



Project: GRAND VALLEY
Site: CASCADE CREEK 609-33 PAD
Well: CASCADE CREEK 697-09-13
Wellbore: CASCADE CREEK 697-09-13
Design: Plan 2

OXY USA MID-CON

WELL DETAILS: CASCADE CREEK 697-09-13

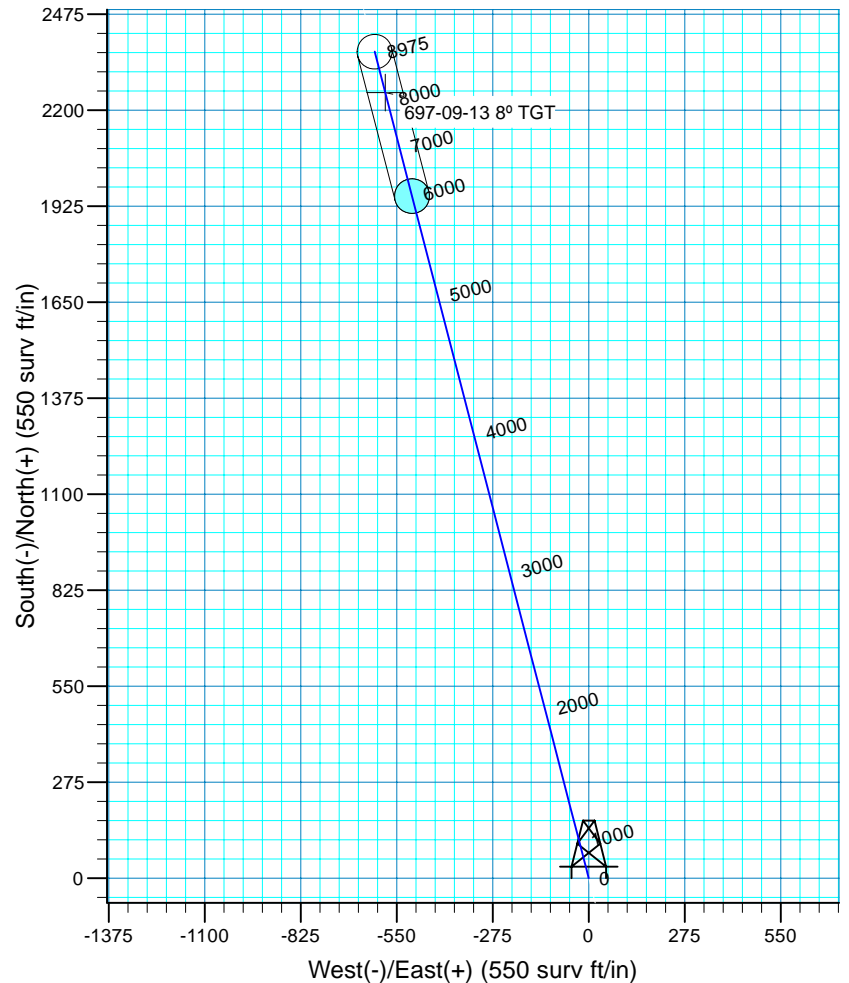
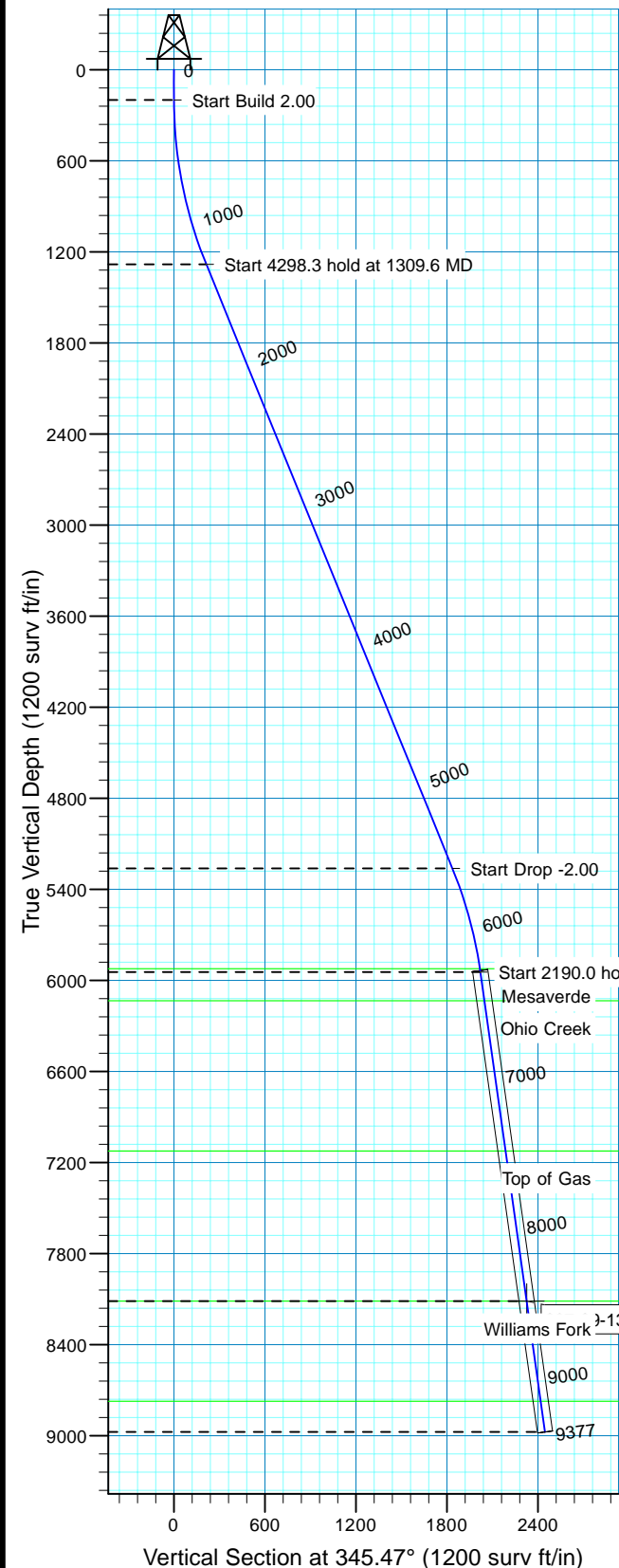
WELL @ 8410.0 surf ft (Original Well Elev) 8380.0

