

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_DECHANT 23-1 PAD

DECHANT 23-1

DECHANT 23-1

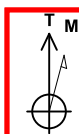
Plan: DECHANT 23-1 (wp01)

Standard Planning Report

18 November, 2010



Project: COLORADO NORTHERN ZONE - 83
Site: WELD_DECHANT 23-1 PAD
Well: DECHANT 23-1
Wellbore: DECHANT 23-1
Section:
SHL:
Design: DECHANT 23-1 (wp01)
Latitude: 40.165926
Longitude: -104.612482
GL: 0.00
KB: WELL @ 4838.00ft (Original Well Elev)



Azimuths to True North
Magnetic North: 8.84°
Magnetic Field
Strength: 53085.9nT
Dip Angle: 66.91°
Date: 11/16/2010
Model: IGRF2010



Weatherford®

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4137.00	4292.71	PK Depth
4377.00	4535.47	SX Depth
6830.00	6989.05	NIO Depth
7117.00	7276.05	CD Depth
7197.00	7356.05	GH Depth
7532.00	7691.05	J Depth

WELL DETAILS: DECHANT 23-1

+N/-S	+E/-W	Northing	Ground Level: Easting	0.00 Latitude	Longitude	Slot
0.00	0.00	1304531.15	3248032.26	40.165926	-104.612482	

