

JUN 15 2011

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a Type of Work ☒ DRILL ☐ REENTER		6. If Indian, Allottee or Tribe Name	
1b Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone		7. Unit or CA Agreement Name and No.	
2. Name of Operator EOG Resources Inc.		8. Lease Name and Well No Lusk 23 Federal 3H	
3a. Address P.O. Box 2267 Midland, Texas 79702		9. API Well No. 30-025- 40166	
3b. Phone No. (include area code) 432-686-3689		10. Field and Pool, or Exploratory Lusk, Bone Spring, East	
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface 1980' FNL & 330' FWL, U/L E At proposed prod. zone 1980' FNL & 330' FEL, U/L H		11. Sec., T., R., M., or Blk. and Survey or Acreage Sec 23, T19S, R32E	
14 Distance in miles and direction from nearest town or post office* Approximately +/- 16 miles South from Maljamar, NM		12. County or Parish Lea	13. State NM
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 2320	17. Spacing Unit dedicated to this well 160	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 2970' to Lusk Fed 2	19. Proposed Depth Riot Hole 9800' 9572 TVD - 13914 MD	20. BLM/BIA Bond No. on file NM 2308	
21 Elevations (Show whether DF, KDB, RT, GL, etc.) 3609' GL	22. Approximate date work will start* 8/1/11	23. Estimated duration 25 days	

24. Attachments

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

- | | |
|--|---|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the BLM |

25. Signature	Name (Printed/Typed)	Date
	Stan Wagner	4/15/2011
Title		
Regulatory Analyst		
Approved by (Signautre)	Name (Printed/Typed)	Date
/s/ James Stovall		JUN 14 2011
Title	Office	
FIELD MANAGER	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)

Capitan Controlled Water Basin

Kg 06/21/11

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

**Approval Subject to General Requirements
& Special Stipulations Attached**

JUN 22 2011

EOG RESOURCES, INC.
LUSK 23 FEDERAL NO. 3H

HOBBS OCD

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1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	920'
Top of Salt	1,020'
Base of Salt	2,600'
Yates	2,815'
Queen	4,085'
Cherry Canyon	4,910'
Brushy Canyon	6,020'
Bone Spring 1 Carb	7,540'
Bone Spring Sand 1	8,690'
Bone Spring 2 Carb	9,010'
Bone Spring 2 Sand	9,365'
Bone Spring 2 F Sand	9,660'
TD	9,000'

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

Upper Permian Sands	0- 400'	Fresh Water
Brushy Canyon	6,020'	Oil
Bone Spring 2 F Sand	9,660'	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 11.75" casing at 980' and circulating cement back to surface.

See COA

4. CASING PROGRAM - NEW

See COA

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
14.75"	0 - 980'	11.750"	42#	H40	STC	1.125	1.25	1.60
11.00"	0 - 4000'	8.625"	32#	J55	LTC	1.125	1.25	1.60
11.00"	4000'-4800'	8.625"	32#	HCK55	LTC	1.125	1.25	1.60
7.875"	0'-13,914'	5.5"	17#	P110 or HCP110	LTC	1.125	1.25	1.60

EOG RESOURCES, INC.
LUSK 23 FEDERAL NO. 3H

Cementing Program:

See COA

Depth	No. Sacks	Wt. lb/gal	Yld Ft ³ /ft	Slurry Description
950'	200	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)
	250	14.8	1.34	Tail: Class C + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate
4,800'	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'-8700'	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
13,914'	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 @ 4300')
	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
	900	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

9800' Per Diagram

See COA

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.
LUSK 23 FEDERAL NO. 3H

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.

See
COA

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 - 950'	Fresh Water Gel	8.6-8.8	28-34	N/c
950' - 4,800'	Saturated Brine	10.0-10.2	28-34	N/c
4,800' - 9,800'	Fresh Water	8.4-8.6	28-34	N/c
9,022' - 13,914'	Cut Brine Water	8.6-9.3	28-34	N/c
Lateral				

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

GR-CCL logs may be run in cased hole for depth control.

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LUSK 23 FEDERAL NO. 3H

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

The estimated bottom-hole temperature (BHT) at TD is 156 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 4145 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.

