

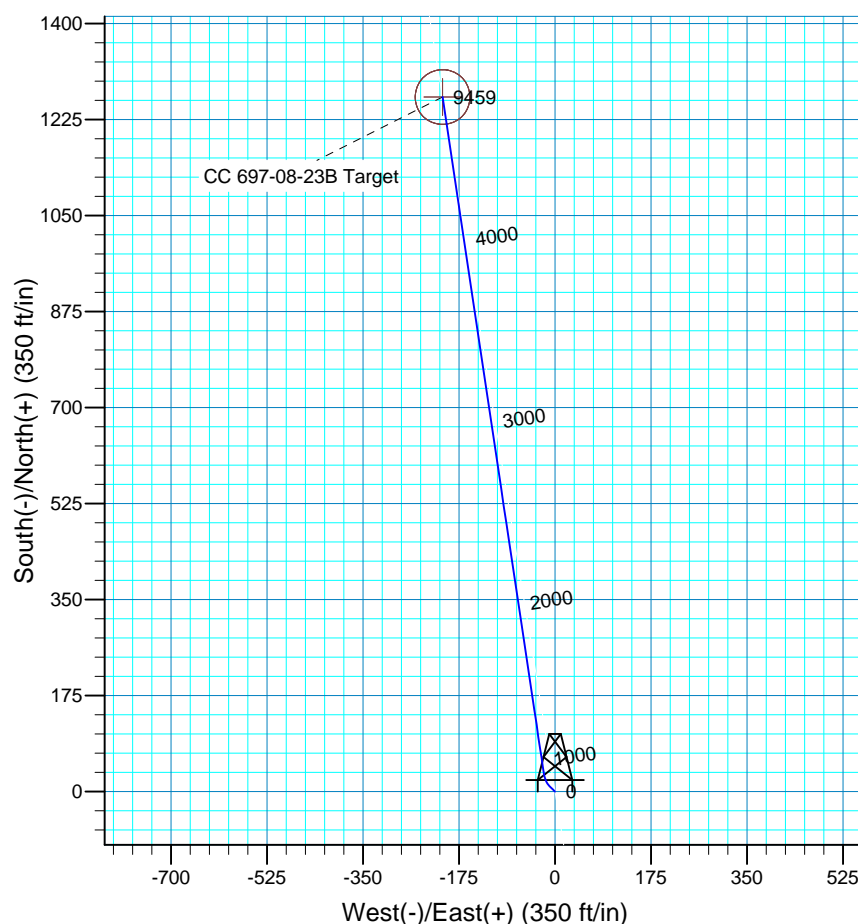
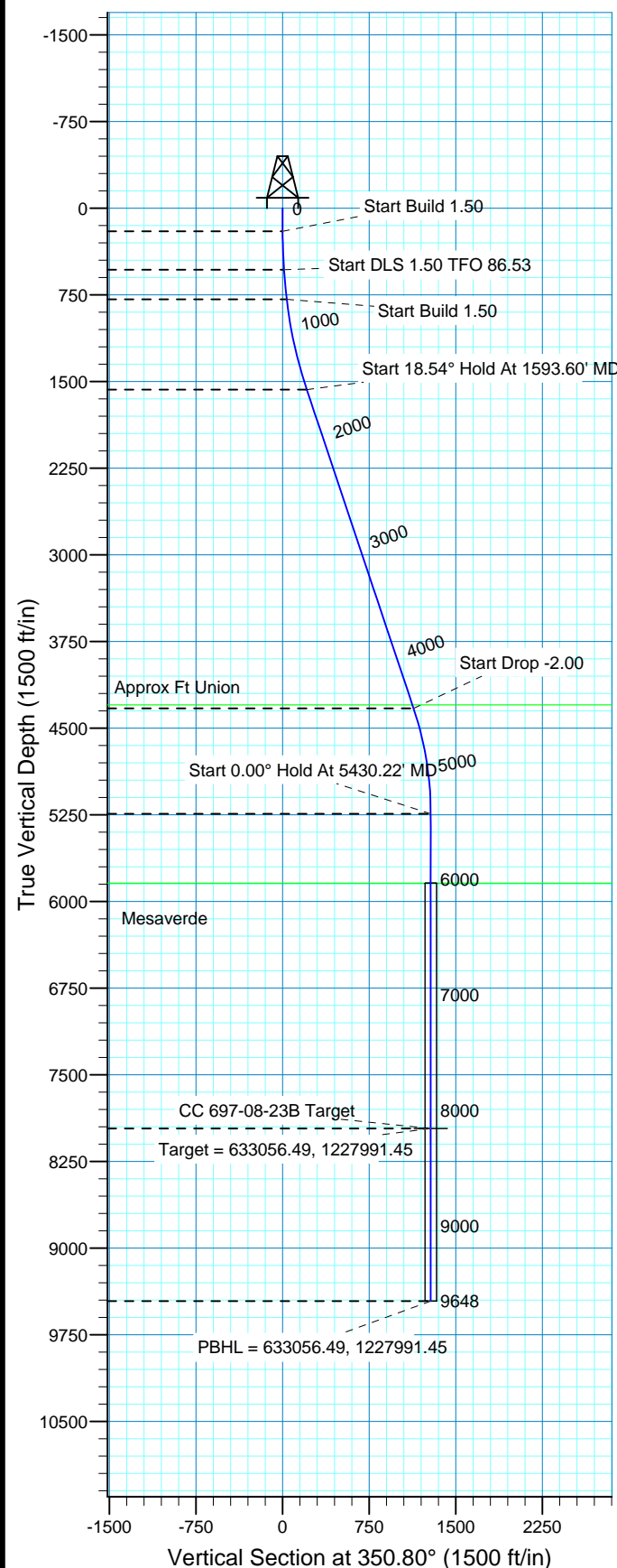
WELL DETAILS: Cascade Creek 697-08-23B

