



Scientific Drilling
Rocky Mountain Operations

Company: OXY USA RMAT
Project: Garfield County, CO NAD27
Site: Cascade Creek 697-06A Pad



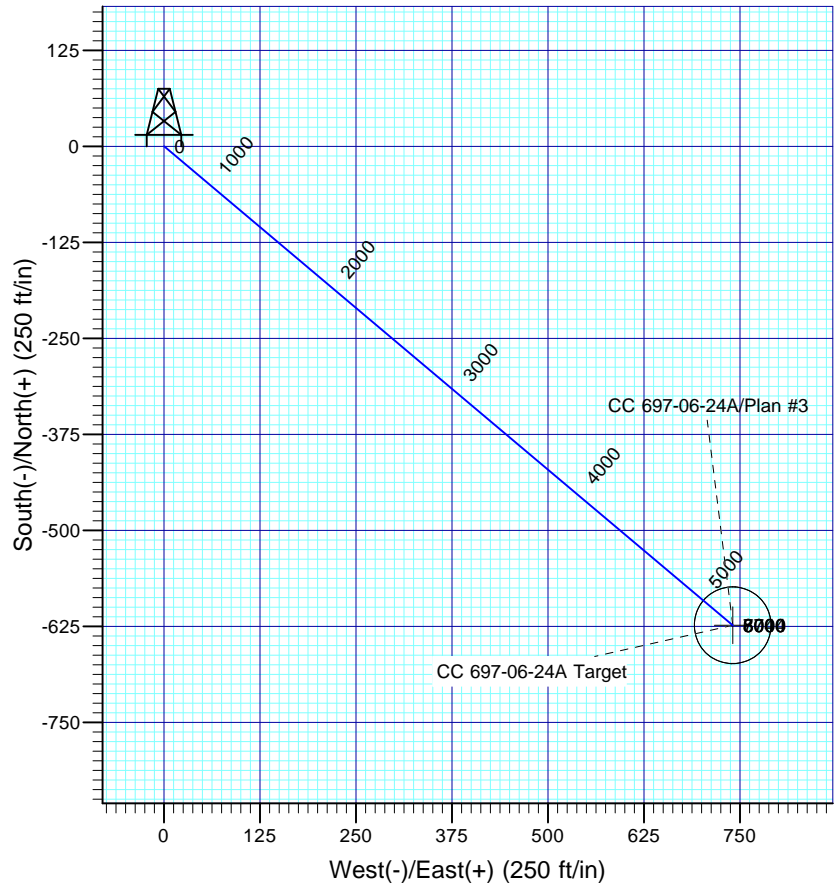
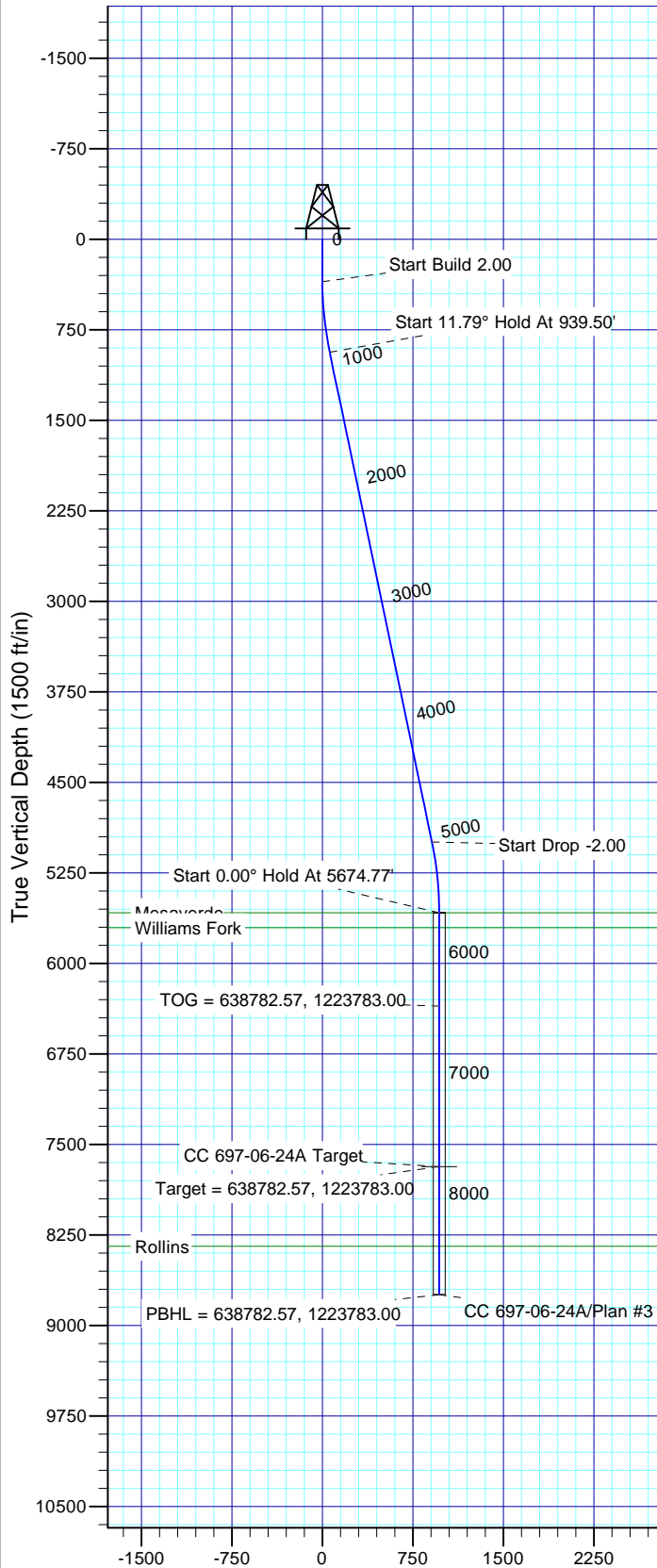
Well Details: CC 697-06-24A