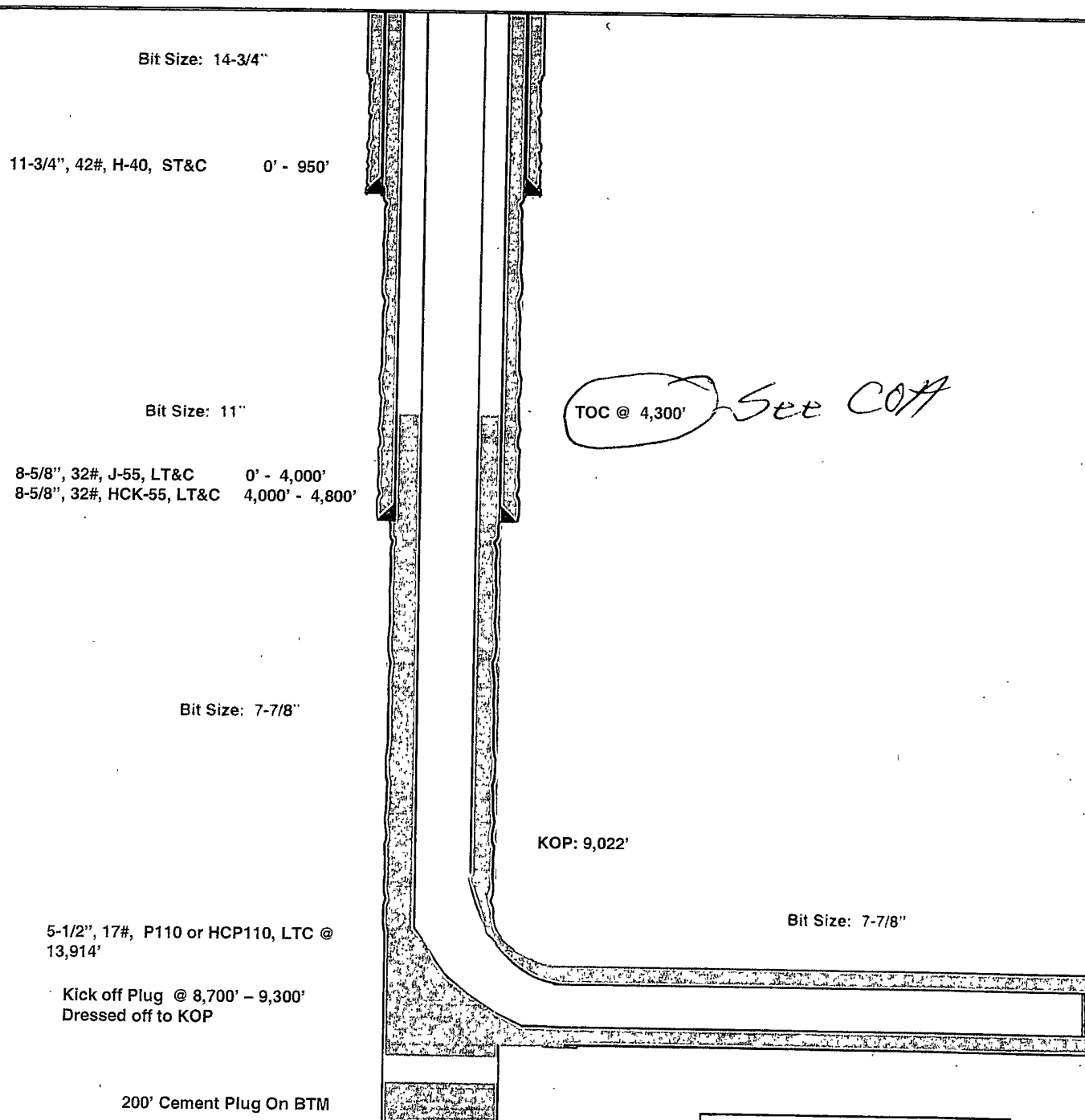
Lusk 23 Federal #3H
Lea County, New Mexico

1980' FNL
330' FWL
Section 23
T-19-S, R-32-E

Proposed Wellbore

API: 30-025-*****

KB: 3,639.1'
GL: 3,609.1'



Pilot Hole
TD: 9,800'

Lateral:
13,914' MD, 9,572' TVD
BH Location: 1980' FNL & 330' FEL
Section 23
T-19-S, R-32-E



EOG Resources, Inc.

