

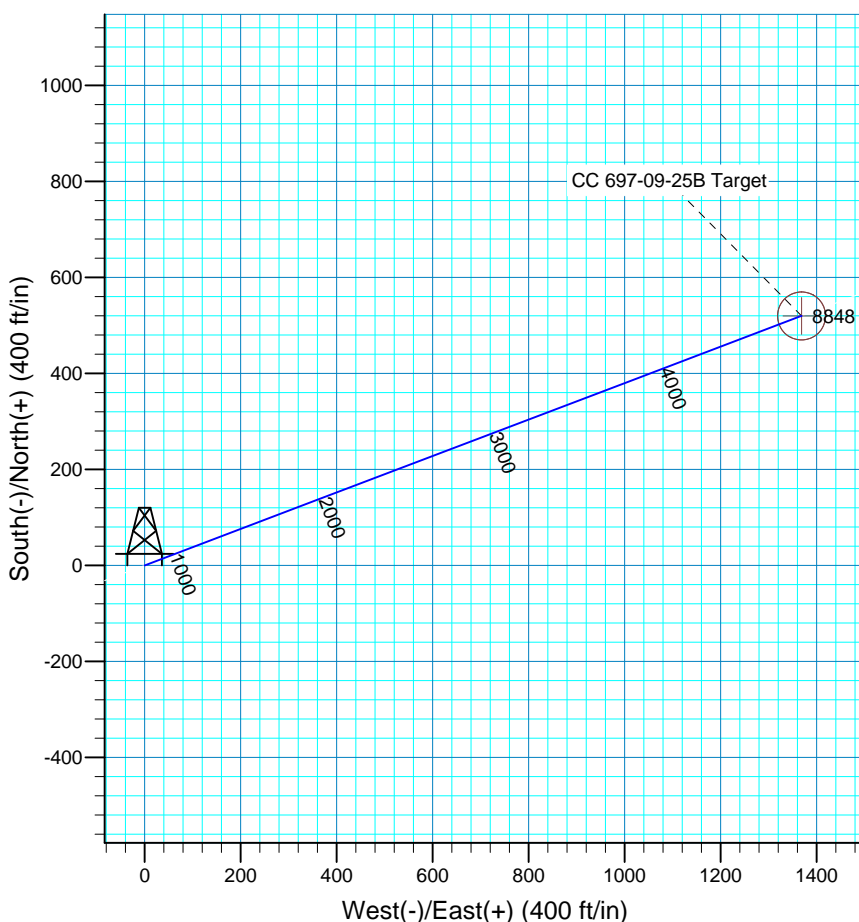
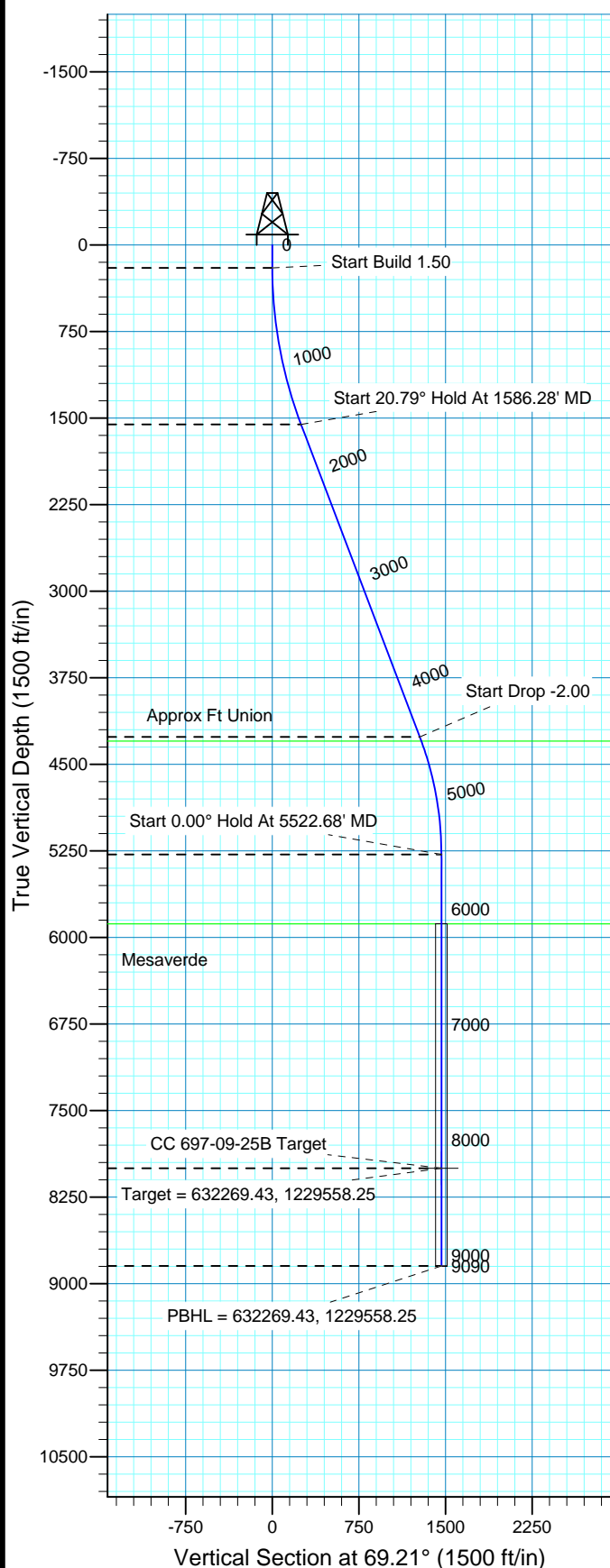
WELL DETAILS: Cascade Creek 697-09-25B

