



Project: GRAND VALLEY  
Site: CASCADE CREEK 609-33 PAD  
Well: CASCADE CREEK 697-09-23B  
Wellbore: CASCADE CREEK 697-09-23B  
Design: Plan 2

# OXY USA MID-CON

## WELL DETAILS: CASCADE CREEK 697-09-23B

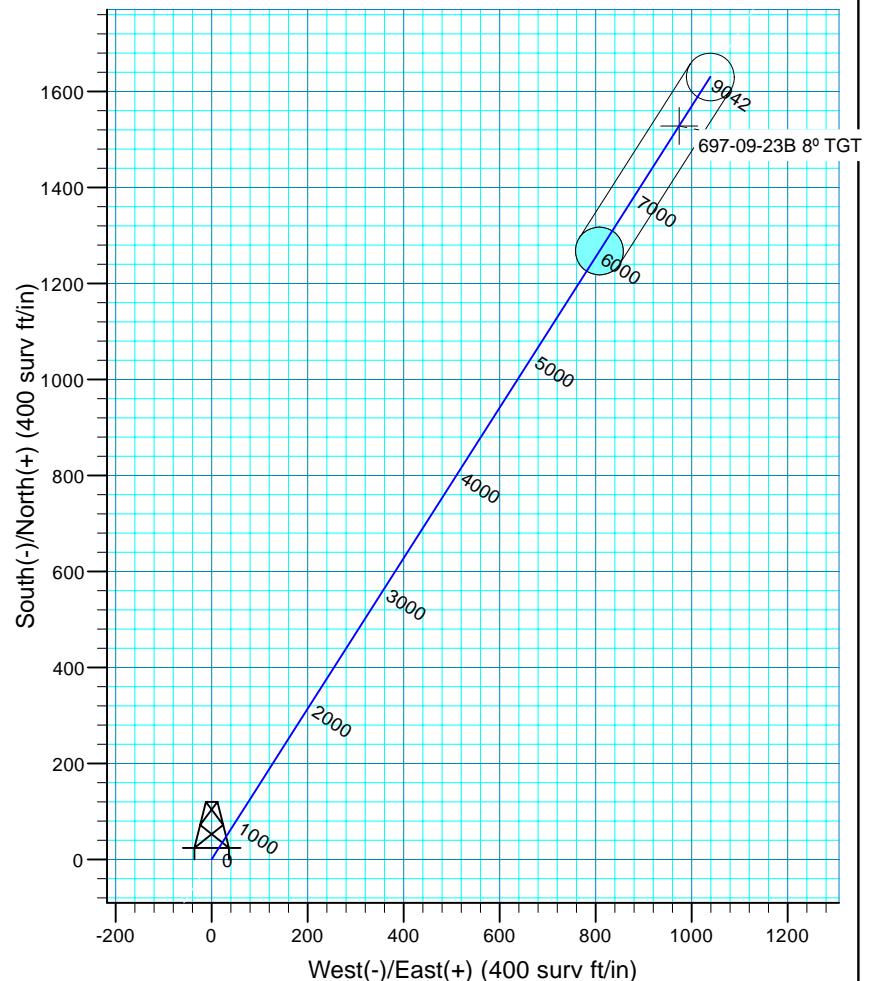
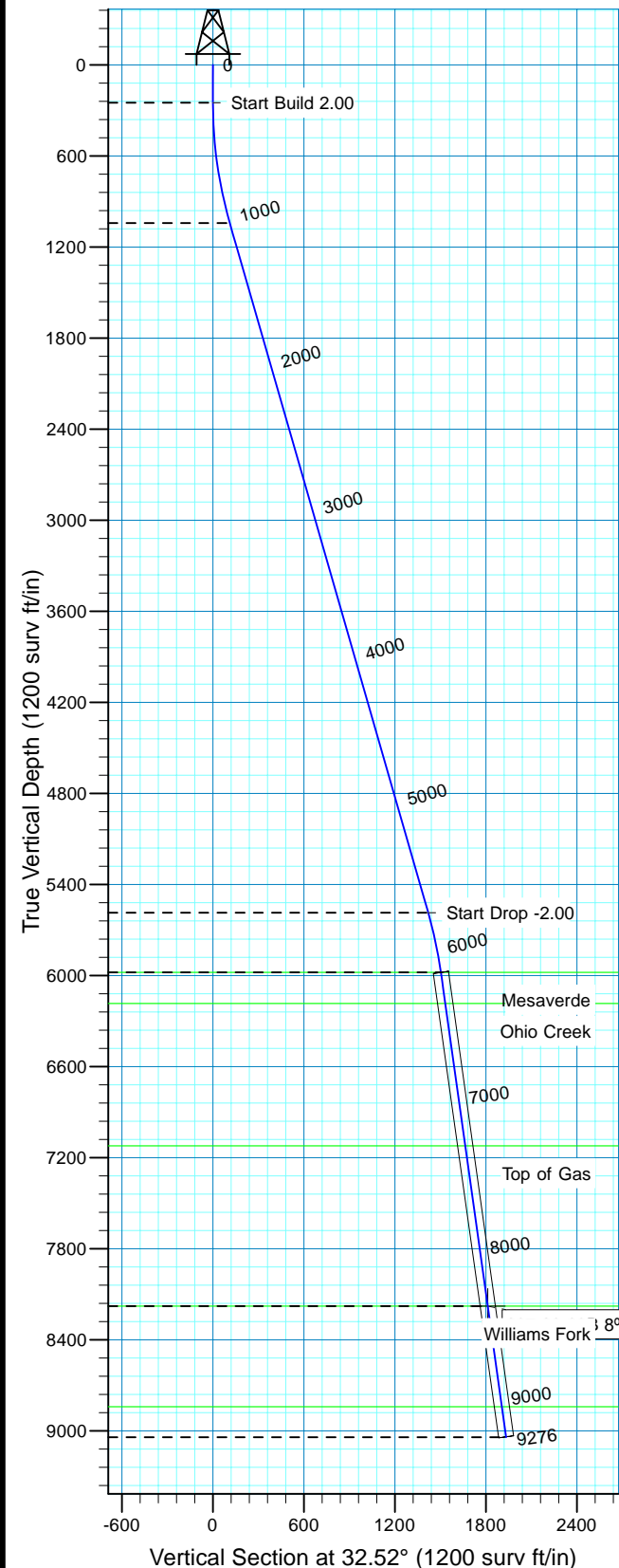
WELL @ 8410.0surv ft (Original Well Elev) 8380.0