GL 8425' & RKB 30' @ 8455.00ft 8425.00
+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.00 0.00 631784.64 1228158.30 39° 32' 10.123 N 108° 14' 13.152 W



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

TVDPathMDPath Formation
4300.00471.48 Approx Ft Union
5841.00030.22 Mesaverde

Plan: Plan #2 (Cascade Creek 697-08-23B/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	533.33	5.00	315.00	532.91	10.28	-10.28	1.50	315.00	11.79	
4	791.11	6.50	351.48	789.46	32.66	-20.39	1.50	86.53	35.50	CC 697-08-23B Target
5	1593.60	18.54	351.48	1571.44	204.37	-46.10	1.50	0.00	209.11	
6	4503.35	18.54	351.48	4330.21	1119.25	-183.08	0.00	0.00	1134.13	
7	5430.22	0.00	0.00	5241.00	1266.25	-205.09	2.00	180.00	1282.75	
8	8155.22	0.00	0.00	7966.00	1266.25	-205.09	0.00	0.00	1282.75	CC 697-08-23B Target
9	9648.22	0.00	0.00	9459.00	1266.25	-205.09	0.00	0.00	1282.75	



OXY USA RMAT

**Garfield County, CO NAD27
Cascade Creek 608-43-31 Pad
Cascade Creek 697-08-23B
OH**

Plan: Plan #2

Standard Planning Report

15 June, 2010



Database:	EDM 2003.16 Multi-User Db	Local Co-ordinate Reference:	Well Cascade Creek 697-08-23B
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 697-08-23B	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 697-08-23B,					
Well Position	+N/-S	0.00 ft	Northing:	631,784.64 ft	Latitude:	39° 32' 10.123 N
	+E/-W	0.00 ft	Easting:	1,228,158.30 ft	Longitude:	108° 14' 13.152 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) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	350.80

