



# **OXY USA MID-CON**

**BRUSH CREEK**

**CURREY 16-10 PAD**

**CURREY FEDERAL 15-4**

**ORIG HOLE**

**Plan: PLAN 2**

## **Standard Planning Report - Geographic**

**27 July, 2010**



# OXY

## Planning Report - Geographic

<b>Database:</b>	HOPSP	<b>Local Co-ordinate Reference:</b>	Well CURREY FEDERAL 15-4
<b>Company:</b>	OXY USA MID-CON	<b>TVD Reference:</b>	ORIGINAL KB @ 6910.0surv ft
<b>Project:</b>	BRUSH CREEK	<b>MD Reference:</b>	ORIGINAL KB @ 6910.0surv ft
<b>Site:</b>	CURREY 16-10 PAD	<b>North Reference:</b>	True
<b>Well:</b>	CURREY FEDERAL 15-4	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIG HOLE		
<b>Design:</b>	PLAN 2		

<b>Project</b>	BRUSH CREEK		
<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>	CURREY 16-10 PAD, CURREY 16-10 PAD		
<b>Site Position:</b>		<b>Northing:</b>	534,340.02 surv ft
<b>From:</b>	Map	<b>Easting:</b>	1,325,487.31 surv ft
<b>Position Uncertainty:</b>	0.0 surv ft	<b>Slot Radius:</b>	0.000 in
		<b>Latitude:</b>	39° 16' 34.463 N
		<b>Longitude:</b>	107° 52' 58.664 W
		<b>Grid Convergence:</b>	-1.50 °

<b>Well</b>	CURREY FEDERAL 15-4		
<b>Well Position</b>	<b>+N/-S</b>	0.0 surv ft	<b>Northing:</b>
	<b>+E/-W</b>	0.0 surv ft	<b>Easting:</b>
<b>Position Uncertainty</b>	0.0 surv ft	<b>Wellhead Elevation:</b>	18.0 surv ft
		<b>Latitude:</b>	39° 16' 34.086 N
		<b>Longitude:</b>	107° 52' 58.541 W
		<b>Ground Level:</b>	6,892.0 surv ft

<b>Wellbore</b>	ORIG HOLE				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	7/27/2010	10.36	65.61	52,257

<b>Design</b>	PLAN 2				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0	
<b>Vertical Section:</b>	<b>Depth From (TVD) (surv ft)</b>	<b>+N/-S (surv ft)</b>	<b>+E/-W (surv ft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	50.20	

<b>Plan Sections</b>										
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	
150.0	0.00	0.00	150.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,673.7	45.71	50.20	1,517.1	368.9	442.7	3.00	3.00	0.00	50.20	
3,217.3	45.71	50.20	2,595.0	1,076.1	1,291.6	0.00	0.00	0.00	0.00	
4,725.7	8.00	50.20	3,916.6	1,504.5	1,805.7	2.50	-2.50	0.00	180.00	
6,837.7	8.00	50.20	6,008.0	1,692.6	2,031.5	0.00	0.00	0.00	0.00	CURREY FEDERAL
8,460.5	8.00	50.20	7,615.0	1,837.2	2,205.1	0.00	0.00	0.00	0.00	



