



Scientific Drilling
Rocky Mountain Operations

Company: OXY USA RMAT
Project: Garfield County, CO NAD27
Site: Cascade Creek 697-08A Pad



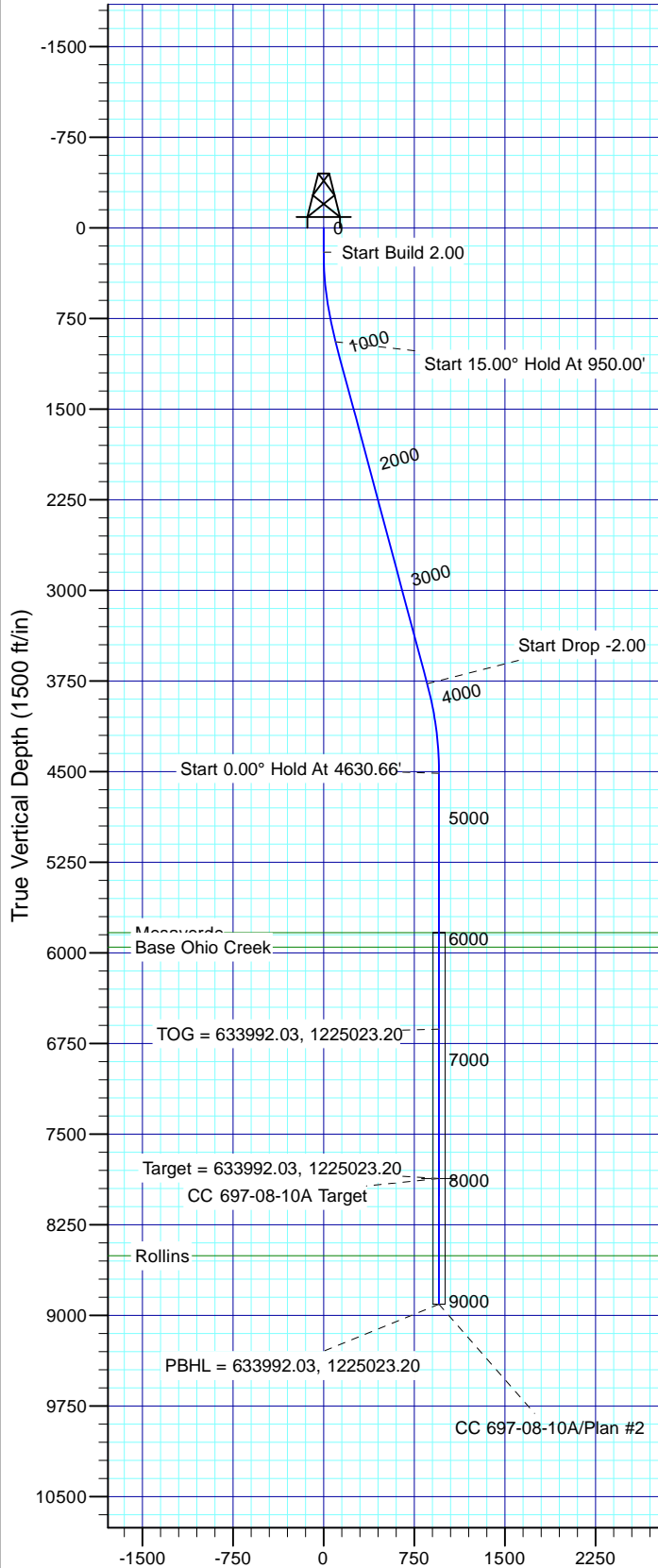
Well Details: CC 697-08-10A

TVD Reference: GL 8401' & RKB 30' @ 8431.00ft (H&P Rig) Ground Level: 8401.00
+N/-S 0.00 +E/-W 0.00 Northing 634600.60 Easting 1225757.55 Latitude 39° 32' 37.226 N Longitude 108° 14' 44.868 W Slot P

