

# **US ROCKIES REGION PLANNING**

**COLORADO NORTHERN ZONE - 83**

**DECHANT 8-12 PAD**

**DECHANT 17-12**

**DECHANT 17-12**

**Plan: DECHANT 17-12 (wp01)**

## **Standard Planning Report**

**09 December, 2010**



**Weatherford<sup>®</sup>**

Project: COLORADO NORTHERN ZONE - 83  
 Site: DECHANT 8-12 PAD  
 Well: DECHANT 17-12  
 Wellbore: DECHANT 17-12  
 Section:  
 SHL:  
 Design: DECHANT 17-12 (wp01)  
 Latitude: 40.154687  
 Longitude: -104.604010  
 GL: 0.00  
 KB: WELL @ 4897.00ft (Original Well Elev)

T M



Azimuths to True North  
Magnetic North: 8.83°

Magnetic Field  
Strength: 53073.7snT  
Dip Angle: 66.90°  
Date: 12/9/2010  
Model: IGRF2010



FORMATION TOP DETAILS

TVDPath	MDPath	PK	Formation
4097.00	4311.68	SX	0.00
4437.00	4651.71	NIO	0.00
6847.00	7061.71	CD	0.00
7129.00	7343.71	GH	0.00
7213.00	7427.71	J	0.00
7597.00	7811.71	DK	0.00
7807.00	8021.71		

WELL DETAILS: DECHANT 17-12

+N/-S	+E/-W	Northing	Ground Level: Easting	0.00 Latitude	Longitude	Slot
0.00	0.00	1300461.02	3250441.19	40.154687	-104.604010	

