

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

ATS-11-530
FORM APPROVED
OMB NO. 1004-0137
Expires July 31, 2010

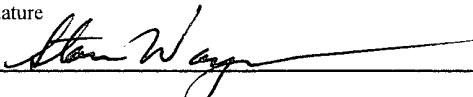
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work ☒ DRILL ☐ REENTER		5. Lease Serial No. NM-0438001
1b. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator BOG Resources Inc.		7. Unit or CA Agreement Name and No.
3a. Address P.O. Box 2267 Midland, Texas 79702	3b. Phone No. (include area code) 432-686-3689	8. Lease Name and Well No. Ross Draw 8 Fed 2H
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface 330' FNL & 2240' FEL, U/L B At proposed prod. zone 330' FSL & 1650' FEL, U/L O		9. API Well No. 30-015-39099
14. Distance in miles and direction from nearest town or post office* +/- 47 miles NW from Jal NM		10. Field and Pool, or Exploratory Undesignated; Bone Spring
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 330'	16. No. of Acres in lease 2201.36	11. Sec., T., R., M., or Blk. and Survey or Area Sec 8, T26S, R31E
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. N/A	19. Proposed Depth Pilot Hole 9300' 8350 V - 12845 M	12. County or Parish Eddy
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3286' GL	22. Approximate date work will start* 6/1/11	13. State NM
17. Spacing Unit dedicated to this well 160 acres		20. BLM/BIA Bond No. on file NM 2308
23. Estimated duration 30 day		

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, must be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification.
- Such other site specific information and/or plans as may be required by the BLM

25. Signature 	Name (Printed/Typed) Stan Wagner	Date 3/9/11
Title Regulatory Analyst		
Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed)	Date APR 28 2011
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

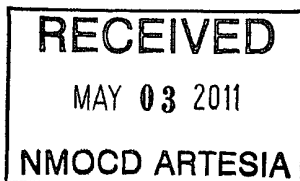
APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

Carlsbad Controlled Water Basin



SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

EOG RESOURCES, INC.
ROSS DRAW 8 FEDERAL NO. 2H

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	1,375'
Top of Salt	1,760'
Base of Salt	3,790'
Lamar	4,000'
Bell Canyon	4,030'
Cherry Canyon	4,940'
Brushy Canyon	6,270'
Bone Spring Lime	7,960'
Bone Spring Sand 1	8,920'
Bone Spring 2 Carb	9,280'
TD	9,300'

3. ESTIMATED DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:

Upper Permian Sands	0- 400'	Fresh Water
Brushy Canyon	6,270'	Oil
Bone Spring Lime	7,960'	Oil

No other Formations are expected to give up oil, gas or fresh water in measurable quantities. Surface fresh water sands will be protected by setting 13.375" casing at 950' and circulating cement back to surface.

4. CASING PROGRAM - NEW

See COA

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
17.5"	0 - 950' / 100'	13.375"	54.5#	J55	STC	1.125	1.25	1.60
12.25"	0-4000'	9.625"	40#	J55	LTC	1.125	1.25	1.60
8.75"	0'-12,845'	5.500"	20#	P110 or HCP110	NSCC	1.125	1.25	1.60

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Cementing Program:

Depth	No. Sacks	Wt. lb/gal	Yld Ft ³ /ft	Slurry Description
950' 1160'	400	13.5	1.73	Lead: Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl ₂ + 0.25 lb/sk Cello-Flake (TOC @ surface)
	300	14.8	1.34	Tail: Class C + 0.005 pps Static Free + 2% CaCl ₂ + 0.25 pps CelloFlake + 0.005 gps FP-6L
4,000'	700	12.7	2.22	Lead: Class 'C' + 1.50% R-3 + 0.25 lb/sk Cello-Flake + 2.0% Sodium Metasilicate + 10% Salt + 0.005 lb/sk Static Free (TOC @ surface)
	200	14.8	1.32	Tail: Class 'C' + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
BH Plug 9300'-9100'	100	18.0	0.90	Class H + 0.005 lbs/sx Static Free + 5% Salt + 1.2% CD31 + 0.005 gps FP-6L
KO Plug 600'	300	18.0	0.90	Class H + 0.005 lbs/sx Static Free + 5% Salt + 1.2% CD31 + 0.005 gps FP-6L
12,845'	150	10.8	3.67	Lead: 60:40:0 Class 'C' + 15.00 lb/sk BA-90 + 4.00% MPA-5 + 3.00% SMS + 5.00% A-10 + 1.00% BA-10A + 0.80% ASA-301 + 2.90% R-21 + 8.00 lb/sk LCM-1 + 0.005 lb/sk Static Free (TOC @ 3500')
	300	11.8	2.38	Middle: 50:50:10 Class 'H' + 0.80% FL-52 + 0.45% ASA-301 + 0.40% SMS + 2.00% Salt + 3.00 lb/sx LCM-1 + 0.20% R-21 + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
	1300	14.2	1.28	Tail: 50:50:2 Class 'H' + 0.65% FL-52 + 0.20% CD-32 + 0.15% SMS + 2.00% Salt + 0.10% R-3 + 0.005 lb/sk Static Free

Note: Cement volumes based on bit size plus at least 25% excess in the open hole plus 10% excess in the cased-hole overlap section.

5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a double ram-type (5,000 psi WP) preventer and an annular preventer (5000-psi WP). Both units will be hydraulically operated and the ram-type will be equipped with blind rams on bottom and drill pipe rams on top. All BOPE will be tested in accordance with Onshore Oil & Gas order No. 2.

3000 psi BOPE is adequate for this application. Due to the 3000 psi BOPE requirement no FIT tests are planned.

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 3000/ 250 psig and the annular preventer to 2500/ 250 psig.

Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 3000/ 250 psig and the annular preventer to 2500/ 250 psig.

EOG RESOURCES, INC.
ROSS DRAW 8 FEDERAL NO. 2H

Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.

A hydraulically operated choke will be installed prior to drilling out of the intermediate casing shoe.

6. TYPES AND CHARACTERISTICS OF THE PROPOSED MUD SYSTEM:

The applicable depths and properties of the drilling fluid systems are as follows. Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 - 950' //CO	Fresh Water Gel	8.6-8.8	28-34	N/c
950' - 4,000'	Saturated Brine	10.0-10.2	28-34	N/c
4,000' - 7,900'	Fresh Water	8.4-8.6	28-34	N/c
7,900' - 12,845' Lateral	Cut Brine Water	9.0-9.5	28-34	N/c

7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:

- (A) A kelly cock will be kept in the drill string at all times.
- (B) A full opening drill pipe-stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.
- (C) A mud logging unit will be continuously monitoring drill penetration rate and hydrocarbon shows from intermediate casing point to TD.
- (D) H₂S monitoring and detection equipment will be utilized from surface casing point to TD.

