

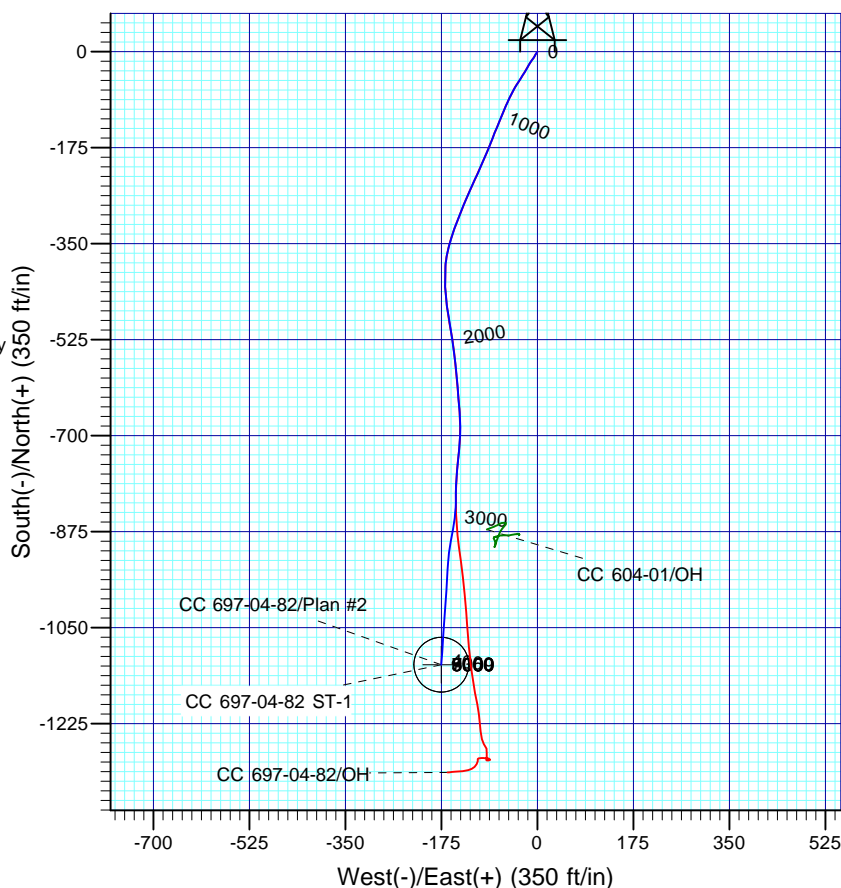
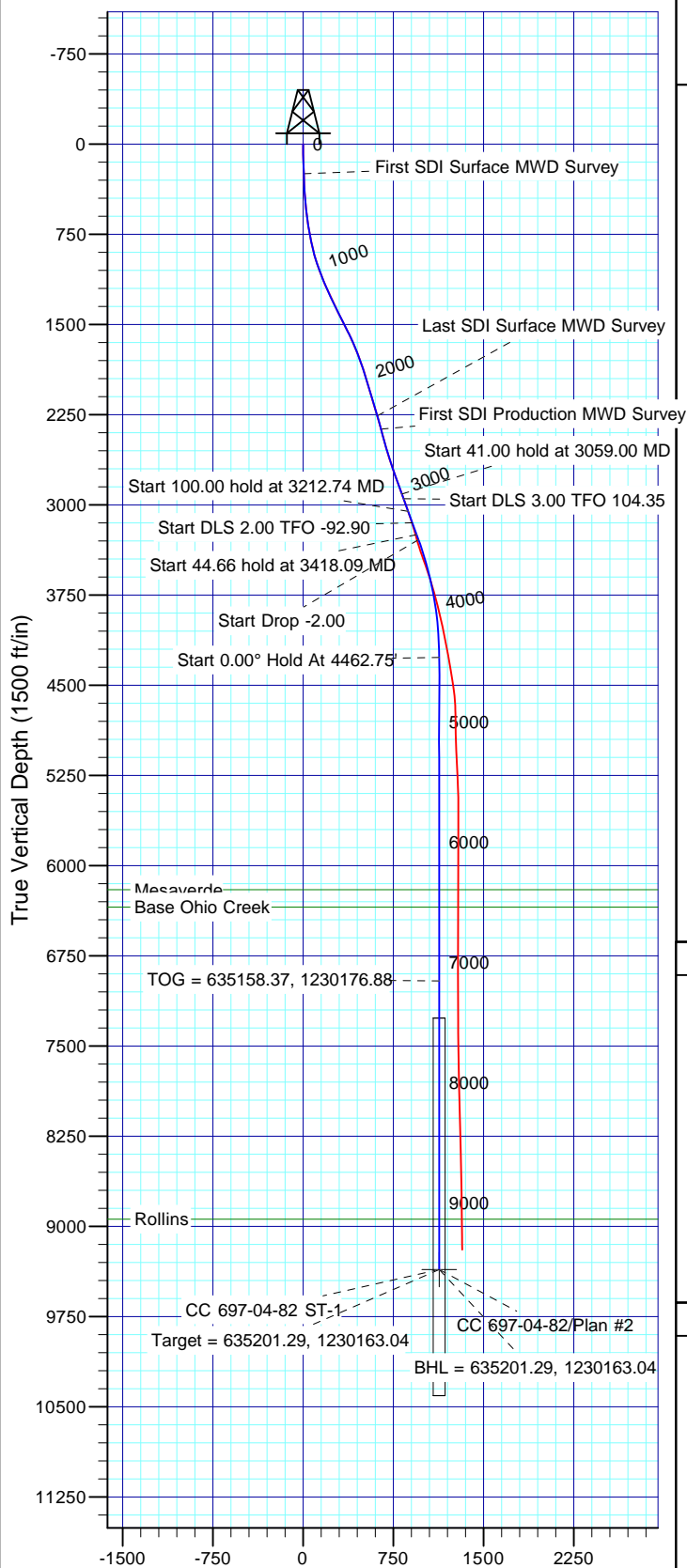
Well Details: CC 697-04-82