# OXY

## Planning Report - Geographic

<b>Database:</b>	HOPSP	<b>Local Co-ordinate Reference:</b>	Well CURREY FEDERAL 15-4
<b>Company:</b>	OXY USA MID-CON	<b>TVD Reference:</b>	ORIGINAL KB @ 6910.0surv ft
<b>Project:</b>	BRUSH CREEK	<b>MD Reference:</b>	ORIGINAL KB @ 6910.0surv ft
<b>Site:</b>	CURREY 16-10 PAD	<b>North Reference:</b>	True
<b>Well:</b>	CURREY FEDERAL 15-4	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIG HOLE		
<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	534,301.58	1,325,496.00	39° 16' 34.086 N	107° 52' 58.541 W
100.0	0.00	0.00	100.0	0.0	0.0	534,301.58	1,325,496.00	39° 16' 34.086 N	107° 52' 58.541 W
150.0	0.00	0.00	150.0	0.0	0.0	534,301.58	1,325,496.00	39° 16' 34.086 N	107° 52' 58.541 W
200.0	1.50	50.20	200.0	0.4	0.5	534,301.99	1,325,496.51	39° 16' 34.090 N	107° 52' 58.534 W
300.0	4.50	50.20	299.8	3.8	4.5	534,305.23	1,325,500.62	39° 16' 34.123 N	107° 52' 58.483 W
400.0	7.50	50.20	399.3	10.5	12.6	534,311.71	1,325,508.82	39° 16' 34.189 N	107° 52' 58.381 W
500.0	10.50	50.20	498.0	20.5	24.6	534,321.40	1,325,521.10	39° 16' 34.288 N	107° 52' 58.228 W
600.0	13.50	50.20	595.8	33.8	40.5	534,334.28	1,325,537.41	39° 16' 34.419 N	107° 52' 58.025 W
700.0	16.50	50.20	692.4	50.3	60.4	534,350.32	1,325,557.72	39° 16' 34.583 N	107° 52' 57.772 W
800.0	19.50	50.20	787.5	70.1	84.2	534,369.47	1,325,581.97	39° 16' 34.779 N	107° 52' 57.470 W
900.0	22.50	50.20	880.9	93.1	111.7	534,391.68	1,325,610.09	39° 16' 35.005 N	107° 52' 57.120 W
1,000.0	25.50	50.20	972.2	119.1	142.9	534,416.88	1,325,642.01	39° 16' 35.263 N	107° 52' 56.723 W
1,100.0	28.50	50.20	1,061.3	148.1	177.8	534,445.01	1,325,677.63	39° 16' 35.550 N	107° 52' 56.279 W
1,200.0	31.50	50.20	1,147.9	180.1	216.2	534,476.00	1,325,716.87	39° 16' 35.866 N	107° 52' 55.791 W
1,300.0	34.50	50.20	1,231.8	215.0	258.1	534,509.75	1,325,759.61	39° 16' 36.211 N	107° 52' 55.259 W
1,400.0	37.50	50.20	1,312.7	252.6	303.2	534,546.17	1,325,805.73	39° 16' 36.583 N	107° 52' 54.685 W
1,500.0	40.50	50.20	1,390.4	292.9	351.6	534,585.16	1,325,855.11	39° 16' 36.981 N	107° 52' 54.070 W
1,600.0	43.50	50.20	1,464.7	335.7	403.0	534,626.63	1,325,907.62	39° 16' 37.404 N	107° 52' 53.416 W
1,673.7	45.71	50.20	1,517.1	368.9	442.7	534,658.70	1,325,948.23	39° 16' 37.731 N	107° 52' 52.911 W
1,700.0	45.71	50.20	1,535.5	380.9	457.2	534,670.37	1,325,963.01	39° 16' 37.851 N	107° 52' 52.727 W
1,800.0	45.71	50.20	1,605.3	426.7	512.2	534,714.73	1,326,019.19	39° 16' 38.303 N	107° 52' 52.027 W
1,900.0	45.71	50.20	1,675.2	472.5	567.2	534,759.09	1,326,075.36	39° 16' 38.756 N	107° 52' 51.328 W
2,000.0	45.71	50.20	1,745.0	518.4	622.2	534,803.45	1,326,131.54	39° 16' 39.209 N	107° 52' 50.628 W
2,100.0	45.71	50.20	1,814.8	564.2	677.2	534,847.81	1,326,187.72	39° 16' 39.662 N	107° 52' 49.929 W
2,200.0	45.71	50.20	1,884.6	610.0	732.2	534,892.18	1,326,243.90	39° 16' 40.115 N	107° 52' 49.230 W
