



Scientific Drilling
Rocky Mountain Operations

Company: OXY USA RMAT
Project: Garfield County, CO NAD27
Site: Cascade Creek 697-06A Pad



Well Details: CC 697-06-14B

TVD Reference: GL 8184' & RKB 30' @ 8214.00ft (H&P) Ground Level: 8184.00
+N/-S 0.00 +E/-W 0.00 Northing 639458.65 Easting 1223037.91 Latitude 39° 33' 24.406 N Longitude 108° 15' 21.449 W Slot L

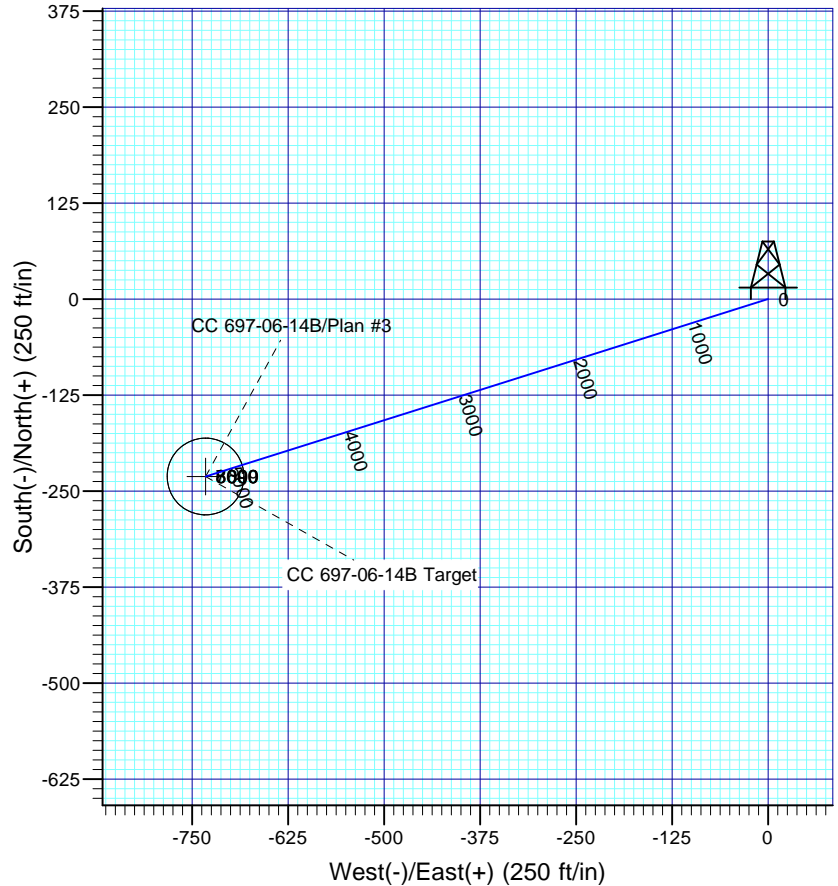


Azimuths to True North
Magnetic North: 10.51°

Magnetic Field
Strength: 52311.8snT
Dip Angle: 65.77°
Date: 2010/12/20
Model: IGRF2005-10



Vertical Section at 252.50° (1500 ft/in)



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
5549.00	5607.00	Mesaverde
5674.00	5732.00	Williams Fork
8299.00	8357.00	Rollins

Plan: Plan #3

20:40, February 03 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	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	645.17	8.90	252.50	643.38	-10.38	-32.92	2.00	252.50	34.52	
4	5161.83	8.90	252.50	5105.62	-220.62	-699.60	0.00	0.00	733.56	
5	5607.00	0.00	0.00	5549.00	-231.00	-732.52	2.00	180.00	768.08	
6	7701.00	0.00	0.00	7643.00	-231.00	-732.52	0.00	0.00	768.08	CC 697-06-14B Target
7	8757.00	0.00	0.00	8699.00	-231.00	-732.52	0.00	0.00	768.08	

