



Scientific Drilling
Rocky Mountain Operations

Company: OXY USA RMAT
Project: Garfield County, CO NAD27
Site: Cascade Creek 697-08A Pad



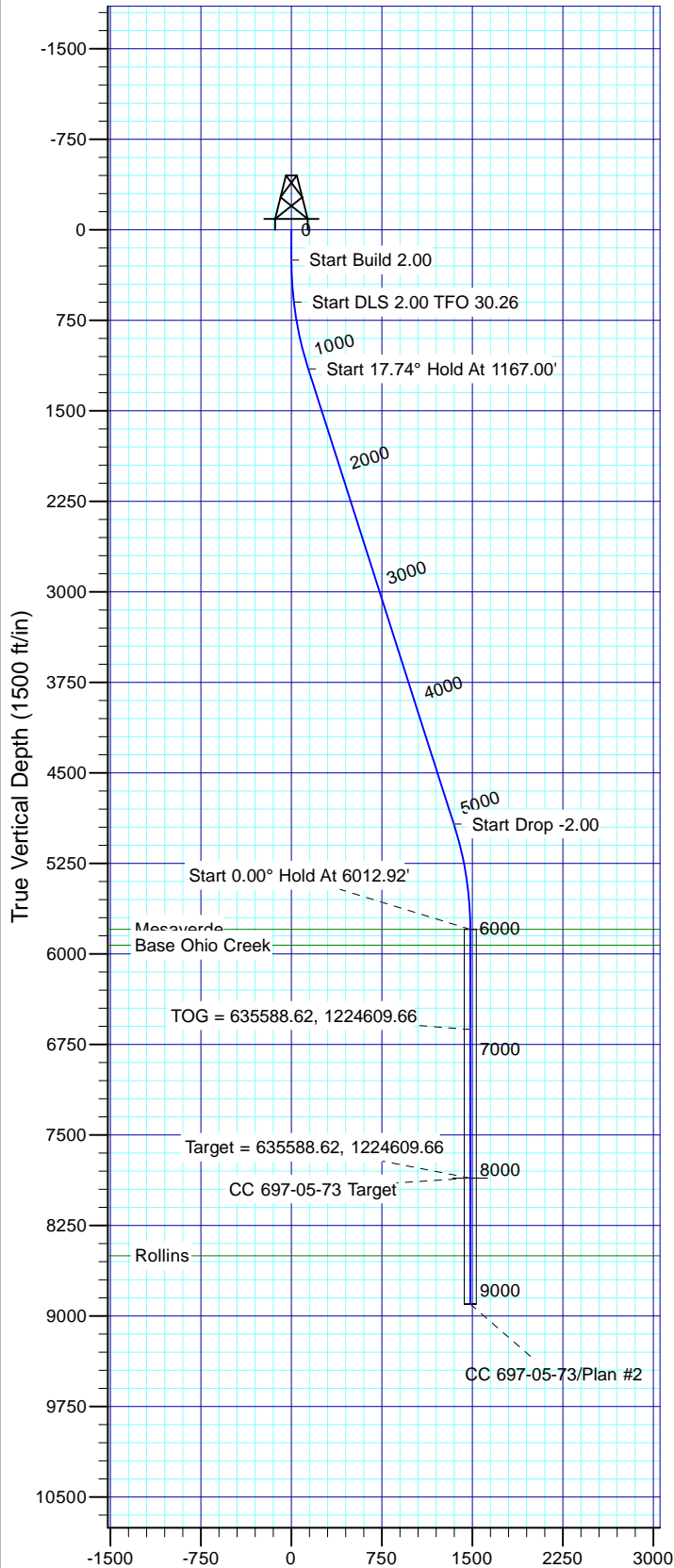
Well Details: CC 697-05-73

TVD Reference: GL 8401' & RKB 30' @ 8431.00ft (H&P Rig) Ground Level: 8401.00
+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.00 0.00 634635.84 1225744.73 39° 32' 37.571 N 108° 14' 45.045 W F