2,300.0	45.71	50.20	1,954.5	655.8	787.1	534,936.54	1,326,300.08	39° 16' 40.568 N	107° 52' 48.530 W
2,400.0	45.71	50.20	2,024.3	701.6	842.1	534,980.90	1,326,356.25	39° 16' 41.021 N	107° 52' 47.831 W
2,500.0	45.71	50.20	2,094.1	747.5	897.1	535,025.26	1,326,412.43	39° 16' 41.474 N	107° 52' 47.132 W
2,600.0	45.71	50.20	2,164.0	793.3	952.1	535,069.62	1,326,468.61	39° 16' 41.926 N	107° 52' 46.432 W
2,700.0	45.71	50.20	2,233.8	839.1	1,007.1	535,113.98	1,326,524.79	39° 16' 42.379 N	107° 52' 45.733 W
2,800.0	45.71	50.20	2,303.6	884.9	1,062.1	535,158.35	1,326,580.96	39° 16' 42.832 N	107° 52' 45.033 W
2,900.0	45.71	50.20	2,373.4	930.7	1,117.1	535,202.71	1,326,637.14	39° 16' 43.285 N	107° 52' 44.334 W
3,000.0	45.71	50.20	2,443.3	976.6	1,172.1	535,247.07	1,326,693.32	39° 16' 43.738 N	107° 52' 43.634 W
3,100.0	45.71	50.20	2,513.1	1,022.4	1,227.1	535,291.43	1,326,749.50	39° 16' 44.191 N	107° 52' 42.935 W
3,200.0	45.71	50.20	2,582.9	1,068.2	1,282.1	535,335.79	1,326,805.67	39° 16' 44.644 N	107° 52' 42.236 W
3,217.3	45.71	50.20	2,595.0	1,076.1	1,291.6	535,343.47	1,326,815.39	39° 16' 44.722 N	107° 52' 42.115 W
3,300.0	43.64	50.20	2,653.8	1,113.4	1,336.3	535,379.50	1,326,861.02	39° 16' 45.090 N	107° 52' 41.547 W
3,400.0	41.14	50.20	2,727.7	1,156.5	1,388.1	535,421.28	1,326,913.93	39° 16' 45.516 N	107° 52' 40.888 W
3,500.0	38.64	50.20	2,804.4	1,197.6	1,437.3	535,461.03	1,326,964.26	39° 16' 45.922 N	107° 52' 40.261 W
3,600.0	36.14	50.20	2,883.8	1,236.4	1,484.0	535,498.66	1,327,011.92	39° 16' 46.306 N	107° 52' 39.668 W
3,700.0	33.64	50.20	2,965.8	1,273.0	1,527.9	535,534.11	1,327,056.81	39° 16' 46.668 N	107° 52' 39.109 W
3,800.0	31.14	50.20	3,050.3	1,307.3	1,569.1	535,567.30	1,327,098.85	39° 16' 47.007 N	107° 52' 38.586 W
3,900.0	28.64	50.20	3,137.0	1,339.2	1,607.4	535,598.19	1,327,137.96	39° 16' 47.322 N	107° 52' 38.099 W
4,000.0	26.14	50.20	3,225.8	1,368.7	1,642.7	535,626.70	1,327,174.06	39° 16' 47.613 N	107° 52' 37.649 W
4,065.6	24.50	50.20	3,285.0	1,386.6	1,664.3	535,644.08	1,327,196.08	39° 16' 47.791 N	107° 52' 37.375 W
FT UNION									
4,100.0	23.64	50.20	3,316.5	1,395.6	1,675.1	535,652.78	1,327,207.09	39° 16' 47.880 N	107° 52' 37.238 W
4,200.0	21.14	50.20	3,408.9	1,420.0	1,704.3	535,676.39	1,327,236.99	39° 16' 48.121 N	107° 52' 36.866 W
4,300.0	18.64	50.20	3,502.9	1,441.8	1,730.5	535,697.47	1,327,263.69	39° 16' 48.336 N	107° 52' 36.533 W
4,400.0	16.14	50.20	3,598.4	1,460.9	1,753.4	535,716.00	1,327,287.14	39° 16' 48.525 N	107° 52' 36.241 W
4,500.0	13.64	50.20	3,695.0	1,477.4	1,773.2	535,731.92	1,327,307.31	39° 16' 48.688 N	107° 52' 35.990 W
4,558.5	12.18	50.20	3,752.0	1,485.7	1,783.2	535,740.02	1,327,317.57	39° 16' 48.770 N	107° 52' 35.862 W
MESAVERDE									
4,600.0	11.14	50.20	3,792.6	1,491.1	1,789.7	535,745.22	1,327,324.15	39° 16' 48.823 N	107° 52' 35.780 W



