

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_DOWDY 19-11PAD

DOWDY 36-11

DOWDY 36-11

Plan: P_DOWDY 36-11 (wp01)

Standard Planning Report

10 November, 2010



Weatherford[®]

Project: COLORADO NORTHERN ZONE - 83
 Site: WELD_DOWDY 19-11 PAD
 Well: DOWDY 36-11
 Wellbore: DOWDY 36-11
 Section:
 SHL:
 Design: P_DOWDY 36-11 (wp01)
 Latitude: 40.148549
 Longitude: -104.636772
 GL: 4866.00
 KB: WELL @ 4866.00ft (Original Well Elev)



Azimuths to True North
Magnetic North: 8.85°

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



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4066.00	4286.63	PK
4421.00	4675.45	SX
6826.00	7175.23	NIO
7111.00	7460.23	CD
7192.00	7541.23	GH
7566.00	7915.23	J

WELL DETAILS: DOWDY 36-11

+N/-S	+E/-W	Northing	Ground Level:	4866.00	Latitude	Longitude	Slot
0.00	0.00	1298134.32	Easting	3241305.84	40.148549	-104.636772	

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

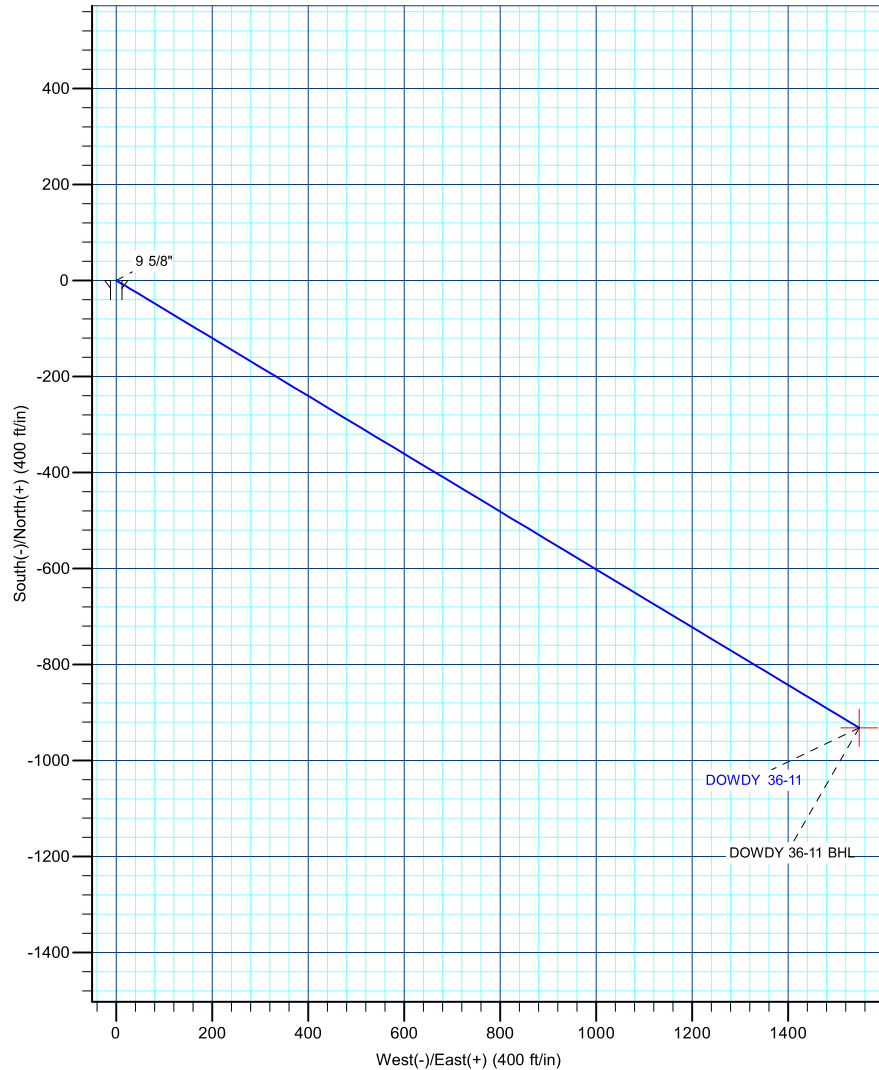
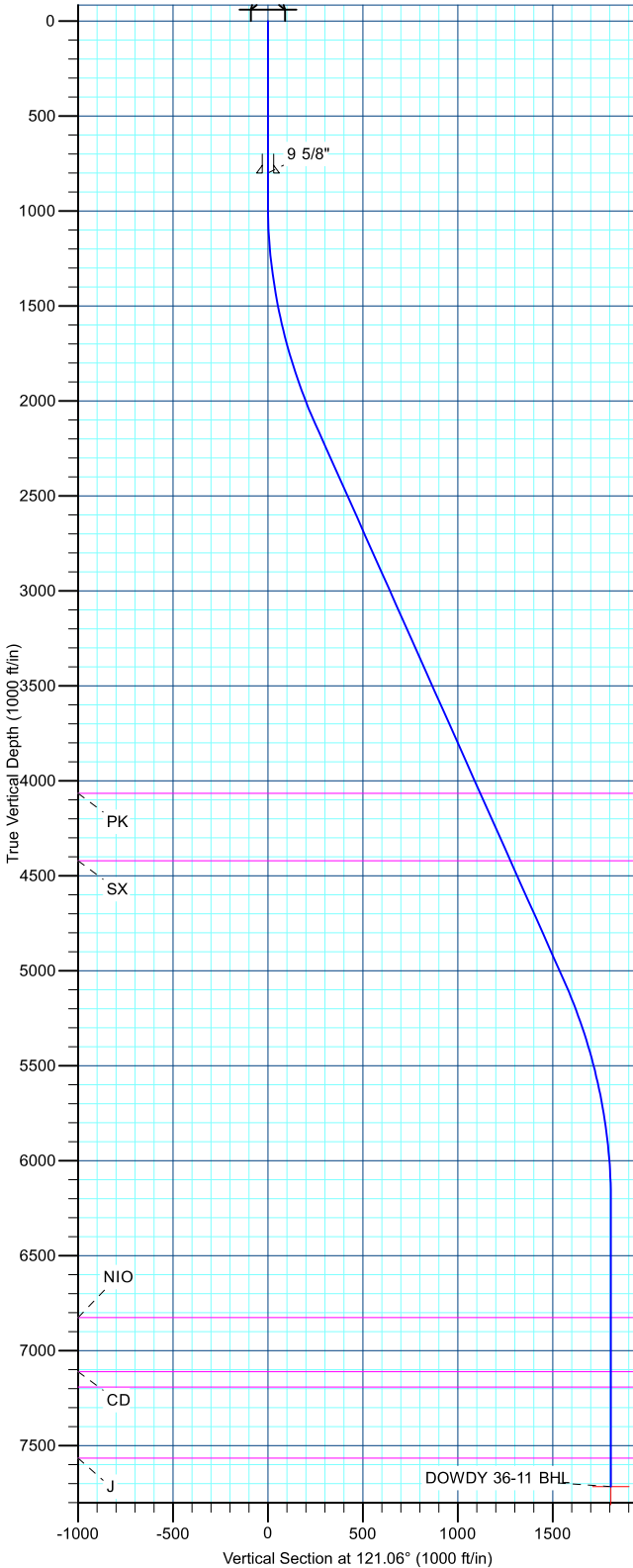
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
DOWDY 36-11 BHL	6816.00	-932.12	1547.89	40.145990	-104.631235	Point

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	950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	
3	2153.69	24.07	121.06	2118.59	-128.54	213.46	2.00	121.06	249.18	
4	5361.53	24.07	121.06	5047.41	-803.58	1334.43	0.00	0.00	1557.70	
5	6565.23	0.00	0.00	6216.00	-932.12	1547.89	2.00	180.00	1806.88	
6	8065.23	0.00	0.00	7716.00	-932.12	1547.89	0.00	0.00	1806.88	DOWDY 36-11 BHL

