



Project: GRAND VALLEY  
Site: CASCADE CREEK 609-33 PAD  
Well: CASCADE CREEK 697-09-19B  
Wellbore: CASCADE CREEK 697-09-19B  
Design: Plan 2

OXY USA MID-CON

WELL DETAILS: CASCADE CREEK 697-09-19B

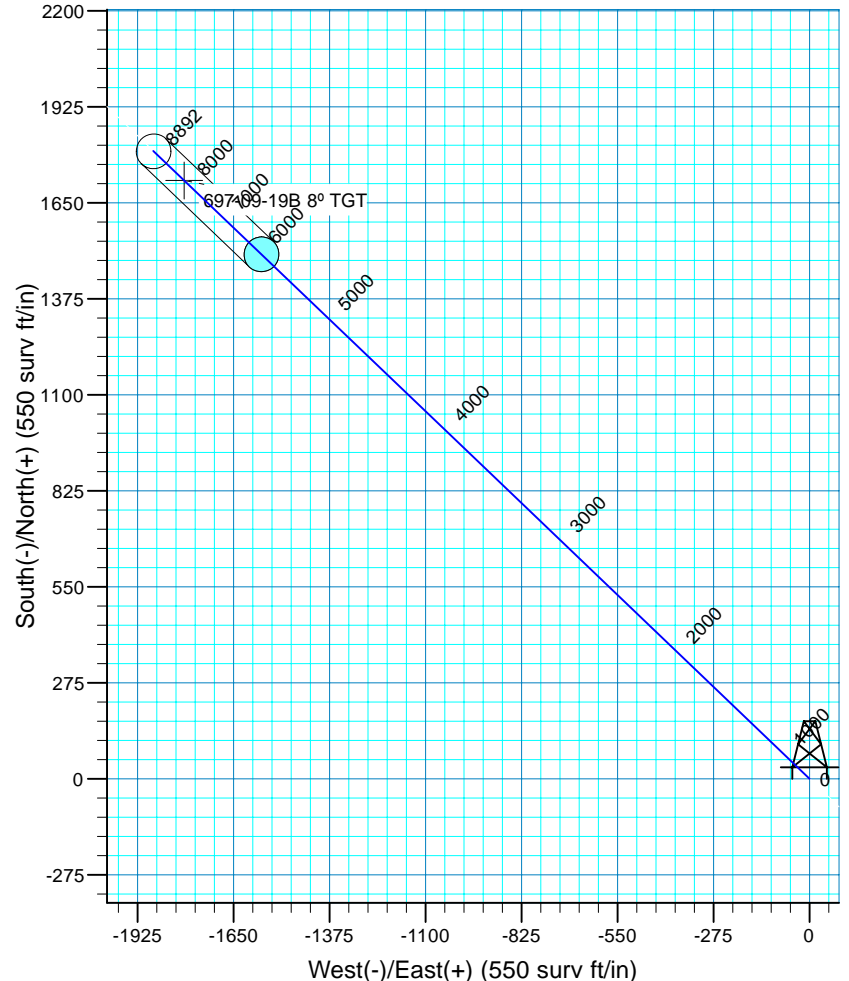
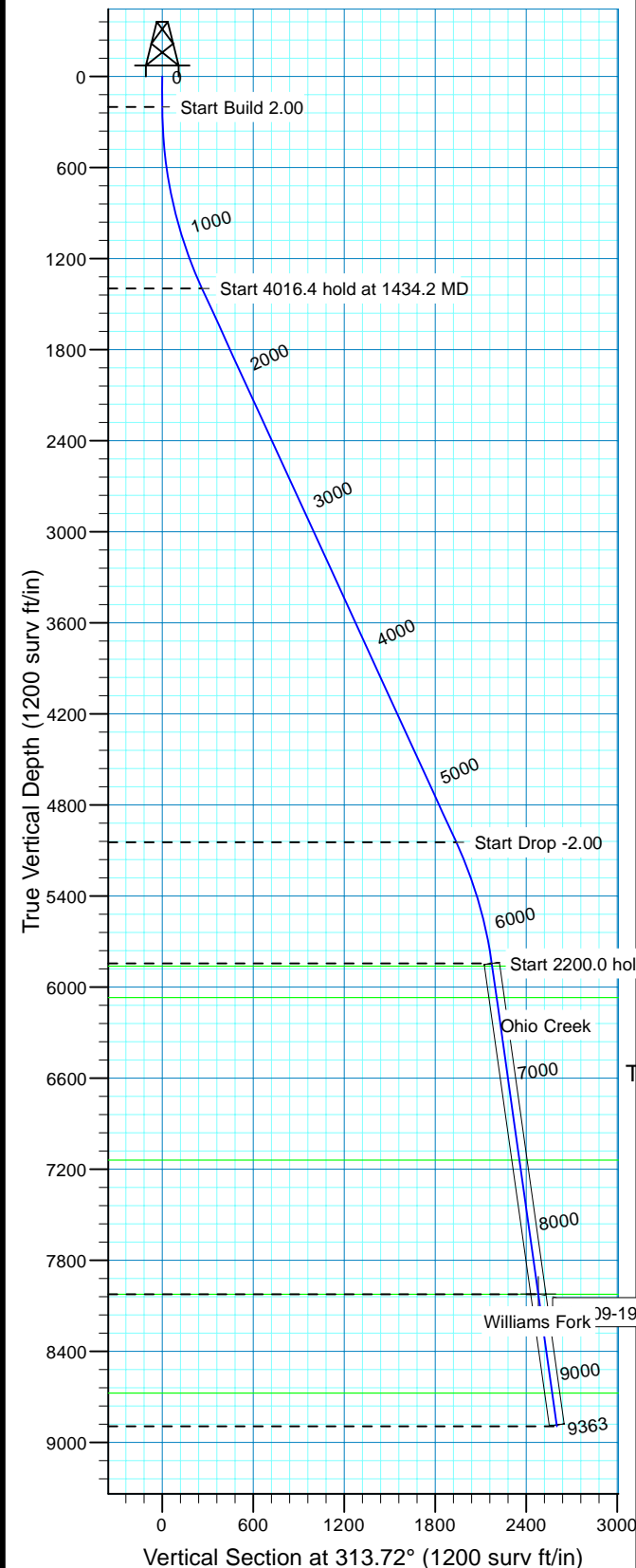
WELL @ 8410.0surv ft (Original Well Elev) 8390.0

