

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_DECHANT 23-1 PAD

DECHANT 19-1

DECHANT 19-1

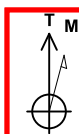
Plan: DECHANT 19-1 (wp01)

Standard Planning Report

18 November, 2010



Project: COLORADO NORTHERN ZONE - 83
Site: WELD_DECHANT 23-1 PAD
Well: DECHANT 19-1
Wellbore: DECHANT 19-1
Section:
SHL:
Design: DECHANT 19-1 (wp01)
Latitude: 40.165981
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	4400.19	PK Depth
4377.00	4641.77	SX Depth
6830.00	7094.94	NIO Depth
7117.00	7381.94	CD Depth
7197.00	7461.94	GH Depth

WELL DETAILS: DECHANT 19-1

+N/-S	+E/-W	Northing	Ground Level: Easting	0.00 Latitude	Longitude	Slot
0.00	0.00	1304551.19	3248032.06	40.165981	-104.612482	

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

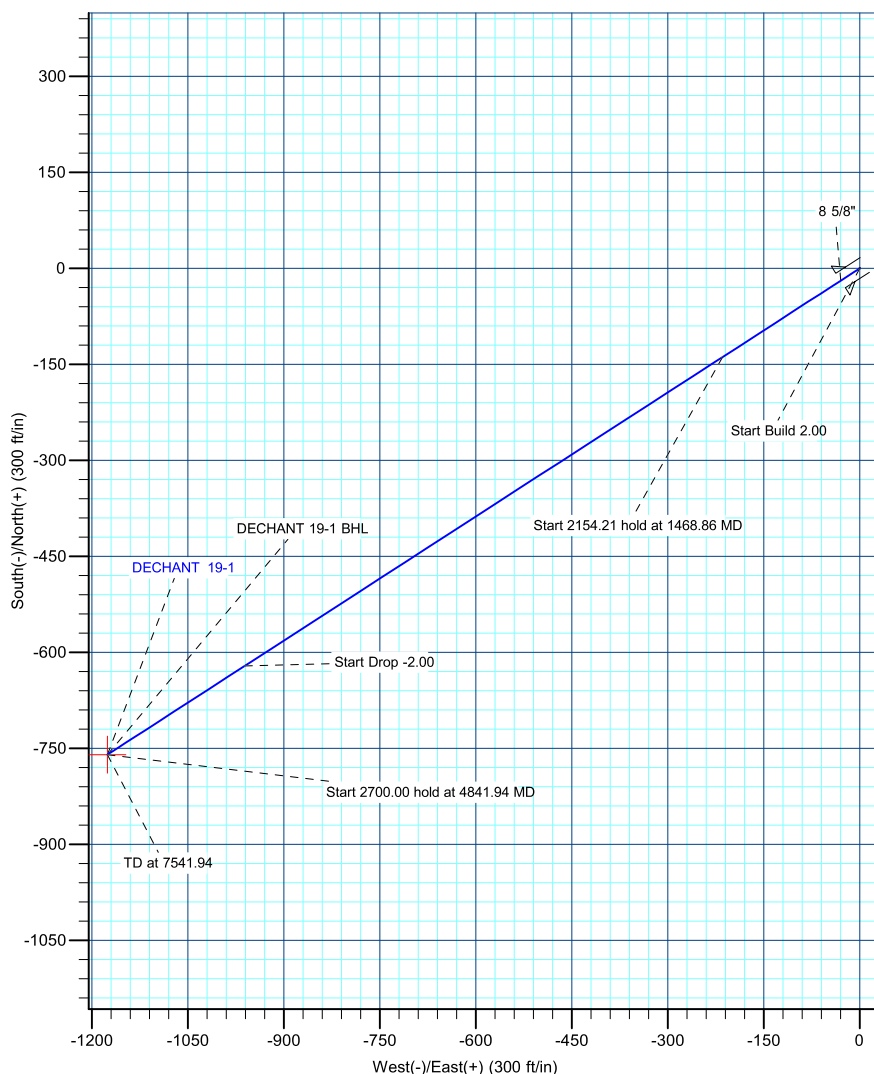
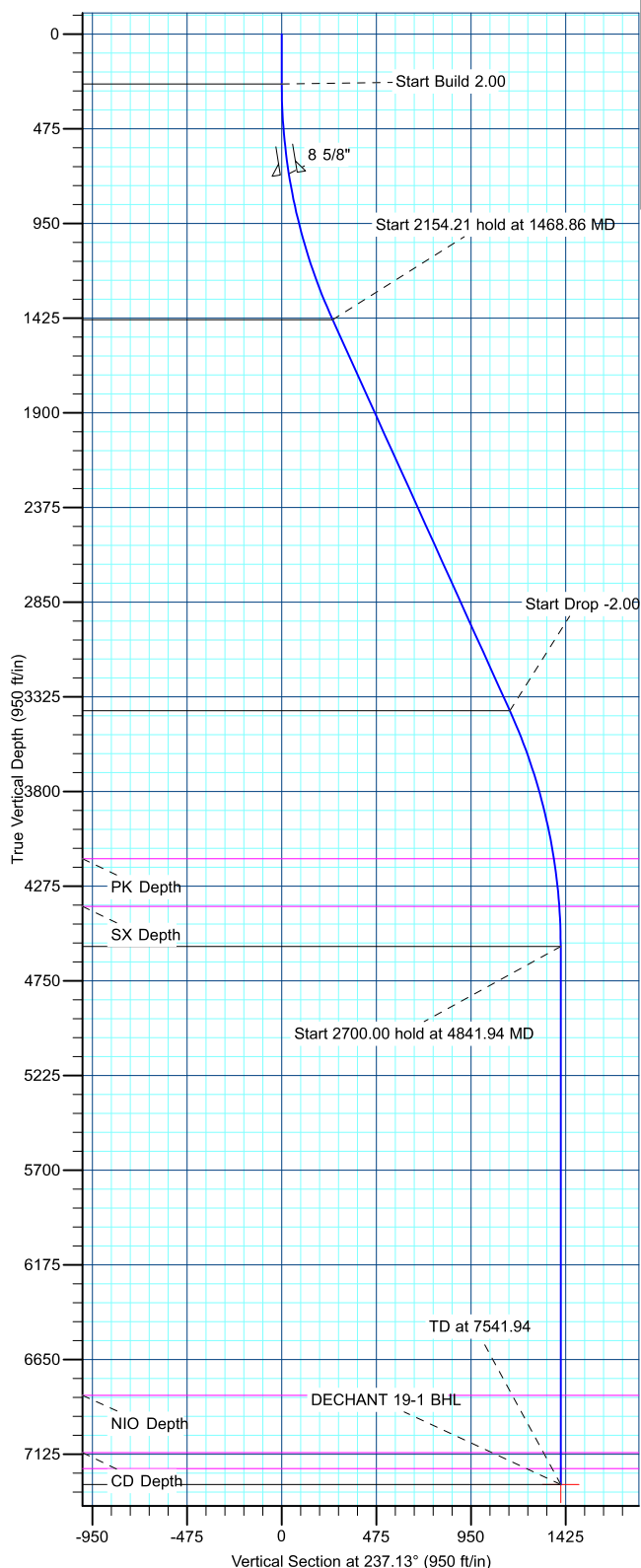
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Point	Shape
DECHANT 19-1 BHL	7277.00	-759.86	-1175.77	40.163895	-104.616689		