+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 631280.38 1232497.82 39° 32' 6.430 N 108° 13' 17.596 W CC#697-09-23B



Azimuths to True North  
Magnetic North: 10.53°

Magnetic Field  
Strength: 52332.0snT  
Dip Angle: 65.76°  
Date: 9/2/2010  
Model: IGRF200510



## FORMATION TOP DETAILS

TVDPath	MDPath	Formation
5979.0	6183.0	Mesaverde
6185.0	6391.1	Ohio Creek
7122.0	7337.3	Top of Gas
8177.8	8403.5	Williams Fork
8842.0	9074.2	Rollins

CASCADE CREEK 697-09-23B/CASCADE CREEK 697-09-23B

Created By: Ron Bevans Date: 2010-07-09

## PROJECT DETAILS: GRAND VALLEY

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: True

## SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	Vsect	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0	
250.0	0.00	0.00	250.0	0.0	0.0	0.00	0.0	
1052.8	16.06	32.52	1042.3	94.2	60.1	2.00	111.7	
5780.9	16.06	32.52	5586.0	1196.9	763.0	0.00	419.4	
6183.7	8.00	32.52	5979.6	1267.6	808.1	2.00	503.2	
8403.7	8.00	32.52	8178.0	1528.1	974.1	0.00	1812.6	697-09-23B 8° TGT
9276.1	8.00	32.52	9042.0	1630.5	1039.4	0.00	1933.6	