+N/-S	+E/-W	GL 8425' & RKB 30' @ 8455.00ft	8425.00	Latitude	Longitude	Slot
0.00	0.00	Northing	Easting	39° 32' 10.194 N	108° 14' 12.945 W	
		631791.34	1228174.75			



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

TVDPath	MDPath	Formation
4300.00	4521.33	Approx Ft Union
5884.00	6125.59	Mesaverde

Plan: Plan #2 (Cascade Creek 697-09-25B/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	1586.28	20.79	69.21	1556.05	88.31	232.61	1.50	69.21	248.81	
4	4482.97	20.79	69.21	4264.05	453.31	1194.02	0.00	0.00	1277.17	
5	5522.68	0.00	0.00	5281.09	519.55	1368.48	2.00	180.00	1463.78	
6	8243.59	0.00	0.00	8002.00	519.55	1368.48	0.00	0.00	1463.78	CC 697-09-25B Target
7	9089.59	0.00	0.00	8848.00	519.55	1368.48	0.00	0.00	1463.78	



# **OXY USA RMAT**

**Garfield County, CO NAD27  
Cascade Creek 608-43-31 Pad  
Cascade Creek 697-09-25B  
OH**

**Plan: Plan #2**

## **Standard Planning Report**

**15 June, 2010**



<b>Database:</b>	EDM 2003.16 Multi-User Db	<b>Local Co-ordinate Reference:</b>	Well Cascade Creek 697-09-25B
<b>Company:</b>	OXY USA RMAT	<b>TVD Reference:</b>	GL 8425' & RKB 30' @ 8455.00ft
<b>Project:</b>	Garfield County, CO NAD27	<b>MD Reference:</b>	GL 8425' & RKB 30' @ 8455.00ft
<b>Site:</b>	Cascade Creek 608-43-31 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Cascade Creek 697-09-25B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #2		

