



Scientific Drilling

Rocky Mountain Operations

Company: OXY USA RMAT
Project: Garfield County, CO NAD27
Site: Cascade Creek 697-05C Pad



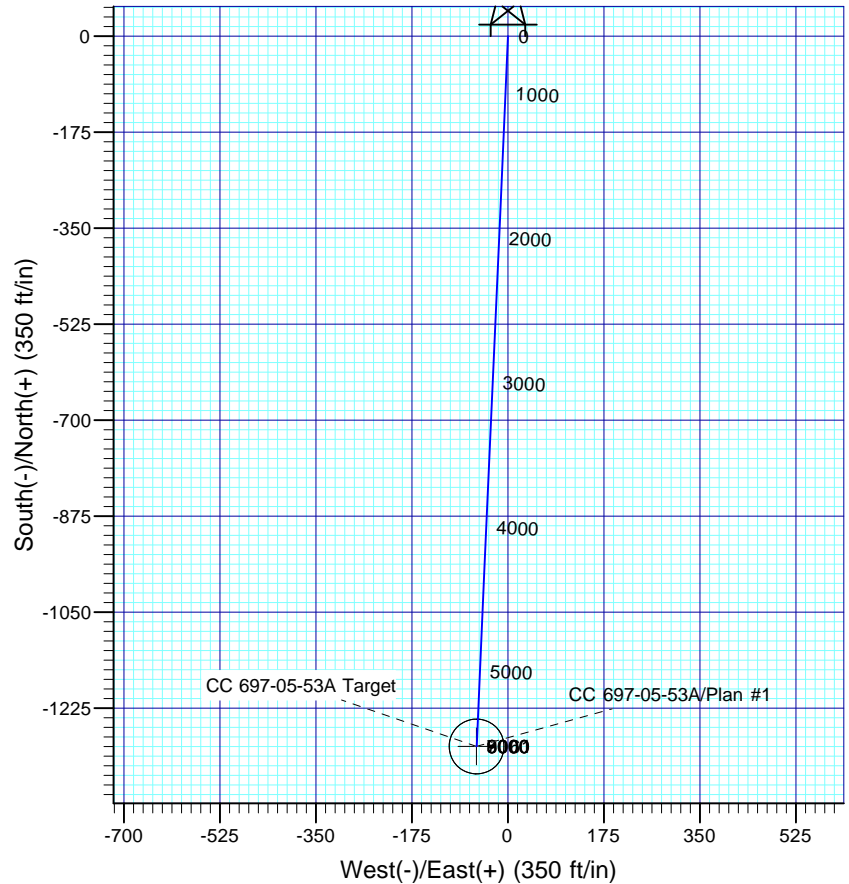
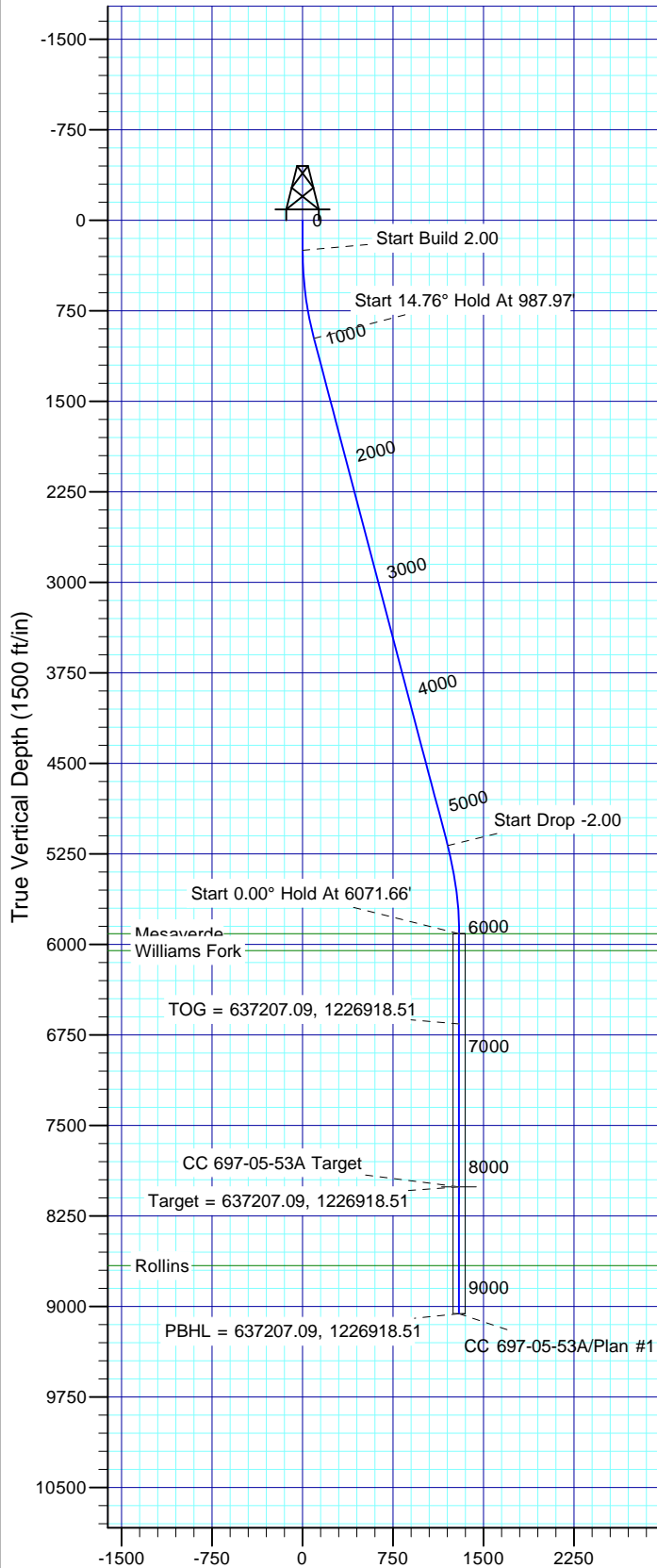
Well Details: CC 697-05-53A

