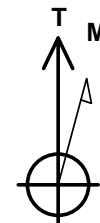


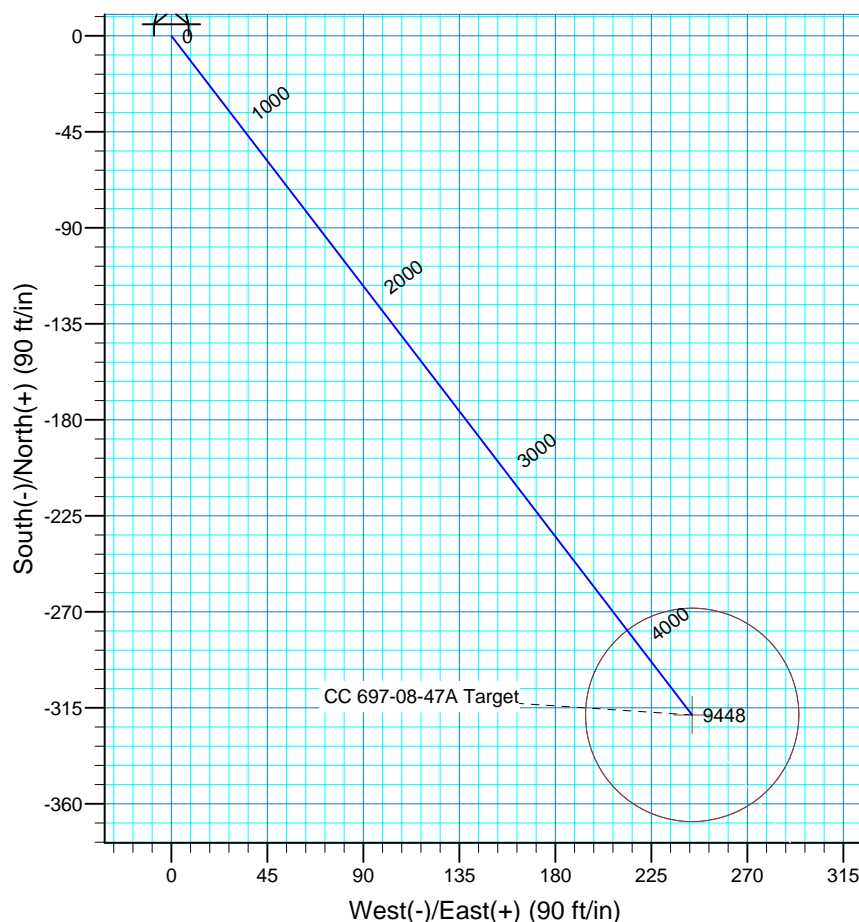
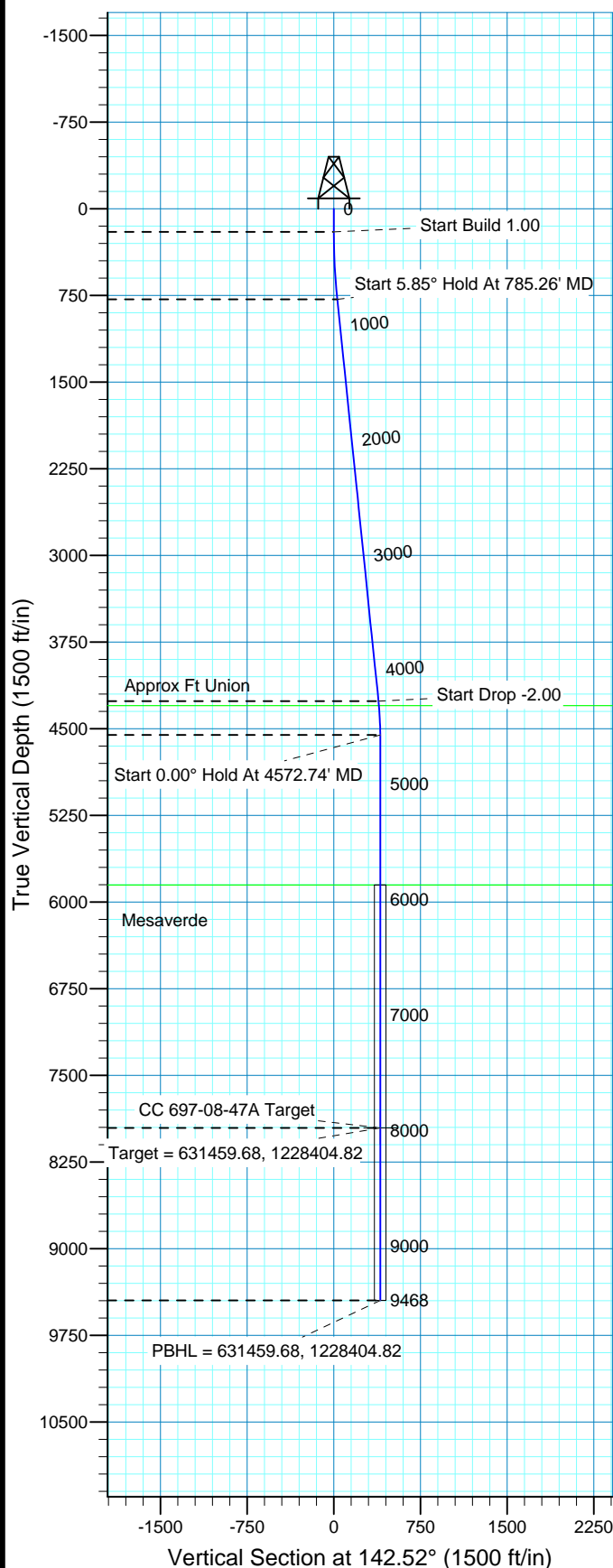
WELL DETAILS: Cascade Creek 697-08-47A

