

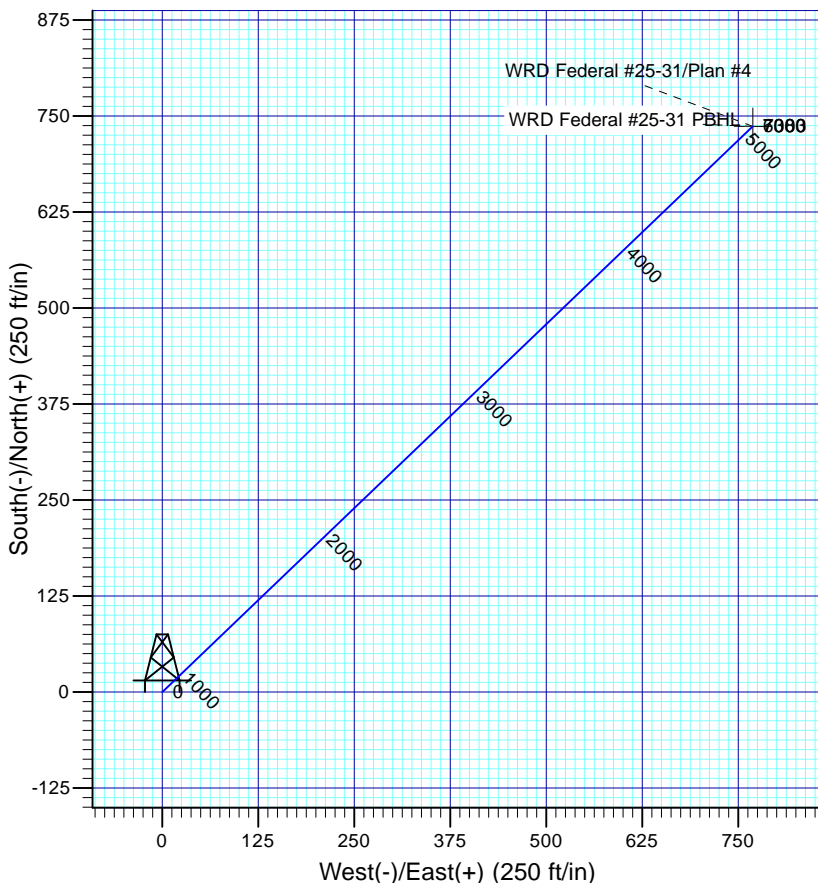
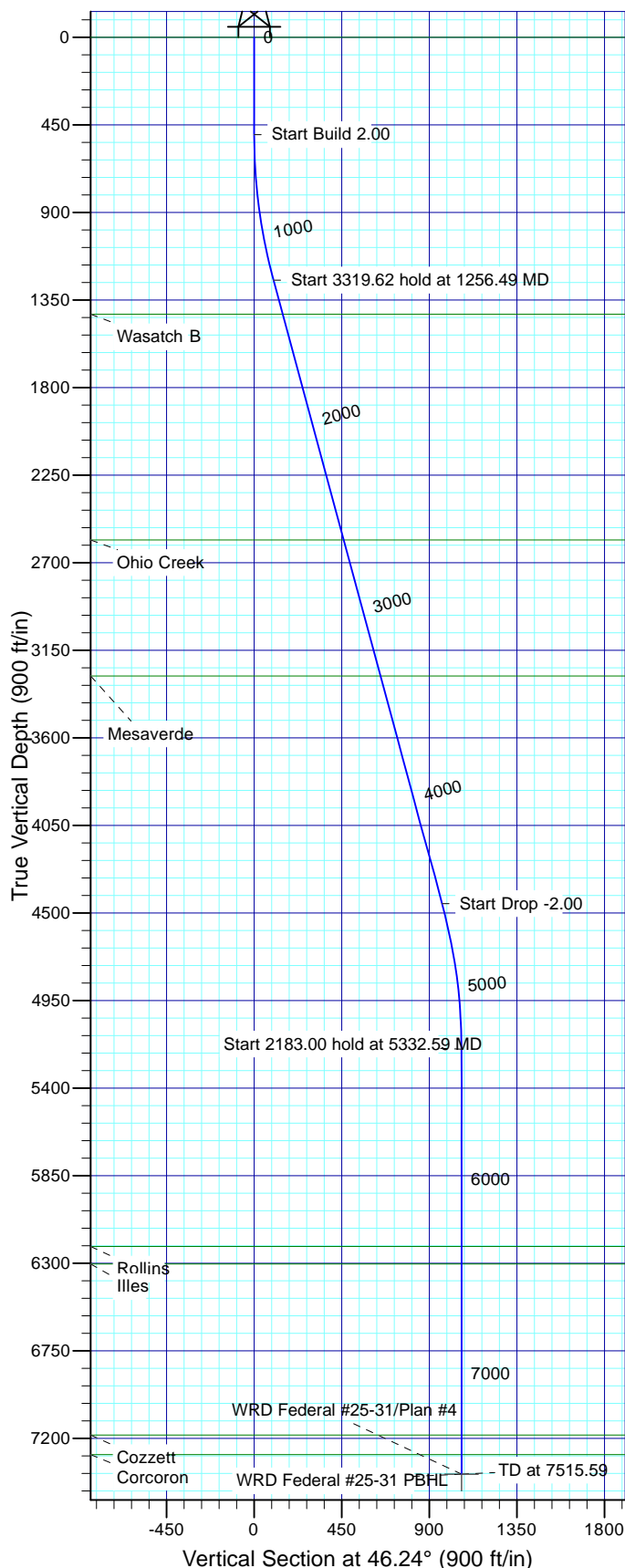
Well Details: WRD Federal #25-31