TVD Reference: GL 8429' & RKB 30' @ 8459.00ft (H&P) Ground Level: 8429.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot D
0.00	0.00	638499.66	1227014.98	39° 33' 16.121 N	108° 14' 30.325 W	

T M Azimuths to True North
Magnetic North: 10.51°

Magnetic Field
Strength: 52311.5nT
Dip Angle: 65.77°
Date: 2010/12/16
Model: IGRF2005-10



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
5912.00	6071.66	Mesaverde
6052.00	6211.66	Williams Fork
8661.00	8820.66	Rollins

Plan: Plan #1

14:49, December 28 2010
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	VSec	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	987.97	14.76	182.54	979.83	-94.43	-4.19	2.00	182.54	94.53	
4	5333.69	14.76	182.54	5182.17	-1200.46	-53.24	0.00	0.00	0.00	
5	6071.66	0.00	0.00	5912.00	-1294.89	-57.42	2.00	180.00	1296.16	
6	8168.66	0.00	0.00	8009.00	-1294.89	-57.42	0.00	0.00	1296.16	CC 697-05-53A Target
7	9220.66	0.00	0.00	9061.00	-1294.89	-57.42	0.00	0.00	1296.16	

OXY USA RMAT

**Garfield County, CO NAD27
Cascade Creek 697-05C Pad
CC 697-05-53A - Slot D**

OH

Plan: Plan #1

Standard Planning Report

28 December, 2010

Scientific Drilling International

Planning Report

Database:	EDM-RexH-Local	Local Co-ordinate Reference:	Well CC 697-05-53A - Slot D
Company:	OXY USA RMAT	TVD Reference:	GL 8429' & RKB 30' @ 8459.00ft (H&P)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8429' & RKB 30' @ 8459.00ft (H&P)
Site:	Cascade Creek 697-05C Pad	North Reference:	True
Well:	CC 697-05-53A	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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 697-05C Pad, Sec. 5 T6S R97W		
Site Position:		Northing:	637,463.43 usft
From:	Map	Easting:	1,226,150.07 usft
Position Uncertainty:	0.00 ft	Slot Radius:	0.000 in
		Latitude:	39° 33' 5.626 N
		Longitude:	108° 14' 40.963 W
		Grid Convergence:	-1.73 °

