



Scientific Drilling
Rocky Mountain Operations

Company: OXY USA RMAT
Project: Garfield County, CO NAD27
Site: Cascade Creek 697-04D Pad



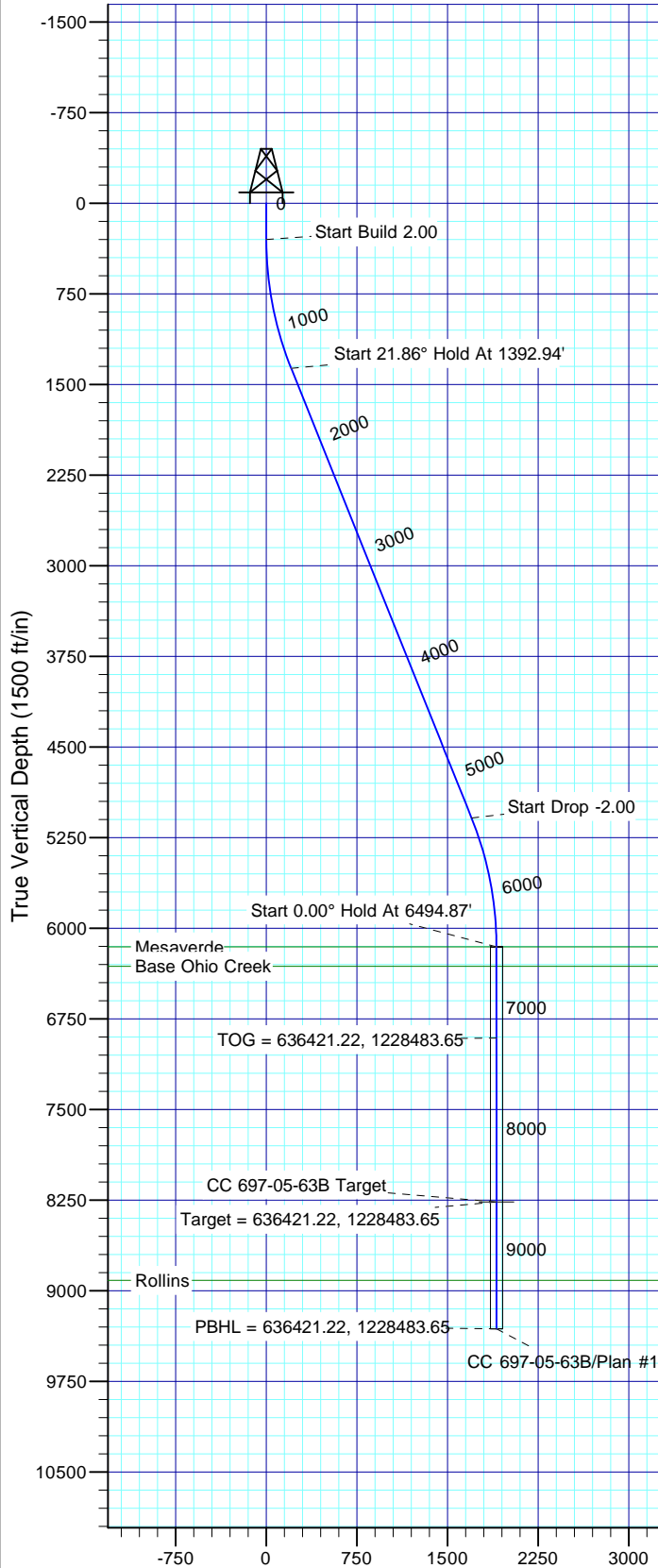
Well Details: CC 697-05-63B

TVD Reference: GL 8629' & RKB 30' @ 8659.00ft (H&P) Ground Level: 8629.00
+N/-S 0.00 +E/-W 0.00 Northing 636330.35 Easting 1230386.03 Latitude 39° 32' 55.693 N Longitude 108° 13' 46.474 W Slot P