+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 631302.61 1232458.04 39° 32' 6.637 N 108° 13' 18.112 W VCC#697-09-19B



Azimuths to True North  
Magnetic North: 10.53°

Magnetic Field  
Strength: 52332.1snT  
Dip Angle: 65.76°  
Date: 9/2/2010  
Model: IGRF200510



#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
5862.0	6303.5	Mesaverde
6068.0	6511.5	Ohio Creek
7139.0	7593.1	Top Gas
8022.5	8485.2	Williams Fork
8674.0	9143.2	Rollins

CASCADE CREEK 697-09-19B/CASCADE CREEK 697-09-19B

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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.0	
1434.2	24.68	13.72	1396.4	180.9	-189.2	2.00	261.8	
5450.6	24.68	13.72	5045.8	1340.2	-1401.3	0.00	1939.0	
6284.7	8.00	13.72	5843.4	1501.9	-1570.3	2.00	172.9	
8484.7	8.00	13.72	8022.0	1713.5	-1791.6	0.00	2479.0	697-09-19B 8° TGT
9363.3	8.00	13.72	8892.0	1798.0	-1879.9	0.00	2601.4	

# **OXY USA MID-CON**

**GRAND VALLEY**

**CASCADE CREEK 609-33 PAD**

**CASCADE CREEK 697-09-19B - Slot CC#697-09-19B**

**CASCADE CREEK 697-09-19B**

**Plan: Plan 2**

## **Standard Planning Report - Geographic**

**07 September, 2010**

**OXY**  
Planning Report - Geographic

<b>Database:</b>	HOPSPP	<b>Local Co-ordinate Reference:</b>	Well CASCADE CREEK 697-09-19B - Slot CC#697-09-19B
<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 697-09-19B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	CASCADE CREEK 697-09-19B		
<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 697-09-19B - Slot CC#697-09-19B		
<b>Well Position</b>	<b>+N/-S</b>	0.0 surv ft	<b>Northing:</b> 631,302.62 surv ft
	<b>+E/-W</b>	0.0 surv ft	<b>Easting:</b> 1,232,458.72 surv ft
<b>Position Uncertainty</b>	0.0 surv ft	<b>Wellhead Elevation:</b>	30.0 surv ft
		<b>Latitude:</b>	39° 32' 6.638 N
		<b>Longitude:</b>	108° 13' 18.103 W
		<b>Ground Level:</b>	8,390.0 surv ft

