

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**WELD\_DECHANT 23-1 PAD**

**DECHANT 35-1**

**DECHANT 35-1**

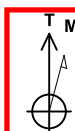
**Plan: DECHANT 35-1 (wp01)**

## **Standard Planning Report**

**18 November, 2010**



Project: COLORADO NORTHERN ZONE - 83  
Site: WELD\_DECHANT 23-1 PAD  
Well: DECHANT 35-1  
Wellbore: DECHANT 35-1  
Section:  
SHL:  
Design: DECHANT 35-1 (wp01)  
Latitude: 40.165954  
Longitude: -104.612482  
GL: 0.00  
KB: WELL @ 4838.00ft (Original Well Elev)



Azimuths to True North  
Magnetic North: 8.84°  
Magnetic Field  
Strength: 53085.6snT  
Dip Angle: 66.91°  
Date: 11/17/2010  
Model: IGRF2010



Weatherford®

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4137.00	4430.85	PK Depth
4377.00	4694.12	SX Depth
6800.00	7263.87	NIO Depth
7087.00	7550.87	CD Depth
7170.00	7633.87	GH Depth
7548.00	8011.87	J Depth

#### WELL DETAILS: DECHANT 35-1

+N/-S	+E/-W	Northing	Ground Level: Easting	0.00 Latitude	Longitude	Slot
0.00	0.00	1304541.35	3248032.16	40.165954	-104.612482	