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

<b>Site</b>	Cascade Creek 608-43-31 Pad, Sec 8 T6S R97W		
<b>Site Position:</b>		<b>Northing:</b>	39.54 ft
<b>From:</b>	Map	<b>Easting:</b>	-108.24 ft
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	in
		<b>Latitude:</b>	37° 37' 28.115 N
		<b>Longitude:</b>	112° 24' 37.715 W
		<b>Grid Convergence:</b>	-4.36 °

<b>Well</b>	Cascade Creek 697-09-25B,		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b> 631,791.34 ft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b> 1,228,174.75 ft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft
		<b>Latitude:</b>	39° 32' 10.194 N
		<b>Longitude:</b>	108° 14' 12.945 W
		<b>Ground Level:</b>	8,425.00 ft

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

<b>Design</b>	Plan #2			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	69.21

<b>Plan Sections</b>										
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	
1,586.28	20.79	69.21	1,556.05	88.31	232.61	1.50	1.50	0.00	69.21	
4,482.97	20.79	69.21	4,264.05	453.31	1,194.02	0.00	0.00	0.00	0.00	
5,522.68	0.00	0.00	5,281.09	519.55	1,368.48	2.00	-2.00	0.00	180.00	
8,243.59	0.00	0.00	8,002.00	519.55	1,368.48	0.00	0.00	0.00	0.00	CC 697-09-25B Targe
9,089.59	0.00	0.00	8,848.00	519.55	1,368.48	0.00	0.00	0.00	0.00	