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

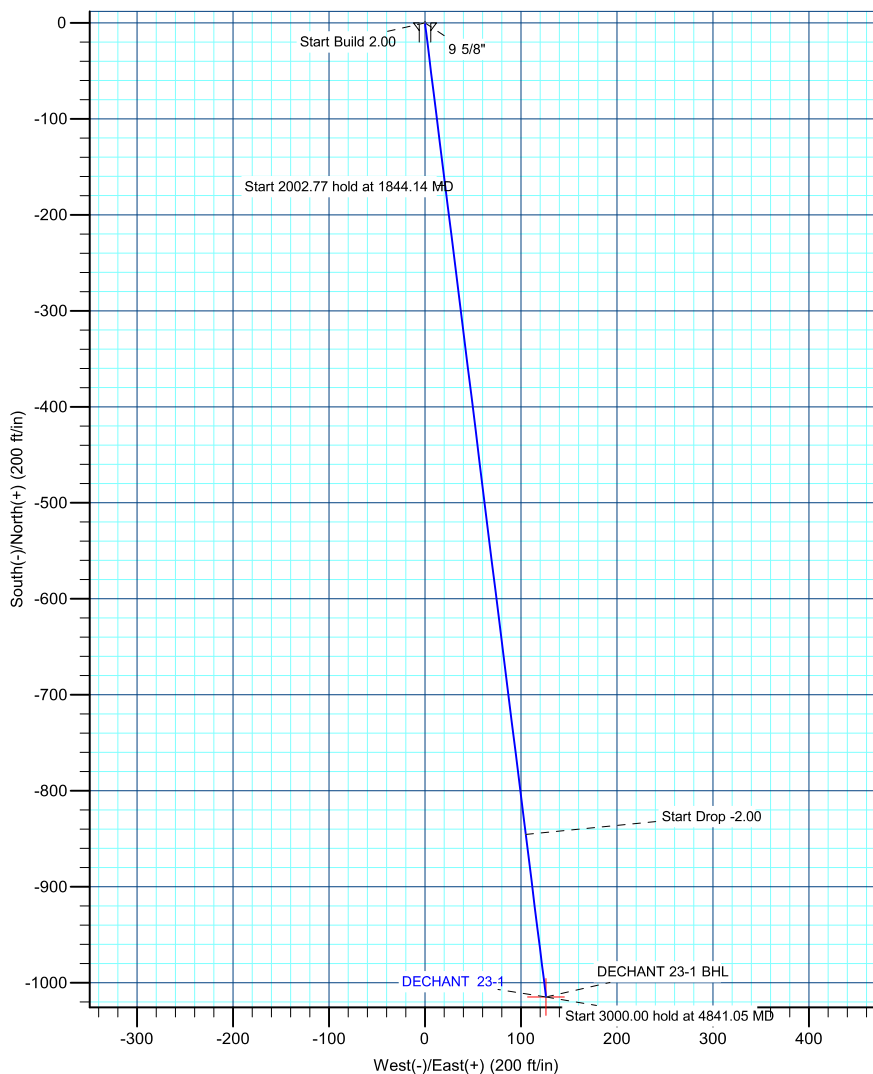
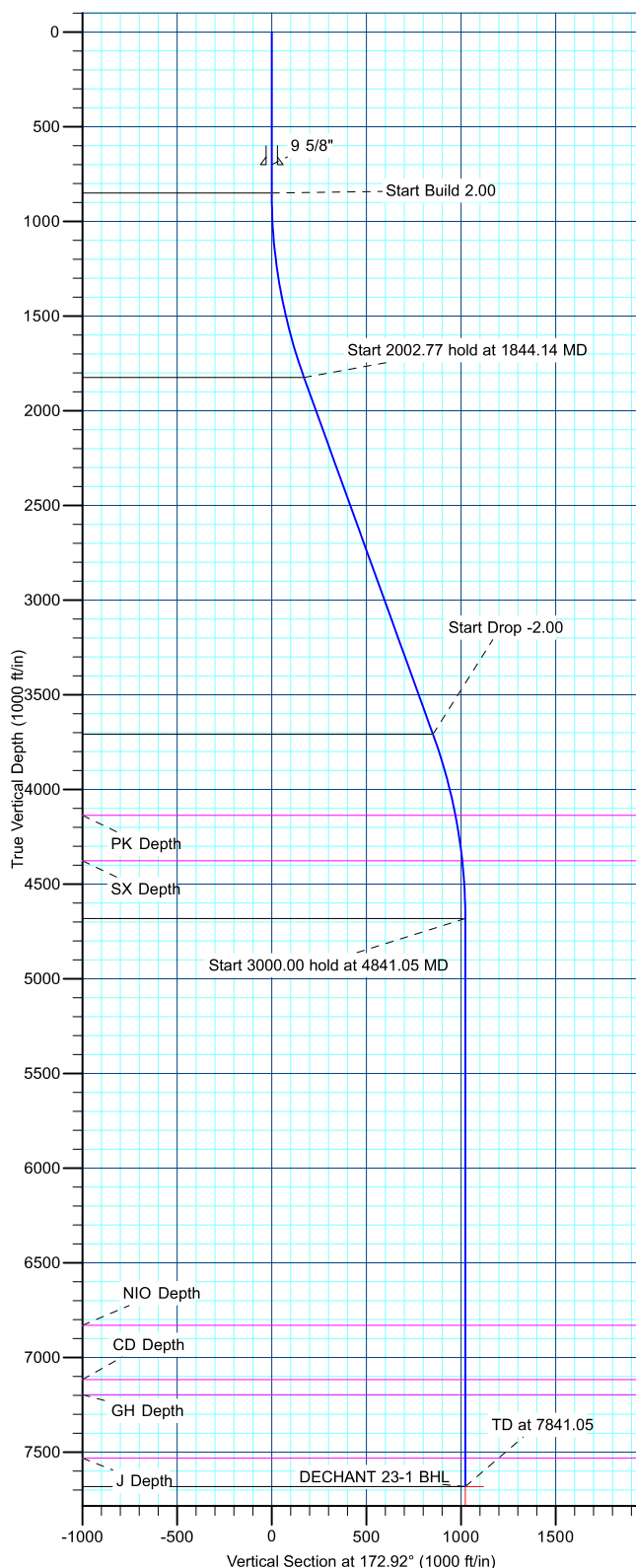
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Point	Shape
DECHANT 23-1 BHL	7682.00	-1014.88	126.05	40.163140	-104.612031		