8. LOGGING, TESTING AND CORING PROGRAM: *See COA*

Open-hole logging is anticipated in the 8-3/4" hole section. The logging suites scheduled for this hole section are listed below:

NGT-CNL-LDT w/ Pe	From TD to previous casing shoe. At casing pull GR - Neutron to surface.
HR Laterolog Array	From TD to previous casing shoe.
FMI	Possible in the production hole

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**9. ABNORMAL CONDITIONS, PRESSURES, TEMPERATURES AND
POTENTIAL HAZARDS:**

The estimated bottom-hole temperature (BHT) at TD is 154 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 4000 psig. No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. No major loss circulation zones have been reported in offsetting wells.

10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

The drilling operation should be finished in approximately one month. If the well is productive, an additional 60-90 days will be required for completion and testing before a decision is made to install permanent facilities.

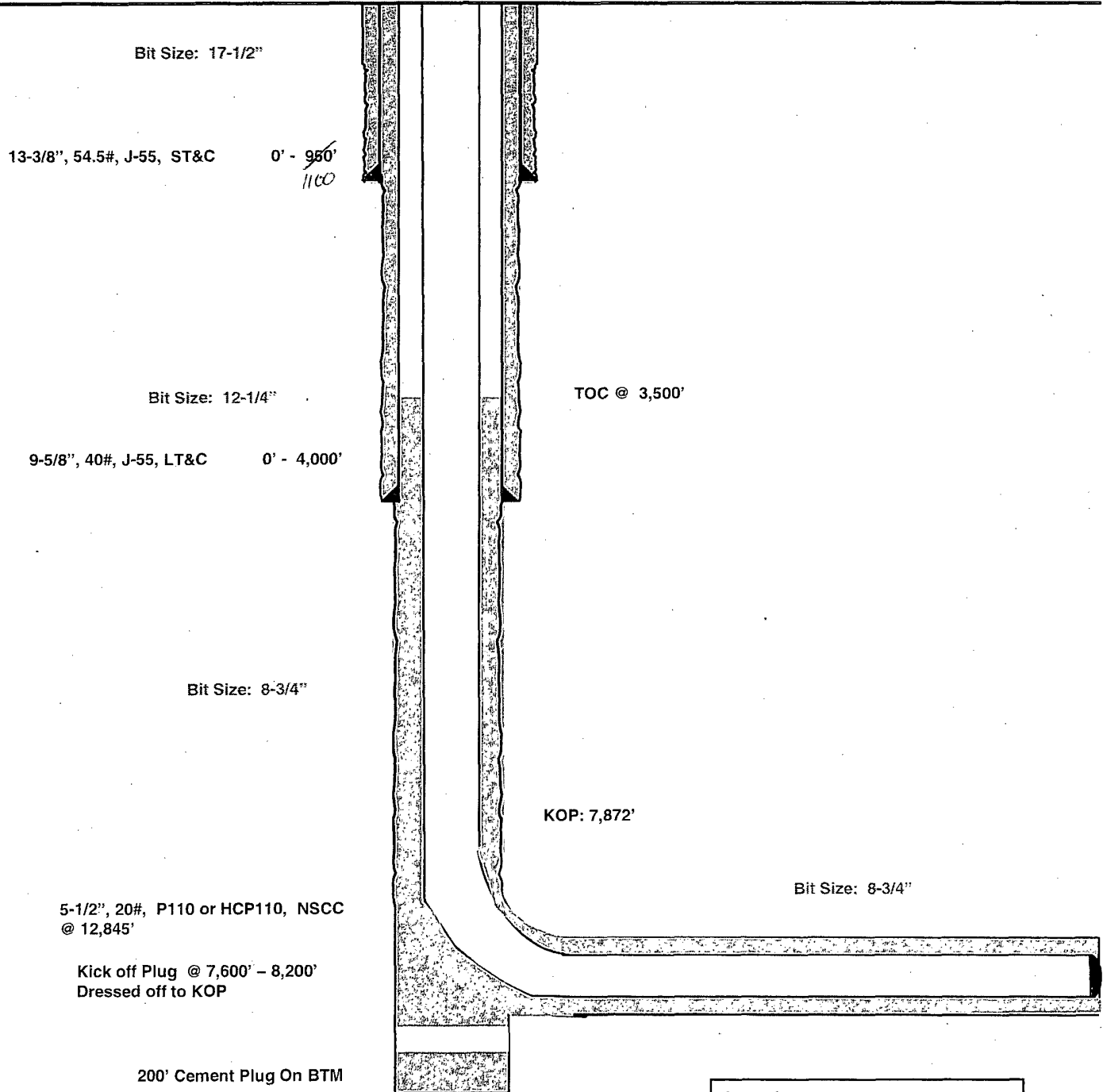
Ross Draw 8 Federal #2H
Eddy County, New Mexico

330' FNL
2240' FEL
Section 8
T-26-S, R-31-E

Proposed Wellbore

API: 30-015-*****

KB: 3,316.1'
GL: 3,286.1'



Pilot Hole
TD: 9,300'

Lateral:
12,845' MD, 8,350' TVD
BH Location: 330' FSL & 1,650' FEL
Section 8
T-26-S, R-31-E



EOG Resources, Inc.

Eddy County

Ross Draw "8" Fed

#2H

OH

Plan: Design #1

Pathfinder X & Y Planning Report

08 March, 2011



Company: EOG Resources, Inc.
Project: Eddy County
Site: Ross Draw "8" Fed
Well: #2H
Wellbore: OH
Design: Design #1

Local Co-ordinate Reference: Well #2H
TVD Reference: WELL @ 3316.10usft (Cactus #123)
MD Reference: WELL @ 3316.10usft (Cactus #123)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Project:	Eddy County		
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 Draw "8" Fed		
Site Position:		Northing:	387,307.900 usft
From:	Map	Easting:	665,662.500 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 3' 49.307 N
		Longitude:	103° 47' 54.825 W
		Grid Convergence:	0.28 °

Well:	#2H					
Well Position	+N/-S	0.00 usft	Northing:	387,307.900 usft	Latitude:	32° 3' 49.307 N
	+E/-W	0.00 usft	Easting:	665,662.500 usft	Longitude:	103° 47' 54.825 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,286.10 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF200510	03/08/11	7.70	60.03	48,558

Design:	Design #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	172.72

Survey Tool/Program	Date	03/08/11		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
0.00	12,845.74	Design #1 (OH)	MWD	MWD - Standard



Pathfinder
Pathfinder X & Y Planning Report



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Planned Survey											
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
0.00	0.00	0.00	0.00	3,316.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
100.00	0.00	0.00	100.00	3,216.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
200.00	0.00	0.00	200.00	3,116.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
300.00	0.00	0.00	300.00	3,016.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
400.00	0.00	0.00	400.00	2,916.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
500.00	0.00	0.00	500.00	2,816.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
600.00	0.00	0.00	600.00	2,716.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
700.00	0.00	0.00	700.00	2,616.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
800.00	0.00	0.00	800.00	2,516.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
900.00	0.00	0.00	900.00	2,416.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
1,000.00	0.00	0.00	1,000.00	2,316.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
1,100.00	0.00	0.00	1,100.00	2,216.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
1,200.00	0.00	0.00	1,200.00	2,116.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
1,300.00	0.00	0.00	1,300.00	2,016.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
1,400.00	0.00	0.00	1,400.00	1,916.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
1,500.00	0.00	0.00	1,500.00	1,816.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
1,600.00	0.00	0.00	1,600.00	1,716.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
1,700.00	0.00	0.00	1,700.00	1,616.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
1,800.00	0.00	0.00	1,800.00	1,516.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
1,900.00	0.00	0.00	1,900.00	1,416.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
2,000.00	0.00	0.00	2,000.00	1,316.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
2,100.00	0.00	0.00	2,100.00	1,216.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
2,200.00	0.00	0.00	2,200.00	1,116.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
2,300.00	0.00	0.00	2,300.00	1,016.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
2,400.00	0.00	0.00	2,400.00	916.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
2,500.00	0.00	0.00	2,500.00	816.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	
2,600.00	0.00	0.00	2,600.00	716.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50	



