

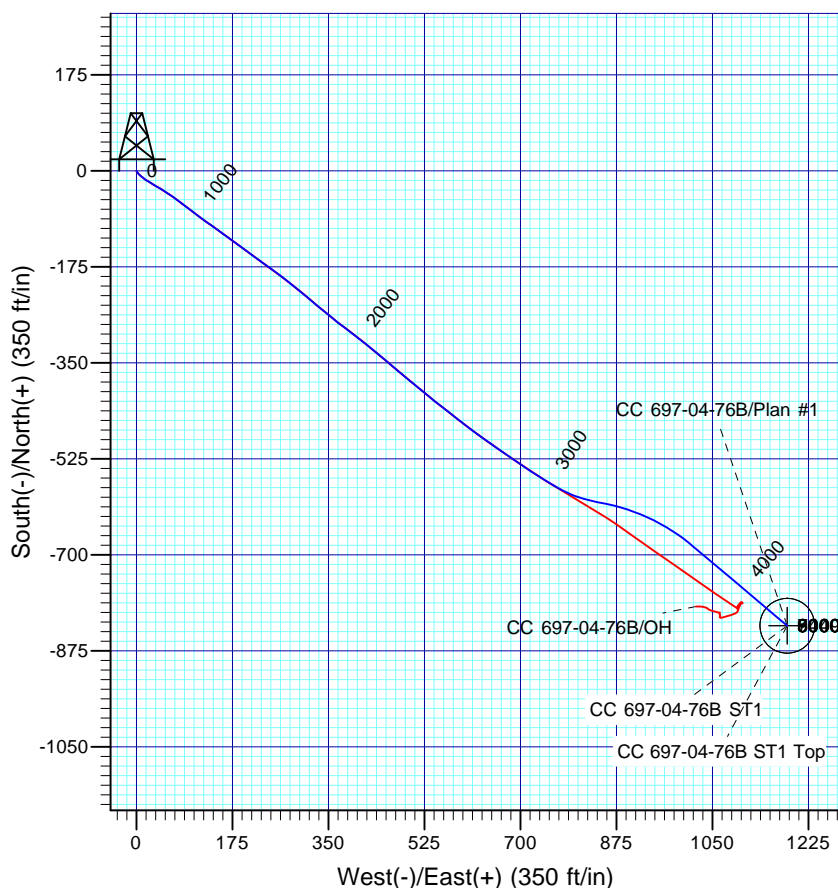
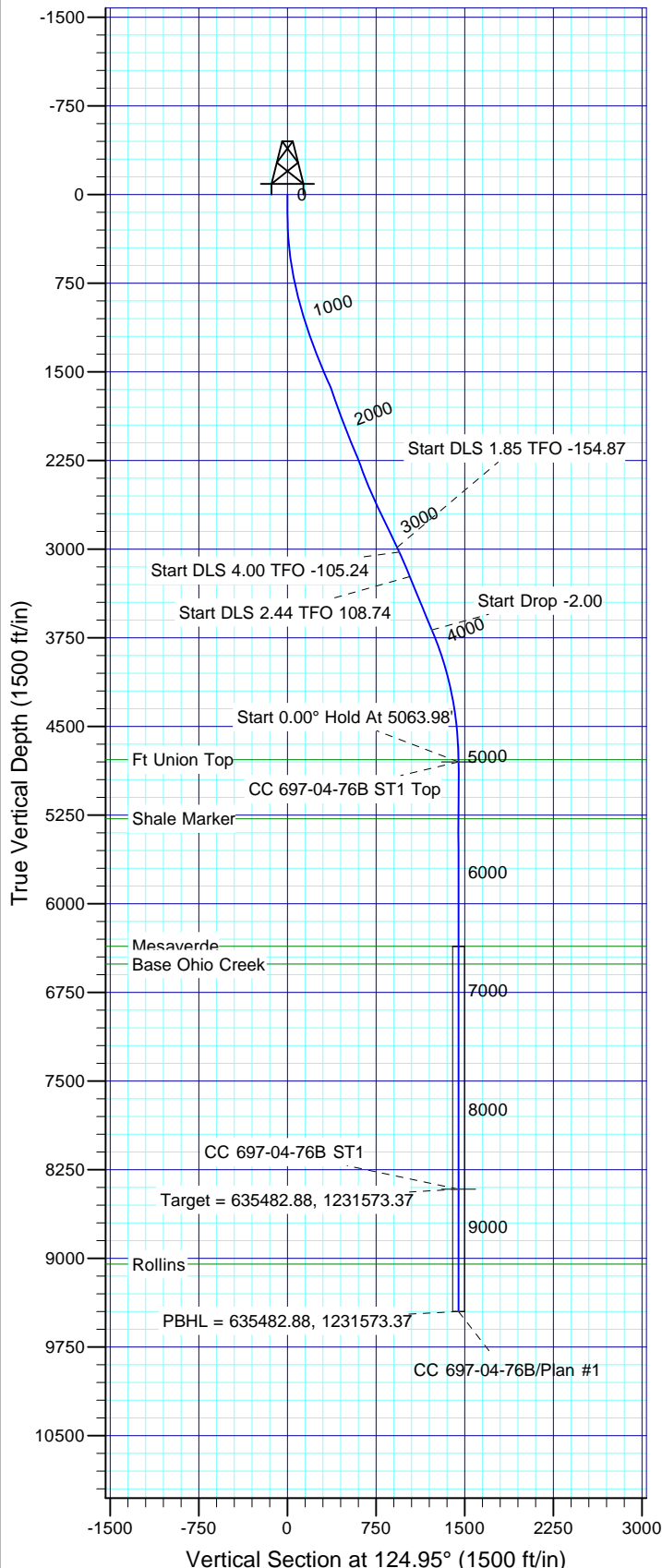
Well Details: CC 697-04-76B