Well	CC 697-05-53A - Slot D		
Well Position	+N/-S	1,061.89 ft	Northing: 638,499.66 usft
	+E/-W	833.22 ft	Easting: 1,227,014.98 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	Latitude: 39° 33' 16.121 N
			Longitude: 108° 14' 30.325 W
			Ground Level: 8,429.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	2010/12/16	10.51	65.77	52,312

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	182.54

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	
987.97	14.76	182.54	979.83	-94.43	-4.19	2.00	2.00	0.00	182.54	
5,333.69	14.76	182.54	5,182.17	-1,200.46	-53.24	0.00	0.00	0.00	0.00	
6,071.66	0.00	0.00	5,912.00	-1,294.89	-57.42	2.00	-2.00	0.00	180.00	
8,168.66	0.00	0.00	8,009.00	-1,294.89	-57.42	0.00	0.00	0.00	0.00	CC 697-05-53A Target
9,220.66	0.00	0.00	9,061.00	-1,294.89	-57.42	0.00	0.00	0.00	0.00	

Scientific Drilling International

Planning Report

Database:	EDM-RexH-Local	Local Co-ordinate Reference:	Well CC 697-05-53A - Slot D
Company:	OXY USA RMAT	TVD Reference:	GL 8429' & RKB 30' @ 8459.00ft (H&P)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8429' & RKB 30' @ 8459.00ft (H&P)
Site:	Cascade Creek 697-05C Pad	North Reference:	True
Well:	CC 697-05-53A	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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	182.54	300.00	-0.44	-0.02	0.44	2.00	2.00	0.00
400.00	3.00	182.54	399.93	-3.92	-0.17	3.93	2.00	2.00	0.00
500.00	5.00	182.54	499.68	-10.89	-0.48	10.90	2.00	2.00	0.00
600.00	7.00	182.54	599.13	-21.33	-0.95	21.35	2.00	2.00	0.00
700.00	9.00	182.54	698.15	-35.24	-1.56	35.27	2.00	2.00	0.00
800.00	11.00	182.54	796.63	-52.58	-2.33	52.63	2.00	2.00	0.00
900.00	13.00	182.54	894.44	-73.35	-3.25	73.42	2.00	2.00	0.00
987.97	14.76	182.54	979.83	-94.43	-4.19	94.53	2.00	2.00	0.00
Start 14.76° Hold At 987.97'									
1,000.00	14.76	182.54	991.47	-97.50	-4.32	97.59	0.00	0.00	0.00
1,100.00	14.76	182.54	1,088.17	-122.95	-5.45	123.07	0.00	0.00	0.00
1,200.00	14.76	182.54	1,184.87	-148.40	-6.58	148.54	0.00	0.00	0.00
1,300.00	14.76	182.54	1,281.57	-173.85	-7.71	174.02	0.00	0.00	0.00
1,400.00	14.76	182.54	1,378.27	-199.30	-8.84	199.49	0.00	0.00	0.00
1,500.00	14.76	182.54	1,474.97	-224.75	-9.97	224.97	0.00	0.00	0.00
1,600.00	14.76	182.54	1,571.67	-250.20	-11.10	250.45	0.00	0.00	0.00