+N/-S	+E/-W	GL 8425' & RKB 30' @ 8455.00ft	8425.00	Latitude	Longitude	Slot
0.00	0.00	Northing	Easting	39° 32' 10.132 N	108° 14' 12.998 W	
		631785.23	1228170.39			



Azimuths to True North
Magnetic North: 10.77°

Magnetic Field
Strength: 52502.4snT
Dip Angle: 65.80°
Date: 2008/11/19
Model: IGRF2005-10



FORMATION TOP DETAILS

TVDP	MDPath	Formation
4300.00	4319.41	Approx Ft Union
5853.00	5872.74	Mesaverde

Plan: Plan #2 (Cascade Creek 697-08-47A/OH)

Created By: Rex Hall Date: 2010-06-15

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
Local North: No north reference data is available

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	785.26	5.85	142.52	784.24	-23.70	18.17	1.00	142.52	29.87	
4	4280.11	5.85	142.52	4260.88	-306.49	235.03	0.00	0.00	386.23	
5	4572.74	0.00	0.00	4553.00	-318.34	244.12	2.00	180.00	401.17	
6	7975.74	0.00	0.00	7956.00	-318.34	244.12	0.00	0.00	401.17	CC 697-08-47A Target
7	9467.74	0.00	0.00	9448.00	-318.34	244.12	0.00	0.00	401.17	



OXY USA RMAT

**Garfield County, CO NAD27
Cascade Creek 608-43-31 Pad
Cascade Creek 697-08-47A
OH**

Plan: Plan #2

Standard Planning Report

15 June, 2010



Database:	EDM 2003.16 Multi-User Db	Local Co-ordinate Reference:	Well Cascade Creek 697-08-47A
Company:	OXY USA RMAT	TVD Reference:	GL 8425' & RKB 30' @ 8455.00ft
Project:	Garfield County, CO NAD27	MD Reference:	GL 8425' & RKB 30' @ 8455.00ft
Site:	Cascade Creek 608-43-31 Pad	North Reference:	True
Well:	Cascade Creek 697-08-47A	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 608-43-31 Pad, Sec 8 T6S R97W			
Site Position:		Northing:	39.54 ft	Latitude:	37° 37' 28.115 N
From:	Map	Easting:	-108.24 ft	Longitude:	112° 24' 37.715 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	-4.36 °

Well	Cascade Creek 697-08-47A,					
Well Position	+N/-S	0.00 ft	Northing:	631,785.23 ft	Latitude:	39° 32' 10.132 N
	+E/-W	0.00 ft	Easting:	1,228,170.39 ft	Longitude:	108° 14' 12.998 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	8,425.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2005-10	2008/11/19	10.77	65.80	52,502

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	142.52

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	
785.26	5.85	142.52	784.24	-23.70	18.17	1.00	1.00	0.00	142.52	
4,280.11	5.85	142.52	4,260.88	-306.49	235.03	0.00	0.00	0.00	0.00	
4,572.74	0.00	0.00	4,553.00	-318.34	244.12	2.00	-2.00	0.00	180.00	
7,975.74	0.00	0.00	7,956.00	-318.34	244.12	0.00	0.00	0.00	0.00	CC 697-08-47A Targe
9,467.74	0.00	0.00	9,448.00	-318.34	244.12	0.00	0.00	0.00	0.00	

