



US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_SPAUR 8-7 PAD

P_SPAUR 21-7

P_SPAUR 21-7

Plan: PLAN #1 4-5-10 RHS

Standard Planning Report

06 April, 2010

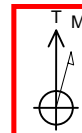




Project: COLORADO NORTHERN ZONE - 83
 Site: WELD_SPAUR 8-7 PAD
 Well: P_SPAUR 21-7
 Wellbore: P_SPAUR 21-7
 Section: SECTION 7 T4N R67W
 SHL: 2001 FNL 635 FEL
 Design: PLAN #1 4-5-10 RHS
 Latitude: 40° 19' 45.930 N
 Longitude: 104° 55' 33.733 W
 GL: 4837.00
 KB: WELL @ 4852.00ft (Original Well Elev)



Weatherford®



Azimuths to True North
 Magnetic North: 9.10°

Magnetic Field
 Strength: 53202.2snT
 Dip Angle: 67.01°
 Date: 4/6/2010
 Model: IGRF2010

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3325.00	3541.53	PARKMAN
3855.00	4123.33	SUSSEX
4405.00	4727.09	SHANNON
6701.00	7099.85	NIO A
7014.00	7412.85	CODELL
7436.00	7834.85	JSAND

CASING DETAILS

TVD	MD	Name	Size
750.00	751.87	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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
1518.05	24.36	293.69	1481.68	102.49	-233.57	2.00	293.69	255.07	Start 3662.75 hold at 1518.05 MD
5180.80	24.36	293.69	4818.32	709.60	-1617.05	0.00	0.00	1765.89	Start Drop -2.00
6398.85	0.00	0.00	6000.00	812.09	-1850.62	2.00	180.00	2020.96	Start 1585.00 hold at 6398.85 MD
7983.85	0.00	0.00	7585.00	812.09	-1850.62	0.00	0.00	2020.96	TD at 7983.85

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

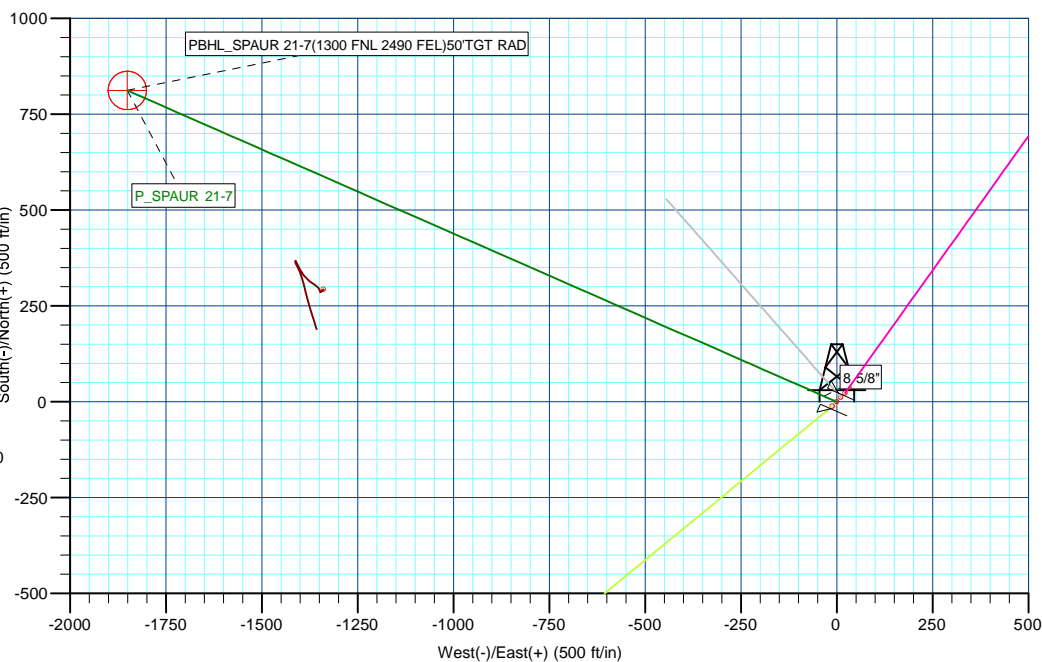
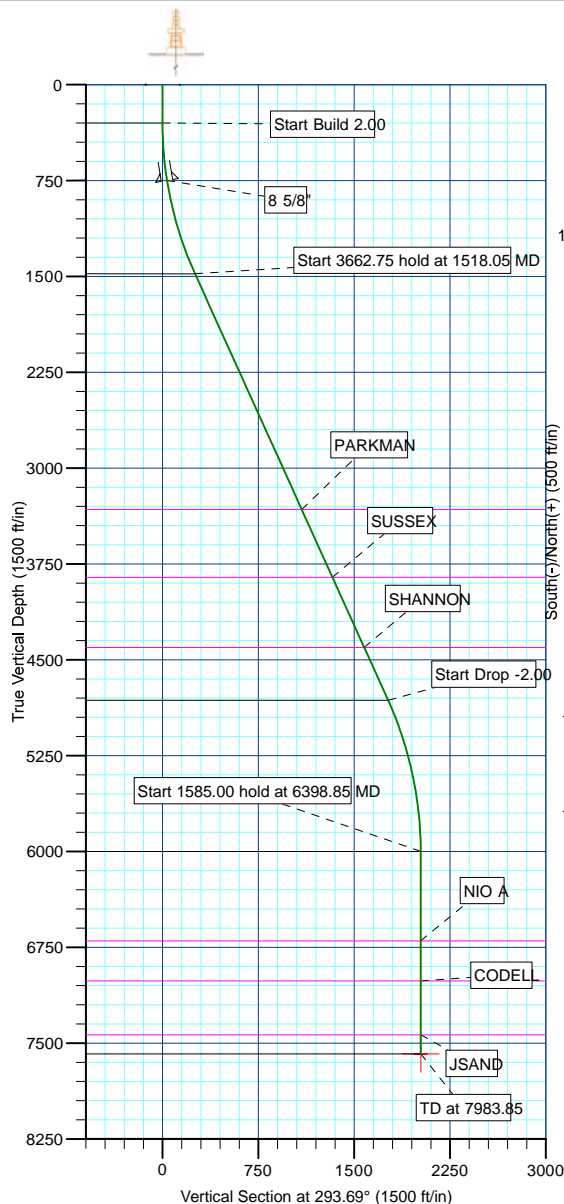
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	7585.00	812.09	-1850.62	40° 19' 53.954 N	104° 55' 57.630 W	Circle (Radius: 50.00)