TVD Reference: GL 8184' & RKB 30' @ 8214.00ft (H&P) Ground Level: 8184.00
+N/-S 0.00 +E/-W 0.00 Northing 639428.33 Easting 1223061.93 Latitude 39° 33' 24.113 N Longitude 108° 15' 21.131 W Slot U



Azimuths to True North
Magnetic North: 10.51°

Magnetic Field
Strength: 52311.8snT
Dip Angle: 65.77°
Date: 2010/12/20
Model: IGRF2005-10



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
5579.00	5674.77	Mesaverde
5704.00	5799.77	Williams Fork
8344.00	8439.77	Rollins

Plan: Plan #3

21:02, February 03 2011
Created By: Rex Hall

PROJECT DETAILS: Garfield County, CO NAD27

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Colorado Central 502

System Datum: Mean Sea Level

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	350.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	
3	939.50	11.79	130.11	935.35	-38.94	46.22	2.00	130.11	60.44	
4	5085.27	11.79	130.11	4993.65	-584.66	694.10	0.00	0.00	907.52	
5	5674.77	0.00	0.00	5579.00	-623.59	740.32	2.00	180.00	967.96	
6	7779.77	0.00	0.00	7684.00	-623.59	740.32	0.00	0.00	967.96	CC 697-06-24A Target
7	8839.77	0.00	0.00	8744.00	-623.59	740.32	0.00	0.00	967.96	

OXY USA RMAT

**Garfield County, CO NAD27
Cascade Creek 697-06A Pad
CC 697-06-24A - Slot U**

OH

Plan: Plan #3

Standard Planning Report

03 February, 2011

Scientific Drilling International

Planning Report

Database:	EDM-RexH-Local	Local Co-ordinate Reference:	Well CC 697-06-24A - Slot U
Company:	OXY USA RMAT	TVD Reference:	GL 8184' & RKB 30' @ 8214.00ft (H&P)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8184' & RKB 30' @ 8214.00ft (H&P)
Site:	Cascade Creek 697-06A Pad	North Reference:	True
Well:	CC 697-06-24A	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3		

Project	Garfield County, CO NAD27		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Colorado Central 502		

Site		Cascade Creek 697-06A Pad, Sec 6 T6S R97W			
Site Position:		Northing:	639,442.25 usft	Latitude:	39° 33' 24.203 N
From:	Map	Easting:	1,222,903.93 usft	Longitude:	108° 15' 23.153 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.74 °

Well	CC 697-06-24A - Slot U					
Well Position	+N/-S	-9.12 ft	Northing:	639,428.33 usft	Latitude:	39° 33' 24.113 N
	+E/-W	158.35 ft	Easting:	1,223,061.93 usft	Longitude:	108° 15' 21.131 W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	8,184.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	2010/12/20	10.51	65.77	52,312