OXY USA RMAT

**Garfield County, CO NAD27
Cascade Creek 697-06A Pad
CC 697-06-14B - Slot L**

OH

Plan: Plan #3

Standard Planning Report

03 February, 2011

Scientific Drilling International

Planning Report

Database:	EDM-RexH-Local	Local Co-ordinate Reference:	Well CC 697-06-14B - Slot L
Company:	OXY USA RMAT	TVD Reference:	GL 8184' & RKB 30' @ 8214.00ft (H&P)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8184' & RKB 30' @ 8214.00ft (H&P)
Site:	Cascade Creek 697-06A Pad	North Reference:	True
Well:	CC 697-06-14B	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3		

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 697-06A Pad, Sec 6 T6S R97W			
Site Position:		Northing:	639,442.25 usft	Latitude:	39° 33' 24.203 N
From:	Map	Easting:	1,222,903.93 usft	Longitude:	108° 15' 23.153 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.74 °

Well	CC 697-06-14B - Slot L					
Well Position	+N/-S	20.46 ft	Northing:	639,458.65 usft	Latitude:	39° 33' 24.406 N
	+E/-W	133.42 ft	Easting:	1,223,037.91 usft	Longitude:	108° 15' 21.449 W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	8,184.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	2010/12/20	10.51	65.77	52,312

Design	Plan #3			
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	252.50

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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
645.17	8.90	252.50	643.38	-10.38	-32.92	2.00	2.00	0.00	252.50	
5,161.83	8.90	252.50	5,105.62	-220.62	-699.60	0.00	0.00	0.00	0.00	
5,607.00	0.00	0.00	5,549.00	-231.00	-732.52	2.00	-2.00	0.00	180.00	
7,701.00	0.00	0.00	7,643.00	-231.00	-732.52	0.00	0.00	0.00	0.00	CC 697-06-14B Target
8,757.00	0.00	0.00	8,699.00	-231.00	-732.52	0.00	0.00	0.00	0.00	

Scientific Drilling International

Planning Report

Database:	EDM-RexH-Local	Local Co-ordinate Reference:	Well CC 697-06-14B - Slot L
Company:	OXY USA RMAT	TVD Reference:	GL 8184' & RKB 30' @ 8214.00ft (H&P)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8184' & RKB 30' @ 8214.00ft (H&P)
Site:	Cascade Creek 697-06A Pad	North Reference:	True
Well:	CC 697-06-14B	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3		