WELL DETAILS: P_SPAUR 21-7

+N/-S	+E/-W	Northing	Ground Level:	4837.00	Latitude	Longitude	Slot
0.00	0.00	1363368.19	Easting	3160019.94	40° 19' 45.930 N	104° 55' 33.733 W	

LEGEND

- HSR-SPAUR #7-7 EXISTING, HSR-SPAUR #7-7 EXISTING, HSR-SPAUR #7-7 EXISTING V0
- P_SPAUR 17-7, P_SPAUR 17-7, PLAN #1 4-5-10 RHS V0
- P_SPAUR 24-7, P_SPAUR 24-7, PLAN #1 4-5-10 RHS V0
- P_SPAUR 41-7, P_SPAUR 41-7, PLAN #1 4-5-10 RHS V0
- SPAUR O #7-8 EXISTING, SPAUR O #7-8 EXISTING, SPAUR O #7-8 EXISTING V0
- PLAN #1 4-5-10 RHS



Plan: PLAN #1 4-5-10 RHS (P_SPAUR 21-7/P_SPAUR 21-7)

Created By: Robert H. Scott Date: 10:58, April 06 2010

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_SPAUR 21-7
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4852.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4852.00ft (Original Well Elev)
Site:	WELD_SPAUR 8-7 PAD	North Reference:	True
Well:	P_SPAUR 21-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_SPAUR 21-7		
Design:	PLAN #1 4-5-10 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_SPAUR 8-7 PAD, SECTION 7 T4N R67W			
Site Position:		Northing:	1,363,379.94 ft	Latitude:	40° 19' 46.045 N
From:	Lat/Long	Easting:	3,160,030.73 ft	Longitude:	104° 55' 33.593 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	0.37 °

Well	P_SPAUR 21-7					
Well Position	+N/-S	-11.67 ft	Northing:	1,363,368.19 ft	Latitude:	40° 19' 45.930 N
	+E/-W	-10.87 ft	Easting:	3,160,019.94 ft	Longitude:	104° 55' 33.733 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,837.00 ft

Wellbore	P_SPAUR 21-7				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/6/2010	9.10	67.01	53,202

Design	PLAN #1 4-5-10 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	293.69

