

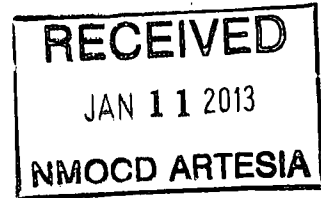
CRESCENT

DIRECTIONAL DRILLING

January 2, 2013

STATE OF NEW MEXICO

COUNTY OF EDDY



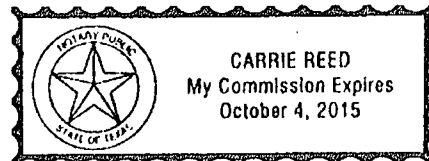
30-015-40538

I, Ricky Neagle, certify that; I am employed by Crescent Directional Drilling, L.P.; that on the day(s) of August 13, 2012-September 01, 2012 we conducted and or supervised the taking of a MWD survey for Canvasback 13 Federal #2H from a depth of 7782 feet to a depth of 12695 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Crescent Directional Drilling Services, L.P.; that I am authorized and qualified to make this report; that this survey was conducted at the request of Concho; that I reviewed this report and find it conforms to the principles and procedures as set forth by Crescent Directional.

Ricky Neagle
Coordinator of MWD Operations
Crescent Directional Drilling, L.P.

NOTARY

1-9-13
DATE



COG Operating LLC

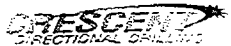
**Eddy County, NM
Canvasback 13 Fed
#2H**

OH

Design: OH

Standard Survey Report

06 September, 2012



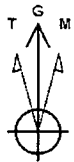
COG Operating LLC
#2H
Eddy County, NM
Plan #3



Surface Location		Ground Elev: 3580.00 WELL @ 3597.00ft (Original Well Elev)			
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	445596.90	688413.90	32.223592	-103.724062

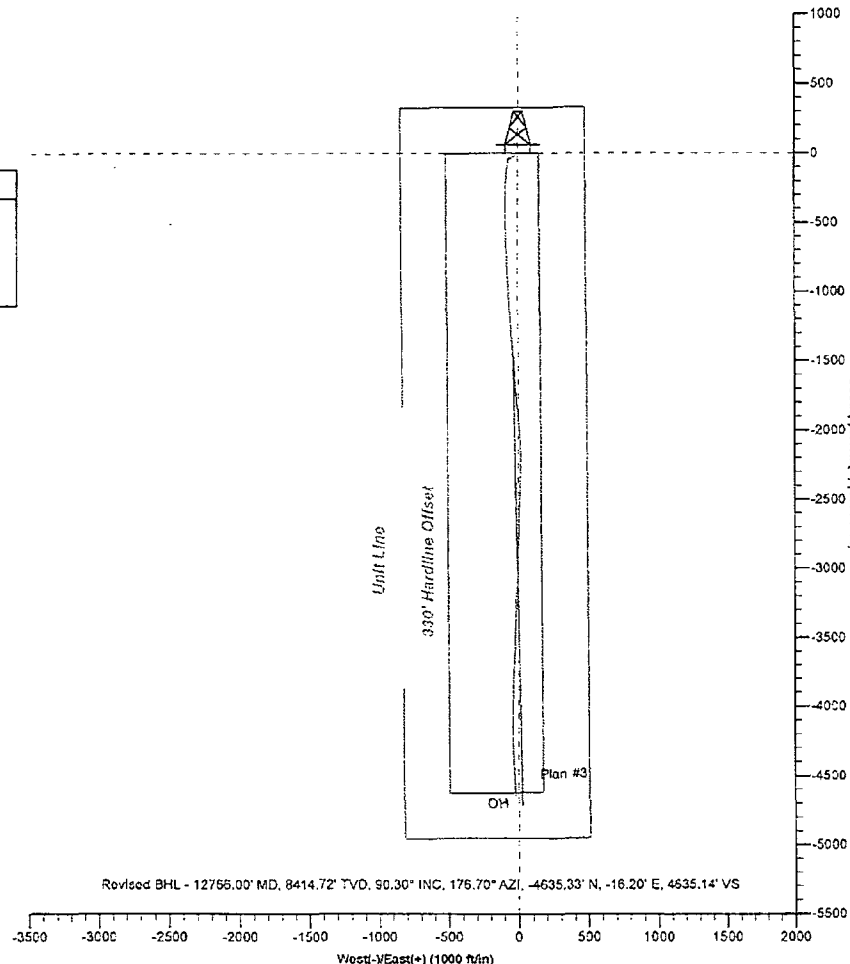
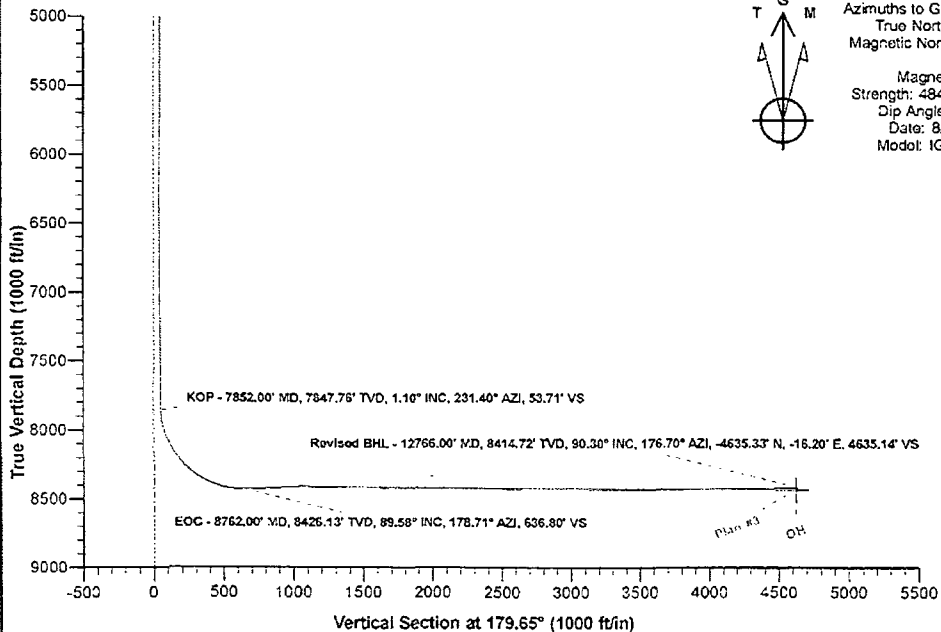
TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
PBHL (Canvasback 13 Fed 2H Plan 3)	8430.00	-4618.60	28.60	440978.30	688442.50	32.210896	-103.724055

