



Scientific Drilling
Rocky Mountain Operations

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



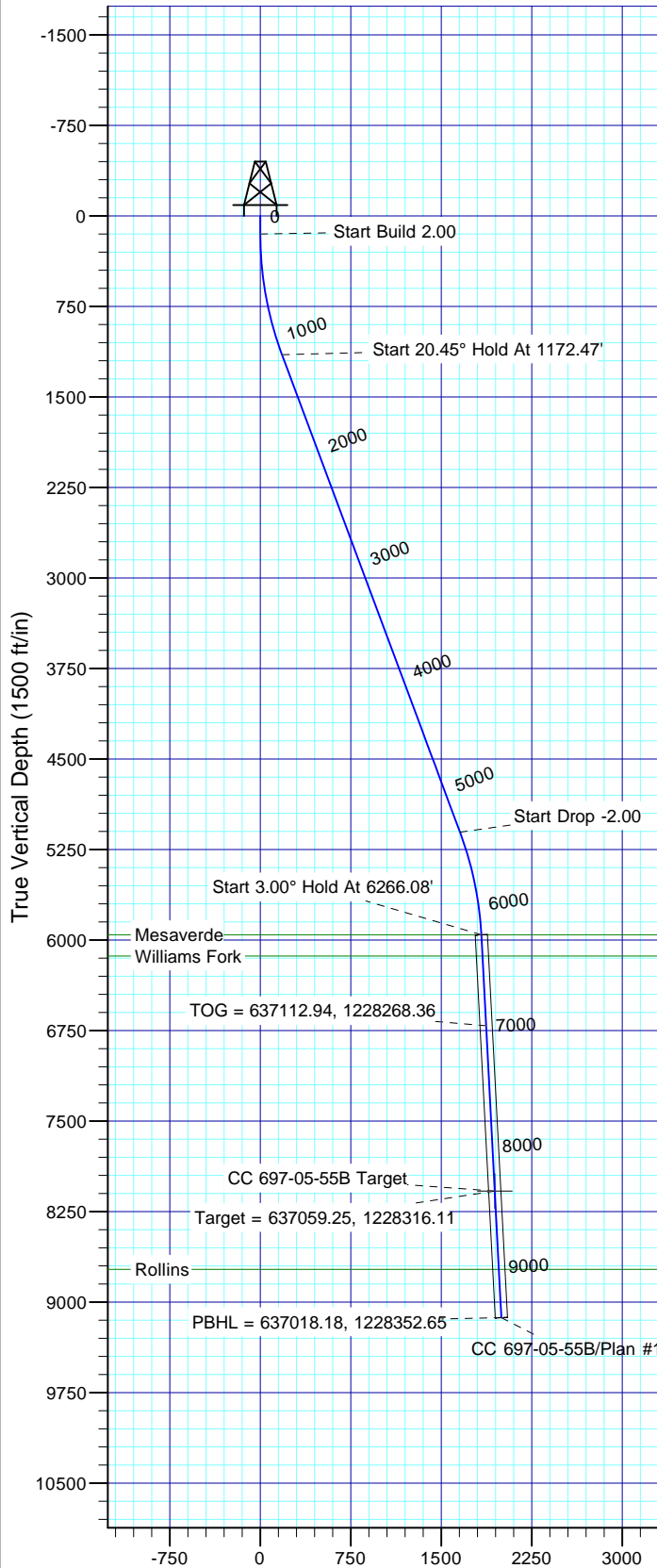
Well Details: CC 697-05-55B

TVD Reference: GL 8429' & RKB 30' @ 8459.00ft (H&P) Ground Level: 8429.00
+N/-S 0.00 +E/-W 0.00 Northing 638511.15 Easting 1227024.63 Latitude 39° 33' 16.237 N Longitude 108° 14' 30.207 W Slot H