# **OXY USA MID-CON**

**GRAND VALLEY**

**CASCADE CREEK 609-33 PAD**

**CASCADE CREEK 697-09-23B - Slot CC#697-09-23B**

**CASCADE CREEK 697-09-23B**

**Plan: Plan 2**

## **Standard Planning Report - Geographic**

**03 September, 2010**

**OXY**  
Planning Report - Geographic

<b>Database:</b>	HOPSPP	<b>Local Co-ordinate Reference:</b>	Well CASCADE CREEK 697-09-23B - Slot CC#697-09-23B
<b>Company:</b>	OXY USA MID-CON	<b>TVD Reference:</b>	WELL @ 8410.0surv ft (Original Well Elev)
<b>Project:</b>	GRAND VALLEY	<b>MD Reference:</b>	WELL @ 8410.0surv ft (Original Well Elev)
<b>Site:</b>	CASCADE CREEK 609-33 PAD	<b>North Reference:</b>	True
<b>Well:</b>	CASCADE CREEK 697-09-23B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	CASCADE CREEK 697-09-23B		
<b>Design:</b>	Plan 2		

<b>Project</b>	GRAND VALLEY, NORTH AMERICA		
<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 609-33 PAD		
<b>Site Position:</b>		<b>Northing:</b>	0.00 surv ft
<b>From:</b>	None	<b>Easting:</b>	0.00 surv ft
<b>Position Uncertainty:</b>	0.0 surv ft	<b>Slot Radius:</b>	0.000 in
		<b>Latitude:</b>	0° 0' 0.000 N
		<b>Longitude:</b>	0° 0' 0.000 E
		<b>Grid Convergence:</b>	0.00 °

<b>Well</b>	CASCADE CREEK 697-09-23B - Slot CC#697-09-23B		
<b>Well Position</b>	<b>+N/-S</b>	0.0 surv ft	<b>Northing:</b> 631,280.38 surv ft
	<b>+E/-W</b>	0.0 surv ft	<b>Easting:</b> 1,232,497.82 surv ft
<b>Position Uncertainty</b>	0.0 surv ft	<b>Wellhead Elevation:</b>	30.0 surv ft
		<b>Latitude:</b>	39° 32' 6.430 N
		<b>Longitude:</b>	108° 13' 17.596 W
		<b>Ground Level:</b>	8,380.0 surv ft

<b>Wellbore</b>	CASCADE CREEK 697-09-23B				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	User Defined	9/2/2010	0.00	0.00	0

<b>Design</b>	Plan 2				
<b>Audit Notes:</b>					
<b>Version:</b>	2	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(surv ft)	(surv ft)	(surv ft)	(°)	
	0.0	0.0	0.0	32.52	

<b>Plan Sections</b>										
<b>Measured Depth</b>	<b>Inclination</b>	<b>Azimuth</b>	<b>Vertical Depth</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Dogleg Rate</b>	<b>Build Rate</b>	<b>Turn Rate</b>	<b>TFO</b>	<b>Target</b>
(surv ft)	(°)	(°)	(surv ft)	(surv ft)	(surv ft)	(°/100ft)	(°/100ft)	(°/100ft)	(°)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
250.0	0.00	0.00	250.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,052.8	16.06	32.52	1,042.3	94.2	60.1	2.00	2.00	0.00	32.52	
5,780.9	16.06	32.52	5,586.0	1,196.9	763.0	0.00	0.00	0.00	0.00	
6,183.7	8.00	32.52	5,979.6	1,267.6	808.1	2.00	-2.00	0.00	180.00	
8,403.7	8.00	32.52	8,178.0	1,528.1	974.1	0.00	0.00	0.00	0.00	697-09-23B 8° TGT
9,276.1	8.00	32.52	9,042.0	1,630.5	1,039.4	0.00	0.00	0.00	0.00	

**OXY**  
Planning Report - Geographic

<b>Database:</b>	HOPSP	<b>Local Co-ordinate Reference:</b>	Well CASCADE CREEK 697-09-23B - Slot CC#697-09-23B
<b>Company:</b>	OXY USA MID-CON	<b>TVD Reference:</b>	WELL @ 8410.0surv ft (Original Well Elev)
<b>Project:</b>	GRAND VALLEY	<b>MD Reference:</b>	WELL @ 8410.0surv ft (Original Well Elev)
<b>Site:</b>	CASCADE CREEK 609-33 PAD	<b>North Reference:</b>	True
<b>Well:</b>	CASCADE CREEK 697-09-23B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	CASCADE CREEK 697-09-23B		
<b>Design:</b>	Plan 2		

