



Scientific Drilling
Rocky Mountain Operations

Company: OXY USA RMAT
Project: Garfield County, CO NAD27
Site: Cascade Creek 697-08A Pad



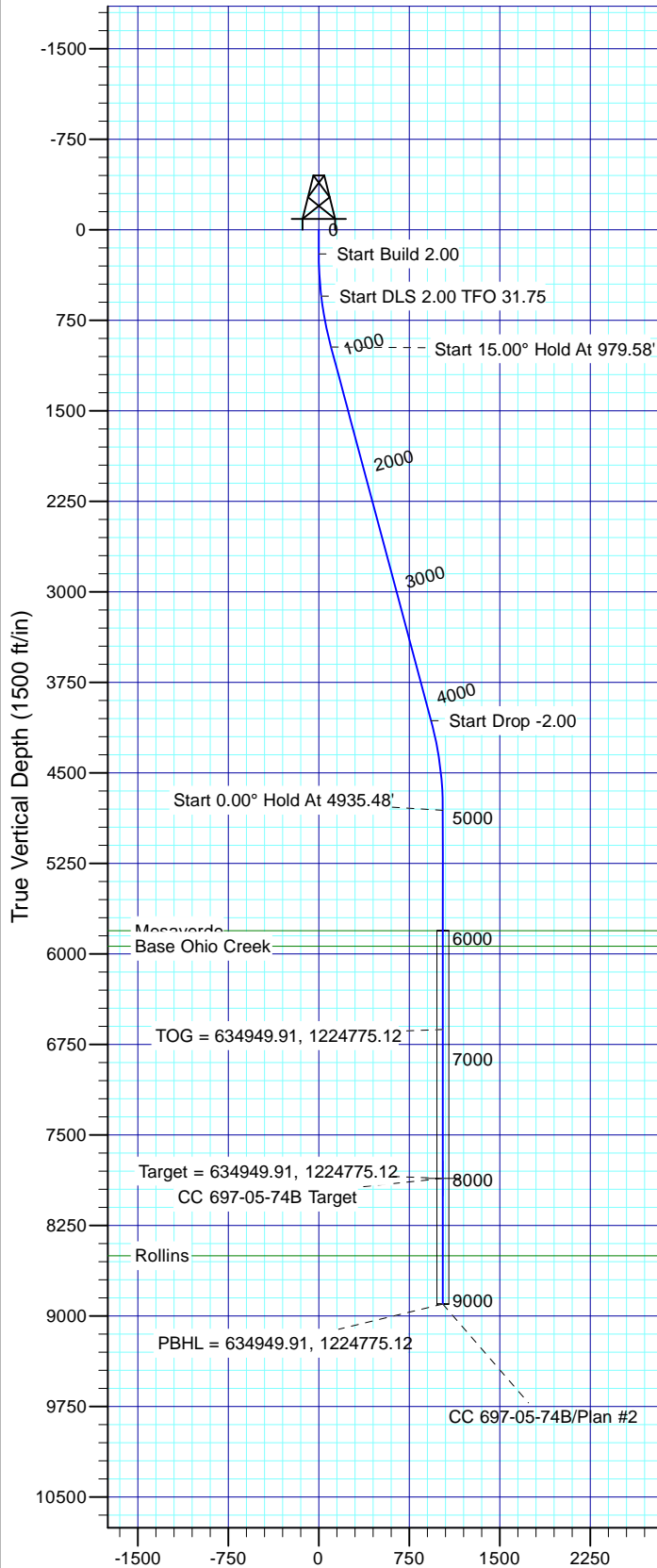
Well Details: CC 697-05-74B

TVD Reference: GL 8401' & RKB 30' @ 8431.00ft (H&P Rig) Ground Level: 8401.00
+N/-S 0.00 +E/-W 0.00 Northing 634621.74 Easting 1225749.85 Latitude 39° 32' 37.433 N Longitude 108° 14' 44.974 W Slot J