+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 631298.90 1232464.56 39° 32' 6.603 N 108° 13' 18.027 W CC#697-09-13



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
5924.0	6295.9	Mesaverde
6135.0	6509.0	Ohio Creek
7125.0	7508.7	Top of Gas
8113.5	8507.0	Williams Fork
8773.0	9172.9	Rollins

(CASCADE CREEK 697-09-13/CASCADE CREEK 697-09-13)

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	
1309.6	22.13	345.47	1282.0	205.4	-53.2	2.00	212.2	
5607.9	22.13	345.47	5262.0	1777.0	-460.5	0.00	835.7	
6317.5	8.00	345.47	5945.3	1955.4	-506.8	2.00	2020.0	
8507.5	8.00	345.47	8114.0	2250.4	-583.2	0.00	324.6	697-09-13 8° TGT
9376.9	8.00	345.47	8975.0	2367.6	-613.6	0.00	2445.8	

OXY USA MID-CON

GRAND VALLEY

CASCADE CREEK 609-33 PAD

CASCADE CREEK 697-09-13 - Slot CC#697-09-13

CASCADE CREEK 697-09-13

Plan: Plan 2

Standard Planning Report - Geographic

03 September, 2010

OXY
Planning Report - Geographic

Database:	HOPSPP	Local Co-ordinate Reference:	Well CASCADE CREEK 697-09-13 - Slot CC#697-09-13
Company:	OXY USA MID-CON	TVD Reference:	WELL @ 8410.0surv ft (Original Well Elev)
Project:	GRAND VALLEY	MD Reference:	WELL @ 8410.0surv ft (Original Well Elev)
Site:	CASCADE CREEK 609-33 PAD	North Reference:	True
Well:	CASCADE CREEK 697-09-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	CASCADE CREEK 697-09-13		
Design:	Plan 2		

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

Well	CASCADE CREEK 697-09-13 - Slot CC#697-09-13		
Well Position	+N/-S	0.0 surv ft	Northing: 631,298.91 surv ft
	+E/-W	0.0 surv ft	Easting: 1,232,465.23 surv ft
Position Uncertainty	0.0 surv ft	Wellhead Elevation:	30.0 surv ft
		Latitude:	39° 32' 6.603 N
		Longitude:	108° 13' 18.019 W
		Ground Level:	8,380.0 surv ft