Database:	EDM 2003.16 Multi-User Db	Local Co-ordinate Reference:	Well Cascade Creek 697-08-47A
Company:	OXY USA RMAT	TVD Reference:	GL 8425' & RKB 30' @ 8455.00ft
Project:	Garfield County, CO NAD27	MD Reference:	GL 8425' & RKB 30' @ 8455.00ft
Site:	Cascade Creek 608-43-31 Pad	North Reference:	True
Well:	Cascade Creek 697-08-47A	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 1.00									
300.00	1.00	142.52	299.99	-0.69	0.53	0.87	1.00	1.00	0.00
400.00	2.00	142.52	399.96	-2.77	2.12	3.49	1.00	1.00	0.00
500.00	3.00	142.52	499.86	-6.23	4.78	7.85	1.00	1.00	0.00
600.00	4.00	142.52	599.68	-11.08	8.49	13.96	1.00	1.00	0.00
700.00	5.00	142.52	699.37	-17.30	13.27	21.80	1.00	1.00	0.00
785.26	5.85	142.52	784.24	-23.70	18.17	29.87	1.00	1.00	0.00
Start 5.85° Hold At 785.26' MD									
800.00	5.85	142.52	798.91	-24.89	19.09	31.37	0.00	0.00	0.00
900.00	5.85	142.52	898.38	-32.98	25.29	41.57	0.00	0.00	0.00
1,000.00	5.85	142.52	997.86	-41.08	31.50	51.76	0.00	0.00	0.00
1,100.00	5.85	142.52	1,097.34	-49.17	37.70	61.96	0.00	0.00	0.00
1,200.00	5.85	142.52	1,196.82	-57.26	43.91	72.16	0.00	0.00	0.00
1,300.00	5.85	142.52	1,296.30	-65.35	50.11	82.35	0.00	0.00	0.00
1,400.00	5.85	142.52	1,395.78	-73.44	56.32	92.55	0.00	0.00	0.00
1,500.00	5.85	142.52	1,495.26	-81.53	62.52	102.75	0.00	0.00	0.00
1,600.00	5.85	142.52	1,594.74	-89.62	68.73	112.94	0.00	0.00	0.00
1,700.00	5.85	142.52	1,694.21	-97.72	74.93	123.14	0.00	0.00	0.00
1,800.00	5.85	142.52	1,793.69	-105.81	81.14	133.34	0.00	0.00	0.00
1,900.00	5.85	142.52	1,893.17	-113.90	87.35	143.54	0.00	0.00	0.00
2,000.00	5.85	142.52	1,992.65	-121.99	93.55	153.73	0.00	0.00	0.00
2,100.00	5.85	142.52	2,092.13	-130.08	99.76	163.93	0.00	0.00	0.00
2,200.00	5.85	142.52	2,191.61	-138.17	105.96	174.13	0.00	0.00	0.00
2,300.00	5.85	142.52	2,291.09	-146.27	112.17	184.32	0.00	0.00	0.00
2,400.00	5.85	142.52	2,390.57	-154.36	118.37	194.52	0.00	0.00	0.00
2,500.00	5.85	142.52	2,490.04	-162.45	124.58	204.72	0.00	0.00	0.00
2,600.00	5.85	142.52	2,589.52	-170.54	130.78	214.91	0.00	0.00	0.00
2,700.00	5.85	142.52	2,689.00	-178.63	136.99	225.11	0.00	0.00	0.00
2,800.00	5.85	142.52	2,788.48	-186.72	143.19	235.31	0.00	0.00	0.00
2,900.00	5.85	142.52	2,887.96	-194.82	149.40	245.50	0.00	0.00	0.00
3,000.00	5.85	142.52	2,987.44	-202.91	155.60	255.70	0.00	0.00	0.00
3,100.00	5.85	142.52	3,086.92	-211.00	161.81	265.90	0.00	0.00	0.00
3,200.00	5.85	142.52	3,186.40	-219.09	168.01	276.10	0.00	0.00	0.00
3,300.00	5.85	142.52	3,285.87	-227.18	174.22	286.29	0.00	0.00	0.00
3,400.00	5.85	142.52	3,385.35	-235.27	180.42	296.49	0.00	0.00	0.00
3,500.00	5.85	142.52	3,484.83	-243.37	186.63	306.69	0.00	0.00	0.00
3,600.00	5.85	142.52	3,584.31	-251.46	192.83	316.88	0.00	0.00	0.00
3,700.00	5.85	142.52	3,683.79	-259.55	199.04	327.08	0.00	0.00	0.00
3,800.00	5.85	142.52	3,783.27	-267.64	205.24	337.28	0.00	0.00	0.00
3,900.00	5.85	142.52	3,882.75	-275.73	211.45	347.47	0.00	0.00	0.00
4,000.00	5.85	142.52	3,982.23	-283.82	217.65	357.67	0.00	0.00	0.00
4,100.00	5.85	142.52	4,081.70	-291.92	223.86	367.87	0.00	0.00	0.00
4,200.00	5.85	142.52	4,181.18	-300.01	230.06	378.07	0.00	0.00	0.00
4,280.11	5.85	142.52	4,260.88	-306.49	235.03	386.23	0.00	0.00	0.00
Start Drop -2.00									
4,300.00	5.45	142.52	4,280.67	-308.04	236.23	388.19	2.00	-2.00	0.00
4,319.41	5.07	142.52	4,300.00	-309.46	237.31	389.97	2.00	-2.00	0.00
Approx Ft Union									
4,400.00	3.45	142.52	4,380.36	-314.21	240.95	395.96	2.00	-2.00	0.00
4,500.00	1.45	142.52	4,480.27	-317.61	243.56	400.24	2.00	-2.00	0.00