<b>Wellbore</b>	CASCADE CREEK 697-09-19B				
<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>	PROTOTYPE	<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	313.71	

<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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,434.5	24.69	313.71	1,396.6	181.0	-189.3	2.00	2.00	0.00	313.71	
5,450.5	24.69	313.71	5,045.5	1,340.2	-1,401.8	0.00	0.00	0.00	0.00	
6,284.9	8.00	313.71	5,843.4	1,501.9	-1,570.9	2.00	-2.00	0.00	180.00	
8,484.9	8.00	313.71	8,022.0	1,713.5	-1,792.2	0.00	0.00	0.00	0.00	697-09-19B 8° TGT
9,363.5	8.00	313.71	8,892.0	1,798.0	-1,880.6	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 697-09-19B - Slot CC#697-09-19B
<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 697-09-19B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	CASCADE CREEK 697-09-19B		
<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	631,302.62	1,232,458.72	39° 32' 6.638 N	108° 13' 18.103 W	
100.0	0.00	0.00	100.0	0.0	0.0	631,302.62	1,232,458.72	39° 32' 6.638 N	108° 13' 18.103 W	
200.0	0.00	0.00	200.0	0.0	0.0	631,302.62	1,232,458.72	39° 32' 6.638 N	108° 13' 18.103 W	
300.0	2.00	313.71	300.0	1.2	-1.3	631,303.86	1,232,457.49	39° 32' 6.650 N	108° 13' 18.119 W	
400.0	4.00	313.71	399.8	4.8	-5.0	631,307.59	1,232,453.82	39° 32' 6.685 N	108° 13' 18.167 W	
500.0	6.00	313.71	499.5	10.8	-11.3	631,313.80	1,232,447.70	39° 32' 6.745 N	108° 13' 18.248 W	
600.0	8.00	313.71	598.7	19.3	-20.2	631,322.48	1,232,439.15	39° 32' 6.828 N	108° 13' 18.360 W	
700.0	10.00	313.71	697.5	30.1	-31.5	631,333.62	1,232,428.17	39° 32' 6.935 N	108° 13' 18.505 W	
800.0	12.00	313.71	795.6	43.3	-45.2	631,347.21	1,232,414.78	39° 32' 7.065 N	108° 13' 18.681 W	
900.0	14.00	313.71	893.1	58.8	-61.5	631,363.24	1,232,399.00	39° 32' 7.219 N	108° 13' 18.888 W	
1,000.0	16.00	313.71	989.6	76.7	-80.2	631,381.67	1,232,380.84	39° 32' 7.396 N	108° 13' 19.127 W	
1,100.0	18.00	313.71	1,085.3	96.9	-101.3	631,402.50	1,232,360.32	39° 32' 7.595 N	108° 13' 19.397 W	
1,200.0	20.00	313.71	1,179.8	119.4	-124.9	631,425.69	1,232,337.47	39° 32' 7.818 N	108° 13' 19.697 W	
1,300.0	22.00	313.71	1,273.2	144.2	-150.8	631,451.22	1,232,312.32	39° 32' 8.062 N	108° 13' 20.028 W	
1,400.0	24.00	313.71	1,365.2	171.2	-179.0	631,479.06	1,232,284.90	39° 32' 8.329 N	108° 13' 20.388 W	
1,434.5	24.69	313.71	1,396.6	181.0	-189.3	631,489.18	1,232,274.93	39° 32' 8.426 N	108° 13' 20.519 W	
1,500.0	24.69	313.71	1,456.2	199.9	-209.1	631,508.68	1,232,255.72	39° 32' 8.613 N	108° 13' 20.772 W	
1,600.0	24.69	313.71	1,547.0	228.8	-239.3	631,538.44	1,232,226.41	39° 32' 8.899 N	108° 13' 21.157 W	
1,700.0	24.69	313.71	1,637.9	257.6	-269.5	631,568.19	1,232,197.10	39° 32' 9.184 N	108° 13' 21.542 W	
1,800.0	24.69	313.71	1,728.7	286.5	-299.7	631,597.95	1,232,167.78	39° 32' 9.469 N	108° 13' 21.928 W	
1,900.0	24.69	313.71	1,819.6	315.4	-329.8	631,627.71	1,232,138.47	39° 32' 9.754 N	108° 13' 22.313 W	
2,000.0	24.69	313.71	1,910.5	344.2	-360.0	631,657.46	1,232,109.16	39° 32' 10.040 N	108° 13' 22.698 W	
2,100.0	24.69	313.71	2,001.3	373.1	-390.2	631,687.22	1,232,079.84	39° 32' 10.325 N	108° 13' 23.084 W	
2,200.0	24.69	313.71	2,092.2	401.9	-420.4	631,716.98	1,232,050.53	39° 32' 10.610 N	108° 13' 23.469 W	
