



WELL DETAILS: Windmill #05-23H

Ground Level:						
4587.0						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	383531.70	2338914.73	40° 22' 47.400 N	104° 17' 0.500 W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	7093.0	84.84	341.74	6131.5	1162.2	-461.7	0.00	0.00	1250.4	
2	7452.0	94.00	341.74	6135.1	1502.8	-574.1	2.55	0.00	1607.9	
3	7500.0	93.00	341.74	6132.2	1548.3	-589.1	2.08	180.00	1655.7	
4	7841.4	89.43	335.92	6125.0	1866.3	-712.3	2.00	-121.43	1996.7	
5	10360.5	89.43	335.92	6150.0	4166.1	-1740.2	0.00	0.00	4515.0	Windmill 5-23H PBHL 2

FORMATION TOP DETAILS

No formation data is available

ANNOTATIONS

TVD	MD	Annotation
6131.5	7093.0	Tie Into Current Survey
6135.1	7452.0	Drill Up to Way point 6132' TVD
6132.2	7500.0	Start Down Dip to PBHL
6150.0	10360.5	TD = 10360.5 MD

CASING DETAILS

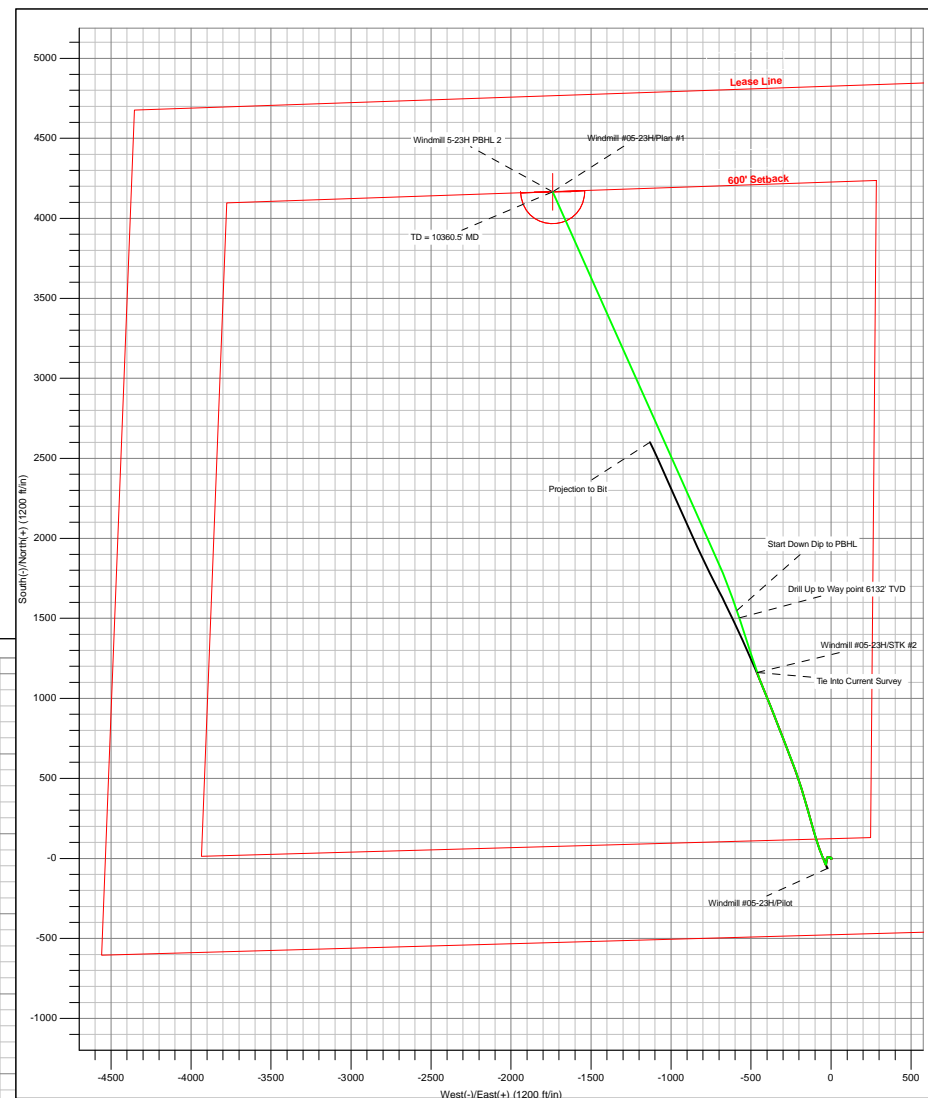
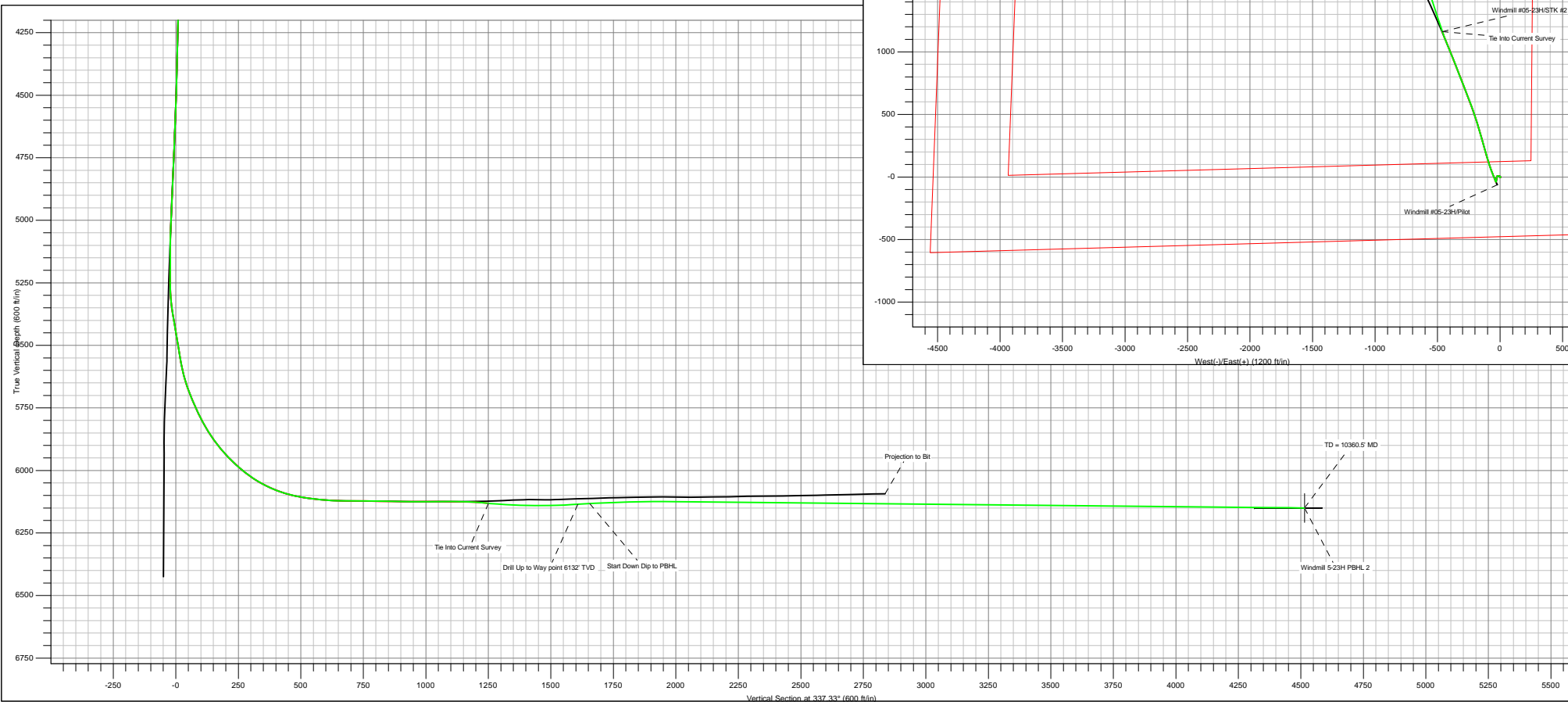
No casing data is available

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Windmill 5-23H PBHL 2	6150.0	4166.1	-1740.2	40° 23' 26.570 N	104° 17' 22.560 W	Circle (Radius: 200.0)



Azimuths to True North
Magnetic North: 6.62°
Magnetic Field
Strength: 53188.4nT
Dip Angle: 67.12°
Date: 14/26/2011
Model: IGRF2010-14





EOG Resources

Weld Co., CO

Sec 23-T5N-R62W

Windmill #05-23H

STK #2

Plan: Plan #1

Standard Planning Report (Field)