Database:	EDM 2003.16 Multi-User Db	Local Co-ordinate Reference:	Well Cascade Creek 697-08-47A
Company:	OXY USA RMAT	TVD Reference:	GL 8425' & RKB 30' @ 8455.00ft
Project:	Garfield County, CO NAD27	MD Reference:	GL 8425' & RKB 30' @ 8455.00ft
Site:	Cascade Creek 608-43-31 Pad	North Reference:	True
Well:	Cascade Creek 697-08-47A	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)
4,572.74	0.00	0.00	4,553.00	-318.34	244.12	401.17	2.00	-2.00	0.00
Start 0.00° Hold At 4572.74' MD									
4,600.00	0.00	0.00	4,580.26	-318.34	244.12	401.17	0.00	0.00	0.00
4,700.00	0.00	0.00	4,680.26	-318.34	244.12	401.17	0.00	0.00	0.00
4,800.00	0.00	0.00	4,780.26	-318.34	244.12	401.17	0.00	0.00	0.00
4,900.00	0.00	0.00	4,880.26	-318.34	244.12	401.17	0.00	0.00	0.00
5,000.00	0.00	0.00	4,980.26	-318.34	244.12	401.17	0.00	0.00	0.00
5,100.00	0.00	0.00	5,080.26	-318.34	244.12	401.17	0.00	0.00	0.00
5,200.00	0.00	0.00	5,180.26	-318.34	244.12	401.17	0.00	0.00	0.00
5,300.00	0.00	0.00	5,280.26	-318.34	244.12	401.17	0.00	0.00	0.00
5,400.00	0.00	0.00	5,380.26	-318.34	244.12	401.17	0.00	0.00	0.00
5,500.00	0.00	0.00	5,480.26	-318.34	244.12	401.17	0.00	0.00	0.00
5,600.00	0.00	0.00	5,580.26	-318.34	244.12	401.17	0.00	0.00	0.00
5,700.00	0.00	0.00	5,680.26	-318.34	244.12	401.17	0.00	0.00	0.00
5,800.00	0.00	0.00	5,780.26	-318.34	244.12	401.17	0.00	0.00	0.00
5,872.74	0.00	0.00	5,853.00	-318.34	244.12	401.17	0.00	0.00	0.00
Mesaverde									
5,900.00	0.00	0.00	5,880.26	-318.34	244.12	401.17	0.00	0.00	0.00
6,000.00	0.00	0.00	5,980.26	-318.34	244.12	401.17	0.00	0.00	0.00
6,100.00	0.00	0.00	6,080.26	-318.34	244.12	401.17	0.00	0.00	0.00
6,200.00	0.00	0.00	6,180.26	-318.34	244.12	401.17	0.00	0.00	0.00
6,300.00	0.00	0.00	6,280.26	-318.34	244.12	401.17	0.00	0.00	0.00
6,400.00	0.00	0.00	6,380.26	-318.34	244.12	401.17	0.00	0.00	0.00
6,500.00	0.00	0.00	6,480.26	-318.34	244.12	401.17	0.00	0.00	0.00
6,600.00	0.00	0.00	6,580.26	-318.34	244.12	401.17	0.00	0.00	0.00
6,700.00	0.00	0.00	6,680.26	-318.34	244.12	401.17	0.00	0.00	0.00
6,800.00	0.00	0.00	6,780.26	-318.34	244.12	401.17	0.00	0.00	0.00
6,900.00	0.00	0.00	6,880.26	-318.34	244.12	401.17	0.00	0.00	0.00
7,000.00	0.00	0.00	6,980.26	-318.34	244.12	401.17	0.00	0.00	0.00
7,100.00	0.00	0.00	7,080.26	-318.34	244.12	401.17	0.00	0.00	0.00
7,200.00	0.00	0.00	7,180.26	-318.34	244.12	401.17	0.00	0.00	0.00
7,300.00	0.00	0.00	7,280.26	-318.34	244.12	401.17	0.00	0.00	0.00
7,400.00	0.00	0.00	7,380.26	-318.34	244.12	401.17	0.00	0.00	0.00
7,500.00	0.00	0.00	7,480.26	-318.34	244.12	401.17	0.00	0.00	0.00
7,600.00	0.00	0.00	7,580.26	-318.34	244.12	401.17	0.00	0.00	0.00
7,700.00	0.00	0.00	7,680.26	-318.34	244.12	401.17	0.00	0.00	0.00
7,800.00	0.00	0.00	7,780.26	-318.34	244.12	401.17	0.00	0.00	0.00
7,900.00	0.00	0.00	7,880.26	-318.34	244.12	401.17	0.00	0.00	0.00
7,975.74	0.00	0.00	7,956.00	-318.34	244.12	401.17	0.00	0.00	0.00
Target = 631459.68, 1228404.82 - CC 697-08-47A Target									
8,000.00	0.00	0.00	7,980.26	-318.34	244.12	401.17	0.00	0.00	0.00
8,100.00	0.00	0.00	8,080.26	-318.34	244.12	401.17	0.00	0.00	0.00
8,200.00	0.00	0.00	8,180.26	-318.34	244.12	401.17	0.00	0.00	0.00
8,300.00	0.00	0.00	8,280.26	-318.34	244.12	401.17	0.00	0.00	0.00
8,400.00	0.00	0.00	8,380.26	-318.34	244.12	401.17	0.00	0.00	0.00
8,500.00	0.00	0.00	8,480.26	-318.34	244.12	401.17	0.00	0.00	0.00
8,600.00	0.00	0.00	8,580.26	-318.34	244.12	401.17	0.00	0.00	0.00
8,700.00	0.00	0.00	8,680.26	-318.34	244.12	401.17	0.00	0.00	0.00
8,800.00	0.00	0.00	8,780.26	-318.34	244.12	401.17	0.00	0.00	0.00
8,900.00	0.00	0.00	8,880.26	-318.34	244.12	401.17	0.00	0.00	0.00
9,000.00	0.00	0.00	8,980.26	-318.34	244.12	401.17	0.00	0.00	0.00
9,100.00	0.00	0.00	9,080.26	-318.34	244.12	401.17	0.00	0.00	0.00
9,200.00	0.00	0.00	9,180.26	-318.34	244.12	401.17	0.00	0.00	0.00