2,300.0	24.69	313.71	2,183.0	430.8	-450.6	631,746.73	1,232,021.21	39° 32' 10.896 N	108° 13' 23.855 W	
2,400.0	24.69	313.71	2,273.9	459.7	-480.8	631,776.49	1,231,991.90	39° 32' 11.181 N	108° 13' 24.240 W	
2,500.0	24.69	313.71	2,364.7	488.5	-511.0	631,806.25	1,231,962.59	39° 32' 11.466 N	108° 13' 24.625 W	
2,600.0	24.69	313.71	2,455.6	517.4	-541.2	631,836.00	1,231,933.27	39° 32' 11.751 N	108° 13' 25.011 W	
2,700.0	24.69	313.71	2,546.5	546.3	-571.4	631,865.76	1,231,903.96	39° 32' 12.037 N	108° 13' 25.396 W	
2,800.0	24.69	313.71	2,637.3	575.1	-601.6	631,895.52	1,231,874.65	39° 32' 12.322 N	108° 13' 25.781 W	
2,900.0	24.69	313.71	2,728.2	604.0	-631.8	631,925.27	1,231,845.33	39° 32' 12.607 N	108° 13' 26.167 W	
3,000.0	24.69	313.71	2,819.0	632.9	-662.0	631,955.03	1,231,816.02	39° 32' 12.893 N	108° 13' 26.552 W	
3,100.0	24.69	313.71	2,909.9	661.7	-692.1	631,984.79	1,231,786.71	39° 32' 13.178 N	108° 13' 26.938 W	
3,200.0	24.69	313.71	3,000.8	690.6	-722.3	632,014.54	1,231,757.39	39° 32' 13.463 N	108° 13' 27.323 W	
3,300.0	24.69	313.71	3,091.6	719.5	-752.5	632,044.30	1,231,728.08	39° 32' 13.748 N	108° 13' 27.708 W	
3,400.0	24.69	313.71	3,182.5	748.3	-782.7	632,074.06	1,231,698.77	39° 32' 14.034 N	108° 13' 28.094 W	
3,500.0	24.69	313.71	3,273.3	777.2	-812.9	632,103.82	1,231,669.45	39° 32' 14.319 N	108° 13' 28.479 W	
3,600.0	24.69	313.71	3,364.2	806.1	-843.1	632,133.57	1,231,640.14	39° 32' 14.604 N	108° 13' 28.864 W	
3,700.0	24.69	313.71	3,455.0	834.9	-873.3	632,163.33	1,231,610.82	39° 32' 14.890 N	108° 13' 29.250 W	
3,800.0	24.69	313.71	3,545.9	863.8	-903.5	632,193.09	1,231,581.51	39° 32' 15.175 N	108° 13' 29.635 W	
3,900.0	24.69	313.71	3,636.8	892.7	-933.7	632,222.84	1,231,552.20	39° 32' 15.460 N	108° 13' 30.021 W	
4,000.0	24.69	313.71	3,727.6	921.5	-963.9	632,252.60	1,231,522.88	39° 32' 15.745 N	108° 13' 30.406 W	
4,100.0	24.69	313.71	3,818.5	950.4	-994.1	632,282.36	1,231,493.57	39° 32' 16.031 N	108° 13' 30.791 W	
4,200.0	24.69	313.71	3,909.3	979.3	-1,024.3	632,312.11	1,231,464.26	39° 32' 16.316 N	108° 13' 31.177 W	
4,300.0	24.69	313.71	4,000.2	1,008.1	-1,054.4	632,341.87	1,231,434.94	39° 32' 16.601 N	108° 13' 31.562 W	
4,400.0	24.69	313.71	4,091.1	1,037.0	-1,084.6	632,371.63	1,231,405.63	39° 32' 16.887 N	108° 13' 31.948 W	
4,500.0	24.69	313.71	4,181.9	1,065.9	-1,114.8	632,401.38	1,231,376.32	39° 32' 17.172 N	108° 13' 32.333 W	
4,600.0	24.69	313.71	4,272.8	1,094.7	-1,145.0	632,431.14	1,231,347.00	39° 32' 17.457 N	108° 13' 32.718 W	
4,700.0	24.69	313.71	4,363.6	1,123.6	-1,175.2	632,460.90	1,231,317.69	39° 32' 17.742 N	108° 13' 33.104 W	
4,800.0	24.69	313.71	4,454.5	1,152.4	-1,205.4	632,490.65	1,231,288.37	39° 32' 18.028 N	108° 13' 33.489 W	
4,900.0	24.69	313.71	4,545.3	1,181.3	-1,235.6	632,520.41	1,231,259.06	39° 32' 18.313 N	108° 13' 33.874 W	
5,000.0	24.69	313.71	4,636.2	1,210.2	-1,265.8	632,550.17	1,231,229.75	39° 32' 18.598 N	108° 13' 34.260 W	
5,100.0	24.69	313.71	4,727.1	1,239.0	-1,296.0	632,579.92	1,231,200.43	39° 32' 18.884 N	108° 13' 34.645 W	
5,200.0	24.69	313.71	4,817.9	1,267.9	-1,326.2	632,609.68	1,231,171.12	39° 32' 19.169 N	108° 13' 35.031 W	