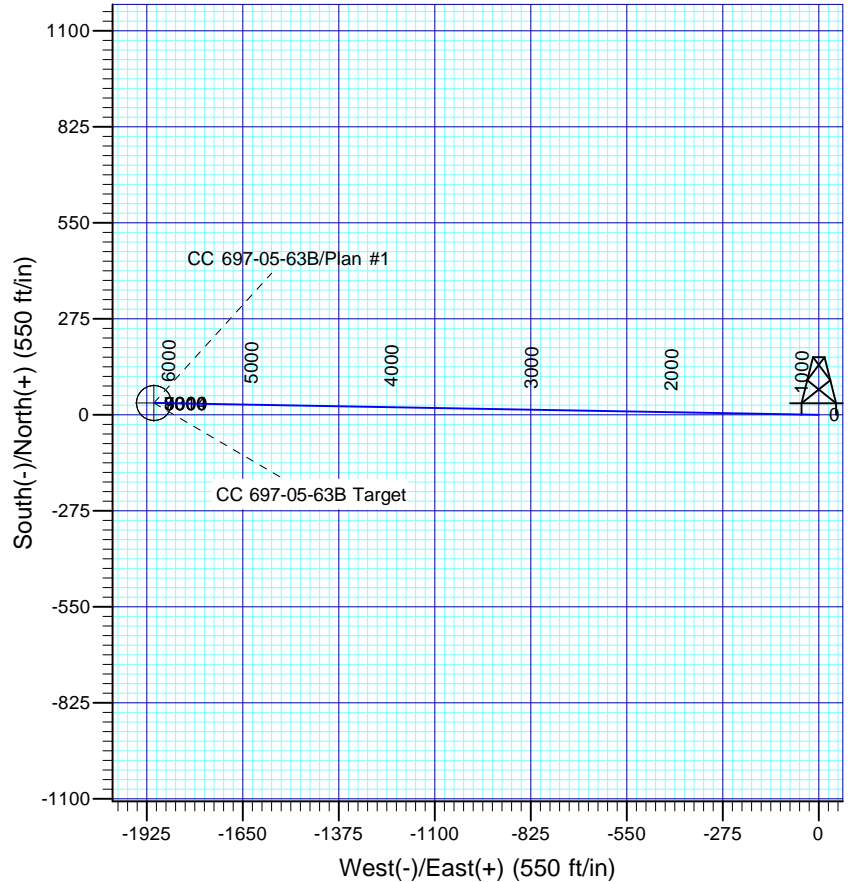


Azimuths to True North
Magnetic North: 10.47°

Magnetic Field
Strength: 52282.7snT
Dip Angle: 65.76°
Date: 2011/03/23
Model: IGRF2005-10



Vertical Section at 271.01° (1500 ft/in)



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
6154.00	6494.87	Mesaverde
6314.00	6654.87	Base Ohio Creek
8914.00	9254.87	Rollins

Plan: Plan #1

15:49, March 29 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	V Sect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	1392.94	21.86	271.01	1366.62	3.64	-205.93	2.00	271.01	205.96	
4	5401.93	21.86	271.01	5087.38	30.04	-1698.33	0.00	0.00	1698.59	
5	6494.87	0.00	0.00	6154.00	33.68	-1904.26	2.00	180.00	1904.56	
6	8604.87	0.00	0.00	8264.00	33.68	-1904.26	0.00	0.00	1904.56	CC 697-05-63B Target
7	9654.87	0.00	0.00	9314.00	33.68	-1904.26	0.00	0.00	1904.56	

OXY USA RMAT

**Garfield County, CO NAD27
Cascade Creek 697-04D Pad
CC 697-05-63B - Slot P**

OH

Plan: Plan #1

Standard Planning Report

29 March, 2011

Scientific Drilling International

Planning Report

Database:	EDM-RexH-Local	Local Co-ordinate Reference:	Well CC 697-05-63B - Slot P
Company:	OXY USA RMAT	TVD Reference:	GL 8629' & RKB 30' @ 8659.00ft (H&P)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8629' & RKB 30' @ 8659.00ft (H&P)
Site:	Cascade Creek 697-04D Pad	North Reference:	True
Well:	CC 697-05-63B	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 697-04D Pad		
Site Position:		Northing:	635,530.62 usft
From:	Map	Easting:	1,230,276.10 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	39° 32' 47.760 N
		Longitude:	108° 13' 47.570 W
		Grid Convergence:	-1.72 °

Well	CC 697-05-63B - Slot P		
Well Position	+N/-S	802.67 ft	Northing: 636,330.35 usft
	+E/-W	85.85 ft	Easting: 1,230,386.03 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	Latitude: 39° 32' 55.693 N
			Longitude: 108° 13' 46.474 W
			Ground Level: 8,629.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	2011/03/23	10.47	65.76	52,283

