



Scientific Drilling
Rocky Mountain Operations

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



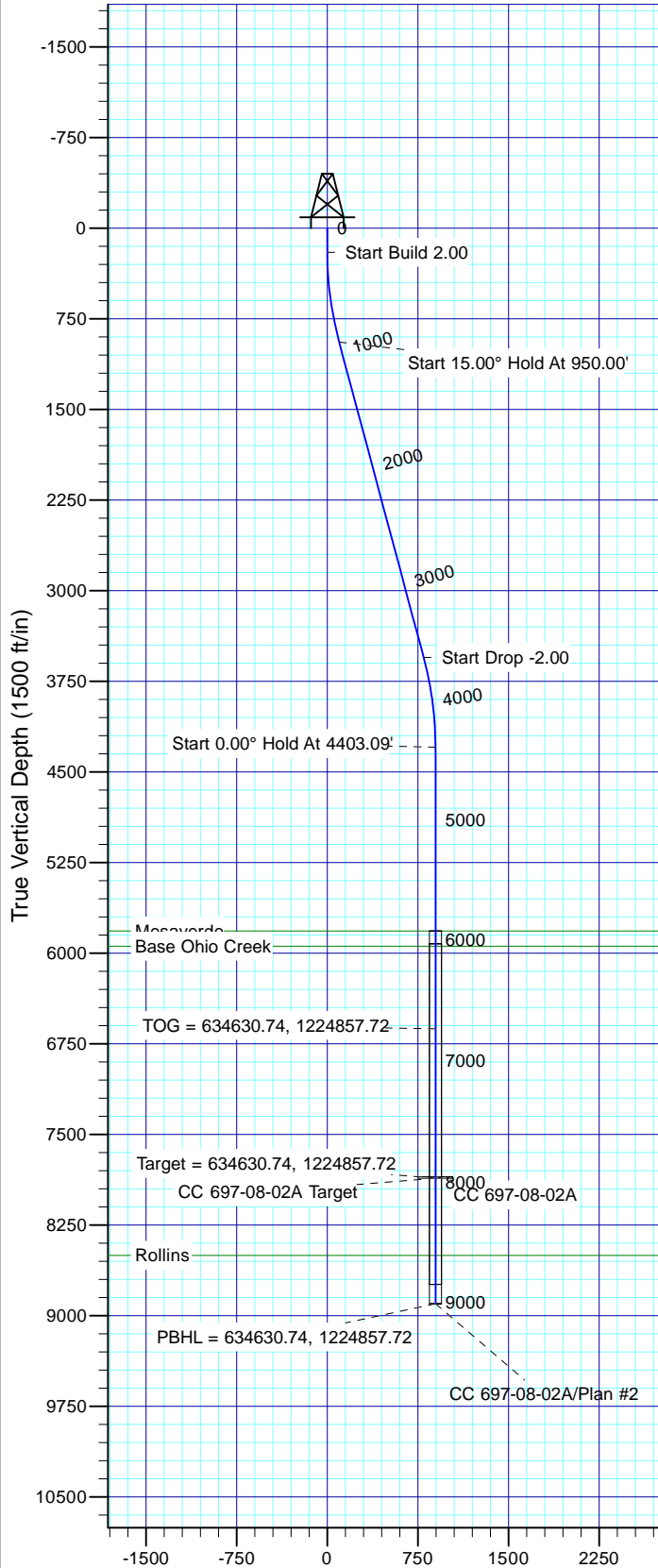
Well Details: CC 697-08-02A

TVD Reference: GL 8401' & RKB 30' @ 8431.00ft (H&P Rig) Ground Level: 8401.00
+N/-S 0.00 +E/-W 0.00 Northing 634614.70 Easting 1225752.42 Latitude 39° 32' 37.364 N Longitude 108° 14' 44.938 W Slot L