**OXY**  
Planning Report - Geographic

<b>Database:</b>	HOPSP	<b>Local Co-ordinate Reference:</b>	Well CASCADE CREEK 697-09-19B - Slot CC#697-09-19B
<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 697-09-19B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	CASCADE CREEK 697-09-19B		
<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	
5,300.0	24.69	313.71	4,908.8	1,296.8	-1,356.4	632,639.44	1,231,141.81	39° 32' 19.454 N	108° 13' 35.416 W	
5,400.0	24.69	313.71	4,999.6	1,325.6	-1,386.6	632,669.20	1,231,112.49	39° 32' 19.739 N	108° 13' 35.801 W	
5,450.5	24.69	313.71	5,045.5	1,340.2	-1,401.8	632,684.21	1,231,097.70	39° 32' 19.883 N	108° 13' 35.996 W	
5,500.0	23.70	313.71	5,090.7	1,354.2	-1,416.5	632,698.67	1,231,083.45	39° 32' 20.022 N	108° 13' 36.183 W	
5,600.0	21.70	313.71	5,182.9	1,380.9	-1,444.4	632,726.16	1,231,056.37	39° 32' 20.286 N	108° 13' 36.539 W	
5,700.0	19.70	313.71	5,276.5	1,405.3	-1,469.9	632,751.34	1,231,031.57	39° 32' 20.527 N	108° 13' 36.865 W	
5,800.0	17.70	313.71	5,371.2	1,427.5	-1,493.1	632,774.18	1,231,009.07	39° 32' 20.746 N	108° 13' 37.161 W	
5,900.0	15.70	313.71	5,467.0	1,447.3	-1,513.8	632,794.65	1,230,988.91	39° 32' 20.942 N	108° 13' 37.426 W	
6,000.0	13.70	313.71	5,563.7	1,464.9	-1,532.2	632,812.72	1,230,971.10	39° 32' 21.115 N	108° 13' 37.660 W	
6,100.0	11.70	313.71	5,661.2	1,480.1	-1,548.1	632,828.38	1,230,955.68	39° 32' 21.266 N	108° 13' 37.863 W	
6,200.0	9.70	313.71	5,759.5	1,492.9	-1,561.5	632,841.61	1,230,942.65	39° 32' 21.392 N	108° 13' 38.034 W	
6,284.9	8.00	313.71	5,843.4	1,501.9	-1,570.9	632,850.92	1,230,933.48	39° 32' 21.482 N	108° 13' 38.155 W	
6,300.0	8.00	313.71	5,858.3	1,503.4	-1,572.4	632,852.41	1,230,932.01	39° 32' 21.496 N	108° 13' 38.174 W	
6,303.7	8.00	313.71	5,862.0	1,503.7	-1,572.8	632,852.78	1,230,931.65	39° 32' 21.499 N	108° 13' 38.179 W	
<b>Mesaverde</b>										
6,400.0	8.00	313.71	5,957.3	1,513.0	-1,582.5	632,862.32	1,230,922.24	39° 32' 21.591 N	108° 13' 38.303 W	
6,500.0	8.00	313.71	6,056.4	1,522.6	-1,592.6	632,872.24	1,230,912.47	39° 32' 21.686 N	108° 13' 38.431 W	
6,511.7	8.00	313.71	6,068.0	1,523.7	-1,593.7	632,873.40	1,230,911.33	39° 32' 21.697 N	108° 13' 38.446 W	
<b>Ohio Creek</b>										
6,600.0	8.00	313.71	6,155.4	1,532.2	-1,602.6	632,882.15	1,230,902.71	39° 32' 21.781 N	108° 13' 38.560 W	
6,700.0	8.00	313.71	6,254.4	1,541.8	-1,612.7	632,892.07	1,230,892.94	39° 32' 21.876 N	108° 13' 38.688 W	
6,800.0	8.00	313.71	6,353.5	1,551.5	-1,622.7	632,901.98	1,230,883.17	39° 32' 21.971 N	108° 13' 38.816 W	
6,900.0	8.00	313.71	6,452.5	1,561.1	-1,632.8	632,911.90	1,230,873.41	39° 32' 22.066 N	108° 13' 38.945 W	
7,000.0	8.00	313.71	6,551.5	1,570.7	-1,642.9	632,921.81	1,230,863.64	39° 32' 22.161 N	108° 13' 39.073 W	