1,700.00	14.76	182.54	1,668.37	-275.65	-12.22	275.92	0.00	0.00	0.00
1,800.00	14.76	182.54	1,765.07	-301.10	-13.35	301.40	0.00	0.00	0.00
1,900.00	14.76	182.54	1,861.77	-326.55	-14.48	326.87	0.00	0.00	0.00
2,000.00	14.76	182.54	1,958.47	-352.00	-15.61	352.35	0.00	0.00	0.00
2,100.00	14.76	182.54	2,055.17	-377.46	-16.74	377.83	0.00	0.00	0.00
2,200.00	14.76	182.54	2,151.87	-402.91	-17.87	403.30	0.00	0.00	0.00
2,300.00	14.76	182.54	2,248.57	-428.36	-19.00	428.78	0.00	0.00	0.00
2,400.00	14.76	182.54	2,345.27	-453.81	-20.12	454.25	0.00	0.00	0.00
2,500.00	14.76	182.54	2,441.98	-479.26	-21.25	479.73	0.00	0.00	0.00
2,600.00	14.76	182.54	2,538.68	-504.71	-22.38	505.21	0.00	0.00	0.00
2,700.00	14.76	182.54	2,635.38	-530.16	-23.51	530.68	0.00	0.00	0.00
2,800.00	14.76	182.54	2,732.08	-555.61	-24.64	556.16	0.00	0.00	0.00
2,900.00	14.76	182.54	2,828.78	-581.06	-25.77	581.63	0.00	0.00	0.00
3,000.00	14.76	182.54	2,925.48	-606.51	-26.90	607.11	0.00	0.00	0.00
3,100.00	14.76	182.54	3,022.18	-631.96	-28.02	632.59	0.00	0.00	0.00
3,200.00	14.76	182.54	3,118.88	-657.42	-29.15	658.06	0.00	0.00	0.00
3,300.00	14.76	182.54	3,215.58	-682.87	-30.28	683.54	0.00	0.00	0.00
3,400.00	14.76	182.54	3,312.28	-708.32	-31.41	709.01	0.00	0.00	0.00
3,500.00	14.76	182.54	3,408.98	-733.77	-32.54	734.49	0.00	0.00	0.00
3,600.00	14.76	182.54	3,505.68	-759.22	-33.67	759.97	0.00	0.00	0.00
3,700.00	14.76	182.54	3,602.38	-784.67	-34.80	785.44	0.00	0.00	0.00
3,800.00	14.76	182.54	3,699.08	-810.12	-35.93	810.92	0.00	0.00	0.00
3,900.00	14.76	182.54	3,795.78	-835.57	-37.05	836.39	0.00	0.00	0.00
4,000.00	14.76	182.54	3,892.48	-861.02	-38.18	861.87	0.00	0.00	0.00
4,100.00	14.76	182.54	3,989.18	-886.47	-39.31	887.34	0.00	0.00	0.00
4,200.00	14.76	182.54	4,085.88	-911.92	-40.44	912.82	0.00	0.00	0.00
4,300.00	14.76	182.54	4,182.58	-937.38	-41.57	938.30	0.00	0.00	0.00
4,400.00	14.76	182.54	4,279.28	-962.83	-42.70	963.77	0.00	0.00	0.00
4,500.00	14.76	182.54	4,375.98	-988.28	-43.83	989.25	0.00	0.00	0.00
4,600.00	14.76	182.54	4,472.68	-1,013.73	-44.95	1,014.72	0.00	0.00	0.00
4,700.00	14.76	182.54	4,569.39	-1,039.18	-46.08	1,040.20	0.00	0.00	0.00
4,800.00	14.76	182.54	4,666.09	-1,064.63	-47.21	1,065.68	0.00	0.00	0.00
4,900.00	14.76	182.54	4,762.79	-1,090.08	-48.34	1,091.15	0.00	0.00	0.00

