.12	4,126.68	1,104.89	177.33	1,119.03	1.75	-1.75	0.00
4,400.00	16.10	9.12	4,222.33	1,133.70	181.96	1,148.21	1.75	-1.75	0.00
4,500.00	14.35	9.12	4,318.81	1,159.62	186.12	1,174.46	1.75	-1.75	0.00
4,600.00	12.60	9.12	4,416.06	1,182.62	189.81	1,197.76	1.75	-1.75	0.00
4,700.00	10.85	9.12	4,513.97	1,202.68	193.03	1,218.07	1.75	-1.75	0.00
4,706.14	10.74	9.12	4,520.00	1,203.81	193.21	1,219.22	1.75	-1.75	0.00
SX Depth									

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	15' rkb + 4959' gl @ 4974.00ft
Site:	WELD_BERGER PAD	North Reference:	True
Well:	Berger 29-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Berger 29-2		
Design:	Berger 29-2 (wp01)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,800.00	9.10	9.12	4,612.46	1,219.77	195.77	1,235.38	1.75	-1.75	0.00
4,900.00	7.35	9.12	4,711.43	1,233.89	198.03	1,249.68	1.75	-1.75	0.00
5,000.00	5.60	9.12	4,810.78	1,245.01	199.82	1,260.95	1.75	-1.75	0.00
5,100.00	3.85	9.12	4,910.44	1,253.14	201.12	1,269.18	1.75	-1.75	0.00
5,200.00	2.10	9.12	5,010.30	1,258.25	201.95	1,274.36	1.75	-1.75	0.00
5,300.00	0.35	9.12	5,110.28	1,260.36	202.28	1,276.49	1.75	-1.75	0.00
5,319.72	0.00	0.00	5,130.00	1,260.42	202.29	1,276.55	1.75	-1.75	0.00
5,400.00	0.00	0.00	5,210.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
5,500.00	0.00	0.00	5,310.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
5,600.00	0.00	0.00	5,410.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
5,700.00	0.00	0.00	5,510.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
5,800.00	0.00	0.00	5,610.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
5,900.00	0.00	0.00	5,710.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
6,000.00	0.00	0.00	5,810.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
6,100.00	0.00	0.00	5,910.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
6,200.00	0.00	0.00	6,010.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
6,300.00	0.00	0.00	6,110.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
6,400.00	0.00	0.00	6,210.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
6,500.00	0.00	0.00	6,310.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
6,600.00	0.00	0.00	6,410.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
6,700.00	0.00	0.00	6,510.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
6,800.00	0.00	0.00	6,610.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
6,900.00	0.00	0.00	6,710.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
7,000.00	0.00	0.00	6,810.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
7,100.00	0.00	0.00	6,910.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
7,200.00	0.00	0.00	7,010.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
7,300.00	0.00	0.00	7,110.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
7,400.00	0.00	0.00	7,210.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
7,429.72	0.00	0.00	7,240.00	1,260.42	202.29	1,276.55	0.00	0.00	0.00
NIO Depth									
7,500.00	0.00	0.00	7,310.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
7,600.00	0.00	0.00	7,410.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
7,700.00	0.00	0.00	7,510.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
7,739.72	0.00	0.00	7,550.00	1,260.42	202.29	1,276.55	0.00	0.00	0.00
CD Depth									
7,800.00	0.00	0.00	7,610.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
7,827.72	0.00	0.00	7,638.00	1,260.42	202.29	1,276.55	0.00	0.00	0.00
GH Depth									
7,900.00	0.00	0.00	7,710.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
8,000.00	0.00	0.00	7,810.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
8,100.00	0.00	0.00	7,910.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
8,179.72	0.00	0.00	7,990.00	1,260.42	202.29	1,276.55	0.00	0.00	0.00
J Depth									
8,200.00	0.00	0.00	8,010.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
8,300.00	0.00	0.00	8,110.28	1,260.42	202.29	1,276.55	0.00	0.00	0.00
8,319.72	0.00	0.00	8,130.00	1,260.42	202.29	1,276.55	0.00	0.00	0.00
Berger 29-2 BHL									

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Planning Report

Database:	edmp	Local Co-ordinate Reference:	Well Berger 29-2
Company:	US ROCKIES REGION PLANNING	TVD Reference:	15' rkb + 4959' gl @ 4974.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	15' rkb + 4959' gl @ 4974.00ft
Site:	WELD_BERGER PAD	North Reference:	True
Well:	Berger 29-2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Berger 29-2		
Design:	Berger 29-2 (wp01)		

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									
Berger 29-2 BHL	0.00	0.00	8,130.00	1,260.42	202.29	1,275,316.03	3,178,241.93	40.087376	-104.862949
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(ft)	(ft)			(°)	(°)	
4,229.77	4,060.00	PK Depth				
4,706.14	4,520.00	SX Depth				
7,429.72	7,240.00	NIO Depth				
7,739.72	7,550.00	CD Depth				
7,827.72	7,638.00	GH Depth				
8,179.72	7,990.00	J Depth				