

 Attachments can contain viruses that may harm your computer. Attachments may not display correctly.

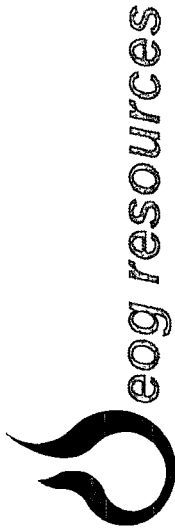
Stogner, Michael, EMNRD

From: Ocean Munds-Dry [Omundsdry@hollandhart.com] **Sent:** Tue 9/12/2006 1:19 PM
To: Stogner, Michael, EMNRD
Cc:
Subject: FW: Rio Grande 23 Fed Wells
Attachments:  [Rio Grande 23 Fed #3H Final Surveys.pdf\(169KB\)](#)

Mike:

I filed an application for EOG for simultaneous dedication of Rio Grande wells 3H and 4H on September 8. Please find attached the directional survey for the Rio Grande 23 Fed 3-H, for your review.

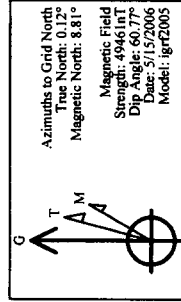
Thanks,
Ocean



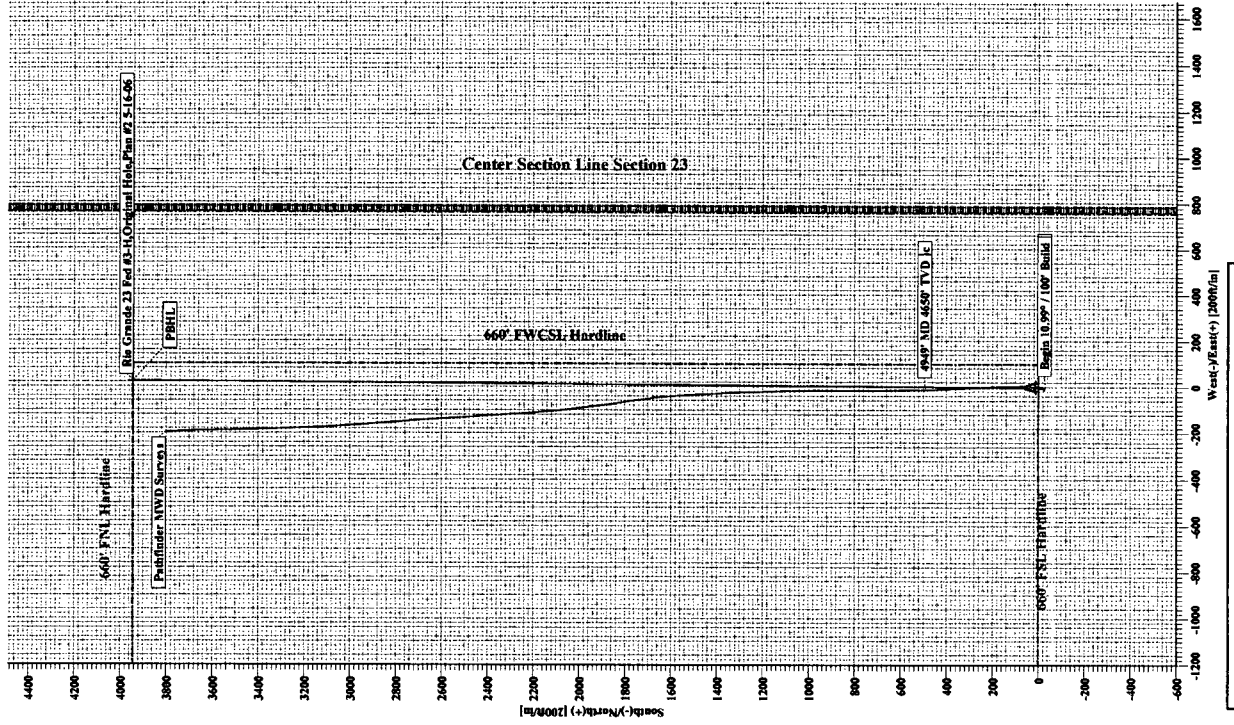
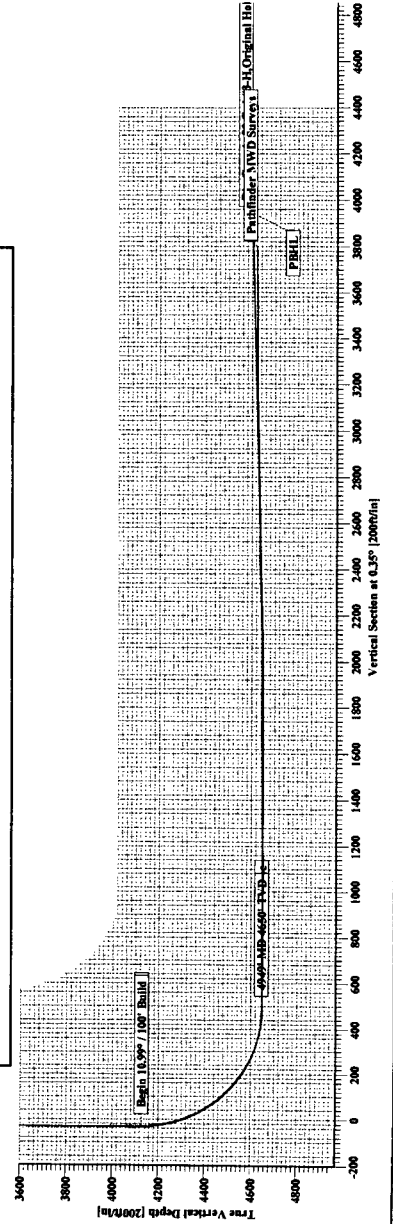
Field: Thames Field
Site: Rio Grande 23 Fed #3-H
Well: Rio Grande 23 Fed #3-H
Wellpath: Original Hole
Survey: Pathfinder MWD Surveys

