

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_DOWDY 19-11 PAD

DOWDY 35-11

DOWDY 35-11

Plan: P_DOWDY 35-11 (wp01)

Standard Planning Report

10 November, 2010



Project: COLORADO NORTHERN ZONE - 83
Site: WELD_DOWDY 19-11 PAD
Well: DOWDY 35-11
Wellbore: DOWDY 35-11
Section:
SHL:
Design: P_DOWDY 35-11 (wp01)
Latitude: 40.148549
Longitude: -104.636829
GL: 4866.00
KB: GL @ 4866.00ft



Azimuths to True North
Magnetic North: 8.85°

Magnetic Field
Strength: 53075.6nT
Dip Angle: 66.89°
Date: 11/10/2010
Model: IGRF2010



Weatherford®

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4066.00	4234.77	PK
4421.00	4590.09	SX
6826.00	6995.09	NIO
7111.00	7280.09	CD
7192.00	7361.09	GH
7566.00	7735.09	J

WELL DETAILS: DOWDY 35-11

+N/-S	+E/-W	Northing	Ground Level: Easting	4866.00 Latitude	Longitude	Slot
0.00	0.00	1298134.17	3241289.90	40.148549	-104.636829	

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

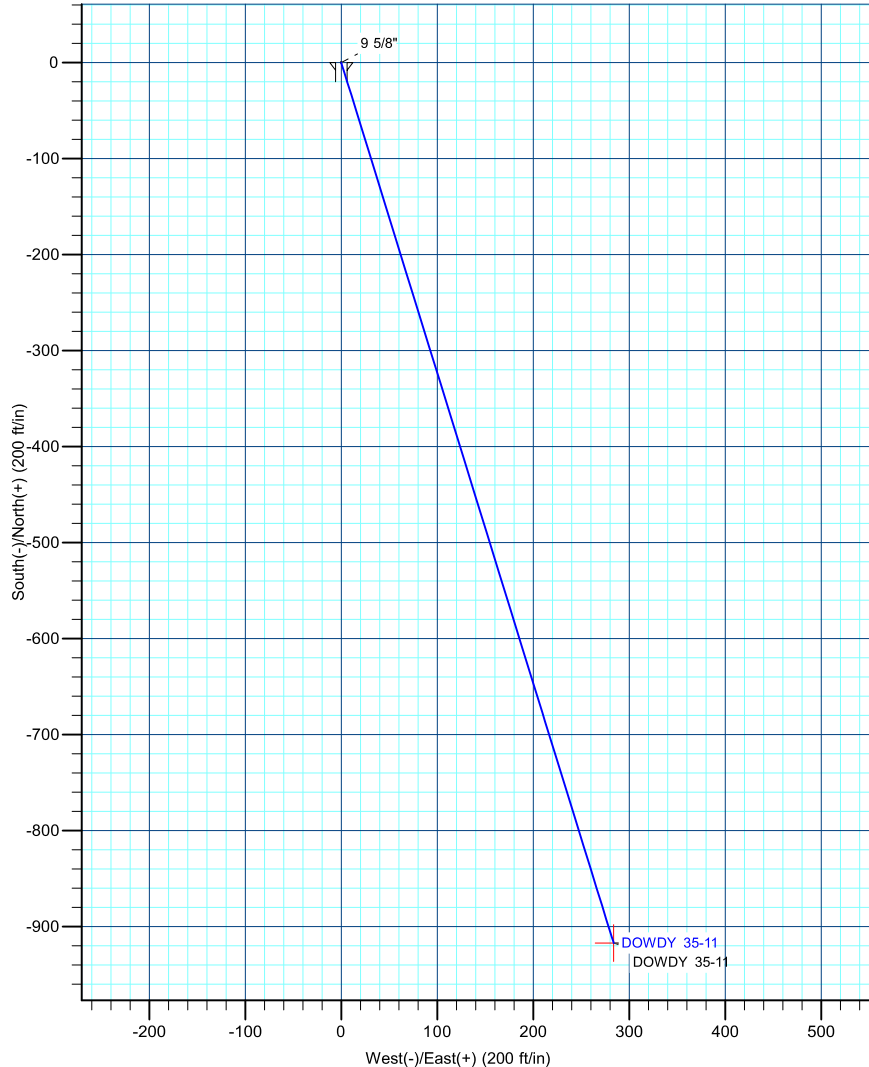
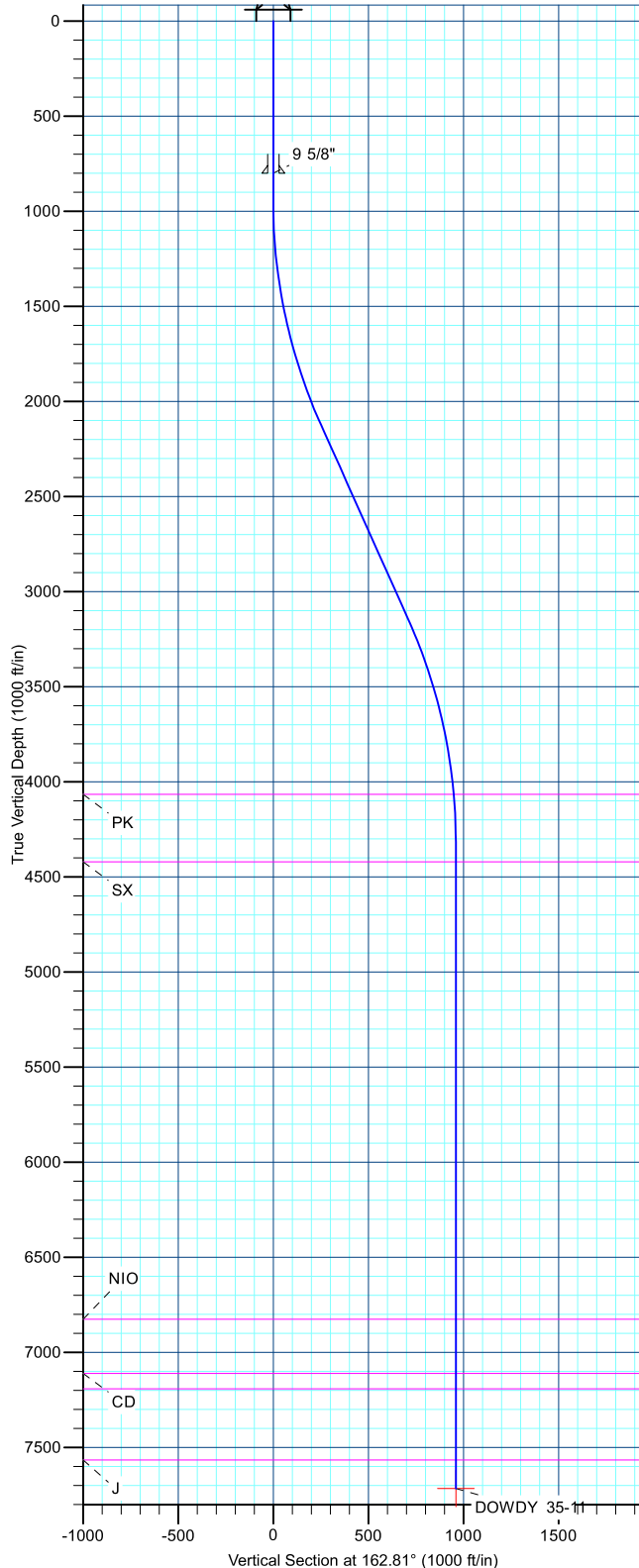
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Point	Shape
DOWDY 35-11	7716.00	-917.25	283.75	40.146031	-104.635814		

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	950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	
3	2158.64	24.17	162.81	2123.10	-239.98	74.24	2.00	162.81	251.20	
4	3276.45	24.17	162.81	3142.90	-677.27	209.51	0.00	0.00	708.93	
5	4485.09	0.00	0.00	4316.00	-917.25	283.75	2.00	180.00	960.13	
6	7885.09	0.00	0.00	7716.00	-917.25	283.75	0.00	0.00	960.13	DOWDY 35-11

CASING DETAILS

TVD	MD	Name	Size
800.00	800.00	9 5/8"	9-5/8



Database:	edm5000p	Local Co-ordinate Reference:	Well DOWDY 35-11
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL @ 4866.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL @ 4866.00ft
Site:	WELD_DOWDY 19-11 PAD	North Reference:	True
Well:	DOWDY 35-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	DOWDY 35-11		
Design:	P_DOWDY 35-11 (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_DOWDY 19-11 PAD			
Site Position:		Northing:	1,298,134.39 ft	Latitude:	40.148550
From:	Lat/Long	Easting:	3,241,273.69 ft	Longitude:	-104.636887
Position Uncertainty:	0.00 ft	Slot Radius:	0 "	Grid Convergence:	0.56 °

Well	DOWDY 35-11					
Well Position	+N/-S	-0.37 ft	Northing:	1,298,134.17 ft	Latitude:	40.148549
	+E/-W	16.21 ft	Easting:	3,241,289.91 ft	Longitude:	-104.636829
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,866.00 ft

Wellbore	DOWDY 35-11				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/10/2010	8.85	66.89	53,076

Design	P_DOWDY 35-11 (wp01)				
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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	162.81	

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	
950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,158.64	24.17	162.81	2,123.10	-239.98	74.24	2.00	2.00	0.00	162.81	
3,276.45	24.17	162.81	3,142.90	-677.27	209.51	0.00	0.00	0.00	0.00	
4,485.09	0.00	0.00	4,316.00	-917.25	283.75	2.00	-2.00	0.00	180.00	
7,885.09	0.00	0.00	7,716.00	-917.25	283.75	0.00	0.00	0.00	0.00	DOWDY 35-11

Database:	edm5000p	Local Co-ordinate Reference:	Well DOWDY 35-11
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL @ 4866.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL @ 4866.00ft
Site:	WELD_DOWDY 19-11 PAD	North Reference:	True
Well:	DOWDY 35-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	DOWDY 35-11		
Design:	P_DOWDY 35-11 (wp01)		