Lea County
Lusk 23 Federal
#3H
OH

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Plan: Design #1

Pathfinder X & Y Planning Report

07 April, 2011

PATHFINDER

A Schlumberger Company

Company:	EOG Resources, Inc	Local Co-ordinate Reference:	Well #3H
Project:	Lea County	TVD Reference:	RKB-30' @ 3639.10usft (Cactus #123)
Site:	Lusk 23 Federal	MD Reference:	RKB-30' @ 3639.10usft (Cactus #123)
Well:	#3H	North Reference:	Grid
Wellbore:	OH	Survey/Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM 5000.1 Single User Db

Project:	Lea 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:	Lusk 23 Federal		
Site Position:		Northing:	599,803.000 usft
From:	Map	Easting:	681,437.400 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 38' 51.275 N
		Longitude:	103° 44' 37.915 W
		Grid Convergence:	0 32 "

Well:	#3H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty		0.00 usft	Wellhead Elevation:
			usft
			Latitude:
			32° 38' 51.275 N
			Longitude:
			103° 44' 37.915 W
			Ground Level:
			3,609.10 usft

Wellbore:	OH		
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Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF200510	04/07/11	7.71	60.58	48,905

Design:	Design #1		
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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	89.92

Survey Tool Program:	Date 04/07/11		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
0.00	13,914.13	Design #1 (OH)	MWD
			Description
			MWD - Standard

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Well:	#3H	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)	
0.00	0.00	0.00	0.00	3,639.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
100.00	0.00	0.00	100.00	3,539.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
200.00	0.00	0.00	200.00	3,439.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
300.00	0.00	0.00	300.00	3,339.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
400.00	0.00	0.00	400.00	3,239.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
500.00	0.00	0.00	500.00	3,139.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
600.00	0.00	0.00	600.00	3,039.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
700.00	0.00	0.00	700.00	2,939.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
800.00	0.00	0.00	800.00	2,839.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
900.00	0.00	0.00	900.00	2,739.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
1,000.00	0.00	0.00	1,000.00	2,639.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
1,100.00	0.00	0.00	1,100.00	2,539.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
1,200.00	0.00	0.00	1,200.00	2,439.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
1,300.00	0.00	0.00	1,300.00	2,339.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
1,400.00	0.00	0.00	1,400.00	2,239.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
1,500.00	0.00	0.00	1,500.00	2,139.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
1,600.00	0.00	0.00	1,600.00	2,039.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
1,700.00	0.00	0.00	1,700.00	1,939.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
1,800.00	0.00	0.00	1,800.00	1,839.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
1,900.00	0.00	0.00	1,900.00	1,739.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
2,000.00	0.00	0.00	2,000.00	1,639.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
2,100.00	0.00	0.00	2,100.00	1,539.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
2,200.00	0.00	0.00	2,200.00	1,439.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
2,300.00	0.00	0.00	2,300.00	1,339.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
2,400.00	0.00	0.00	2,400.00	1,239.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
2,500.00	0.00	0.00	2,500.00	1,139.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
2,600.00	0.00	0.00	2,600.00	1,039.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	