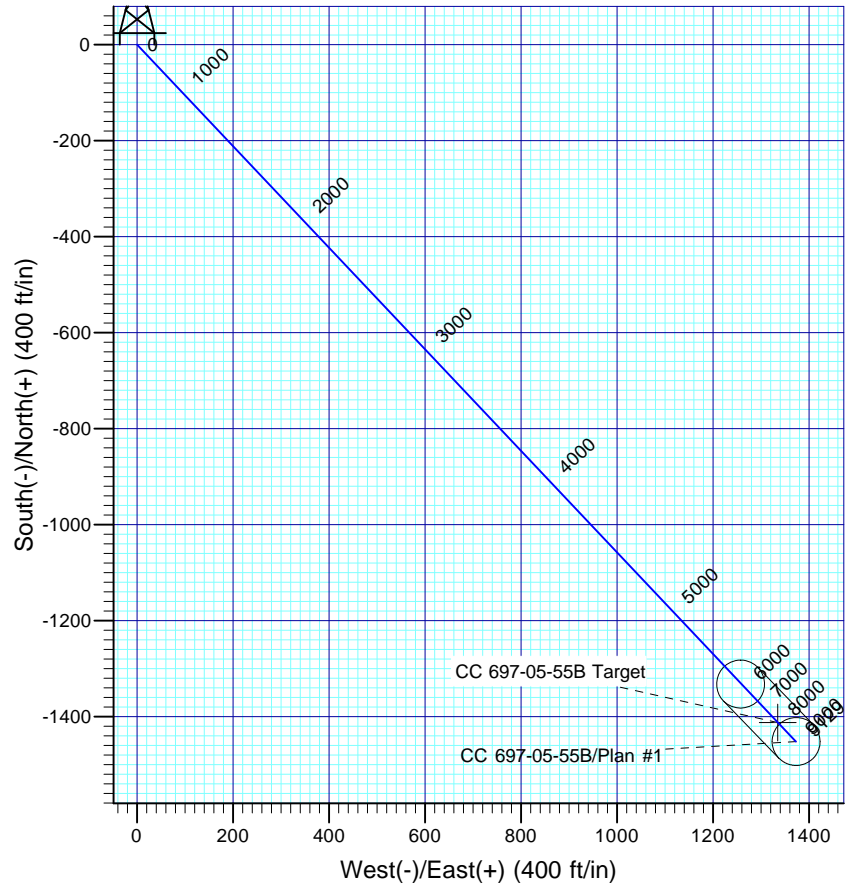


Azimuths to True North
Magnetic North: 10.51°

Magnetic Field
Strength: 52311.6snT
Dip Angle: 65.77°
Date: 2010/12/16
Model: IGRF2005-10



Vertical Section at 136.62° (1500 ft/in)



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
5957.00	6266.08	Mesaverde
6132.00	6441.32	Williams Fork
8729.00	9041.89	Rollins

Plan: Plan #1

15:04, 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	150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	
3	1172.47	20.45	136.62	1150.90	-131.21	124.00	2.00	136.62	180.53	
4	5393.62	20.45	136.62	5106.04	-1203.05	1136.98	0.00	0.00	1655.31	
5	6266.08	3.00	136.62	5957.00	-1331.41	1258.29	2.00	180.00	1831.92	
6	8391.99	3.00	136.62	8080.00	-1412.27	1334.71	0.00	0.00	1943.18	CC 697-05-55B Target
7	9442.43	3.00	136.62	9129.00	-1452.23	1372.47	0.00	0.00	1998.16	

OXY USA RMAT

**Garfield County, CO NAD27
Cascade Creek 697-05C Pad
CC 697-05-55B - Slot H**

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 697-05-55B - Slot H
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 697-05-55B	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	Latitude:	39° 33' 5.626 N
From:	Map	Easting:	1,226,150.07 usft	Longitude:	108° 14' 40.963 W
Position Uncertainty:	0.00 ft	Slot Radius:	0.000 in	Grid Convergence:	-1.73 °

Well	CC 697-05-55B - Slot H					
Well Position	+N/-S	1,073.67 ft	Northing:	638,511.16 usft	Latitude:	39° 33' 16.237 N
	+E/-W	842.51 ft	Easting:	1,227,024.62 usft	Longitude:	108° 14' 30.207 W
Position Uncertainty		0.00 ft	Wellhead Elevation:		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) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	136.62

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	
150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,172.47	20.45	136.62	1,150.90	-131.21	124.00	2.00	2.00	0.00	136.62	
5,393.62	20.45	136.62	5,106.04	-1,203.05	1,136.98	0.00	0.00	0.00	0.00	
6,266.08	3.00	136.62	5,957.00	-1,331.41	1,258.29	2.00	-2.00	0.00	180.00	
8,391.99	3.00	136.62	8,080.00	-1,412.27	1,334.71	0.00	0.00	0.00	0.00	CC 697-05-55B Target
9,442.43	3.00	136.62	9,129.00	-1,452.23	1,372.47	0.00	0.00	0.00	0.00	