<b>Database:</b>	EDM 2003.16 Multi-User Db	<b>Local Co-ordinate Reference:</b>	Well Cascade Creek 697-09-25B
<b>Company:</b>	OXY USA RMAT	<b>TVD Reference:</b>	GL 8425' & RKB 30' @ 8455.00ft
<b>Project:</b>	Garfield County, CO NAD27	<b>MD Reference:</b>	GL 8425' & RKB 30' @ 8455.00ft
<b>Site:</b>	Cascade Creek 608-43-31 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Cascade Creek 697-09-25B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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
<b>Start Build 1.50</b>									
300.00	1.50	69.21	299.99	0.46	1.22	1.31	1.50	1.50	0.00
400.00	3.00	69.21	399.91	1.86	4.89	5.23	1.50	1.50	0.00
500.00	4.50	69.21	499.69	4.18	11.01	11.77	1.50	1.50	0.00
600.00	6.00	69.21	599.27	7.43	19.56	20.92	1.50	1.50	0.00
700.00	7.50	69.21	698.57	11.60	30.55	32.68	1.50	1.50	0.00
800.00	9.00	69.21	797.54	16.69	43.97	47.03	1.50	1.50	0.00
900.00	10.50	69.21	896.09	22.70	59.80	63.96	1.50	1.50	0.00
1,000.00	12.00	69.21	994.16	29.63	78.04	83.47	1.50	1.50	0.00
1,100.00	13.50	69.21	1,091.70	37.46	98.67	105.54	1.50	1.50	0.00
1,200.00	15.00	69.21	1,188.62	46.20	121.68	130.15	1.50	1.50	0.00
1,300.00	16.50	69.21	1,284.86	55.83	147.06	157.30	1.50	1.50	0.00
1,400.00	18.00	69.21	1,380.36	66.36	174.78	186.95	1.50	1.50	0.00
1,500.00	19.50	69.21	1,475.05	77.76	204.83	219.09	1.50	1.50	0.00
1,586.28	20.79	69.21	1,556.05	88.31	232.61	248.81	1.50	1.50	0.00
<b>Start 20.79° Hold At 1586.28' MD</b>									
1,600.00	20.79	69.21	1,568.87	90.04	237.16	253.68	0.00	0.00	0.00
1,700.00	20.79	69.21	1,662.36	102.64	270.35	289.18	0.00	0.00	0.00
1,800.00	20.79	69.21	1,755.85	115.24	303.54	324.68	0.00	0.00	0.00
1,900.00	20.79	69.21	1,849.33	127.84	336.73	360.18	0.00	0.00	0.00
2,000.00	20.79	69.21	1,942.82	140.44	369.92	395.69	0.00	0.00	0.00
2,100.00	20.79	69.21	2,036.30	153.04	403.11	431.19	0.00	0.00	0.00
2,200.00	20.79	69.21	2,129.79	165.64	436.30	466.69	0.00	0.00	0.00
2,300.00	20.79	69.21	2,223.28	178.24	469.49	502.19	0.00	0.00	0.00
2,400.00	20.79	69.21	2,316.76	190.85	502.68	537.69	0.00	0.00	0.00
2,500.00	20.79	69.21	2,410.25	203.45	535.87	573.19	0.00	0.00	0.00
2,600.00	20.79	69.21	2,503.73	216.05	569.06	608.69	0.00	0.00	0.00
2,700.00	20.79	69.21	2,597.22	228.65	602.25	644.20	0.00	0.00	0.00
2,800.00	20.79	69.21	2,690.71	241.25	635.44	679.70	0.00	0.00	0.00
2,900.00	20.79	69.21	2,784.19	253.85	668.63	715.20	0.00	0.00	0.00
3,000.00	20.79	69.21	2,877.68	266.45	701.82	750.70	0.00	0.00	0.00
3,100.00	20.79	69.21	2,971.17	279.05	735.01	786.20	0.00	0.00	0.00
3,200.00	20.79	69.21	3,064.65	291.65	768.20	821.70	0.00	0.00	0.00
3,300.00	20.79	69.21	3,158.14	304.25	801.39	857.20	0.00	0.00	0.00
3,400.00	20.79	69.21	3,251.62	316.85	834.58	892.70	0.00	0.00	0.00
3,500.00	20.79	69.21	3,345.11	329.45	867.77	928.21	0.00	0.00	0.00
3,600.00	20.79	69.21	3,438.60	342.05	900.96	963.71	0.00	0.00	0.00
3,700.00	20.79	69.21	3,532.08	354.65	934.15	999.21	0.00	0.00	0.00
3,800.00	20.79	69.21	3,625.57	367.25	967.34	1,034.71	0.00	0.00	0.00
3,900.00	20.79	69.21	3,719.05	379.85	1,000.53	1,070.21	0.00	0.00	0.00
4,000.00	20.79	69.21	3,812.54	392.45	1,033.72	1,105.71	0.00	0.00	0.00
4,100.00	20.79	69.21	3,906.03	405.06	1,066.91	1,141.21	0.00	0.00	0.00
4,200.00	20.79	69.21	3,999.51	417.66	1,100.10	1,176.72	0.00	0.00	0.00
4,300.00	20.79	69.21	4,093.00	430.26	1,133.29	1,212.22	0.00	0.00	0.00
4,400.00	20.79	69.21	4,186.49	442.86	1,166.48	1,247.72	0.00	0.00	0.00
4,482.97	20.79	69.21	4,264.05	453.31	1,194.02	1,277.17	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
4,500.00	20.45	69.21	4,279.99	455.44	1,199.63	1,283.17	2.00	-2.00	0.00
4,521.33	20.03	69.21	4,300.00	458.06	1,206.52	1,290.55	2.00	-2.00	0.00
<b>Approx Ft Union</b>									