Company:	EOG Resources, Inc	Local Co-ordinate Reference:	Well #3H
Project:	Lea County	TVD Reference:	RKB-30' @ 3639.10usft (Cactus #123)
Site:	Lusk 23 Federal	MD Reference:	RKB-30' @ 3639.10usft (Cactus #123)
Well:	#3H	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)	D Leg (°/100usft)	Northing (usft)	Easting (usft)	
2,700.00	0 00	0 00	2,700.00	939.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
2,800.00	0.00	0 00	2,800.00	839.10	0 00	0.00	0.00	0 00	599,803.00	681,437.40	
2,900.00	0.00	0 00	2,900.00	739.10	0 00	0.00	0.00	0.00	599,803.00	681,437.40	
3,000.00	0 00	0.00	3,000.00	639.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
3,100.00	0.00	0.00	3,100.00	539.10	0 00	0.00	0.00	0.00	599,803.00	681,437.40	
3,200.00	0.00	0.00	3,200.00	439.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
3,300.00	0.00	0 00	3,300.00	339.10	0 00	0.00	0.00	0.00	599,803.00	681,437.40	
3,400.00	0.00	0.00	3,400.00	239.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
3,500.00	0.00	0.00	3,500.00	139.10	0 00	0.00	0.00	0.00	599,803.00	681,437.40	
3,600.00	0.00	0 00	3,600.00	39.10	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
3,700.00	0 00	0.00	3,700.00	-60.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
3,800.00	0.00	0 00	3,800.00	-160.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
3,900.00	0.00	0.00	3,900.00	-260.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
4,000.00	0 00	0.00	4,000.00	-360.90	0 00	0.00	0.00	0.00	599,803.00	681,437.40	
4,100.00	0.00	0 00	4,100.00	-460.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
4,200.00	0.00	0.00	4,200.00	-560.90	0 00	0.00	0.00	0.00	599,803.00	681,437.40	
4,300.00	0.00	0 00	4,300.00	-660.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
4,400.00	0.00	0.00	4,400.00	-760.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
4,500.00	0.00	0.00	4,500.00	-860.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
4,600.00	0.00	0 00	4,600.00	-960.90	0 00	0.00	0.00	0.00	599,803.00	681,437.40	
4,700.00	0.00	0.00	4,700.00	-1,060.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
4,800.00	0 00	0.00	4,800.00	-1,160.90	0 00	0.00	0.00	0.00	599,803.00	681,437.40	
4,900.00	0.00	0.00	4,900.00	-1,260.90	0 00	0.00	0.00	0.00	599,803.00	681,437.40	
5,000.00	0 00	0 00	5,000.00	-1,360.90	0 00	0.00	0.00	0.00	599,803.00	681,437.40	
5,100.00	0 00	0 00	5,100.00	-1,460.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
5,200.00	0.00	0.00	5,200.00	-1,560.90	0 00	0.00	0.00	0.00	599,803.00	681,437.40	
5,300.00	0.00	0.00	5,300.00	-1,660.90	0 00	0.00	0.00	0.00	599,803.00	681,437.40	

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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
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5,400.00	0.00	0 00	5,400.00	-1,760.90	0.00	0.00	0.00	0 00	599,803.00	681,437.40	
5,500.00	0 00	0.00	5,500.00	-1,860.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
5,600.00	0.00	0.00	5,600.00	-1,960.90	0.00	0.00	0.00	0 00	599,803.00	681,437.40	
5,700.00	0 00	0.00	5,700.00	-2,060.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
5,800.00	0 00	0.00	5,800.00	-2,160.90	0 00	0 00	0 00	0.00	599,803.00	681,437.40	
5,900.00	0.00	0:00	5,900.00	-2,260.90	0.00	0.00	0.00	0 00	599,803.00	681,437.40	
6,000.00	0.00	0 00	6,000.00	-2,360.90	0.00	0 00	0 00	0.00	599,803.00	681,437.40	
6,100.00	0 00	0.00	6,100.00	-2,460.90	0.00	0.00	0.00	0 00	599,803.00	681,437.40	
6,200.00	0.00	0 00	6,200.00	-2,560.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
6,300.00	0 00	0.00	6,300.00	-2,660.90	0 00	0 00	0.00	0.00	599,803.00	681,437.40	
6,400.00	0.00	0.00	6,400.00	-2,760.90	0 00	0 00	0.00	0 00	599,803.00	681,437.40	
6,500.00	0 00	0.00	6,500.00	-2,860.90	0.00	0 00	0.00	0.00	599,803.00	681,437.40	
6,600.00	0.00	0.00	6,600.00	-2,960.90	0 00	0.00	0.00	0.00	599,803.00	681,437.40	
6,700.00	0.00	0.00	6,700.00	-3,060.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
6,800.00	0.00	0 00	6,800.00	-3,160.90	0 00	0 00	0.00	0 00	599,803.00	681,437.40	
6,900.00	0 00	0.00	6,900.00	-3,260.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
7,000.00	0 00	0.00	7,000.00	-3,360.90	0 00	0 00	0 00	0.00	599,803.00	681,437.40	
7,100.00	0.00	0 00	7,100.00	-3,460.90	0 00	0.00	0.00	0.00	599,803.00	681,437.40	
7,200.00	0.00	0.00	7,200.00	-3,560.90	0 00	0 00	0.00	0.00	599,803.00	681,437.40	
7,300.00	0 00	0.00	7,300.00	-3,660.90	0.00	0.00	0 00	0.00	599,803.00	681,437.40	
7,400.00	0 00	0.00	7,400.00	-3,760.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
7,500.00	0.00	0.00	7,500.00	-3,860.90	0.00	0 00	0.00	0.00	599,803.00	681,437.40	
7,600.00	0 00	0 00	7,600.00	-3,960.90	0 00	0.00	0.00	0.00	599,803.00	681,437.40	
7,700.00	0 00	0.00	7,700.00	-4,060.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
7,800.00	0 00	0 00	7,800.00	-4,160.90	0.00	0 00	0.00	0.00	599,803.00	681,437.40	
7,900.00	0 00	0.00	7,900.00	-4,260.90	0 00	0.00	0 00	0.00	599,803.00	681,437.40	
8,000.00	0 00	0 00	8,000.00	-4,360.90	0 00	0.00	0.00	0.00	599,803.00	681,437.40	