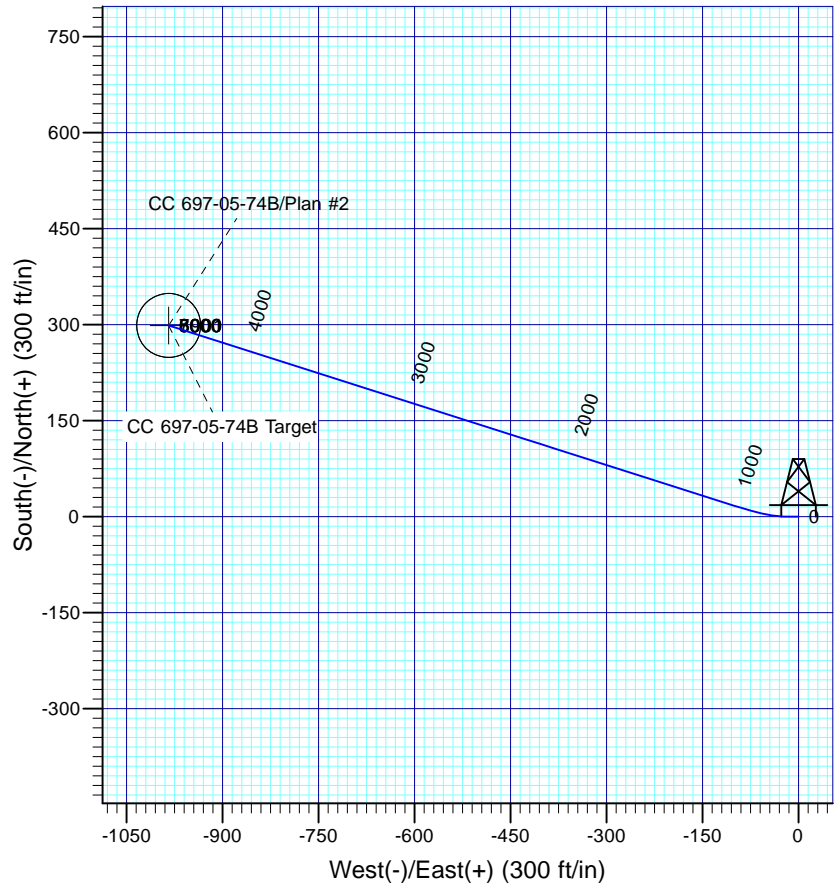


Azimuths to True North
Magnetic North: 10.77°

Magnetic Field
Strength: 52497.8snT
Dip Angle: 65.81°
Date: 12/22/2008
Model: IGRF2005-10



Vertical Section at 286.88° (1500 ft/in)



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
5806.00	5932.78	Mesaverde
5936.00	6062.78	Base Ohio Creek
8501.00	8627.78	Rollins

Plan: Plan #2

16:31, May 25 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	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	550.00	7.00	270.00	549.13	0.00	-21.35	2.00	270.00	20.43	
4	979.58	15.00	287.68	970.58	16.92	-100.64	2.00	31.75	101.22	CC 697-05-74B Target
5	979.58	15.00	287.68	970.58	16.92	-100.64	2.00	0.00	101.22	
6	4185.48	15.00	287.68	4067.24	268.91	-891.20	0.00	0.00	930.89	
7	4935.48	0.00	0.00	4808.70	298.56	-984.20	2.00	180.00	1028.49	
8	7986.78	0.00	0.00	7860.00	298.56	-984.20	0.00	0.00	1028.49	CC 697-05-74B Target
9	9027.78	0.00	0.00	8901.00	298.56	-984.20	0.00	0.00	1028.49	

OXY USA RMAT

**Garfield County, CO NAD27
Cascade Creek 697-08A Pad
CC 697-05-74B - Slot J**

OH

Plan: Plan #2

Standard Planning Report

25 May, 2011





Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-05-74B - Slot J
Company:	OXY USA RMAT	TVD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Site:	Cascade Creek 697-08A Pad	North Reference:	True
Well:	CC 697-05-74B	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
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 697-08A Pad, Sec 8 T6S R97W		
Site Position:		Northing:	635,765.16 usft
From:	Lat/Long	Easting:	1,225,748.33 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	39° 32' 48.728 N
		Longitude:	108° 14' 45.434 W
		Grid Convergence:	-1.73 °