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	636313.04	1230371.66	39° 32' 55.518 N	108° 13' 46.651 W	V

T M Azimuths to True North
Magnetic North: 10.38°

Magnetic Field
Strength: 52165.3nT
Dip Angle: 65.72°
Date: 01/23/2012
Model: IGRF2010



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
6200.00	6393.09	Mesaverde
6345.00	6538.09	Base Ohio Creek
8940.00	9133.09	Rollins

Plan: Plan #2

9:28, January 24 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	3059.00	20.58	180.38	2910.75	-807.27	-148.69	0.00	0.00	820.56	
2	3100.00	20.58	180.38	2949.13	-821.68	-148.79	0.00	0.00	834.81	
3	3212.74	20.00	190.00	3054.91	-860.49	-152.27	3.00	104.35	873.69	
4	3312.74	20.00	190.00	3148.88	-894.18	-158.21	0.00	0.00	907.89	
5	3418.09	20.00	183.84	3247.89	-929.90	-162.54	2.00	-92.90	943.85	CC 697-04-82 ST-1
6	3418.09	20.00	183.84	3247.89	-929.90	-162.54	2.00	180.00	943.85	
7	3462.75	20.00	183.84	3289.85	-945.14	-163.56	0.00	0.00	959.07	
8	4462.75	0.00	0.00	4269.67	-1117.52	-175.12	2.00	180.00	1131.16	
9	9552.09	0.00	0.00	9359.00	-1117.52	-175.12	0.00	0.00	1131.16	CC 697-04-82 ST-1

OXY USA RMAT

**Garfield County, CO NAD27
Cascade Creek 697-04D Pad
CC 697-04-82 - Slot V**

ST-1

Plan: Plan #2

Standard Planning Report

24 January, 2012

Scientific Drilling International

Planning Report

Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-04-82 - Slot V
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 697-04-82	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST-1		
Design:	Plan #2		

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 697-04-82 - Slot V					
Well Position	+N/-S	784.94 ft	Northing:	636,313.04 usft	Latitude:	39° 32' 55.518 N
	+E/-W	72.01 ft	Easting:	1,230,371.66 usft	Longitude:	108° 13' 46.651 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	01/23/12	10.38	65.72	52,165