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	
533.33	5.00	315.00	532.91	10.28	-10.28	1.50	1.50	0.00	315.00	
791.11	6.50	351.48	789.46	32.66	-20.39	1.50	0.58	14.15	86.53	CC 697-08-23B Target
1,593.60	18.54	351.48	1,571.44	204.37	-46.10	1.50	1.50	0.00	0.00	
4,503.35	18.54	351.48	4,330.21	1,119.25	-183.08	0.00	0.00	0.00	0.00	
5,430.22	0.00	0.00	5,241.00	1,266.25	-205.09	2.00	-2.00	0.00	180.00	
8,155.22	0.00	0.00	7,966.00	1,266.25	-205.09	0.00	0.00	0.00	0.00	CC 697-08-23B Target
9,648.22	0.00	0.00	9,459.00	1,266.25	-205.09	0.00	0.00	0.00	0.00	

Database:	EDM 2003.16 Multi-User Db	Local Co-ordinate Reference:	Well Cascade Creek 697-08-23B
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 697-08-23B	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 1.50									
300.00	1.50	315.00	299.99	0.93	-0.93	1.06	1.50	1.50	0.00
400.00	3.00	315.00	399.91	3.70	-3.70	4.25	1.50	1.50	0.00
500.00	4.50	315.00	499.69	8.33	-8.33	9.55	1.50	1.50	0.00
533.33	5.00	315.00	532.91	10.28	-10.28	11.79	1.50	1.50	0.00
Start DLS 1.50 TFO 86.53									
600.00	5.16	326.17	599.32	14.82	-14.00	16.87	1.50	0.24	16.76
700.00	5.72	340.89	698.87	23.27	-18.13	25.87	1.50	0.56	14.72
791.11	6.50	351.48	789.46	32.66	-20.39	35.50	1.50	0.85	11.63
Start Build 1.50									
800.00	6.63	351.48	798.30	33.66	-20.54	36.52	1.50	1.50	0.00
900.00	8.13	351.48	897.47	46.37	-22.44	49.36	1.50	1.50	0.00
1,000.00	9.63	351.48	996.26	61.65	-24.73	64.81	1.50	1.50	0.00
1,100.00	11.13	351.48	1,094.62	79.47	-27.39	82.83	1.50	1.50	0.00
1,200.00	12.63	351.48	1,192.48	99.83	-30.44	103.42	1.50	1.50	0.00
1,300.00	14.13	351.48	1,289.76	122.72	-33.87	126.56	1.50	1.50	0.00
1,400.00	15.63	351.48	1,386.40	148.13	-37.67	152.24	1.50	1.50	0.00
1,500.00	17.13	351.48	1,482.34	176.02	-41.85	180.45	1.50	1.50	0.00
1,593.60	18.54	351.48	1,571.44	204.37	-46.10	209.11	1.50	1.50	0.00
Start 18.54° Hold At 1593.60' MD									
1,600.00	18.54	351.48	1,577.50	206.38	-46.40	211.15	0.00	0.00	0.00
1,700.00	18.54	351.48	1,672.32	237.83	-51.11	242.94	0.00	0.00	0.00
1,800.00	18.54	351.48	1,767.13	269.27	-55.81	274.73	0.00	0.00	0.00
1,900.00	18.54	351.48	1,861.94	300.71	-60.52	306.52	0.00	0.00	0.00
2,000.00	18.54	351.48	1,956.75	332.15	-65.23	338.31	0.00	0.00	0.00
2,100.00	18.54	351.48	2,051.56	363.59	-69.94	370.10	0.00	0.00	0.00
2,200.00	18.54	351.48	2,146.37	395.04	-74.64	401.89	0.00	0.00	0.00
2,300.00	18.54	351.48	2,241.19	426.48	-79.35	433.68	0.00	0.00	0.00
2,400.00	18.54	351.48	2,336.00	457.92	-84.06	465.47	0.00	0.00	0.00
2,500.00	18.54	351.48	2,430.81	489.36	-88.77	497.26	0.00	0.00	0.00
2,600.00	18.54	351.48	2,525.62	520.80	-93.48	529.05	0.00	0.00	0.00
2,700.00	18.54	351.48	2,620.43	552.25	-98.18	560.84	0.00	0.00	0.00
2,800.00	18.54	351.48	2,715.24	583.69	-102.89	592.63	0.00	0.00	0.00
2,900.00	18.54	351.48	2,810.06	615.13	-107.60	624.42	0.00	0.00	0.00
3,000.00	18.54	351.48	2,904.87	646.57	-112.31	656.21	0.00	0.00	0.00
3,100.00	18.54	351.48	2,999.68	678.01	-117.02	688.00	0.00	0.00	0.00
3,200.00	18.54	351.48	3,094.49	709.45	-121.72	719.79	0.00	0.00	0.00
3,300.00	18.54	351.48	3,189.30	740.90	-126.43	751.58	0.00	0.00	0.00
3,400.00	18.54	351.48	3,284.11	772.34	-131.14	783.37	0.00	0.00	0.00
3,500.00	18.54	351.48	3,378.93	803.78	-135.85	815.16	0.00	0.00	0.00
3,600.00	18.54	351.48	3,473.74	835.22	-140.55	846.95	0.00	0.00	0.00
3,700.00	18.54	351.48	3,568.55	866.66	-145.26	878.74	0.00	0.00	0.00
3,800.00	18.54	351.48	3,663.36	898.11	-149.97	910.53	0.00	0.00	0.00
3,900.00	18.54	351.48	3,758.17	929.55	-154.68	942.32	0.00	0.00	0.00
4,000.00	18.54	351.48	3,852.98	960.99	-159.39	974.11	0.00	0.00	0.00
4,100.00	18.54	351.48	3,947.79	992.43	-164.09	1,005.90	0.00	0.00	0.00
4,200.00	18.54	351.48	4,042.61	1,023.87	-168.80	1,037.69	0.00	0.00	0.00
4,300.00	18.54	351.48	4,137.42	1,055.32	-173.51	1,069.48	0.00	0.00	0.00
4,400.00	18.54	351.48	4,232.23	1,086.76	-178.22	1,101.27	0.00	0.00	0.00
4,471.48	18.54	351.48	4,300.00	1,109.23	-181.58	1,124.00	0.00	0.00	0.00