# OXY

## Planning Report - Geographic

<b>Database:</b>	HOPSPP	<b>Local Co-ordinate Reference:</b>	Well CURREY FEDERAL 15-4
<b>Company:</b>	OXY USA MID-CON	<b>TVD Reference:</b>	ORIGINAL KB @ 6910.0surv ft
<b>Project:</b>	BRUSH CREEK	<b>MD Reference:</b>	ORIGINAL KB @ 6910.0surv ft
<b>Site:</b>	CURREY 16-10 PAD	<b>North Reference:</b>	True
<b>Well:</b>	CURREY FEDERAL 15-4	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIG HOLE		
<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
4,700.0	8.64	50.20	3,891.2	1,502.1	1,802.9	535,755.87	1,327,337.64	39° 16' 48.932 N	107° 52' 35.613 W
4,704.9	8.52	50.20	3,896.0	1,502.6	1,803.4	535,756.32	1,327,338.21	39° 16' 48.937 N	107° 52' 35.605 W
<b>OHIO CREEK</b>									
4,725.7	8.00	50.20	3,916.6	1,504.5	1,805.7	535,758.17	1,327,340.55	39° 16' 48.956 N	107° 52' 35.576 W
4,800.0	8.00	50.20	3,990.2	1,511.1	1,813.7	535,764.58	1,327,348.67	39° 16' 49.021 N	107° 52' 35.475 W
4,900.0	8.00	50.20	4,089.2	1,520.0	1,824.4	535,773.21	1,327,359.59	39° 16' 49.109 N	107° 52' 35.339 W
4,970.5	8.00	50.20	4,159.0	1,526.3	1,831.9	535,779.29	1,327,367.29	39° 16' 49.171 N	107° 52' 35.243 W
<b>WILLIAMS FORK</b>									
5,000.0	8.00	50.20	4,188.2	1,528.9	1,835.0	535,781.83	1,327,370.51	39° 16' 49.197 N	107° 52' 35.203 W
5,100.0	8.00	50.20	4,287.2	1,537.8	1,845.7	535,790.46	1,327,381.44	39° 16' 49.285 N	107° 52' 35.067 W
5,200.0	8.00	50.20	4,386.3	1,546.7	1,856.4	535,799.08	1,327,392.36	39° 16' 49.373 N	107° 52' 34.931 W
5,300.0	8.00	50.20	4,485.3	1,555.6	1,867.1	535,807.71	1,327,403.28	39° 16' 49.461 N	107° 52' 34.795 W
5,400.0	8.00	50.20	4,584.3	1,564.5	1,877.8	535,816.33	1,327,414.20	39° 16' 49.549 N	107° 52' 34.659 W
5,500.0	8.00	50.20	4,683.3	1,573.4	1,888.5	535,824.96	1,327,425.13	39° 16' 49.637 N	107° 52' 34.523 W
5,600.0	8.00	50.20	4,782.4	1,582.4	1,899.2	535,833.58	1,327,436.05	39° 16' 49.725 N	107° 52' 34.387 W
5,700.0	8.00	50.20	4,881.4	1,591.3	1,909.9	535,842.21	1,327,446.97	39° 16' 49.813 N	107° 52' 34.251 W
5,800.0	8.00	50.20	4,980.4	1,600.2	1,920.6	535,850.83	1,327,457.89	39° 16' 49.901 N	107° 52' 34.115 W
5,900.0	8.00	50.20	5,079.5	1,609.1	1,931.3	535,859.46	1,327,468.82	39° 16' 49.990 N	107° 52' 33.979 W
6,000.0	8.00	50.20	5,178.5	1,618.0	1,942.0	535,868.08	1,327,479.74	39° 16' 50.078 N	107° 52' 33.843 W
6,100.0	8.00	50.20	5,277.5	1,626.9	1,952.7	535,876.71	1,327,490.66	39° 16' 50.166 N	107° 52' 33.707 W
6,200.0	8.00	50.20	5,376.5	1,635.8	1,963.4	535,885.33	1,327,501.58	39° 16' 50.254 N	107° 52' 33.571 W
6,203.5	8.00	50.20	5,380.0	1,636.1	1,963.7	535,885.63	1,327,501.96	39° 16' 50.257 N	107° 52' 33.567 W
<b>TOP OF GAS</b>									
6,300.0	8.00	50.20	5,475.6	1,644.7	1,974.0	535,893.96	1,327,512.51	39° 16' 50.342 N	107° 52' 33.435 W
6,400.0	8.00	50.20	5,574.6	1,653.6	1,984.7	535,902.58	1,327,523.43	39° 16' 50.430 N	107° 52' 33.299 W
6,500.0	8.00	50.20	5,673.6	1,662.5	1,995.4	535,911.21	1,327,534.35	39° 16' 50.518 N	107° 52' 33.163 W
6,600.0	8.00	50.20	5,772.6	1,671.4	2,006.1	535,919.83	1,327,545.27	39° 16' 50.606 N	107° 52' 33.027 W
6,700.0	8.00	50.20	5,871.7	1,680.3	2,016.8	535,928.46	1,327,556.20	39° 16' 50.694 N	107° 52' 32.891 W
6,800.0	8.00	50.20	5,970.7	1,689.3	2,027.5	535,937.08	1,327,567.12	39° 16' 50.782 N	107° 52' 32.755 W
6,837.7	8.00	50.20	6,008.0	1,692.6	2,031.5	535,940.33	1,327,571.23	39° 16' 50.815 N	107° 52' 32.704 W
6,900.0	8.00	50.20	6,069.7	1,698.2	2,038.2	535,945.71	1,327,578.04	39° 16' 50.870 N	107° 52' 32.619 W
7,000.0	8.00	50.20	6,168.7	1,707.1	2,048.9	535,954.33	1,327,588.96	39° 16' 50.958 N	107° 52' 32.483 W
7,053.8	8.00	50.20	6,222.0	1,711.9	2,054.6	535,958.97	1,327,594.83	39° 16' 51.005 N	107° 52' 32.410 W
<b>CAMEO</b>									
7,100.0	8.00	50.20	6,267.8	1,716.0	2,059.6	535,962.96	1,327,599.89	39° 16' 51.046 N	107° 52' 32.347 W
7,200.0	8.00	50.20	6,366.8	1,724.9	2,070.3	535,971.58	1,327,610.81	39° 16' 51.134 N	107° 52' 32.211 W
7,300.0	8.00	50.20	6,465.8	1,733.8	2,081.0	535,980.21	1,327,621.73	39° 16' 51.222 N	107° 52' 32.075 W
7,400.0	8.00	50.20	6,564.9	1,742.7	2,091.7	535,988.83	1,327,632.65	39° 16' 51.310 N	107° 52' 31.939 W
7,500.0	8.00	50.20	6,663.9	1,751.6	2,102.4	535,997.46	1,327,643.57	39° 16' 51.398 N	107° 52' 31.803 W
7,531.4	8.00	50.20	6,695.0	1,754.4	2,105.7	536,000.17	1,327,647.01	39° 16' 51.426 N	107° 52' 31.761 W
<b>ROLLINS</b>									
7,600.0	8.00	50.20	6,762.9	1,760.5	2,113.1	536,006.08	1,327,654.50	39° 16' 51.486 N	107° 52' 31.667 W
7,700.0	8.00	50.20	6,861.9	1,769.4	2,123.7	536,014.71	1,327,665.42	39° 16' 51.574 N	107° 52' 31.531 W
7,800.0	8.00	50.20	6,961.0	1,778.3	2,134.4	536,023.33	1,327,676.34	39° 16' 51.662 N	107° 52' 31.395 W
7,900.0	8.00	50.20	7,060.0	1,787.3	2,145.1	536,031.96	1,327,687.26	39° 16' 51.750 N	107° 52' 31.259 W
8,000.0	8.00	50.20	7,159.0	1,796.2	2,155.8	536,040.58	1,327,698.19	39° 16' 51.839 N	107° 52' 31.123 W
8,100.0	8.00	50.20	7,258.0	1,805.1	2,166.5	536,049.21	1,327,709.11	39° 16' 51.927 N	107° 52' 30.987 W
8,200.0	8.00	50.20	7,357.1	1,814.0	2,177.2	536,057.83	1,327,720.03	39° 16' 52.015 N	107° 52' 30.851 W
8,300.0	8.00	50.20	7,456.1	1,822.9	2,187.9	536,066.46	1,327,730.95	39° 16' 52.103 N	107° 52' 30.715 W
8,400.0	8.00	50.20	7,555.1	1,831.8	2,198.6	536,075.08	1,327,741.88	39° 16' 52.191 N	107° 52' 30.579 W
8,460.5	8.00	50.20	7,615.0	1,837.2	2,205.1	536,080.30	1,327,748.48	39° 16' 52.244 N	107° 52' 30.497 W



