

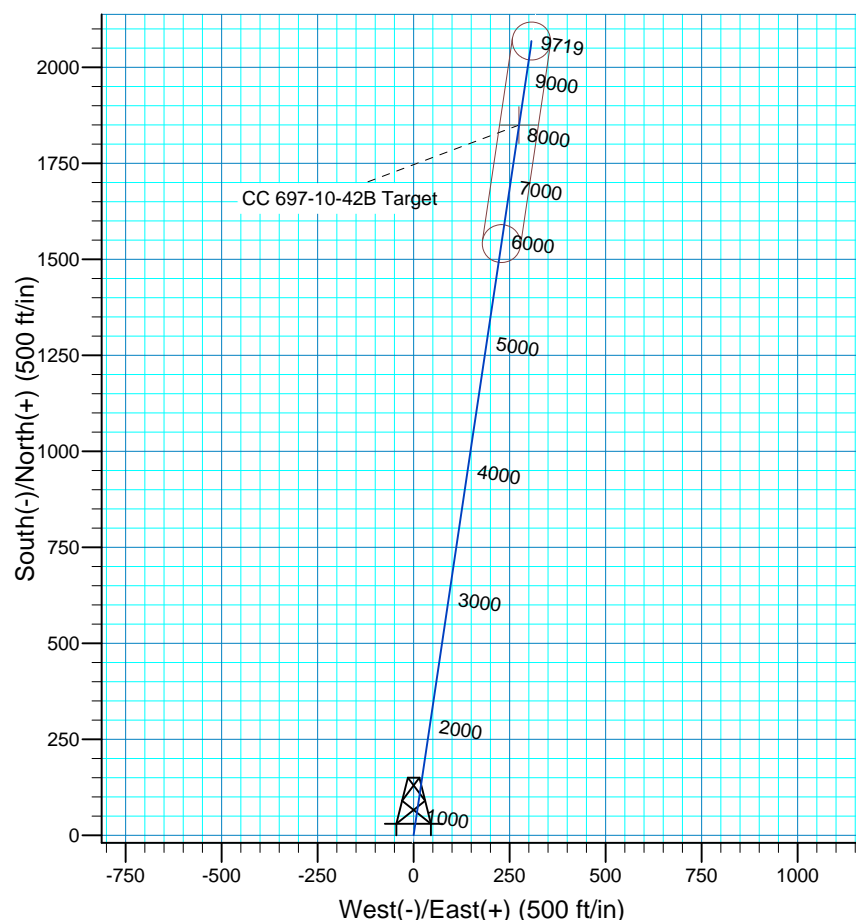
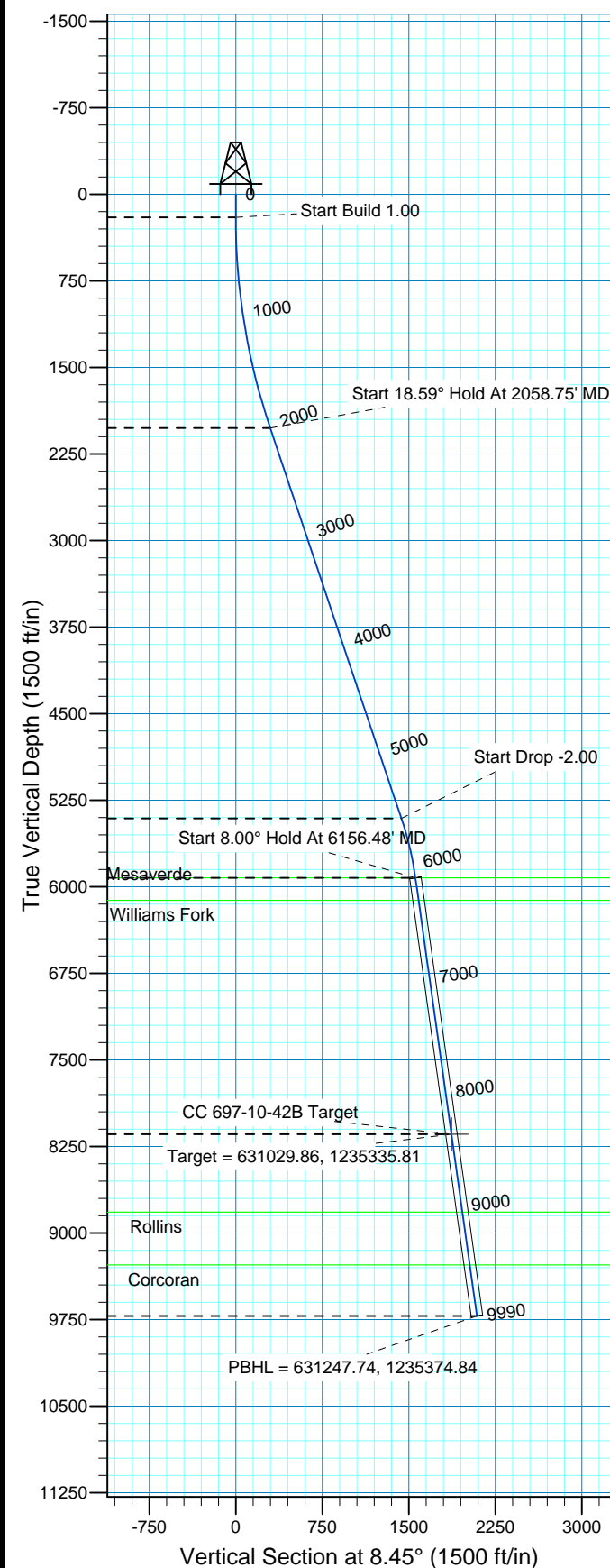
## WELL DETAILS: CC 697-10-42B