Wellbore	CASCADE CREEK 697-09-13				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	9/2/2010	0.00	0.00	0

Design	Plan 2				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (surv ft)	+N/-S (surv ft)	+E/-W (surv ft)	Direction (°)	
	0.0	0.0	0.0	345.46	

Plan Sections										
Measured Depth (surv ft)	Inclination (°)	Azimuth (°)	Vertical Depth (surv ft)	+N/-S (surv ft)	+E/-W (surv ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
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	
1,309.7	22.19	345.46	1,282.1	205.4	-53.3	2.00	2.00	0.00	345.46	
5,607.9	22.19	345.46	5,261.9	1,777.0	-461.0	0.00	0.00	0.00	0.00	
6,317.5	8.00	345.46	5,945.3	1,955.4	-507.3	2.00	-2.00	0.00	180.00	
8,507.5	8.00	345.46	8,114.0	2,250.4	-583.9	0.00	0.00	0.00	0.00	697-09-13 8° TGT
9,377.0	8.00	345.46	8,975.0	2,367.6	-614.3	0.00	0.00	0.00	0.00	

OXY
Planning Report - Geographic

Database:	HOPSP	Local Co-ordinate Reference:	Well CASCADE CREEK 697-09-13 - Slot CC#697-09-13
Company:	OXY USA MID-CON	TVD Reference:	WELL @ 8410.0surv ft (Original Well Elev)
Project:	GRAND VALLEY	MD Reference:	WELL @ 8410.0surv ft (Original Well Elev)
Site:	CASCADE CREEK 609-33 PAD	North Reference:	True
Well:	CASCADE CREEK 697-09-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	CASCADE CREEK 697-09-13		
Design:	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	631,298.91	1,232,465.23	39° 32' 6.603 N	108° 13' 18.019 W	
100.0	0.00	0.00	100.0	0.0	0.0	631,298.91	1,232,465.23	39° 32' 6.603 N	108° 13' 18.019 W	
200.0	0.00	0.00	200.0	0.0	0.0	631,298.91	1,232,465.23	39° 32' 6.603 N	108° 13' 18.019 W	
300.0	2.00	345.46	300.0	1.7	-0.4	631,300.61	1,232,464.84	39° 32' 6.620 N	108° 13' 18.024 W	
400.0	4.00	345.46	399.8	6.8	-1.8	631,305.71	1,232,463.68	39° 32' 6.670 N	108° 13' 18.041 W	
500.0	6.00	345.46	499.5	15.2	-3.9	631,314.21	1,232,461.74	39° 32' 6.753 N	108° 13' 18.069 W	
600.0	8.00	345.46	598.7	27.0	-7.0	631,326.09	1,232,459.04	39° 32' 6.870 N	108° 13' 18.108 W	
700.0	10.00	345.46	697.5	42.1	-10.9	631,341.35	1,232,455.56	39° 32' 7.019 N	108° 13' 18.158 W	
800.0	12.00	345.46	795.6	60.6	-15.7	631,359.95	1,232,451.33	39° 32' 7.202 N	108° 13' 18.219 W	
900.0	14.00	345.46	893.1	82.4	-21.4	631,381.88	1,232,446.33	39° 32' 7.417 N	108° 13' 18.291 W	
1,000.0	16.00	345.46	989.6	107.4	-27.9	631,407.12	1,232,440.59	39° 32' 7.665 N	108° 13' 18.374 W	
1,100.0	18.00	345.46	1,085.3	135.7	-35.2	631,435.62	1,232,434.10	39° 32' 7.944 N	108° 13' 18.468 W	
1,200.0	20.00	345.46	1,179.8	167.2	-43.4	631,467.36	1,232,426.87	39° 32' 8.256 N	108° 13' 18.572 W	
1,309.7	22.19	345.46	1,282.1	205.4	-53.3	631,505.85	1,232,418.10	39° 32' 8.633 N	108° 13' 18.699 W	
1,400.0	22.19	345.46	1,365.8	238.5	-61.9	631,539.12	1,232,410.53	39° 32' 8.960 N	108° 13' 18.808 W	
1,500.0	22.19	345.46	1,458.4	275.0	-71.4	631,575.95	1,232,402.14	39° 32' 9.321 N	108° 13' 18.929 W	
1,600.0	22.19	345.46	1,550.9	311.6	-80.8	631,612.78	1,232,393.75	39° 32' 9.683 N	108° 13' 19.050 W	
1,700.0	22.19	345.46	1,643.5	348.2	-90.3	631,649.61	1,232,385.37	39° 32' 10.044 N	108° 13' 19.172 W	
1,800.0	22.19	345.46	1,736.1	384.7	-99.8	631,686.44	1,232,376.98	39° 32' 10.405 N	108° 13' 19.293 W	
1,900.0	22.19	345.46	1,828.7	421.3	-109.3	631,723.27	1,232,368.59	39° 32' 10.767 N	108° 13' 19.414 W	
2,000.0	22.19	345.46	1,921.3	457.8	-118.8	631,760.10	1,232,360.21	39° 32' 11.128 N	108° 13' 19.535 W	