Pathfinder
Pathfinder X & Y Planning Report



Company: EOG Resources, Inc.
Project: Eddy County
Site: Ross Draw "8" Fed
Well: #2H
Wellbore: OH
Design: Design #1

Local Co-ordinate Reference: Well #2H
TVD Reference: WELL @ 3316.10usft (Cactus #123)
MD Reference: WELL @ 3316.10usft (Cactus #123)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
2,700.00	0.00	0.00	2,700.00	616.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50
2,800.00	0.00	0.00	2,800.00	516.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50
2,900.00	0.00	0.00	2,900.00	416.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50
3,000.00	0.00	0.00	3,000.00	316.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50
3,100.00	0.00	0.00	3,100.00	216.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50
3,200.00	0.00	0.00	3,200.00	116.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50
3,300.00	0.00	0.00	3,300.00	16.10	0.00	0.00	0.00	0.00	387,307.90	665,662.50
3,400.00	0.00	0.00	3,400.00	-83.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
3,500.00	0.00	0.00	3,500.00	-183.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
3,600.00	0.00	0.00	3,600.00	-283.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
3,700.00	0.00	0.00	3,700.00	-383.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
3,800.00	0.00	0.00	3,800.00	-483.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
3,900.00	0.00	0.00	3,900.00	-583.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
4,000.00	0.00	0.00	4,000.00	-683.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
4,100.00	0.00	0.00	4,100.00	-783.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
4,200.00	0.00	0.00	4,200.00	-883.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
4,300.00	0.00	0.00	4,300.00	-983.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
4,400.00	0.00	0.00	4,400.00	-1,083.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
4,500.00	0.00	0.00	4,500.00	-1,183.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
4,600.00	0.00	0.00	4,600.00	-1,283.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
4,700.00	0.00	0.00	4,700.00	-1,383.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
4,800.00	0.00	0.00	4,800.00	-1,483.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
4,900.00	0.00	0.00	4,900.00	-1,583.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
5,000.00	0.00	0.00	5,000.00	-1,683.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
5,100.00	0.00	0.00	5,100.00	-1,783.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
5,200.00	0.00	0.00	5,200.00	-1,883.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
5,300.00	0.00	0.00	5,300.00	-1,983.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50



Pathfinder
Pathfinder X & Y Planning Report



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5,400.00	0.00	0.00	5,400.00	-2,083.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
5,500.00	0.00	0.00	5,500.00	-2,183.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
5,600.00	0.00	0.00	5,600.00	-2,283.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
5,700.00	0.00	0.00	5,700.00	-2,383.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
5,800.00	0.00	0.00	5,800.00	-2,483.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
5,900.00	0.00	0.00	5,900.00	-2,583.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
6,000.00	0.00	0.00	6,000.00	-2,683.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
6,100.00	0.00	0.00	6,100.00	-2,783.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
6,200.00	0.00	0.00	6,200.00	-2,883.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
6,300.00	0.00	0.00	6,300.00	-2,983.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
6,400.00	0.00	0.00	6,400.00	-3,083.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
6,500.00	0.00	0.00	6,500.00	-3,183.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
6,600.00	0.00	0.00	6,600.00	-3,283.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
6,700.00	0.00	0.00	6,700.00	-3,383.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
6,800.00	0.00	0.00	6,800.00	-3,483.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
6,900.00	0.00	0.00	6,900.00	-3,583.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
7,000.00	0.00	0.00	7,000.00	-3,683.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
7,100.00	0.00	0.00	7,100.00	-3,783.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
7,200.00	0.00	0.00	7,200.00	-3,883.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
7,300.00	0.00	0.00	7,300.00	-3,983.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
7,400.00	0.00	0.00	7,400.00	-4,083.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
7,500.00	0.00	0.00	7,500.00	-4,183.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
7,600.00	0.00	0.00	7,600.00	-4,283.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
7,700.00	0.00	0.00	7,700.00	-4,383.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
7,800.00	0.00	0.00	7,800.00	-4,483.90	0.00	0.00	0.00	0.00	387,307.90	665,662.50
7,872.50	0.00	0.00	7,872.50	-4,556.40	0.00	0.00	0.00	0.00	387,307.90	665,662.50
7,875.00	0.30	172.72	7,875.00	-4,558.90	-0.01	0.00	0.01	12.00	387,307.89	665,662.50



Pathfinder
Pathfinder X & Y Planning Report



Company: EOG Resources, Inc.
Project: Eddy County
Site: Ross Draw "8" Fed
Well: #2H
Wellbore: OH
Design: Design #1