Scientific Drilling International

Planning Report

Database:	EDM-RexH-Local	Local Co-ordinate Reference:	Well CC 697-05-55B - Slot H
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 697-05-55B	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
150.00	0.00	0.00	150.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
200.00	1.00	136.62	200.00	-0.32	0.30	0.44	2.00	2.00	0.00
300.00	3.00	136.62	299.93	-2.85	2.70	3.93	2.00	2.00	0.00
400.00	5.00	136.62	399.68	-7.92	7.49	10.90	2.00	2.00	0.00
500.00	7.00	136.62	499.13	-15.52	14.67	21.35	2.00	2.00	0.00
600.00	9.00	136.62	598.15	-25.63	24.23	35.27	2.00	2.00	0.00
700.00	11.00	136.62	696.63	-38.25	36.15	52.63	2.00	2.00	0.00
800.00	13.00	136.62	794.44	-53.36	50.43	73.42	2.00	2.00	0.00
900.00	15.00	136.62	891.46	-70.94	67.05	97.62	2.00	2.00	0.00
1,000.00	17.00	136.62	987.58	-90.98	85.98	125.18	2.00	2.00	0.00
1,100.00	19.00	136.62	1,082.68	-113.43	107.21	156.08	2.00	2.00	0.00
1,172.47	20.45	136.62	1,150.90	-131.21	124.00	180.53	2.00	2.00	0.00
Start 20.45° Hold At 1172.47'									
1,200.00	20.45	136.62	1,176.70	-138.20	130.61	190.15	0.00	0.00	0.00
1,300.00	20.45	136.62	1,270.39	-163.59	154.61	225.09	0.00	0.00	0.00
1,400.00	20.45	136.62	1,364.09	-188.98	178.61	260.03	0.00	0.00	0.00
1,500.00	20.45	136.62	1,457.79	-214.38	202.60	294.97	0.00	0.00	0.00
1,600.00	20.45	136.62	1,551.49	-239.77	226.60	329.91	0.00	0.00	0.00
1,700.00	20.45	136.62	1,645.19	-265.16	250.60	364.84	0.00	0.00	0.00
1,800.00	20.45	136.62	1,738.88	-290.55	274.60	399.78	0.00	0.00	0.00
1,900.00	20.45	136.62	1,832.58	-315.95	298.60	434.72	0.00	0.00	0.00
2,000.00	20.45	136.62	1,926.28	-341.34	322.59	469.66	0.00	0.00	0.00
2,100.00	20.45	136.62	2,019.98	-366.73	346.59	504.59	0.00	0.00	0.00
2,200.00	20.45	136.62	2,113.68	-392.12	370.59	539.53	0.00	0.00	0.00
2,300.00	20.45	136.62	2,207.38	-417.51	394.59	574.47	0.00	0.00	0.00
2,400.00	20.45	136.62	2,301.07	-442.91	418.58	609.41	0.00	0.00	0.00
2,500.00	20.45	136.62	2,394.77	-468.30	442.58	644.35	0.00	0.00	0.00
2,600.00	20.45	136.62	2,488.47	-493.69	466.58	679.28	0.00	0.00	0.00
2,700.00	20.45	136.62	2,582.17	-519.08	490.58	714.22	0.00	0.00	0.00
2,800.00	20.45	136.62	2,675.87	-544.48	514.57	749.16	0.00	0.00	0.00
2,900.00	20.45	136.62	2,769.56	-569.87	538.57	784.10	0.00	0.00	0.00
3,000.00	20.45	136.62	2,863.26	-595.26	562.57	819.04	0.00	0.00	0.00
3,100.00	20.45	136.62	2,956.96	-620.65	586.57	853.97	0.00	0.00	0.00
3,200.00	20.45	136.62	3,050.66	-646.04	610.57	888.91	0.00	0.00	0.00
3,300.00	20.45	136.62	3,144.36	-671.44	634.56	923.85	0.00	0.00	0.00
3,400.00	20.45	136.62	3,238.05	-696.83	658.56	958.79	0.00	0.00	0.00
3,500.00	20.45	136.62	3,331.75	-722.22	682.56	993.73	0.00	0.00	0.00
3,600.00	20.45	136.62	3,425.45	-747.61	706.56	1,028.66	0.00	0.00	0.00
3,700.00	20.45	136.62	3,519.15	-773.01	730.55	1,063.60	0.00	0.00	0.00
3,800.00	20.45	136.62	3,612.85	-798.40	754.55	1,098.54	0.00	0.00	0.00
3,900.00	20.45	136.62	3,706.55	-823.79	778.55	1,133.48	0.00	0.00	0.00
4,000.00	20.45	136.62	3,800.24	-849.18	802.55	1,168.41	0.00	0.00	0.00
4,100.00	20.45	136.62	3,893.94	-874.57	826.55	1,203.35	0.00	0.00	0.00
4,200.00	20.45	136.62	3,987.64	-899.97	850.54	1,238.29	0.00	0.00	0.00
4,300.00	20.45	136.62	4,081.34	-925.36	874.54	1,273.23	0.00	0.00	0.00
4,400.00	20.45	136.62	4,175.04	-950.75	898.54	1,308.17	0.00	0.00	0.00
4,500.00	20.45	136.62	4,268.73	-976.14	922.54	1,343.10	0.00	0.00	0.00
4,600.00	20.45	136.62	4,362.43	-1,001.53	946.53	1,378.04	0.00	0.00	0.00
4,700.00	20.45	136.62	4,456.13	-1,026.93	970.53	1,412.98	0.00	0.00	0.00
4,800.00	20.45	136.62	4,549.83	-1,052.32	994.53	1,447.92	0.00	0.00	0.00