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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,518.05	24.36	293.69	1,481.68	102.49	-233.57	2.00	2.00	0.00	293.69	
5,180.80	24.36	293.69	4,818.32	709.60	-1,617.05	0.00	0.00	0.00	0.00	
6,398.85	0.00	0.00	6,000.00	812.09	-1,850.62	2.00	-2.00	0.00	180.00	
7,983.85	0.00	0.00	7,585.00	812.09	-1,850.62	0.00	0.00	0.00	0.00	PBHL_SPAUR 21-7

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_SPAUR 21-7
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4852.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4852.00ft (Original Well Elev)
Site:	WELD_SPAUR 8-7 PAD	North Reference:	True
Well:	P_SPAUR 21-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_SPAUR 21-7		
Design:	PLAN #1 4-5-10 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									
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	2.00	293.69	399.98	0.70	-1.60	1.75	2.00	2.00	0.00
500.00	4.00	293.69	499.84	2.80	-6.39	6.98	2.00	2.00	0.00
600.00	6.00	293.69	599.45	6.31	-14.37	15.69	2.00	2.00	0.00
700.00	8.00	293.69	698.70	11.20	-25.53	27.88	2.00	2.00	0.00
8 5/8"									
751.87	9.04	293.69	750.00	14.29	-32.57	35.56	2.00	2.00	0.00
800.00	10.00	293.69	797.47	17.49	-39.85	43.52	2.00	2.00	0.00
900.00	12.00	293.69	895.62	25.16	-57.33	62.60	2.00	2.00	0.00
1,000.00	14.00	293.69	993.06	34.19	-77.92	85.10	2.00	2.00	0.00
1,100.00	16.00	293.69	1,089.64	44.59	-101.62	110.98	2.00	2.00	0.00
1,200.00	18.00	293.69	1,185.27	56.34	-128.39	140.21	2.00	2.00	0.00
1,300.00	20.00	293.69	1,279.82	69.42	-158.21	172.77	2.00	2.00	0.00
1,400.00	22.00	293.69	1,373.17	83.82	-191.02	208.60	2.00	2.00	0.00
1,500.00	24.00	293.69	1,465.21	99.52	-226.80	247.67	2.00	2.00	0.00
Start 3662.75 hold at 1518.05 MD									
1,518.05	24.36	293.69	1,481.68	102.49	-233.57	255.07	2.00	2.00	0.00
1,600.00	24.36	293.69	1,556.33	116.08	-264.52	288.87	0.00	0.00	0.00
1,700.00	24.36	293.69	1,647.43	132.65	-302.29	330.12	0.00	0.00	0.00
1,800.00	24.36	293.69	1,738.53	149.23	-340.07	371.37	0.00	0.00	0.00
1,900.00	24.36	293.69	1,829.62	165.80	-377.84	412.62	0.00	0.00	0.00
2,000.00	24.36	293.69	1,920.72	182.38	-415.61	453.86	0.00	0.00	0.00
2,100.00	24.36	293.69	2,011.82	198.95	-453.38	495.11	0.00	0.00	0.00
2,200.00	24.36	293.69	2,102.91	215.53	-491.15	536.36	0.00	0.00	0.00
2,300.00	24.36	293.69	2,194.01	232.10	-528.92	577.61	0.00	0.00	0.00
2,400.00	24.36	293.69	2,285.11	248.68	-566.70	618.86	0.00	0.00	0.00
2,500.00	24.36	293.69	2,376.20	265.25	-604.47	660.11	0.00	0.00	0.00
2,600.00	24.36	293.69	2,467.30	281.83	-642.24	701.35	0.00	0.00	0.00
2,700.00	24.36	293.69	2,558.40	298.40	-680.01	742.60	0.00	0.00	0.00
2,800.00	24.36	293.69	2,649.49	314.98	-717.78	783.85	0.00	0.00	0.00
2,900.00	24.36	293.69	2,740.59	331.55	-755.55	825.10	0.00	0.00	0.00
3,000.00	24.36	293.69	2,831.69	348.13	-793.33	866.35	0.00	0.00	0.00
3,100.00	24.36	293.69	2,922.78	364.70	-831.10	907.60	0.00	0.00	0.00
3,200.00	24.36	293.69	3,013.88	381.28	-868.87	948.85	0.00	0.00	0.00
3,300.00	24.36	293.69	3,104.97	397.85	-906.64	990.09	0.00	0.00	0.00
3,400.00	24.36	293.69	3,196.07	414.43	-944.41	1,031.34	0.00	0.00	0.00
3,500.00	24.36	293.69	3,287.17	431.00	-982.18	1,072.59	0.00	0.00	0.00
PARKMAN									
3,541.53	24.36	293.69	3,325.00	437.89	-997.87	1,089.72	0.00	0.00	0.00
3,600.00	24.36	293.69	3,378.26	447.58	-1,019.96	1,113.84	0.00	0.00	0.00
3,700.00	24.36	293.69	3,469.36	464.15	-1,057.73	1,155.09	0.00	0.00	0.00
3,800.00	24.36	293.69	3,560.46	480.73	-1,095.50	1,196.34	0.00	0.00	0.00
3,900.00	24.36	293.69	3,651.55	497.30	-1,133.27	1,237.58	0.00	0.00	0.00
4,000.00	24.36	293.69	3,742.65	513.88	-1,171.04	1,278.83	0.00	0.00	0.00
4,100.00	24.36	293.69	3,833.75	530.45	-1,208.81	1,320.08	0.00	0.00	0.00
SUSSEX									
4,123.33	24.36	293.69	3,855.00	534.32	-1,217.63	1,329.70	0.00	0.00	0.00
4,200.00	24.36	293.69	3,924.84	547.03	-1,246.59	1,361.33	0.00	0.00	0.00
4,300.00	24.36	293.69	4,015.94	563.60	-1,284.36	1,402.58	0.00	0.00	0.00
4,400.00	24.36	293.69	4,107.04	580.18	-1,322.13	1,443.83	0.00	0.00	0.00
4,500.00	24.36	293.69	4,198.13	596.75	-1,359.90	1,485.07	0.00	0.00	0.00
4,600.00	24.36	293.69	4,289.23	613.33	-1,397.67	1,526.32	0.00	0.00	0.00