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	271.01

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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,392.94	21.86	271.01	1,366.62	3.64	-205.93	2.00	2.00	0.00	271.01	
5,401.93	21.86	271.01	5,087.38	30.04	-1,698.33	0.00	0.00	0.00	0.00	
6,494.87	0.00	0.00	6,154.00	33.68	-1,904.26	2.00	-2.00	0.00	180.00	
8,604.87	0.00	0.00	8,264.00	33.68	-1,904.26	0.00	0.00	0.00	0.00	CC 697-05-63B Target
9,654.87	0.00	0.00	9,314.00	33.68	-1,904.26	0.00	0.00	0.00	0.00	

Scientific Drilling International

Planning Report

Database:	EDM-RexH-Local	Local Co-ordinate Reference:	Well CC 697-05-63B - Slot P
Company:	OXY USA RMAT	TVD Reference:	GL 8629' & RKB 30' @ 8659.00ft (H&P)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8629' & RKB 30' @ 8659.00ft (H&P)
Site:	Cascade Creek 697-04D Pad	North Reference:	True
Well:	CC 697-05-63B	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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
400.00	2.00	271.01	399.98	0.03	-1.74	1.75	2.00	2.00	0.00
500.00	4.00	271.01	499.84	0.12	-6.98	6.98	2.00	2.00	0.00
600.00	6.00	271.01	599.45	0.28	-15.69	15.69	2.00	2.00	0.00
700.00	8.00	271.01	698.70	0.49	-27.88	27.88	2.00	2.00	0.00
800.00	10.00	271.01	797.47	0.77	-43.52	43.52	2.00	2.00	0.00
900.00	12.00	271.01	895.62	1.11	-62.59	62.60	2.00	2.00	0.00
1,000.00	14.00	271.01	993.06	1.50	-85.08	85.10	2.00	2.00	0.00
1,100.00	16.00	271.01	1,089.64	1.96	-110.96	110.98	2.00	2.00	0.00
1,200.00	18.00	271.01	1,185.27	2.48	-140.19	140.21	2.00	2.00	0.00
1,300.00	20.00	271.01	1,279.82	3.06	-172.74	172.77	2.00	2.00	0.00
1,392.94	21.86	271.01	1,366.62	3.64	-205.93	205.96	2.00	2.00	0.00
Start 21.86° Hold At 1392.94'									
1,400.00	21.86	271.01	1,373.17	3.69	-208.56	208.59	0.00	0.00	0.00
1,500.00	21.86	271.01	1,465.98	4.35	-245.79	245.83	0.00	0.00	0.00
1,600.00	21.86	271.01	1,558.79	5.01	-283.01	283.06	0.00	0.00	0.00
1,700.00	21.86	271.01	1,651.60	5.66	-320.24	320.29	0.00	0.00	0.00
1,800.00	21.86	271.01	1,744.41	6.32	-357.47	357.52	0.00	0.00	0.00
1,900.00	21.86	271.01	1,837.22	6.98	-394.69	394.75	0.00	0.00	0.00