2,100.0	22.19	345.46	2,013.9	494.4	-128.3	631,796.93	1,232,351.82	39° 32' 11.489 N	108° 13' 19.656 W	
2,200.0	22.19	345.46	2,106.5	531.0	-137.8	631,833.76	1,232,343.43	39° 32' 11.851 N	108° 13' 19.777 W	
2,300.0	22.19	345.46	2,199.1	567.5	-147.2	631,870.59	1,232,335.05	39° 32' 12.212 N	108° 13' 19.898 W	
2,400.0	22.19	345.46	2,291.7	604.1	-156.7	631,907.42	1,232,326.66	39° 32' 12.574 N	108° 13' 20.019 W	
2,500.0	22.19	345.46	2,384.3	640.7	-166.2	631,944.25	1,232,318.27	39° 32' 12.935 N	108° 13' 20.140 W	
2,600.0	22.19	345.46	2,476.9	677.2	-175.7	631,981.08	1,232,309.89	39° 32' 13.296 N	108° 13' 20.261 W	
2,700.0	22.19	345.46	2,569.5	713.8	-185.2	632,017.91	1,232,301.50	39° 32' 13.658 N	108° 13' 20.382 W	
2,800.0	22.19	345.46	2,662.0	750.3	-194.7	632,054.74	1,232,293.11	39° 32' 14.019 N	108° 13' 20.503 W	
2,900.0	22.19	345.46	2,754.6	786.9	-204.2	632,091.57	1,232,284.73	39° 32' 14.380 N	108° 13' 20.625 W	
3,000.0	22.19	345.46	2,847.2	823.5	-213.7	632,128.40	1,232,276.34	39° 32' 14.742 N	108° 13' 20.746 W	
3,100.0	22.19	345.46	2,939.8	860.0	-223.1	632,165.23	1,232,267.95	39° 32' 15.103 N	108° 13' 20.867 W	
3,200.0	22.19	345.46	3,032.4	896.6	-232.6	632,202.06	1,232,259.57	39° 32' 15.464 N	108° 13' 20.988 W	
3,300.0	22.19	345.46	3,125.0	933.1	-242.1	632,238.89	1,232,251.18	39° 32' 15.826 N	108° 13' 21.109 W	
3,400.0	22.19	345.46	3,217.6	969.7	-251.6	632,275.72	1,232,242.79	39° 32' 16.187 N	108° 13' 21.230 W	
3,500.0	22.19	345.46	3,310.2	1,006.3	-261.1	632,312.55	1,232,234.41	39° 32' 16.549 N	108° 13' 21.351 W	
3,600.0	22.19	345.46	3,402.8	1,042.8	-270.6	632,349.38	1,232,226.02	39° 32' 16.910 N	108° 13' 21.472 W	
3,700.0	22.19	345.46	3,495.4	1,079.4	-280.1	632,386.21	1,232,217.63	39° 32' 17.271 N	108° 13' 21.593 W	
3,800.0	22.19	345.46	3,588.0	1,116.0	-289.5	632,423.04	1,232,209.24	39° 32' 17.633 N	108° 13' 21.714 W	
3,900.0	22.19	345.46	3,680.6	1,152.5	-299.0	632,459.87	1,232,200.86	39° 32' 17.994 N	108° 13' 21.835 W	
4,000.0	22.19	345.46	3,773.1	1,189.1	-308.5	632,496.70	1,232,192.47	39° 32' 18.355 N	108° 13' 21.957 W	
4,100.0	22.19	345.46	3,865.7	1,225.6	-318.0	632,533.53	1,232,184.08	39° 32' 18.717 N	108° 13' 22.078 W	
4,200.0	22.19	345.46	3,958.3	1,262.2	-327.5	632,570.36	1,232,175.70	39° 32' 19.078 N	108° 13' 22.199 W	
4,300.0	22.19	345.46	4,050.9	1,298.8	-337.0	632,607.19	1,232,167.31	39° 32' 19.440 N	108° 13' 22.320 W	
4,400.0	22.19	345.46	4,143.5	1,335.3	-346.5	632,644.02	1,232,158.92	39° 32' 19.801 N	108° 13' 22.441 W	
4,500.0	22.19	345.46	4,236.1	1,371.9	-355.9	632,680.85	1,232,150.54	39° 32' 20.162 N	108° 13' 22.562 W	
4,600.0	22.19	345.46	4,328.7	1,408.5	-365.4	632,717.68	1,232,142.15	39° 32' 20.524 N	108° 13' 22.683 W	
4,700.0	22.19	345.46	4,421.3	1,445.0	-374.9	632,754.51	1,232,133.76	39° 32' 20.885 N	108° 13' 22.804 W	
4,800.0	22.19	345.46	4,513.9	1,481.6	-384.4	632,791.34	1,232,125.38	39° 32' 21.246 N	108° 13' 22.925 W	
4,900.0	22.19	345.46	4,606.5	1,518.1	-393.9	632,828.17	1,232,116.99	39° 32' 21.608 N	108° 13' 23.046 W	
5,000.0	22.19	345.46	4,699.1	1,554.7	-403.4	632,865.00	1,232,108.60	39° 32' 21.969 N	108° 13' 23.167 W	
5,100.0	22.19	345.46	4,791.7	1,591.3	-412.9	632,901.83	1,232,100.22	39° 32' 22.330 N	108° 13' 23.289 W	
5,200.0	22.19	345.46	4,884.2	1,627.8	-422.3	632,938.66	1,232,091.83	39° 32' 22.692 N	108° 13' 23.410 W	
5,300.0	22.19	345.46	4,976.8	1,664.4	-431.8	632,975.49	1,232,083.44	39° 32' 23.053 N	108° 13' 23.531 W	