TVD Reference: GL 8629' & RKB 30' @ 8659.00ft (H&P) Ground Level: 8629.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	636347.37	1230412.51	39° 32' 55.869 N	108° 13' 46.143 W	G

T M Azimuths to True North
Magnetic North: 10.37°

Magnetic Field
Strength: 52158.8snT
Dip Angle: 65.72°
Date: 02/16/2012
Model: IGRF2010



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4781.00	5044.98	Ft Union Top
5281.00	5544.98	Shale Marker
6359.00	6622.98	Mesaverde
6509.00	6772.98	Base Ohio Creek
9049.00	9312.98	Rollins

Plan: Plan #1

16:25, February 16 2012
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	3155.00	25.59	122.80	2984.53	-560.41	739.01	0.00	0.00	926.77	
2	3200.00	24.84	121.96	3025.25	-570.68	755.20	1.85	-154.87	945.93	
3	3426.76	24.00	100.00	3232.15	-603.97	841.21	4.00	-105.24	1035.49	
4	3916.40	22.95	130.12	3682.87	-683.07	1012.89	2.44	108.74	1221.52	
5	5063.98	0.00	0.00	4800.00	-829.22	1186.31	2.00	180.00	1447.39	CC 697-04-76B ST1 Top
6	8677.98	0.00	0.00	8414.00	-829.22	1186.31	0.00	0.00	1447.39	CC 697-04-76B ST1
7	9712.98	0.00	0.00	9449.00	-829.22	1186.31	0.00	0.00	1447.39	

OXY USA RMAT

**Garfield County, CO NAD27
Cascade Creek 697-04D Pad
CC 697-04-76B - Slot G**

ST-1

Plan: Plan #1

Standard Planning Report

16 February, 2012

Scientific Drilling International

Planning Report

Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-04-76B - Slot G
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 697-04-76B	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST-1		
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	Latitude:	39° 32' 47.760 N
From:	Map	Easting:	1,230,276.10 usft	Longitude:	108° 13' 47.570 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.72 °

Well	CC 697-04-76B - Slot G					
Well Position	+N/-S	820.48 ft	Northing:	636,347.37 usft	Latitude:	39° 32' 55.869 N
	+E/-W	111.81 ft	Easting:	1,230,412.51 usft	Longitude:	108° 13' 46.143 W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	8,629.00 ft

Wellbore	ST-1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	02/16/12	10.38	65.72	52,159