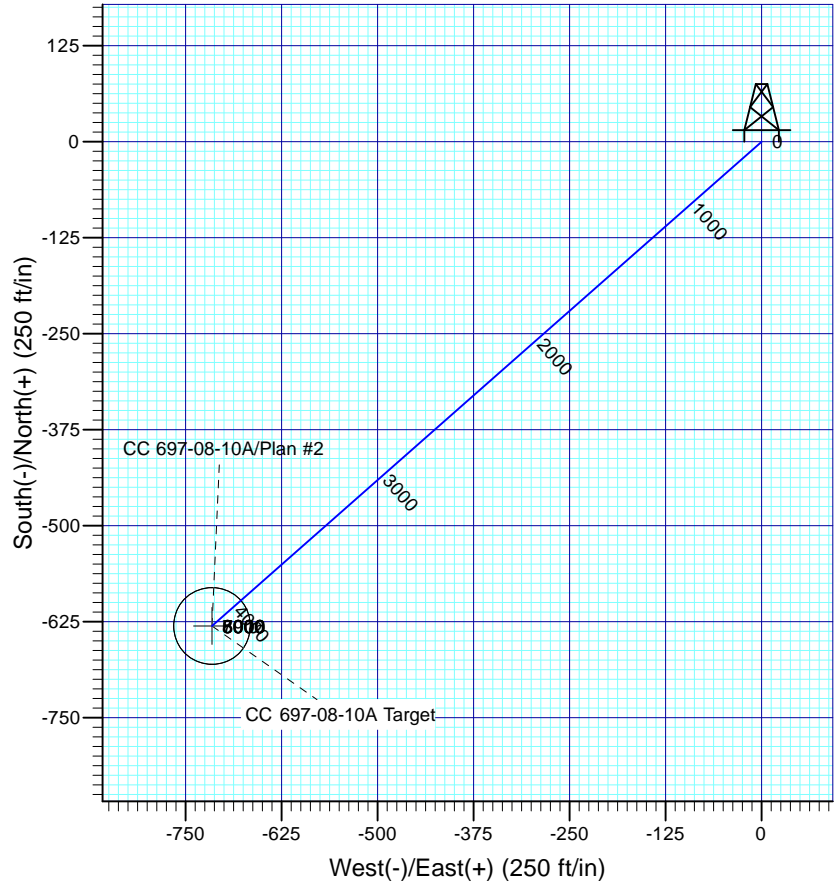


Azimuths to True North
Magnetic North: 10.77°

Magnetic Field
Strength: 52497.5nT
Dip Angle: 65.81°
Date: 12/23/2008
Model: IGRF2005-10



Vertical Section at 228.62° (1500 ft/in)



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
5831.00	5947.94	Mesaverde
5951.00	6067.94	Base Ohio Creek
8506.00	8622.94	Rollins

Plan: Plan #2

8:31, May 26 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	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	950.00	15.00	228.62	941.46	-64.53	-73.24	2.00	228.62	97.62	
4	3880.66	15.00	228.62	3772.27	-565.95	-642.38	0.00	0.00	856.13	
5	4630.66	0.00	0.00	4513.73	-630.48	-715.62	2.00	180.00	953.74	
6	7983.94	0.00	0.00	7867.00	-630.48	-715.62	0.00	0.00	953.74	CC 697-08-10A Target
7	9022.94	0.00	0.00	8906.00	-630.48	-715.62	0.00	0.00	953.74	

OXY USA RMAT

**Garfield County, CO NAD27
Cascade Creek 697-08A Pad
CC 697-08-10A - Slot P**

OH

Plan: Plan #2

Standard Planning Report

26 May, 2011





Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-08-10A - Slot P
Company:	OXY USA RMAT	TVD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Site:	Cascade Creek 697-08A Pad	North Reference:	True
Well:	CC 697-08-10A	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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 697-08A Pad, Sec 8 T6S R97W			
Site Position:		Northing:	635,765.16 usft	Latitude: 39° 32' 48.728 N
From:	Lat/Long	Easting:	1,225,748.33 usft	Longitude: 108° 14' 45.434 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: -1.73 °

Well	CC 697-08-10A - Slot P, 365' FNL & 1804' FWL			
Well Position	+N/-S	-1,163.75 ft	Northing:	634,600.61 usft
	+E/-W	44.40 ft	Easting:	1,225,757.54 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:		Ground Level: 8,401.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	12/23/2008	10.77	65.81	52,498

Design	Plan #2			
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	228.62

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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
950.00	15.00	228.62	941.46	-64.53	-73.24	2.00	2.00	0.00	228.62	
3,880.66	15.00	228.62	3,772.27	-565.95	-642.38	0.00	0.00	0.00	0.00	
4,630.66	0.00	0.00	4,513.73	-630.48	-715.62	2.00	-2.00	0.00	180.00	
7,983.94	0.00	0.00	7,867.00	-630.48	-715.62	0.00	0.00	0.00	0.00	CC 697-08-10A Target
9,022.94	0.00	0.00	8,906.00	-630.48	-715.62	0.00	0.00	0.00	0.00	



Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-08-10A - Slot P
Company:	OXY USA RMAT	TVD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Site:	Cascade Creek 697-08A Pad	North Reference:	True
Well:	CC 697-08-10A	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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
Start Build 2.00									
300.00	2.00	228.62	299.98	-1.15	-1.31	1.75	2.00	2.00	0.00
400.00	4.00	228.62	399.84	-4.61	-5.24	6.98	2.00	2.00	0.00
500.00	6.00	228.62	499.45	-10.37	-11.78	15.69	2.00	2.00	0.00
600.00	8.00	228.62	598.70	-18.43	-20.92	27.88	2.00	2.00	0.00
700.00	10.00	228.62	697.47	-28.77	-32.66	43.52	2.00	2.00	0.00
800.00	12.00	228.62	795.62	-41.38	-46.97	62.60	2.00	2.00	0.00
900.00	14.00	228.62	893.06	-56.25	-63.85	85.10	2.00	2.00	0.00
950.00	15.00	228.62	941.46	-64.53	-73.24	97.62	2.00	2.00	0.00
Start 15.00° Hold At 950.00'									
1,000.00	15.00	228.62	989.76	-73.08	-82.95	110.56	0.00	0.00	0.00
1,100.00	15.00	228.62	1,086.35	-90.19	-102.37	136.44	0.00	0.00	0.00
1,200.00	15.00	228.62	1,182.94	-107.30	-121.79	162.32	0.00	0.00	0.00
1,300.00	15.00	228.62	1,279.54	-124.41	-141.21	188.20	0.00	0.00	0.00
1,400.00	15.00	228.62	1,376.13	-141.52	-160.63	214.08	0.00	0.00	0.00
1,500.00	15.00	228.62	1,472.72	-158.63	-180.05	239.97	0.00	0.00	0.00
1,600.00	15.00	228.62	1,569.31	-175.74	-199.47	265.85	0.00	0.00	0.00
1,700.00	15.00	228.62	1,665.91	-192.85	-218.89	291.73	0.00	0.00	0.00
1,800.00	15.00	228.62	1,762.50	-209.96	-238.31	317.61	0.00	0.00	0.00
1,900.00	15.00	228.62	1,859.09	-227.07	-257.73	343.49	0.00	0.00	0.00
2,000.00	15.00	228.62	1,955.68	-244.18	-277.15	369.38	0.00	0.00	0.00
2,100.00	15.00	228.62	2,052.28	-261.29	-296.57	395.26	0.00	0.00	0.00
2,200.00	15.00	228.62	2,148.87	-278.40	-315.99	421.14	0.00	0.00	0.00
2,300.00	15.00	228.62	2,245.46	-295.51	-335.41	447.02	0.00	0.00	0.00
2,400.00	15.00	228.62	2,342.05	-312.62	-354.83	472.90	0.00	0.00	0.00
2,500.00	15.00	228.62	2,438.65	-329.73	-374.25	498.78	0.00	0.00	0.00
2,600.00	15.00	228.62	2,535.24	-346.84	-393.67	524.67	0.00	0.00	0.00
2,700.00	15.00	228.62	2,631.83	-363.95	-413.09	550.55	0.00	0.00	0.00
2,800.00	15.00	228.62	2,728.42	-381.06	-432.51	576.43	0.00	0.00	0.00
2,900.00	15.00	228.62	2,825.02	-398.17	-451.93	602.31	0.00	0.00	0.00
3,000.00	15.00	228.62	2,921.61	-415.28	-471.35	628.19	0.00	0.00	0.00
3,100.00	15.00	228.62	3,018.20	-432.39	-490.77	654.08	0.00	0.00	0.00
3,200.00	15.00	228.62	3,114.80	-449.50	-510.19	679.96	0.00	0.00	0.00
3,300.00	15.00	228.62	3,211.39	-466.60	-529.61	705.84	0.00	0.00	0.00
3,400.00	15.00	228.62	3,307.98	-483.71	-549.03	731.72	0.00	0.00	0.00
3,500.00	15.00	228.62	3,404.57	-500.82	-568.45	757.60	0.00	0.00	0.00
3,600.00	15.00	228.62	3,501.17	-517.93	-587.87	783.49	0.00	0.00	0.00
3,700.00	15.00	228.62	3,597.76	-535.04	-607.29	809.37	0.00	0.00	0.00
3,800.00	15.00	228.62	3,694.35	-552.15	-626.71	835.25	0.00	0.00	0.00
3,880.66	15.00	228.62	3,772.27	-565.95	-642.38	856.13	0.00	0.00	0.00
Start Drop -2.00									
3,900.00	14.61	228.62	3,790.96	-569.22	-646.09	861.07	2.00	-2.00	0.00
4,000.00	12.61	228.62	3,888.15	-584.78	-663.75	884.60	2.00	-2.00	0.00
4,100.00	10.61	228.62	3,986.09	-598.09	-678.85	904.73	2.00	-2.00	0.00
4,200.00	8.61	228.62	4,084.68	-609.12	-691.38	921.43	2.00	-2.00	0.00
4,300.00	6.61	228.62	4,183.80	-617.88	-701.32	934.68	2.00	-2.00	0.00
4,400.00	4.61	228.62	4,283.31	-624.35	-708.66	944.46	2.00	-2.00	0.00
4,500.00	2.61	228.62	4,383.11	-628.51	-713.39	950.76	2.00	-2.00	0.00
4,600.00	0.61	228.62	4,483.06	-630.37	-715.50	953.58	2.00	-2.00	0.00
4,630.66	0.00	0.00	4,513.73	-630.48	-715.62	953.74	2.00	-2.00	0.00
Start 0.00° Hold At 4630.66'									