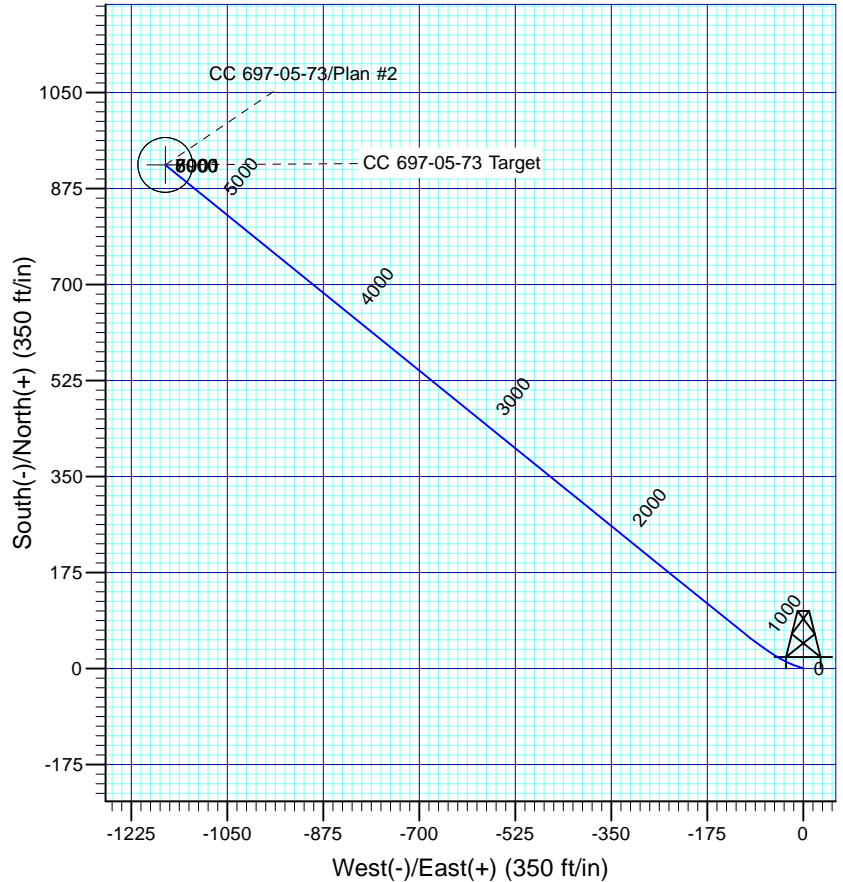


Azimuths to True North
Magnetic North: 10.77°

Magnetic Field
Strength: 52497.8snT
Dip Angle: 65.81°
Date: 12/22/2008
Model: IGRF2005-10



Vertical Section at 308.28° (1500 ft/in)



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
5796.00	6012.92	Mesaverde
5926.00	6142.92	Base Ohio Creek
8501.00	8717.92	Rollins

Plan: Plan #2

16:22, May 25 2011
Created By: Rex Hall

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

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	600.00	7.00	290.00	599.13	7.30	-20.07	2.00	290.00	20.28	
4	1166.99	17.74	308.98	1152.34	73.66	-119.99	2.00	30.26	139.82	CC 697-05-73 Target
5	1167.00	17.74	308.98	1152.35	73.67	-119.99	2.00	0.00	139.83	
6	5126.13	17.74	308.98	4923.30	832.39	-1057.50	0.00	0.00	1345.80	
7	6012.92	0.00	0.00	5796.00	918.04	-1163.34	2.00	180.00	1481.95	
8	8073.92	0.00	0.00	7857.00	918.04	-1163.34	0.00	0.00	1481.95	CC 697-05-73 Target
9	9117.92	0.00	0.00	8901.00	918.04	-1163.34	0.00	0.00	1481.95	

OXY USA RMAT

**Garfield County, CO NAD27
Cascade Creek 697-08A Pad
CC 697-05-73 - Slot F**

OH

Plan: Plan #2

Standard Planning Report

25 May, 2011





Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-05-73 - Slot F
Company:	OXY USA RMAT	TVD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Site:	Cascade Creek 697-08A Pad	North Reference:	True
Well:	CC 697-05-73	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Project	Garfield County, CO NAD27		
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 697-08A Pad, Sec 8 T6S R97W			
Site Position:		Northing:	635,765.16 usft	Latitude: 39° 32' 48.728 N
From:	Lat/Long	Easting:	1,225,748.33 usft	Longitude: 108° 14' 45.434 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: -1.73 °