Planned Survey										
Measured Depth (surv ft)	Inclination (°)	Azimuth (°)	Vertical Depth (surv ft)	+N/-S (surv ft)	+E/-W (surv ft)	Map Northing (surv ft)	Map Easting (surv ft)	Latitude	Longitude	
0.0	0.00	0.00	0.0	0.0	0.0	631,280.38	1,232,497.82	39° 32' 6.430 N	108° 13' 17.596 W	
100.0	0.00	0.00	100.0	0.0	0.0	631,280.38	1,232,497.82	39° 32' 6.430 N	108° 13' 17.596 W	
200.0	0.00	0.00	200.0	0.0	0.0	631,280.38	1,232,497.82	39° 32' 6.430 N	108° 13' 17.596 W	
250.0	0.00	0.00	250.0	0.0	0.0	631,280.38	1,232,497.82	39° 32' 6.430 N	108° 13' 17.596 W	
300.0	1.00	32.52	300.0	0.4	0.2	631,280.74	1,232,498.06	39° 32' 6.433 N	108° 13' 17.593 W	
400.0	3.00	32.52	399.9	3.3	2.1	631,283.63	1,232,500.03	39° 32' 6.462 N	108° 13' 17.569 W	
500.0	5.00	32.52	499.7	9.2	5.9	631,289.39	1,232,503.95	39° 32' 6.520 N	108° 13' 17.521 W	
600.0	7.00	32.52	599.1	18.0	11.5	631,298.04	1,232,509.83	39° 32' 6.608 N	108° 13' 17.449 W	
700.0	9.00	32.52	698.2	29.7	19.0	631,309.54	1,232,517.66	39° 32' 6.723 N	108° 13' 17.354 W	
800.0	11.00	32.52	796.6	44.4	28.3	631,323.90	1,232,527.43	39° 32' 6.868 N	108° 13' 17.235 W	
900.0	13.00	32.52	894.4	61.9	39.5	631,341.09	1,232,539.12	39° 32' 7.041 N	108° 13' 17.092 W	
1,000.0	15.00	32.52	991.5	82.3	52.5	631,361.08	1,232,552.73	39° 32' 7.243 N	108° 13' 16.926 W	
1,052.8	16.06	32.52	1,042.3	94.2	60.1	631,372.76	1,232,560.68	39° 32' 7.361 N	108° 13' 16.829 W	
1,100.0	16.06	32.52	1,087.7	105.2	67.1	631,383.56	1,232,568.03	39° 32' 7.470 N	108° 13' 16.739 W	
1,200.0	16.06	32.52	1,183.8	128.6	82.0	631,406.43	1,232,583.59	39° 32' 7.700 N	108° 13' 16.550 W	
1,300.0	16.06	32.52	1,279.9	151.9	96.8	631,429.29	1,232,599.14	39° 32' 7.931 N	108° 13' 16.360 W	
1,400.0	16.06	32.52	1,376.0	175.2	111.7	631,452.16	1,232,614.70	39° 32' 8.161 N	108° 13' 16.170 W	
1,500.0	16.06	32.52	1,472.1	198.5	126.6	631,475.02	1,232,630.26	39° 32' 8.392 N	108° 13' 15.980 W	
1,600.0	16.06	32.52	1,568.2	221.8	141.4	631,497.89	1,232,645.82	39° 32' 8.622 N	108° 13' 15.791 W	
1,700.0	16.06	32.52	1,664.3	245.2	156.3	631,520.75	1,232,661.38	39° 32' 8.853 N	108° 13' 15.601 W	
1,800.0	16.06	32.52	1,760.4	268.5	171.2	631,543.62	1,232,676.94	39° 32' 9.083 N	108° 13' 15.411 W	
1,900.0	16.06	32.52	1,856.5	291.8	186.0	631,566.48	1,232,692.49	39° 32' 9.314 N	108° 13' 15.221 W	
2,000.0	16.06	32.52	1,952.6	315.1	200.9	631,589.35	1,232,708.05	39° 32' 9.544 N	108° 13' 15.032 W	
2,100.0	16.06	32.52	2,048.7	338.4	215.8	631,612.21	1,232,723.61	39° 32' 9.775 N	108° 13' 14.842 W	
2,200.0	16.06	32.52	2,144.8	361.8	230.6	631,635.08	1,232,739.17	39° 32' 10.005 N	108° 13' 14.652 W	
2,300.0	16.06	32.52	2,240.9	385.1	245.5	631,657.94	1,232,754.73	39° 32' 10.236 N	108° 13' 14.462 W	
2,400.0	16.06	32.52	2,337.0	408.4	260.4	631,680.81	1,232,770.29	39° 32' 10.466 N	108° 13' 14.273 W	