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
1	9503.00	88.40	175.10	8410.73	-1376.72	-42.22	0.00	0.00	1376.43	Tie-On to MWD Surveys - 9503.00' MD, 8410.73' TVD
2	9634.30	89.69	178.82	8412.92	-1507.79	-35.26	3.00	70.99	1507.54	EOB & T - Hold @ 89.69° INC, 178.82° AZ
3	12745.82	89.69	178.82	8430.00	-4618.60	28.60	0.00	0.00	4618.69	TD @ 12745.82' MD, 8430.00' TVD



Azimuths to Grid North
True North: -0.33°
Magnetic North: 7.19°

Magnetic Field
Strength: 48482.0nT
Dip Angle: 60.13°
Date: 8/13/2012
Model: IGRF2010



Survey Report

Company: COG Operating LLC
Project: Eddy County, NM
Site: Canvasback 13 Fed
Well: #2H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Site Canvasback 13 Fed
TVD Reference: WELL @ 3597.00ft (Original Well Elev)
MD Reference: WELL @ 3597.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Houston R5000 Database

Project:	Eddy County, NM		
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:	Canvasback 13 Fed				
Site Position:		Northing:	445,596.90 ft	Latitude:	32.223592
From:	Map	Easting:	688,413.90 ft	Longitude:	-103.724063
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.32 °

Well:	#2H					
Well Position	+N-S	0.00 ft	Northing:	445,596.90 ft	Latitude:	32.223592
	+E-W	0.00 ft	Easting:	688,413.90 ft	Longitude:	-103.724063
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,580.00 ft

Wellbore:	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2010	8/13/2012	(°)	(°)	(nT)
			7.51	60.13	48,482