<b>Database:</b>	EDM 2003.16 Multi-User Db	<b>Local Co-ordinate Reference:</b>	Well Cascade Creek 697-09-25B
<b>Company:</b>	OXY USA RMAT	<b>TVD Reference:</b>	GL 8425' & RKB 30' @ 8455.00ft
<b>Project:</b>	Garfield County, CO NAD27	<b>MD Reference:</b>	GL 8425' & RKB 30' @ 8455.00ft
<b>Site:</b>	Cascade Creek 608-43-31 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Cascade Creek 697-09-25B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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)	
4,600.00	18.45	69.21	4,374.28	467.26	1,230.76	1,316.47	2.00	-2.00	0.00	
4,700.00	16.45	69.21	4,469.67	477.91	1,258.80	1,346.47	2.00	-2.00	0.00	
4,800.00	14.45	69.21	4,566.05	487.36	1,283.71	1,373.11	2.00	-2.00	0.00	
4,900.00	12.45	69.21	4,663.30	495.62	1,305.46	1,396.38	2.00	-2.00	0.00	
5,000.00	10.45	69.21	4,761.30	502.67	1,324.02	1,416.23	2.00	-2.00	0.00	
5,100.00	8.45	69.21	4,859.94	508.50	1,339.38	1,432.66	2.00	-2.00	0.00	
5,200.00	6.45	69.21	4,959.09	513.10	1,351.51	1,445.63	2.00	-2.00	0.00	
5,300.00	4.45	69.21	5,058.63	516.48	1,360.39	1,455.13	2.00	-2.00	0.00	
5,400.00	2.45	69.21	5,158.44	518.61	1,366.02	1,461.16	2.00	-2.00	0.00	
5,500.00	0.45	69.21	5,258.41	519.51	1,368.39	1,463.69	2.00	-2.00	0.00	
5,522.68	0.00	0.00	5,281.09	519.55	1,368.48	1,463.78	2.00	-2.00	0.00	
Start 0.00° Hold At 5522.68' MD										
5,600.00	0.00	0.00	5,358.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,458.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,558.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,658.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,758.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
6,100.00	0.00	0.00	5,858.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
6,125.59	0.00	0.00	5,884.00	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
Mesaverde										
6,200.00	0.00	0.00	5,958.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,058.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,158.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,258.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,358.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,458.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,558.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,658.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,758.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
7,100.00	0.00	0.00	6,858.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
7,200.00	0.00	0.00	6,958.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,058.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,158.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,258.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,358.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,458.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,558.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,658.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,758.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
8,100.00	0.00	0.00	7,858.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
8,200.00	0.00	0.00	7,958.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
8,243.59	0.00	0.00	8,002.00	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
Target = 632269.43, 1229558.25 - CC 697-09-25B Target										
8,300.00	0.00	0.00	8,058.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,158.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,258.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,358.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,458.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,558.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
8,900.00	0.00	0.00	8,658.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,758.41	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
9,089.59	0.00	0.00	8,848.00	519.55	1,368.48	1,463.78	0.00	0.00	0.00	
PBHL = 632269.43, 1229558.25										

<b>Database:</b>	EDM 2003.16 Multi-User Db	<b>Local Co-ordinate Reference:</b>	Well Cascade Creek 697-09-25B
<b>Company:</b>	OXY USA RMAT	<b>TVD Reference:</b>	GL 8425' & RKB 30' @ 8455.00ft
<b>Project:</b>	Garfield County, CO NAD27	<b>MD Reference:</b>	GL 8425' & RKB 30' @ 8455.00ft
<b>Site:</b>	Cascade Creek 608-43-31 Pad	<b>North Reference:</b>	True
<b>Well:</b>	Cascade Creek 697-09-25B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	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)

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 697-09-25B Target	0.00	69.21	8,002.00	519.55	1,368.48	632,269.43	1,229,558.25	39° 32' 15.329 N	108° 13' 55.478 W
- plan hits target center									
- Circle (radius 50.00)									

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
4,521.33	4,300.00	Approx Ft Union		0.00		
6,125.59	5,884.00	Mesaverde		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
200.00	200.00	0.00	0.00	Start Build 1.50	
1,586.28	1,556.05	88.31	232.61	Start 20.79° Hold At 1586.28' MD	
4,482.97	4,264.05	453.31	1,194.02	Start Drop -2.00	
5,522.68	5,281.09	519.55	1,368.48	Start 0.00° Hold At 5522.68' MD	
8,243.59	8,002.00	519.55	1,368.48	Target = 632269.43, 1229558.25	
9,089.59	8,848.00	519.55	1,368.48	PBHL = 632269.43, 1229558.25	