WELL DETAILS						
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Rio Grande 23 Fed #3-H	0.00	0.00	692223.00	429984.00	32°54'10.05"N	104°33'41.25"W
						N/A

TARGET DETAILS					
Name	TVD	+N/-S	+E/-W	Northing	Easting
PBHL	4600.23	3943.99	24.13	696166.99	430008.13
					Point



Survey: Pathfinder MWD Surveys (Rio Grande 23 Fed #3-H/Original Hole)											
No	MD	Inc	Az	TVD	+N/-S	+E/-W	DLeg	TFace	VSec		
53	6871.00	92.07	356.24	4636.02	2408.50	-125.21	0.47	89.99	2407.69		
54	6966.00	89.43	356.15	4634.78	2503.28	-131.51	2.78	-178.05	2502.43		
55	7059.00	91.01	356.68	4634.42	2596.09	-137.33	1.79	18.54	2595.20		
56	7122.00	90.57	355.80	4633.55	2658.95	-141.46	1.56	-116.56	2658.03		
57	7186.00	90.13	355.63	4633.16	2722.77	-146.24	0.74	-158.88	2721.82		
58	7280.00	91.63	356.15	4631.72	2816.51	-152.98	1.69	19.11	2815.52		
59	7375.00	89.87	354.92	4630.47	2911.21	-160.37	2.26	-145.04	2910.17		
60	7470.00	92.15	356.51	4628.80	3005.92	-167.47	2.93	34.88	3004.84		
61	7565.00	91.28	357.12	4625.96	3100.73	-172.74	1.12	144.97	3099.62		
62	7660.00	90.92	357.91	4624.13	3195.62	-176.86	0.91	114.49	3194.48		
63	7756.00	89.78	357.91	4623.55	3291.55	-180.36	1.19	180.00	3290.39		
64	7850.00	89.69	358.00	4623.98	3385.49	-183.72	0.14	135.00	3384.31		
65	7977.00	90.13	358.78	4622.18	3512.44	-187.28	0.71	60.57	3511.23		
66	8102.00	91.54	359.32	4622.36	3637.41	-189.36	1.21	20.95	3636.18		
67	8208.00	90.13	356.59	4620.81	3743.32	-193.14	2.90	-117.29	3742.07		
68	8267.00	90.13	356.59	4620.68	3802.21	-196.65	0.00	0.00	3800.94		