Design:	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	179.65	

Survey Program	Date	9/5/2012			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
100.00	7,782.00	Gyro Surveys (OH)	Good_gyro	Good Gyro	
7,820.00	12,695.00	MWD Surveys 1 (OH)	MWD	MWD - Standard	
12,766.00	12,766.00	PTB (OH)	MWD	MWD - Standard	

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
100.00	0.67	193.08	100.00	-0.57	-0.13	0.57	0.67	0.67	0.00
200.00	0.48	206.33	199.99	-1.51	-0.45	1.51	0.23	-0.19	13.25
300.00	0.72	226.77	299.99	-2.32	-1.09	2.31	0.32	0.24	20.44
400.00	1.28	228.84	399.97	-3.49	-2.39	3.47	0.56	0.58	2.07
500.00	1.81	230.30	499.93	-5.23	-4.45	5.20	0.53	0.53	1.46
600.00	2.42	226.21	599.87	-7.73	-7.16	7.68	0.64	0.61	-5.09
700.00	3.37	223.83	699.74	-11.33	-10.70	11.27	0.95	0.95	-1.38
800.00	4.98	223.72	799.47	-16.59	-15.73	16.49	1.61	1.61	-0.11

Survey Report

Company: COG Operating LLC
Project: Eddy County, NM
Site: Canvasback 13 Fed
Well: #2H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Site Canvasback 13 Fed
TVD Reference: WELL @ 3597.00ft (Original Well Elev)
MD Reference: WELL @ 3597.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Houston R5000 Database

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)
900.00	7.14	255.72	898.93	-21.26	-24.76	21.11	3.93	2.16	32.00
1,000.00	6.60	240.82	998.22	-25.60	-35.80	25.38	1.86	-0.54	-14.90
1,100.00	5.59	235.72	1,097.66	-31.14	-44.84	30.87	1.15	-1.01	-5.10
1,200.00	4.00	219.35	1,197.31	-36.58	-51.08	36.27	2.08	-1.59	-16.37
1,300.00	3.50	215.11	1,297.09	-41.78	-55.04	41.44	0.57	-0.50	-4.24
1,400.00	2.88	214.37	1,396.94	-46.35	-58.22	45.99	0.62	-0.62	-0.74
1,500.00	2.47	216.86	1,496.83	-50.15	-60.93	49.77	0.43	-0.41	2.49
1,600.00	1.94	226.39	1,596.75	-53.04	-63.45	52.65	0.64	-0.53	9.53
1,700.00	1.20	236.61	1,696.72	-54.78	-65.55	54.38	0.79	-0.74	10.22
1,800.00	0.80	258.12	1,796.70	-55.50	-67.10	55.09	0.54	-0.40	21.51
1,900.00	0.86	305.56	1,896.69	-55.21	-68.40	54.79	0.67	0.06	47.44
2,000.00	0.44	3.03	1,996.69	-54.39	-68.99	53.97	0.73	-0.42	57.47
2,100.00	0.38	11.46	2,096.68	-53.68	-68.80	53.26	0.08	-0.06	8.43
2,200.00	0.63	16.82	2,196.68	-52.83	-68.68	52.41	0.25	0.25	5.36
2,300.00	1.06	26.30	2,296.67	-51.47	-68.11	51.06	0.45	0.43	9.48
2,400.00	1.14	15.49	2,396.65	-49.69	-67.43	49.27	0.22	0.08	-10.81
2,500.00	1.34	17.93	2,496.63	-47.62	-66.81	47.21	0.21	0.20	2.44
2,600.00	1.28	18.28	2,596.60	-45.44	-66.10	45.04	0.06	-0.06	0.35
2,700.00	1.72	20.15	2,696.57	-42.97	-65.23	42.57	0.44	0.44	1.87
2,800.00	1.75	21.59	2,796.52	-40.14	-64.15	39.75	0.05	0.03	1.44
2,900.00	1.80	18.39	2,896.47	-37.23	-63.09	36.85	0.11	0.05	-3.20
3,000.00	1.83	21.01	2,996.42	-34.25	-62.03	33.87	0.09	0.03	2.62
3,100.00	1.35	27.08	3,096.38	-31.71	-60.92	31.34	0.51	-0.48	6.07
3,200.00	1.09	33.57	3,196.36	-29.87	-59.85	29.51	0.29	-0.26	6.49
3,300.00	0.94	47.79	3,296.34	-28.53	-58.72	28.17	0.29	-0.15	14.22
3,400.00	0.85	81.18	3,396.33	-27.86	-57.38	27.51	0.52	-0.09	33.39
3,500.00	0.82	94.81	3,496.32	-27.80	-56.11	27.45	0.29	-0.23	13.63
3,600.00	0.43	111.40	3,596.32	-27.98	-55.22	27.64	0.24	-0.19	16.59
3,700.00	0.47	118.69	3,696.32	-28.31	-54.51	27.98	0.07	0.04	7.29
3,800.00	0.47	124.07	3,796.31	-28.74	-53.81	28.41	0.04	0.00	5.38
3,900.00	0.57	128.82	3,896.31	-29.28	-53.08	28.96	0.11	0.10	4.75
4,000.00	1.61	135.21	3,996.29	-30.59	-51.71	30.27	1.05	1.04	6.39
4,100.00	1.57	141.54	4,096.25	-32.66	-49.87	32.35	0.18	-0.04	6.33
4,200.00	2.15	145.44	4,196.20	-35.28	-47.95	34.98	0.59	0.58	3.90
4,300.00	2.67	147.81	4,296.11	-38.79	-45.64	38.51	0.53	0.52	2.37
4,400.00	1.30	156.01	4,396.05	-41.80	-43.94	41.53	1.40	-1.37	8.20
4,500.00	0.70	137.53	4,496.03	-43.29	-43.07	43.02	0.67	-0.60	-18.48
4,600.00	0.58	112.91	4,596.03	-43.93	-42.19	43.68	0.30	-0.12	-24.62
4,700.00	0.76	115.35	4,696.02	-44.42	-41.12	44.16	0.18	0.18	2.44
4,800.00	0.35	121.80	4,796.01	-44.86	-40.27	44.61	0.41	-0.41	6.45
4,900.00	0.50	128.98	4,896.01	-45.30	-39.67	45.05	0.16	0.15	7.18
5,000.00	0.49	113.56	4,996.01	-45.74	-38.94	45.50	0.13	-0.01	-15.42
5,100.00	0.41	96.73	5,096.01	-45.95	-38.19	45.72	0.15	-0.08	-16.83