Design	Plan #3			
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	130.11

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	
350.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00	
939.50	11.79	130.11	935.35	-38.94	46.22	2.00	2.00	0.00	130.11	
5,085.27	11.79	130.11	4,993.65	-584.66	694.10	0.00	0.00	0.00	0.00	
5,674.77	0.00	0.00	5,579.00	-623.59	740.32	2.00	-2.00	0.00	180.00	
7,779.77	0.00	0.00	7,684.00	-623.59	740.32	0.00	0.00	0.00	0.00	CC 697-06-24A Target
8,839.77	0.00	0.00	8,744.00	-623.59	740.32	0.00	0.00	0.00	0.00	

Scientific Drilling International

Planning Report

Database:	EDM-RexH-Local	Local Co-ordinate Reference:	Well CC 697-06-24A - Slot U
Company:	OXY USA RMAT	TVD Reference:	GL 8184' & RKB 30' @ 8214.00ft (H&P)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8184' & RKB 30' @ 8214.00ft (H&P)
Site:	Cascade Creek 697-06A Pad	North Reference:	True
Well:	CC 697-06-24A	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3		

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
350.00	0.00	0.00	350.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
400.00	1.00	130.11	400.00	-0.28	0.33	0.44	2.00	2.00	0.00
500.00	3.00	130.11	499.93	-2.53	3.00	3.93	2.00	2.00	0.00
600.00	5.00	130.11	599.68	-7.02	8.34	10.90	2.00	2.00	0.00
700.00	7.00	130.11	699.13	-13.76	16.33	21.35	2.00	2.00	0.00
800.00	9.00	130.11	798.15	-22.72	26.98	35.27	2.00	2.00	0.00
900.00	11.00	130.11	896.63	-33.91	40.26	52.63	2.00	2.00	0.00
939.50	11.79	130.11	935.35	-38.94	46.22	60.44	2.00	2.00	0.00
Start 11.79° Hold At 939.50'									
1,000.00	11.79	130.11	994.57	-46.90	55.68	72.80	0.00	0.00	0.00
1,100.00	11.79	130.11	1,092.46	-60.06	71.31	93.23	0.00	0.00	0.00
1,200.00	11.79	130.11	1,190.35	-73.23	86.93	113.66	0.00	0.00	0.00
1,300.00	11.79	130.11	1,288.24	-86.39	102.56	134.10	0.00	0.00	0.00
1,400.00	11.79	130.11	1,386.13	-99.55	118.19	154.53	0.00	0.00	0.00
1,500.00	11.79	130.11	1,484.02	-112.72	133.82	174.96	0.00	0.00	0.00
1,600.00	11.79	130.11	1,581.91	-125.88	149.44	195.40	0.00	0.00	0.00
1,700.00	11.79	130.11	1,679.80	-139.04	165.07	215.83	0.00	0.00	0.00
1,800.00	11.79	130.11	1,777.69	-152.21	180.70	236.26	0.00	0.00	0.00
1,900.00	11.79	130.11	1,875.59	-165.37	196.33	256.69	0.00	0.00	0.00
2,000.00	11.79	130.11	1,973.48	-178.53	211.95	277.13	0.00	0.00	0.00
2,100.00	11.79	130.11	2,071.37	-191.70	227.58	297.56	0.00	0.00	0.00
2,200.00	11.79	130.11	2,169.26	-204.86	243.21	317.99	0.00	0.00	0.00
2,300.00	11.79	130.11	2,267.15	-218.02	258.84	338.42	0.00	0.00	0.00
2,400.00	11.79	130.11	2,365.04	-231.19	274.46	358.86	0.00	0.00	0.00
2,500.00	11.79	130.11	2,462.93	-244.35	290.09	379.29	0.00	0.00	0.00
2,600.00	11.79	130.11	2,560.82	-257.51	305.72	399.72	0.00	0.00	0.00
2,700.00	11.79	130.11	2,658.71	-270.68	321.34	420.15	0.00	0.00	0.00
2,800.00	11.79	130.11	2,756.60	-283.84	336.97	440.59	0.00	0.00	0.00
2,900.00	11.79	130.11	2,854.49	-297.00	352.60	461.02	0.00	0.00	0.00
3,000.00	11.79	130.11	2,952.38	-310.17	368.23	481.45	0.00	0.00	0.00
3,100.00	11.79	130.11	3,050.27	-323.33	383.85	501.88	0.00	0.00	0.00
3,200.00	11.79	130.11	3,148.16	-336.49	399.48	522.32	0.00	0.00	0.00
3,300.00	11.79	130.11	3,246.05	-349.66	415.11	542.75	0.00	0.00	0.00
3,400.00	11.79	130.11	3,343.94	-362.82	430.74	563.18	0.00	0.00	0.00
3,500.00	11.79	130.11	3,441.83	-375.98	446.36	583.61	0.00	0.00	0.00
3,600.00	11.79	130.11	3,539.72	-389.15	461.99	604.05	0.00	0.00	0.00
3,700.00	11.79	130.11	3,637.61	-402.31	477.62	624.48	0.00	0.00	0.00
3,800.00	11.79	130.11	3,735.50	-415.47	493.25	644.91	0.00	0.00	0.00
3,900.00	11.79	130.11	3,833.39	-428.64	508.87	665.34	0.00	0.00	0.00
4,000.00	11.79	130.11	3,931.28	-441.80	524.50	685.78	0.00	0.00	0.00
4,100.00	11.79	130.11	4,029.17	-454.96	540.13	706.21	0.00	0.00	0.00
4,200.00	11.79	130.11	4,127.06	-468.13	555.76	726.64	0.00	0.00	0.00
4,300.00	11.79	130.11	4,224.95	-481.29	571.38	747.07	0.00	0.00	0.00
4,400.00	11.79	130.11	4,322.84	-494.45	587.01	767.51	0.00	0.00	0.00
4,500.00	11.79	130.11	4,420.73	-507.62	602.64	787.94	0.00	0.00	0.00
4,600.00	11.79	130.11	4,518.62	-520.78	618.26	808.37	0.00	0.00	0.00
4,700.00	11.79	130.11	4,616.51	-533.94	633.89	828.80	0.00	0.00	0.00
4,800.00	11.79	130.11	4,714.40	-547.11	649.52	849.24	0.00	0.00	0.00
4,900.00	11.79	130.11	4,812.29	-560.27	665.15	869.67	0.00	0.00	0.00