GL 8348' & RKB 30' @ 8378.00ft 8348.00  
+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.00 0.00 629189.19 1235006.02 39° 31' 46.511 N 108° 12' 44.799 W R



Azimuths to True North  
Magnetic North: 10.62°

Magnetic Field  
Strength: 52394.5snT  
Dip Angle: 65.77°  
Date: 12/31/2009  
Model: IGRF2005-10



## FORMATION TOP DETAILS

TVDPathMDPath Formation  
5923.006156.48 Mesaverde  
6118.006353.40 Williams Fork  
8819.009080.94 Rollins  
9277.009543.45 Corcoran

## Plan: Plan #1 (CC 697-10-42B/OH)

Created By: Rex Hall Date: 2010-01-28

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	2058.75	18.59	8.45	2026.32	295.63	43.90	1.00	8.45	298.87	
4	5627.10	18.59	8.45	5408.54	1420.71	210.98	0.00	0.00	1436.29	
5	6156.48	8.00	8.45	5923.00	1540.94	228.84	2.00	180.00	1557.84	
6	8399.31	8.00	8.45	8144.00	1849.70	274.69	0.00	0.00	1869.99	CC 697-10-42B Target
7	9989.79	8.00	8.45	9719.00	2068.65	307.21	0.00	0.00	2091.34	



# **OXY USA RMAT**

**Garfield County, CO NAD27  
Cascade Creek 697-15-01 Pad  
CC 697-10-42B - Slot R  
OH**

**Plan: Plan #1**

## **Standard Planning Report**

**28 January, 2010**



<b>Database:</b>	EDM 2003.16 Multi-User Db	<b>Local Co-ordinate Reference:</b>	Well CC 697-10-42B - Slot R
<b>Company:</b>	OXY USA RMAT	<b>TVD Reference:</b>	GL 8348' & RKB 30' @ 8378.00ft
<b>Project:</b>	Garfield County, CO NAD27	<b>MD Reference:</b>	GL 8348' & RKB 30' @ 8378.00ft
<b>Site:</b>	Cascade Creek 697-15-01 Pad	<b>North Reference:</b>	True
<b>Well:</b>	CC 697-10-42B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

<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		

Site		Cascade Creek 697-15-01 Pad, Sec 15 T6S R97W			
Site Position:		Northing:	629,156.96 ft	Latitude:	39° 31' 46.180 N
From:	Map	Easting:	1,234,961.93 ft	Longitude:	108° 12' 45.350 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	-1.71 °