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

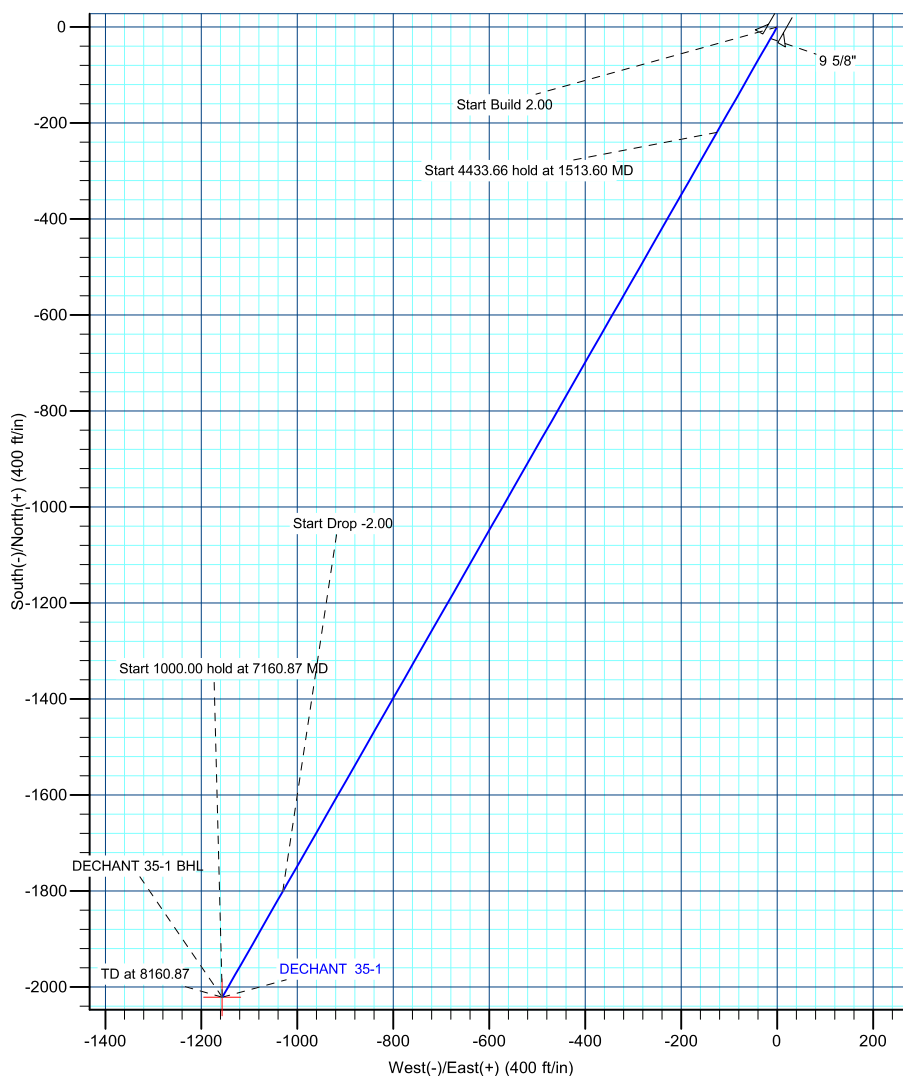
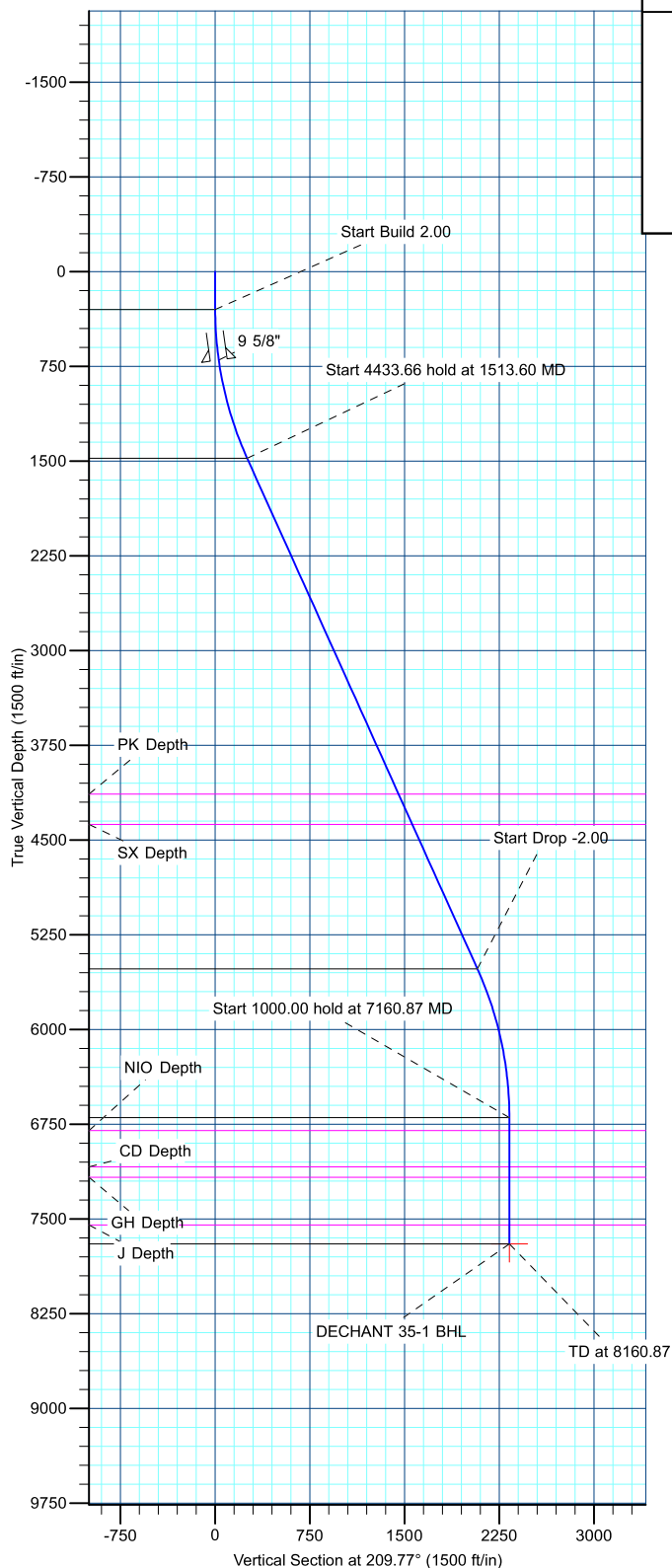
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Point	Shape
DECHANT 35-1 BHL	7697.00	-2021.72	-1156.27	40.160404	-104.616619		