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Planning Report

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Company:	OXY USA RMAT	TVD Reference:	GL 8184' & RKB 30' @ 8214.00ft (H&P)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8184' & RKB 30' @ 8214.00ft (H&P)
Site:	Cascade Creek 697-06A Pad	North Reference:	True
Well:	CC 697-06-24A	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3		

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)
5,000.00	11.79	130.11	4,910.18	-573.43	680.77	890.10	0.00	0.00	0.00
5,085.27	11.79	130.11	4,993.65	-584.66	694.10	907.52	0.00	0.00	0.00
Start Drop -2.00									
5,100.00	11.50	130.11	5,008.08	-586.57	696.37	910.50	2.00	-2.00	0.00
5,200.00	9.50	130.11	5,106.40	-598.31	710.30	928.71	2.00	-2.00	0.00
5,300.00	7.50	130.11	5,205.30	-607.82	721.60	943.48	2.00	-2.00	0.00
5,400.00	5.50	130.11	5,304.66	-615.11	730.25	954.79	2.00	-2.00	0.00
5,500.00	3.50	130.11	5,404.34	-620.16	736.25	962.63	2.00	-2.00	0.00
5,600.00	1.50	130.11	5,504.24	-622.97	739.58	966.99	2.00	-2.00	0.00
5,674.77	0.00	0.00	5,579.00	-623.59	740.32	967.96	2.00	-2.00	0.00
Start 0.00° Hold At 5674.77' - Mesaverde									
5,700.00	0.00	0.00	5,604.23	-623.59	740.32	967.96	0.00	0.00	0.00
5,799.77	0.00	0.00	5,704.00	-623.59	740.32	967.96	0.00	0.00	0.00
Williams Fork									
5,800.00	0.00	0.00	5,704.23	-623.59	740.32	967.96	0.00	0.00	0.00
5,900.00	0.00	0.00	5,804.23	-623.59	740.32	967.96	0.00	0.00	0.00
6,000.00	0.00	0.00	5,904.23	-623.59	740.32	967.96	0.00	0.00	0.00
6,100.00	0.00	0.00	6,004.23	-623.59	740.32	967.96	0.00	0.00	0.00
6,200.00	0.00	0.00	6,104.23	-623.59	740.32	967.96	0.00	0.00	0.00
6,300.00	0.00	0.00	6,204.23	-623.59	740.32	967.96	0.00	0.00	0.00
6,400.00	0.00	0.00	6,304.23	-623.59	740.32	967.96	0.00	0.00	0.00
6,449.77	0.00	0.00	6,354.00	-623.59	740.32	967.96	0.00	0.00	0.00
TOG = 638782.57, 1223783.00									
6,500.00	0.00	0.00	6,404.23	-623.59	740.32	967.96	0.00	0.00	0.00
6,600.00	0.00	0.00	6,504.23	-623.59	740.32	967.96	0.00	0.00	0.00
6,700.00	0.00	0.00	6,604.23	-623.59	740.32	967.96	0.00	0.00	0.00
6,800.00	0.00	0.00	6,704.23	-623.59	740.32	967.96	0.00	0.00	0.00
6,900.00	0.00	0.00	6,804.23	-623.59	740.32	967.96	0.00	0.00	0.00
7,000.00	0.00	0.00	6,904.23	-623.59	740.32	967.96	0.00	0.00	0.00
7,100.00	0.00	0.00	7,004.23	-623.59	740.32	967.96	0.00	0.00	0.00
7,200.00	0.00	0.00	7,104.23	-623.59	740.32	967.96	0.00	0.00	0.00
7,300.00	0.00	0.00	7,204.23	-623.59	740.32	967.96	0.00	0.00	0.00