Database:	EDM 2003.16 Multi-User Db	Local Co-ordinate Reference:	Well Cascade Creek 697-08-23B
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 697-08-23B	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)
Approx Ft Union									
4,500.00	18.54	351.48	4,327.04	1,118.20	-182.93	1,133.06	0.00	0.00	0.00
4,503.35	18.54	351.48	4,330.21	1,119.25	-183.08	1,134.13	0.00	0.00	0.00
Start Drop -2.00									
4,600.00	16.60	351.48	4,422.35	1,148.11	-187.40	1,163.30	2.00	-2.00	0.00
4,700.00	14.60	351.48	4,518.66	1,174.71	-191.39	1,190.20	2.00	-2.00	0.00
4,800.00	12.60	351.48	4,615.85	1,197.97	-194.87	1,213.72	2.00	-2.00	0.00
4,900.00	10.60	351.48	4,713.80	1,217.86	-197.85	1,233.83	2.00	-2.00	0.00
5,000.00	8.60	351.48	4,812.40	1,234.36	-200.32	1,250.51	2.00	-2.00	0.00
5,100.00	6.60	351.48	4,911.51	1,247.45	-202.28	1,263.74	2.00	-2.00	0.00
5,200.00	4.60	351.48	5,011.03	1,257.11	-203.72	1,273.51	2.00	-2.00	0.00
5,300.00	2.60	351.48	5,110.83	1,263.32	-204.66	1,279.79	2.00	-2.00	0.00
5,400.00	0.60	351.48	5,210.78	1,266.09	-205.07	1,282.59	2.00	-2.00	0.00
5,430.22	0.00	0.00	5,241.00	1,266.25	-205.09	1,282.75	2.00	-2.00	0.00
Start 0.00° Hold At 5430.22' MD									
5,500.00	0.00	0.00	5,310.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
5,600.00	0.00	0.00	5,410.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
5,700.00	0.00	0.00	5,510.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
5,800.00	0.00	0.00	5,610.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
5,900.00	0.00	0.00	5,710.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
6,000.00	0.00	0.00	5,810.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
6,030.22	0.00	0.00	5,841.00	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
Mesaverde									
6,100.00	0.00	0.00	5,910.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
6,200.00	0.00	0.00	6,010.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
6,300.00	0.00	0.00	6,110.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
6,400.00	0.00	0.00	6,210.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
6,500.00	0.00	0.00	6,310.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
6,600.00	0.00	0.00	6,410.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
6,700.00	0.00	0.00	6,510.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
6,800.00	0.00	0.00	6,610.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
6,900.00	0.00	0.00	6,710.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
7,000.00	0.00	0.00	6,810.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
7,100.00	0.00	0.00	6,910.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
7,200.00	0.00	0.00	7,010.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
7,300.00	0.00	0.00	7,110.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
7,400.00	0.00	0.00	7,210.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
7,500.00	0.00	0.00	7,310.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
7,600.00	0.00	0.00	7,410.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
7,700.00	0.00	0.00	7,510.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
7,800.00	0.00	0.00	7,610.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
7,900.00	0.00	0.00	7,710.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
8,000.00	0.00	0.00	7,810.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
8,100.00	0.00	0.00	7,910.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
8,155.22	0.00	0.00	7,966.00	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
Target = 633056.49, 1227991.45 - CC 697-08-23B Target - CC 697-08-23B Target									
8,200.00	0.00	0.00	8,010.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
8,300.00	0.00	0.00	8,110.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
8,400.00	0.00	0.00	8,210.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
8,500.00	0.00	0.00	8,310.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
8,600.00	0.00	0.00	8,410.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
8,700.00	0.00	0.00	8,510.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
8,800.00	0.00	0.00	8,610.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00