#### 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	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	1513.60	24.27	209.77	1477.63	-219.82	-125.72	2.00	209.77	253.24	
4	5947.26	24.27	209.77	5519.37	-1801.90	-1030.55	0.00	0.00	2075.78	
5	7160.87	0.00	0.00	6697.00	-2021.72	-1156.27	2.00	180.00	2329.02	
6	8160.87	0.00	0.00	7697.00	-2021.72	-1156.27	0.00	0.00	2329.02	DECHANT 35-1 BHL

#### CASING DETAILS

TVD	MD	Name	Size
700.00	701.31	9 5/8"	9-5/8



<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well DECHANT 35-1
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4838.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4838.00ft (Original Well Elev)
<b>Site:</b>	WELD_DECHANT 23-1 PAD	<b>North Reference:</b>	True
<b>Well:</b>	DECHANT 35-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DECHANT 35-1		
<b>Design:</b>	DECHANT 35-1 (wp01)		

<b>Project</b>	COLORADO NORTHERN ZONE - 83		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	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 35-1					
Well Position	+N/-S	-9.84 ft	Northing:	1,304,541.35 ft	Latitude:	40.165954
	+E/-W	0.00 ft	Easting:	3,248,032.16 ft	Longitude:	-104.612482
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	0.00 ft

<b>Wellbore</b>	DECHANT 35-1				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/17/2010	8.84	66.91	53,086

<b>Design</b>	DECHANT 35-1 (wp01)				
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<b>Audit Notes:</b>					
<b>Version:</b>		<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	209.77	

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	
1,513.60	24.27	209.77	1,477.63	-219.82	-125.72	2.00	2.00	0.00	209.77	
5,947.26	24.27	209.77	5,519.37	-1,801.90	-1,030.55	0.00	0.00	0.00	0.00	
7,160.87	0.00	0.00	6,697.00	-2,021.72	-1,156.27	2.00	-2.00	0.00	180.00	
8,160.87	0.00	0.00	7,697.00	-2,021.72	-1,156.27	0.00	0.00	0.00	0.00	DECHANT 35-1 BH