Well	CC 697-05-74B - Slot J, 344' FNL & 1795' FWL		
Well Position	+N/-S	-1,142.85 ft	Northing: 634,621.75 usft
	+E/-W	36.07 ft	Easting: 1,225,749.85 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	Latitude: 39° 32' 37.433 N
			Longitude: 108° 14' 44.974 W
			Ground Level: 8,401.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005-10	12/22/2008	10.77	65.81	52,498

Design	Plan #2			
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	286.88

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	
550.00	7.00	270.00	549.13	0.00	-21.35	2.00	2.00	0.00	270.00	
979.58	15.00	287.68	970.58	16.92	-100.64	2.00	1.86	4.12	31.75	CC 697-05-74B Target
979.58	15.00	287.68	970.58	16.92	-100.64	2.00	2.00	0.00	0.00	
4,185.48	15.00	287.68	4,067.24	268.91	-891.20	0.00	0.00	0.00	0.00	
4,935.48	0.00	0.00	4,808.70	298.56	-984.20	2.00	-2.00	0.00	180.00	
7,986.78	0.00	0.00	7,860.00	298.56	-984.20	0.00	0.00	0.00	0.00	CC 697-05-74B Target
9,027.78	0.00	0.00	8,901.00	298.56	-984.20	0.00	0.00	0.00	0.00	



Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-05-74B - Slot J
Company:	OXY USA RMAT	TVD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Site:	Cascade Creek 697-08A Pad	North Reference:	True
Well:	CC 697-05-74B	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
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	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	270.00	299.98	0.00	-1.75	1.67	2.00	2.00	0.00
400.00	4.00	270.00	399.84	0.00	-6.98	6.68	2.00	2.00	0.00
500.00	6.00	270.00	499.45	0.00	-15.69	15.02	2.00	2.00	0.00
550.00	7.00	270.00	549.13	0.00	-21.35	20.43	2.00	2.00	0.00
Start DLS 2.00 TFO 31.75									
600.00	7.87	273.85	598.71	0.23	-27.82	26.68	2.00	1.74	7.69
700.00	9.68	279.43	697.54	2.07	-42.94	41.69	2.00	1.81	5.58
800.00	11.55	283.24	795.82	5.74	-60.98	60.02	2.00	1.87	3.81
900.00	13.46	285.99	893.44	11.24	-81.93	81.66	2.00	1.91	2.75
979.58	15.00	287.68	970.58	16.92	-100.64	101.22	2.00	1.93	2.13
Start 15.00° Hold At 979.58'									
1,000.00	15.00	287.68	990.30	18.52	-105.68	106.51	0.00	0.00	0.00
1,100.00	15.00	287.68	1,086.90	26.38	-130.34	132.38	0.00	0.00	0.00
1,200.00	15.00	287.68	1,183.49	34.24	-155.00	158.26	0.00	0.00	0.00
1,300.00	15.00	287.68	1,280.08	42.10	-179.66	184.14	0.00	0.00	0.00
1,400.00	15.00	287.68	1,376.67	49.96	-204.32	210.02	0.00	0.00	0.00
1,500.00	15.00	287.68	1,473.27	57.82	-228.98	235.90	0.00	0.00	0.00
1,600.00	15.00	287.68	1,569.86	65.68	-253.64	261.78	0.00	0.00	0.00
1,700.00	15.00	287.68	1,666.45	73.54	-278.30	287.66	0.00	0.00	0.00
1,800.00	15.00	287.68	1,763.05	81.40	-302.96	313.54	0.00	0.00	0.00
1,900.00	15.00	287.68	1,859.64	89.26	-327.61	339.42	0.00	0.00	0.00
2,000.00	15.00	287.68	1,956.23	97.12	-352.27	365.30	0.00	0.00	0.00
2,100.00	15.00	287.68	2,052.82	104.98	-376.93	391.18	0.00	0.00	0.00
2,200.00	15.00	287.68	2,149.42	112.85	-401.59	417.06	0.00	0.00	0.00
2,300.00	15.00	287.68	2,246.01	120.71	-426.25	442.94	0.00	0.00	0.00
2,400.00	15.00	287.68	2,342.60	128.57	-450.91	468.82	0.00	0.00	0.00
2,500.00	15.00	287.68	2,439.19	136.43	-475.57	494.70	0.00	0.00	0.00
2,600.00	15.00	287.68	2,535.79	144.29	-500.23	520.58	0.00	0.00	0.00
2,700.00	15.00	287.68	2,632.38	152.15	-524.89	546.45	0.00	0.00	0.00
2,800.00	15.00	287.68	2,728.97	160.01	-549.55	572.33	0.00	0.00	0.00
2,900.00	15.00	287.68	2,825.56	167.87	-574.21	598.21	0.00	0.00	0.00
3,000.00	15.00	287.68	2,922.16	175.73	-598.87	624.09	0.00	0.00	0.00
3,100.00	15.00	287.68	3,018.75	183.59	-623.53	649.97	0.00	0.00	0.00
3,200.00	15.00	287.68	3,115.34	191.45	-648.19	675.85	0.00	0.00	0.00
3,300.00	15.00	287.68	3,211.93	199.31	-672.85	701.73	0.00	0.00	0.00
3,400.00	15.00	287.68	3,308.53	207.17	-697.51	727.61	0.00	0.00	0.00
3,500.00	15.00	287.68	3,405.12	215.03	-722.17	753.49	0.00	0.00	0.00
3,600.00	15.00	287.68	3,501.71	222.89	-746.82	779.37	0.00	0.00	0.00
3,700.00	15.00	287.68	3,598.30	230.75	-771.48	805.25	0.00	0.00	0.00
3,800.00	15.00	287.68	3,694.90	238.61	-796.14	831.13	0.00	0.00	0.00
3,900.00	15.00	287.68	3,791.49	246.47	-820.80	857.01	0.00	0.00	0.00
4,000.00	15.00	287.68	3,888.08	254.33	-845.46	882.89	0.00	0.00	0.00
4,100.00	15.00	287.68	3,984.67	262.19	-870.12	908.77	0.00	0.00	0.00
4,185.48	15.00	287.68	4,067.24	268.91	-891.20	930.89	0.00	0.00	0.00
Start Drop -2.00									
4,200.00	14.71	287.68	4,081.28	270.04	-894.75	934.61	2.00	-2.00	0.00
4,300.00	12.71	287.68	4,178.42	277.24	-917.33	958.31	2.00	-2.00	0.00
4,400.00	10.71	287.68	4,276.34	283.40	-936.66	978.60	2.00	-2.00	0.00
4,500.00	8.71	287.68	4,374.90	288.53	-952.73	995.46	2.00	-2.00	0.00
4,600.00	6.71	287.68	4,473.99	292.60	-965.51	1,008.87	2.00	-2.00	0.00



Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-05-74B - Slot J
Company:	OXY USA RMAT	TVD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Site:	Cascade Creek 697-08A Pad	North Reference:	True
Well:	CC 697-05-74B	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
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)
4,700.00	4.71	287.68	4,573.49	295.62	-974.99	1,018.82	2.00	-2.00	0.00
4,800.00	2.71	287.68	4,673.27	297.59	-981.15	1,025.29	2.00	-2.00	0.00
4,900.00	0.71	287.68	4,773.22	298.49	-984.00	1,028.27	2.00	-2.00	0.00
4,935.48	0.00	0.00	4,808.70	298.56	-984.20	1,028.49	2.00	-2.00	0.00
Start 0.00° Hold At 4935.48'									
5,000.00	0.00	0.00	4,873.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
5,100.00	0.00	0.00	4,973.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
5,200.00	0.00	0.00	5,073.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
5,300.00	0.00	0.00	5,173.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
5,400.00	0.00	0.00	5,273.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
5,500.00	0.00	0.00	5,373.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
5,600.00	0.00	0.00	5,473.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
5,700.00	0.00	0.00	5,573.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
5,800.00	0.00	0.00	5,673.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
5,900.00	0.00	0.00	5,773.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
5,932.78	0.00	0.00	5,806.00	298.56	-984.20	1,028.49	0.00	0.00	0.00
Mesaverde									
6,000.00	0.00	0.00	5,873.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
6,062.78	0.00	0.00	5,936.00	298.56	-984.20	1,028.49	0.00	0.00	0.00
Base Ohio Creek									
6,100.00	0.00	0.00	5,973.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
6,200.00	0.00	0.00	6,073.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
6,300.00	0.00	0.00	6,173.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
6,400.00	0.00	0.00	6,273.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
6,500.00	0.00	0.00	6,373.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
6,600.00	0.00	0.00	6,473.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
6,700.00	0.00	0.00	6,573.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
6,752.78	0.00	0.00	6,626.00	298.56	-984.20	1,028.49	0.00	0.00	0.00
TOG = 634949.91, 1224775.12									
6,800.00	0.00	0.00	6,673.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
6,900.00	0.00	0.00	6,773.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
7,000.00	0.00	0.00	6,873.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
7,100.00	0.00	0.00	6,973.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
7,200.00	0.00	0.00	7,073.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
7,300.00	0.00	0.00	7,173.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
7,400.00	0.00	0.00	7,273.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
7,500.00	0.00	0.00	7,373.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
7,600.00	0.00	0.00	7,473.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
7,700.00	0.00	0.00	7,573.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
7,800.00	0.00	0.00	7,673.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
7,900.00	0.00	0.00	7,773.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
7,986.78	0.00	0.00	7,860.00	298.56	-984.20	1,028.49	0.00	0.00	0.00
Target = 634949.91, 1224775.12									
8,000.00	0.00	0.00	7,873.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
8,100.00	0.00	0.00	7,973.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
8,200.00	0.00	0.00	8,073.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
8,300.00	0.00	0.00	8,173.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
8,400.00	0.00	0.00	8,273.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
8,500.00	0.00	0.00	8,373.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
8,600.00	0.00	0.00	8,473.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
8,627.78	0.00	0.00	8,501.00	298.56	-984.20	1,028.49	0.00	0.00	0.00
Rollins									
8,700.00	0.00	0.00	8,573.22	298.56	-984.20	1,028.49	0.00	0.00	0.00



Database:	Rockies Compass Server	Local Co-ordinate Reference:	Well CC 697-05-74B - Slot J
Company:	OXY USA RMAT	TVD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Project:	Garfield County, CO NAD27	MD Reference:	GL 8401' & RKB 30' @ 8431.00ft (H&P Rig)
Site:	Cascade Creek 697-08A Pad	North Reference:	True
Well:	CC 697-05-74B	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
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)
8,800.00	0.00	0.00	8,673.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
8,900.00	0.00	0.00	8,773.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
9,000.00	0.00	0.00	8,873.22	298.56	-984.20	1,028.49	0.00	0.00	0.00
9,027.78	0.00	0.00	8,901.00	298.56	-984.20	1,028.49	0.00	0.00	0.00
PBHL = 634949.91, 1224775.12									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
CC 697-05-74B Target - plan hits target center - Circle (radius 50.00)	0.00	0.00	7,860.00	298.56	-984.20	634,949.91	1,224,775.12	39° 32' 40.384 N	108° 14' 57.538 W

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,932.78	5,806.00	Mesaverde		0.00	
6,062.78	5,936.00	Base Ohio Creek		0.00	
8,627.78	8,501.00	Rollins		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.00	200.00	0.00	0.00	Start Build 2.00
550.00	549.13	0.00	-21.35	Start DLS 2.00 TFO 31.75
979.58	970.58	16.92	-100.64	Start 15.00° Hold At 979.58'
4,185.48	4,067.24	268.91	-891.20	Start Drop -2.00
4,935.48	4,808.70	298.56	-984.20	Start 0.00° Hold At 4935.48'
6,752.78	6,626.00	298.56	-984.20	TOG = 634949.91, 1224775.12
7,986.78	7,860.00	298.56	-984.20	Target = 634949.91, 1224775.12
9,027.78	8,901.00	298.56	-984.20	PBHL = 634949.91, 1224775.12