OXY
Planning Report - Geographic

Database:	HOPSP	Local Co-ordinate Reference:	Well CASCADE CREEK 697-09-13 - Slot CC#697-09-13
Company:	OXY USA MID-CON	TVD Reference:	WELL @ 8410.0surv ft (Original Well Elev)
Project:	GRAND VALLEY	MD Reference:	WELL @ 8410.0surv ft (Original Well Elev)
Site:	CASCADE CREEK 609-33 PAD	North Reference:	True
Well:	CASCADE CREEK 697-09-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	CASCADE CREEK 697-09-13		
Design:	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	
5,400.0	22.19	345.46	5,069.4	1,701.0	-441.3	633,012.32	1,232,075.06	39° 32' 23.415 N	108° 13' 23.652 W	
5,500.0	22.19	345.46	5,162.0	1,737.5	-450.8	633,049.15	1,232,066.67	39° 32' 23.776 N	108° 13' 23.773 W	
5,607.9	22.19	345.46	5,261.9	1,777.0	-461.0	633,088.88	1,232,057.62	39° 32' 24.166 N	108° 13' 23.904 W	
5,700.0	20.35	345.46	5,347.8	1,809.3	-469.4	633,121.47	1,232,050.20	39° 32' 24.486 N	108° 13' 24.011 W	
5,800.0	18.35	345.46	5,442.1	1,841.4	-477.8	633,153.77	1,232,042.85	39° 32' 24.802 N	108° 13' 24.117 W	
5,900.0	16.35	345.46	5,537.5	1,870.2	-485.2	633,182.85	1,232,036.22	39° 32' 25.088 N	108° 13' 24.212 W	
6,000.0	14.35	345.46	5,634.0	1,895.9	-491.9	633,208.66	1,232,030.35	39° 32' 25.341 N	108° 13' 24.297 W	
6,100.0	12.35	345.46	5,731.3	1,918.2	-497.7	633,231.17	1,232,025.22	39° 32' 25.562 N	108° 13' 24.371 W	
6,200.0	10.35	345.46	5,829.3	1,937.3	-502.6	633,250.36	1,232,020.85	39° 32' 25.750 N	108° 13' 24.434 W	
6,296.0	8.43	345.46	5,924.0	1,952.4	-506.6	633,265.63	1,232,017.37	39° 32' 25.900 N	108° 13' 24.485 W	
Mesaverde										
6,300.0	8.35	345.46	5,928.0	1,953.0	-506.7	633,266.20	1,232,017.24	39° 32' 25.906 N	108° 13' 24.487 W	
6,317.5	8.00	345.46	5,945.3	1,955.4	-507.3	633,268.63	1,232,016.69	39° 32' 25.929 N	108° 13' 24.495 W	
6,400.0	8.00	345.46	6,027.0	1,966.5	-510.2	633,279.82	1,232,014.14	39° 32' 26.039 N	108° 13' 24.531 W	
6,500.0	8.00	345.46	6,126.0	1,980.0	-513.7	633,293.39	1,232,011.05	39° 32' 26.172 N	108° 13' 24.576 W	
6,509.1	8.00	345.46	6,135.0	1,981.2	-514.0	633,294.63	1,232,010.77	39° 32' 26.184 N	108° 13' 24.580 W	
Ohio Creek										
6,600.0	8.00	345.46	6,225.0	1,993.5	-517.2	633,306.96	1,232,007.96	39° 32' 26.306 N	108° 13' 24.621 W	
6,700.0	8.00	345.46	6,324.1	2,006.9	-520.7	633,320.53	1,232,004.87	39° 32' 26.439 N	108° 13' 24.665 W	
6,800.0	8.00	345.46	6,423.1	2,020.4	-524.2	633,334.10	1,232,001.78	39° 32' 26.572 N	108° 13' 24.710 W	
6,900.0	8.00	345.46	6,522.1	2,033.9	-527.7	633,347.67	1,231,998.69	39° 32' 26.705 N	108° 13' 24.754 W	
7,000.0	8.00	345.46	6,621.1	2,047.3	-531.2	633,361.24	1,231,995.60	39° 32' 26.838 N	108° 13' 24.799 W	
7,100.0	8.00	345.46	6,720.2	2,060.8	-534.7	633,374.81	1,231,992.51	39° 32' 26.971 N	108° 13' 24.844 W	