7,400.00	0.00	0.00	7,304.23	-623.59	740.32	967.96	0.00	0.00	0.00
7,500.00	0.00	0.00	7,404.23	-623.59	740.32	967.96	0.00	0.00	0.00
7,600.00	0.00	0.00	7,504.23	-623.59	740.32	967.96	0.00	0.00	0.00
7,700.00	0.00	0.00	7,604.23	-623.59	740.32	967.96	0.00	0.00	0.00
7,779.77	0.00	0.00	7,684.00	-623.59	740.32	967.96	0.00	0.00	0.00
Target = 638782.57, 1223783.00									
7,800.00	0.00	0.00	7,704.23	-623.59	740.32	967.96	0.00	0.00	0.00
7,900.00	0.00	0.00	7,804.23	-623.59	740.32	967.96	0.00	0.00	0.00
8,000.00	0.00	0.00	7,904.23	-623.59	740.32	967.96	0.00	0.00	0.00
8,100.00	0.00	0.00	8,004.23	-623.59	740.32	967.96	0.00	0.00	0.00
8,200.00	0.00	0.00	8,104.23	-623.59	740.32	967.96	0.00	0.00	0.00
8,300.00	0.00	0.00	8,204.23	-623.59	740.32	967.96	0.00	0.00	0.00
8,400.00	0.00	0.00	8,304.23	-623.59	740.32	967.96	0.00	0.00	0.00
8,439.77	0.00	0.00	8,344.00	-623.59	740.32	967.96	0.00	0.00	0.00
Rollins									
8,500.00	0.00	0.00	8,404.23	-623.59	740.32	967.96	0.00	0.00	0.00
8,600.00	0.00	0.00	8,504.23	-623.59	740.32	967.96	0.00	0.00	0.00
8,700.00	0.00	0.00	8,604.23	-623.59	740.32	967.96	0.00	0.00	0.00
8,800.00	0.00	0.00	8,704.23	-623.59	740.32	967.96	0.00	0.00	0.00
8,839.77	0.00	0.00	8,744.00	-623.59	740.32	967.96	0.00	0.00	0.00
PBHL = 638782.57, 1223783.00									

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Planning Report

Database:	EDM-RexH-Local	Local Co-ordinate Reference:	Well CC 697-06-24A - Slot U
Company:	OXY USA RMAT	TVD Reference:	GL 8184' & RKB 30' @ 8214.00ft (H&P)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8184' & RKB 30' @ 8214.00ft (H&P)
Site:	Cascade Creek 697-06A Pad	North Reference:	True
Well:	CC 697-06-24A	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
CC 697-06-24A Target - plan hits target center - Circle (radius 50.00)	0.00	0.00	7,684.00	-623.59	740.32	638,782.57	1,223,782.99	39° 33' 17.950 N	108° 15' 11.679 W

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,674.77	-2,635.00	Mesaverde		0.00	
5,799.77	-2,510.00	Williams Fork		0.00	
8,439.77	130.00	Rollins		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
350.00	350.00	0.00	0.00	Start Build 2.00
939.50	935.35	-38.94	46.22	Start 11.79° Hold At 939.50'
5,085.27	4,993.65	-584.66	694.10	Start Drop -2.00
5,674.77	5,579.00	-623.59	740.32	Start 0.00° Hold At 5674.77'
6,449.77	6,354.00	-623.59	740.32	TOG = 638782.57, 1223783.00
7,779.77	7,684.00	-623.59	740.32	Target = 638782.57, 1223783.00
8,839.77	8,744.00	-623.59	740.32	PBHL = 638782.57, 1223783.00