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	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	1468.86	24.38	237.13	1432.42	-138.63	-214.51	2.00	237.13	255.40	
4	3623.07	24.38	237.13	3394.58	-621.23	-961.27	0.00	0.00	1144.54	
5	4841.94	0.00	0.00	4577.00	-759.86	-1175.77	2.00	180.00	1399.94	
6	7541.94	0.00	0.00	7277.00	-759.86	-1175.77	0.00	0.00	1399.94	DECHANT 19-1 BHL

CASING DETAILS

TVD	MD	Name	Size
700.00	701.87	8 5/8"	8-5/8



Database:	edm5000p	Local Co-ordinate Reference:	Well DECHANT 19-1
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 19-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	DECHANT 19-1		
Design:	DECHANT 19-1 (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 19-1					
Well Position	+N/-S	0.00 ft	Northing:	1,304,551.19 ft	Latitude:	40.165981
	+E/-W	0.00 ft	Easting:	3,248,032.06 ft	Longitude:	-104.612482
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	0.00 ft

Wellbore	DECHANT 19-1				
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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 19-1 (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	237.13	

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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,468.86	24.38	237.13	1,432.42	-138.63	-214.51	2.00	2.00	0.00	237.13	
3,623.08	24.38	237.13	3,394.58	-621.23	-961.27	0.00	0.00	0.00	0.00	
4,841.94	0.00	0.00	4,577.00	-759.86	-1,175.77	2.00	-2.00	0.00	180.00	
7,541.94	0.00	0.00	7,277.00	-759.86	-1,175.77	0.00	0.00	0.00	0.00	DECHANT 19-1 BH