7,200.0	8.00	345.46	6,819.2	2,074.3	-538.2	633,388.38	1,231,989.42	39° 32' 27.104 N	108° 13' 24.888 W	
7,300.0	8.00	345.46	6,918.2	2,087.8	-541.7	633,401.95	1,231,986.33	39° 32' 27.238 N	108° 13' 24.933 W	
7,400.0	8.00	345.46	7,017.3	2,101.2	-545.2	633,415.52	1,231,983.24	39° 32' 27.371 N	108° 13' 24.978 W	
7,500.0	8.00	345.46	7,116.3	2,114.7	-548.7	633,429.09	1,231,980.15	39° 32' 27.504 N	108° 13' 25.022 W	
7,508.8	8.00	345.46	7,125.0	2,115.9	-549.0	633,430.29	1,231,979.88	39° 32' 27.516 N	108° 13' 25.026 W	
Top of Gas										
7,600.0	8.00	345.46	7,215.3	2,128.2	-552.2	633,442.66	1,231,977.06	39° 32' 27.637 N	108° 13' 25.067 W	
7,700.0	8.00	345.46	7,314.3	2,141.6	-555.7	633,456.23	1,231,973.97	39° 32' 27.770 N	108° 13' 25.111 W	
7,800.0	8.00	345.46	7,413.4	2,155.1	-559.2	633,469.80	1,231,970.88	39° 32' 27.903 N	108° 13' 25.156 W	
7,900.0	8.00	345.46	7,512.4	2,168.6	-562.6	633,483.37	1,231,967.79	39° 32' 28.036 N	108° 13' 25.201 W	
8,000.0	8.00	345.46	7,611.4	2,182.1	-566.1	633,496.94	1,231,964.70	39° 32' 28.170 N	108° 13' 25.245 W	
8,100.0	8.00	345.46	7,710.4	2,195.5	-569.6	633,510.51	1,231,961.61	39° 32' 28.303 N	108° 13' 25.290 W	
8,200.0	8.00	345.46	7,809.5	2,209.0	-573.1	633,524.08	1,231,958.52	39° 32' 28.436 N	108° 13' 25.334 W	
8,300.0	8.00	345.46	7,908.5	2,222.5	-576.6	633,537.65	1,231,955.43	39° 32' 28.569 N	108° 13' 25.379 W	
8,400.0	8.00	345.46	8,007.5	2,235.9	-580.1	633,551.22	1,231,952.34	39° 32' 28.702 N	108° 13' 25.424 W	
8,507.0	8.00	345.46	8,113.5	2,250.4	-583.9	633,565.75	1,231,949.03	39° 32' 28.845 N	108° 13' 25.471 W	
Williams Fork										
8,507.5	8.00	345.46	8,114.0	2,250.4	-583.9	633,565.81	1,231,949.02	39° 32' 28.845 N	108° 13' 25.472 W	
697-09-13 8° TGT										
8,600.0	8.00	345.46	8,205.6	2,262.9	-587.1	633,578.36	1,231,946.16	39° 32' 28.968 N	108° 13' 25.513 W	
8,700.0	8.00	345.46	8,304.6	2,276.4	-590.6	633,591.93	1,231,943.07	39° 32' 29.102 N	108° 13' 25.558 W	
8,800.0	8.00	345.46	8,403.6	2,289.8	-594.1	633,605.50	1,231,939.98	39° 32' 29.235 N	108° 13' 25.602 W	
8,900.0	8.00	345.46	8,502.7	2,303.3	-597.6	633,619.07	1,231,936.89	39° 32' 29.368 N	108° 13' 25.647 W	
9,000.0	8.00	345.46	8,601.7	2,316.8	-601.1	633,632.64	1,231,933.80	39° 32' 29.501 N	108° 13' 25.691 W	
9,100.0	8.00	345.46	8,700.7	2,330.2	-604.6	633,646.21	1,231,930.71	39° 32' 29.634 N	108° 13' 25.736 W	
9,173.0	8.00	345.46	8,773.0	2,340.1	-607.1	633,656.12	1,231,928.45	39° 32' 29.731 N	108° 13' 25.769 W	
Rollins										
9,200.0	8.00	345.46	8,799.7	2,343.7	-608.1	633,659.78	1,231,927.62	39° 32' 29.767 N	108° 13' 25.781 W	
9,300.0	8.00	345.46	8,898.8	2,357.2	-611.6	633,673.35	1,231,924.53	39° 32' 29.900 N	108° 13' 25.825 W	
9,377.0	8.00	345.46	8,975.0	2,367.6	-614.3	633,683.80	1,231,922.15	39° 32' 30.003 N	108° 13' 25.860 W	