2,500.0	16.06	32.52	2,433.1	431.7	275.2	631,703.67	1,232,785.85	39° 32' 10.697 N	108° 13' 14.083 W	
2,600.0	16.06	32.52	2,529.2	455.0	290.1	631,726.54	1,232,801.40	39° 32' 10.927 N	108° 13' 13.893 W	
2,700.0	16.06	32.52	2,625.3	478.4	305.0	631,749.40	1,232,816.96	39° 32' 11.158 N	108° 13' 13.703 W	
2,800.0	16.06	32.52	2,721.4	501.7	319.8	631,772.27	1,232,832.52	39° 32' 11.388 N	108° 13' 13.514 W	
2,900.0	16.06	32.52	2,817.5	525.0	334.7	631,795.13	1,232,848.08	39° 32' 11.619 N	108° 13' 13.324 W	
3,000.0	16.06	32.52	2,913.6	548.3	349.6	631,818.00	1,232,863.64	39° 32' 11.849 N	108° 13' 13.134 W	
3,100.0	16.06	32.52	3,009.7	571.7	364.4	631,840.86	1,232,879.20	39° 32' 12.080 N	108° 13' 12.944 W	
3,200.0	16.06	32.52	3,105.8	595.0	379.3	631,863.73	1,232,894.75	39° 32' 12.310 N	108° 13' 12.755 W	
3,300.0	16.06	32.52	3,201.9	618.3	394.2	631,886.59	1,232,910.31	39° 32' 12.541 N	108° 13' 12.565 W	
3,400.0	16.06	32.52	3,298.0	641.6	409.0	631,909.46	1,232,925.87	39° 32' 12.771 N	108° 13' 12.375 W	
3,500.0	16.06	32.52	3,394.1	664.9	423.9	631,932.32	1,232,941.43	39° 32' 13.002 N	108° 13' 12.185 W	
3,600.0	16.06	32.52	3,490.2	688.3	438.8	631,955.19	1,232,956.99	39° 32' 13.232 N	108° 13' 11.995 W	
3,700.0	16.06	32.52	3,586.3	711.6	453.6	631,978.05	1,232,972.55	39° 32' 13.462 N	108° 13' 11.806 W	
3,800.0	16.06	32.52	3,682.4	734.9	468.5	632,000.92	1,232,988.10	39° 32' 13.693 N	108° 13' 11.616 W	
3,900.0	16.06	32.52	3,778.5	758.2	483.4	632,023.78	1,233,003.66	39° 32' 13.923 N	108° 13' 11.426 W	
4,000.0	16.06	32.52	3,874.6	781.5	498.2	632,046.65	1,233,019.22	39° 32' 14.154 N	108° 13' 11.236 W	
4,100.0	16.06	32.52	3,970.7	804.9	513.1	632,069.51	1,233,034.78	39° 32' 14.384 N	108° 13' 11.047 W	
4,200.0	16.06	32.52	4,066.8	828.2	528.0	632,092.38	1,233,050.34	39° 32' 14.615 N	108° 13' 10.857 W	
4,300.0	16.06	32.52	4,162.9	851.5	542.8	632,115.24	1,233,065.90	39° 32' 14.845 N	108° 13' 10.667 W	
4,400.0	16.06	32.52	4,259.0	874.8	557.7	632,138.11	1,233,081.45	39° 32' 15.076 N	108° 13' 10.477 W	
4,500.0	16.06	32.52	4,355.1	898.1	572.6	632,160.97	1,233,097.01	39° 32' 15.306 N	108° 13' 10.288 W	
4,600.0	16.06	32.52	4,451.2	921.5	587.4	632,183.84	1,233,112.57	39° 32' 15.537 N	108° 13' 10.098 W	
4,700.0	16.06	32.52	4,547.3	944.8	602.3	632,206.70	1,233,128.13	39° 32' 15.767 N	108° 13' 9.908 W	
4,800.0	16.06	32.52	4,643.4	968.1	617.1	632,229.57	1,233,143.69	39° 32' 15.998 N	108° 13' 9.718 W	
4,900.0	16.06	32.52	4,739.5	991.4	632.0	632,252.43	1,233,159.25	39° 32' 16.228 N	108° 13' 9.529 W	
5,000.0	16.06	32.52	4,835.6	1,014.7	646.9	632,275.30	1,233,174.81	39° 32' 16.459 N	108° 13' 9.339 W	
5,100.0	16.06	32.52	4,931.7	1,038.1	661.7	632,298.16	1,233,190.36	39° 32' 16.689 N	108° 13' 9.149 W	