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Company:	OXY USA RMAT	TVD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Site:	Cascade Creek 697-08A Pad	North Reference:	True
Well:	CC 697-08-10A	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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)
4,700.00	0.00	0.00	4,583.06	-630.48	-715.62	953.74	0.00	0.00	0.00
4,800.00	0.00	0.00	4,683.06	-630.48	-715.62	953.74	0.00	0.00	0.00
4,900.00	0.00	0.00	4,783.06	-630.48	-715.62	953.74	0.00	0.00	0.00
5,000.00	0.00	0.00	4,883.06	-630.48	-715.62	953.74	0.00	0.00	0.00
5,100.00	0.00	0.00	4,983.06	-630.48	-715.62	953.74	0.00	0.00	0.00
5,200.00	0.00	0.00	5,083.06	-630.48	-715.62	953.74	0.00	0.00	0.00
5,300.00	0.00	0.00	5,183.06	-630.48	-715.62	953.74	0.00	0.00	0.00
5,400.00	0.00	0.00	5,283.06	-630.48	-715.62	953.74	0.00	0.00	0.00
5,500.00	0.00	0.00	5,383.06	-630.48	-715.62	953.74	0.00	0.00	0.00
5,600.00	0.00	0.00	5,483.06	-630.48	-715.62	953.74	0.00	0.00	0.00
5,700.00	0.00	0.00	5,583.06	-630.48	-715.62	953.74	0.00	0.00	0.00
5,800.00	0.00	0.00	5,683.06	-630.48	-715.62	953.74	0.00	0.00	0.00
5,900.00	0.00	0.00	5,783.06	-630.48	-715.62	953.74	0.00	0.00	0.00
5,947.94	0.00	0.00	5,831.00	-630.48	-715.62	953.74	0.00	0.00	0.00
Mesaverde									
6,000.00	0.00	0.00	5,883.06	-630.48	-715.62	953.74	0.00	0.00	0.00
6,067.94	0.00	0.00	5,951.00	-630.48	-715.62	953.74	0.00	0.00	0.00
Base Ohio Creek									
6,100.00	0.00	0.00	5,983.06	-630.48	-715.62	953.74	0.00	0.00	0.00
6,200.00	0.00	0.00	6,083.06	-630.48	-715.62	953.74	0.00	0.00	0.00
6,300.00	0.00	0.00	6,183.06	-630.48	-715.62	953.74	0.00	0.00	0.00
6,400.00	0.00	0.00	6,283.06	-630.48	-715.62	953.74	0.00	0.00	0.00
6,500.00	0.00	0.00	6,383.06	-630.48	-715.62	953.74	0.00	0.00	0.00
6,600.00	0.00	0.00	6,483.06	-630.48	-715.62	953.74	0.00	0.00	0.00
6,700.00	0.00	0.00	6,583.06	-630.48	-715.62	953.74	0.00	0.00	0.00
6,747.94	0.00	0.00	6,631.00	-630.48	-715.62	953.74	0.00	0.00	0.00
TOG = 633992.03, 1225023.20									
6,800.00	0.00	0.00	6,683.06	-630.48	-715.62	953.74	0.00	0.00	0.00
6,900.00	0.00	0.00	6,783.06	-630.48	-715.62	953.74	0.00	0.00	0.00
7,000.00	0.00	0.00	6,883.06	-630.48	-715.62	953.74	0.00	0.00	0.00
7,100.00	0.00	0.00	6,983.06	-630.48	-715.62	953.74	0.00	0.00	0.00
7,200.00	0.00	0.00	7,083.06	-630.48	-715.62	953.74	0.00	0.00	0.00
7,300.00	0.00	0.00	7,183.06	-630.48	-715.62	953.74	0.00	0.00	0.00
7,400.00	0.00	0.00	7,283.06	-630.48	-715.62	953.74	0.00	0.00	0.00
7,500.00	0.00	0.00	7,383.06	-630.48	-715.62	953.74	0.00	0.00	0.00
7,600.00	0.00	0.00	7,483.06	-630.48	-715.62	953.74	0.00	0.00	0.00
7,700.00	0.00	0.00	7,583.06	-630.48	-715.62	953.74	0.00	0.00	0.00
7,800.00	0.00	0.00	7,683.06	-630.48	-715.62	953.74	0.00	0.00	0.00
7,900.00	0.00	0.00	7,783.06	-630.48	-715.62	953.74	0.00	0.00	0.00
7,983.94	0.00	0.00	7,867.00	-630.48	-715.62	953.74	0.00	0.00	0.00
Target = 633992.03, 1225023.20									
8,000.00	0.00	0.00	7,883.06	-630.48	-715.62	953.74	0.00	0.00	0.00
8,100.00	0.00	0.00	7,983.06	-630.48	-715.62	953.74	0.00	0.00	0.00
8,200.00	0.00	0.00	8,083.06	-630.48	-715.62	953.74	0.00	0.00	0.00
8,300.00	0.00	0.00	8,183.06	-630.48	-715.62	953.74	0.00	0.00	0.00
8,400.00	0.00	0.00	8,283.06	-630.48	-715.62	953.74	0.00	0.00	0.00
8,500.00	0.00	0.00	8,383.06	-630.48	-715.62	953.74	0.00	0.00	0.00
8,600.00	0.00	0.00	8,483.06	-630.48	-715.62	953.74	0.00	0.00	0.00
8,622.94	0.00	0.00	8,506.00	-630.48	-715.62	953.74	0.00	0.00	0.00
Rollins									
8,700.00	0.00	0.00	8,583.06	-630.48	-715.62	953.74	0.00	0.00	0.00
8,800.00	0.00	0.00	8,683.06	-630.48	-715.62	953.74	0.00	0.00	0.00
8,900.00	0.00	0.00	8,783.06	-630.48	-715.62	953.74	0.00	0.00	0.00