OXY
Planning Report - Geographic

Database:	HOPSPP	Local Co-ordinate Reference:	Well CASCADE CREEK 697-09-13 - Slot CC#697-09-13
Company:	OXY USA MID-CON	TVD Reference:	WELL @ 8410.0surv ft (Original Well Elev)
Project:	GRAND VALLEY	MD Reference:	WELL @ 8410.0surv ft (Original Well Elev)
Site:	CASCADE CREEK 609-33 PAD	North Reference:	True
Well:	CASCADE CREEK 697-09-13	Survey Calculation Method:	Minimum Curvature
Wellbore:	CASCADE CREEK 697-09-13		
Design:	Plan 2		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(surv ft)	(surv ft)	(surv ft)	(surv ft)	(surv ft)		
- Shape									
697-09-13 8° TGT	352.00	345.46	8,114.0	2,250.4	-583.9	633,565.81	1,231,949.02	39° 32' 28.845 N	108° 13' 25.472 W
- plan hits target center									
- Circle (radius 50.0)									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(surv ft)	(surv ft)			(°)	(°)	
6,296.0	5,924.0	Mesaverde		0.00		
6,509.1	6,135.0	Ohio Creek		0.00		
7,508.8	7,125.0	Top of Gas		0.00		
8,507.0	8,113.5	Williams Fork		0.00		
9,173.0	8,773.0	Rollins		0.00		