7,100.0	8.00	313.71	6,650.5	1,580.3	-1,652.9	632,931.73	1,230,853.87	39° 32' 22.256 N	108° 13' 39.202 W	
7,200.0	8.00	313.71	6,749.6	1,589.9	-1,663.0	632,941.64	1,230,844.11	39° 32' 22.351 N	108° 13' 39.330 W	
7,300.0	8.00	313.71	6,848.6	1,599.5	-1,673.0	632,951.55	1,230,834.34	39° 32' 22.446 N	108° 13' 39.459 W	
7,400.0	8.00	313.71	6,947.6	1,609.2	-1,683.1	632,961.47	1,230,824.57	39° 32' 22.541 N	108° 13' 39.587 W	
7,500.0	8.00	313.71	7,046.6	1,618.8	-1,693.2	632,971.38	1,230,814.81	39° 32' 22.637 N	108° 13' 39.715 W	
7,593.3	8.00	313.71	7,139.0	1,627.7	-1,702.5	632,980.63	1,230,805.70	39° 32' 22.725 N	108° 13' 39.835 W	
<b>Top Gas</b>										
7,600.0	8.00	313.71	7,145.7	1,628.4	-1,703.2	632,981.30	1,230,805.04	39° 32' 22.732 N	108° 13' 39.844 W	
7,700.0	8.00	313.71	7,244.7	1,638.0	-1,713.3	632,991.21	1,230,795.27	39° 32' 22.827 N	108° 13' 39.972 W	
7,800.0	8.00	313.71	7,343.7	1,647.6	-1,723.3	633,001.13	1,230,785.51	39° 32' 22.922 N	108° 13' 40.101 W	
7,900.0	8.00	313.71	7,442.8	1,657.2	-1,733.4	633,011.04	1,230,775.74	39° 32' 23.017 N	108° 13' 40.229 W	
8,000.0	8.00	313.71	7,541.8	1,666.9	-1,743.5	633,020.96	1,230,765.97	39° 32' 23.112 N	108° 13' 40.357 W	
8,100.0	8.00	313.71	7,640.8	1,676.5	-1,753.5	633,030.87	1,230,756.20	39° 32' 23.207 N	108° 13' 40.486 W	
8,200.0	8.00	313.71	7,739.8	1,686.1	-1,763.6	633,040.79	1,230,746.44	39° 32' 23.302 N	108° 13' 40.614 W	
8,300.0	8.00	313.71	7,838.9	1,695.7	-1,773.6	633,050.70	1,230,736.67	39° 32' 23.397 N	108° 13' 40.743 W	
8,400.0	8.00	313.71	7,937.9	1,705.3	-1,783.7	633,060.62	1,230,726.90	39° 32' 23.492 N	108° 13' 40.871 W	
8,484.9	8.00	313.71	8,022.0	1,713.5	-1,792.2	633,069.04	1,230,718.61	39° 32' 23.573 N	108° 13' 40.980 W	
<b>697-09-19B 8° TGT</b>										
8,485.4	8.00	313.71	8,022.5	1,713.6	-1,792.3	633,069.09	1,230,718.56	39° 32' 23.573 N	108° 13' 40.981 W	
<b>Williams Fork</b>										
8,500.0	8.00	313.71	8,036.9	1,715.0	-1,793.8	633,070.53	1,230,717.14	39° 32' 23.587 N	108° 13' 40.999 W	
8,600.0	8.00	313.71	8,135.9	1,724.6	-1,803.8	633,080.44	1,230,707.37	39° 32' 23.682 N	108° 13' 41.128 W	
8,700.0	8.00	313.71	8,235.0	1,734.2	-1,813.9	633,090.36	1,230,697.60	39° 32' 23.777 N	108° 13' 41.256 W	
8,800.0	8.00	313.71	8,334.0	1,743.8	-1,823.9	633,100.27	1,230,687.84	39° 32' 23.872 N	108° 13' 41.385 W	
8,900.0	8.00	313.71	8,433.0	1,753.4	-1,834.0	633,110.19	1,230,678.07	39° 32' 23.967 N	108° 13' 41.513 W	
9,000.0	8.00	313.71	8,532.0	1,763.0	-1,844.1	633,120.10	1,230,668.30	39° 32' 24.062 N	108° 13' 41.642 W	
9,100.0	8.00	313.71	8,631.1	1,772.7	-1,854.1	633,130.02	1,230,658.54	39° 32' 24.157 N	108° 13' 41.770 W	
9,143.3	8.00	313.71	8,674.0	1,776.8	-1,858.5	633,134.32	1,230,654.30	39° 32' 24.199 N	108° 13' 41.826 W	
<b>Rollins</b>										