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #3H
Project:	Lea County	TVD Reference:	RKB-30' @ 3639.10usft (Cactus #123)
Site:	Lusk 23 Federal	MD Reference:	RKB-30' @ 3639.10usft (Cactus #123)
Well:	#3H	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)	
8,100.00	0.00	0.00	8,100.00	-4,460.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
8,200.00	0.00	0.00	8,200.00	-4,560.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
8,300.00	0.00	0.00	8,300.00	-4,660.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
8,400.00	0.00	0.00	8,400.00	-4,760.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
8,500.00	0.00	0.00	8,500.00	-4,860.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
8,600.00	0.00	0.00	8,600.00	-4,960.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
8,700.00	0.00	0.00	8,700.00	-5,060.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
8,800.00	0.00	0.00	8,800.00	-5,160.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
8,900.00	0.00	0.00	8,900.00	-5,260.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
9,000.00	0.00	0.00	9,000.00	-5,360.90	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
9,022.50	0.00	0.00	9,022.50	-5,383.40	0.00	0.00	0.00	0.00	599,803.00	681,437.40	
KOP-9022.50°MD,0.00°INC,0.00°AZI,9022.50°TVD											
9,025.00	0.30	89.92	9,025.00	-5,385.90	0.00	0.01	0.01	12.00	599,803.00	681,437.41	
9,050.00	3.30	89.92	9,049.98	-5,410.88	0.00	0.79	0.79	12.00	599,803.00	681,438.19	
9,075.00	6.30	89.92	9,074.89	-5,435.79	0.00	2.88	2.88	12.00	599,803.00	681,440.28	
9,100.00	9.30	89.92	9,099.66	-5,460.56	0.01	6.27	6.27	12.00	599,803.01	681,443.67	
9,125.00	12.30	89.92	9,124.21	-5,485.11	0.02	10.96	10.96	12.00	599,803.02	681,448.36	
9,150.00	15.30	89.92	9,148.49	-5,509.39	0.02	16.92	16.92	12.00	599,803.02	681,454.32	
9,175.00	18.30	89.92	9,172.42	-5,533.32	0.03	24.14	24.14	12.00	599,803.03	681,461.54	
9,200.00	21.30	89.92	9,195.94	-5,556.84	0.05	32.61	32.61	12.00	599,803.05	681,470.01	
9,225.00	24.29	89.92	9,218.99	-5,579.89	0.06	42.29	42.29	12.00	599,803.06	681,479.69	
9,250.00	27.29	89.92	9,241.49	-5,602.39	0.07	53.17	53.17	12.00	599,803.07	681,490.57	
9,275.00	30.29	89.92	9,263.40	-5,624.30	0.09	65.21	65.21	12.00	599,803.09	681,502.61	
9,300.00	33.29	89.92	9,284.65	-5,645.55	0.11	78.38	78.38	12.00	599,803.11	681,515.78	
9,325.00	36.29	89.92	9,305.17	-5,666.07	0.13	92.64	92.64	12.00	599,803.13	681,530.04	
9,350.00	39.29	89.92	9,324.93	-5,685.83	0.15	107.96	107.96	12.00	599,803.15	681,545.36	
9,375.00	42.29	89.92	9,343.85	-5,704.75	0.17	124.29	124.29	12.00	599,803.17	681,561.69	