4,900.00	20.45	136.62	4,643.53	-1,077.71	1,018.53	1,482.86	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 697-05-55B	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	20.45	136.62	4,737.23	-1,103.10	1,042.53	1,517.79	0.00	0.00	0.00
5,100.00	20.45	136.62	4,830.92	-1,128.50	1,066.52	1,552.73	0.00	0.00	0.00
5,200.00	20.45	136.62	4,924.62	-1,153.89	1,090.52	1,587.67	0.00	0.00	0.00
5,300.00	20.45	136.62	5,018.32	-1,179.28	1,114.52	1,622.61	0.00	0.00	0.00
5,393.62	20.45	136.62	5,106.04	-1,203.05	1,136.98	1,655.31	0.00	0.00	0.00
Start Drop -2.00									
5,400.00	20.32	136.62	5,112.02	-1,204.67	1,138.51	1,657.54	2.00	-2.00	0.00
5,500.00	18.32	136.62	5,206.38	-1,228.71	1,161.24	1,690.62	2.00	-2.00	0.00
5,600.00	16.32	136.62	5,301.84	-1,250.35	1,181.69	1,720.40	2.00	-2.00	0.00
5,700.00	14.32	136.62	5,398.28	-1,269.55	1,199.84	1,746.82	2.00	-2.00	0.00
5,800.00	12.32	136.62	5,495.59	-1,286.30	1,215.66	1,769.86	2.00	-2.00	0.00
5,900.00	10.32	136.62	5,593.64	-1,300.57	1,229.14	1,789.49	2.00	-2.00	0.00
6,000.00	8.32	136.62	5,692.31	-1,312.34	1,240.27	1,805.69	2.00	-2.00	0.00
6,100.00	6.32	136.62	5,791.49	-1,321.60	1,249.02	1,818.43	2.00	-2.00	0.00
6,200.00	4.32	136.62	5,891.06	-1,328.34	1,255.39	1,827.70	2.00	-2.00	0.00
6,266.08	3.00	136.62	5,957.00	-1,331.41	1,258.29	1,831.92	2.00	-2.00	0.00
Start 3.00° Hold At 6266.08' - Mesaverde									
6,300.00	3.00	136.62	5,990.87	-1,332.70	1,259.51	1,833.70	0.00	0.00	0.00
6,400.00	3.00	136.62	6,090.74	-1,336.50	1,263.11	1,838.93	0.00	0.00	0.00
6,441.32	3.00	136.62	6,132.00	-1,338.07	1,264.59	1,841.09	0.00	0.00	0.00
Williams Fork									
6,500.00	3.00	136.62	6,190.60	-1,340.30	1,266.70	1,844.17	0.00	0.00	0.00
6,600.00	3.00	136.62	6,290.46	-1,344.11	1,270.29	1,849.40	0.00	0.00	0.00
6,700.00	3.00	136.62	6,390.32	-1,347.91	1,273.89	1,854.63	0.00	0.00	0.00
6,800.00	3.00	136.62	6,490.19	-1,351.72	1,277.48	1,859.87	0.00	0.00	0.00
6,900.00	3.00	136.62	6,590.05	-1,355.52	1,281.08	1,865.10	0.00	0.00	0.00
7,000.00	3.00	136.62	6,689.91	-1,359.32	1,284.67	1,870.33	0.00	0.00	0.00
7,019.11	3.00	136.62	6,709.00	-1,360.05	1,285.36	1,871.33	0.00	0.00	0.00
TOG = 637112.94, 1228268.36									
7,100.00	3.00	136.62	6,789.78	-1,363.13	1,288.27	1,875.57	0.00	0.00	0.00
7,200.00	3.00	136.62	6,889.64	-1,366.93	1,291.86	1,880.80	0.00	0.00	0.00
7,300.00	3.00	136.62	6,989.50	-1,370.73	1,295.46	1,886.03	0.00	0.00	0.00
7,400.00	3.00	136.62	7,089.37	-1,374.54	1,299.05	1,891.27	0.00	0.00	0.00
7,500.00	3.00	136.62	7,189.23	-1,378.34	1,302.65	1,896.50	0.00	0.00	0.00
7,600.00	3.00	136.62	7,289.09	-1,382.15	1,306.24	1,901.73	0.00	0.00	0.00
7,700.00	3.00	136.62	7,388.95	-1,385.95	1,309.84	1,906.97	0.00	0.00	0.00
7,800.00	3.00	136.62	7,488.82	-1,389.75	1,313.43	1,912.20	0.00	0.00	0.00
7,900.00	3.00	136.62	7,588.68	-1,393.56	1,317.03	1,917.44	0.00	0.00	0.00
8,000.00	3.00	136.62	7,688.54	-1,397.36	1,320.62	1,922.67	0.00	0.00	0.00
8,100.00	3.00	136.62	7,788.41	-1,401.16	1,324.22	1,927.90	0.00	0.00	0.00
8,200.00	3.00	136.62	7,888.27	-1,404.97	1,327.81	1,933.14	0.00	0.00	0.00
8,300.00	3.00	136.62	7,988.13	-1,408.77	1,331.41	1,938.37	0.00	0.00	0.00
8,391.99	3.00	136.62	8,080.00	-1,412.27	1,334.71	1,943.18	0.00	0.00	0.00
Target = 637059.25, 1228316.11									
8,400.00	3.00	136.62	8,087.99	-1,412.57	1,335.00	1,943.60	0.00	0.00	0.00
8,500.00	3.00	136.62	8,187.86	-1,416.38	1,338.60	1,948.84	0.00	0.00	0.00
8,600.00	3.00	136.62	8,287.72	-1,420.18	1,342.19	1,954.07	0.00	0.00	0.00
8,700.00	3.00	136.62	8,387.58	-1,423.99	1,345.79	1,959.30	0.00	0.00	0.00
8,800.00	3.00	136.62	8,487.45	-1,427.79	1,349.38	1,964.54	0.00	0.00	0.00
8,900.00	3.00	136.62	8,587.31	-1,431.59	1,352.98	1,969.77	0.00	0.00	0.00
9,000.00	3.00	136.62	8,687.17	-1,435.40	1,356.57	1,975.01	0.00	0.00	0.00
9,041.89	3.00	136.62	8,729.00	-1,436.99	1,358.08	1,977.20	0.00	0.00	0.00
Rollins									