Local Co-ordinate Reference: Well #2H
TVD Reference: WELL @ 3316.10usft (Cactus #123)
MD Reference: WELL @ 3316.10usft (Cactus #123)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
7,900.00	3.30	172.72	7,899.98	-4,583.88	-0.79	0.10	0.79	12.00	387,307.11	665,662.60	
7,925.00	6.30	172.72	7,924.89	-4,608.79	-2.86	0.37	2.88	12.00	387,305.04	665,662.87	
7,950.00	9.30	172.72	7,949.66	-4,633.56	-6.22	0.80	6.28	12.00	387,301.68	665,663.30	
7,975.00	12.30	172.72	7,974.21	-4,658.11	-10.87	1.39	10.96	12.00	387,297.03	665,663.89	
8,000.00	15.30	172.72	7,998.49	-4,682.39	-16.78	2.14	16.92	12.00	387,291.12	665,664.64	
8,025.00	18.30	172.72	8,022.42	-4,706.32	-23.95	3.06	24.15	12.00	387,283.95	665,665.56	
8,050.00	21.30	172.72	8,045.94	-4,729.84	-32.35	4.13	32.61	12.00	387,275.55	665,666.63	
8,075.00	24.30	172.72	8,068.98	-4,752.88	-41.96	5.36	42.30	12.00	387,265.94	665,667.86	
8,100.00	27.30	172.72	8,091.49	-4,775.39	-52.75	6.74	53.18	12.00	387,255.15	665,669.24	
8,125.00	30.30	172.72	8,113.40	-4,797.30	-64.69	8.26	65.22	12.00	387,243.21	665,670.76	
8,150.00	33.30	172.72	8,134.64	-4,818.54	-77.76	9.93	78.39	12.00	387,230.14	665,672.43	
8,175.00	36.30	172.72	8,155.17	-4,839.07	-91.91	11.74	92.66	12.00	387,215.99	665,674.24	
8,200.00	39.30	172.72	8,174.92	-4,858.82	-107.11	13.68	107.98	12.00	387,200.79	665,676.18	
8,225.00	42.30	172.72	8,193.84	-4,877.74	-123.31	15.75	124.31	12.00	387,184.59	665,678.25	
8,250.00	45.30	172.72	8,211.89	-4,895.79	-140.47	17.94	141.61	12.00	387,167.43	665,680.44	
8,275.00	48.30	172.72	8,229.00	-4,912.90	-158.54	20.25	159.83	12.00	387,149.36	665,682.75	
8,300.00	51.30	172.72	8,245.14	-4,929.04	-177.48	22.67	178.92	12.00	387,130.42	665,685.17	
8,325.00	54.30	172.72	8,260.25	-4,944.15	-197.23	25.20	198.83	12.00	387,110.67	665,687.70	
8,350.00	57.30	172.72	8,274.30	-4,958.20	-217.74	27.82	219.51	12.00	387,090.16	665,690.32	
8,375.00	60.30	172.72	8,287.25	-4,971.15	-238.94	30.52	240.89	12.00	387,068.96	665,693.02	
8,400.00	63.30	172.72	8,299.07	-4,982.97	-260.80	33.32	262.92	12.00	387,047.10	665,695.82	
8,425.00	66.30	172.72	8,309.71	-4,993.61	-283.23	36.18	285.53	12.00	387,024.67	665,698.68	
8,450.00	69.29	172.72	8,319.16	-5,003.06	-306.19	39.11	308.68	12.00	387,001.71	665,701.61	
8,475.00	72.29	172.72	8,327.38	-5,011.28	-329.60	42.11	332.28	12.00	386,978.30	665,704.61	
8,500.00	75.29	172.72	8,334.36	-5,018.26	-353.41	45.15	356.29	12.00	386,954.49	665,707.65	
8,525.00	78.29	172.72	8,340.07	-5,023.97	-377.55	48.23	380.62	12.00	386,930.35	665,710.73	
8,550.00	81.29	172.72	8,344.50	-5,028.40	-401.96	51.35	405.22	12.00	386,905.94	665,713.85	



Pathfinder
Pathfinder X & Y Planning Report

PATHFINDER
A Schlumberger Company

Company: EOG Resources, Inc.
Project: Eddy County
Site: Ross Draw "8" Fed
Well: #2H
Wellbore: OH
Design: Design #1

Local Co-ordinate Reference: Well #2H
TVD Reference: WELL @ 3316.10usft (Cactus #123)
MD Reference: WELL @ 3316.10usft (Cactus #123)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V.Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
8,575.00	84.29	172.72	8,347.63	-5,031.53	-426.56	54.49	430.02	12.00	386,881.34	665,716.99
8,600.00	87.29	172.72	8,349.47	-5,033.37	-451.29	57.65	454.95	12.00	386,856.61	665,720.15
8,622.56	90.00	172.72	8,350.00	-5,033.90	-473.65	60.51	477.50	12.00	386,834.25	665,723.01
8,700.00	90.00	172.72	8,350.00	-5,033.90	-550.47	70.32	554.94	0.00	386,757.43	665,732.82
8,800.00	90.00	172.72	8,350.00	-5,033.90	-649.67	82.99	654.94	0.00	386,658.23	665,745.49
8,900.00	90.00	172.72	8,350.00	-5,033.90	-748.86	95.67	754.94	0.00	386,559.04	665,758.17
9,000.00	90.00	172.72	8,350.00	-5,033.90	-848.05	108.34	854.94	0.00	386,459.85	665,770.84
9,100.00	90.00	172.72	8,350.00	-5,033.90	-947.25	121.01	954.94	0.00	386,360.65	665,783.51
9,200.00	90.00	172.72	8,350.00	-5,033.90	-1,046.44	133.68	1,054.94	0.00	386,261.46	665,796.18
9,300.00	90.00	172.72	8,350.00	-5,033.90	-1,145.63	146.35	1,154.94	0.00	386,162.27	665,808.85
9,400.00	90.00	172.72	8,350.00	-5,033.90	-1,244.83	159.02	1,254.94	0.00	386,063.07	665,821.52
9,500.00	90.00	172.72	8,350.00	-5,033.90	-1,344.02	171.70	1,354.94	0.00	385,963.88	665,834.20
9,600.00	90.00	172.72	8,350.00	-5,033.90	-1,443.22	184.37	1,454.94	0.00	385,864.68	665,846.87
9,700.00	90.00	172.72	8,350.00	-5,033.90	-1,542.41	197.04	1,554.94	0.00	385,765.49	665,859.54
9,800.00	90.00	172.72	8,350.00	-5,033.90	-1,641.60	209.71	1,654.94	0.00	385,666.30	665,872.21
9,900.00	90.00	172.72	8,350.00	-5,033.90	-1,740.80	222.38	1,754.94	0.00	385,567.10	665,884.88
10,000.00	90.00	172.72	8,350.00	-5,033.90	-1,839.99	235.06	1,854.94	0.00	385,467.91	665,897.56
10,100.00	90.00	172.72	8,350.00	-5,033.90	-1,939.19	247.73	1,954.94	0.00	385,368.71	665,910.23
10,200.00	90.00	172.72	8,350.00	-5,033.90	-2,038.38	260.40	2,054.94	0.00	385,269.52	665,922.90
10,300.00	90.00	172.72	8,350.00	-5,033.90	-2,137.57	273.07	2,154.94	0.00	385,170.33	665,935.57
10,400.00	90.00	172.72	8,350.00	-5,033.90	-2,236.77	285.74	2,254.94	0.00	385,071.13	665,948.24
10,500.00	90.00	172.72	8,350.00	-5,033.90	-2,335.96	298.41	2,354.94	0.00	384,971.94	665,960.91
10,600.00	90.00	172.72	8,350.00	-5,033.90	-2,435.15	311.09	2,454.94	0.00	384,872.75	665,973.59
10,700.00	90.00	172.72	8,350.00	-5,033.90	-2,534.35	323.76	2,554.94	0.00	384,773.55	665,986.26
10,800.00	90.00	172.72	8,350.00	-5,033.90	-2,633.54	336.43	2,654.94	0.00	384,674.36	665,998.93
10,900.00	90.00	172.72	8,350.00	-5,033.90	-2,732.74	349.10	2,754.94	0.00	384,575.16	666,011.60
11,000.00	90.00	172.72	8,350.00	-5,033.90	-2,831.93	361.77	2,854.94	0.00	384,475.97	666,024.27



Pathfinder
Pathfinder X & Y Planning Report

PATHFINDER
A Schlumberger Company

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	WELL @ 3316.10usft (Cactus #123)
Site:	Ross Draw "8" Fed	MD Reference:	WELL @ 3316.10usft (Cactus #123)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM 5000.1 Single User Db

