



Directional Services

CUSTOMER: E.O.G.
JOB NUMBER: 5051238
WELL NAME: RIO B 8 FEE #1H
LOCATION: EDDY CTY. NM
SURVEY DATE: 08/18/2006
SURVEY ENGINE: S. SMITH
PROPOSED DIR: 359.83
DECLINATION: 8.67 TO GRID
COMMENTS: J.W. RIG 3
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MEASURED DEPTH	VERTICAL DEPTH	VERTICAL SECTION	INCLINATION	BEARING AZIMUTH	COORDINATES		DOG-LEG PER 100	STATION DISPLACEMENT	DISPLACEMENT DIRECTION	
					LATITUDE	DEPARTURE				
0	0	0	0	0	0	0	0	0	0	0
100	100	0.22	0.25	358.68	0.22	-0.01	0.25	0.22	0.22	358.68
200	200	0.34	0.25	116.72	0.34	0.18	0.43	0.39	0.39	28.66
300	300	0.34	0.25	297.76	0.34	0.19	0.5	0.39	0.39	28.65
400	400	0.81	0.5	32.8	0.81	0.23	0.58	0.84	0.84	15.85
500	499.99	1.61	0.5	354.83	1.61	0.43	0.33	1.67	1.67	14.84
600	599.99	2.18	0.5	71.87	2.18	0.8	0.62	2.32	2.32	20.19
700	699.99	1.72	0.75	155.91	1.72	1.48	0.86	2.27	2.27	40.79
800	799.98	0.46	0.75	177.95	0.47	1.77	0.29	1.84	1.84	75.21
900	899.97	-0.97	1	205.96	-0.97	1.42	0.49	1.72	1.72	124.42
1000	999.96	-2.27	0.75	218.21	-2.27	0.63	0.31	2.35	2.35	164.51
1100	1099.95	-3.3	0.75	218.25	-3.3	-0.18	0	3.3	3.3	183.15
1200	1199.94	-4.24	0.5	185.28	-4.25	-0.63	0.43	4.29	4.29	188.4
1300	1299.94	-4.58	0.5	282.32	-4.59	-1.09	0.75	4.72	4.72	193.4
1400	1399.94	-4.31	0.25	323.36	-4.32	-1.65	0.35	4.62	4.62	200.9
1500	1499.93	-3.81	0.5	319.4	-3.81	-2.06	0.25	4.34	4.34	208.43
1600	1599.93	-3.67	0.5	243.43	-3.68	-2.74	0.62	4.58	4.58	216.68
1700	1699.93	-3.69	0.25	36.47	-3.7	-3	0.73	4.76	4.76	219.05
1800	1799.93	-3.34	0.25	39.51	-3.35	-2.73	0.01	4.82	4.82	219.16
1900	1899.93	-3.1	0.5	279.55	-3.11	-3.02	0.66	4.34	4.34	224.16
2000	1999.93	-3.24	0.25	197.59	-3.25	-3.52	0.53	4.79	4.79	227.29
2100	2099.93	-3.6	0.25	225.62	-3.61	-3.74	0.12	5.2	5.2	226.03
2200	2199.92	-4.02	1	251.66	-4.03	-4.72	0.78	6.21	6.21	229.5
2300	2299.91	-4	1	289.7	-4.02	-6.37	0.65	7.53	7.53	237.79
2400	2399.89	-3.18	1	306.74	-3.2	-7.89	0.3	8.52	8.52	247.94
2500	2499.88	-2.16	1	303.78	-2.19	-9.32	0.05	9.57	9.57	256.76
2600	2599.86	-1.1	1	310.82	-1.14	-10.7	0.12	10.76	10.76	263.94
2700	2699.85	-0.18	0.5	323.85	-0.21	-11.62	0.53	11.62	11.62	268.95
2800	2799.85	0.68	0.75	319.89	0.64	-12.3	0.25	12.32	12.32	272.98
2900	2899.84	1.36	0.25	328.92	1.33	-12.84	0.5	12.9	12.9	275.9
3000	2999.84	1.56	0.25	273.15	1.53	-13.17	0.23	13.25	13.25	276.61
3100	3099.84	1.75	0.25	322.19	1.71	-13.52	0.21	13.63	13.63	277.21
3200	3199.84	2.03	0.25	298.23	1.99	-13.84	0.1	13.99	13.99	278.16