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
Start Build 2.00									
300.00	2.00	252.50	299.98	-0.52	-1.66	1.75	2.00	2.00	0.00
400.00	4.00	252.50	399.84	-2.10	-6.66	6.98	2.00	2.00	0.00
500.00	6.00	252.50	499.45	-4.72	-14.97	15.69	2.00	2.00	0.00
600.00	8.00	252.50	598.70	-8.39	-26.59	27.88	2.00	2.00	0.00
645.17	8.90	252.50	643.38	-10.38	-32.92	34.52	2.00	2.00	0.00
Start 8.90° Hold At 645.17'									
700.00	8.90	252.50	697.55	-12.93	-41.01	43.00	0.00	0.00	0.00
800.00	8.90	252.50	796.34	-17.59	-55.77	58.48	0.00	0.00	0.00
900.00	8.90	252.50	895.14	-22.24	-70.53	73.96	0.00	0.00	0.00
1,000.00	8.90	252.50	993.94	-26.90	-85.29	89.44	0.00	0.00	0.00
1,100.00	8.90	252.50	1,092.73	-31.55	-100.06	104.91	0.00	0.00	0.00
1,200.00	8.90	252.50	1,191.53	-36.21	-114.82	120.39	0.00	0.00	0.00
1,300.00	8.90	252.50	1,290.32	-40.86	-129.58	135.87	0.00	0.00	0.00
1,400.00	8.90	252.50	1,389.12	-45.52	-144.34	151.34	0.00	0.00	0.00
1,500.00	8.90	252.50	1,487.91	-50.17	-159.10	166.82	0.00	0.00	0.00
1,600.00	8.90	252.50	1,586.71	-54.83	-173.86	182.30	0.00	0.00	0.00
1,700.00	8.90	252.50	1,685.50	-59.48	-188.62	197.77	0.00	0.00	0.00
1,800.00	8.90	252.50	1,784.30	-64.14	-203.38	213.25	0.00	0.00	0.00
1,900.00	8.90	252.50	1,883.09	-68.79	-218.14	228.73	0.00	0.00	0.00
2,000.00	8.90	252.50	1,981.89	-73.45	-232.90	244.20	0.00	0.00	0.00
2,100.00	8.90	252.50	2,080.68	-78.10	-247.66	259.68	0.00	0.00	0.00
2,200.00	8.90	252.50	2,179.48	-82.76	-262.42	275.16	0.00	0.00	0.00
2,300.00	8.90	252.50	2,278.27	-87.41	-277.18	290.64	0.00	0.00	0.00
2,400.00	8.90	252.50	2,377.07	-92.06	-291.94	306.11	0.00	0.00	0.00
2,500.00	8.90	252.50	2,475.86	-96.72	-306.70	321.59	0.00	0.00	0.00
2,600.00	8.90	252.50	2,574.66	-101.37	-321.46	337.07	0.00	0.00	0.00
2,700.00	8.90	252.50	2,673.45	-106.03	-336.22	352.54	0.00	0.00	0.00
2,800.00	8.90	252.50	2,772.25	-110.68	-350.98	368.02	0.00	0.00	0.00
2,900.00	8.90	252.50	2,871.04	-115.34	-365.74	383.50	0.00	0.00	0.00
3,000.00	8.90	252.50	2,969.84	-119.99	-380.50	398.97	0.00	0.00	0.00
3,100.00	8.90	252.50	3,068.63	-124.65	-395.26	414.45	0.00	0.00	0.00
3,200.00	8.90	252.50	3,167.43	-129.30	-410.02	429.93	0.00	0.00	0.00
3,300.00	8.90	252.50	3,266.22	-133.96	-424.78	445.40	0.00	0.00	0.00
3,400.00	8.90	252.50	3,365.02	-138.61	-439.54	460.88	0.00	0.00	0.00
3,500.00	8.90	252.50	3,463.81	-143.27	-454.30	476.36	0.00	0.00	0.00
3,600.00	8.90	252.50	3,562.61	-147.92	-469.06	491.83	0.00	0.00	0.00
3,700.00	8.90	252.50	3,661.40	-152.58	-483.82	507.31	0.00	0.00	0.00
3,800.00	8.90	252.50	3,760.20	-157.23	-498.58	522.79	0.00	0.00	0.00
3,900.00	8.90	252.50	3,858.99	-161.89	-513.34	538.27	0.00	0.00	0.00
4,000.00	8.90	252.50	3,957.79	-166.54	-528.11	553.74	0.00	0.00	0.00
4,100.00	8.90	252.50	4,056.58	-171.20	-542.87	569.22	0.00	0.00	0.00
4,200.00	8.90	252.50	4,155.38	-175.85	-557.63	584.70	0.00	0.00	0.00
4,300.00	8.90	252.50	4,254.17	-180.50	-572.39	600.17	0.00	0.00	0.00
4,400.00	8.90	252.50	4,352.97	-185.16	-587.15	615.65	0.00	0.00	0.00
4,500.00	8.90	252.50	4,451.76	-189.81	-601.91	631.13	0.00	0.00	0.00
4,600.00	8.90	252.50	4,550.56	-194.47	-616.67	646.60	0.00	0.00	0.00
4,700.00	8.90	252.50	4,649.35	-199.12	-631.43	662.08	0.00	0.00	0.00
4,800.00	8.90	252.50	4,748.15	-203.78	-646.19	677.56	0.00	0.00	0.00
4,900.00	8.90	252.50	4,846.94	-208.43	-660.95	693.03	0.00	0.00	0.00
5,000.00	8.90	252.50	4,945.74	-213.09	-675.71	708.51	0.00	0.00	0.00