Database:	edm5000p	Local Co-ordinate Reference:	Well DECHANT 19-1
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 19-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	DECHANT 19-1		
Design:	DECHANT 19-1 (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
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
300.00	1.00	237.13	300.00	-0.24	-0.37	0.44	2.00	2.00	0.00
400.00	3.00	237.13	399.93	-2.13	-3.30	3.93	2.00	2.00	0.00
500.00	5.00	237.13	499.68	-5.92	-9.16	10.90	2.00	2.00	0.00
600.00	7.00	237.13	599.13	-11.59	-17.93	21.35	2.00	2.00	0.00
700.00	9.00	237.13	698.15	-19.14	-29.62	35.27	2.00	2.00	0.00
701.87	9.04	237.13	700.00	-19.30	-29.87	35.56	2.00	2.00	0.00
8 5/8"									
800.00	11.00	237.13	796.63	-28.57	-44.21	52.63	2.00	2.00	0.00
900.00	13.00	237.13	894.44	-39.85	-61.67	73.42	2.00	2.00	0.00
1,000.00	15.00	237.13	991.46	-52.98	-81.98	97.62	2.00	2.00	0.00
1,100.00	17.00	237.13	1,087.58	-67.94	-105.13	125.18	2.00	2.00	0.00
1,200.00	19.00	237.13	1,182.68	-84.72	-131.09	156.08	2.00	2.00	0.00
1,300.00	21.00	237.13	1,276.65	-103.28	-159.81	190.28	2.00	2.00	0.00
1,400.00	23.00	237.13	1,369.36	-123.61	-191.27	227.74	2.00	2.00	0.00
1,468.86	24.38	237.13	1,432.42	-138.63	-214.51	255.40	2.00	2.00	0.00
Start 2154.21 hold at 1468.86 MD									
1,500.00	24.38	237.13	1,460.78	-145.60	-225.30	268.25	0.00	0.00	0.00
1,600.00	24.38	237.13	1,551.87	-168.01	-259.97	309.53	0.00	0.00	0.00
1,700.00	24.38	237.13	1,642.95	-190.41	-294.63	350.80	0.00	0.00	0.00
1,800.00	24.38	237.13	1,734.04	-212.81	-329.30	392.08	0.00	0.00	0.00
1,900.00	24.38	237.13	1,825.12	-235.21	-363.96	433.35	0.00	0.00	0.00
2,000.00	24.38	237.13	1,916.21	-257.62	-398.63	474.63	0.00	0.00	0.00
2,100.00	24.38	237.13	2,007.29	-280.02	-433.29	515.90	0.00	0.00	0.00
2,200.00	24.38	237.13	2,098.38	-302.42	-467.96	557.17	0.00	0.00	0.00
2,300.00	24.38	237.13	2,189.46	-324.83	-502.62	598.45	0.00	0.00	0.00
2,400.00	24.38	237.13	2,280.55	-347.23	-537.29	639.72	0.00	0.00	0.00
2,500.00	24.38	237.13	2,371.63	-369.63	-571.95	681.00	0.00	0.00	0.00
2,600.00	24.38	237.13	2,462.72	-392.03	-606.62	722.27	0.00	0.00	0.00
2,700.00	24.38	237.13	2,553.80	-414.44	-641.28	763.55	0.00	0.00	0.00
2,800.00	24.38	237.13	2,644.88	-436.84	-675.95	804.82	0.00	0.00	0.00
2,900.00	24.38	237.13	2,735.97	-459.24	-710.61	846.09	0.00	0.00	0.00
3,000.00	24.38	237.13	2,827.05	-481.65	-745.28	887.37	0.00	0.00	0.00
3,100.00	24.38	237.13	2,918.14	-504.05	-779.94	928.64	0.00	0.00	0.00
3,200.00	24.38	237.13	3,009.22	-526.45	-814.61	969.92	0.00	0.00	0.00
3,300.00	24.38	237.13	3,100.31	-548.85	-849.27	1,011.19	0.00	0.00	0.00
3,400.00	24.38	237.13	3,191.39	-571.26	-883.94	1,052.46	0.00	0.00	0.00
3,500.00	24.38	237.13	3,282.48	-593.66	-918.60	1,093.74	0.00	0.00	0.00
3,600.00	24.38	237.13	3,373.56	-616.06	-953.27	1,135.01	0.00	0.00	0.00
3,623.08	24.38	237.13	3,394.58	-621.23	-961.27	1,144.54	0.00	0.00	0.00
Start Drop -2.00									
3,700.00	22.84	237.13	3,465.07	-637.95	-987.14	1,175.34	2.00	-2.00	0.00
3,800.00	20.84	237.13	3,557.88	-658.14	-1,018.38	1,212.54	2.00	-2.00	0.00
3,900.00	18.84	237.13	3,651.95	-676.56	-1,046.88	1,246.48	2.00	-2.00	0.00
4,000.00	16.84	237.13	3,747.13	-693.19	-1,072.61	1,277.11	2.00	-2.00	0.00
4,100.00	14.84	237.13	3,843.33	-708.00	-1,095.53	1,304.40	2.00	-2.00	0.00
4,200.00	12.84	237.13	3,940.42	-720.98	-1,115.62	1,328.32	2.00	-2.00	0.00
4,300.00	10.84	237.13	4,038.29	-732.12	-1,132.85	1,348.83	2.00	-2.00	0.00
4,400.00	8.84	237.13	4,136.82	-741.39	-1,147.20	1,365.92	2.00	-2.00	0.00
4,400.19	8.84	237.13	4,137.00	-741.41	-1,147.23	1,365.95	0.00	0.00	0.00