**OXY**  
Planning Report - Geographic

<b>Database:</b>	HOPSP	<b>Local Co-ordinate Reference:</b>	Well CASCADE CREEK 697-09-23B - Slot CC#697-09-23B
<b>Company:</b>	OXY USA MID-CON	<b>TVD Reference:</b>	WELL @ 8410.0surv ft (Original Well Elev)
<b>Project:</b>	GRAND VALLEY	<b>MD Reference:</b>	WELL @ 8410.0surv ft (Original Well Elev)
<b>Site:</b>	CASCADE CREEK 609-33 PAD	<b>North Reference:</b>	True
<b>Well:</b>	CASCADE CREEK 697-09-23B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	CASCADE CREEK 697-09-23B		
<b>Design:</b>	Plan 2		

Planned Survey										
Measured Depth (surv ft)	Inclination (°)	Azimuth (°)	Vertical Depth (surv ft)	+N/-S (surv ft)	+E/-W (surv ft)	Map Northing (surv ft)	Map Easting (surv ft)	Latitude	Longitude	
5,200.0	16.06	32.52	5,027.8	1,061.4	676.6	632,321.03	1,233,205.92	39° 32' 16.920 N	108° 13' 8.959 W	
5,300.0	16.06	32.52	5,123.9	1,084.7	691.5	632,343.89	1,233,221.48	39° 32' 17.150 N	108° 13' 8.769 W	
5,400.0	16.06	32.52	5,220.0	1,108.0	706.3	632,366.76	1,233,237.04	39° 32' 17.381 N	108° 13' 8.580 W	
5,500.0	16.06	32.52	5,316.1	1,131.3	721.2	632,389.62	1,233,252.60	39° 32' 17.611 N	108° 13' 8.390 W	
5,600.0	16.06	32.52	5,412.2	1,154.7	736.1	632,412.48	1,233,268.16	39° 32' 17.842 N	108° 13' 8.200 W	
5,700.0	16.06	32.52	5,508.3	1,178.0	750.9	632,435.35	1,233,283.71	39° 32' 18.072 N	108° 13' 8.010 W	
5,780.9	16.06	32.52	5,586.0	1,196.9	763.0	632,453.85	1,233,296.30	39° 32' 18.259 N	108° 13' 7.857 W	
5,800.0	15.67	32.52	5,604.4	1,201.3	765.8	632,458.16	1,233,299.24	39° 32' 18.302 N	108° 13' 7.821 W	
5,900.0	13.67	32.52	5,701.1	1,222.6	779.4	632,479.10	1,233,313.49	39° 32' 18.513 N	108° 13' 7.647 W	
6,000.0	11.67	32.52	5,798.7	1,241.1	791.2	632,497.24	1,233,325.83	39° 32' 18.696 N	108° 13' 7.497 W	
6,100.0	9.67	32.52	5,896.9	1,256.7	801.1	632,512.55	1,233,336.25	39° 32' 18.851 N	108° 13' 7.370 W	
6,183.0	8.01	32.52	5,979.0	1,267.5	808.0	632,523.11	1,233,343.43	39° 32' 18.957 N	108° 13' 7.282 W	
<b>Mesaverde</b>										
6,183.7	8.00	32.52	5,979.6	1,267.6	808.1	632,523.18	1,233,343.48	39° 32' 18.958 N	108° 13' 7.281 W	
6,200.0	8.00	32.52	5,995.8	1,269.5	809.3	632,525.06	1,233,344.76	39° 32' 18.977 N	108° 13' 7.266 W	
6,300.0	8.00	32.52	6,094.8	1,281.2	816.8	632,536.56	1,233,352.58	39° 32' 19.093 N	108° 13' 7.170 W	
6,391.1	8.00	32.52	6,185.0	1,291.9	823.6	632,547.04	1,233,359.71	39° 32' 19.198 N	108° 13' 7.083 W	
<b>Ohio Creek</b>										
6,400.0	8.00	32.52	6,193.8	1,293.0	824.2	632,548.07	1,233,360.41	39° 32' 19.209 N	108° 13' 7.075 W	
6,500.0	8.00	32.52	6,292.9	1,304.7	831.7	632,559.58	1,233,368.24	39° 32' 19.325 N	108° 13' 6.979 W	
6,600.0	8.00	32.52	6,391.9	1,316.4	839.2	632,571.08	1,233,376.07	39° 32' 19.441 N	108° 13' 6.884 W	
6,700.0	8.00	32.52	6,490.9	1,328.2	846.7	632,582.59	1,233,383.90	39° 32' 19.557 N	108° 13' 6.788 W	