Scientific Drilling International

Planning Report

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Company:	OXY USA RMAT	TVD Reference:	GL 8429' & RKB 30' @ 8459.00ft (H&P)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8429' & RKB 30' @ 8459.00ft (H&P)
Site:	Cascade Creek 697-05C Pad	North Reference:	True
Well:	CC 697-05-53A	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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)
5,000.00	14.76	182.54	4,859.49	-1,115.53	-49.47	1,116.63	0.00	0.00	0.00
5,100.00	14.76	182.54	4,956.19	-1,140.98	-50.60	1,142.10	0.00	0.00	0.00
5,200.00	14.76	182.54	5,052.89	-1,166.43	-51.73	1,167.58	0.00	0.00	0.00
5,300.00	14.76	182.54	5,149.59	-1,191.88	-52.86	1,193.06	0.00	0.00	0.00
5,333.69	14.76	182.54	5,182.17	-1,200.46	-53.24	1,201.64	0.00	0.00	0.00
Start Drop -2.00									
5,400.00	13.43	182.54	5,246.48	-1,216.59	-53.95	1,217.79	2.00	-2.00	0.00
5,500.00	11.43	182.54	5,344.13	-1,238.10	-54.90	1,239.32	2.00	-2.00	0.00
5,600.00	9.43	182.54	5,442.47	-1,256.19	-55.71	1,257.43	2.00	-2.00	0.00
5,700.00	7.43	182.54	5,541.38	-1,270.84	-56.36	1,272.09	2.00	-2.00	0.00
5,800.00	5.43	182.54	5,640.75	-1,282.03	-56.85	1,283.29	2.00	-2.00	0.00
5,900.00	3.43	182.54	5,740.44	-1,289.76	-57.20	1,291.02	2.00	-2.00	0.00
6,000.00	1.43	182.54	5,840.35	-1,294.00	-57.38	1,295.27	2.00	-2.00	0.00
6,071.66	0.00	0.00	5,912.00	-1,294.89	-57.42	1,296.16	2.00	-2.00	0.00
Start 0.00° Hold At 6071.66' - Mesaverde									
6,100.00	0.00	0.00	5,940.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
6,200.00	0.00	0.00	6,040.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
6,211.66	0.00	0.00	6,052.00	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
Williams Fork									
6,300.00	0.00	0.00	6,140.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
6,400.00	0.00	0.00	6,240.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
6,500.00	0.00	0.00	6,340.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
6,600.00	0.00	0.00	6,440.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
6,700.00	0.00	0.00	6,540.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
6,800.00	0.00	0.00	6,640.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
6,818.66	0.00	0.00	6,659.00	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
TOG = 637207.09, 1226918.51									
6,900.00	0.00	0.00	6,740.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
7,000.00	0.00	0.00	6,840.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
7,100.00	0.00	0.00	6,940.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
7,200.00	0.00	0.00	7,040.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
7,300.00	0.00	0.00	7,140.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
7,400.00	0.00	0.00	7,240.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
7,500.00	0.00	0.00	7,340.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
7,600.00	0.00	0.00	7,440.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
7,700.00	0.00	0.00	7,540.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
7,800.00	0.00	0.00	7,640.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
7,900.00	0.00	0.00	7,740.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
8,000.00	0.00	0.00	7,840.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
8,100.00	0.00	0.00	7,940.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
8,168.66	0.00	0.00	8,009.00	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
Target = 637207.09, 1226918.51									
8,200.00	0.00	0.00	8,040.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
8,300.00	0.00	0.00	8,140.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
8,400.00	0.00	0.00	8,240.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
8,500.00	0.00	0.00	8,340.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
8,600.00	0.00	0.00	8,440.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
8,700.00	0.00	0.00	8,540.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
8,800.00	0.00	0.00	8,640.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
8,820.66	0.00	0.00	8,661.00	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
Rollins									
8,900.00	0.00	0.00	8,740.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
9,000.00	0.00	0.00	8,840.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00

Scientific Drilling International

Planning Report

Database:	EDM-RexH-Local	Local Co-ordinate Reference:	Well CC 697-05-53A - Slot D
Company:	OXY USA RMAT	TVD Reference:	GL 8429' & RKB 30' @ 8459.00ft (H&P)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8429' & RKB 30' @ 8459.00ft (H&P)
Site:	Cascade Creek 697-05C Pad	North Reference:	True
Well:	CC 697-05-53A	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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)
9,100.00	0.00	0.00	8,940.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
9,200.00	0.00	0.00	9,040.34	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
9,220.66	0.00	0.00	9,061.00	-1,294.89	-57.42	1,296.16	0.00	0.00	0.00
PBHL = 637207.09, 1226918.51									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
CC 697-05-53A Target - plan hits target center - Circle (radius 50.00)	0.00	0.00	8,009.00	-1,294.89	-57.42	637,207.10	1,226,918.51	39° 33' 3.323 N	108° 14' 31.058 W

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,071.66	5,912.00	Mesaverde		0.00	
6,211.66	6,052.00	Williams Fork		0.00	
8,820.66	8,661.00	Rollins		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
250.00	250.00	0.00	0.00	Start Build 2.00
987.97	979.83	-94.43	-4.19	Start 14.76° Hold At 987.97'
5,333.69	5,182.17	-1,200.46	-53.24	Start Drop -2.00
6,071.66	5,912.00	-1,294.89	-57.42	Start 0.00° Hold At 6071.66'
6,818.66	6,659.00	-1,294.89	-57.42	TOG = 637207.09, 1226918.51
8,168.66	8,009.00	-1,294.89	-57.42	Target = 637207.09, 1226918.51
9,220.66	9,061.00	-1,294.89	-57.42	PBHL = 637207.09, 1226918.51