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

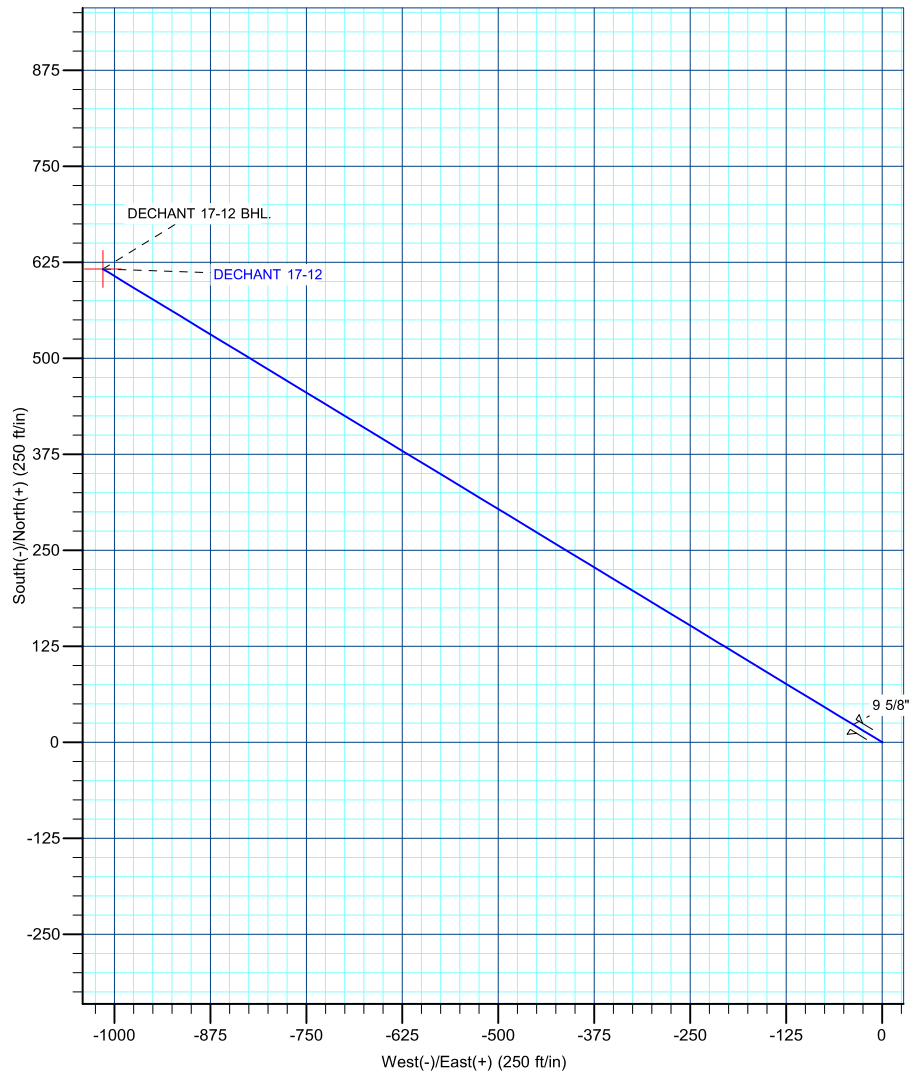
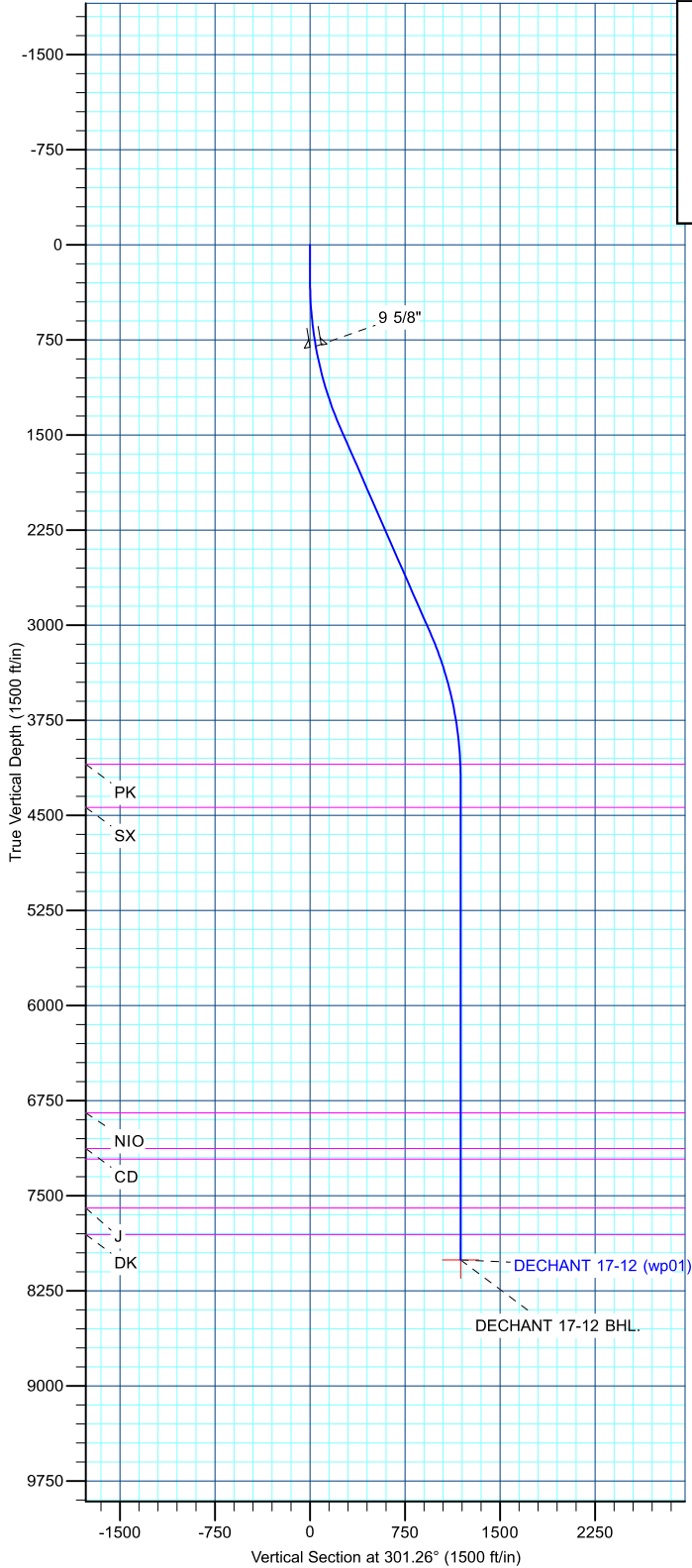
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
DECHANT 17-12 BHL.	8007.00	616.02	-1014.91	40.156378	-104.607641	Point

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	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	1484.85	23.70	301.26	1451.36	125.33	-206.49	2.00	301.26	241.55	
4	3236.85	23.70	301.26	3055.64	490.69	-808.42	0.00	0.00	945.68	
5	4421.71	0.00	0.00	4207.00	616.02	-1014.91	2.00	180.00	1187.23	
6	8221.71	0.00	0.00	8007.00	616.02	-1014.91	0.00	0.00	1187.23	DECHANT 17-12 BHL.