Well	CC 697-10-42B - Slot R					
Well Position	+N/-S	0.00 ft	Northing:	629,189.19 ft	Latitude:	39° 31' 46.511 N
	+E/-W	0.00 ft	Easting:	1,235,006.02 ft	Longitude:	108° 12' 44.799 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	8,348.00 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	12/31/2009	10.62	65.77	52,394

<b>Design</b>	Plan #1				
<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	8.45	

<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	
2,058.75	18.59	8.45	2,026.32	295.63	43.90	1.00	1.00	0.00	8.45	
5,627.10	18.59	8.45	5,408.54	1,420.71	210.98	0.00	0.00	0.00	0.00	
6,156.48	8.00	8.45	5,923.00	1,540.94	228.84	2.00	-2.00	0.00	180.00	
8,399.31	8.00	8.45	8,144.00	1,849.70	274.69	0.00	0.00	0.00	0.00	CC 697-10-42B Target
9,989.79	8.00	8.45	9,719.00	2,068.65	307.21	0.00	0.00	0.00	0.00	

<b>Database:</b>	EDM 2003.16 Multi-User Db	<b>Local Co-ordinate Reference:</b>	Well CC 697-10-42B - Slot R
<b>Company:</b>	OXY USA RMAT	<b>TVD Reference:</b>	GL 8348' & RKB 30' @ 8378.00ft
<b>Project:</b>	Garfield County, CO NAD27	<b>MD Reference:</b>	GL 8348' & RKB 30' @ 8378.00ft
<b>Site:</b>	Cascade Creek 697-15-01 Pad	<b>North Reference:</b>	True
<b>Well:</b>	CC 697-10-42B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

### 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 1.00</b>									
300.00	1.00	8.45	299.99	0.86	0.13	0.87	1.00	1.00	0.00
400.00	2.00	8.45	399.96	3.45	0.51	3.49	1.00	1.00	0.00
500.00	3.00	8.45	499.86	7.77	1.15	7.85	1.00	1.00	0.00
600.00	4.00	8.45	599.68	13.81	2.05	13.96	1.00	1.00	0.00
700.00	5.00	8.45	699.37	21.57	3.20	21.80	1.00	1.00	0.00
800.00	6.00	8.45	798.90	31.05	4.61	31.39	1.00	1.00	0.00
900.00	7.00	8.45	898.26	42.24	6.27	42.71	1.00	1.00	0.00
1,000.00	8.00	8.45	997.40	55.16	8.19	55.76	1.00	1.00	0.00
1,100.00	9.00	8.45	1,096.30	69.78	10.36	70.54	1.00	1.00	0.00
1,200.00	10.00	8.45	1,194.93	86.10	12.79	87.05	1.00	1.00	0.00
1,300.00	11.00	8.45	1,293.26	104.13	15.46	105.27	1.00	1.00	0.00
1,400.00	12.00	8.45	1,391.25	123.85	18.39	125.21	1.00	1.00	0.00
1,500.00	13.00	8.45	1,488.87	145.26	21.57	146.85	1.00	1.00	0.00
1,600.00	14.00	8.45	1,586.11	168.35	25.00	170.19	1.00	1.00	0.00
1,700.00	15.00	8.45	1,682.92	193.11	28.68	195.23	1.00	1.00	0.00
1,800.00	16.00	8.45	1,779.29	219.55	32.60	221.95	1.00	1.00	0.00
1,900.00	17.00	8.45	1,875.17	247.64	36.78	250.36	1.00	1.00	0.00
2,000.00	18.00	8.45	1,970.54	277.38	41.19	280.43	1.00	1.00	0.00
2,058.75	18.59	8.45	2,026.32	295.63	43.90	298.87	1.00	1.00	0.00
<b>Start 18.59° Hold At 2058.75' MD</b>									
2,100.00	18.59	8.45	2,065.42	308.63	45.83	312.01	0.00	0.00	0.00
2,200.00	18.59	8.45	2,160.20	340.16	50.52	343.89	0.00	0.00	0.00
2,300.00	18.59	8.45	2,254.98	371.69	55.20	375.77	0.00	0.00	0.00
2,400.00	18.59	8.45	2,349.77	403.22	59.88	407.64	0.00	0.00	0.00
2,500.00	18.59	8.45	2,444.55	434.75	64.56	439.52	0.00	0.00	0.00
2,600.00	18.59	8.45	2,539.33	466.28	69.24	471.39	0.00	0.00	0.00
2,700.00	18.59	8.45	2,634.12	497.81	73.93	503.27	0.00	0.00	0.00
2,800.00	18.59	8.45	2,728.90	529.34	78.61	535.14	0.00	0.00	0.00
2,900.00	18.59	8.45	2,823.69	560.87	83.29	567.02	0.00	0.00	0.00
3,000.00	18.59	8.45	2,918.47	592.40	87.97	598.89	0.00	0.00	0.00
3,100.00	18.59	8.45	3,013.25	623.93	92.66	630.77	0.00	0.00	0.00
3,200.00	18.59	8.45	3,108.04	655.46	97.34	662.64	0.00	0.00	0.00
3,300.00	18.59	8.45	3,202.82	686.98	102.02	694.52	0.00	0.00	0.00
3,400.00	18.59	8.45	3,297.60	718.51	106.70	726.39	0.00	0.00	0.00
3,500.00	18.59	8.45	3,392.39	750.04	111.39	758.27	0.00	0.00	0.00
3,600.00	18.59	8.45	3,487.17	781.57	116.07	790.14	0.00	0.00	0.00
3,700.00	18.59	8.45	3,581.96	813.10	120.75	822.02	0.00	0.00	0.00
3,800.00	18.59	8.45	3,676.74	844.63	125.43	853.90	0.00	0.00	0.00
3,900.00	18.59	8.45	3,771.52	876.16	130.11	885.77	0.00	0.00	0.00
4,000.00	18.59	8.45	3,866.31	907.69	134.80	917.65	0.00	0.00	0.00
4,100.00	18.59	8.45	3,961.09	939.22	139.48	949.52	0.00	0.00	0.00
4,200.00	18.59	8.45	4,055.88	970.75	144.16	981.40	0.00	0.00	0.00
4,300.00	18.59	8.45	4,150.66	1,002.28	148.84	1,013.27	0.00	0.00	0.00
4,400.00	18.59	8.45	4,245.44	1,033.81	153.53	1,045.15	0.00	0.00	0.00
4,500.00	18.59	8.45	4,340.23	1,065.34	158.21	1,077.02	0.00	0.00	0.00
4,600.00	18.59	8.45	4,435.01	1,096.87	162.89	1,108.90	0.00	0.00	0.00
4,700.00	18.59	8.45	4,529.79	1,128.40	167.57	1,140.77	0.00	0.00	0.00
4,800.00	18.59	8.45	4,624.58	1,159.93	172.26	1,172.65	0.00	0.00	0.00
4,900.00	18.59	8.45	4,719.36	1,191.46	176.94	1,204.52	0.00	0.00	0.00

<b>Database:</b>	EDM 2003.16 Multi-User Db	<b>Local Co-ordinate Reference:</b>	Well CC 697-10-42B - Slot R
<b>Company:</b>	OXY USA RMAT	<b>TVD Reference:</b>	GL 8348' & RKB 30' @ 8378.00ft
<b>Project:</b>	Garfield County, CO NAD27	<b>MD Reference:</b>	GL 8348' & RKB 30' @ 8378.00ft
<b>Site:</b>	Cascade Creek 697-15-01 Pad	<b>North Reference:</b>	True
<b>Well:</b>	CC 697-10-42B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

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)
5,000.00	18.59	8.45	4,814.15	1,222.99	181.62	1,236.40	0.00	0.00	0.00
5,100.00	18.59	8.45	4,908.93	1,254.52	186.30	1,268.27	0.00	0.00	0.00
5,200.00	18.59	8.45	5,003.71	1,286.05	190.98	1,300.15	0.00	0.00	0.00
5,300.00	18.59	8.45	5,098.50	1,317.58	195.67	1,332.02	0.00	0.00	0.00
5,400.00	18.59	8.45	5,193.28	1,349.10	200.35	1,363.90	0.00	0.00	0.00
5,500.00	18.59	8.45	5,288.06	1,380.63	205.03	1,395.78	0.00	0.00	0.00
5,600.00	18.59	8.45	5,382.85	1,412.16	209.71	1,427.65	0.00	0.00	0.00
5,627.10	18.59	8.45	5,408.54	1,420.71	210.98	1,436.29	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,700.00	17.13	8.45	5,477.92	1,442.82	214.27	1,458.64	2.00	-2.00	0.00
5,800.00	15.13	8.45	5,573.98	1,470.30	218.35	1,486.42	2.00	-2.00	0.00
5,900.00	13.13	8.45	5,670.95	1,494.45	221.93	1,510.83	2.00	-2.00	0.00
6,000.00	11.13	8.45	5,768.71	1,515.23	225.02	1,531.85	2.00	-2.00	0.00
6,100.00	9.13	8.45	5,867.15	1,532.62	227.60	1,549.43	2.00	-2.00	0.00
6,156.48	8.00	8.45	5,923.00	1,540.95	228.84	1,557.84	2.00	-2.00	0.00
<b>Start 8.00° Hold At 6156.48' MD - Mesaverde</b>									
6,200.00	8.00	8.45	5,966.09	1,546.94	229.73	1,563.90	0.00	0.00	0.00
6,300.00	8.00	8.45	6,065.12	1,560.70	231.77	1,577.82	0.00	0.00	0.00
6,353.40	8.00	8.45	6,118.00	1,568.05	232.86	1,585.25	0.00	0.00	0.00
<b>Williams Fork</b>									
6,400.00	8.00	8.45	6,164.15	1,574.47	233.82	1,591.74	0.00	0.00	0.00
6,500.00	8.00	8.45	6,263.17	1,588.23	235.86	1,605.65	0.00	0.00	0.00
6,600.00	8.00	8.45	6,362.20	1,602.00	237.91	1,619.57	0.00	0.00	0.00
6,700.00	8.00	8.45	6,461.23	1,615.77	239.95	1,633.49	0.00	0.00	0.00
6,800.00	8.00	8.45	6,560.25	1,629.53	241.99	1,647.40	0.00	0.00	0.00
6,900.00	8.00	8.45	6,659.28	1,643.30	244.04	1,661.32	0.00	0.00	0.00
7,000.00	8.00	8.45	6,758.31	1,657.07	246.08	1,675.24	0.00	0.00	0.00
7,100.00	8.00	8.45	6,857.33	1,670.83	248.13	1,689.16	0.00	0.00	0.00
7,200.00	8.00	8.45	6,956.36	1,684.60	250.17	1,703.07	0.00	0.00	0.00
7,300.00	8.00	8.45	7,055.39	1,698.37	252.22	1,716.99	0.00	0.00	0.00
7,400.00	8.00	8.45	7,154.41	1,712.13	254.26	1,730.91	0.00	0.00	0.00
7,500.00	8.00	8.45	7,253.44	1,725.90	256.31	1,744.83	0.00	0.00	0.00
7,600.00	8.00	8.45	7,352.47	1,739.66	258.35	1,758.74	0.00	0.00	0.00
7,700.00	8.00	8.45	7,451.49	1,753.43	260.39	1,772.66	0.00	0.00	0.00
7,800.00	8.00	8.45	7,550.52	1,767.20	262.44	1,786.58	0.00	0.00	0.00
7,900.00	8.00	8.45	7,649.55	1,780.96	264.48	1,800.49	0.00	0.00	0.00
8,000.00	8.00	8.45	7,748.58	1,794.73	266.53	1,814.41	0.00	0.00	0.00
8,100.00	8.00	8.45	7,847.60	1,808.50	268.57	1,828.33	0.00	0.00	0.00
8,200.00	8.00	8.45	7,946.63	1,822.26	270.62	1,842.25	0.00	0.00	0.00
8,300.00	8.00	8.45	8,045.66	1,836.03	272.66	1,856.16	0.00	0.00	0.00
8,399.31	8.00	8.45	8,144.00	1,849.70	274.69	1,869.99	0.00	0.00	0.00
<b>Target = 631029.86, 1235335.81 - CC 697-10-42B Target</b>									
8,400.00	8.00	8.45	8,144.68	1,849.80	274.70	1,870.08	0.00	0.00	0.00
8,500.00	8.00	8.45	8,243.71	1,863.56	276.75	1,884.00	0.00	0.00	0.00
8,600.00	8.00	8.45	8,342.74	1,877.33	278.79	1,897.92	0.00	0.00	0.00
8,700.00	8.00	8.45	8,441.76	1,891.09	280.84	1,911.83	0.00	0.00	0.00
8,800.00	8.00	8.45	8,540.79	1,904.86	282.88	1,925.75	0.00	0.00	0.00
8,900.00	8.00	8.45	8,639.82	1,918.63	284.93	1,939.67	0.00	0.00	0.00
9,000.00	8.00	8.45	8,738.84	1,932.39	286.97	1,953.59	0.00	0.00	0.00
9,080.94	8.00	8.45	8,819.00	1,943.54	288.63	1,964.85	0.00	0.00	0.00
<b>Rollins</b>									
9,100.00	8.00	8.45	8,837.87	1,946.16	289.02	1,967.50	0.00	0.00	0.00
9,200.00	8.00	8.45	8,936.90	1,959.93	291.06	1,981.42	0.00	0.00	0.00

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<b>Company:</b>	OXY USA RMAT	<b>TVD Reference:</b>	GL 8348' & RKB 30' @ 8378.00ft
<b>Project:</b>	Garfield County, CO NAD27	<b>MD Reference:</b>	GL 8348' & RKB 30' @ 8378.00ft
<b>Site:</b>	Cascade Creek 697-15-01 Pad	<b>North Reference:</b>	True
<b>Well:</b>	CC 697-10-42B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #1		

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	8.00	8.45	9,035.92	1,973.69	293.10	1,995.34	0.00	0.00	0.00
9,400.00	8.00	8.45	9,134.95	1,987.46	295.15	2,009.25	0.00	0.00	0.00
9,500.00	8.00	8.45	9,233.98	2,001.22	297.19	2,023.17	0.00	0.00	0.00
9,543.45	8.00	8.45	9,277.00	2,007.21	298.08	2,029.22	0.00	0.00	0.00
<b>Corcoran</b>									
9,600.00	8.00	8.45	9,333.00	2,014.99	299.24	2,037.09	0.00	0.00	0.00
9,700.00	8.00	8.45	9,432.03	2,028.76	301.28	2,051.01	0.00	0.00	0.00
9,800.00	8.00	8.45	9,531.06	2,042.52	303.33	2,064.92	0.00	0.00	0.00
9,900.00	8.00	8.45	9,630.08	2,056.29	305.37	2,078.84	0.00	0.00	0.00
9,989.79	8.00	8.45	9,719.00	2,068.65	307.21	2,091.34	0.00	0.00	0.00
<b>PBHL = 631247.74, 1235374.84</b>									

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 697-10-42B Target	-8.00	8.45	8,144.00	1,849.70	274.69	631,029.86	1,235,335.81	39° 32' 4.793 N	108° 12' 41.293 W
- plan hits target center									
- Circle (radius 50.00)									

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,156.48	5,923.00	Mesaverde		0.00	
6,353.40	6,118.00	Williams Fork		0.00	
9,080.94	8,819.00	Rollins		0.00	
9,543.45	9,277.00	Corcoran		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
2,058.75	2,026.32	295.63	43.90	Start 18.59° Hold At 2058.75' MD
5,627.10	5,408.54	1,420.71	210.98	Start Drop -2.00
6,156.48	5,923.00	1,540.94	228.84	Start 8.00° Hold At 6156.48' MD
8,399.31	8,144.00	1,849.70	274.69	Target = 631029.86, 1235335.81
9,989.79	9,719.00	2,068.65	307.21	PBHL = 631247.74, 1235374.84