23 April, 2011



Database:	Local	Local Co-ordinate Reference:	Well Windmill #05-23H
Company:	EOG Resources	TVD Reference:	Windmill 5-23H KBE @ 4612.0ft (True 30)
Project:	Weld Co., CO	MD Reference:	Windmill 5-23H KBE @ 4612.0ft (True 30)
Site:	Sec 23-T5N-R62W	North Reference:	True
Well:	Windmill #05-23H	Survey Calculation Method:	Minimum Curvature
Wellbore:	STK #2		
Design:	Plan #1		

Project	Weld Co., CO		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Colorado North 501		

Site						Sec 23-T5N-R62W											
Site Position:			Northing:			383,531.70 ft			Latitude:			40° 22' 47.400 N					
From:			Lat/Long			Easting:			2,338,914.73 ft			Longitude:			104° 17' 0.500 W		
Position Uncertainty:			0.0 ft			Slot Radius:						Grid Convergence:			0.79		

Well	Windmill #05-23H					
Well Position	+N/-S	0.0 ft	Northing:	383,531.70 ft	Latitude:	40° 22' 47.400 N
	+E/-W	0.0 ft	Easting:	2,338,914.73 ft	Longitude:	104° 17' 0.500 W
Position Uncertainty		0.0 ft	Wellhead Elevation:		Ground Level:	4,587.0 ft

Wellbore	STK #2				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010-14	2011/04/23	8.62	67.12	53,188

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	7,093.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	337.33

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
7,093.0	84.84	341.74	6,131.5	1,162.2	-461.7	0.00	0.00	0.00	0.00	
7,452.0	94.00	341.74	6,135.1	1,502.8	-574.1	2.55	2.55	0.00	0.00	
7,500.0	93.00	341.74	6,132.2	1,548.3	-589.1	2.08	-2.08	0.00	180.00	
7,841.4	89.43	335.92	6,125.0	1,866.3	-712.3	2.00	-1.05	-1.71	-121.43	
10,360.5	89.43	335.92	6,150.0	4,166.1	-1,740.2	0.00	0.00	0.00	0.00	Windmill 5-23H PBHL