CASING DETAILS

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



Database:	edm5000p	Local Co-ordinate Reference:	Well DOWDY 36-11
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4866.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4866.00ft (Original Well Elev)
Site:	WELD_DOWDY 19-11 PAD	North Reference:	True
Well:	DOWDY 36-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	DOWDY 36-11		
Design:	P_DOWDY 36-11 (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 36-11					
Well Position	+N/-S	-0.39 ft	Northing:	1,298,134.32 ft	Latitude:	40.148549
	+E/-W	32.15 ft	Easting:	3,241,305.84 ft	Longitude:	-104.636772
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,866.00 ft

Wellbore	DOWDY 36-11				
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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 36-11 (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	121.06	

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	
2,153.69	24.07	121.06	2,118.59	-128.54	213.46	2.00	2.00	0.00	121.06	
5,361.54	24.07	121.06	5,047.41	-803.58	1,334.43	0.00	0.00	0.00	0.00	
6,565.23	0.00	0.00	6,216.00	-932.12	1,547.89	2.00	-2.00	0.00	180.00	
8,065.23	0.00	0.00	7,716.00	-932.12	1,547.89	0.00	0.00	0.00	0.00	DOWDY 36-11 BHL

Database:	edm5000p	Local Co-ordinate Reference:	Well DOWDY 36-11
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4866.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4866.00ft (Original Well Elev)
Site:	WELD_DOWDY 19-11 PAD	North Reference:	True
Well:	DOWDY 36-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	DOWDY 36-11		
Design:	P_DOWDY 36-11 (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	121.06	1,000.00	-0.23	0.37	0.44	2.00	2.00	0.00
1,100.00	3.00	121.06	1,099.93	-2.03	3.36	3.93	2.00	2.00	0.00
1,200.00	5.00	121.06	1,199.68	-5.62	9.34	10.90	2.00	2.00	0.00
1,300.00	7.00	121.06	1,299.13	-11.02	18.29	21.35	2.00	2.00	0.00
1,400.00	9.00	121.06	1,398.15	-18.20	30.21	35.27	2.00	2.00	0.00
1,500.00	11.00	121.06	1,496.63	-27.15	45.09	52.63	2.00	2.00	0.00
1,600.00	13.00	121.06	1,594.44	-37.88	62.90	73.42	2.00	2.00	0.00
1,700.00	15.00	121.06	1,691.46	-50.36	83.62	97.62	2.00	2.00	0.00
1,800.00	17.00	121.06	1,787.58	-64.58	107.24	125.18	2.00	2.00	0.00
1,900.00	19.00	121.06	1,882.68	-80.52	133.71	156.08	2.00	2.00	0.00
2,000.00	21.00	121.06	1,976.65	-98.16	163.00	190.28	2.00	2.00	0.00
2,100.00	23.00	121.06	2,069.36	-117.48	195.09	227.74	2.00	2.00	0.00
2,153.69	24.07	121.06	2,118.59	-128.54	213.46	249.18	2.00	2.00	0.00
2,200.00	24.07	121.06	2,160.87	-138.29	229.64	268.07	0.00	0.00	0.00
2,300.00	24.07	121.06	2,252.17	-159.33	264.59	308.86	0.00	0.00	0.00
2,400.00	24.07	121.06	2,343.47	-180.38	299.53	349.65	0.00	0.00	0.00
2,500.00	24.07	121.06	2,434.77	-201.42	334.48	390.44	0.00	0.00	0.00
2,600.00	24.07	121.06	2,526.07	-222.46	369.42	431.23	0.00	0.00	0.00
2,700.00	24.07	121.06	2,617.38	-243.51	404.37	472.02	0.00	0.00	0.00
2,800.00	24.07	121.06	2,708.68	-264.55	439.31	512.82	0.00	0.00	0.00
2,900.00	24.07	121.06	2,799.98	-285.59	474.26	553.61	0.00	0.00	0.00
3,000.00	24.07	121.06	2,891.28	-306.64	509.20	594.40	0.00	0.00	0.00
3,100.00	24.07	121.06	2,982.58	-327.68	544.14	635.19	0.00	0.00	0.00
3,200.00	24.07	121.06	3,073.89	-348.72	579.09	675.98	0.00	0.00	0.00
3,300.00	24.07	121.06	3,165.19	-369.77	614.03	716.77	0.00	0.00	0.00
3,400.00	24.07	121.06	3,256.49	-390.81	648.98	757.56	0.00	0.00	0.00
3,500.00	24.07	121.06	3,347.79	-411.85	683.92	798.36	0.00	0.00	0.00
3,600.00	24.07	121.06	3,439.10	-432.89	718.87	839.15	0.00	0.00	0.00
3,700.00	24.07	121.06	3,530.40	-453.94	753.81	879.94	0.00	0.00	0.00
3,800.00	24.07	121.06	3,621.70	-474.98	788.76	920.73	0.00	0.00	0.00
3,900.00	24.07	121.06	3,713.00	-496.02	823.70	961.52	0.00	0.00	0.00
4,000.00	24.07	121.06	3,804.30	-517.07	858.65	1,002.31	0.00	0.00	0.00
4,100.00	24.07	121.06	3,895.61	-538.11	893.59	1,043.10	0.00	0.00	0.00
4,200.00	24.07	121.06	3,986.91	-559.15	928.53	1,083.90	0.00	0.00	0.00
4,286.63	24.07	121.06	4,066.00	-577.38	958.81	1,119.23	0.00	0.00	0.00
PK									
4,300.00	24.07	121.06	4,078.21	-580.20	963.48	1,124.69	0.00	0.00	0.00
4,400.00	24.07	121.06	4,169.51	-601.24	998.42	1,165.48	0.00	0.00	0.00
4,500.00	24.07	121.06	4,260.81	-622.28	1,033.37	1,206.27	0.00	0.00	0.00
4,600.00	24.07	121.06	4,352.12	-643.33	1,068.31	1,247.06	0.00	0.00	0.00
4,675.45	24.07	121.06	4,421.00	-659.20	1,094.68	1,277.84	0.00	0.00	0.00

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Site:	WELD_DOWDY 19-11 PAD	North Reference:	True
Well:	DOWDY 36-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	DOWDY 36-11		
Design:	P_DOWDY 36-11 (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									
4,700.00	24.07	121.06	4,443.42	-664.37	1,103.26	1,287.85	0.00	0.00	0.00
4,800.00	24.07	121.06	4,534.72	-685.41	1,138.20	1,328.64	0.00	0.00	0.00
4,900.00	24.07	121.06	4,626.02	-706.46	1,173.15	1,369.44	0.00	0.00	0.00
5,000.00	24.07	121.06	4,717.32	-727.50	1,208.09	1,410.23	0.00	0.00	0.00
5,100.00	24.07	121.06	4,808.63	-748.54	1,243.04	1,451.02	0.00	0.00	0.00
5,200.00	24.07	121.06	4,899.93	-769.59	1,277.98	1,491.81	0.00	0.00	0.00
5,300.00	24.07	121.06	4,991.23	-790.63	1,312.92	1,532.60	0.00	0.00	0.00
5,361.54	24.07	121.06	5,047.41	-803.58	1,334.43	1,557.70	0.00	0.00	0.00
5,400.00	23.30	121.06	5,082.64	-811.55	1,347.67	1,573.16	2.00	-2.00	0.00
5,500.00	21.30	121.06	5,175.15	-831.13	1,380.18	1,611.11	2.00	-2.00	0.00
5,600.00	19.30	121.06	5,268.93	-849.03	1,409.90	1,645.81	2.00	-2.00	0.00
5,700.00	17.30	121.06	5,363.87	-865.23	1,436.81	1,677.21	2.00	-2.00	0.00
5,800.00	15.30	121.06	5,459.84	-879.71	1,460.86	1,705.28	2.00	-2.00	0.00
5,900.00	13.30	121.06	5,556.73	-892.46	1,482.02	1,729.99	2.00	-2.00	0.00
6,000.00	11.30	121.06	5,654.43	-903.45	1,500.28	1,751.30	2.00	-2.00	0.00
6,100.00	9.30	121.06	5,752.81	-912.68	1,515.60	1,769.19	2.00	-2.00	0.00
6,200.00	7.30	121.06	5,851.76	-920.13	1,527.97	1,783.63	2.00	-2.00	0.00
6,300.00	5.30	121.06	5,951.15	-925.79	1,537.38	1,794.61	2.00	-2.00	0.00
6,400.00	3.30	121.06	6,050.86	-929.67	1,543.81	1,802.12	2.00	-2.00	0.00
6,500.00	1.30	121.06	6,150.78	-931.74	1,547.25	1,806.14	2.00	-2.00	0.00
6,565.23	0.00	0.00	6,216.00	-932.12	1,547.89	1,806.88	2.00	-2.00	0.00
6,600.00	0.00	0.00	6,250.77	-932.12	1,547.89	1,806.88	0.00	0.00	0.00
6,700.00	0.00	0.00	6,350.77	-932.12	1,547.89	1,806.88	0.00	0.00	0.00
6,800.00	0.00	0.00	6,450.77	-932.12	1,547.89	1,806.88	0.00	0.00	0.00