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	850.00	0.00	0.00	850.00	0.00	0.00	0.00	0.00	0.00	
3	1844.14	19.88	172.92	1824.31	-169.47	21.05	2.00	172.92	170.77	
4	3846.91	19.88	172.92	3707.69	-845.41	105.00	0.00	0.00	851.91	
5	4841.05	0.00	0.00	4682.00	-1014.88	126.05	2.00	180.00	1022.68	
6	7841.05	0.00	0.00	7682.00	-1014.88	126.05	0.00	0.00	1022.68	DECHANT 23-1 BHL

CASING DETAILS

TVD	MD	Name	Size
700.00	700.00	9 5/8"	9-5/8



Database:	edm5000p	Local Co-ordinate Reference:	Well DECHANT 23-1
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4838.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4838.00ft (Original Well Elev)
Site:	WELD_DECHANT 23-1 PAD	North Reference:	True
Well:	DECHANT 23-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	DECHANT 23-1		
Design:	DECHANT 23-1 (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_DECHANT 23-1 PAD			
Site Position:		Northing:	1,304,551.19 ft	Latitude:	40.165981
From:	Lat/Long	Easting:	3,248,032.06 ft	Longitude:	-104.612482
Position Uncertainty:	0.00 ft	Slot Radius:	0 "	Grid Convergence:	0.57 °

Well	DECHANT 23-1					
Well Position	+N/-S	-20.04 ft	Northing:	1,304,531.15 ft	Latitude:	40.165926
	+E/-W	0.00 ft	Easting:	3,248,032.26 ft	Longitude:	-104.612482
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	0.00 ft

Wellbore	DECHANT 23-1				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/16/2010	8.84	66.91	53,086

Design	DECHANT 23-1 (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	172.92	

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	
850.00	0.00	0.00	850.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,844.14	19.88	172.92	1,824.31	-169.47	21.05	2.00	2.00	0.00	172.92	
3,846.91	19.88	172.92	3,707.69	-845.41	105.00	0.00	0.00	0.00	0.00	
4,841.05	0.00	0.00	4,682.00	-1,014.88	126.05	2.00	-2.00	0.00	180.00	
7,841.05	0.00	0.00	7,682.00	-1,014.88	126.05	0.00	0.00	0.00	0.00	DECHANT 23-1 BH