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
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	1.00	162.81	1,000.00	-0.42	0.13	0.44	2.00	2.00	0.00
1,100.00	3.00	162.81	1,099.93	-3.75	1.16	3.93	2.00	2.00	0.00
1,200.00	5.00	162.81	1,199.68	-10.41	3.22	10.90	2.00	2.00	0.00
1,300.00	7.00	162.81	1,299.13	-20.40	6.31	21.35	2.00	2.00	0.00
1,400.00	9.00	162.81	1,398.15	-33.69	10.42	35.27	2.00	2.00	0.00
1,500.00	11.00	162.81	1,496.63	-50.28	15.55	52.63	2.00	2.00	0.00
1,600.00	13.00	162.81	1,594.44	-70.14	21.70	73.42	2.00	2.00	0.00
1,700.00	15.00	162.81	1,691.46	-93.26	28.85	97.62	2.00	2.00	0.00
1,800.00	17.00	162.81	1,787.58	-119.59	36.99	125.18	2.00	2.00	0.00
1,900.00	19.00	162.81	1,882.68	-149.11	46.13	156.08	2.00	2.00	0.00
2,000.00	21.00	162.81	1,976.65	-181.78	56.23	190.28	2.00	2.00	0.00
2,100.00	23.00	162.81	2,069.36	-217.56	67.30	227.74	2.00	2.00	0.00
2,158.64	24.17	162.81	2,123.10	-239.98	74.24	251.20	2.00	2.00	0.00
2,200.00	24.17	162.81	2,160.84	-256.16	79.24	268.14	0.00	0.00	0.00
2,300.00	24.17	162.81	2,252.07	-295.28	91.34	309.09	0.00	0.00	0.00
2,400.00	24.17	162.81	2,343.30	-334.40	103.45	350.03	0.00	0.00	0.00
2,500.00	24.17	162.81	2,434.53	-373.52	115.55	390.98	0.00	0.00	0.00
2,600.00	24.17	162.81	2,525.76	-412.64	127.65	431.93	0.00	0.00	0.00
2,700.00	24.17	162.81	2,616.99	-451.76	139.75	472.88	0.00	0.00	0.00
2,800.00	24.17	162.81	2,708.22	-490.88	151.85	513.83	0.00	0.00	0.00
2,900.00	24.17	162.81	2,799.46	-530.00	163.95	554.78	0.00	0.00	0.00
3,000.00	24.17	162.81	2,890.69	-569.12	176.06	595.73	0.00	0.00	0.00
3,100.00	24.17	162.81	2,981.92	-608.24	188.16	636.68	0.00	0.00	0.00
3,200.00	24.17	162.81	3,073.15	-647.36	200.26	677.63	0.00	0.00	0.00
3,276.45	24.17	162.81	3,142.90	-677.27	209.51	708.93	0.00	0.00	0.00
3,300.00	23.70	162.81	3,164.42	-686.40	212.33	718.49	2.00	-2.00	0.00
3,400.00	21.70	162.81	3,256.67	-723.26	223.74	757.08	2.00	-2.00	0.00
3,500.00	19.70	162.81	3,350.21	-757.03	234.19	792.43	2.00	-2.00	0.00
3,600.00	17.70	162.81	3,444.92	-787.66	243.66	824.49	2.00	-2.00	0.00
3,700.00	15.70	162.81	3,540.70	-815.12	252.15	853.23	2.00	-2.00	0.00
3,800.00	13.70	162.81	3,637.42	-839.36	259.65	878.61	2.00	-2.00	0.00
3,900.00	11.70	162.81	3,734.97	-860.37	266.15	900.59	2.00	-2.00	0.00
4,000.00	9.70	162.81	3,833.22	-878.11	271.64	919.16	2.00	-2.00	0.00
4,100.00	7.70	162.81	3,932.07	-892.56	276.11	934.29	2.00	-2.00	0.00
4,200.00	5.70	162.81	4,031.38	-903.71	279.56	945.96	2.00	-2.00	0.00
4,234.77	5.01	162.81	4,066.00	-906.81	280.52	949.20	2.00	-2.00	0.00
PK									
4,300.00	3.70	162.81	4,131.04	-911.54	281.98	954.16	2.00	-2.00	0.00
4,400.00	1.70	162.81	4,230.92	-916.04	283.37	958.87	2.00	-2.00	0.00
4,485.09	0.00	0.00	4,316.00	-917.25	283.75	960.13	2.00	-2.00	0.00
4,500.00	0.00	0.00	4,330.91	-917.25	283.75	960.13	0.00	0.00	0.00
4,590.09	0.00	0.00	4,421.00	-917.25	283.75	960.13	0.00	0.00	0.00

Database:	edm5000p	Local Co-ordinate Reference:	Well DOWDY 35-11
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL @ 4866.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL @ 4866.00ft
Site:	WELD_DOWDY 19-11 PAD	North Reference:	True
Well:	DOWDY 35-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	DOWDY 35-11		
Design:	P_DOWDY 35-11 (wp01)		