Database:	Local	Local Co-ordinate Reference:	Well Windmill #05-23H
Company:	EOG Resources	TVD Reference:	Windmill 5-23H KBE @ 4612.0ft (True 30)
Project:	Weld Co., CO	MD Reference:	Windmill 5-23H KBE @ 4612.0ft (True 30)
Site:	Sec 23-T5N-R62W	North Reference:	True
Well:	Windmill #05-23H	Survey Calculation Method:	Minimum Curvature
Wellbore:	STK #2		
Design:	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	Subsea Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Tie Into Current Survey										
7,093.0	84.84	341.74	6,131.5	1,519.5	1,162.2	-461.7	1,250.4	0.00	0.00	0.00
7,100.0	85.02	341.74	6,132.1	1,520.1	1,168.9	-463.9	1,257.4	2.55	2.55	0.00
7,200.0	87.57	341.74	6,138.6	1,526.6	1,263.6	-495.2	1,356.8	2.55	2.55	0.00
7,300.0	90.12	341.74	6,140.6	1,528.6	1,358.5	-526.5	1,456.5	2.55	2.55	0.00
7,400.0	92.67	341.74	6,138.2	1,526.2	1,453.5	-557.8	1,556.2	2.55	2.55	0.00
Drill Up to Way point 6132' TVD										
7,452.0	94.00	341.74	6,135.1	1,523.1	1,502.8	-574.1	1,607.9	2.55	2.55	0.00
Start Down Dip to PBHL										
7,500.0	93.00	341.74	6,132.2	1,520.2	1,548.3	-589.1	1,655.7	2.08	-2.08	0.00
7,600.0	91.96	340.03	6,127.9	1,515.9	1,642.7	-621.8	1,755.4	2.00	-1.04	-1.71
7,700.0	90.91	338.33	6,125.4	1,513.4	1,736.1	-657.3	1,855.3	2.00	-1.05	-1.71
7,800.0	89.86	336.62	6,124.7	1,512.7	1,828.5	-695.6	1,955.3	2.00	-1.05	-1.70
7,841.4	89.43	335.92	6,125.0	1,513.0	1,866.3	-712.3	1,996.7	2.00	-1.05	-1.70
7,900.0	89.43	335.92	6,125.5	1,513.5	1,919.9	-736.2	2,055.3	0.00	0.00	0.00
8,000.0	89.43	335.92	6,126.5	1,514.5	2,011.2	-777.0	2,155.3	0.00	0.00	0.00
8,100.0	89.43	335.92	6,127.5	1,515.5	2,102.4	-817.8	2,255.2	0.00	0.00	0.00
8,200.0	89.43	335.92	6,128.5	1,516.5	2,193.7	-858.6	2,355.2	0.00	0.00	0.00
8,300.0	89.43	335.92	6,129.5	1,517.5	2,285.0	-899.4	2,455.1	0.00	0.00	0.00
8,400.0	89.43	335.92	6,130.5	1,518.5	2,376.3	-940.2	2,555.1	0.00	0.00	0.00
8,500.0	89.43	335.92	6,131.5	1,519.5	2,467.6	-981.0	2,655.1	0.00	0.00	0.00
8,600.0	89.43	335.92	6,132.5	1,520.5	2,558.9	-1,021.8	2,755.0	0.00	0.00	0.00
8,700.0	89.43	335.92	6,133.5	1,521.5	2,650.2	-1,062.6	2,855.0	0.00	0.00	0.00
8,800.0	89.43	335.92	6,134.5	1,522.5	2,741.5	-1,103.4	2,955.0	0.00	0.00	0.00
8,900.0	89.43	335.92	6,135.5	1,523.5	2,832.8	-1,144.2	3,054.9	0.00	0.00	0.00
9,000.0	89.43	335.92	6,136.5	1,524.5	2,924.1	-1,185.1	3,154.9	0.00	0.00	0.00
9,100.0	89.43	335.92	6,137.5	1,525.5	3,015.4	-1,225.9	3,254.9	0.00	0.00	0.00
9,200.0	89.43	335.92	6,138.5	1,526.5	3,106.7	-1,266.7	3,354.8	0.00	0.00	0.00
9,300.0	89.43	335.92	6,139.5	1,527.5	3,197.9	-1,307.5	3,454.8	0.00	0.00	0.00
9,400.0	89.43	335.92	6,140.5	1,528.5	3,289.2	-1,348.3	3,554.8	0.00	0.00	0.00
9,500.0	89.43	335.92	6,141.4	1,529.4	3,380.5	-1,389.1	3,654.7	0.00	0.00	0.00
9,600.0	89.43	335.92	6,142.4	1,530.4	3,471.8	-1,429.9	3,754.7	0.00	0.00	0.00
9,700.0	89.43	335.92	6,143.4	1,531.4	3,563.1	-1,470.7	3,854.7	0.00	0.00	0.00
9,800.0	89.43	335.92	6,144.4	1,532.4	3,654.4	-1,511.5	3,954.6	0.00	0.00	0.00
9,900.0	89.43	335.92	6,145.4	1,533.4	3,745.7	-1,552.3	4,054.6	0.00	0.00	0.00
10,000.0	89.43	335.92	6,146.4	1,534.4	3,837.0	-1,593.1	4,154.5	0.00	0.00	0.00
10,100.0	89.43	335.92	6,147.4	1,535.4	3,928.3	-1,633.9	4,254.5	0.00	0.00	0.00
10,200.0	89.43	335.92	6,148.4	1,536.4	4,019.6	-1,674.7	4,354.5	0.00	0.00	0.00
10,300.0	89.43	335.92	6,149.4	1,537.4	4,110.9	-1,715.5	4,454.4	0.00	0.00	0.00
TD = 10360.5' MD - Windmill 5-23H PBHL 2										
10,360.5	89.43	335.92	6,150.0	1,538.0	4,166.1	-1,740.2	4,514.9	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Windmill 5-23H PBHL 2	0.00	0.00	6,150.0	4,166.1	-1,740.2	387,673.55	2,337,117.55	40° 23' 28.570 N	104° 17' 22.990 W
- hit/miss target									
- Shape									
- plan hits target center									
- Circle (radius 200.0)									

Database:	Local	Local Co-ordinate Reference:	Well Windmill #05-23H
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Site:	Sec 23-T5N-R62W	North Reference:	True
Well:	Windmill #05-23H	Survey Calculation Method:	Minimum Curvature
Wellbore:	STK #2		
Design:	Plan #1		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
7,093.0	6,131.5	1,162.2	-461.7	Tie Into Current Survey
7,452.0	6,135.1	1,502.8	-574.1	Drill Up to Way point 6132' TVD
7,500.0	6,132.2	1,548.3	-589.1	Start Down Dip to PBHL
10,360.5	6,150.0	1,866.3	-712.3	TD = 10360.5' MD