Scientific Drilling International

Planning Report

Database:	EDM-RexH-Local	Local Co-ordinate Reference:	Well CC 697-05-55B - Slot H
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 697-05-55B	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	3.00	136.62	8,787.04	-1,439.20	1,360.16	1,980.24	0.00	0.00	0.00
9,200.00	3.00	136.62	8,886.90	-1,443.00	1,363.76	1,985.47	0.00	0.00	0.00
9,300.00	3.00	136.62	8,986.76	-1,446.81	1,367.35	1,990.71	0.00	0.00	0.00
9,400.00	3.00	136.62	9,086.62	-1,450.61	1,370.95	1,995.94	0.00	0.00	0.00
9,442.43	3.00	136.62	9,129.00	-1,452.23	1,372.47	1,998.16	0.00	0.00	0.00
PBHL = 637018.18, 1228352.65									

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 697-05-55B Target	-3.00	135.92	8,080.00	-1,412.27	1,334.71	637,059.26	1,228,316.11	39° 33' 2.279 N	108° 14' 13.167 W
- plan hits target center									
- Circle (radius 50.00)									

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,266.08	5,957.00	Mesaverde		0.00	
6,441.32	6,132.00	Williams Fork		0.00	
9,041.89	8,729.00	Rollins		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
150.00	150.00	0.00	0.00	Start Build 2.00
1,172.47	1,150.90	-131.21	124.00	Start 20.45° Hold At 1172.47'
5,393.62	5,106.04	-1,203.05	1,136.98	Start Drop -2.00
6,266.08	5,957.00	-1,331.41	1,258.29	Start 3.00° Hold At 6266.08'
7,019.11	6,709.00	-1,360.05	1,285.36	TOG = 637112.94, 1228268.36
8,391.99	8,080.00	-1,412.27	1,334.71	Target = 637059.25, 1228316.11
9,442.43	9,129.00	-1,452.23	1,372.47	PBHL = 637018.18, 1228352.65