LEGEND
Rio Grande 23 Fed #3-H/Original Hole, Plan #2 S-16-06
Pathfinder MWD Surveys

Pathfinder Energy

Survey Report

Company: EOG Resources		Date: 9/1/2006	Time: 13:56:26	Page: 1
Field: Thames Field		Co-ordinate(NE) Reference: Well: Rio Grande 23 Fed #3-H, Grid North		
Site: Rio Grande 23 Fed #3-H		Vertical (TVD) Reference: System: Mean Sea Level		
Well: Rio Grande 23 Fed #3-H		Section (VS) Reference: Well (0.00N,0.00E,0.35Azi)		
Wellpath: Original Hole		Survey Calculation Method: Minimum Curvature		
		Db: Sybase		

Field: Thames Field Eddy, Co. NM USA		Map Zone: New Mexico, Eastern Zone	
Map System: US State Plane Coordinate System 1927		Coordinate System: Well Centre	
Geo Datum: NAD27 (Clarke 1866)		Geomagnetic Model: igrf2005	
Sys Datum: Mean Sea Level			

Site: Rio Grande 23 Fed #3-H Eddy County, New Mexico 660' FSL 1880' FWL Sec. 23; T16S; R24E			
Site Position:	Northing: 692223.00 ft	Latitude: 32 54 10.050 N	
From: Map	Easting: 429984.00 ft	Longitude: 104 33 41.250 W	
Position Uncertainty: 0.00 ft		North Reference: Grid	
Ground Level: 3637.00 ft		Grid Convergence: -0.12 deg	

Well: Rio Grande 23 Fed #3-H		Slot Name:	
Well Position: +N/-S 0.00 ft	Northing: 692223.00 ft	Latitude: 32 54 10.050 N	
+E/-W 0.00 ft	Easting: 429984.00 ft	Longitude: 104 33 41.250 W	
Position Uncertainty: 0.00 ft			

Wellpath: Original Hole		Drilled From: Surface	
Current Datum: Mean Sea Level	Height 0.00 ft	Tie-on Depth: 0.00 ft	
Magnetic Data: 5/15/2006		Above System Datum: Mean Sea Level	
Field Strength: 49461 nT		Declination: 8.68 deg	
Vertical Section: Depth From (TVD)	+N/-S	Mag Dip Angle: 60.77 deg	
ft	ft	+E/-W	Direction
		ft	deg
0.00	0.00	0.00	0.35

Survey: Pathfinder MWD Surveys	Start Date: 9/1/2006
Company: Pathfinder Energy	Engineer: Midwellplan
Tool:	Tied-to: From: Definitive Path

Survey: Pathfinder MWD Surveys										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
3850.00	0.35	74.69	3849.68	-28.06	-6.57	-28.10	0.00	0.00	0.00	
4003.00	0.70	113.14	4002.67	-28.31	-5.26	-28.34	0.31	0.23	25.13	
4089.00	1.32	119.03	4088.66	-28.99	-3.91	-29.02	0.73	0.72	6.85	
4121.00	1.41	96.88	4120.65	-29.22	-3.19	-29.24	1.66	0.28	-69.22	
4152.00	2.90	43.00	4151.63	-28.69	-2.28	-28.71	7.62	4.81	-173.81	
4183.00	6.24	25.51	4182.52	-26.60	-1.02	-26.60	11.55	10.77	-56.42	
4215.00	9.50	15.84	4214.22	-22.49	0.45	-22.48	10.96	10.19	-30.22	
4246.00	13.01	12.06	4244.62	-16.61	1.88	-16.60	11.56	11.32	-12.19	
4278.00	16.62	9.51	4275.55	-8.57	3.39	-8.55	11.46	11.28	-7.97	
4309.00	19.96	6.61	4304.98	1.06	4.73	1.09	11.16	10.77	-9.35	
4341.00	23.30	3.18	4334.73	12.81	5.71	12.84	11.16	10.44	-10.72	
4373.00	26.56	0.81	4363.74	26.28	6.16	26.32	10.65	10.19	-7.41	
4404.00	30.16	359.49	4391.02	41.01	6.19	41.04	11.79	11.61	-4.26	
4435.00	33.41	358.70	4417.36	57.33	5.93	57.36	10.57	10.48	-2.55	
4467.00	36.93	358.70	4443.52	75.75	5.51	75.79	11.00	11.00	0.00	
4498.00	40.36	359.76	4467.73	95.11	5.26	95.14	11.27	11.06	3.42	
4530.00	43.88	0.11	4491.46	116.57	5.24	116.60	11.02	11.00	1.09	
4561.00	47.31	359.41	4513.15	138.71	5.14	138.74	11.18	11.06	-2.26	
4592.00	50.83	358.35	4533.45	162.12	4.67	162.15	11.64	11.35	-3.42	
4624.00	54.34	357.03	4552.89	187.51	3.64	187.53	11.45	10.97	-4.12	
4655.00	57.95	357.03	4570.16	213.22	2.31	213.23	11.65	11.65	0.00	
4687.00	61.64	357.38	4586.26	240.83	0.96	240.84	11.57	11.53	1.09	
4718.00	65.16	357.47	4600.13	268.52	-0.28	268.51	11.36	11.35	0.29	
4750.00	69.03	357.38	4612.59	297.96	-1.61	297.95	12.10	12.09	-0.28	

Pathfinder Energy

Survey Report

Company: EOG Resources
Field: Thames Field
Site: Rio Grande 23 Fed #3-H
Well: Rio Grande 23 Fed #3-H
Wellpath: Original Hole

Date: 9/1/2006 **Time:** 13:56:26 **Page:** 2
Co-ordinate(NE) Reference: Well: Rio Grande 23 Fed #3-H, Grid North
Vertical (TVD) Reference: System: Mean Sea Level
Section (VS):Reference: Well (0.00N,0.00E,0.35Azi)
Survey Calculation Method: Minimum Curvature **Db:** Sybase