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V-Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
11,100.00	90.00	172.72	8,350.00	-5,033.90	-2,931.12	374.45	2,954.94	0.00	384,376.78	666,036.95
11,200.00	90.00	172.72	8,350.00	-5,033.90	-3,030.32	387.12	3,054.94	0.00	384,277.58	666,049.62
11,300.00	90.00	172.72	8,350.00	-5,033.90	-3,129.51	399.79	3,154.94	0.00	384,178.39	666,062.29
11,400.00	90.00	172.72	8,350.00	-5,033.90	-3,228.71	412.46	3,254.94	0.00	384,079.19	666,074.96
11,500.00	90.00	172.72	8,350.00	-5,033.90	-3,327.90	425.13	3,354.94	0.00	383,980.00	666,087.63
11,600.00	90.00	172.72	8,350.00	-5,033.90	-3,427.09	437.80	3,454.94	0.00	383,880.81	666,100.30
11,700.00	90.00	172.72	8,350.00	-5,033.90	-3,526.29	450.48	3,554.94	0.00	383,781.61	666,112.98
11,800.00	90.00	172.72	8,350.00	-5,033.90	-3,625.48	463.15	3,654.94	0.00	383,682.42	666,125.65
11,900.00	90.00	172.72	8,350.00	-5,033.90	-3,724.68	475.82	3,754.94	0.00	383,583.22	666,138.32
12,000.00	90.00	172.72	8,350.00	-5,033.90	-3,823.87	488.49	3,854.94	0.00	383,484.03	666,150.99
12,100.00	90.00	172.72	8,350.00	-5,033.90	-3,923.06	501.16	3,954.94	0.00	383,384.84	666,163.66
12,200.00	90.00	172.72	8,350.00	-5,033.90	-4,022.26	513.84	4,054.94	0.00	383,285.64	666,176.34
12,300.00	90.00	172.72	8,350.00	-5,033.90	-4,121.45	526.51	4,154.94	0.00	383,186.45	666,189.01
12,400.00	90.00	172.72	8,350.00	-5,033.90	-4,220.64	539.18	4,254.94	0.00	383,087.26	666,201.68
12,500.00	90.00	172.72	8,350.00	-5,033.90	-4,319.84	551.85	4,354.94	0.00	382,988.06	666,214.35
12,600.00	90.00	172.72	8,350.00	-5,033.90	-4,419.03	564.52	4,454.94	0.00	382,888.87	666,227.02
12,700.00	90.00	172.72	8,350.00	-5,033.90	-4,518.23	577.20	4,554.94	0.00	382,789.67	666,239.70
12,800.00	90.00	172.72	8,350.00	-5,033.90	-4,617.42	589.87	4,654.94	0.00	382,690.48	666,252.37
12,845.74	90.00	172.72	8,350.00	-5,033.90	-4,662.79	595.66	4,700.69	0.00	382,645.11	666,258.16

Checked By: _____	Approved By: _____	Date: _____
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Project: Eddy County
Site: Ross Draw "8" F,
Well: #2H
Wellbore: OH
Plan: Design #1 (#2H/OH)

PROJECT DETAILS: Eddy County
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid



Azimuths to Grid North
True North: -0.28°
Magnetic North: 7.42°

Magnetic Field
Strength: 48558.3nT
Dip Angle: 60.03°
Date: 03/08/2011
Model: IGRF200510

PATHFINDER
A Schlumberger Company

WELL DETAILS: #2H

Ground Elevation:: 3286.10
RKB Elevation: WELL @ 3316.10usft (Cactus #123)
Rig Name: Cactus #123

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	387307.900	665662.500	32° 3' 49.307 N	103° 47' 54.825 W	

SECTION DETAILS

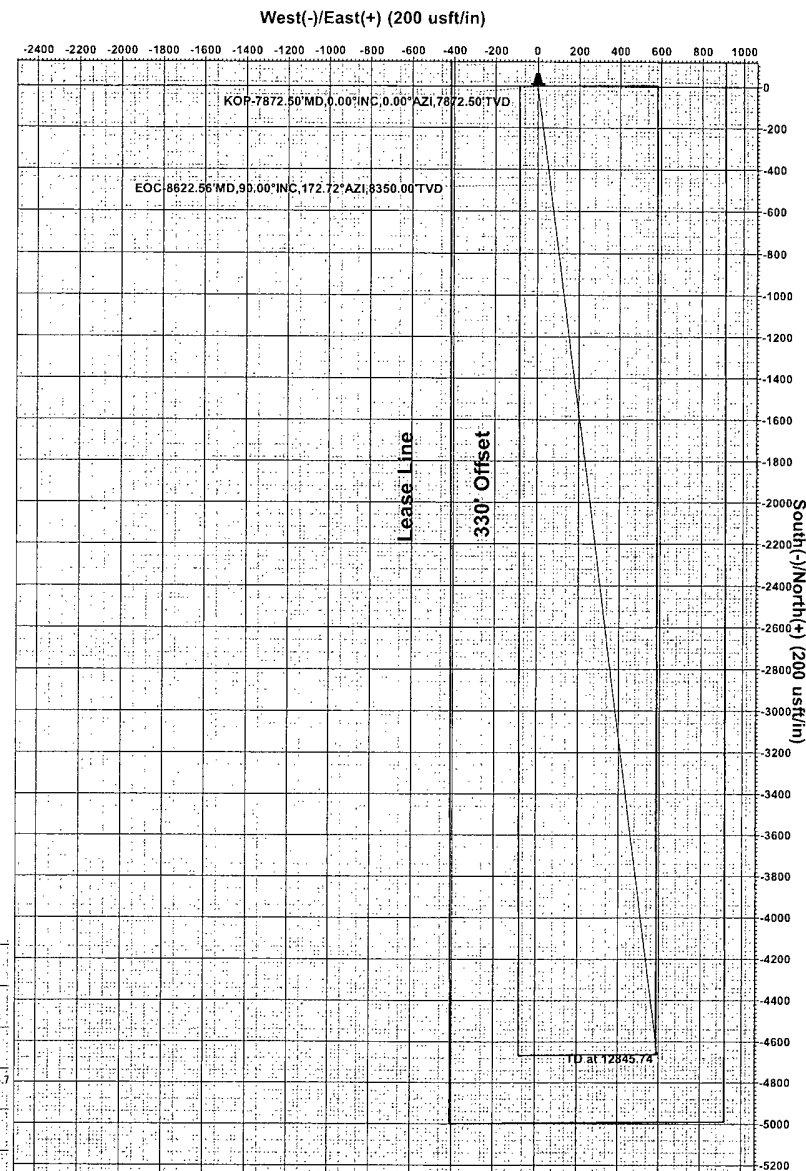
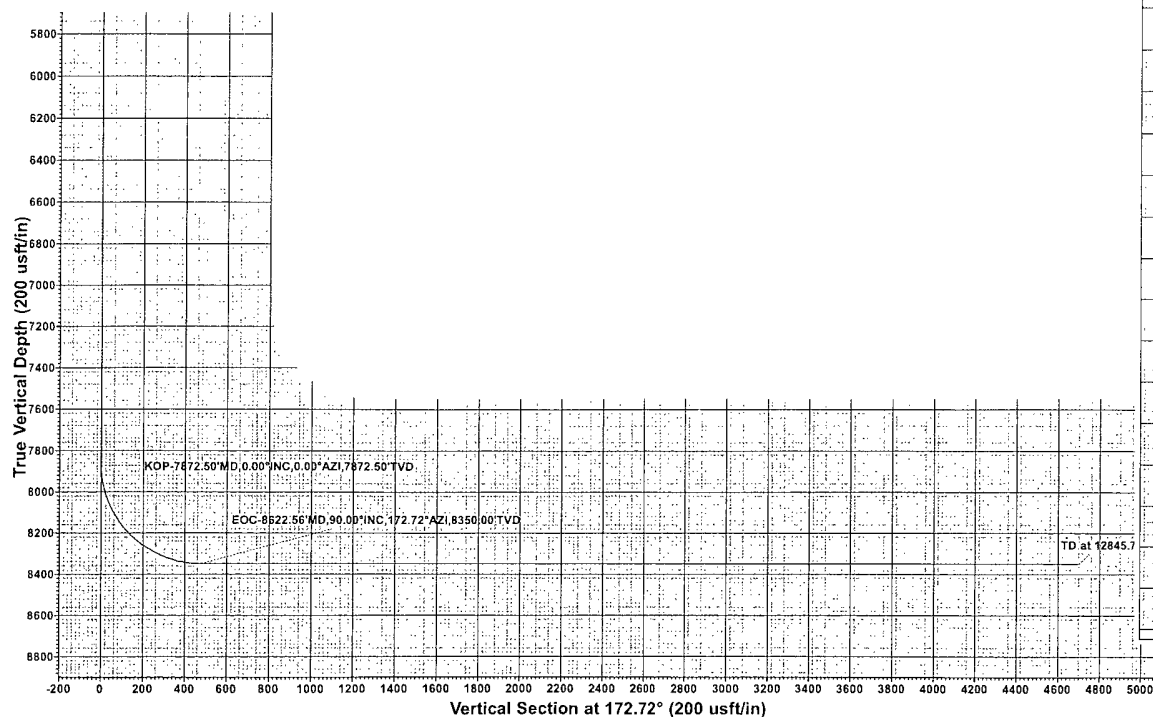
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7872.50	0.00	0.00	7872.50	0.00	0.00	0.00	0.00	0.00	
8622.56	90.00	172.72	8350.00	-473.65	60.51	12.00	172.72	477.50	
12845.74	90.00	172.72	8350.00	-4662.79	595.66	0.00	0.00	4700.69	PBHL(Ross Draw 8 #2H)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL(Ross Draw 8 #2H)	8350.00	-4662.80	595.60	382645.100	666258.100	Point