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	3,059.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	188.91

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
3,059.00	20.58	180.38	2,910.75	-807.27	-148.69	0.00	0.00	0.00	0.00	
3,100.00	20.58	180.38	2,949.13	-821.68	-148.79	0.00	0.00	0.00	0.00	
3,212.74	20.00	190.00	3,054.91	-860.49	-152.27	3.00	-0.51	8.53	104.35	
3,312.74	20.00	190.00	3,148.88	-894.18	-158.21	0.00	0.00	0.00	0.00	
3,418.09	20.00	183.84	3,247.89	-929.90	-162.54	2.00	0.00	-5.85	-92.90	CC 697-04-82 ST-1
3,418.09	20.00	183.84	3,247.89	-929.90	-162.54	2.00	-2.00	0.00	180.00	
3,462.75	20.00	183.84	3,289.85	-945.14	-163.56	0.00	0.00	0.00	0.00	
4,462.75	0.00	0.00	4,269.67	-1,117.52	-175.12	2.00	-2.00	0.00	180.00	
9,552.09	0.00	0.00	9,359.00	-1,117.52	-175.12	0.00	0.00	0.00	0.00	CC 697-04-82 ST-1

Scientific Drilling International

Planning Report

Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-04-82 - Slot V
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 697-04-82	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST-1		
Design:	Plan #2		