6,800.0	8.00	32.52	6,590.0	1,339.9	854.2	632,594.09	1,233,391.73	39° 32' 19.673 N	108° 13' 6.693 W	
6,900.0	8.00	32.52	6,689.0	1,351.6	861.6	632,605.60	1,233,399.56	39° 32' 19.789 N	108° 13' 6.597 W	
7,000.0	8.00	32.52	6,788.0	1,363.4	869.1	632,617.11	1,233,407.39	39° 32' 19.905 N	108° 13' 6.502 W	
7,100.0	8.00	32.52	6,887.0	1,375.1	876.6	632,628.61	1,233,415.22	39° 32' 20.020 N	108° 13' 6.406 W	
7,200.0	8.00	32.52	6,986.1	1,386.8	884.1	632,640.12	1,233,423.05	39° 32' 20.136 N	108° 13' 6.311 W	
7,300.0	8.00	32.52	7,085.1	1,398.6	891.6	632,651.63	1,233,430.88	39° 32' 20.252 N	108° 13' 6.215 W	
7,337.3	8.00	32.52	7,122.0	1,403.0	894.4	632,655.91	1,233,433.80	39° 32' 20.296 N	108° 13' 6.180 W	
<b>Top of Gas</b>										
7,400.0	8.00	32.52	7,184.1	1,410.3	899.1	632,663.13	1,233,438.71	39° 32' 20.368 N	108° 13' 6.120 W	
7,500.0	8.00	32.52	7,283.1	1,422.0	906.5	632,674.64	1,233,446.54	39° 32' 20.484 N	108° 13' 6.024 W	
7,600.0	8.00	32.52	7,382.2	1,433.8	914.0	632,686.14	1,233,454.37	39° 32' 20.600 N	108° 13' 5.929 W	
7,700.0	8.00	32.52	7,481.2	1,445.5	921.5	632,697.65	1,233,462.20	39° 32' 20.716 N	108° 13' 5.833 W	
7,800.0	8.00	32.52	7,580.2	1,457.3	929.0	632,709.16	1,233,470.03	39° 32' 20.832 N	108° 13' 5.738 W	
7,900.0	8.00	32.52	7,679.2	1,469.0	936.5	632,720.66	1,233,477.85	39° 32' 20.948 N	108° 13' 5.642 W	
8,000.0	8.00	32.52	7,778.3	1,480.7	943.9	632,732.17	1,233,485.68	39° 32' 21.064 N	108° 13' 5.547 W	
8,100.0	8.00	32.52	7,877.3	1,492.5	951.4	632,743.68	1,233,493.51	39° 32' 21.180 N	108° 13' 5.451 W	
8,200.0	8.00	32.52	7,976.3	1,504.2	958.9	632,755.18	1,233,501.34	39° 32' 21.296 N	108° 13' 5.356 W	
8,300.0	8.00	32.52	8,075.4	1,515.9	966.4	632,766.69	1,233,509.17	39° 32' 21.412 N	108° 13' 5.260 W	
8,403.4	8.00	32.52	8,177.8	1,528.1	974.1	632,778.59	1,233,517.27	39° 32' 21.532 N	108° 13' 5.162 W	
<b>Williams Fork</b>										
8,403.7	8.00	32.52	8,178.0	1,528.1	974.1	632,778.61	1,233,517.29	39° 32' 21.533 N	108° 13' 5.161 W	
<b>697-09-23B 8" TGT</b>										
8,500.0	8.00	32.52	8,273.4	1,539.4	981.3	632,789.70	1,233,524.83	39° 32' 21.644 N	108° 13' 5.069 W	
8,600.0	8.00	32.52	8,372.4	1,551.1	988.8	632,801.21	1,233,532.66	39° 32' 21.760 N	108° 13' 4.974 W	
8,700.0	8.00	32.52	8,471.5	1,562.9	996.3	632,812.71	1,233,540.49	39° 32' 21.876 N	108° 13' 4.878 W	
8,800.0	8.00	32.52	8,570.5	1,574.6	1,003.8	632,824.22	1,233,548.32	39° 32' 21.992 N	108° 13' 4.783 W	
8,900.0	8.00	32.52	8,669.5	1,586.3	1,011.3	632,835.72	1,233,556.15	39° 32' 22.108 N	108° 13' 4.687 W	
9,000.0	8.00	32.52	8,768.5	1,598.1	1,018.7	632,847.23	1,233,563.98	39° 32' 22.224 N	108° 13' 4.592 W	
9,074.2	8.00	32.52	8,842.0	1,606.8	1,024.3	632,855.77	1,233,569.79	39° 32' 22.310 N	108° 13' 4.521 W	
<b>Rollins</b>										
9,100.0	8.00	32.52	8,867.6	1,609.8	1,026.2	632,858.74	1,233,571.81	39° 32' 22.340 N	108° 13' 4.496 W	