TVD Reference: GL 5882.3' @ 5882.30ft

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	1294418.99	2234739.35	40° 6' 32.970 N	108° 14' 11.000 W	

T M Azimuths to True North
Magnetic North: 10.33°

Magnetic Field
Strength: 52272.7snT
Dip Angle: 66.13°
Date: 7/24/2013
Model: BGGM2013



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
0.00	0.00	Wasatch
1423.00	1438.05	Wasatch B
2583.00	2639.71	Ohio Creek
3282.00	3363.81	Mesaverde
6213.00	6345.59	Rollins
6303.00	6435.59	Illes
7183.00	7315.59	Cozzett
7283.00	7415.59	Corcoron

Plan: Plan #4

12:07, September 16 2013
Created By: Janie Collins

PROJECT DETAILS: Rio Blanco County, CO NAD83

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
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	500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	
3	1256.49	15.13	46.24	1247.72	68.69	71.71	2.00	46.24	99.30	
4	4576.10	15.13	46.24	4452.28	667.99	697.45	0.00	0.00	965.74	
5	5332.59	0.00	0.00	5200.00	736.67	769.17	2.00	180.00	1065.04	
6	7515.59	0.00	0.00	7383.00	736.67	769.17	0.00	0.00	1065.04	WRD Federal #25-31 PBHL

WRD Federal #25-31 PBHL

TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape Point
7383.00	736.67	769.17	1295131.58	2235530.88	40° 6' 40.250 N	108° 14' 1.100 W	

- plan hits target center

Koch Exploration Co. LLC

Rio Blanco County, CO NAD83

WRD Federal

WRD Federal #25-31

OH

Plan: Plan #4

Standard Planning Report

16 September, 2013



Database:	Grand Junction District	Local Co-ordinate Reference:	Well WRD Federal #25-31
Company:	Koch Exploration Co. LLC	TVD Reference:	GL 5882.3' @ 5882.30ft
Project:	Rio Blanco County, CO NAD83	MD Reference:	GL 5882.3' @ 5882.30ft
Site:	WRD Federal	North Reference:	True
Well:	WRD Federal #25-31	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #4		

Project	Rio Blanco County, CO NAD83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	WRD Federal			
Site Position:		Northing:	1,294,798.36 usft	Latitude: 40° 6' 39.290 N
From:	Lat/Long	Easting:	2,243,223.73 usft	Longitude: 108° 12' 22.000 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence: -1.75 °