CASING DETAILS

TVD	MD	Name	Size
800.00	802.57	9 5/8"	9-5/8



<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well DECHANT 17-12
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4897.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4897.00ft (Original Well Elev)
<b>Site:</b>	DECHANT 8-12 PAD	<b>North Reference:</b>	True
<b>Well:</b>	DECHANT 17-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DECHANT 17-12		
<b>Design:</b>	DECHANT 17-12 (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		

<b>Site</b>	DECHANT 8-12 PAD				
<b>Site Position:</b>		<b>Northing:</b>	1,300,461.02 ft	<b>Latitude:</b>	40.154687
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,250,441.20 ft	<b>Longitude:</b>	-104.604010
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	0 "	<b>Grid Convergence:</b>	0.58 °

<b>Well</b>	DECHANT 17-12					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	1,300,461.02 ft	<b>Latitude:</b>	40.154687
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	3,250,441.20 ft	<b>Longitude:</b>	-104.604010
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	0.00 ft

<b>Wellbore</b>	DECHANT 17-12				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/9/2010	8.83	66.90	53,074

<b>Design</b>	DECHANT 17-12 (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	301.26

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	
1,484.85	23.70	301.26	1,451.36	125.33	-206.49	2.00	2.00	0.00	301.26	
3,236.85	23.70	301.26	3,055.64	490.69	-808.42	0.00	0.00	0.00	0.00	
4,421.71	0.00	0.00	4,207.00	616.02	-1,014.91	2.00	-2.00	0.00	180.00	
8,221.71	0.00	0.00	8,007.00	616.02	-1,014.91	0.00	0.00	0.00	0.00	DECHANT 17-12 B

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well DECHANT 17-12
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4897.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4897.00ft (Original Well Elev)
<b>Site:</b>	DECHANT 8-12 PAD	<b>North Reference:</b>	True
<b>Well:</b>	DECHANT 17-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DECHANT 17-12		
<b>Design:</b>	DECHANT 17-12 (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	0.00
100.00	0.00	0.00	100.00	0.00	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	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 2.00</b>										
400.00	2.00	301.26	399.98	0.91	-1.49	1.75	2.00	2.00	2.00	0.00
500.00	4.00	301.26	499.84	3.62	-5.97	6.98	2.00	2.00	2.00	0.00
600.00	6.00	301.26	599.45	8.14	-13.42	15.69	2.00	2.00	2.00	0.00
700.00	8.00	301.26	698.70	14.47	-23.83	27.88	2.00	2.00	2.00	0.00
800.00	10.00	301.26	797.47	22.58	-37.21	43.52	2.00	2.00	2.00	0.00
802.57	10.05	301.26	800.00	22.82	-37.59	43.97	2.00	2.00	2.00	0.00
<b>9 5/8"</b>										
900.00	12.00	301.26	895.62	32.48	-53.52	62.60	2.00	2.00	2.00	0.00
1,000.00	14.00	301.26	993.06	44.15	-72.74	85.10	2.00	2.00	2.00	0.00
1,100.00	16.00	301.26	1,089.64	57.58	-94.87	110.98	2.00	2.00	2.00	0.00
1,200.00	18.00	301.26	1,185.27	72.75	-119.86	140.21	2.00	2.00	2.00	0.00
1,300.00	20.00	301.26	1,279.82	89.64	-147.69	172.77	2.00	2.00	2.00	0.00
1,400.00	22.00	301.26	1,373.17	108.24	-178.32	208.60	2.00	2.00	2.00	0.00
1,484.85	23.70	301.26	1,451.36	125.33	-206.49	241.55	2.00	2.00	2.00	0.00
<b>Start 1752.00 hold at 1484.85 MD</b>										
1,500.00	23.70	301.26	1,465.23	128.49	-211.69	247.64	0.00	0.00	0.00	0.00
1,600.00	23.70	301.26	1,556.80	149.35	-246.05	287.83	0.00	0.00	0.00	0.00
1,700.00	23.70	301.26	1,648.37	170.20	-280.41	328.02	0.00	0.00	0.00	0.00
1,800.00	23.70	301.26	1,739.94	191.05	-314.76	368.21	0.00	0.00	0.00	0.00
1,900.00	23.70	301.26	1,831.50	211.91	-349.12	408.40	0.00	0.00	0.00	0.00
2,000.00	23.70	301.26	1,923.07	232.76	-383.48	448.59	0.00	0.00	0.00	0.00
2,100.00	23.70	301.26	2,014.64	253.61	-417.83	488.78	0.00	0.00	0.00	0.00
2,200.00	23.70	301.26	2,106.21	274.47	-452.19	528.97	0.00	0.00	0.00	0.00
2,300.00	23.70	301.26	2,197.78	295.32	-486.55	569.16	0.00	0.00	0.00	0.00
2,400.00	23.70	301.26	2,289.35	316.18	-520.90	609.35	0.00	0.00	0.00	0.00
2,500.00	23.70	301.26	2,380.91	337.03	-555.26	649.54	0.00	0.00	0.00	0.00
2,600.00	23.70	301.26	2,472.48	357.88	-589.61	689.73	0.00	0.00	0.00	0.00
2,700.00	23.70	301.26	2,564.05	378.74	-623.97	729.92	0.00	0.00	0.00	0.00
2,800.00	23.70	301.26	2,655.62	399.59	-658.33	770.11	0.00	0.00	0.00	0.00
2,900.00	23.70	301.26	2,747.19	420.44	-692.68	810.30	0.00	0.00	0.00	0.00
3,000.00	23.70	301.26	2,838.76	441.30	-727.04	850.49	0.00	0.00	0.00	0.00
3,100.00	23.70	301.26	2,930.32	462.15	-761.40	890.68	0.00	0.00	0.00	0.00
3,200.00	23.70	301.26	3,021.89	483.00	-795.75	930.87	0.00	0.00	0.00	0.00
3,236.85	23.70	301.26	3,055.64	490.69	-808.42	945.68	0.00	0.00	0.00	0.00
<b>Start Drop -2.00</b>										
3,300.00	22.43	301.26	3,113.74	503.53	-829.56	970.42	2.00	-2.00	0.00	0.00
3,400.00	20.43	301.26	3,206.81	522.49	-860.80	1,006.96	2.00	-2.00	0.00	0.00
3,500.00	18.43	301.26	3,301.11	539.75	-889.24	1,040.23	2.00	-2.00	0.00	0.00
3,600.00	16.43	301.26	3,396.51	555.29	-914.85	1,070.19	2.00	-2.00	0.00	0.00
3,700.00	14.43	301.26	3,492.90	569.10	-937.60	1,096.80	2.00	-2.00	0.00	0.00
3,800.00	12.43	301.26	3,590.16	581.16	-957.46	1,120.03	2.00	-2.00	0.00	0.00
3,900.00	10.43	301.26	3,688.17	591.44	-974.41	1,139.86	2.00	-2.00	0.00	0.00
4,000.00	8.43	301.26	3,786.81	599.95	-988.42	1,156.25	2.00	-2.00	0.00	0.00
4,100.00	6.43	301.26	3,885.97	606.66	-999.48	1,169.19	2.00	-2.00	0.00	0.00
4,200.00	4.43	301.26	3,985.51	611.57	-1,007.58	1,178.66	2.00	-2.00	0.00	0.00
4,300.00	2.43	301.26	4,085.33	614.68	-1,012.70	1,184.65	2.00	-2.00	0.00	0.00
4,311.68	2.20	301.26	4,097.00	614.93	-1,013.10	1,185.12	2.00	-2.00	0.00	0.00
<b>PK</b>										
4,400.00	0.43	301.26	4,185.29	615.98	-1,014.83	1,187.15	2.00	-2.00	0.00	0.00

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well DECHANT 17-12
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4897.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4897.00ft (Original Well Elev)
<b>Site:</b>	DECHANT 8-12 PAD	<b>North Reference:</b>	True
<b>Well:</b>	DECHANT 17-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DECHANT 17-12		
<b>Design:</b>	DECHANT 17-12 (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)
4,421.71	0.00	0.00	4,207.00	616.02	-1,014.91	1,187.23	2.00	-2.00	0.00
<b>Start 3800.00 hold at 4421.71 MD</b>									
4,500.00	0.00	0.00	4,285.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
4,600.00	0.00	0.00	4,385.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
4,651.71	0.00	0.00	4,437.00	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
<b>SX</b>									
4,700.00	0.00	0.00	4,485.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
4,800.00	0.00	0.00	4,585.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
4,900.00	0.00	0.00	4,685.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
5,000.00	0.00	0.00	4,785.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
5,100.00	0.00	0.00	4,885.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
5,200.00	0.00	0.00	4,985.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
5,300.00	0.00	0.00	5,085.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
5,400.00	0.00	0.00	5,185.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
5,500.00	0.00	0.00	5,285.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
5,600.00	0.00	0.00	5,385.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
5,700.00	0.00	0.00	5,485.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
5,800.00	0.00	0.00	5,585.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
5,900.00	0.00	0.00	5,685.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
6,000.00	0.00	0.00	5,785.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
6,100.00	0.00	0.00	5,885.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
6,200.00	0.00	0.00	5,985.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
6,300.00	0.00	0.00	6,085.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
6,400.00	0.00	0.00	6,185.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
6,500.00	0.00	0.00	6,285.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
6,600.00	0.00	0.00	6,385.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
6,700.00	0.00	0.00	6,485.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
6,800.00	0.00	0.00	6,585.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
6,900.00	0.00	0.00	6,685.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
7,000.00	0.00	0.00	6,785.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
7,061.71	0.00	0.00	6,847.00	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
<b>NIO</b>									
7,100.00	0.00	0.00	6,885.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
7,200.00	0.00	0.00	6,985.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
7,300.00	0.00	0.00	7,085.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
7,343.71	0.00	0.00	7,129.00	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
<b>CD</b>									
7,400.00	0.00	0.00	7,185.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
7,427.71	0.00	0.00	7,213.00	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
<b>GH</b>									
7,500.00	0.00	0.00	7,285.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
7,600.00	0.00	0.00	7,385.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
7,700.00	0.00	0.00	7,485.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
7,800.00	0.00	0.00	7,585.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
7,811.71	0.00	0.00	7,597.00	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
<b>J</b>									
7,900.00	0.00	0.00	7,685.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
8,000.00	0.00	0.00	7,785.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
8,021.71	0.00	0.00	7,807.00	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
<b>DK</b>									
8,100.00	0.00	0.00	7,885.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
8,200.00	0.00	0.00	7,985.29	616.02	-1,014.91	1,187.23	0.00	0.00	0.00
8,221.71	0.00	0.00	8,007.00	616.02	-1,014.91	1,187.23	0.00	0.00	0.00

<b>Database:</b>	edm5000p	<b>Local Co-ordinate Reference:</b>	Well DECHANT 17-12
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	WELL @ 4897.00ft (Original Well Elev)
<b>Project:</b>	COLORADO NORTHERN ZONE - 83	<b>MD Reference:</b>	WELL @ 4897.00ft (Original Well Elev)
<b>Site:</b>	DECHANT 8-12 PAD	<b>North Reference:</b>	True
<b>Well:</b>	DECHANT 17-12	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	DECHANT 17-12		
<b>Design:</b>	DECHANT 17-12 (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)
TD at 8221.71 - DECHANT 17-12 BHL.									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
DECHANT 17-12 BHL - hit/miss target - Shape - Point	0.00	0.00	8,007.00	616.02	-1,014.91	1,301,066.75	3,249,420.12	40.156378	-104.607641

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
802.57	800.00	9 5/8"	9-5/8	12-1/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,311.68	4,097.00	PK			
4,651.71	4,437.00	SX		0.00	
7,061.71	6,847.00	NIO		0.00	
7,343.71	7,129.00	CD		0.00	
7,427.71	7,213.00	GH		0.00	
7,811.71	7,597.00	J		0.00	
8,021.71	7,807.00	DK		0.00	

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	
1,484.85	1,451.36	125.33	-206.49	Start 1752.00 hold at 1484.85 MD	
3,236.85	3,055.64	490.69	-808.42	Start Drop -2.00	
4,421.71	4,207.00	616.02	-1,014.91	Start 3800.00 hold at 4421.71 MD	
8,221.71	8,007.00	616.02	-1,014.91	TD at 8221.71	