Survey Report

Company: COG Operating LLC
 Project: Eddy County, NM
 Site: Canvasback 13 Fed
 Well: #2H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Site Canvasback 13 Fed
 TVD Reference: WELL @ 3597.00ft (Original Well Elev)
 MD Reference: WELL @ 3597.00ft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: Houston R5000 Database

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)	
5,200.00	0.30	85.65	5,198.00	-45.98	-37.57	45.75	0.13	-0.11	-11.08	
5,300.00	0.26	68.68	5,296.00	-45.87	-37.10	45.65	0.09	-0.04	-16.97	
5,400.00	0.26	83.84	5,396.00	-45.77	-36.66	45.54	0.07	0.00	15.16	
5,500.00	0.25	303.03	5,496.00	-45.62	-36.62	45.40	0.48	-0.01	-140.81	
5,600.00	0.28	295.24	5,596.00	-45.40	-37.02	45.17	0.05	0.03	-7.79	
5,700.00	0.30	325.45	5,696.00	-45.08	-37.39	44.85	0.15	0.02	30.21	
5,800.00	0.49	298.11	5,796.00	-44.68	-37.93	44.44	0.27	0.19	-28.34	
5,900.00	0.26	340.02	5,895.99	-44.28	-38.39	44.04	0.35	-0.23	43.91	
6,000.00	0.49	270.88	5,995.99	-44.06	-38.89	43.82	0.47	0.23	-69.14	
6,100.00	0.49	316.18	6,095.99	-43.74	-39.62	43.50	0.38	0.00	45.30	
6,200.00	0.49	272.26	6,195.99	-43.41	-40.34	43.17	0.37	0.00	-43.92	
6,300.00	0.73	275.15	6,295.98	-43.34	-41.40	43.09	0.24	0.24	2.89	
6,400.00	0.46	247.74	6,395.97	-43.44	-42.41	43.18	0.39	-0.27	-27.41	
6,500.00	0.75	254.49	6,495.97	-43.76	-43.41	43.50	0.30	0.29	6.75	
6,600.00	0.44	257.50	6,595.96	-44.02	-44.41	43.75	0.31	-0.31	3.01	
6,700.00	0.76	241.00	6,695.96	-44.43	-45.37	44.15	0.36	0.32	-16.50	
6,800.00	0.82	253.28	6,795.95	-44.95	-46.63	44.67	0.18	0.06	12.28	
6,900.00	0.67	252.76	6,895.94	-45.33	-47.88	45.04	0.15	-0.15	-0.52	
7,000.00	1.22	230.99	6,995.93	-46.18	-49.26	45.87	0.65	0.55	-21.77	
7,100.00	1.27	233.26	7,095.90	-47.51	-50.98	47.20	0.07	0.05	2.27	
7,200.00	1.03	274.80	7,195.88	-48.10	-52.76	47.77	0.85	-0.24	41.54	
7,300.00	0.81	288.33	7,295.87	-47.80	-54.33	47.47	0.31	-0.22	13.53	
7,400.00	0.77	257.25	7,395.86	-47.72	-55.66	47.38	0.43	-0.04	-31.08	
7,500.00	1.18	217.74	7,495.85	-48.69	-56.94	48.34	0.76	0.41	-39.51	
7,600.00	1.29	217.47	7,595.83	-50.39	-58.26	50.04	0.11	0.11	-0.27	
7,700.00	1.37	231.72	7,695.80	-52.03	-59.88	51.66	0.34	0.08	14.25	
7,782.00	1.47	238.16	7,777.77	-53.19	-61.54	52.81	0.23	0.12	7.85	
7,820.00	1.10	228.00	7,815.76	-53.69	-62.23	53.31	1.14	-0.97	-26.74	
7,852.00	1.10	231.40	7,847.76	-54.09	-62.70	53.71	0.20	0.00	10.63	
KOP - 7862.00' MD, 7847.76' TVD, 1.10° INC, 231.40° AZI, 63.71' VS										
7,884.00	3.30	189.40	7,879.73	-55.19	-63.09	54.80	8.09	6.88	-131.25	
7,916.00	7.70	180.70	7,911.58	-58.24	-63.26	57.86	13.96	13.75	-27.19	
7,948.00	11.60	186.00	7,943.12	-63.59	-63.63	63.20	12.49	12.19	16.56	
7,980.00	15.30	194.80	7,974.24	-70.87	-65.04	70.48	13.18	11.56	27.50	
8,011.00	19.30	194.10	8,003.83	-79.80	-67.34	79.39	12.92	12.80	-2.26	
8,043.00	21.50	192.90	8,033.82	-90.65	-69.93	90.22	7.00	6.88	-3.75	
8,075.00	22.60	192.50	8,063.48	-102.37	-72.57	101.92	3.47	3.44	-1.25	
8,107.00	23.70	187.30	8,092.91	-114.75	-74.72	114.29	7.25	3.44	-16.25	
8,138.00	26.80	183.40	8,120.95	-127.91	-75.93	127.44	11.34	10.00	-12.58	
8,170.00	30.30	182.20	8,149.05	-143.18	-76.67	142.71	11.08	10.94	-3.75	
8,202.00	33.90	183.40	8,176.15	-160.16	-77.51	159.69	11.42	11.26	3.75	
8,234.00	37.00	183.60	8,202.22	-178.69	-78.64	178.20	9.69	9.69	0.63	
8,265.00	41.10	183.70	8,226.29	-198.17	-79.88	197.68	13.23	13.23	0.32	
8,297.00	44.40	180.00	8,249.79	-219.87	-80.74	219.37	11.90	10.31	-8.75	