Survey: Pathfinder MWD Surveys

MD ft	Incl deg	Azim deg	TVD ft	+N-S ft	+E-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
4791.00	73.25	356.42	4625.84	336.70	-3.71	336.67	10.53	10.29	-2.34	
4822.00	76.85	356.59	4633.83	366.59	-5.53	366.54	11.62	11.61	0.55	
4853.00	79.76	357.47	4640.12	396.90	-7.10	396.85	9.79	9.39	2.84	
4885.00	82.83	358.35	4644.96	428.50	-8.26	428.45	9.97	9.59	2.75	
4916.00	86.00	358.62	4647.98	459.34	-9.07	459.28	10.26	10.23	0.87	
4979.00	90.22	359.32	4650.05	522.28	-10.20	522.21	6.79	6.70	1.11	
5042.00	90.66	358.97	4649.57	585.27	-11.14	585.19	0.89	0.70	-0.56	
5105.00	90.92	358.97	4648.70	648.26	-12.28	648.17	0.41	0.41	0.00	
5168.00	89.96	359.32	4648.22	711.25	-13.22	711.15	1.62	-1.52	0.56	
5231.00	90.57	359.85	4647.93	774.24	-13.67	774.15	1.28	0.97	0.84	
5294.00	89.43	0.37	4647.93	837.24	-13.55	837.15	1.99	-1.81	0.83	
5357.00	87.85	0.46	4649.42	900.22	-13.09	900.13	2.51	-2.51	0.14	
5419.00	88.37	359.58	4651.47	962.19	-13.07	962.09	1.65	0.84	-1.42	
5482.00	88.72	358.17	4653.07	1025.15	-14.31	1025.05	2.31	0.56	-2.24	
5545.00	90.48	358.26	4653.51	1088.12	-16.27	1088.00	2.80	2.79	0.14	
5608.00	91.71	358.09	4652.30	1151.07	-18.28	1150.94	1.97	1.95	-0.27	
5671.00	91.63	358.35	4650.47	1214.02	-20.23	1213.87	0.43	-0.13	0.41	
5734.00	90.30	357.56	4649.40	1276.97	-22.48	1276.80	2.46	-2.11	-1.25	
5860.00	89.96	357.38	4649.12	1402.84	-28.04	1402.65	0.31	-0.27	-0.14	
5988.00	90.66	356.32	4648.43	1530.64	-35.08	1530.40	0.99	0.55	-0.83	
6115.00	90.40	353.43	4647.25	1657.12	-46.42	1656.80	2.28	-0.20	-2.28	
6240.00	89.78	351.14	4647.05	1780.98	-63.20	1780.56	1.90	-0.50	-1.83	
6366.00	90.40	353.25	4646.86	1905.80	-80.31	1905.28	1.75	0.49	1.67	
6429.00	90.84	353.52	4646.18	1968.38	-87.57	1967.81	0.82	0.70	0.43	
6493.00	89.34	353.17	4646.07	2031.95	-94.98	2031.33	2.41	-2.34	-0.55	
6589.00	90.84	354.75	4645.92	2127.41	-105.08	2126.73	2.27	1.56	1.65	
6683.00	92.51	356.42	4643.18	2221.08	-112.32	2220.35	2.51	1.78	1.78	
6778.00	92.07	355.80	4639.38	2315.79	-118.76	2315.02	0.80	-0.46	-0.65	
6871.00	92.07	356.24	4636.02	2408.50	-125.21	2407.69	0.47	0.00	0.47	
6966.00	89.43	356.15	4634.78	2503.28	-131.51	2502.43	2.78	-2.78	-0.09	
7059.00	91.01	356.68	4634.42	2596.09	-137.33	2595.20	1.79	1.70	0.57	
7122.00	90.57	355.80	4633.55	2658.95	-141.46	2658.03	1.56	-0.70	-1.40	
7186.00	90.13	355.63	4633.16	2722.77	-146.24	2721.82	0.74	-0.69	-0.27	
7280.00	91.63	356.15	4631.72	2816.51	-152.98	2815.52	1.69	1.60	0.55	
7375.00	89.87	354.92	4630.47	2911.21	-160.37	2910.17	2.26	-1.85	-1.29	
7470.00	92.15	356.51	4628.80	3005.92	-167.47	3004.84	2.93	2.40	1.67	
7565.00	91.28	357.12	4625.96	3100.73	-172.74	3099.62	1.12	-0.92	0.64	
7660.00	90.92	357.91	4624.13	3195.62	-176.86	3194.48	0.91	-0.38	0.83	
7756.00	89.78	357.91	4623.55	3291.55	-180.36	3290.39	1.19	-1.19	0.00	
7850.00	89.69	358.00	4623.98	3385.49	-183.72	3384.31	0.14	-0.10	0.10	
7977.00	90.13	358.78	4624.18	3512.44	-187.28	3511.23	0.71	0.35	0.61	
8102.00	91.54	359.32	4622.36	3637.41	-189.36	3636.18	1.21	1.13	0.43	
8208.00	90.13	356.59	4620.81	3743.32	-193.14	3742.07	2.90	-1.33	-2.58	
8267.00	90.13	356.59	4620.68	3802.21	-196.65	3800.94	0.00	0.00	0.00	