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	1.14	212.77	99.99	-0.84	-0.54	0.91	1.14	1.14	0.00
200.00	2.28	212.77	199.95	-3.35	-2.16	3.64	1.14	1.14	0.00
300.00	2.76	208.30	299.84	-7.33	-4.60	7.95	0.52	0.48	-4.47
400.00	3.46	217.58	399.70	-11.78	-7.17	12.75	0.86	0.70	9.28
500.00	5.79	211.45	499.39	-18.02	-11.82	19.63	2.38	2.33	-6.13
600.00	7.62	210.78	598.68	-28.28	-17.80	30.69	1.82	1.82	-0.67
700.00	10.97	211.57	697.39	-41.89	-26.06	45.42	3.36	3.36	0.79
800.00	12.30	212.57	795.35	-58.86	-36.84	63.85	1.34	1.33	1.01
900.00	15.45	206.59	892.41	-79.76	-48.60	86.33	3.46	3.16	-5.98
1,000.00	18.39	202.82	988.05	-106.38	-60.48	114.47	3.14	2.94	-3.77
1,100.00	21.12	202.33	1,082.17	-137.53	-73.55	147.26	2.73	2.72	-0.49
1,200.00	23.56	202.09	1,174.58	-172.99	-87.74	184.48	2.45	2.44	-0.25
1,300.00	26.05	204.03	1,265.48	-211.33	-104.03	224.89	2.62	2.49	1.94
1,400.00	27.47	203.98	1,354.37	-252.99	-123.06	269.00	1.42	1.42	-0.05
1,500.00	27.17	201.79	1,443.28	-295.17	-140.83	313.41	1.05	-0.31	-2.19
1,600.00	26.59	197.28	1,532.38	-337.80	-156.40	357.94	2.12	-0.57	-4.51
1,700.00	24.25	187.89	1,622.50	-379.91	-166.32	401.08	4.66	-2.35	-9.39
1,800.00	22.39	179.05	1,714.43	-419.16	-168.38	440.17	3.96	-1.86	-8.84
1,900.00	21.36	173.55	1,807.26	-456.26	-165.83	476.43	2.29	-1.03	-5.50
2,000.00	18.16	170.26	1,901.21	-490.09	-160.97	509.10	3.40	-3.21	-3.29
2,100.00	16.72	170.60	1,996.71	-519.33	-155.89	537.20	1.44	-1.43	0.34
2,200.00	17.28	172.38	2,092.38	-548.11	-151.57	564.97	0.76	0.56	1.78
2,300.00	17.41	174.87	2,187.82	-577.76	-148.25	593.75	0.75	0.13	2.49
2,400.00	16.98	176.39	2,283.24	-607.60	-146.19	622.91	0.62	-0.43	1.52
2,500.00	15.06	174.33	2,379.40	-634.94	-143.95	649.57	2.00	-1.92	-2.06
2,600.00	15.73	175.45	2,475.89	-661.09	-141.41	675.01	0.73	0.67	1.12
2,700.00	18.08	181.11	2,571.39	-690.70	-140.74	704.16	2.87	2.35	5.66
2,800.00	17.71	184.41	2,666.68	-720.98	-142.20	734.30	1.08	-0.37	3.31
2,900.00	19.29	185.80	2,761.51	-752.56	-145.33	765.98	1.64	1.58	1.39
3,000.00	20.40	182.96	2,855.48	-786.63	-148.09	800.07	1.47	1.11	-2.84
3,059.00	20.58	180.38	2,910.75	-807.27	-148.69	820.56	1.56	0.31	-4.37
Start 41.00 hold at 3059.00 MD									
3,100.00	20.58	180.38	2,949.13	-821.68	-148.79	834.81	0.00	0.00	0.00
Start DLS 3.00 TFO 104.35									
3,200.00	20.04	188.89	3,042.94	-856.19	-151.55	869.33	3.00	-0.54	8.51
3,212.74	20.00	190.00	3,054.91	-860.49	-152.27	873.69	3.00	-0.31	8.72
Start 100.00 hold at 3212.74 MD									
3,300.00	20.00	190.00	3,136.90	-889.88	-157.45	903.53	0.00	0.00	0.00
3,312.74	20.00	190.00	3,148.88	-894.18	-158.21	907.89	0.00	0.00	0.00
Start DLS 2.00 TFO -92.90									
3,400.00	19.98	184.89	3,230.88	-923.73	-162.07	937.68	2.00	-0.02	-5.85
3,418.09	20.00	183.84	3,247.89	-929.90	-162.54	943.85	2.00	0.08	-5.84
Start 44.66 hold at 3418.09 MD									
3,462.75	20.00	183.84	3,289.85	-945.14	-163.56	959.07	0.00	0.00	0.00
Start Drop -2.00									
3,500.00	19.26	183.84	3,324.93	-957.62	-164.40	971.53	2.00	-2.00	0.00
3,600.00	17.26	183.84	3,419.90	-988.88	-166.50	1,002.73	2.00	-2.00	0.00
3,700.00	15.26	183.84	3,515.89	-1,016.80	-168.37	1,030.61	2.00	-2.00	0.00
3,800.00	13.26	183.84	3,612.81	-1,041.37	-170.02	1,055.14	2.00	-2.00	0.00
3,900.00	11.26	183.84	3,710.53	-1,062.55	-171.44	1,076.28	2.00	-2.00	0.00
4,000.00	9.26	183.84	3,808.92	-1,080.31	-172.63	1,094.01	2.00	-2.00	0.00
4,100.00	7.26	183.84	3,907.88	-1,094.63	-173.59	1,108.31	2.00	-2.00	0.00

Scientific Drilling International

Planning Report

Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-04-82 - Slot V
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 697-04-82	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST-1		
Design:	Plan #2		