LEGEND

• Design #1



Plan: Design #1 (#2H/OH)

Created By: Nate Bingham Date: 9-41, March 08 2011

Checked: _____ Date: _____

EOG RESOURCES, INC.
ROSS DRAW 8 FED 2H

ATTACHMENT TO EXHIBIT #1

1. Wear ring to be properly installed in head.
2. Blow out preventer and all fittings must be in good condition, 5000 psi W.P. minimum. Exhibit #1.
3. All fittings to be flanged
4. Safety valve must be available on rig floor at all times with proper connections, valve to be full bore 5000 psi W.P. minimum.
5. All choke and fill lines to be securely anchored especially ends of choke lines.
6. Equipment through which bit must pass shall be at least as large as the diameter of the casing being drilled through.
7. Kelly cock on kelly.
8. Extension wrenches and hand wheels to be properly installed.
9. Blow out preventer control to be located as close to driller's position as feasible.
10. Blow out preventer closing equipment to include minimum 40-gallon accumulator, two independent sources of pump power on each closing unit installation, and meet all API specifications.

EXHIBIT 1

EOG Resources
5000 PSI BOPE

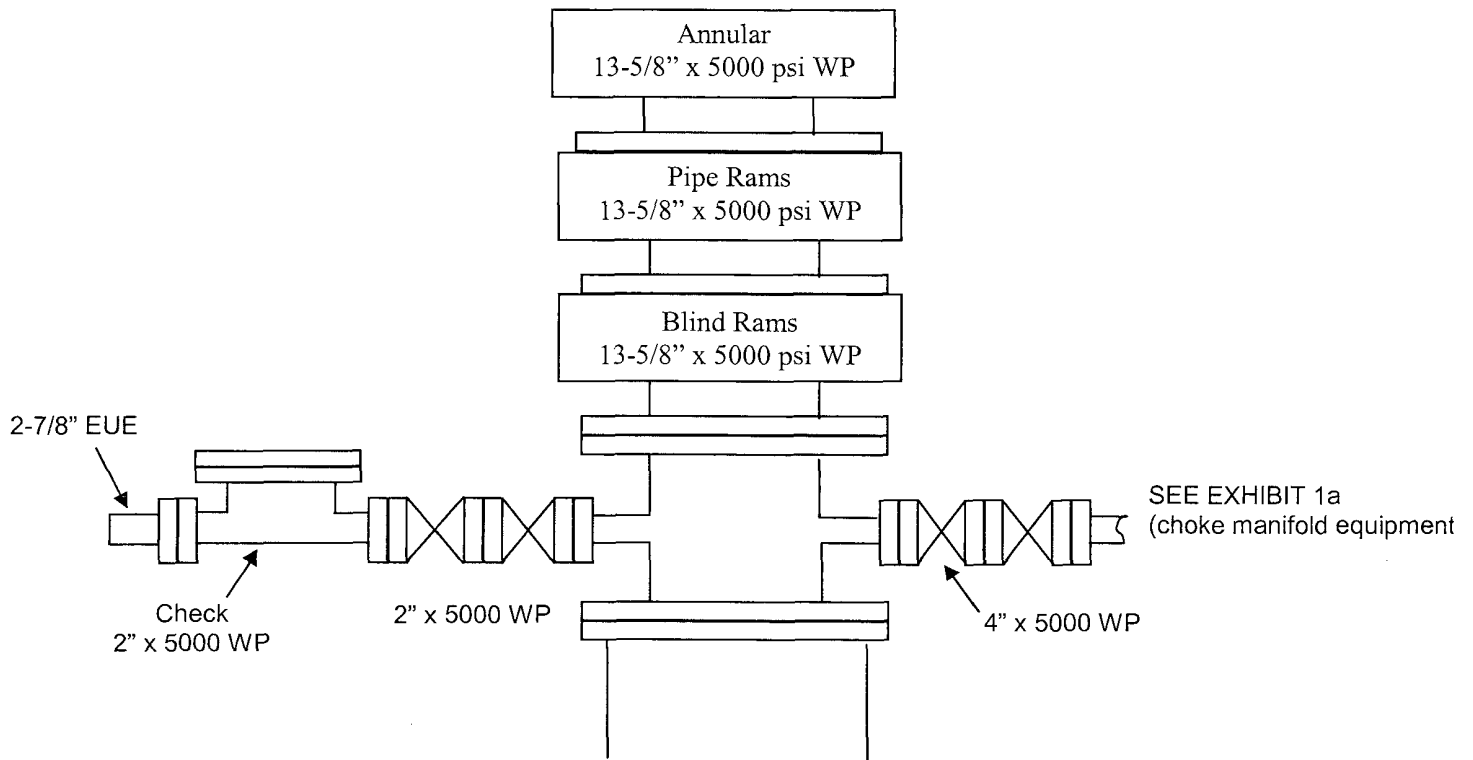
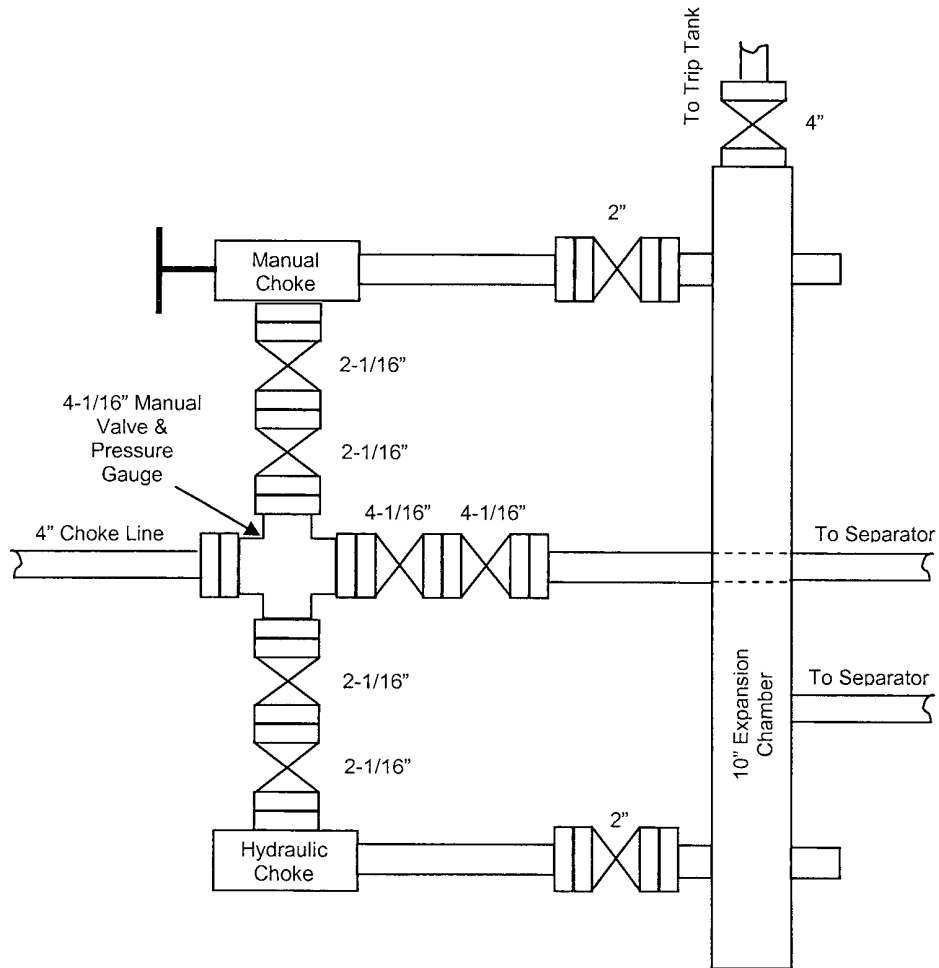
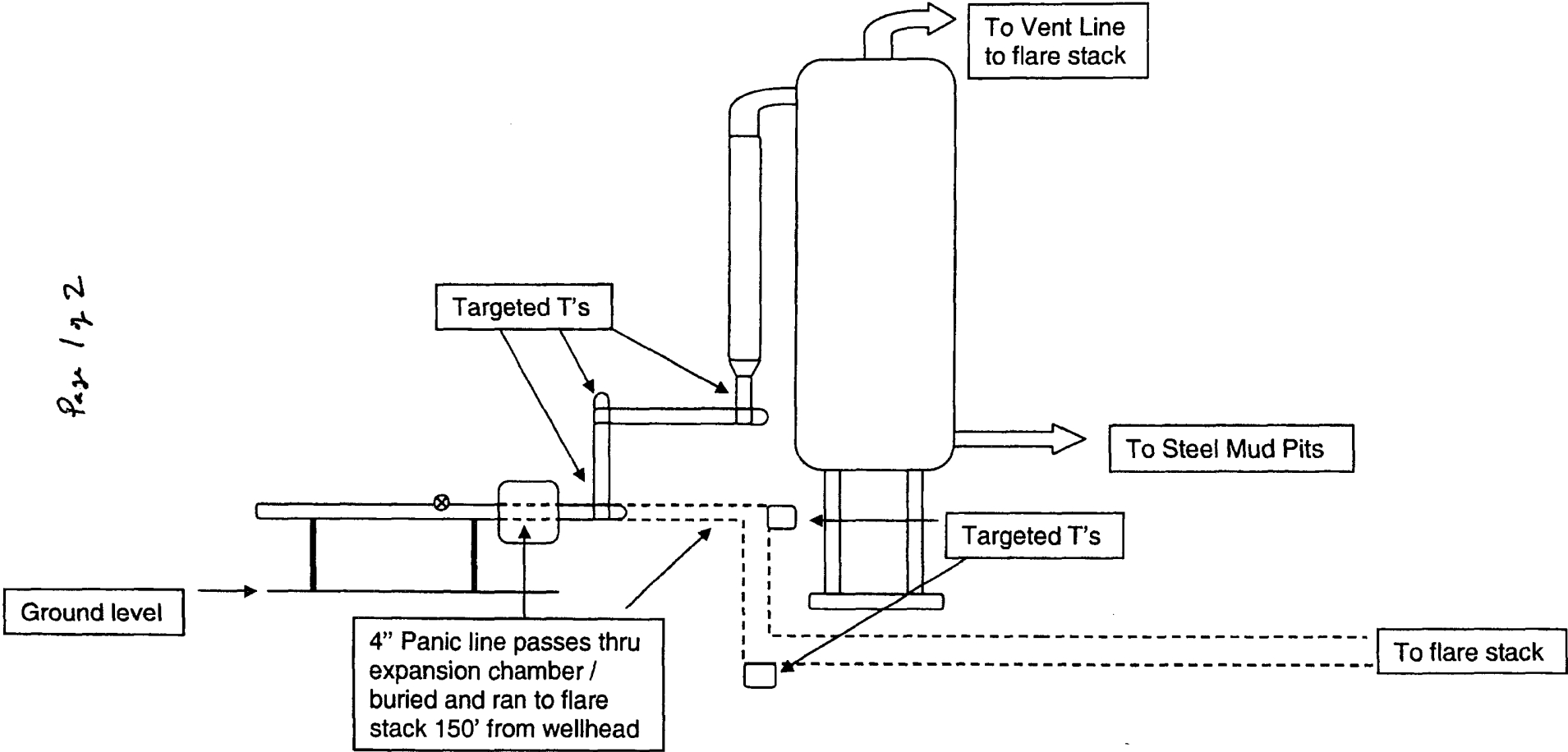