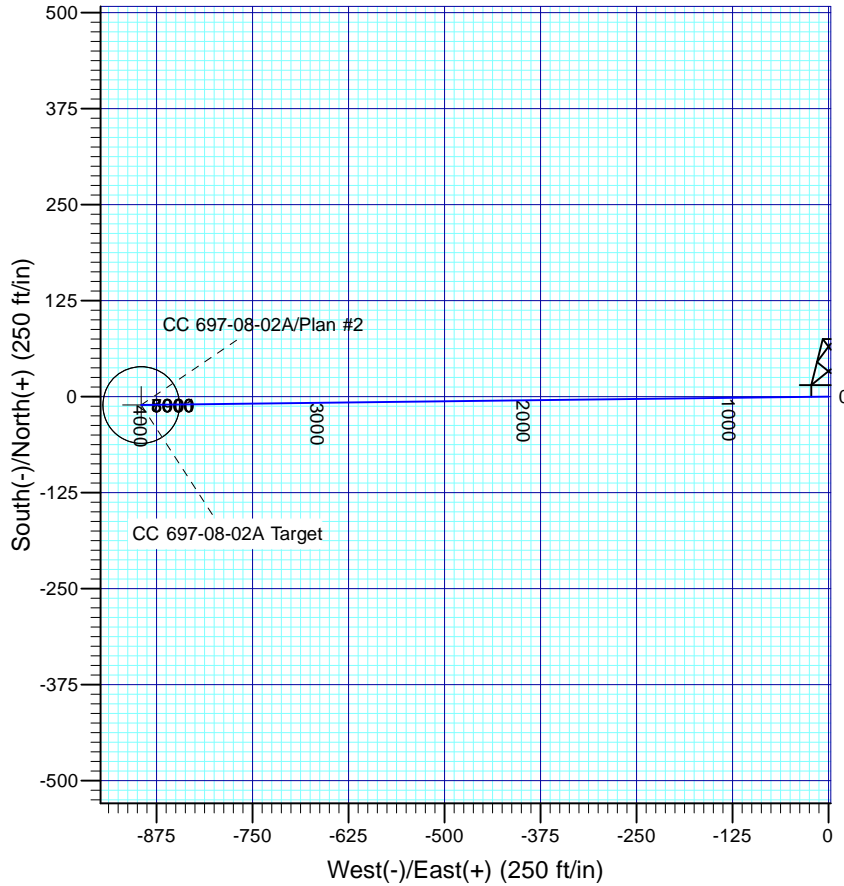


Azimuths to True North
Magnetic North: 10.77°

Magnetic Field
Strength: 52497.8snT
Dip Angle: 65.81°
Date: 12/22/2008
Model: IGRF2005-10



Vertical Section at 269.30° (1500 ft/in)



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
5816.00	5925.18	Mesaverde
5941.00	6050.18	Base Ohio Creek
8501.00	8610.18	Rollins

Plan: Plan #2

16:43, May 25 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	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	950.00	15.00	269.30	941.46	-1.20	-97.61	2.00	269.30	97.62	
4	3653.09	15.00	269.30	3552.45	-9.80	-797.17	0.00	0.00	797.23	
5	4403.09	0.00	0.00	4293.91	-11.00	-894.77	2.00	180.00	894.84	
6	7970.18	0.00	0.00	7861.00	-11.00	-894.77	0.00	0.00	894.84	CC 697-08-02A Target
7	9010.18	0.00	0.00	8901.00	-11.00	-894.77	0.00	0.00	894.84	

OXY USA RMAT

**Garfield County, CO NAD27
Cascade Creek 697-08A Pad
CC 697-08-02A - Slot L**

OH

Plan: Plan #2

Standard Planning Report

25 May, 2011





Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-08-02A - Slot L
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 697-08-02A	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 697-08-02A - Slot L, 351' FNL & 1798' FWL			
Well Position	+N/-S	-1,149.81 ft	Northing:	634,614.70 usft
	+E/-W	38.85 ft	Easting:	1,225,752.42 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	12/22/2008	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	269.30

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	269.30	941.46	-1.20	-97.61	2.00	2.00	0.00	269.30	
3,653.09	15.00	269.30	3,552.45	-9.80	-797.17	0.00	0.00	0.00	0.00	
4,403.09	0.00	0.00	4,293.91	-11.00	-894.77	2.00	-2.00	0.00	180.00	
7,970.18	0.00	0.00	7,861.00	-11.00	-894.77	0.00	0.00	0.00	0.00	CC 697-08-02A Target
9,010.18	0.00	0.00	8,901.00	-11.00	-894.77	0.00	0.00	0.00	0.00	



Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-08-02A - Slot L
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 697-08-02A	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	269.30	299.98	-0.02	-1.75	1.75	2.00	2.00	0.00
400.00	4.00	269.30	399.84	-0.09	-6.98	6.98	2.00	2.00	0.00
500.00	6.00	269.30	499.45	-0.19	-15.69	15.69	2.00	2.00	0.00
600.00	8.00	269.30	598.70	-0.34	-27.88	27.88	2.00	2.00	0.00
700.00	10.00	269.30	697.47	-0.54	-43.52	43.52	2.00	2.00	0.00
800.00	12.00	269.30	795.62	-0.77	-62.60	62.60	2.00	2.00	0.00
900.00	14.00	269.30	893.06	-1.05	-85.09	85.10	2.00	2.00	0.00
950.00	15.00	269.30	941.46	-1.20	-97.61	97.62	2.00	2.00	0.00
Start 15.00° Hold At 950.00'									
1,000.00	15.00	269.30	989.76	-1.36	-110.55	110.56	0.00	0.00	0.00
1,100.00	15.00	269.30	1,086.35	-1.68	-136.43	136.44	0.00	0.00	0.00
1,200.00	15.00	269.30	1,182.94	-2.00	-162.31	162.32	0.00	0.00	0.00
1,300.00	15.00	269.30	1,279.54	-2.31	-188.19	188.20	0.00	0.00	0.00
1,400.00	15.00	269.30	1,376.13	-2.63	-214.07	214.08	0.00	0.00	0.00
1,500.00	15.00	269.30	1,472.72	-2.95	-239.95	239.97	0.00	0.00	0.00
1,600.00	15.00	269.30	1,569.31	-3.27	-265.83	265.85	0.00	0.00	0.00
1,700.00	15.00	269.30	1,665.91	-3.59	-291.71	291.73	0.00	0.00	0.00
1,800.00	15.00	269.30	1,762.50	-3.90	-317.59	317.61	0.00	0.00	0.00
1,900.00	15.00	269.30	1,859.09	-4.22	-343.47	343.49	0.00	0.00	0.00
2,000.00	15.00	269.30	1,955.68	-4.54	-369.35	369.38	0.00	0.00	0.00
2,100.00	15.00	269.30	2,052.28	-4.86	-395.23	395.26	0.00	0.00	0.00
2,200.00	15.00	269.30	2,148.87	-5.18	-421.11	421.14	0.00	0.00	0.00
2,300.00	15.00	269.30	2,245.46	-5.50	-446.99	447.02	0.00	0.00	0.00
2,400.00	15.00	269.30	2,342.05	-5.81	-472.87	472.90	0.00	0.00	0.00
2,500.00	15.00	269.30	2,438.65	-6.13	-498.75	498.78	0.00	0.00	0.00
2,600.00	15.00	269.30	2,535.24	-6.45	-524.63	524.67	0.00	0.00	0.00
2,700.00	15.00	269.30	2,631.83	-6.77	-550.51	550.55	0.00	0.00	0.00
2,800.00	15.00	269.30	2,728.42	-7.09	-576.39	576.43	0.00	0.00	0.00
2,900.00	15.00	269.30	2,825.02	-7.40	-602.27	602.31	0.00	0.00	0.00
3,000.00	15.00	269.30	2,921.61	-7.72	-628.15	628.19	0.00	0.00	0.00
3,100.00	15.00	269.30	3,018.20	-8.04	-654.03	654.08	0.00	0.00	0.00
3,200.00	15.00	269.30	3,114.80	-8.36	-679.91	679.96	0.00	0.00	0.00
3,300.00	15.00	269.30	3,211.39	-8.68	-705.79	705.84	0.00	0.00	0.00
3,400.00	15.00	269.30	3,307.98	-9.00	-731.67	731.72	0.00	0.00	0.00
3,500.00	15.00	269.30	3,404.57	-9.31	-757.55	757.60	0.00	0.00	0.00
3,600.00	15.00	269.30	3,501.17	-9.63	-783.43	783.49	0.00	0.00	0.00
3,653.09	15.00	269.30	3,552.45	-9.80	-797.17	797.23	0.00	0.00	0.00
Start Drop -2.00									
3,700.00	14.06	269.30	3,597.86	-9.95	-808.94	809.00	2.00	-2.00	0.00
3,800.00	12.06	269.30	3,695.26	-10.22	-831.53	831.60	2.00	-2.00	0.00
3,900.00	10.06	269.30	3,793.40	-10.46	-850.72	850.78	2.00	-2.00	0.00
4,000.00	8.06	269.30	3,892.15	-10.65	-866.46	866.53	2.00	-2.00	0.00
4,100.00	6.06	269.30	3,991.38	-10.80	-878.76	878.82	2.00	-2.00	0.00
4,200.00	4.06	269.30	4,090.99	-10.91	-887.58	887.65	2.00	-2.00	0.00
4,300.00	2.06	269.30	4,190.84	-10.98	-892.92	892.99	2.00	-2.00	0.00
4,400.00	0.06	269.30	4,290.82	-11.00	-894.77	894.84	2.00	-2.00	0.00
4,403.09	0.00	0.00	4,293.91	-11.00	-894.77	894.84	2.00	-2.00	0.00
Start 0.00° Hold At 4403.09'									
4,500.00	0.00	0.00	4,390.82	-11.00	-894.77	894.84	0.00	0.00	0.00
4,600.00	0.00	0.00	4,490.82	-11.00	-894.77	894.84	0.00	0.00	0.00



Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-08-02A - Slot L
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 697-08-02A	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	4,590.82	-11.00	-894.77	894.84	0.00	0.00	0.00
4,800.00	0.00	0.00	4,690.82	-11.00	-894.77	894.84	0.00	0.00	0.00
4,900.00	0.00	0.00	4,790.82	-11.00	-894.77	894.84	0.00	0.00	0.00
5,000.00	0.00	0.00	4,890.82	-11.00	-894.77	894.84	0.00	0.00	0.00
5,100.00	0.00	0.00	4,990.82	-11.00	-894.77	894.84	0.00	0.00	0.00
5,200.00	0.00	0.00	5,090.82	-11.00	-894.77	894.84	0.00	0.00	0.00
5,300.00	0.00	0.00	5,190.82	-11.00	-894.77	894.84	0.00	0.00	0.00
5,400.00	0.00	0.00	5,290.82	-11.00	-894.77	894.84	0.00	0.00	0.00
5,500.00	0.00	0.00	5,390.82	-11.00	-894.77	894.84	0.00	0.00	0.00
5,600.00	0.00	0.00	5,490.82	-11.00	-894.77	894.84	0.00	0.00	0.00
5,700.00	0.00	0.00	5,590.82	-11.00	-894.77	894.84	0.00	0.00	0.00
5,800.00	0.00	0.00	5,690.82	-11.00	-894.77	894.84	0.00	0.00	0.00
5,900.00	0.00	0.00	5,790.82	-11.00	-894.77	894.84	0.00	0.00	0.00
5,925.18	0.00	0.00	5,816.00	-11.00	-894.77	894.84	0.00	0.00	0.00
Mesaverde									
6,000.00	0.00	0.00	5,890.82	-11.00	-894.77	894.84	0.00	0.00	0.00
6,050.18	0.00	0.00	5,941.00	-11.00	-894.77	894.84	0.00	0.00	0.00
Base Ohio Creek									
6,100.00	0.00	0.00	5,990.82	-11.00	-894.77	894.84	0.00	0.00	0.00
6,200.00	0.00	0.00	6,090.82	-11.00	-894.77	894.84	0.00	0.00	0.00
6,300.00	0.00	0.00	6,190.82	-11.00	-894.77	894.84	0.00	0.00	0.00
6,400.00	0.00	0.00	6,290.82	-11.00	-894.77	894.84	0.00	0.00	0.00
6,500.00	0.00	0.00	6,390.82	-11.00	-894.77	894.84	0.00	0.00	0.00
6,600.00	0.00	0.00	6,490.82	-11.00	-894.77	894.84	0.00	0.00	0.00
6,700.00	0.00	0.00	6,590.82	-11.00	-894.77	894.84	0.00	0.00	0.00
6,735.18	0.00	0.00	6,626.00	-11.00	-894.77	894.84	0.00	0.00	0.00
TOG = 634630.74, 1224857.72									
6,800.00	0.00	0.00	6,690.82	-11.00	-894.77	894.84	0.00	0.00	0.00
6,900.00	0.00	0.00	6,790.82	-11.00	-894.77	894.84	0.00	0.00	0.00
7,000.00	0.00	0.00	6,890.82	-11.00	-894.77	894.84	0.00	0.00	0.00
7,100.00	0.00	0.00	6,990.82	-11.00	-894.77	894.84	0.00	0.00	0.00
7,200.00	0.00	0.00	7,090.82	-11.00	-894.77	894.84	0.00	0.00	0.00
7,300.00	0.00	0.00	7,190.82	-11.00	-894.77	894.84	0.00	0.00	0.00
7,400.00	0.00	0.00	7,290.82	-11.00	-894.77	894.84	0.00	0.00	0.00