3300	3299.84	1.87	0.75	246.26	1.83	-14.64	0.63	14.75	277.11
3400	3399.83	1.57	0.75	266.3	1.52	-15.69	0.26	15.96	275.46
3500	3499.82	1.64	0.25	302.34	1.59	-16.72	0.57	16.8	275.44
3600	3599.82	1.94	0.25	32.38	1.89	-16.79	0.35	16.9	276.44
3700	3699.82	2.27	0.25	48.41	2.22	-16.51	0.07	16.66	277.67
3800	3799.82	2.57	0.5	69.45	2.52	-15.94	0.28	16.14	278.99
3900	3899.82	2.51	0.25	169.49	2.46	-15.49	0.6	15.69	279.02
4000	3999.82	2.4	0.25	61.5	2.35	-15.26	0.4	15.44	278.75
4100	4099.82	2.57	0.25	69.49	2.53	-14.86	0.03	15.08	279.66
4200	4199.81	2.9	0.5	55.48	2.85	-14.3	0.26	14.58	281.29
4300	4299.81	3.43	0.75	63.46	3.39	-13.36	0.26	13.78	284.26
4400	4399.8	4	0.75	64.45	3.97	-12.18	0.01	12.81	288.05
4500	4499.76	4.72	1.25	66.44	4.69	-10.59	0.5	11.58	293.88
4600	4599.76	5.46	1.25	73.42	5.43	-8.54	0.15	10.13	302.46
4700	4699.74	5.65	1	97.42	5.63	-6.63	0.53	8.7	310.34
4800	4799.73	5.3	0.5	123.4	5.28	-5.4	0.59	7.56	314.34
4900	4899.73	4.64	0.5	161.38	4.63	-4.9	0.33	6.74	313.35

EOG - Midland (3)

Thames

Frio B 8 Fee #1H

Frio B 8 Fee #1H

Frio B 8 Fee #1H

Survey: Lateral

Standard Survey Report

, 30 August, 2006

EOG Resources Inc. Survey Report

Company: EOG - Midland (3)		Local Co-ordinate Reference: Well Frio B 8 Fee #1H	
Project: Thames		TVD Reference: WELL @ 3537.00ft (Original Well Elev)	
Site: Frio B 8 Fee #1H		MD Reference: WELL @ 3537.00ft (Original Well Elev)	
Well: Frio B 8 Fee #1H		North Reference: Grid	
Wellbore: Frio B 8 Fee #1H		Survey Calculation Method: Minimum Curvature	
Design: Frio B 8 Fee #1H		Database: EDM	
Project Thames		System Datum: Ground Level	
Map System: US State Plane 1927 (Exact solution)			
Geo Datum: NAD 1927 (NADCON CONUS)			
Map Zone: New Mexico East 3001			
Site Frio B 8 Fee #1H			
Site Position:		Northing: 702,843.10 ft	Latitude: 32° 55' 55.466 N
From: Map		Easting: 447,449.60 ft	Longitude: 104° 30' 16.591 W
Position Uncertainty:		Slot Radius: 0.00 ft	Grid Convergence: -0.09 °
Well Frio B 8 Fee #1H			
Well Position +N/-S		Northing: 0.00 ft	Latitude: 32° 55' 55.466 N
		Easting: 0.00 ft	Longitude: 104° 30' 16.591 W
Position Uncertainty +E/-W		Wellhead Elevation: 0.00 ft	Ground Level: 3,519.00 ft
Wellbore Frio B 8 Fee #1H			
Magnetics		Model Name IGRF2005	Dip Angle (°) 60.79
		Sample Date 3/12/2006	Field Strength (nT) 49,451
Design Frio B 8 Fee #1H			
Audit Notes:			
Version: 1.0	Phase:	Depth From (TVD) (ft) 0.00	Tie On Depth: +E/-W (ft) 0.00
Vertical Section:		ACTUAL +N/-S (ft) 0.00	Direction (°) 359.82
Survey Program		Date 8/28/2006	
From (ft) 100.00	To (ft) 4,300.00	Survey (Wellbore)	Description
		4,300.00 Gyro (Frio B 8 Fee #1H)	
		8,440.00 Lateral (Frio B 8 Fee #1H)	
		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)
4,300.00	0.75	63.46	4,299.81	3.39	-13.36	3.44	0.00	0.00	0.00
4,400.00	16.44	7.28	4,398.68	15.60	-11.45	15.64	16.04	15.69	-56.18
4,500.00	30.77	4.77	4,489.47	56.66	-6.79	56.68	14.36	14.33	-2.51
4,600.00	41.78	2.10	4,570.31	115.18	-3.49	115.19	11.11	11.00	-2.67
4,700.00	53.26	2.09	4,637.13	189.31	-1.05	189.31	11.49	11.49	-0.02
4,800.00	62.86	1.02	4,689.90	274.06	1.71	274.05	9.63	9.59	-1.06
4,900.00	72.17	0.64	4,728.47	366.20	3.09	366.19	9.32	9.32	-0.39
5,000.00	83.12	359.89	4,749.89	463.72	3.90	463.70	10.97	10.95	-0.75
5,100.00	85.96	0.33	4,758.18	563.36	4.41	563.35	2.87	2.84	0.44
5,200.00	89.54	359.82	4,761.16	663.28	5.13	663.26	3.62	3.58	-0.51
5,300.00	89.65	358.02	4,762.34	763.25	3.11	763.24	1.80	0.11	-1.80
5,400.00	89.82	357.91	4,762.42	863.17	-0.85	863.17	0.21	0.17	-0.11