Design	Plan #1				
Audit Notes:					
Version:	Phase:	PLAN		Tie On Depth:	3,155.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	124.95	

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
3,155.00	25.59	122.80	2,984.53	-560.41	739.01	0.00	0.00	0.00	0.00	
3,200.00	24.84	121.96	3,025.25	-570.68	755.20	1.85	-1.67	-1.87	-154.87	
3,426.76	24.00	100.00	3,232.15	-603.97	841.21	4.00	-0.37	-9.68	-105.24	
3,916.40	22.95	130.12	3,682.87	-683.07	1,012.89	2.44	-0.21	6.15	108.74	
5,063.98	0.00	0.00	4,800.00	-829.22	1,186.31	2.00	-2.00	0.00	180.00	CC 697-04-76B ST1 1
8,677.98	0.00	0.00	8,414.00	-829.22	1,186.31	0.00	0.00	0.00	0.00	CC 697-04-76B ST1
9,712.98	0.00	0.00	9,449.00	-829.22	1,186.31	0.00	0.00	0.00	0.00	

Scientific Drilling International

Planning Report

Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-04-76B - Slot G
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 697-04-76B	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST-1		
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	0.12	167.37	100.00	-0.10	0.02	0.07	0.12	0.12	0.00
200.00	0.66	151.51	200.00	-0.53	0.19	0.46	0.55	0.54	-15.86
300.00	2.45	145.98	299.96	-2.59	1.48	2.70	1.79	1.79	-5.52
400.00	4.70	133.19	399.76	-7.41	5.46	8.72	2.37	2.25	-12.79
500.00	7.31	126.81	499.21	-13.91	13.54	19.07	2.69	2.61	-6.38
600.00	9.32	120.65	598.14	-22.04	25.64	33.64	2.20	2.01	-6.17
700.00	11.54	122.13	696.49	-31.33	41.12	51.65	2.24	2.22	1.48
800.00	13.14	121.82	794.15	-42.60	59.39	73.08	1.60	1.60	-0.31
900.00	14.08	127.75	891.41	-56.05	78.36	96.33	1.68	0.94	5.93
1,000.00	16.08	127.52	987.85	-72.22	99.23	122.70	2.00	2.00	-0.23
1,100.00	17.08	126.31	1,083.82	-89.12	121.70	150.81	1.06	1.00	-1.20
1,200.00	19.87	125.57	1,178.70	-107.56	147.30	182.35	2.81	2.80	-0.74
1,300.00	21.48	125.98	1,271.97	-128.59	176.59	218.41	1.61	1.61	0.40
1,400.00	20.79	126.24	1,365.22	-149.95	205.71	254.51	0.70	-0.69	0.26
1,500.00	22.15	125.75	1,458.60	-170.98	234.64	290.28	1.38	1.36	-0.49
1,600.00	23.63	127.51	1,550.47	-194.28	266.51	329.74	1.63	1.48	1.76
1,700.00	21.91	129.27	1,642.43	-218.82	297.19	368.95	1.86	-1.73	1.76
1,800.00	18.50	129.89	1,736.21	-240.93	323.89	403.50	3.41	-3.40	0.62
1,900.00	20.01	129.73	1,830.97	-261.40	348.38	435.30	1.51	1.51	-0.16