Well	WRD Federal #25-31			
Well Position	+N/-S	-638.07 ft	Northing:	1,294,418.99 usft
	+E/-W	-8,468.87 ft	Easting:	2,234,739.35 usft
Position Uncertainty		0.00 ft	Wellhead Elevation:	Latitude: 40° 6' 32.970 N
				Longitude: 108° 14' 11.000 W
				Ground Level: 5,882.30 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	7/24/2013	10.33	66.13	52,273

Design	Plan #4			
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	46.24

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	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,256.49	15.13	46.24	1,247.72	68.69	71.71	2.00	2.00	0.00	46.24	
4,576.10	15.13	46.24	4,452.28	667.99	697.45	0.00	0.00	0.00	0.00	
5,332.59	0.00	0.00	5,200.00	736.67	769.17	2.00	-2.00	0.00	180.00	
7,515.59	0.00	0.00	7,383.00	736.67	769.17	0.00	0.00	0.00	0.00	WRD Federal #25-31

Database:	Grand Junction District	Local Co-ordinate Reference:	Well WRD Federal #25-31
Company:	Koch Exploration Co. LLC	TVD Reference:	GL 5882.3' @ 5882.30ft
Project:	Rio Blanco County, CO NAD83	MD Reference:	GL 5882.3' @ 5882.30ft
Site:	WRD Federal	North Reference:	True
Well:	WRD Federal #25-31	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #4		

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
Wasatch									
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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	2.00	46.24	599.98	1.21	1.26	1.75	2.00	2.00	0.00
700.00	4.00	46.24	699.84	4.83	5.04	6.98	2.00	2.00	0.00
800.00	6.00	46.24	799.45	10.86	11.33	15.69	2.00	2.00	0.00
900.00	8.00	46.24	898.70	19.28	20.13	27.88	2.00	2.00	0.00
1,000.00	10.00	46.24	997.47	30.10	31.43	43.52	2.00	2.00	0.00
1,100.00	12.00	46.24	1,095.62	43.30	45.21	62.60	2.00	2.00	0.00
1,200.00	14.00	46.24	1,193.06	58.86	61.46	85.10	2.00	2.00	0.00
1,256.49	15.13	46.24	1,247.72	68.69	71.71	99.30	2.00	2.00	0.00
1,300.00	15.13	46.24	1,289.73	76.54	79.92	110.66	0.00	0.00	0.00
1,400.00	15.13	46.24	1,386.26	94.59	98.77	136.76	0.00	0.00	0.00
1,438.05	15.13	46.24	1,423.00	101.46	105.94	146.69	0.00	0.00	0.00
Wasatch B									
1,500.00	15.13	46.24	1,482.80	112.65	117.62	162.86	0.00	0.00	0.00