**OXY**  
Planning Report - Geographic

<b>Database:</b>	HOPSP	<b>Local Co-ordinate Reference:</b>	Well CASCADE CREEK 697-09-19B - Slot CC#697-09-19B
<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 697-09-19B	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	CASCADE CREEK 697-09-19B		
<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	313.71	8,730.1	1,782.3	-1,864.2	633,139.93	1,230,648.77	39° 32' 24.252 N		108° 13' 41.898 W
9,300.0	8.00	313.71	8,829.1	1,791.9	-1,874.2	633,149.85	1,230,639.00	39° 32' 24.347 N		108° 13' 42.027 W
9,363.5	8.00	313.71	8,892.0	1,798.0	-1,880.6	633,156.14	1,230,632.80	39° 32' 24.408 N		108° 13' 42.108 W

Design Targets										
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (surv ft)	+N/-S (surv ft)	+E/-W (surv ft)	Northing (surv ft)	Easting (surv ft)	Latitude		Longitude
697-09-19B 8° TGT - plan hits target center - Circle (radius 50.0)	352.00	313.71	8,022.0	1,713.5	-1,792.2	633,069.04	1,230,718.61	39° 32' 23.573 N		108° 13' 40.980 W

Formations							
Measured Depth (surv ft)	Vertical Depth (surv ft)	Name	Lithology	Dip (°)	Dip Direction (°)		
6,303.7	5,862.0	Mesaverde		0.00			
6,511.7	6,068.0	Ohio Creek		0.00			
7,593.3	7,139.0	Top Gas		0.00			
8,485.4	8,022.5	Williams Fork		0.00			
9,143.3	8,674.0	Rollins		0.00			