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Company:	OXY USA RMAT	TVD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Site:	Cascade Creek 697-08A Pad	North Reference:	True
Well:	CC 697-08-10A	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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)
9,000.00	0.00	0.00	8,883.06	-630.48	-715.62	953.74	0.00	0.00	0.00
9,022.94	0.00	0.00	8,906.00	-630.48	-715.62	953.74	0.00	0.00	0.00
PBHL = 633992.03, 1225023.20									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
CC 697-08-10A Target	0.00	0.00	7,867.00	-630.48	-715.62	633,992.04	1,225,023.20	39° 32' 30.995 N	108° 14' 54.002 W
- plan hits target center									
- Circle (radius 50.00)									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
5,947.94	5,831.00	Mesaverde		0.00		
6,067.94	5,951.00	Base Ohio Creek		0.00		
8,622.94	8,506.00	Rollins		0.00		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.00	200.00	0.00	0.00	Start Build 2.00
950.00	941.46	-64.53	-73.24	Start 15.00° Hold At 950.00'
3,880.66	3,772.27	-565.95	-642.38	Start Drop -2.00
4,630.66	4,513.73	-630.48	-715.62	Start 0.00° Hold At 4630.66'
6,747.94	6,631.00	-630.48	-715.62	TOG = 633992.03, 1225023.20
7,983.94	7,867.00	-630.48	-715.62	Target = 633992.03, 1225023.20
9,022.94	8,906.00	-630.48	-715.62	PBHL = 633992.03, 1225023.20