1,600.00	15.13	46.24	1,579.33	130.70	136.47	188.96	0.00	0.00	0.00
1,700.00	15.13	46.24	1,675.87	148.75	155.32	215.06	0.00	0.00	0.00
1,800.00	15.13	46.24	1,772.40	166.81	174.17	241.16	0.00	0.00	0.00
1,900.00	15.13	46.24	1,868.93	184.86	193.02	267.26	0.00	0.00	0.00
2,000.00	15.13	46.24	1,965.47	202.91	211.87	293.36	0.00	0.00	0.00
2,100.00	15.13	46.24	2,062.00	220.97	230.71	319.46	0.00	0.00	0.00
2,200.00	15.13	46.24	2,158.53	239.02	249.56	345.56	0.00	0.00	0.00
2,300.00	15.13	46.24	2,255.07	257.07	268.41	371.66	0.00	0.00	0.00
2,400.00	15.13	46.24	2,351.60	275.13	287.26	397.76	0.00	0.00	0.00
2,500.00	15.13	46.24	2,448.14	293.18	306.11	423.86	0.00	0.00	0.00
2,600.00	15.13	46.24	2,544.67	311.24	324.96	449.97	0.00	0.00	0.00
2,639.71	15.13	46.24	2,583.00	318.40	332.45	460.33	0.00	0.00	0.00
Ohio Creek									
2,700.00	15.13	46.24	2,641.20	329.29	343.81	476.07	0.00	0.00	0.00
2,800.00	15.13	46.24	2,737.74	347.34	362.66	502.17	0.00	0.00	0.00
2,900.00	15.13	46.24	2,834.27	365.40	381.51	528.27	0.00	0.00	0.00
3,000.00	15.13	46.24	2,930.80	383.45	400.36	554.37	0.00	0.00	0.00
3,100.00	15.13	46.24	3,027.34	401.50	419.21	580.47	0.00	0.00	0.00
3,200.00	15.13	46.24	3,123.87	419.56	438.06	606.57	0.00	0.00	0.00
3,300.00	15.13	46.24	3,220.41	437.61	456.91	632.67	0.00	0.00	0.00
3,363.81	15.13	46.24	3,282.00	449.13	468.94	649.32	0.00	0.00	0.00
Mesaverde									
3,400.00	15.13	46.24	3,316.94	455.66	475.76	658.77	0.00	0.00	0.00
3,500.00	15.13	46.24	3,413.47	473.72	494.61	684.87	0.00	0.00	0.00
3,600.00	15.13	46.24	3,510.01	491.77	513.46	710.97	0.00	0.00	0.00
3,700.00	15.13	46.24	3,606.54	509.82	532.31	737.07	0.00	0.00	0.00
3,800.00	15.13	46.24	3,703.07	527.88	551.16	763.17	0.00	0.00	0.00
3,900.00	15.13	46.24	3,799.61	545.93	570.01	789.27	0.00	0.00	0.00
4,000.00	15.13	46.24	3,896.14	563.98	588.86	815.37	0.00	0.00	0.00
4,100.00	15.13	46.24	3,992.68	582.04	607.71	841.47	0.00	0.00	0.00
4,200.00	15.13	46.24	4,089.21	600.09	626.56	867.57	0.00	0.00	0.00
4,300.00	15.13	46.24	4,185.74	618.14	645.41	893.67	0.00	0.00	0.00
4,400.00	15.13	46.24	4,282.28	636.20	664.26	919.77	0.00	0.00	0.00
4,500.00	15.13	46.24	4,378.81	654.25	683.11	945.87	0.00	0.00	0.00