6,900.00	0.00	0.00	6,550.77	-932.12	1,547.89	1,806.88	0.00	0.00	0.00
7,000.00	0.00	0.00	6,650.77	-932.12	1,547.89	1,806.88	0.00	0.00	0.00
7,100.00	0.00	0.00	6,750.77	-932.12	1,547.89	1,806.88	0.00	0.00	0.00
7,175.23	0.00	0.00	6,826.00	-932.12	1,547.89	1,806.88	0.00	0.00	0.00
NIO									
7,200.00	0.00	0.00	6,850.77	-932.12	1,547.89	1,806.88	0.00	0.00	0.00
7,300.00	0.00	0.00	6,950.77	-932.12	1,547.89	1,806.88	0.00	0.00	0.00
7,400.00	0.00	0.00	7,050.77	-932.12	1,547.89	1,806.88	0.00	0.00	0.00
7,460.23	0.00	0.00	7,111.00	-932.12	1,547.89	1,806.88	0.00	0.00	0.00
CD									
7,500.00	0.00	0.00	7,150.77	-932.12	1,547.89	1,806.88	0.00	0.00	0.00
7,541.23	0.00	0.00	7,192.00	-932.12	1,547.89	1,806.88	0.00	0.00	0.00
GH									
7,600.00	0.00	0.00	7,250.77	-932.12	1,547.89	1,806.88	0.00	0.00	0.00
7,700.00	0.00	0.00	7,350.77	-932.12	1,547.89	1,806.88	0.00	0.00	0.00
7,800.00	0.00	0.00	7,450.77	-932.12	1,547.89	1,806.88	0.00	0.00	0.00
7,900.00	0.00	0.00	7,550.77	-932.12	1,547.89	1,806.88	0.00	0.00	0.00
7,915.23	0.00	0.00	7,566.00	-932.12	1,547.89	1,806.88	0.00	0.00	0.00
J									
8,000.00	0.00	0.00	7,650.77	-932.12	1,547.89	1,806.88	0.00	0.00	0.00
8,065.23	0.00	0.00	7,716.00	-932.12	1,547.89	1,806.88	0.00	0.00	0.00
DOWDY 36-11 BHL									

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4866.00ft (Original Well Elev)
Site:	WELD_DOWDY 19-11 PAD	North Reference:	True
Well:	DOWDY 36-11	Survey Calculation Method:	Minimum Curvature
Wellbore:	DOWDY 36-11		
Design:	P_DOWDY 36-11 (wp01)		

Design Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
DOWDY 36-11 BHL - plan hits target center - Point	0.00	0.00	7,716.00	-932.12	1,547.89	1,297,217.30	3,242,862.73	40.145990	-104.631235

Casing Points

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

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,286.63	4,066.00	PK			
4,675.45	4,421.00	SX			
7,175.23	6,826.00	NIO			
7,460.23	7,111.00	CD			
7,541.23	7,192.00	GH			
7,915.23	7,566.00	J			