Survey Report

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Wellbore: OH
Design: OH

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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)	
8,329.00	47.90	181.40	8,271.95	-242.94	-81.20	242.44	11.00	10.94	1.56	
8,361.00	49.90	182.30	8,292.99	-267.04	-81.99	266.53	6.60	6.25	2.81	
8,393.00	53.60	183.00	8,312.79	-292.14	-83.15	291.62	11.69	11.56	2.19	
8,424.00	57.70	181.60	8,330.28	-317.70	-84.17	317.18	13.74	13.23	-4.52	
8,456.00	60.90	179.70	8,346.62	-345.21	-84.47	344.69	11.23	10.00	-5.94	
8,488.00	63.70	177.90	8,361.49	-373.53	-83.88	373.01	10.07	8.75	-5.63	
8,520.00	66.30	177.10	8,375.02	-402.50	-82.61	401.99	8.43	8.13	-2.50	
8,552.00	69.00	177.80	8,387.18	-432.07	-81.29	431.56	8.68	8.44	2.19	
8,583.00	72.30	178.60	8,397.45	-461.30	-80.38	460.80	10.92	10.65	2.58	
8,616.00	75.30	179.90	8,406.66	-492.98	-79.97	492.48	9.85	9.09	3.94	
8,647.00	78.30	180.20	8,413.74	-523.16	-79.99	522.66	9.72	9.68	0.97	
8,679.00	81.30	180.40	8,419.40	-554.65	-80.16	554.15	9.40	9.38	0.63	
8,711.00	84.40	180.00	8,423.39	-586.40	-80.27	585.89	9.77	9.69	-1.25	
8,743.00	87.50	179.30	8,425.65	-618.31	-80.07	617.81	9.93	9.69	-2.19	
8,762.00	89.58	178.71	8,426.13	-637.30	-79.74	636.80	11.37	10.94	-3.13	
EOC - 8762.00' MD, 8426.13' TVD, 89.58° INC, 178.71° AZI, 636.80' VS										
8,775.00	91.00	178.30	8,426.07	-650.30	-79.40	649.80	11.37	10.94	-3.12	
8,804.00	91.40	177.50	8,425.46	-679.27	-78.34	678.78	3.08	1.38	-2.76	
8,836.00	91.40	177.50	8,424.68	-711.23	-76.94	710.75	0.00	0.00	0.00	
8,868.00	92.90	177.50	8,423.48	-743.18	-75.55	742.70	4.69	4.69	0.00	
8,900.00	93.60	177.60	8,421.66	-775.10	-74.18	774.63	2.21	2.19	0.31	
8,932.00	93.30	177.30	8,419.74	-807.01	-72.76	806.55	1.32	-0.94	-0.94	
9,027.00	93.60	177.30	8,414.02	-901.73	-68.30	901.29	0.32	0.32	0.00	
9,122.00	93.50	177.30	8,408.14	-996.44	-63.63	996.03	0.11	-0.11	0.00	
9,217.00	88.50	177.20	8,406.48	-1,091.29	-59.27	1,090.90	5.26	-5.26	-0.11	
9,312.00	89.70	177.40	8,407.97	-1,186.17	-54.80	1,185.81	1.28	1.26	0.21	
9,407.00	89.30	176.20	8,408.80	-1,261.01	-49.50	1,280.69	1.33	-0.42	-1.26	
9,503.00	88.40	175.10	8,410.73	-1,376.72	-42.22	1,376.43	1.48	-0.94	-1.15	
9,599.00	89.10	175.80	8,412.82	-1,472.39	-34.60	1,472.15	1.03	0.73	0.73	
9,694.00	88.10	175.60	8,415.14	-1,567.09	-27.48	1,566.89	1.07	-1.05	-0.21	
9,789.00	88.80	174.90	8,417.71	-1,661.73	-19.62	1,661.58	1.04	0.74	-0.74	
9,884.00	90.70	175.20	8,418.13	-1,756.37	-11.42	1,756.27	2.02	2.00	0.32	
9,980.00	88.50	175.00	8,418.80	-1,852.01	-3.22	1,851.96	2.30	-2.29	-0.21	
10,075.00	89.40	174.80	8,420.54	-1,946.62	5.22	1,946.61	0.97	0.95	-0.21	
10,170.00	89.90	175.90	8,421.12	-2,041.30	12.92	2,041.34	1.27	0.53	1.16	
10,266.00	89.80	178.60	8,421.37	-2,137.18	17.53	2,137.25	2.81	-0.10	2.81	
10,361.00	88.50	179.30	8,422.78	-2,232.15	19.27	2,232.23	1.55	-1.37	0.74	
10,456.00	90.60	181.50	8,423.52	-2,327.14	18.61	2,327.21	3.20	2.21	2.32	
10,552.00	89.50	181.20	8,423.44	-2,423.11	16.34	2,423.16	1.19	-1.15	-0.31	
10,647.00	88.30	181.80	8,425.26	-2,518.06	13.86	2,518.09	1.41	-1.28	0.63	
10,743.00	91.30	181.80	8,425.60	-2,614.00	10.84	2,614.01	3.13	3.13	0.00	
10,839.00	91.90	181.90	8,422.92	-2,709.91	7.74	2,709.91	0.63	0.63	0.10	
10,934.00	91.40	181.80	8,420.18	-2,804.82	4.68	2,804.80	0.54	-0.53	-0.11	