Database:	edm5000p	Local Co-ordinate Reference:	Well DECHANT 23-1
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4838.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4838.00ft (Original Well Elev)
Site:	WELD_DECHANT 23-1 PAD	North Reference:	True
Well:	DECHANT 23-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	DECHANT 23-1		
Design:	DECHANT 23-1 (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
9 5/8"									
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
850.00	0.00	0.00	850.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
900.00	1.00	172.92	900.00	-0.43	0.05	0.44	2.00	2.00	0.00
1,000.00	3.00	172.92	999.93	-3.90	0.48	3.93	2.00	2.00	0.00
1,100.00	5.00	172.92	1,099.68	-10.82	1.34	10.90	2.00	2.00	0.00
1,200.00	7.00	172.92	1,199.13	-21.19	2.63	21.35	2.00	2.00	0.00
1,300.00	9.00	172.92	1,298.15	-35.00	4.35	35.27	2.00	2.00	0.00
1,400.00	11.00	172.92	1,396.63	-52.23	6.49	52.63	2.00	2.00	0.00
1,500.00	13.00	172.92	1,494.44	-72.86	9.05	73.42	2.00	2.00	0.00
1,600.00	15.00	172.92	1,591.46	-96.87	12.03	97.62	2.00	2.00	0.00
1,700.00	17.00	172.92	1,687.58	-124.22	15.43	125.18	2.00	2.00	0.00
1,800.00	19.00	172.92	1,782.68	-154.89	19.24	156.08	2.00	2.00	0.00
1,844.14	19.88	172.92	1,824.31	-169.47	21.05	170.77	2.00	2.00	0.00
Start 2002.77 hold at 1844.14 MD									
1,900.00	19.88	172.92	1,876.84	-188.32	23.39	189.77	0.00	0.00	0.00
2,000.00	19.88	172.92	1,970.88	-222.07	27.58	223.78	0.00	0.00	0.00
2,100.00	19.88	172.92	2,064.92	-255.82	31.77	257.79	0.00	0.00	0.00
2,200.00	19.88	172.92	2,158.95	-289.57	35.96	291.80	0.00	0.00	0.00
2,300.00	19.88	172.92	2,252.99	-323.32	40.16	325.81	0.00	0.00	0.00
2,400.00	19.88	172.92	2,347.03	-357.07	44.35	359.82	0.00	0.00	0.00
2,500.00	19.88	172.92	2,441.07	-390.82	48.54	393.83	0.00	0.00	0.00
2,600.00	19.88	172.92	2,535.11	-424.57	52.73	427.84	0.00	0.00	0.00
2,700.00	19.88	172.92	2,629.15	-458.32	56.92	461.85	0.00	0.00	0.00
2,800.00	19.88	172.92	2,723.19	-492.07	61.12	495.86	0.00	0.00	0.00
2,900.00	19.88	172.92	2,817.23	-525.82	65.31	529.86	0.00	0.00	0.00
3,000.00	19.88	172.92	2,911.27	-559.58	69.50	563.87	0.00	0.00	0.00
3,100.00	19.88	172.92	3,005.31	-593.33	73.69	597.88	0.00	0.00	0.00
3,200.00	19.88	172.92	3,099.34	-627.08	77.88	631.89	0.00	0.00	0.00
3,300.00	19.88	172.92	3,193.38	-660.83	82.07	665.90	0.00	0.00	0.00
3,400.00	19.88	172.92	3,287.42	-694.58	86.27	699.91	0.00	0.00	0.00
3,500.00	19.88	172.92	3,381.46	-728.33	90.46	733.92	0.00	0.00	0.00
3,600.00	19.88	172.92	3,475.50	-762.08	94.65	767.93	0.00	0.00	0.00
3,700.00	19.88	172.92	3,569.54	-795.83	98.84	801.94	0.00	0.00	0.00
3,800.00	19.88	172.92	3,663.58	-829.58	103.03	835.95	0.00	0.00	0.00
3,846.91	19.88	172.92	3,707.69	-845.41	105.00	851.91	0.00	0.00	0.00
Start Drop -2.00									
3,900.00	18.82	172.92	3,757.78	-862.87	107.17	869.50	2.00	-2.00	0.00
4,000.00	16.82	172.92	3,852.98	-893.24	110.94	900.10	2.00	-2.00	0.00
4,100.00	14.82	172.92	3,949.19	-920.29	114.30	927.36	2.00	-2.00	0.00
4,200.00	12.82	172.92	4,046.29	-944.00	117.24	951.25	2.00	-2.00	0.00
4,292.71	10.97	172.92	4,137.00	-962.96	119.60	970.36	2.00	-2.00	0.00
PK Depth									
4,300.00	10.82	172.92	4,144.16	-964.33	119.77	971.74	2.00	-2.00	0.00
4,400.00	8.82	172.92	4,242.69	-981.25	121.87	988.79	2.00	-2.00	0.00

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Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4838.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4838.00ft (Original Well Elev)
Site:	WELD_DECHANT 23-1 PAD	North Reference:	True
Well:	DECHANT 23-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	DECHANT 23-1		
Design:	DECHANT 23-1 (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)
4,500.00	6.82	172.92	4,341.75	-994.76	123.55	1,002.40	2.00	-2.00	0.00
4,535.47	6.11	172.92	4,377.00	-998.72	124.04	1,006.39	2.00	-2.00	0.00
SX Depth									
4,600.00	4.82	172.92	4,441.23	-1,004.82	124.80	1,012.54	2.00	-2.00	0.00
4,700.00	2.82	172.92	4,541.01	-1,011.43	125.62	1,019.20	2.00	-2.00	0.00
4,800.00	0.82	172.92	4,640.95	-1,014.59	126.01	1,022.38	2.00	-2.00	0.00
4,841.05	0.00	0.00	4,682.00	-1,014.88	126.05	1,022.68	2.00	-2.00	0.00
Start 3000.00 hold at 4841.05 MD									
4,900.00	0.00	0.00	4,740.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
5,000.00	0.00	0.00	4,840.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
5,100.00	0.00	0.00	4,940.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
5,200.00	0.00	0.00	5,040.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
5,300.00	0.00	0.00	5,140.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
5,400.00	0.00	0.00	5,240.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
5,500.00	0.00	0.00	5,340.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
5,600.00	0.00	0.00	5,440.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
5,700.00	0.00	0.00	5,540.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
5,800.00	0.00	0.00	5,640.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
5,900.00	0.00	0.00	5,740.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
6,000.00	0.00	0.00	5,840.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
6,100.00	0.00	0.00	5,940.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
6,200.00	0.00	0.00	6,040.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
6,300.00	0.00	0.00	6,140.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
6,400.00	0.00	0.00	6,240.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
6,500.00	0.00	0.00	6,340.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
6,600.00	0.00	0.00	6,440.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
6,700.00	0.00	0.00	6,540.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
6,800.00	0.00	0.00	6,640.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
6,900.00	0.00	0.00	6,740.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
6,989.05	0.00	0.00	6,830.00	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
NIO Depth									
7,000.00	0.00	0.00	6,840.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
7,100.00	0.00	0.00	6,940.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
7,200.00	0.00	0.00	7,040.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
7,276.05	0.00	0.00	7,117.00	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
CD Depth									
7,300.00	0.00	0.00	7,140.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
7,356.05	0.00	0.00	7,197.00	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
GH Depth									
7,400.00	0.00	0.00	7,240.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
7,500.00	0.00	0.00	7,340.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
7,600.00	0.00	0.00	7,440.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
7,691.05	0.00	0.00	7,532.00	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
J Depth									
7,700.00	0.00	0.00	7,540.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
7,800.00	0.00	0.00	7,640.95	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
7,841.05	0.00	0.00	7,682.00	-1,014.88	126.05	1,022.68	0.00	0.00	0.00
TD at 7841.05 - DECHANT 23-1 BHL									

Database:	edm5000p	Local Co-ordinate Reference:	Well DECHANT 23-1
Company:	US ROCKIES REGION PLANNING	TVD Reference:	WELL @ 4838.00ft (Original Well Elev)
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4838.00ft (Original Well Elev)
Site:	WELD_DECHANT 23-1 PAD	North Reference:	True
Well:	DECHANT 23-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	DECHANT 23-1		
Design:	DECHANT 23-1 (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)		
DECHANT 23-1 BHL	0.00	0.00	7,682.00	-1,014.88	126.05	1,303,517.58	3,248,168.46	40.163140	-104.612031
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth			Casing Diameter	Hole Diameter
(ft)	(ft)		Name	(")	(")
700.00	700.00	9 5/8"		9-5/8	12-1/4

Formations						
Measured Depth	Vertical Depth				Dip	Dip Direction
(ft)	(ft)		Name	Lithology	(°)	(°)
4,292.71	4,137.00	PK Depth				
4,535.47	4,377.00	SX Depth				
6,989.05	6,830.00	NIO Depth			0.00	
7,276.05	7,117.00	CD Depth			0.00	
7,356.05	7,197.00	GH Depth			0.00	
7,691.05	7,532.00	J Depth			0.00	

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W	Comment	
(ft)	(ft)	(ft)	(ft)		
850.00	850.00	0.00	0.00	Start Build 2.00	
1,844.14	1,824.31	-169.47	21.05	Start 2002.77 hold at 1844.14 MD	
3,846.91	3,707.69	-845.41	105.00	Start Drop -2.00	
4,841.05	4,682.00	-1,014.88	126.05	Start 3000.00 hold at 4841.05 MD	
7,841.05	7,682.00	-1,014.88	126.05	TD at 7841.05	