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well DECHANT 35-1
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4838.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4838.00ft (Original Well Elev)
<b>Site:</b>	WELD_DECHANT 23-1 PAD	<b>North Reference:</b>	True
<b>Well:</b>	DECHANT 35-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DECHANT 35-1		
<b>Design:</b>	DECHANT 35-1 (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
<b>Start Build 2.00</b>									
400.00	2.00	209.77	399.98	-1.51	-0.87	1.75	2.00	2.00	0.00
500.00	4.00	209.77	499.84	-6.06	-3.46	6.98	2.00	2.00	0.00
600.00	6.00	209.77	599.45	-13.62	-7.79	15.69	2.00	2.00	0.00
700.00	8.00	209.77	698.70	-24.20	-13.84	27.88	2.00	2.00	0.00
701.31	8.03	209.77	700.00	-24.36	-13.93	28.06	2.00	2.00	0.00
<b>9 5/8"</b>									
800.00	10.00	209.77	797.47	-37.78	-21.61	43.52	2.00	2.00	0.00
900.00	12.00	209.77	895.62	-54.34	-31.08	62.60	2.00	2.00	0.00
1,000.00	14.00	209.77	993.06	-73.87	-42.25	85.10	2.00	2.00	0.00
1,100.00	16.00	209.77	1,089.64	-96.33	-55.10	110.98	2.00	2.00	0.00
1,200.00	18.00	209.77	1,185.27	-121.71	-69.61	140.21	2.00	2.00	0.00
1,300.00	20.00	209.77	1,279.82	-149.97	-85.77	172.77	2.00	2.00	0.00
1,400.00	22.00	209.77	1,373.17	-181.08	-103.56	208.60	2.00	2.00	0.00
1,500.00	24.00	209.77	1,465.21	-215.00	-122.96	247.67	2.00	2.00	0.00
1,513.60	24.27	209.77	1,477.63	-219.82	-125.72	253.24	2.00	2.00	0.00
<b>Start 4433.66 hold at 1513.60 MD</b>									
1,600.00	24.27	209.77	1,556.39	-250.65	-143.35	288.75	0.00	0.00	0.00
1,700.00	24.27	209.77	1,647.55	-286.34	-163.76	329.86	0.00	0.00	0.00
1,800.00	24.27	209.77	1,738.71	-322.02	-184.17	370.97	0.00	0.00	0.00
1,900.00	24.27	209.77	1,829.87	-357.70	-204.58	412.07	0.00	0.00	0.00
2,000.00	24.27	209.77	1,921.03	-393.39	-224.99	453.18	0.00	0.00	0.00
2,100.00	24.27	209.77	2,012.19	-429.07	-245.39	494.29	0.00	0.00	0.00
2,200.00	24.27	209.77	2,103.35	-464.75	-265.80	535.39	0.00	0.00	0.00
2,300.00	24.27	209.77	2,194.51	-500.44	-286.21	576.50	0.00	0.00	0.00
2,400.00	24.27	209.77	2,285.67	-536.12	-306.62	617.61	0.00	0.00	0.00
2,500.00	24.27	209.77	2,376.83	-571.80	-327.03	658.71	0.00	0.00	0.00
2,600.00	24.27	209.77	2,467.99	-607.49	-347.43	699.82	0.00	0.00	0.00
2,700.00	24.27	209.77	2,559.15	-643.17	-367.84	740.93	0.00	0.00	0.00
2,800.00	24.27	209.77	2,650.31	-678.85	-388.25	782.04	0.00	0.00	0.00
2,900.00	24.27	209.77	2,741.47	-714.54	-408.66	823.14	0.00	0.00	0.00
3,000.00	24.27	209.77	2,832.63	-750.22	-429.07	864.25	0.00	0.00	0.00
3,100.00	24.27	209.77	2,923.79	-785.90	-449.48	905.36	0.00	0.00	0.00
3,200.00	24.27	209.77	3,014.95	-821.59	-469.88	946.46	0.00	0.00	0.00
3,300.00	24.27	209.77	3,106.11	-857.27	-490.29	987.57	0.00	0.00	0.00
3,400.00	24.27	209.77	3,197.27	-892.95	-510.70	1,028.68	0.00	0.00	0.00
3,500.00	24.27	209.77	3,288.44	-928.64	-531.11	1,069.78	0.00	0.00	0.00
3,600.00	24.27	209.77	3,379.60	-964.32	-551.52	1,110.89	0.00	0.00	0.00
3,700.00	24.27	209.77	3,470.76	-1,000.00	-571.92	1,152.00	0.00	0.00	0.00
3,800.00	24.27	209.77	3,561.92	-1,035.69	-592.33	1,193.11	0.00	0.00	0.00
3,900.00	24.27	209.77	3,653.08	-1,071.37	-612.74	1,234.21	0.00	0.00	0.00
4,000.00	24.27	209.77	3,744.24	-1,107.05	-633.15	1,275.32	0.00	0.00	0.00
4,100.00	24.27	209.77	3,835.40	-1,142.74	-653.56	1,316.43	0.00	0.00	0.00
4,200.00	24.27	209.77	3,926.56	-1,178.42	-673.96	1,357.53	0.00	0.00	0.00
4,300.00	24.27	209.77	4,017.72	-1,214.10	-694.37	1,398.64	0.00	0.00	0.00
4,400.00	24.27	209.77	4,108.88	-1,249.79	-714.78	1,439.75	0.00	0.00	0.00
4,430.85	24.27	209.77	4,137.00	-1,260.79	-721.08	1,452.43	0.00	0.00	0.00
<b>PK Depth</b>									
4,500.00	24.27	209.77	4,200.04	-1,285.47	-735.19	1,480.86	0.00	0.00	0.00
4,600.00	24.27	209.77	4,291.20	-1,321.15	-755.60	1,521.96	0.00	0.00	0.00

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well DECHANT 35-1
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4838.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4838.00ft (Original Well Elev)
<b>Site:</b>	WELD_DECHANT 23-1 PAD	<b>North Reference:</b>	True
<b>Well:</b>	DECHANT 35-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DECHANT 35-1		
<b>Design:</b>	DECHANT 35-1 (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)
4,694.12	24.27	209.77	4,377.00	-1,354.74	-774.80	1,560.65	0.00	0.00	0.00
<b>SX Depth</b>									
4,700.00	24.27	209.77	4,382.36	-1,356.84	-776.00	1,563.07	0.00	0.00	0.00
4,800.00	24.27	209.77	4,473.52	-1,392.52	-796.41	1,604.18	0.00	0.00	0.00
4,900.00	24.27	209.77	4,564.68	-1,428.20	-816.82	1,645.28	0.00	0.00	0.00
5,000.00	24.27	209.77	4,655.84	-1,463.89	-837.23	1,686.39	0.00	0.00	0.00
5,100.00	24.27	209.77	4,747.00	-1,499.57	-857.64	1,727.50	0.00	0.00	0.00
5,200.00	24.27	209.77	4,838.16	-1,535.25	-878.04	1,768.60	0.00	0.00	0.00
5,300.00	24.27	209.77	4,929.32	-1,570.94	-898.45	1,809.71	0.00	0.00	0.00
5,400.00	24.27	209.77	5,020.48	-1,606.62	-918.86	1,850.82	0.00	0.00	0.00
5,500.00	24.27	209.77	5,111.64	-1,642.30	-939.27	1,891.93	0.00	0.00	0.00
5,600.00	24.27	209.77	5,202.80	-1,677.99	-959.68	1,933.03	0.00	0.00	0.00
5,700.00	24.27	209.77	5,293.96	-1,713.67	-980.09	1,974.14	0.00	0.00	0.00
5,800.00	24.27	209.77	5,385.12	-1,749.35	-1,000.49	2,015.25	0.00	0.00	0.00
5,900.00	24.27	209.77	5,476.28	-1,785.04	-1,020.90	2,056.35	0.00	0.00	0.00
5,947.26	24.27	209.77	5,519.37	-1,801.90	-1,030.55	2,075.78	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
6,000.00	23.22	209.77	5,567.64	-1,820.33	-1,041.09	2,097.02	2.00	-2.00	0.00
6,100.00	21.22	209.77	5,660.21	-1,853.15	-1,059.86	2,134.83	2.00	-2.00	0.00
6,200.00	19.22	209.77	5,754.05	-1,883.15	-1,077.02	2,169.38	2.00	-2.00	0.00
6,300.00	17.22	209.77	5,849.03	-1,910.29	-1,092.54	2,200.64	2.00	-2.00	0.00
6,400.00	15.22	209.77	5,945.05	-1,934.53	-1,106.40	2,228.57	2.00	-2.00	0.00
6,500.00	13.22	209.77	6,041.98	-1,955.85	-1,118.59	2,253.13	2.00	-2.00	0.00
6,600.00	11.22	209.77	6,139.71	-1,974.22	-1,129.10	2,274.29	2.00	-2.00	0.00
6,700.00	9.22	209.77	6,238.12	-1,989.61	-1,137.90	2,292.03	2.00	-2.00	0.00
6,800.00	7.22	209.77	6,337.09	-2,002.02	-1,145.00	2,306.32	2.00	-2.00	0.00
6,900.00	5.22	209.77	6,436.49	-2,011.42	-1,150.38	2,317.15	2.00	-2.00	0.00
7,000.00	3.22	209.77	6,536.22	-2,017.81	-1,154.03	2,324.50	2.00	-2.00	0.00
7,100.00	1.22	209.77	6,636.14	-2,021.16	-1,155.95	2,328.37	2.00	-2.00	0.00
7,160.87	0.00	0.00	6,697.00	-2,021.72	-1,156.27	2,329.02	2.00	-2.00	0.00
<b>Start 1000.00 hold at 7160.87 MD</b>									
7,200.00	0.00	0.00	6,736.13	-2,021.72	-1,156.27	2,329.02	0.00	0.00	0.00
7,263.87	0.00	0.00	6,800.00	-2,021.72	-1,156.27	2,329.02	0.00	0.00	0.00
<b>NIO Depth</b>									
7,300.00	0.00	0.00	6,836.13	-2,021.72	-1,156.27	2,329.02	0.00	0.00	0.00
7,400.00	0.00	0.00	6,936.13	-2,021.72	-1,156.27	2,329.02	0.00	0.00	0.00
7,500.00	0.00	0.00	7,036.13	-2,021.72	-1,156.27	2,329.02	0.00	0.00	0.00
7,550.87	0.00	0.00	7,087.00	-2,021.72	-1,156.27	2,329.02	0.00	0.00	0.00
<b>CD Depth</b>									
7,600.00	0.00	0.00	7,136.13	-2,021.72	-1,156.27	2,329.02	0.00	0.00	0.00
7,633.87	0.00	0.00	7,170.00	-2,021.72	-1,156.27	2,329.02	0.00	0.00	0.00
<b>GH Depth</b>									
7,700.00	0.00	0.00	7,236.13	-2,021.72	-1,156.27	2,329.02	0.00	0.00	0.00
7,800.00	0.00	0.00	7,336.13	-2,021.72	-1,156.27	2,329.02	0.00	0.00	0.00
7,900.00	0.00	0.00	7,436.13	-2,021.72	-1,156.27	2,329.02	0.00	0.00	0.00
8,000.00	0.00	0.00	7,536.13	-2,021.72	-1,156.27	2,329.02	0.00	0.00	0.00
8,011.87	0.00	0.00	7,548.00	-2,021.72	-1,156.27	2,329.02	0.00	0.00	0.00
<b>J Depth</b>									
8,100.00	0.00	0.00	7,636.13	-2,021.72	-1,156.27	2,329.02	0.00	0.00	0.00
8,160.87	0.00	0.00	7,697.00	-2,021.72	-1,156.27	2,329.02	0.00	0.00	0.00
<b>TD at 8160.87 - DECHANT 35-1 BHL</b>									