Survey Report

Company: COG Operating LLC
 Project: Eddy County, NM
 Site: Canvasback 13 Fed
 Well: #2H
 Wellbore: OH
 Design: OH

Local Co-ordinate Reference: Site Canvasback 13 Fed
 TVD Reference: WELL @ 3597.00ft (Original Well Elev)
 MD Reference: WELL @ 3597.00ft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: Houston R5000 Database

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)
11,030.00	80.00	181.70	8,419.01	-2,900.77	1.75	2,900.72	1.46	-1.46	-0.10
11,125.00	88.40	182.00	8,420.34	-2,995.70	-1.32	2,995.64	1.71	-1.68	0.32
11,220.00	88.10	181.50	8,423.24	-3,090.61	-4.22	3,090.53	0.61	-0.32	-0.53
11,316.00	87.80	181.50	8,426.67	-3,186.52	-6.73	3,186.42	0.31	-0.31	0.00
11,411.00	90.20	181.70	8,428.33	-3,281.46	-9.38	3,281.34	2.54	2.53	0.21
11,507.00	88.50	181.80	8,429.42	-3,377.41	-12.31	3,377.27	1.77	-1.77	0.10
11,603.00	89.20	182.00	8,431.35	-3,473.33	-15.50	3,473.18	0.76	0.73	0.21
11,698.00	90.50	183.20	8,431.59	-3,568.23	-19.81	3,568.05	1.86	1.37	1.26
11,793.00	90.00	182.80	8,431.18	-3,663.10	-24.78	3,662.88	0.67	-0.53	-0.42
11,888.00	91.60	182.10	8,429.85	-3,758.00	-28.84	3,757.76	1.84	1.68	-0.74
11,984.00	90.80	181.60	8,427.84	-3,853.93	-31.94	3,853.66	0.98	-0.83	-0.52
12,079.00	91.30	181.80	8,426.10	-3,948.87	-34.75	3,948.59	0.57	0.53	0.21
12,175.00	90.20	179.70	8,424.85	-4,044.85	-36.01	4,044.55	2.47	-1.15	-2.19
12,270.00	90.50	178.60	8,424.27	-4,139.83	-34.60	4,139.55	1.20	0.32	-1.16
12,366.00	92.00	178.90	8,422.17	-4,235.79	-32.51	4,235.51	1.59	1.56	0.31
12,461.00	91.50	178.30	8,419.27	-4,330.71	-30.19	4,330.45	0.82	-0.53	-0.63
12,556.00	91.40	177.90	8,416.87	-4,425.63	-27.04	4,425.38	0.43	-0.11	-0.42
12,652.00	90.40	176.90	8,415.36	-4,521.52	-22.68	4,521.29	1.47	-1.04	-1.04
12,695.00	90.30	176.70	8,415.10	-4,564.45	-20.28	4,564.24	0.52	-0.23	-0.47
12,766.00	90.30	176.70	8,414.72	-4,635.33	-16.20	4,635.14	0.00	0.00	0.00

Revised BHL - 12766.00' MD, 8414.72' TVD, 90.30° INC, 176.70° AZI, -4635.33' N, -16.20' E, 4635.14' VS

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
7,852.00	7,847.76	-54.09	-62.70	KOP - 7852.00' MD, 7847.76' TVD, 1.10° INC, 231.40° AZI, 53.71' VS
8,762.00	8,426.13	-637.30	-79.74	EOC - 8762.00' MD, 8426.13' TVD, 89.58° INC, 178.71° AZI, 636.80' VS
12,766.00	8,414.72	-4,635.33	-16.20	Revised BHL - 12766.00' MD, 8414.72' TVD, 90.30° INC, 176.70° AZI, -4635.33

Checked By: _____ Approved By: _____ Date: _____