2,000.00	21.03	127.22	1,924.49	-283.53	376.02	470.63	1.34	1.01	-2.51
2,100.00	21.42	127.32	2,017.70	-305.34	404.93	506.82	0.40	0.39	0.10
2,200.00	23.06	130.25	2,110.30	-328.94	434.37	544.47	1.98	1.64	2.93
2,300.00	22.49	130.45	2,202.47	-354.09	463.91	583.09	0.58	-0.57	0.19
2,400.00	20.40	129.03	2,295.58	-377.37	491.96	619.42	2.15	-2.09	-1.42
2,500.00	20.65	129.86	2,389.30	-399.59	518.85	654.19	0.39	0.25	0.84
2,600.00	22.74	128.66	2,482.20	-423.00	547.50	691.08	2.13	2.08	-1.20
2,700.00	24.36	127.79	2,573.83	-447.73	579.00	731.07	1.67	1.63	-0.87
2,800.00	25.60	127.00	2,664.43	-473.50	612.56	773.33	1.28	1.24	-0.79
2,900.00	26.04	125.27	2,754.34	-499.26	647.95	817.10	0.87	0.44	-1.73
3,000.00	25.46	124.10	2,844.40	-523.98	683.69	860.56	0.77	-0.58	-1.17
3,100.00	25.28	123.16	2,934.87	-547.55	719.20	903.17	0.44	-0.18	-0.94
3,155.00	25.59	122.80	2,984.53	-560.41	739.01	926.77	0.63	0.56	-0.65
Start DLS 1.85 TFO -154.87									
3,200.00	24.84	121.96	3,025.25	-570.68	755.20	945.93	1.85	-1.67	-1.87
Start DLS 4.00 TFO -105.24									
3,300.00	24.08	112.47	3,116.31	-589.60	791.89	986.84	4.00	-0.76	-9.49
3,400.00	23.93	102.63	3,207.69	-601.84	830.55	1,025.53	4.00	-0.15	-9.84
3,426.76	24.00	100.00	3,232.15	-603.97	841.21	1,035.49	4.00	0.25	-9.83
Start DLS 2.44 TFO 108.74									
3,500.00	23.48	104.24	3,299.19	-610.14	870.02	1,062.64	2.44	-0.70	5.79
3,600.00	22.97	110.28	3,391.10	-621.81	907.64	1,100.17	2.44	-0.51	6.04
3,700.00	22.70	116.52	3,483.28	-637.20	943.22	1,138.14	2.44	-0.27	6.24
3,800.00	22.67	122.84	3,575.55	-656.27	976.68	1,176.49	2.44	-0.03	6.32
3,900.00	22.89	129.11	3,667.76	-679.00	1,007.97	1,215.15	2.44	0.22	6.27
3,916.40	22.95	130.12	3,682.87	-683.07	1,012.89	1,221.52	2.44	0.36	6.19
Start Drop -2.00									
4,000.00	21.28	130.12	3,760.32	-703.35	1,036.96	1,252.86	2.00	-2.00	0.00
4,100.00	19.28	130.12	3,854.11	-725.69	1,063.46	1,287.38	2.00	-2.00	0.00
4,200.00	17.28	130.12	3,949.06	-745.90	1,087.44	1,318.62	2.00	-2.00	0.00
4,300.00	15.28	130.12	4,045.05	-763.96	1,108.87	1,346.54	2.00	-2.00	0.00
4,400.00	13.28	130.12	4,141.95	-779.86	1,127.73	1,371.10	2.00	-2.00	0.00
4,500.00	11.28	130.12	4,239.66	-793.56	1,143.99	1,392.28	2.00	-2.00	0.00
4,600.00	9.28	130.12	4,338.05	-805.06	1,157.64	1,410.05	2.00	-2.00	0.00