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EOG Resources Inc. Survey Report

COMPASS 2003.14 Build 57

Company: EOG - Midland (3)
 Project: Thames
 Site: Frio B 8 Fee #1H
 Well: Frio B 8 Fee #1H
 Wellbore: Frio B 8 Fee #1H
 Design: Frio B 8 Fee #1H
 Survey

Local Co-ordinate Reference:
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:
 Database:

Well Frio B 8 Fee #1H
 WELL @ 3537.00ft (Original Well Elev)
 WELL @ 3537.00ft (Original Well Elev)
 Grid
 Minimum Curvature
 EDM

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)
5,500.00	90.49	357.26	4,762.30	963.09	-4.78	963.10	0.93	0.66	-0.65
5,600.00	90.24	357.42	4,762.05	1,062.96	-9.88	1,062.99	0.29	-0.25	0.16
5,700.00	91.13	357.93	4,760.73	1,162.88	-13.60	1,162.92	1.03	0.89	0.51
5,800.00	90.21	357.29	4,759.59	1,262.78	-18.00	1,262.83	1.12	-0.92	-0.64
5,900.00	90.13	357.25	4,759.48	1,362.65	-23.10	1,362.71	0.09	-0.08	-0.04
6,000.00	90.54	358.98	4,758.83	1,462.60	-25.84	1,462.67	1.78	0.41	1.73
6,100.00	1.76	90.06	4,758.29	1,562.58	-25.09	1,562.65	2.82	-0.47	2.78
6,200.00	89.70	2.39	4,758.46	1,662.51	-21.22	1,662.56	0.72	-0.37	0.62
6,300.00	89.28	2.21	4,759.28	1,762.42	-17.18	1,762.47	0.46	-0.42	-0.18
6,400.00	88.38	2.05	4,761.45	1,862.33	-13.57	1,862.36	0.91	-0.89	-0.16
6,500.00	89.87	2.70	4,762.82	1,962.23	-9.27	1,962.25	1.63	1.49	0.65
6,600.00	90.41	3.32	4,762.64	2,062.10	-4.32	2,062.11	0.82	0.54	0.62
6,700.00	91.26	3.74	4,761.04	2,161.86	2.49	2,161.84	0.95	0.86	0.41
6,800.00	89.18	2.04	4,760.03	2,261.70	7.72	2,261.67	2.69	-2.08	-1.70
6,900.00	88.20	359.69	4,763.04	2,361.64	8.84	2,361.60	2.54	-0.97	-2.35
7,000.00	89.39	359.13	4,764.95	2,461.61	7.77	2,461.58	1.31	1.19	-0.56
7,100.00	88.99	358.82	4,766.54	2,561.58	5.58	2,561.55	0.51	-0.40	-0.31
7,200.00	90.57	358.41	4,766.68	2,661.54	3.29	2,661.52	1.63	1.58	-0.41
7,300.00	91.76	358.41	4,764.95	2,761.48	0.33	2,761.47	1.19	1.19	-0.01
7,400.00	91.35	358.51	4,762.68	2,861.40	-3.00	2,861.40	0.43	-0.42	0.10
7,500.00	91.45	359.20	4,760.16	2,961.36	-4.52	2,961.36	0.69	0.10	0.68
7,600.00	91.86	358.57	4,757.21	3,061.28	-6.95	3,061.29	0.75	0.41	-0.62
7,700.00	90.51	357.17	4,755.10	3,161.18	-10.79	3,161.20	1.95	-1.36	-1.40
7,800.00	91.07	357.39	4,754.22	3,261.05	-15.67	3,261.09	0.60	0.56	0.22
7,900.00	91.85	357.33	4,751.58	3,360.91	-20.39	3,360.95	0.79	0.79	-0.06
8,000.00	92.73	358.94	4,747.34	3,460.78	-23.03	3,460.83	1.83	1.61	1.61
8,100.00	92.14	357.91	4,742.96	3,560.65	-25.64	3,560.71	1.18	-0.59	-1.03
8,200.00	91.71	357.56	4,739.75	3,660.50	-29.85	3,660.58	0.55	-0.42	-0.36
8,300.00	92.24	358.06	4,736.16	3,760.36	-33.74	3,760.45	0.73	0.53	0.51
8,400.00	91.80	357.82	4,732.59	3,860.24	-37.16	3,860.34	0.50	-0.44	-0.24
8,440.00	91.80	357.82	4,731.34	3,900.19	-38.68	3,900.29	0.00	0.00	0.00

Targets

Target Name	Dip	Dip Dir.	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
- hit/miss target	Angle	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
BHL (Frio B #1H)	0.00	0.00	4,734.00	3,971.10	-12.20	706,814.20	447,437.40	32° 56' 34.761 N	104° 30' 16.810 W
- survey misses by 152.11ft at 8360.55ft MD (4734.00 TVD, 3820.84 N, -35.81 E)									
. Point									

Checked By:

Approved By:

Date: