

30-015-39171

EOG Resources

Eddy County, NM (Nad27)
Ross Gulch 8 Fed Com
Ross Gulch 8 Fed 1H
Wellbore #1

Survey: Phoenix MWD Surveys

EOG Resources

27 March, 2012



PHOENIX
TECHNOLOGY SERVICES

Phoenix Technology Services
EOG Resources



Company:	EOG Resources	Local Co-ordinate Reference:	Well Ross Gulch 8 Fed 1H
Project:	Eddy County, NM (Nad27)	TVD Reference:	WELL @ 3307.10usft (Original Well Elev +30' KB)
Site:	Ross Gulch 8 Fed Com	MD Reference:	WELL @ 3307.10usft (Original Well Elev +30' KB)
Well:	Ross Gulch-8 Fed 1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	GCR DB v5000

Project:	Eddy County, NM (Nad27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site:	Ross Gulch 8 Fed Com		
Site Position:		Northing:	387,297.40 usft
From:	Map	Easting:	664,129.50 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 3' 49.2782 N
		Longitude:	103° 48' 12.6397 W
		Grid Convergence:	0.28 °

Well:	Ross Gulch 8 Fed 1H					
Well Position	+N-S	0.00 usft	Northing:	387,297.40 usft	Latitude:	32° 3' 49.2782 N
	+E-W	0.00 usft	Easting:	664,129.50 usft	Longitude:	103° 48' 12.6397 W
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft	Ground Level:	3,277.10 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010_14	12/09/11	7.62	59.99	48,446

Design:	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/S	+E/W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	170.90	

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	GCR DB v5000

Survey Program	Date	From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
	03/27/12	100.00	1,545.00	Gyro Surveys (Wellbore #1)	MWD	MWD - Standard
		1,656.00	13,170.00	Phoenix MWD Surveys (Wellbore #1)	MWD	MWD - Standard

Survey	MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
	1,545.00	1.25	318.54	-1,762.20	1,544.90	-7.92	-5.78	6.91	0.00	387,289.48	664,123.72
Last Gyro Survey	1,656.00	1.50	316.20	-1,651.23	1,655.87	-5.96	-7.59	4.69	0.23	387,291.44	664,121.91
First Phoenix MWD Survey	1,845.00	3.20	69.20	-1,462.34	1,844.76	-2.30	-4.37	1.58	2.13	387,295.10	664,125.13
	2,035.00	8.50	84.60	-1,273.38	2,033.72	0.80	14.58	1.41	2.88	387,298.30	664,144.08
	2,226.00	9.00	82.70	-1,084.61	2,222.49	4.13	43.45	2.80	0.30	387,301.53	664,172.95
	2,416.00	7.20	95.50	-896.50	2,410.60	4.88	70.05	6.26	1.34	387,302.28	664,199.55
	2,605.00	7.30	93.00	-709.01	2,598.09	3.11	93.83	11.77	0.18	387,300.51	664,223.33
	2,795.00	6.70	89.10	-520.42	2,786.68	2.66	116.97	15.88	0.40	387,300.06	664,246.47
	2,987.00	7.10	84.90	-329.81	2,977.29	3.89	139.99	18.30	0.34	387,301.29	664,269.49
	3,178.00	7.70	87.60	-140.40	3,166.70	5.47	164.53	20.62	0.36	387,302.87	664,294.03
	3,367.00	6.80	98.60	47.09	3,354.19	4.33	188.25	25.50	0.87	387,301.73	664,317.75
	3,557.00	8.10	99.60	235.49	3,542.59	0.41	212.57	33.21	0.69	387,297.81	664,342.07
	3,748.00	8.40	95.70	424.51	3,731.61	-3.22	239.72	41.09	0.33	387,294.18	664,369.22
	3,925.00	6.60	85.80	600.00	3,907.10	-3.75	262.73	45.26	1.25	387,293.65	664,392.23
	4,029.00	6.20	86.20	703.35	4,010.45	-2.95	274.29	46.29	0.39	387,294.45	664,403.79
	4,219.00	6.70	89.40	892.15	4,199.25	-2.15	295.61	48.88	0.32	387,295.25	664,425.11
	4,410.00	6.50	94.20	1,081.88	4,388.98	-2.82	317.54	53.01	0.31	387,294.58	664,447.04
	4,601.00	6.10	92.50	1,271.73	4,578.83	-4.06	338.46	57.54	0.23	387,293.34	664,467.96
	4,791.00	6.90	94.20	1,460.50	4,767.60	-5.33	359.93	62.19	0.43	387,292.07	664,489.43
	4,981.00	6.50	90.60	1,649.21	4,956.31	-6.28	382.06	66.63	0.31	387,291.12	664,511.56

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Well:	Ross Gulch 8 Fed 1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	GCR DB v5000

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
5,173.00	6.80	84.20	1,839.92	5,147.02	-5.25	404.24	69.12	0.42	387,292.15	664,533.74
5,363.00	6.90	85.80	2,028.56	5,335.66	-3.28	426.81	70.74	0.11	387,294.12	664,556.31
5,553.00	6.80	86.60	2,217.21	5,524.31	-1.77	449.42	72.83	0.07	387,295.63	664,578.92
5,743.00	6.20	89.30	2,405.98	5,713.08	-0.98	470.91	75.45	0.35	387,296.42	664,600.41
5,933.00	6.80	90.40	2,594.76	5,901.86	-0.93	492.42	78.80	0.32	387,296.47	664,621.92
6,122.00	6.60	92.00	2,782.47	6,089.57	-1.39	514.46	82.74	0.14	387,296.01	664,643.96
6,312.00	5.90	95.00	2,971.34	6,278.44	-2.62	535.10	87.22	0.41	387,294.78	664,664.60
6,502.00	6.50	86.30	3,160.23	6,467.33	-2.78	555.56	90.61	0.59	387,294.62	664,685.06
6,691.00	6.00	92.00	3,348.11	6,655.21	-2.43	576.11	93.52	0.42	387,294.97	664,705.61
6,882.00	6.90	87.80	3,537.90	6,845.00	-2.34	597.55	96.82	0.53	387,295.06	664,727.05
7,070.00	6.60	89.40	3,724.60	7,031.70	-1.80	619.64	99.77	0.19	387,295.60	664,749.14
7,260.00	6.10	91.50	3,913.43	7,220.53	-1.95	640.65	103.25	0.29	387,295.45	664,770.15
7,451.00	5.50	93.40	4,103.45	7,410.55	-2.75	659.93	107.09	0.33	387,294.65	664,789.43
7,641.00	6.00	89.00	4,292.50	7,599.60	-3.12	678.95	110.46	0.35	387,294.28	664,808.45
7,831.00	5.40	87.80	4,481.56	7,788.66	-2.60	697.81	112.94	0.32	387,294.80	664,827.31
8,021.00	3.90	91.40	4,670.93	7,978.03	-2.42	713.21	115.19	0.80	387,294.98	664,842.71
8,211.00	2.30	96.50	4,860.64	8,167.74	-3.01	723.46	117.39	0.85	387,294.39	664,852.96
8,292.00	2.70	142.90	4,941.57	8,248.67	-4.71	726.22	119.51	2.47	387,292.69	664,855.72
8,324.00	6.60	165.50	4,973.46	8,280.56	-7.10	727.14	122.01	13.24	387,290.30	664,856.64
8,356.00	10.90	170.20	5,005.09	8,312.19	-11.86	728.11	126.87	13.61	387,285.54	664,857.61
8,388.00	14.80	172.80	5,036.28	8,343.38	-18.90	729.14	133.98	12.32	387,278.50	664,858.64
8,420.00	19.10	173.40	5,066.88	8,373.98	-28.16	730.25	143.30	13.45	387,269.24	664,859.75
8,451.00	23.20	173.50	5,095.79	8,402.89	-39.27	731.53	154.47	13.23	387,258.13	664,861.03
8,483.00	26.90	174.80	5,124.77	8,431.87	-52.75	732.90	168.00	11.69	387,244.65	664,862.40
8,514.00	31.00	175.70	5,151.89	8,458.99	-67.70	734.13	182.95	13.30	387,229.70	664,863.63
8,546.00	34.60	180.10	5,178.79	8,485.89	-85.01	734.74	200.14	13.49	387,212.39	664,864.24
8,577.00	37.50	181.60	5,203.85	8,510.95	-103.25	734.46	218.11	9.78	387,194.15	664,863.96

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Site: Ross Gulch 8 Fed Corn
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Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Ross Gulch 8 Fed 1H
TVD Reference: WELL @ 3307.10usft (Original Well Elev +30' KB)
MD Reference: WELL @ 3307 10usft (Original Well Elev +30' KB)
North Reference: Gnd
Survey Calculation Method: Minimum Curvature
Database: GCR DB v5000

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	D Leg (°/100usft)	Northing (usft)	Easting (usft)	
8,609.00	40.50	182.10	5,228.72	8,535.82	-123.37	733.80	237.88	9.43	387,174.03	664,863.30	
8,641.00	44.30	182.00	5,252.34	8,559.44	-144.93	733.03	259.04	11.88	387,152.47	664,862.53	
8,673.00	47.20	181.70	5,274.67	8,581.77	-167.84	732.30	281.54	9.09	387,129.56	664,861.80	
8,704.00	50.50	181.20	5,295.07	8,602.17	-191.17	731.71	304.49	10.71	387,106.23	664,861.21	
8,736.00	54.50	180.90	5,314.54	8,621.64	-216.55	731.24	329.48	12.52	387,080.85	664,860.74	
8,767.00	57.50	180.60	5,331.88	8,638.98	-242.24	730.91	354.79	9.71	387,055.16	664,860.41	
8,799.00	60.00	180.60	5,348.48	8,655.58	-269.60	730.62	381.76	7.81	387,027.80	664,860.12	
8,831.00	63.00	180.70	5,363.74	8,670.84	-297.71	730.30	409.47	9.38	386,999.69	664,859.80	
8,863.00	66.40	180.80	5,377.42	8,684.52	-326.64	729.92	437.97	10.63	386,970.76	664,859.42	
8,895.00	68.90	180.40	5,389.58	8,696.68	-356.23	729.61	467.14	7.90	386,941.17	664,859.11	
8,927.00	71.10	180.60	5,400.53	8,707.63	-386.30	729.35	496.79	6.90	386,911.10	664,858.85	
8,958.00	73.10	180.60	5,410.06	8,717.16	-415.79	729.04	525.86	6.45	386,881.61	664,858.54	
8,990.00	75.40	180.50	5,418.74	8,725.84	-446.59	728.75	556.23	7.19	386,850.81	664,858.25	
9,022.00	78.20	180.70	5,426.05	8,733.15	-477.74	728.42	586.93	8.77	386,819.66	664,857.92	
9,056.00	83.80	181.50	5,431.36	8,738.46	-511.30	727.78	619.97	16.63	386,786.10	664,857.28	
9,088.00	86.70	181.20	5,434.01	8,741.11	-543.18	727.02	651.33	9.11	386,754.22	664,856.52	
9,120.00	88.50	181.80	5,435.35	8,742.45	-575.14	726.19	682.75	5.93	386,722.26	664,855.69	
9,184.00	91.60	181.50	5,435.30	8,742.40	-639.10	724.34	745.62	4.87	386,658.30	664,853.84	
9,279.00	92.60	180.70	5,431.82	8,738.92	-734.02	722.52	839.05	1.35	386,563.38	664,852.02	
9,374.00	92.70	180.00	5,427.42	8,734.52	-828.92	721.94	932.66	0.74	386,468.48	664,851.44	
9,469.00	91.60	178.70	5,423.86	8,730.96	-923.84	723.02	1,026.56	1.79	386,373.56	664,852.52	
9,565.00	92.60	178.20	5,420.34	8,727.44	-1,019.74	725.61	1,121.67	1.16	386,277.66	664,855.11	
9,659.00	89.80	178.30	5,418.37	8,725.47	-1,113.66	728.48	1,214.86	2.98	386,183.74	664,857.98	
9,753.00	89.90	179.40	5,418.62	8,725.72	-1,207.64	730.37	1,307.96	1.18	386,089.76	664,859.87	
9,848.00	90.60	179.10	5,418.21	8,725.31	-1,302.63	731.61	1,401.95	0.80	385,994.77	664,861.11	
9,942.00	89.70	179.80	5,417.96	8,725.06	-1,396.63	732.52	1,494.90	1.21	385,900.77	664,862.02	
10,036.00	90.40	178.90	5,417.88	8,724.98	-1,490.62	733.58	1,587.88	1.21	385,806.78	664,863.08	

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Site:	Ross Gulch 8 Fed Corn	MD Reference:	WELL @ 3307.10usft (Original Well Elev +30' KB)
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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	GCR DB v5000

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
10,131.00	91.10	178.30	5,416.63	8,723.73	-1,585.58	735.90	1,682.02	0.97	385,711.82	664,865.40
10,226.00	90.40	180.00	5,415.39	8,722.49	-1,680.56	737.31	1,776.02	1.94	385,616.84	664,866.81
10,321.00	90.90	179.60	5,414.31	8,721.41	-1,775.55	737.64	1,869.87	0.67	385,521.85	664,867.14
10,416.00	90.30	179.70	5,413.32	8,720.42	-1,870.55	738.22	1,963.76	0.64	385,426.85	664,867.72
10,511.00	91.20	180.40	5,412.07	8,719.17	-1,965.54	738.14	2,057.54	1.20	385,331.86	664,867.64
10,605.00	90.00	180.00	5,411.09	8,718.19	-2,059.53	737.81	2,150.30	1.35	385,237.87	664,867.31
10,700.00	90.00	179.20	5,411.09	8,718.19	-2,154.52	738.48	2,244.20	0.84	385,142.88	664,867.98
10,794.00	90.40	180.10	5,410.76	8,717.86	-2,248.52	739.05	2,337.11	1.05	385,048.88	664,868.55
10,889.00	90.90	178.60	5,409.68	8,716.78	-2,343.51	740.13	2,431.07	1.66	384,953.89	664,869.63
10,985.00	92.10	180.70	5,407.17	8,714.27	-2,439.46	740.71	2,525.91	2.52	384,857.94	664,870.21
11,079.00	90.20	181.30	5,405.28	8,712.38	-2,533.43	739.07	2,618.43	2.12	384,763.97	664,868.57
11,174.00	90.00	180.20	5,405.12	8,712.22	-2,628.42	737.83	2,712.03	1.18	384,668.98	664,867.33
11,269.00	90.10	181.40	5,405.04	8,712.14	-2,723.41	736.50	2,805.61	1.27	384,573.99	664,866.00
11,363.00	90.70	181.20	5,404.38	8,711.48	-2,817.38	734.37	2,898.07	0.67	384,480.02	664,863.87
11,459.00	91.30	181.40	5,402.70	8,709.80	-2,913.34	732.19	2,992.47	0.66	384,384.06	664,861.69
11,554.00	89.90	179.90	5,401.71	8,708.81	-3,008.32	731.12	3,086.09	2.16	384,289.08	664,860.62
11,649.00	89.70	179.10	5,402.04	8,709.14	-3,103.32	731.95	3,180.02	0.87	384,194.08	664,861.45
11,744.00	88.70	176.90	5,403.37	8,710.47	-3,198.24	735.26	3,274.28	2.54	384,099.16	664,864.76
11,839.00	90.30	178.60	5,404.20	8,711.30	-3,293.16	738.99	3,368.59	2.46	384,004.24	664,868.49
11,934.00	90.80	177.50	5,403.28	8,710.38	-3,388.10	742.22	3,462.84	1.27	383,909.30	664,871.72
12,029.00	91.70	178.10	5,401.21	8,708.31	-3,483.00	745.87	3,557.13	1.14	383,814.40	664,875.37
12,124.00	90.20	178.60	5,399.64	8,706.74	-3,577.95	748.60	3,651.31	1.66	383,719.45	664,878.10
12,219.00	90.90	179.80	5,398.73	8,705.83	-3,672.93	749.93	3,745.31	1.46	383,624.47	664,879.43
12,315.00	92.30	180.50	5,396.04	8,703.14	-3,768.89	749.68	3,840.02	1.63	383,528.51	664,879.18
12,410.00	90.60	181.40	5,393.64	8,700.74	-3,863.84	748.10	3,933.53	2.02	383,433.56	664,877.60
12,505.00	91.30	180.60	5,392.07	8,699.17	-3,958.82	746.45	4,027.05	1.12	383,338.58	664,875.95
12,599.00	91.10	180.30	5,390.10	8,697.20	-4,052.79	745.71	4,119.72	0.38	383,244.61	664,875.21

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Well: Ross Gulch 8 Fed 1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Ross Gulch 8 Fed 1H
TVD Reference: WELL @ 3307.10usft (Original Well Elev +30' KB)
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North Reference: Grd
Survey Calculation Method: Minimum Curvature
Database: GCR DB v5000

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
12,694.00	88.20	178.00	5,390.68	8,697.78	-4,147.76	747.12	4,213.72	3.90	383,149.64	664,876.62
12,788.00	87.70	177.50	5,394.04	8,701.14	-4,241.63	750.80	4,306.99	0.75	383,055.77	664,880.30
12,883.00	89.20	180.00	5,396.61	8,703.71	-4,336.56	752.88	4,401.05	3.07	382,960.84	664,882.38
12,977.00	89.40	180.00	5,397.76	8,704.86	-4,430.56	752.88	4,493.86	0.21	382,866.84	664,882.38
13,072.00	88.80	179.30	5,399.25	8,706.35	-4,525.54	753.46	4,587.75	0.97	382,771.86	664,882.96
13,111.00	89.00	180.60	5,400.00	8,707.10	-4,564.53	753.49	4,626.25	3.37	382,732.87	664,882.99
Last Phoenix MWD Survey										
13,170.00	89.00	180.60	5,401.03	8,708.13	-4,623.52	752.87	4,684.40	0.00	382,673.88	664,882.37
Projection to TD										

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
1,545.00	1,544.90	-7.92	-5.78	Last Gyro Survey
1,656.00	1,655.87	-5.96	-7.59	First Phoenix MWD Survey
13,111.00	8,707.10	-4,564.53	753.49	Last Phoenix MWD Survey
13,170.00	8,708.13	-4,623.52	752.87	Projection to TD

Checked By: _____ Approved By: _____ Date: _____

COMPLETED WELL SKETCH

DEPTH (ft)	MARKERS (KB)	LITHOLOGY	OGRID: API: 30-015-39171 AFE: 104742 SPUD: 3/12/12 @ 17:30 hrs FRR: 3/28/12 @ 23:00 hrs RIG: Cactus #123	Ross Gulch 8 Fed Com #1H Wildcat (Bone Spring) Field Eddy County, New Mexico	SURF: 330' FNL & 1540' FWL LOC: Sec 8 SURVEY: T-26-S, R-31-E GL: 3277 1' KB: 3307 1' ZERO: 30.0' AGL	HOLE SIZE	MW (ppg)	MUD	BHST (°F)	LOT (ppg)	EVALUATION
1,000'				20" Conductor @ 130'		17-1/2"	8.4				
	Rustler - 1300' T / Salt - 1730'						9.0	FW		N/A	
2,000'		Salt		Surface Casing @ 1607' 13-3/8" 54.5# J-55 STC Cement w/ 760 sx Class C + 4.0% Bentonite + 1.0% CaCl2 + 0.25 pps Celloflake (13.5 ppg, 1.734 yld), followed by 300 sx Class C + 1.0% CaCl2 (14.8 ppg, 1.335 yld). Bump plug w/ 1450 psi and circ 113 sx to surface		12-1/4"	10.0	Brine	86		Mud Log
3,000'	B / Salt - 3825'										
4,000'	Lamar - 4036' Bell Canyon - 4065'									NA	
5,000'	Cherry Canyon - 4960'			Intermediate Casing @ 3,985' 9-5/8", 40#, J-55, LT&C Cement w/ 1025 sx Class C + 2.0% SMS + 10.0% Salt + 1.05% R-3 + 0.25 pps Celloflake (12.7 ppg, 2.218 yld), followed by 200 sx Class C + 0.60% FL-62 + 0.25% CD-32 + 0.15% SMS + 0.40% R-3 (14.8 ppg, 1.334 yld). Bump plug w/ 1645 psi and circ 376 sx to surface			10.2		117		
6,000'	Brushy Canyon - 6260'			Perforations by Measured Depth 9100, 9175, 9250, 9310, 9370, 9430, 9495, 9550, 9610, 9670, 9730, 9790, 9850, 9910, 9970, 10030, 10090, 10150, 10210, 10270, 10325, 10390, 10450, 10510, 10570, 10630, 10690, 10750, 10810, 10870, 10930, 10990, 11050, 11110, 11175, 11230, 11290, 11350, 11410, 11470, 11530, 11590, 11650, 11710, 11770, 11830, 11890, 11950, 12010, 12065, 12120, 12175, 12232, 12285, 12340, 12458, 12505, 12560, 12610, 12667, 12725, 12780, 12835, 12888, 12945, 13000, 13055, 13110							
7,000'	Leonard - 7750'					8-3/4"	8.4	WBM		N/A	BHC Sonic / GR-HRLA-MSFL / HNGS-CNLT-LDT w/ Pe Mud Log
8,000'	Bone Spring Lime - 8000'										
9,000'	1st Bone Spring Sand - 8965' Bone Spring 2 Carb - 9114'			Production Casing @ 13,131' MD, 8707' TVD 5-1/2" 17# HCP-110 LTC Cement w/ 400 sx 60 40' Class C + 15.0 pps BA-90 + 4.0% MPA-5 + 3.0% SMS + 5.0% A-10 + 1.0% BA-10A + 0.80% ASA-301 + 2.55% R-21 + 8.0 pps LCM-1 (10.8 ppg, 3.677 yld), followed by 325 sx 50' 50' 10 Class H + 0.80% FL-52 + 0.30% ASA-301 + 0.50% SMS + 2.0% Salt + 0.25% R-21 + 3.0 pps LCM-1 + 0.25 pps Celloflake + 0.005 pps Static Free (11.8 ppg, 2.382 yld), followed by 1350 sx 50' 50' 2 Class H + 0.65% FL-52 + 0.45% CD-32 + 0.10% SMS + 2.0% Salt (14.2 ppg, 1.277 yld). Lost			9.3		140		

Drig Eng: R. Willett
Date: 5/16/2012



Job Number: SVCO-120351
 Company: EOG Resources, Inc.
 Lease/Well: Ross Gulch 8 Fed Com 1H
 Location: Eddy County, NM
 Rig Name: Cactus #123
 RKB: 30'
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA
 Declination: 7.34°
 Grid: East To Grid
 File name: F:\SURVEY\2012SU-1\EOG\CONROE\ROSSGU-1\8-1H.SVY
 Date/Time: 14-Mar-12 / 14:16
 Curve Name: Surface - 1545' M.D. (Gyroscopic)

WINSERVE SURVEY CALCULATIONS
Minimum Curvature Method
Vertical Section Plane 170.90
Vertical Section Referenced to Wellhead
Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
100.00	.50	256.41	100.00	-.10	-.42	.03	.44	256.41	.50
200.00	.50	247.49	199.99	-.37	-1.25	.17	1.31	253.44	.08
300.00	.75	220.53	299.99	-1.04	-2.08	.69	2.32	243.51	.38
400.00	.75	175.59	399.98	-2.19	-2.45	1.77	3.29	228.31	.57
500.00	.75	195.63	499.97	-3.47	-2.58	3.02	4.32	216.64	.26
600.00	.75	196.68	599.96	-4.73	-2.94	4.20	5.57	211.92	.01
700.00	1.00	186.73	699.95	-6.22	-3.23	5.63	7.01	207.48	.29
800.00	1.00	195.03	799.94	-7.93	-3.56	7.27	8.69	204.20	.14
900.00	.75	186.08	899.93	-9.42	-3.86	8.69	10.18	202.27	.28

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
1000.00	.50	176.13	999.92	-10.51	-3.90	9.76	11.21	200.36	.27
1100.00	.25	21.18	1099.92	-10.74	-3.79	10.01	11.39	199.44	.73
1200.00	.25	8.23	1199.92	-10.32	-3.68	9.61	10.96	199.63	.06
1300.00	.25	311.30	1299.92	-9.96	-3.81	9.23	10.67	200.95	.24
1400.00	.50	309.38	1399.91	-9.54	-4.31	8.74	10.47	204.33	.25
1500.00	1.00	320.48	1499.91	-8.59	-5.21	7.66	10.05	211.22	.52
Last Survey Depth Recorded									
1545.00	1.25	318.54	1544.90	-7.92	-5.78	6.91	9.81	216.13	.56