**OXY**  
Planning Report - Geographic

<b>Database:</b>	HOPSPP	<b>Local Co-ordinate Reference:</b>	Well CASCADE CREEK 697-09-23B - Slot CC#697-09-23B
<b>Company:</b>	OXY USA MID-CON	<b>TVD Reference:</b>	WELL @ 8410.0surv ft (Original Well Elev)
<b>Project:</b>	GRAND VALLEY	<b>MD Reference:</b>	WELL @ 8410.0surv ft (Original Well Elev)
<b>Site:</b>	CASCADE CREEK 609-33 PAD	<b>North Reference:</b>	True
<b>Well:</b>	CASCADE CREEK 697-09-23B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	CASCADE CREEK 697-09-23B		
<b>Design:</b>	Plan 2		

Planned Survey										
Measured Depth (surv ft)	Inclination (°)	Azimuth (°)	Vertical Depth (surv ft)	+N/-S (surv ft)	+E/-W (surv ft)	Map Northing (surv ft)	Map Easting (surv ft)	Latitude	Longitude	
9,200.0	8.00	32.52	8,966.6	1,621.6	1,033.7	632,870.24	1,233,579.64	39° 32' 22.456 N	108° 13' 4.401 W	
9,276.1	8.00	32.52	9,042.0	1,630.5	1,039.4	632,879.00	1,233,585.60	39° 32' 22.545 N	108° 13' 4.328 W	

Design Targets										
Target Name										
- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (surv ft)	+N/-S (surv ft)	+E/-W (surv ft)	Northing (surv ft)	Easting (surv ft)	Latitude	Longitude	
697-09-23B 8° TGT	352.00	32.52	8,178.0	1,528.1	974.1	632,778.61	1,233,517.29	39° 32' 21.533 N	108° 13' 5.161 W	
- plan hits target center										
- Circle (radius 50.0)										

Formations							
Measured Depth (surv ft)	Vertical Depth (surv ft)	Name	Lithology	Dip (°)	Dip Direction (°)		
6,183.0	5,979.0	Mesaverde		0.00			
6,391.1	6,185.0	Ohio Creek		0.00			
7,337.3	7,122.0	Top of Gas		0.00			
8,403.4	8,177.8	Williams Fork		0.00			
9,074.2	8,842.0	Rollins		0.00			