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	WELL @ 4838.00ft (Original Well Elev)
Site:	WELD_DECHANT 23-1 PAD	North Reference:	True
Well:	DECHANT 19-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	DECHANT 19-1		
Design:	DECHANT 19-1 (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)
PK Depth									
4,500.00	6.84	237.13	4,235.88	-748.80	-1,158.66	1,379.56	2.00	-2.00	0.00
4,600.00	4.84	237.13	4,335.35	-754.32	-1,167.20	1,389.73	2.00	-2.00	0.00
4,641.77	4.00	237.13	4,377.00	-756.06	-1,169.90	1,392.95	2.00	-2.00	0.00
SX Depth									
4,700.00	2.84	237.13	4,435.12	-757.95	-1,172.82	1,396.42	2.00	-2.00	0.00
4,800.00	0.84	237.13	4,535.07	-759.69	-1,175.52	1,399.63	2.00	-2.00	0.00
4,841.94	0.00	0.00	4,577.00	-759.86	-1,175.77	1,399.94	2.00	-2.00	0.00
Start 2700.00 hold at 4841.94 MD									
4,900.00	0.00	0.00	4,635.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
5,000.00	0.00	0.00	4,735.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
5,100.00	0.00	0.00	4,835.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
5,200.00	0.00	0.00	4,935.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
5,300.00	0.00	0.00	5,035.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
5,400.00	0.00	0.00	5,135.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
5,500.00	0.00	0.00	5,235.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
5,600.00	0.00	0.00	5,335.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
5,700.00	0.00	0.00	5,435.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
5,800.00	0.00	0.00	5,535.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
5,900.00	0.00	0.00	5,635.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
6,000.00	0.00	0.00	5,735.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
6,100.00	0.00	0.00	5,835.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
6,200.00	0.00	0.00	5,935.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
6,300.00	0.00	0.00	6,035.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
6,400.00	0.00	0.00	6,135.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
6,500.00	0.00	0.00	6,235.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
6,600.00	0.00	0.00	6,335.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
6,700.00	0.00	0.00	6,435.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
6,800.00	0.00	0.00	6,535.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
6,900.00	0.00	0.00	6,635.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
7,000.00	0.00	0.00	6,735.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
7,094.94	0.00	0.00	6,830.00	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
NIO Depth									
7,100.00	0.00	0.00	6,835.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
7,200.00	0.00	0.00	6,935.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
7,300.00	0.00	0.00	7,035.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
7,381.94	0.00	0.00	7,117.00	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
CD Depth									
7,400.00	0.00	0.00	7,135.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
7,461.94	0.00	0.00	7,197.00	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
GH Depth									
7,500.00	0.00	0.00	7,235.06	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
7,541.94	0.00	0.00	7,277.00	-759.86	-1,175.77	1,399.94	0.00	0.00	0.00
TD at 7541.94 - DECHANT 19-1 BHL									

Database:	edm5000p	Local Co-ordinate Reference:	Well DECHANT 19-1
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 19-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	DECHANT 19-1		
Design:	DECHANT 19-1 (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 19-1 BHL	0.00	0.00	7,277.00	-759.86	-1,175.77	1,303,779.60	3,246,863.95	40.163895	-104.616689
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth			Casing Diameter	Hole Diameter
(ft)	(ft)		Name	(")	(")
701.87	700.00	8 5/8"		8-5/8	11

Formations					
Measured Depth	Vertical Depth			Dip	Dip Direction
(ft)	(ft)		Name	(°)	(°)
4,400.19	4,139.00	PK Depth			
4,641.77	4,379.00	SX Depth			
7,094.94	6,832.00	NIO Depth			
7,381.94	7,119.00	CD Depth			
7,461.94	7,199.00	GH Depth			

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		
(ft)	(ft)	+N/-S	+E/-W	Comment
(ft)	(ft)	(ft)	(ft)	
250.00	250.00	0.00	0.00	Start Build 2.00
1,468.86	1,432.42	-138.63	-214.51	Start 2154.21 hold at 1468.86 MD
3,623.08	3,394.58	-621.23	-961.27	Start Drop -2.00
4,841.94	4,577.00	-759.86	-1,175.77	Start 2700.00 hold at 4841.94 MD
7,541.94	7,277.00	-759.86	-1,175.77	TD at 7541.94