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Site:	Cascade Creek 608-43-31 Pad	North Reference:	True
Well:	Cascade Creek 697-08-23B	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)
8,900.00	0.00	0.00	8,710.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
9,000.00	0.00	0.00	8,810.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
9,100.00	0.00	0.00	8,910.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
9,200.00	0.00	0.00	9,010.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
9,300.00	0.00	0.00	9,110.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
9,400.00	0.00	0.00	9,210.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
9,500.00	0.00	0.00	9,310.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
9,600.00	0.00	0.00	9,410.78	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
9,648.22	0.00	0.00	9,459.00	1,266.25	-205.09	1,282.75	0.00	0.00	0.00
PBHL = 633056.49, 1227991.45									

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
CC 697-08-23B Target - plan hits target center - Circle (radius 50.00)	0.00	351.14	7,966.00	1,266.25	-205.09	633,056.49	1,227,991.45	39° 32' 22.638 N	108° 14' 15.770 W

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,471.48	4,300.00	Approx Ft Union		0.00	
6,030.22	5,841.00	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 1.50
533.33	532.91	10.28	-10.28	Start DLS 1.50 TFO 86.53
791.11	789.46	32.66	-20.39	Start Build 1.50
1,593.60	1,571.44	204.37	-46.10	Start 18.54° Hold At 1593.60' MD
4,503.35	4,330.21	1,119.25	-183.08	Start Drop -2.00
5,430.22	5,241.00	1,266.25	-205.09	Start 0.00° Hold At 5430.22' MD
8,155.22	7,966.00	1,266.25	-205.09	Target = 633056.49, 1227991.45
9,648.22	9,459.00	1,266.25	-205.09	PBHL = 633056.49, 1227991.45