Database:	EDM 2003.16 Multi-User Db	Local Co-ordinate Reference:	Well Cascade Creek 697-08-47A
Company:	OXY USA RMAT	TVD Reference:	GL 8425' & RKB 30' @ 8455.00ft
Project:	Garfield County, CO NAD27	MD Reference:	GL 8425' & RKB 30' @ 8455.00ft
Site:	Cascade Creek 608-43-31 Pad	North Reference:	True
Well:	Cascade Creek 697-08-47A	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)
9,300.00	0.00	0.00	9,280.26	-318.34	244.12	401.17	0.00	0.00	0.00
9,400.00	0.00	0.00	9,380.26	-318.34	244.12	401.17	0.00	0.00	0.00
9,467.74	0.00	0.00	9,448.00	-318.34	244.12	401.17	0.00	0.00	0.00
PBHL = 631459.68, 1228404.82									

Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
CC 697-08-47A Target	0.00	137.97	7,956.00	-318.34	244.12	631,459.68	1,228,404.82	39° 32' 6.986 N	108° 14' 9.883 W
- plan hits target center									
- Circle (radius 50.00)									

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,319.41	4,300.00	Approx Ft Union		0.00	
5,872.74	5,853.00	Mesaverde		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 1.00
785.26	784.24	-23.70	18.17	Start 5.85° Hold At 785.26' MD
4,280.11	4,260.88	-306.49	235.03	Start Drop -2.00
4,572.74	4,553.00	-318.34	244.12	Start 0.00° Hold At 4572.74' MD
7,975.74	7,956.00	-318.34	244.12	Target = 631459.68, 1228404.82
9,467.74	9,448.00	-318.34	244.12	PBHL = 631459.68, 1228404.82