Well	CC 697-05-73 - Slot F, 330' FNL & 1790' FWL			
Well Position	+N/-S	-1,128.91 ft	Northing:	634,635.85 usft
	+E/-W	30.52 ft	Easting:	1,225,744.72 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:		Ground Level: 8,401.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	12/22/2008	10.77	65.81	52,498

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	308.28

Plan Sections										
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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
600.00	7.00	290.00	599.13	7.30	-20.07	2.00	2.00	0.00	290.00	
1,166.99	17.74	308.98	1,152.34	73.66	-119.99	2.00	1.89	3.35	30.26	CC 697-05-73 Target
1,167.00	17.74	308.98	1,152.35	73.67	-119.99	2.00	2.00	0.00	0.00	
5,126.13	17.74	308.98	4,923.31	832.39	-1,057.50	0.00	0.00	0.00	0.00	
6,012.92	0.00	0.00	5,796.00	918.04	-1,163.34	2.00	-2.00	0.00	180.00	
8,073.92	0.00	0.00	7,857.00	918.04	-1,163.34	0.00	0.00	0.00	0.00	CC 697-05-73 Target
9,117.92	0.00	0.00	8,901.00	918.04	-1,163.34	0.00	0.00	0.00	0.00	



Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-05-73 - Slot F
Company:	OXY USA RMAT	TVD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Site:	Cascade Creek 697-08A Pad	North Reference:	True
Well:	CC 697-05-73	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
300.00	1.00	290.00	300.00	0.15	-0.41	0.41	2.00	2.00	0.00
400.00	3.00	290.00	399.93	1.34	-3.69	3.73	2.00	2.00	0.00
500.00	5.00	290.00	499.68	3.73	-10.24	10.35	2.00	2.00	0.00
600.00	7.00	290.00	599.13	7.30	-20.07	20.28	2.00	2.00	0.00
Start DLS 2.00 TFO 30.26									
700.00	8.79	296.61	698.18	12.81	-32.62	33.54	2.00	1.79	6.61
800.00	10.65	300.97	796.74	20.98	-47.37	50.19	2.00	1.86	4.36
900.00	12.55	304.03	894.70	31.82	-64.30	70.18	2.00	1.90	3.06
1,000.00	14.48	306.29	991.92	45.30	-83.38	93.52	2.00	1.93	2.26
1,100.00	16.43	308.03	1,088.31	61.41	-104.60	120.15	2.00	1.95	1.74
1,166.99	17.74	308.98	1,152.34	73.66	-119.99	139.82	2.00	1.96	1.43
1,167.00	17.74	308.98	1,152.35	73.67	-119.99	139.83	2.00	2.00	0.00
Start 17.74° Hold At 1167.00'									
1,200.00	17.74	308.98	1,183.78	79.99	-127.80	149.88	0.00	0.00	0.00
1,300.00	17.74	308.98	1,279.03	99.15	-151.48	180.34	0.00	0.00	0.00
1,400.00	17.74	308.98	1,374.28	118.32	-175.16	210.80	0.00	0.00	0.00
1,500.00	17.74	308.98	1,469.52	137.48	-198.84	241.26	0.00	0.00	0.00
1,600.00	17.74	308.98	1,564.77	156.65	-222.52	271.72	0.00	0.00	0.00
1,700.00	17.74	308.98	1,660.02	175.81	-246.20	302.18	0.00	0.00	0.00
1,800.00	17.74	308.98	1,755.26	194.97	-269.88	332.64	0.00	0.00	0.00
1,900.00	17.74	308.98	1,850.51	214.14	-293.56	363.10	0.00	0.00	0.00
2,000.00	17.74	308.98	1,945.76	233.30	-317.24	393.56	0.00	0.00	0.00
2,100.00	17.74	308.98	2,041.01	252.47	-340.92	424.03	0.00	0.00	0.00
2,200.00	17.74	308.98	2,136.25	271.63	-364.60	454.49	0.00	0.00	0.00
2,300.00	17.74	308.98	2,231.50	290.79	-388.28	484.95	0.00	0.00	0.00
2,400.00	17.74	308.98	2,326.75	309.96	-411.96	515.41	0.00	0.00	0.00
2,500.00	17.74	308.98	2,421.99	329.12	-435.64	545.87	0.00	0.00	0.00
2,600.00	17.74	308.98	2,517.24	348.28	-459.32	576.33	0.00	0.00	0.00
2,700.00	17.74	308.98	2,612.49	367.45	-483.00	606.79	0.00	0.00	0.00
2,800.00	17.74	308.98	2,707.74	386.61	-506.68	637.25	0.00	0.00	0.00
2,900.00	17.74	308.98	2,802.98	405.78	-530.36	667.71	0.00	0.00	0.00
3,000.00	17.74	308.98	2,898.23	424.94	-554.04	698.17	0.00	0.00	0.00
3,100.00	17.74	308.98	2,993.48	444.10	-577.72	728.63	0.00	0.00	0.00
3,200.00	17.74	308.98	3,088.72	463.27	-601.40	759.09	0.00	0.00	0.00
3,300.00	17.74	308.98	3,183.97	482.43	-625.08	789.55	0.00	0.00	0.00
3,400.00	17.74	308.98	3,279.22	501.59	-648.76	820.01	0.00	0.00	0.00
3,500.00	17.74	308.98	3,374.47	520.76	-672.44	850.47	0.00	0.00	0.00
3,600.00	17.74	308.98	3,469.71	539.92	-696.12	880.93	0.00	0.00	0.00
3,700.00	17.74	308.98	3,564.96	559.09	-719.80	911.39	0.00	0.00	0.00
3,800.00	17.74	308.98	3,660.21	578.25	-743.48	941.85	0.00	0.00	0.00
3,900.00	17.74	308.98	3,755.45	597.41	-767.16	972.31	0.00	0.00	0.00
4,000.00	17.74	308.98	3,850.70	616.58	-790.84	1,002.77	0.00	0.00	0.00
4,100.00	17.74	308.98	3,945.95	635.74	-814.52	1,033.24	0.00	0.00	0.00
4,200.00	17.74	308.98	4,041.20	654.91	-838.20	1,063.70	0.00	0.00	0.00
4,300.00	17.74	308.98	4,136.44	674.07	-861.88	1,094.16	0.00	0.00	0.00
4,400.00	17.74	308.98	4,231.69	693.23	-885.56	1,124.62	0.00	0.00	0.00
4,500.00	17.74	308.98	4,326.94	712.40	-909.24	1,155.08	0.00	0.00	0.00
4,600.00	17.74	308.98	4,422.18	731.56	-932.92	1,185.54	0.00	0.00	0.00



Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-05-73 - Slot F
Company:	OXY USA RMAT	TVD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Site:	Cascade Creek 697-08A Pad	North Reference:	True
Well:	CC 697-05-73	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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)
4,700.00	17.74	308.98	4,517.43	750.72	-956.60	1,216.00	0.00	0.00	0.00
4,800.00	17.74	308.98	4,612.68	769.89	-980.28	1,246.46	0.00	0.00	0.00
4,900.00	17.74	308.98	4,707.93	789.05	-1,003.96	1,276.92	0.00	0.00	0.00
5,000.00	17.74	308.98	4,803.17	808.22	-1,027.64	1,307.38	0.00	0.00	0.00
5,100.00	17.74	308.98	4,898.42	827.38	-1,051.31	1,337.84	0.00	0.00	0.00
5,126.13	17.74	308.98	4,923.31	832.39	-1,057.50	1,345.80	0.00	0.00	0.00
Start Drop -2.00									
5,200.00	16.26	308.98	4,993.95	845.97	-1,074.29	1,367.39	2.00	-2.00	0.00
5,300.00	14.26	308.98	5,090.42	862.53	-1,094.74	1,393.71	2.00	-2.00	0.00
5,400.00	12.26	308.98	5,187.75	876.95	-1,112.57	1,416.64	2.00	-2.00	0.00
5,500.00	10.26	308.98	5,285.82	889.23	-1,127.75	1,436.16	2.00	-2.00	0.00
5,600.00	8.26	308.98	5,384.51	899.36	-1,140.25	1,452.24	2.00	-2.00	0.00
5,700.00	6.26	308.98	5,483.71	907.30	-1,150.07	1,464.88	2.00	-2.00	0.00
5,800.00	4.26	308.98	5,583.28	913.07	-1,157.20	1,474.04	2.00	-2.00	0.00
5,900.00	2.26	308.98	5,683.11	916.64	-1,161.61	1,479.72	2.00	-2.00	0.00
6,000.00	0.26	308.98	5,783.08	918.02	-1,163.32	1,481.92	2.00	-2.00	0.00
6,012.92	0.00	0.00	5,796.00	918.04	-1,163.34	1,481.95	2.00	-2.00	394.97
Start 0.00° Hold At 6012.92' - Mesaverde									
6,100.00	0.00	0.00	5,883.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
6,142.92	0.00	0.00	5,926.00	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
Base Ohio Creek									
6,200.00	0.00	0.00	5,983.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
6,300.00	0.00	0.00	6,083.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
6,400.00	0.00	0.00	6,183.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
6,500.00	0.00	0.00	6,283.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
6,600.00	0.00	0.00	6,383.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
6,700.00	0.00	0.00	6,483.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
6,800.00	0.00	0.00	6,583.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
6,842.92	0.00	0.00	6,626.00	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
TOG = 635588.62, 1224609.66									
6,900.00	0.00	0.00	6,683.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
7,000.00	0.00	0.00	6,783.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
7,100.00	0.00	0.00	6,883.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
7,200.00	0.00	0.00	6,983.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
7,300.00	0.00	0.00	7,083.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
7,400.00	0.00	0.00	7,183.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
7,500.00	0.00	0.00	7,283.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
7,600.00	0.00	0.00	7,383.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
7,700.00	0.00	0.00	7,483.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
7,800.00	0.00	0.00	7,583.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
7,900.00	0.00	0.00	7,683.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
8,000.00	0.00	0.00	7,783.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
8,073.92	0.00	0.00	7,857.00	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
Target = 635588.62, 1224609.66									
8,100.00	0.00	0.00	7,883.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
8,200.00	0.00	0.00	7,983.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
8,300.00	0.00	0.00	8,083.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
8,400.00	0.00	0.00	8,183.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
8,500.00	0.00	0.00	8,283.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
8,600.00	0.00	0.00	8,383.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
8,700.00	0.00	0.00	8,483.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
8,717.92	0.00	0.00	8,501.00	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
Rollins									



Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-05-73 - Slot F
Company:	OXY USA RMAT	TVD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Site:	Cascade Creek 697-08A Pad	North Reference:	True
Well:	CC 697-05-73	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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)
8,800.00	0.00	0.00	8,583.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
8,900.00	0.00	0.00	8,683.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
9,000.00	0.00	0.00	8,783.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
9,100.00	0.00	0.00	8,883.08	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
9,117.92	0.00	0.00	8,901.00	918.04	-1,163.34	1,481.95	0.00	0.00	0.00
PBHL = 635588.62, 1224609.66									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
CC 697-05-73 Target	0.00	0.00	7,857.00	918.04	-1,163.34	635,588.62	1,224,609.66	39° 32' 46.644 N	108° 14' 59.896 W
- hit/miss target									
- Shape									
- plan hits target center									
- Circle (radius 50.00)									

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,012.92	5,796.00	Mesaverde		0.00	
6,142.92	5,926.00	Base Ohio Creek		0.00	
8,717.92	8,501.00	Rollins		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
250.00	250.00	0.00	0.00	Start Build 2.00
600.00	599.13	7.30	-20.07	Start DLS 2.00 TFO 30.26
1,167.00	1,152.35	73.67	-119.99	Start 17.74° Hold At 1167.00'
5,126.13	4,923.31	832.39	-1,057.50	Start Drop -2.00
6,012.92	5,796.00	918.04	-1,163.34	Start 0.00° Hold At 6012.92'
6,842.92	6,626.00	918.04	-1,163.34	TOG = 635588.62, 1224609.66
8,073.92	7,857.00	918.04	-1,163.34	Target = 635588.62, 1224609.66
9,117.92	8,901.00	918.04	-1,163.34	PBHL = 635588.62, 1224609.66