2,000.00	21.86	271.01	1,930.03	7.64	-431.92	431.99	0.00	0.00	0.00
2,100.00	21.86	271.01	2,022.85	8.30	-469.14	469.22	0.00	0.00	0.00
2,200.00	21.86	271.01	2,115.66	8.96	-506.37	506.45	0.00	0.00	0.00
2,300.00	21.86	271.01	2,208.47	9.62	-543.60	543.68	0.00	0.00	0.00
2,400.00	21.86	271.01	2,301.28	10.27	-580.82	580.91	0.00	0.00	0.00
2,500.00	21.86	271.01	2,394.09	10.93	-618.05	618.15	0.00	0.00	0.00
2,600.00	21.86	271.01	2,486.90	11.59	-655.28	655.38	0.00	0.00	0.00
2,700.00	21.86	271.01	2,579.71	12.25	-692.50	692.61	0.00	0.00	0.00
2,800.00	21.86	271.01	2,672.52	12.91	-729.73	729.84	0.00	0.00	0.00
2,900.00	21.86	271.01	2,765.33	13.57	-766.95	767.07	0.00	0.00	0.00
3,000.00	21.86	271.01	2,858.14	14.22	-804.18	804.31	0.00	0.00	0.00
3,100.00	21.86	271.01	2,950.95	14.88	-841.41	841.54	0.00	0.00	0.00
3,200.00	21.86	271.01	3,043.76	15.54	-878.63	878.77	0.00	0.00	0.00
3,300.00	21.86	271.01	3,136.57	16.20	-915.86	916.00	0.00	0.00	0.00
3,400.00	21.86	271.01	3,229.38	16.86	-953.08	953.23	0.00	0.00	0.00
3,500.00	21.86	271.01	3,322.19	17.52	-990.31	990.47	0.00	0.00	0.00
3,600.00	21.86	271.01	3,415.00	18.17	-1,027.54	1,027.70	0.00	0.00	0.00
3,700.00	21.86	271.01	3,507.81	18.83	-1,064.76	1,064.93	0.00	0.00	0.00
3,800.00	21.86	271.01	3,600.62	19.49	-1,101.99	1,102.16	0.00	0.00	0.00
3,900.00	21.86	271.01	3,693.43	20.15	-1,139.21	1,139.39	0.00	0.00	0.00
4,000.00	21.86	271.01	3,786.24	20.81	-1,176.44	1,176.62	0.00	0.00	0.00
4,100.00	21.86	271.01	3,879.05	21.47	-1,213.67	1,213.86	0.00	0.00	0.00
4,200.00	21.86	271.01	3,971.87	22.13	-1,250.89	1,251.09	0.00	0.00	0.00
4,300.00	21.86	271.01	4,064.68	22.78	-1,288.12	1,288.32	0.00	0.00	0.00
4,400.00	21.86	271.01	4,157.49	23.44	-1,325.35	1,325.55	0.00	0.00	0.00
4,500.00	21.86	271.01	4,250.30	24.10	-1,362.57	1,362.78	0.00	0.00	0.00
4,600.00	21.86	271.01	4,343.11	24.76	-1,399.80	1,400.02	0.00	0.00	0.00
4,700.00	21.86	271.01	4,435.92	25.42	-1,437.02	1,437.25	0.00	0.00	0.00
4,800.00	21.86	271.01	4,528.73	26.08	-1,474.25	1,474.48	0.00	0.00	0.00
4,900.00	21.86	271.01	4,621.54	26.73	-1,511.48	1,511.71	0.00	0.00	0.00
5,000.00	21.86	271.01	4,714.35	27.39	-1,548.70	1,548.94	0.00	0.00	0.00