7,500.00	0.00	0.00	7,390.82	-11.00	-894.77	894.84	0.00	0.00	0.00
7,600.00	0.00	0.00	7,490.82	-11.00	-894.77	894.84	0.00	0.00	0.00
7,700.00	0.00	0.00	7,590.82	-11.00	-894.77	894.84	0.00	0.00	0.00
7,800.00	0.00	0.00	7,690.82	-11.00	-894.77	894.84	0.00	0.00	0.00
7,900.00	0.00	0.00	7,790.82	-11.00	-894.77	894.84	0.00	0.00	0.00
7,970.18	0.00	0.00	7,861.00	-11.00	-894.77	894.84	0.00	0.00	0.00
Target = 634630.74, 1224857.72									
8,000.00	0.00	0.00	7,890.82	-11.00	-894.77	894.84	0.00	0.00	0.00
8,100.00	0.00	0.00	7,990.82	-11.00	-894.77	894.84	0.00	0.00	0.00
8,200.00	0.00	0.00	8,090.82	-11.00	-894.77	894.84	0.00	0.00	0.00
8,300.00	0.00	0.00	8,190.82	-11.00	-894.77	894.84	0.00	0.00	0.00
8,400.00	0.00	0.00	8,290.82	-11.00	-894.77	894.84	0.00	0.00	0.00
8,500.00	0.00	0.00	8,390.82	-11.00	-894.77	894.84	0.00	0.00	0.00
8,600.00	0.00	0.00	8,490.82	-11.00	-894.77	894.84	0.00	0.00	0.00
8,610.18	0.00	0.00	8,501.00	-11.00	-894.77	894.84	0.00	0.00	0.00
Rollins									
8,700.00	0.00	0.00	8,590.82	-11.00	-894.77	894.84	0.00	0.00	0.00
8,800.00	0.00	0.00	8,690.82	-11.00	-894.77	894.84	0.00	0.00	0.00
8,900.00	0.00	0.00	8,790.82	-11.00	-894.77	894.84	0.00	0.00	0.00



Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-08-02A - Slot L
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 697-08-02A	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	8,890.82	-11.00	-894.77	894.84	0.00	0.00	0.00
9,010.18	0.00	0.00	8,901.00	-11.00	-894.77	894.84	0.00	0.00	0.00

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 697-08-02A Target	0.00	0.00	7,861.00	-11.00	-894.77	634,630.75	1,224,857.72	39° 32' 37.255 N	108° 14' 56.360 W
- plan hits target center									
- Circle (radius 50.00)									

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,925.18	5,816.00	Mesaverde		0.00	
6,050.18	5,941.00	Base Ohio Creek		0.00	
8,610.18	8,501.00	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	-1.20	-97.61	Start 15.00° Hold At 950.00'
3,653.09	3,552.45	-9.80	-797.17	Start Drop -2.00
4,403.09	4,293.91	-11.00	-894.77	Start 0.00° Hold At 4403.09'
6,735.18	6,626.00	-11.00	-894.77	TOG = 634630.74, 1224857.72
7,970.18	7,861.00	-11.00	-894.77	Target = 634630.74, 1224857.72
9,010.18	8,901.00	-11.00	-894.77	PBHL = 634630.74, 1224857.72