Scientific Drilling International

Planning Report

Database:	EDM-RexH-Local	Local Co-ordinate Reference:	Well CC 697-06-14B - Slot L
Company:	OXY USA RMAT	TVD Reference:	GL 8184' & RKB 30' @ 8214.00ft (H&P)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8184' & RKB 30' @ 8214.00ft (H&P)
Site:	Cascade Creek 697-06A Pad	North Reference:	True
Well:	CC 697-06-14B	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3		

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	8.90	252.50	5,044.53	-217.74	-690.47	723.99	0.00	0.00	0.00
5,161.83	8.90	252.50	5,105.62	-220.62	-699.60	733.56	0.00	0.00	0.00
Start Drop -2.00									
5,200.00	8.14	252.50	5,143.37	-222.32	-704.99	739.21	2.00	-2.00	0.00
5,300.00	6.14	252.50	5,242.59	-226.06	-716.84	751.64	2.00	-2.00	0.00
5,400.00	4.14	252.50	5,342.18	-228.75	-725.39	760.60	2.00	-2.00	0.00
5,500.00	2.14	252.50	5,442.02	-230.40	-730.61	766.08	2.00	-2.00	0.00
5,600.00	0.14	252.50	5,542.00	-231.00	-732.51	768.07	2.00	-2.00	0.00
5,607.00	0.00	0.00	5,549.00	-231.00	-732.52	768.08	2.00	-2.00	0.00
Start 0.00° Hold At 5607.00' - Mesaverde									
5,700.00	0.00	0.00	5,642.00	-231.00	-732.52	768.08	0.00	0.00	0.00
5,732.00	0.00	0.00	5,674.00	-231.00	-732.52	768.08	0.00	0.00	0.00
Williams Fork									
5,800.00	0.00	0.00	5,742.00	-231.00	-732.52	768.08	0.00	0.00	0.00
5,900.00	0.00	0.00	5,842.00	-231.00	-732.52	768.08	0.00	0.00	0.00
6,000.00	0.00	0.00	5,942.00	-231.00	-732.52	768.08	0.00	0.00	0.00
6,100.00	0.00	0.00	6,042.00	-231.00	-732.52	768.08	0.00	0.00	0.00
6,200.00	0.00	0.00	6,142.00	-231.00	-732.52	768.08	0.00	0.00	0.00
6,300.00	0.00	0.00	6,242.00	-231.00	-732.52	768.08	0.00	0.00	0.00
6,362.00	0.00	0.00	6,304.00	-231.00	-732.52	768.08	0.00	0.00	0.00
TOG = 639249.97, 1222298.73									
6,400.00	0.00	0.00	6,342.00	-231.00	-732.52	768.08	0.00	0.00	0.00
6,500.00	0.00	0.00	6,442.00	-231.00	-732.52	768.08	0.00	0.00	0.00
6,600.00	0.00	0.00	6,542.00	-231.00	-732.52	768.08	0.00	0.00	0.00
6,700.00	0.00	0.00	6,642.00	-231.00	-732.52	768.08	0.00	0.00	0.00
6,800.00	0.00	0.00	6,742.00	-231.00	-732.52	768.08	0.00	0.00	0.00
6,900.00	0.00	0.00	6,842.00	-231.00	-732.52	768.08	0.00	0.00	0.00
7,000.00	0.00	0.00	6,942.00	-231.00	-732.52	768.08	0.00	0.00	0.00
7,100.00	0.00	0.00	7,042.00	-231.00	-732.52	768.08	0.00	0.00	0.00
7,200.00	0.00	0.00	7,142.00	-231.00	-732.52	768.08	0.00	0.00	0.00
7,300.00	0.00	0.00	7,242.00	-231.00	-732.52	768.08	0.00	0.00	0.00
7,400.00	0.00	0.00	7,342.00	-231.00	-732.52	768.08	0.00	0.00	0.00
7,500.00	0.00	0.00	7,442.00	-231.00	-732.52	768.08	0.00	0.00	0.00
7,600.00	0.00	0.00	7,542.00	-231.00	-732.52	768.08	0.00	0.00	0.00
7,700.00	0.00	0.00	7,642.00	-231.00	-732.52	768.08	0.00	0.00	0.00
7,701.00	0.00	0.00	7,643.00	-231.00	-732.52	768.08	0.00	0.00	0.00
Target = 639249.97, 1222298.73									
7,800.00	0.00	0.00	7,742.00	-231.00	-732.52	768.08	0.00	0.00	0.00
7,900.00	0.00	0.00	7,842.00	-231.00	-732.52	768.08	0.00	0.00	0.00
8,000.00	0.00	0.00	7,942.00	-231.00	-732.52	768.08	0.00	0.00	0.00
8,100.00	0.00	0.00	8,042.00	-231.00	-732.52	768.08	0.00	0.00	0.00
8,200.00	0.00	0.00	8,142.00	-231.00	-732.52	768.08	0.00	0.00	0.00
8,300.00	0.00	0.00	8,242.00	-231.00	-732.52	768.08	0.00	0.00	0.00
8,357.00	0.00	0.00	8,299.00	-231.00	-732.52	768.08	0.00	0.00	0.00
Rollins									
8,400.00	0.00	0.00	8,342.00	-231.00	-732.52	768.08	0.00	0.00	0.00
8,500.00	0.00	0.00	8,442.00	-231.00	-732.52	768.08	0.00	0.00	0.00
8,600.00	0.00	0.00	8,542.00	-231.00	-732.52	768.08	0.00	0.00	0.00
8,700.00	0.00	0.00	8,642.00	-231.00	-732.52	768.08	0.00	0.00	0.00
8,757.00	0.00	0.00	8,699.00	-231.00	-732.52	768.08	0.00	0.00	0.00
PBHL = 639249.97, 1222298.73									