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well DECHANT 35-1
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4838.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4838.00ft (Original Well Elev)
<b>Site:</b>	WELD_DECHANT 23-1 PAD	<b>North Reference:</b>	True
<b>Well:</b>	DECHANT 35-1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DECHANT 35-1		
<b>Design:</b>	DECHANT 35-1 (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 35-1 BHL	0.00	0.00	7,697.00	-2,021.72	-1,156.27	1,302,508.15	3,246,896.18	40.160404	-104.616619
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth		Name	Casing Diameter	Hole Diameter
(ft)	(ft)			(")	(")
701.31	700.00	9 5/8"		9-5/8	12-1/4

Formations					
Measured Depth	Vertical Depth		Name	Lithology	Dip
(ft)	(ft)				(°)
4,430.85	4,137.00	PK Depth			
4,694.12	4,377.00	SX Depth			
7,263.87	6,800.00	NIO Depth			
7,550.87	7,087.00	CD Depth			
7,633.87	7,170.00	GH Depth			
8,011.87	7,548.00	J Depth			

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N/-S	+E/-W	Comment	
(ft)	(ft)	(ft)	(ft)		
300.00	300.00	0.00	0.00	Start Build 2.00	
1,513.60	1,477.63	-219.82	-125.72	Start 4433.66 hold at 1513.60 MD	
5,947.26	5,519.37	-1,801.90	-1,030.55	Start Drop -2.00	
7,160.87	6,697.00	-2,021.72	-1,156.27	Start 1000.00 hold at 7160.87 MD	
8,160.87	7,697.00	-2,021.72	-1,156.27	TD at 8160.87	