Database:	Grand Junction District	Local Co-ordinate Reference:	Well WRD Federal #25-31
Company:	Koch Exploration Co. LLC	TVD Reference:	GL 5882.3' @ 5882.30ft
Project:	Rio Blanco County, CO NAD83	MD Reference:	GL 5882.3' @ 5882.30ft
Site:	WRD Federal	North Reference:	True
Well:	WRD Federal #25-31	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #4		

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)
4,576.10	15.13	46.24	4,452.28	667.99	697.45	965.74	0.00	0.00	0.00
4,600.00	14.65	46.24	4,475.37	672.24	701.89	971.88	2.00	-2.00	0.00
4,700.00	12.65	46.24	4,572.54	688.56	718.93	995.48	2.00	-2.00	0.00
4,800.00	10.65	46.24	4,670.47	702.53	733.52	1,015.67	2.00	-2.00	0.00
4,900.00	8.65	46.24	4,769.05	714.13	745.63	1,032.44	2.00	-2.00	0.00
5,000.00	6.65	46.24	4,868.16	723.34	755.24	1,045.75	2.00	-2.00	0.00
5,100.00	4.65	46.24	4,967.67	730.15	762.35	1,055.60	2.00	-2.00	0.00
5,200.00	2.65	46.24	5,067.46	734.55	766.95	1,061.97	2.00	-2.00	0.00
5,300.00	0.65	46.24	5,167.41	736.55	769.03	1,064.85	2.00	-2.00	0.00
5,332.59	0.00	0.00	5,200.00	736.67	769.17	1,065.04	2.00	-2.00	0.00
5,400.00	0.00	0.00	5,267.41	736.67	769.17	1,065.04	0.00	0.00	0.00
5,500.00	0.00	0.00	5,367.41	736.67	769.17	1,065.04	0.00	0.00	0.00
5,600.00	0.00	0.00	5,467.41	736.67	769.17	1,065.04	0.00	0.00	0.00
5,700.00	0.00	0.00	5,567.41	736.67	769.17	1,065.04	0.00	0.00	0.00
5,800.00	0.00	0.00	5,667.41	736.67	769.17	1,065.04	0.00	0.00	0.00
5,900.00	0.00	0.00	5,767.41	736.67	769.17	1,065.04	0.00	0.00	0.00
6,000.00	0.00	0.00	5,867.41	736.67	769.17	1,065.04	0.00	0.00	0.00
6,100.00	0.00	0.00	5,967.41	736.67	769.17	1,065.04	0.00	0.00	0.00
6,200.00	0.00	0.00	6,067.41	736.67	769.17	1,065.04	0.00	0.00	0.00
6,300.00	0.00	0.00	6,167.41	736.67	769.17	1,065.04	0.00	0.00	0.00
6,345.59	0.00	0.00	6,213.00	736.67	769.17	1,065.04	0.00	0.00	0.00
Rollins									
6,400.00	0.00	0.00	6,267.41	736.67	769.17	1,065.04	0.00	0.00	0.00
6,435.59	0.00	0.00	6,303.00	736.67	769.17	1,065.04	0.00	0.00	0.00
Illes									
6,500.00	0.00	0.00	6,367.41	736.67	769.17	1,065.04	0.00	0.00	0.00
6,600.00	0.00	0.00	6,467.41	736.67	769.17	1,065.04	0.00	0.00	0.00
6,700.00	0.00	0.00	6,567.41	736.67	769.17	1,065.04	0.00	0.00	0.00
6,800.00	0.00	0.00	6,667.41	736.67	769.17	1,065.04	0.00	0.00	0.00
6,900.00	0.00	0.00	6,767.41	736.67	769.17	1,065.04	0.00	0.00	0.00
7,000.00	0.00	0.00	6,867.41	736.67	769.17	1,065.04	0.00	0.00	0.00
7,100.00	0.00	0.00	6,967.41	736.67	769.17	1,065.04	0.00	0.00	0.00
7,200.00	0.00	0.00	7,067.41	736.67	769.17	1,065.04	0.00	0.00	0.00
7,300.00	0.00	0.00	7,167.41	736.67	769.17	1,065.04	0.00	0.00	0.00
7,315.59	0.00	0.00	7,183.00	736.67	769.17	1,065.04	0.00	0.00	0.00
Cozzett									
7,400.00	0.00	0.00	7,267.41	736.67	769.17	1,065.04	0.00	0.00	0.00
7,415.59	0.00	0.00	7,283.00	736.67	769.17	1,065.04	0.00	0.00	0.00
Corcoran									
7,500.00	0.00	0.00	7,367.41	736.67	769.17	1,065.04	0.00	0.00	0.00
7,515.59	0.00	0.00	7,383.00	736.67	769.17	1,065.04	0.00	0.00	0.00
WRD Federal #25-31 PBHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
WRD Federal #25-31 PE	0.00	0.00	7,383.00	736.67	769.17	1,295,131.58	2,235,530.88	40° 6' 40.250 N	108° 14' 1.100 W
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Database:	Grand Junction District	Local Co-ordinate Reference:	Well WRD Federal #25-31
Company:	Koch Exploration Co. LLC	TVD Reference:	GL 5882.3' @ 5882.30ft
Project:	Rio Blanco County, CO NAD83	MD Reference:	GL 5882.3' @ 5882.30ft
Site:	WRD Federal	North Reference:	True
Well:	WRD Federal #25-31	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #4		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
0.00	768.50	Wasatch		0.00		
1,438.05	2,191.50	Wasatch B		0.00		
2,639.71	3,351.50	Ohio Creek		0.00		
3,363.81	4,050.50	Mesaverde		0.00		
6,345.59	6,981.50	Rollins		0.00		
6,435.59	7,071.50	Illes		0.00		
7,315.59	7,951.50	Cozzett		0.00		
7,415.59	8,051.50	Corcoron		0.00		