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4852.00ft (Original Well Elev)
Site:	WELD_SPAUR 8-7 PAD	North Reference:	True
Well:	P_SPAUR 21-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_SPAUR 21-7		
Design:	PLAN #1 4-5-10 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)
4,700.00	24.36	293.69	4,380.33	629.91	-1,435.44	1,567.57	0.00	0.00	0.00
SHANNON									
4,727.09	24.36	293.69	4,405.00	634.39	-1,445.67	1,578.74	0.00	0.00	0.00
4,800.00	24.36	293.69	4,471.42	646.48	-1,473.22	1,608.82	0.00	0.00	0.00
4,900.00	24.36	293.69	4,562.52	663.06	-1,510.99	1,650.07	0.00	0.00	0.00
5,000.00	24.36	293.69	4,653.61	679.63	-1,548.76	1,691.32	0.00	0.00	0.00
5,100.00	24.36	293.69	4,744.71	696.21	-1,586.53	1,732.56	0.00	0.00	0.00
Start Drop -2.00									
5,180.80	24.36	293.69	4,818.32	709.60	-1,617.05	1,765.89	0.00	0.00	0.00
5,200.00	23.98	293.69	4,835.83	712.76	-1,624.25	1,773.75	2.00	-2.00	0.00
5,300.00	21.98	293.69	4,927.90	728.44	-1,659.99	1,812.79	2.00	-2.00	0.00
5,400.00	19.98	293.69	5,021.26	742.83	-1,692.77	1,848.59	2.00	-2.00	0.00
5,500.00	17.98	293.69	5,115.82	755.89	-1,722.55	1,881.10	2.00	-2.00	0.00
5,600.00	15.98	293.69	5,211.46	767.63	-1,749.29	1,910.30	2.00	-2.00	0.00
5,700.00	13.98	293.69	5,308.06	778.01	-1,772.95	1,936.14	2.00	-2.00	0.00
5,800.00	11.98	293.69	5,405.50	787.03	-1,793.51	1,958.60	2.00	-2.00	0.00
5,900.00	9.98	293.69	5,503.67	794.68	-1,810.95	1,977.64	2.00	-2.00	0.00
6,000.00	7.98	293.69	5,602.44	800.95	-1,825.24	1,993.24	2.00	-2.00	0.00
6,100.00	5.98	293.69	5,701.69	805.84	-1,836.36	2,005.39	2.00	-2.00	0.00
6,200.00	3.98	293.69	5,801.31	809.32	-1,844.30	2,014.06	2.00	-2.00	0.00
6,300.00	1.98	293.69	5,901.17	811.41	-1,849.06	2,019.26	2.00	-2.00	0.00
Start 1585.00 hold at 6398.85 MD									
6,398.85	0.00	0.00	6,000.00	812.09	-1,850.62	2,020.96	2.00	-2.00	67.08
6,400.00	0.00	0.00	6,001.15	812.09	-1,850.62	2,020.96	0.00	0.00	0.00
6,500.00	0.00	0.00	6,101.15	812.09	-1,850.62	2,020.96	0.00	0.00	0.00
6,600.00	0.00	0.00	6,201.15	812.09	-1,850.62	2,020.96	0.00	0.00	0.00
6,700.00	0.00	0.00	6,301.15	812.09	-1,850.62	2,020.96	0.00	0.00	0.00
6,800.00	0.00	0.00	6,401.15	812.09	-1,850.62	2,020.96	0.00	0.00	0.00
6,900.00	0.00	0.00	6,501.15	812.09	-1,850.62	2,020.96	0.00	0.00	0.00
7,000.00	0.00	0.00	6,601.15	812.09	-1,850.62	2,020.96	0.00	0.00	0.00
NIO A									
7,099.85	0.00	0.00	6,701.00	812.09	-1,850.62	2,020.96	0.00	0.00	0.00
7,100.00	0.00	0.00	6,701.15	812.09	-1,850.62	2,020.96	0.00	0.00	0.00
7,200.00	0.00	0.00	6,801.15	812.09	-1,850.62	2,020.96	0.00	0.00	0.00
7,300.00	0.00	0.00	6,901.15	812.09	-1,850.62	2,020.96	0.00	0.00	0.00
7,400.00	0.00	0.00	7,001.15	812.09	-1,850.62	2,020.96	0.00	0.00	0.00
CODELL									
7,412.85	0.00	0.00	7,014.00	812.09	-1,850.62	2,020.96	0.00	0.00	0.00
7,500.00	0.00	0.00	7,101.15	812.09	-1,850.62	2,020.96	0.00	0.00	0.00
7,600.00	0.00	0.00	7,201.15	812.09	-1,850.62	2,020.96	0.00	0.00	0.00
7,700.00	0.00	0.00	7,301.15	812.09	-1,850.62	2,020.96	0.00	0.00	0.00
7,800.00	0.00	0.00	7,401.15	812.09	-1,850.62	2,020.96	0.00	0.00	0.00
JSAND									
7,834.85	0.00	0.00	7,436.00	812.09	-1,850.62	2,020.96	0.00	0.00	0.00
7,900.00	0.00	0.00	7,501.15	812.09	-1,850.62	2,020.96	0.00	0.00	0.00
PBHL_SPAUR 21-7(1300 FNL 2490 FEL)50'TGT RAD									
7,983.85	0.00	0.00	7,585.00	812.09	-1,850.62	2,020.96	0.00	0.00	0.00

Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well P_SPAUR 21-7
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4852.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4852.00ft (Original Well Elev)
Site:	WELD_SPAUR 8-7 PAD	North Reference:	True
Well:	P_SPAUR 21-7	Survey Calculation Method:	Minimum Curvature
Wellbore:	P_SPAUR 21-7		
Design:	PLAN #1 4-5-10 RHS		

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
- Shape									
PBHL_SPAUR 21-7(1	0.00	0.00	7,585.00	812.09	-1,850.62	1,364,168.29	3,158,164.10	40° 19' 53.954 N	104° 55' 57.630 W
- plan hits target center									
- Circle (radius 50.00)									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
751.87	750.00	8 5/8"	8.62	11.00

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,541.53	3,325.00	PARKMAN			
4,123.33	3,855.00	SUSSEX			
4,727.09	4,405.00	SHANNON			
7,099.85	6,701.00	NIO A			
7,412.85	7,014.00	CODELL			
7,834.85	7,436.00	JSAND			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.00	300.00	0.00	0.00	Start Build 2.00
1,518.05	1,481.68	102.49	-233.57	Start 3662.75 hold at 1518.05 MD
5,180.80	4,818.32	709.60	-1,617.05	Start Drop -2.00
6,398.85	6,000.00	812.09	-1,850.62	Start 1585.00 hold at 6398.85 MD
7,983.85	7,585.00	812.09	-1,850.62	TD at 7983.85