Scientific Drilling International

Planning Report

Database:	EDM-RexH-Local	Local Co-ordinate Reference:	Well CC 697-06-14B - Slot L
Company:	OXY USA RMAT	TVD Reference:	GL 8184' & RKB 30' @ 8214.00ft (H&P)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8184' & RKB 30' @ 8214.00ft (H&P)
Site:	Cascade Creek 697-06A Pad	North Reference:	True
Well:	CC 697-06-14B	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
CC 697-06-14B Target	0.00	0.00	7,643.00	-231.00	-732.52	639,249.98	1,222,298.72	39° 33' 22.122 N	108° 15' 30.802 W
- plan hits target center									
- Circle (radius 50.00)									

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
5,607.00	5,549.00	Mesaverde		0.00	
5,732.00	5,674.00	Williams Fork		0.00	
8,357.00	8,299.00	Rollins		0.00	

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
200.00	200.00	0.00	0.00	Start Build 2.00
645.17	643.38	-10.38	-32.92	Start 8.90° Hold At 645.17'
5,161.83	5,105.62	-220.62	-699.60	Start Drop -2.00
5,607.00	5,549.00	-231.00	-732.52	Start 0.00° Hold At 5607.00'
6,362.00	6,304.00	-231.00	-732.52	TOG = 639249.97, 1222298.73
7,701.00	7,643.00	-231.00	-732.52	Target = 639249.97, 1222298.73
8,757.00	8,699.00	-231.00	-732.52	PBHL = 639249.97, 1222298.73