Scientific Drilling International

Planning Report

Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-04-76B - Slot G
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 697-04-76B	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST-1		
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)
4,700.00	7.28	130.12	4,437.00	-814.34	1,168.65	1,424.39	2.00	-2.00	0.00
4,800.00	5.28	130.12	4,536.40	-821.39	1,177.01	1,435.28	2.00	-2.00	0.00
4,900.00	3.28	130.12	4,636.11	-826.20	1,182.72	1,442.72	2.00	-2.00	0.00
5,000.00	1.28	130.12	4,736.03	-828.76	1,185.76	1,446.68	2.00	-2.00	0.00
5,044.98	0.38	130.12	4,781.00	-829.18	1,186.26	1,447.33	2.00	-2.00	0.00
Ft Union Top									
5,063.98	0.00	0.00	4,800.00	-829.22	1,186.31	1,447.39	2.00	-2.00	0.00
Start 0.00° Hold At 5063.98'									
5,100.00	0.00	0.00	4,836.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
5,200.00	0.00	0.00	4,936.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
5,300.00	0.00	0.00	5,036.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
5,400.00	0.00	0.00	5,136.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
5,500.00	0.00	0.00	5,236.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
5,544.98	0.00	0.00	5,281.00	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
Shale Marker									
5,600.00	0.00	0.00	5,336.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
5,700.00	0.00	0.00	5,436.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
5,800.00	0.00	0.00	5,536.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
5,900.00	0.00	0.00	5,636.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
6,000.00	0.00	0.00	5,736.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
6,100.00	0.00	0.00	5,836.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
6,200.00	0.00	0.00	5,936.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
6,300.00	0.00	0.00	6,036.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
6,400.00	0.00	0.00	6,136.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
6,500.00	0.00	0.00	6,236.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
6,600.00	0.00	0.00	6,336.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
6,622.98	0.00	0.00	6,359.00	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
Mesaverde									
6,700.00	0.00	0.00	6,436.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
6,772.98	0.00	0.00	6,509.00	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
Base Ohio Creek									
6,800.00	0.00	0.00	6,536.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
6,900.00	0.00	0.00	6,636.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
7,000.00	0.00	0.00	6,736.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
7,100.00	0.00	0.00	6,836.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
7,200.00	0.00	0.00	6,936.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
7,300.00	0.00	0.00	7,036.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
7,400.00	0.00	0.00	7,136.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
7,500.00	0.00	0.00	7,236.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
7,600.00	0.00	0.00	7,336.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
7,700.00	0.00	0.00	7,436.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
7,800.00	0.00	0.00	7,536.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
7,900.00	0.00	0.00	7,636.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
8,000.00	0.00	0.00	7,736.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
8,100.00	0.00	0.00	7,836.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
8,200.00	0.00	0.00	7,936.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
8,300.00	0.00	0.00	8,036.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
8,400.00	0.00	0.00	8,136.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
8,500.00	0.00	0.00	8,236.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
8,600.00	0.00	0.00	8,336.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
8,677.98	0.00	0.00	8,414.00	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
Target = 635482.88, 1231573.37									
8,700.00	0.00	0.00	8,436.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00

Scientific Drilling International

Planning Report

Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-04-76B - Slot G
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 697-04-76B	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST-1		
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)
8,800.00	0.00	0.00	8,536.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
8,900.00	0.00	0.00	8,636.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
9,000.00	0.00	0.00	8,736.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
9,100.00	0.00	0.00	8,836.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
9,200.00	0.00	0.00	8,936.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
9,300.00	0.00	0.00	9,036.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
9,312.98	0.00	0.00	9,049.00	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
Rollins									
9,400.00	0.00	0.00	9,136.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
9,500.00	0.00	0.00	9,236.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
9,600.00	0.00	0.00	9,336.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
9,700.00	0.00	0.00	9,436.02	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
9,712.98	0.00	0.00	9,449.00	-829.22	1,186.31	1,447.39	0.00	0.00	0.00
PBHL = 635482.88, 1231573.37									

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 697-04-76B ST1 Top	0.00	0.00	4,800.00	-829.22	1,186.31	635,482.89	1,231,573.36	39° 32' 47.673 N	108° 13' 30.999 W
- plan hits target center									
- Point									
CC 697-04-76B ST1	0.00	0.00	8,414.00	-829.22	1,186.31	635,482.89	1,231,573.36	39° 32' 47.673 N	108° 13' 30.999 W
- plan hits target center									
- Circle (radius 50.00)									

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,044.98	4,781.00	Ft Union Top		0.00	
5,544.98	5,281.00	Shale Marker		0.00	
6,622.98	6,359.00	Mesaverde		0.00	
6,772.98	6,509.00	Base Ohio Creek		0.00	
9,312.98	9,049.00	Rollins		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment
3,155.00	2,984.53	-560.41	739.01	Start DLS 1.85 TFO -154.87
3,200.00	3,025.25	-570.68	755.20	Start DLS 4.00 TFO -105.24
3,426.76	3,232.15	-603.97	841.21	Start DLS 2.44 TFO 108.74
3,916.40	3,682.87	-683.07	1,012.89	Start Drop -2.00
5,063.98	4,800.00	-829.22	1,186.31	Start 0.00° Hold At 5063.98'
8,677.98	8,414.00	-829.22	1,186.31	Target = 635482.88, 1231573.37
9,712.98	9,449.00	-829.22	1,186.31	PBHL = 635482.88, 1231573.37