Scientific Drilling International

Planning Report

Database:	EDM-RexH-Local	Local Co-ordinate Reference:	Well CC 697-05-63B - Slot P
Company:	OXY USA RMAT	TVD Reference:	GL 8629' & RKB 30' @ 8659.00ft (H&P)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8629' & RKB 30' @ 8659.00ft (H&P)
Site:	Cascade Creek 697-04D Pad	North Reference:	True
Well:	CC 697-05-63B	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)
5,100.00	21.86	271.01	4,807.16	28.05	-1,585.93	1,586.18	0.00	0.00	0.00
5,200.00	21.86	271.01	4,899.97	28.71	-1,623.15	1,623.41	0.00	0.00	0.00
5,300.00	21.86	271.01	4,992.78	29.37	-1,660.38	1,660.64	0.00	0.00	0.00
5,400.00	21.86	271.01	5,085.59	30.03	-1,697.61	1,697.87	0.00	0.00	0.00
5,401.93	21.86	271.01	5,087.38	30.04	-1,698.33	1,698.59	0.00	0.00	0.00
Start Drop -2.00									
5,500.00	19.90	271.01	5,179.01	30.66	-1,733.27	1,733.54	2.00	-2.00	0.00
5,600.00	17.90	271.01	5,273.61	31.23	-1,765.65	1,765.92	2.00	-2.00	0.00
5,700.00	15.90	271.01	5,369.29	31.74	-1,794.71	1,794.99	2.00	-2.00	0.00
5,800.00	13.90	271.01	5,465.93	32.20	-1,820.41	1,820.70	2.00	-2.00	0.00
5,900.00	11.90	271.01	5,563.40	32.59	-1,842.73	1,843.02	2.00	-2.00	0.00
6,000.00	9.90	271.01	5,661.59	32.93	-1,861.63	1,861.92	2.00	-2.00	0.00
6,100.00	7.90	271.01	5,760.38	33.20	-1,877.09	1,877.39	2.00	-2.00	0.00
6,200.00	5.90	271.01	5,859.65	33.41	-1,889.10	1,889.39	2.00	-2.00	0.00
6,300.00	3.90	271.01	5,959.28	33.57	-1,897.63	1,897.93	2.00	-2.00	0.00
6,400.00	1.90	271.01	6,059.15	33.65	-1,902.69	1,902.99	2.00	-2.00	0.00
6,494.87	0.00	0.00	6,154.00	33.68	-1,904.26	1,904.56	2.00	-2.00	93.80
Start 0.00° Hold At 6494.87' - Mesaverde									
6,500.00	0.00	0.00	6,159.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
6,600.00	0.00	0.00	6,259.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
6,654.87	0.00	0.00	6,314.00	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
Base Ohio Creek									
6,700.00	0.00	0.00	6,359.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
6,800.00	0.00	0.00	6,459.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
6,900.00	0.00	0.00	6,559.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
7,000.00	0.00	0.00	6,659.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
7,100.00	0.00	0.00	6,759.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
7,200.00	0.00	0.00	6,859.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
7,249.87	0.00	0.00	6,909.00	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
TOG = 636421.22, 1228483.65									
7,300.00	0.00	0.00	6,959.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
7,400.00	0.00	0.00	7,059.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
7,500.00	0.00	0.00	7,159.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
7,600.00	0.00	0.00	7,259.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
7,700.00	0.00	0.00	7,359.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
7,800.00	0.00	0.00	7,459.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
7,900.00	0.00	0.00	7,559.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
8,000.00	0.00	0.00	7,659.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
8,100.00	0.00	0.00	7,759.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
8,200.00	0.00	0.00	7,859.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
8,300.00	0.00	0.00	7,959.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
8,400.00	0.00	0.00	8,059.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
8,500.00	0.00	0.00	8,159.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
8,600.00	0.00	0.00	8,259.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
8,604.87	0.00	0.00	8,264.00	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
Target = 636421.22, 1228483.65									
8,700.00	0.00	0.00	8,359.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
8,800.00	0.00	0.00	8,459.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
8,900.00	0.00	0.00	8,559.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
9,000.00	0.00	0.00	8,659.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
9,100.00	0.00	0.00	8,759.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
9,200.00	0.00	0.00	8,859.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
9,254.87	0.00	0.00	8,914.00	33.68	-1,904.26	1,904.56	0.00	0.00	0.00

Scientific Drilling International

Planning Report

Database:	EDM-RexH-Local	Local Co-ordinate Reference:	Well CC 697-05-63B - Slot P
Company:	OXY USA RMAT	TVD Reference:	GL 8629' & RKB 30' @ 8659.00ft (H&P)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8629' & RKB 30' @ 8659.00ft (H&P)
Site:	Cascade Creek 697-04D Pad	North Reference:	True
Well:	CC 697-05-63B	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)
Rollins									
9,300.00	0.00	0.00	8,959.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
9,400.00	0.00	0.00	9,059.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
9,500.00	0.00	0.00	9,159.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
9,600.00	0.00	0.00	9,259.13	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
9,654.87	0.00	0.00	9,314.00	33.68	-1,904.26	1,904.56	0.00	0.00	0.00
PBHL = 636421.22, 1228483.65									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
CC 697-05-63B Target	0.00	0.00	8,264.00	33.68	-1,904.26	636,421.23	1,228,483.64	39° 32' 56.025 N	108° 14' 10.784 W
- plan hits target center									
- Circle (radius 50.00)									

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,494.87	6,154.00	Mesaverde		0.00	
6,654.87	6,314.00	Base Ohio Creek		0.00	
9,254.87	8,914.00	Rollins		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
300.00	300.00	0.00	0.00	Start Build 2.00
1,392.94	1,366.62	3.64	-205.93	Start 21.86° Hold At 1392.94'
5,401.93	5,087.38	30.04	-1,698.33	Start Drop -2.00
6,494.87	6,154.00	33.68	-1,904.26	Start 0.00° Hold At 6494.87'
7,249.87	6,909.00	33.68	-1,904.26	TOG = 636421.22, 1228483.65
8,604.87	8,264.00	33.68	-1,904.26	Target = 636421.22, 1228483.65
9,654.87	9,314.00	33.68	-1,904.26	PBHL = 636421.22, 1228483.65