**OXY**  
Planning Report - Geographic

<b>Database:</b>	HOPSP	<b>Local Co-ordinate Reference:</b>	Well CURREY FEDERAL 15-4
<b>Company:</b>	OXY USA MID-CON	<b>TVD Reference:</b>	ORIGINAL KB @ 6910.0surv ft
<b>Project:</b>	BRUSH CREEK	<b>MD Reference:</b>	ORIGINAL KB @ 6910.0surv ft
<b>Site:</b>	CURREY 16-10 PAD	<b>North Reference:</b>	True
<b>Well:</b>	CURREY FEDERAL 15-4	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIG HOLE		
<b>Design:</b>	PLAN 2		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(surv ft)	(surv ft)	(surv ft)	(surv ft)	(surv ft)		
CURREY FEDERAL 15- - plan hits target center - Circle (radius 50.0)	352.00	50.20	6,008.0	1,692.6	2,031.6	535,940.33	1,327,571.27	39° 16' 50.815 N	107° 52' 32.704 W

Formations						
Measured Depth	Vertical Depth					
(surv ft)	(surv ft)	Name	Lithology	Dip	Dip Direction	
				(°)	(°)	
4,065.6	3,285.0	FT UNION		0.00		
4,558.5	3,752.0	MESAVERDE		0.00		
4,704.9	3,896.0	OHIO CREEK		0.00		
4,970.5	4,159.0	WILLIAMS FORK		0.00		
6,203.5	5,380.0	TOP OF GAS		0.00		
7,053.8	6,222.0	CAMEO		0.00		
7,531.4	6,695.0	ROLLINS		0.00		