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)
4,200.00	5.26	183.84	4,007.28	-1,105.51	-174.32	1,119.16	2.00	-2.00	0.00
4,300.00	3.26	183.84	4,107.00	-1,112.91	-174.81	1,126.55	2.00	-2.00	0.00
4,400.00	1.26	183.84	4,206.92	-1,116.83	-175.08	1,130.47	2.00	-2.00	0.00
4,462.75	0.00	0.00	4,269.67	-1,117.52	-175.12	1,131.16	2.00	-2.00	0.00
Start 0.00° Hold At 4462.75'									
4,500.00	0.00	0.00	4,306.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
4,600.00	0.00	0.00	4,406.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
4,700.00	0.00	0.00	4,506.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
4,800.00	0.00	0.00	4,606.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
4,900.00	0.00	0.00	4,706.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
5,000.00	0.00	0.00	4,806.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
5,100.00	0.00	0.00	4,906.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
5,200.00	0.00	0.00	5,006.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
5,300.00	0.00	0.00	5,106.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
5,400.00	0.00	0.00	5,206.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
5,500.00	0.00	0.00	5,306.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
5,600.00	0.00	0.00	5,406.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
5,700.00	0.00	0.00	5,506.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
5,800.00	0.00	0.00	5,606.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
5,900.00	0.00	0.00	5,706.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
6,000.00	0.00	0.00	5,806.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
6,100.00	0.00	0.00	5,906.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
6,200.00	0.00	0.00	6,006.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
6,300.00	0.00	0.00	6,106.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
6,393.09	0.00	0.00	6,200.00	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
Mesaverde									
6,400.00	0.00	0.00	6,206.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
6,500.00	0.00	0.00	6,306.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
6,538.09	0.00	0.00	6,345.00	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
Base Ohio Creek									
6,600.00	0.00	0.00	6,406.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
6,700.00	0.00	0.00	6,506.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
6,800.00	0.00	0.00	6,606.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
6,900.00	0.00	0.00	6,706.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
7,000.00	0.00	0.00	6,806.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
7,100.00	0.00	0.00	6,906.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
7,152.09	0.00	0.00	6,959.00	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
TOG = 635158.37, 1230176.88									
7,200.00	0.00	0.00	7,006.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
7,300.00	0.00	0.00	7,106.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
7,400.00	0.00	0.00	7,206.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
7,500.00	0.00	0.00	7,306.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
7,600.00	0.00	0.00	7,406.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
7,700.00	0.00	0.00	7,506.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
7,800.00	0.00	0.00	7,606.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
7,900.00	0.00	0.00	7,706.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
8,000.00	0.00	0.00	7,806.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
8,100.00	0.00	0.00	7,906.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
8,200.00	0.00	0.00	8,006.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
8,300.00	0.00	0.00	8,106.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
8,400.00	0.00	0.00	8,206.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
8,500.00	0.00	0.00	8,306.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00
8,600.00	0.00	0.00	8,406.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00

Scientific Drilling International

Planning Report

Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-04-82 - Slot V
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 697-04-82	Survey Calculation Method:	Minimum Curvature
Wellbore:	ST-1		
Design:	Plan #2		

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)	
8,700.00	0.00	0.00	8,506.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,606.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00	
8,900.00	0.00	0.00	8,706.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,806.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00	
9,100.00	0.00	0.00	8,906.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00	
9,133.09	0.00	0.00	8,940.00	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00	
Rollins										
9,200.00	0.00	0.00	9,006.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00	
9,300.00	0.00	0.00	9,106.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00	
9,400.00	0.00	0.00	9,206.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00	
9,500.00	0.00	0.00	9,306.91	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00	
9,552.09	0.00	0.00	9,359.00	-1,117.52	-175.12	1,131.16	0.00	0.00	0.00	
Target = 635201.29, 1230163.04										

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 697-04-82 ST-1	0.00	0.00	9,359.00	-1,117.52	-175.12	635,201.29	1,230,163.04	39° 32' 44.473 N	108° 13' 48.886 W	
- plan hits target center										
- Circle (radius 50.00)										

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
6,393.09	6,200.00	Mesaverde		0.00		
6,538.09	6,345.00	Base Ohio Creek		0.00		
9,133.09	8,940.00	Rollins		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
3,059.00	2,910.75	-807.27	-148.69	Start 41.00 hold at 3059.00 MD	
3,100.00	2,949.13	-821.68	-148.79	Start DLS 3.00 TFO 104.35	
3,212.74	3,054.91	-860.49	-152.27	Start 100.00 hold at 3212.74 MD	
3,312.74	3,148.88	-894.18	-158.21	Start DLS 2.00 TFO -92.90	
3,418.09	3,247.89	-929.90	-162.54	Start 44.66 hold at 3418.09 MD	
3,462.75	3,289.85	-945.14	-163.56	Start Drop -2.00	
4,462.75	4,269.67	-1,117.52	-175.12	Start 0.00° Hold At 4462.75'	
7,152.09	6,959.00	-1,117.52	-175.12	TOG = 635158.37, 1230176.88	
9,552.09	9,359.00	-1,117.52	-175.12	Target = 635201.29, 1230163.04	
9,552.09	9,359.00	-1,117.52	-175.12	BHL = 635201.29, 1230163.04	