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)
SX									
4,600.00	0.00	0.00	4,430.91	-917.25	283.75	960.13	0.00	0.00	0.00
4,700.00	0.00	0.00	4,530.91	-917.25	283.75	960.13	0.00	0.00	0.00
4,800.00	0.00	0.00	4,630.91	-917.25	283.75	960.13	0.00	0.00	0.00
4,900.00	0.00	0.00	4,730.91	-917.25	283.75	960.13	0.00	0.00	0.00
5,000.00	0.00	0.00	4,830.91	-917.25	283.75	960.13	0.00	0.00	0.00
5,100.00	0.00	0.00	4,930.91	-917.25	283.75	960.13	0.00	0.00	0.00
5,200.00	0.00	0.00	5,030.91	-917.25	283.75	960.13	0.00	0.00	0.00
5,300.00	0.00	0.00	5,130.91	-917.25	283.75	960.13	0.00	0.00	0.00
5,400.00	0.00	0.00	5,230.91	-917.25	283.75	960.13	0.00	0.00	0.00
5,500.00	0.00	0.00	5,330.91	-917.25	283.75	960.13	0.00	0.00	0.00
5,600.00	0.00	0.00	5,430.91	-917.25	283.75	960.13	0.00	0.00	0.00
5,700.00	0.00	0.00	5,530.91	-917.25	283.75	960.13	0.00	0.00	0.00
5,800.00	0.00	0.00	5,630.91	-917.25	283.75	960.13	0.00	0.00	0.00
5,900.00	0.00	0.00	5,730.91	-917.25	283.75	960.13	0.00	0.00	0.00
6,000.00	0.00	0.00	5,830.91	-917.25	283.75	960.13	0.00	0.00	0.00
6,100.00	0.00	0.00	5,930.91	-917.25	283.75	960.13	0.00	0.00	0.00
6,200.00	0.00	0.00	6,030.91	-917.25	283.75	960.13	0.00	0.00	0.00
6,300.00	0.00	0.00	6,130.91	-917.25	283.75	960.13	0.00	0.00	0.00
6,400.00	0.00	0.00	6,230.91	-917.25	283.75	960.13	0.00	0.00	0.00
6,500.00	0.00	0.00	6,330.91	-917.25	283.75	960.13	0.00	0.00	0.00
6,600.00	0.00	0.00	6,430.91	-917.25	283.75	960.13	0.00	0.00	0.00
6,700.00	0.00	0.00	6,530.91	-917.25	283.75	960.13	0.00	0.00	0.00
6,800.00	0.00	0.00	6,630.91	-917.25	283.75	960.13	0.00	0.00	0.00
6,900.00	0.00	0.00	6,730.91	-917.25	283.75	960.13	0.00	0.00	0.00
6,995.09	0.00	0.00	6,826.00	-917.25	283.75	960.13	0.00	0.00	0.00
NIO									
7,000.00	0.00	0.00	6,830.91	-917.25	283.75	960.13	0.00	0.00	0.00
7,100.00	0.00	0.00	6,930.91	-917.25	283.75	960.13	0.00	0.00	0.00
7,200.00	0.00	0.00	7,030.91	-917.25	283.75	960.13	0.00	0.00	0.00
7,280.09	0.00	0.00	7,111.00	-917.25	283.75	960.13	0.00	0.00	0.00
CD									
7,300.00	0.00	0.00	7,130.91	-917.25	283.75	960.13	0.00	0.00	0.00
7,361.09	0.00	0.00	7,192.00	-917.25	283.75	960.13	0.00	0.00	0.00
GH									
7,400.00	0.00	0.00	7,230.91	-917.25	283.75	960.13	0.00	0.00	0.00
7,500.00	0.00	0.00	7,330.91	-917.25	283.75	960.13	0.00	0.00	0.00
7,600.00	0.00	0.00	7,430.91	-917.25	283.75	960.13	0.00	0.00	0.00
7,700.00	0.00	0.00	7,530.91	-917.25	283.75	960.13	0.00	0.00	0.00
7,735.09	0.00	0.00	7,566.00	-917.25	283.75	960.13	0.00	0.00	0.00
J									
7,800.00	0.00	0.00	7,630.91	-917.25	283.75	960.13	0.00	0.00	0.00
7,885.09	0.00	0.00	7,716.00	-917.25	283.75	960.13	0.00	0.00	0.00
DOWDY 35-11									

Database:	edm5000p	Local Co-ordinate Reference:	Well DOWDY 35-11
Company:	US ROCKIES REGION PLANNING	TVD Reference:	GL @ 4866.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	GL @ 4866.00ft
Site:	WELD_DOWDY 19-11 PAD	North Reference:	True
Well:	DOWDY 35-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	DOWDY 35-11		
Design:	P_DOWDY 35-11 (wp01)		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
DOWDY 35-11	0.00	0.00	7,716.00	-917.25	283.75	1,297,219.73	3,241,582.57	40.146031	-104.635814
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth		Name	Casing Diameter	Hole Diameter
(ft)	(ft)			(")	(")
800.00	800.00	9 5/8"		9-5/8	12-1/4

Formations					
Measured Depth	Vertical Depth		Name	Lithology	Dip
(ft)	(ft)				(°)
4,234.77	4,066.00	PK			
4,590.09	4,421.00	SX			
6,995.09	6,826.00	NIO			
7,280.09	7,111.00	CD			
7,361.09	7,192.00	GH			
7,735.09	7,566.00	J			