EXHIBIT 1a
EOG Resources, Inc.
5M Choke Manifold Equipment



Profile View of Piping from Choke Manifold
to the Mud Gas Separator



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Page 2 of 2

Aerial View of the Piping from the Choke
Manifold to the Mud Gas Separator

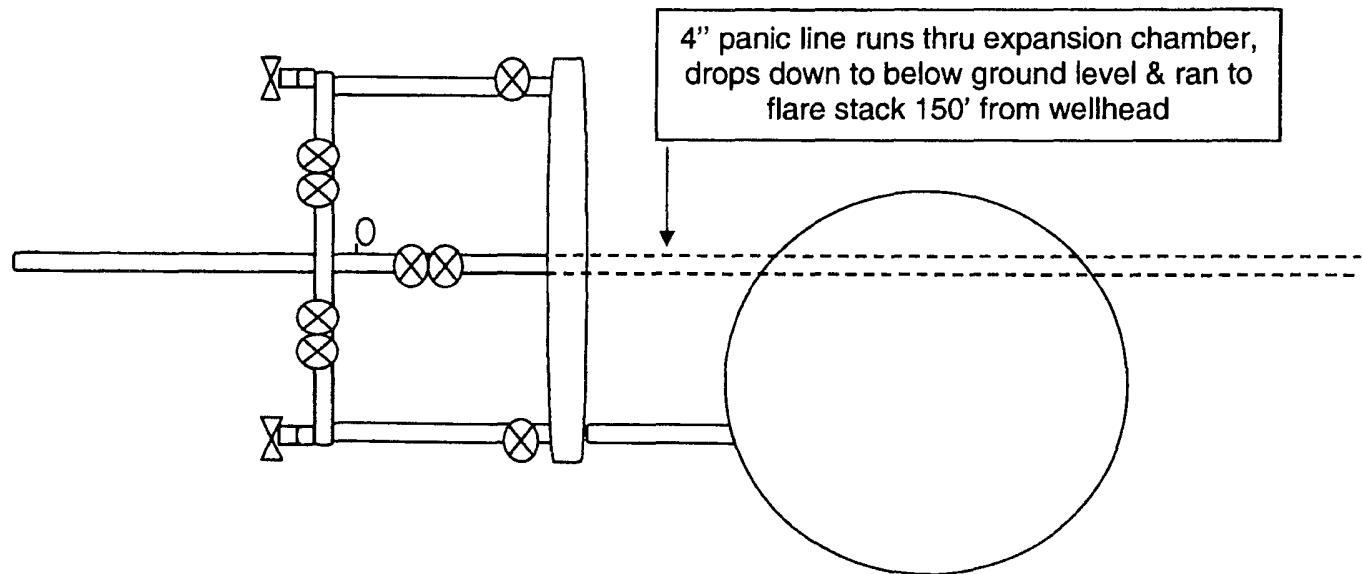
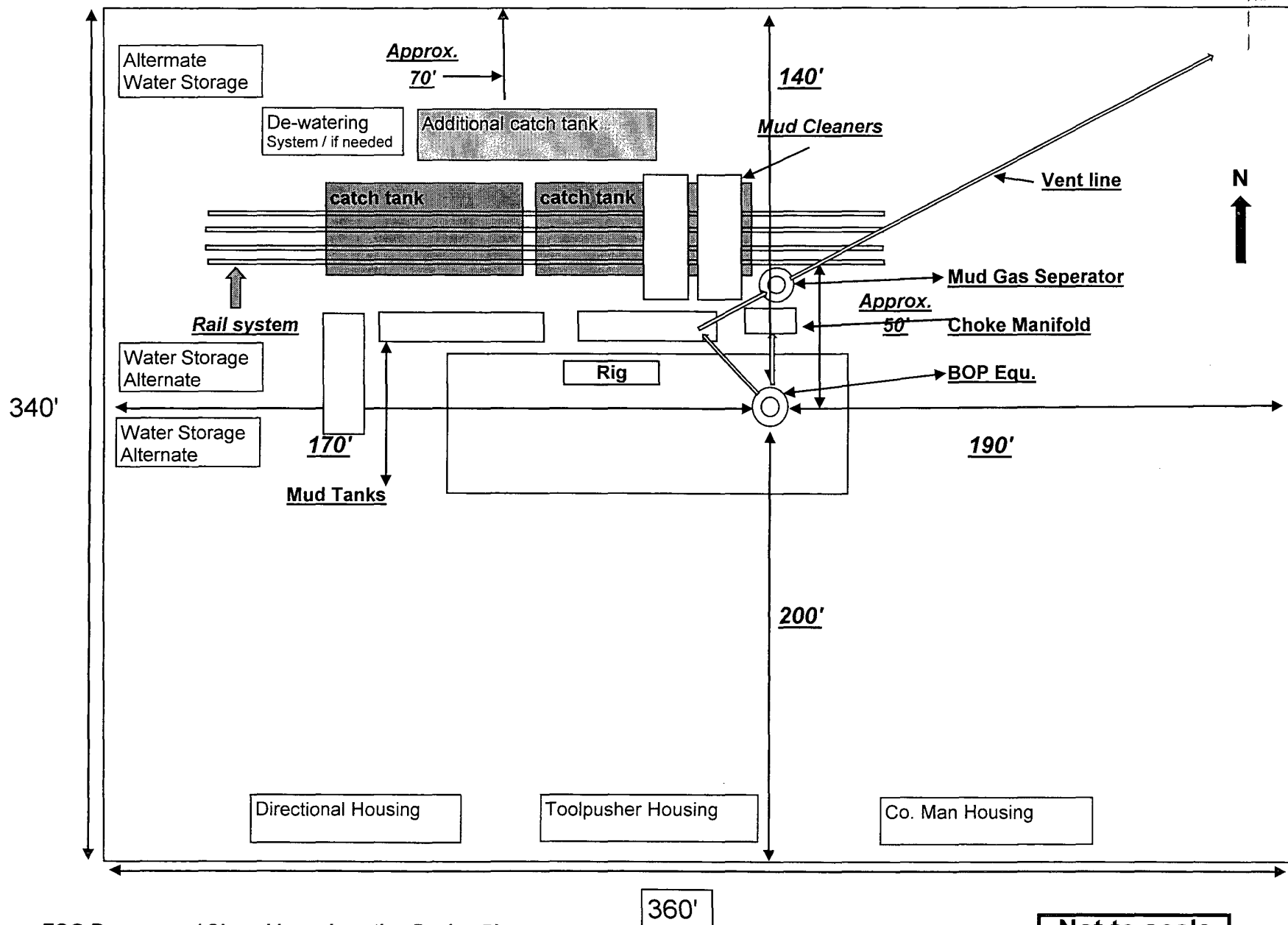


EXHIBIT 4
Ross Draw 8 Federal 2H



EOG Resources / Closed Loop Location Design Plan

McVay Rig

6/30/2008

Not to scale