Company:	EOG Resources, Inc	Local Co-ordinate Reference:	Well #3H
Project:	Lea County	TVD Reference:	RKB-30' @ 3639.10usft (Cactus #123)
Site:	Lusk 23 Federal	MD Reference:	RKB-30' @ 3639.10usft (Cactus #123)
Well:	#3H	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)	
9,400.00	45.29	89.92	9,361.90	-5,722.80	0.20	141.59	141.59	12.00	599,803.20	681,578.99	
9,425.00	48.29	89.92	9,379.01	-5,739.91	0.22	159.81	159.81	12.00	599,803.22	681,597.21	
9,450.00	51.29	89.92	9,395.15	-5,756.05	0.25	178.90	178.90	12.00	599,803.25	681,616.30	
9,475.00	54.29	89.92	9,410.27	-5,771.17	0.28	198.81	198.81	12.00	599,803.28	681,636.21	
9,500.00	57.29	89.92	9,424.32	-5,785.22	0.31	219.48	219.48	12.00	599,803.31	681,656.88	
9,525.00	60.29	89.92	9,437.28	-5,798.18	0.34	240.86	240.86	12.00	599,803.34	681,678.26	
9,550.00	63.29	89.92	9,449.10	-5,810.00	0.37	262.88	262.88	12.00	599,803.37	681,700.28	
9,575.00	66.29	89.92	9,459.75	-5,820.65	0.40	285.50	285.50	12.00	599,803.40	681,722.90	
9,600.00	69.28	89.92	9,469.20	-5,830.10	0.43	308.64	308.64	12.00	599,803.43	681,746.04	
9,625.00	72.28	89.92	9,477.42	-5,838.32	0.46	332.24	332.25	12.00	599,803.46	681,769.64	
9,650.00	75.28	89.92	9,484.40	-5,845.30	0.50	356.25	356.25	12.00	599,803.50	681,793.65	
9,675.00	78.28	89.92	9,490.12	-5,851.02	0.53	380.58	380.58	12.00	599,803.53	681,817.98	
9,700.00	81.28	89.92	9,494.55	-5,855.45	0.57	405.18	405.18	12.00	599,803.57	681,842.58	
9,725.00	84.28	89.92	9,497.70	-5,858.60	0.60	429.98	429.98	12.00	599,803.60	681,867.38	
9,750.00	87.28	89.92	9,499.53	-5,860.43	0.64	454.91	454.91	12.00	599,803.64	681,892.31	
9,764.33	89.00	89.92	9,500.00	-5,860.90	0.66	469.24	469.24	12.00	599,803.66	681,906.64	
EOC-9764.33°MD,89.00°INC,89.92°AZI,9500.00°TVD											
9,800.00	89.00	89.92	9,500.62	-5,861.52	0.70	504.90	504.90	0.00	599,803.70	681,942.30	
9,900.00	89.00	89.92	9,502.37	-5,863.27	0.84	604.88	604.88	0.00	599,803.84	682,042.28	
10,000.00	89.00	89.92	9,504.11	-5,865.01	0.98	704.87	704.87	0.00	599,803.98	682,142.27	
10,100.00	89.00	89.92	9,505.86	-5,866.76	1.12	804.85	804.85	0.00	599,804.12	682,242.25	
10,200.00	89.00	89.92	9,507.60	-5,868.50	1.26	904.84	904.84	0.00	599,804.26	682,342.24	
10,300.00	89.00	89.92	9,509.35	-5,870.25	1.40	1,004.82	1,004.82	0.00	599,804.40	682,442.22	
10,400.00	89.00	89.92	9,511.09	-5,871.99	1.54	1,104.81	1,104.81	0.00	599,804.54	682,542.21	
10,500.00	89.00	89.92	9,512.84	-5,873.74	1.68	1,204.79	1,204.79	0.00	599,804.68	682,642.19	
10,600.00	89.00	89.92	9,514.58	-5,875.48	1.82	1,304.78	1,304.78	0.00	599,804.82	682,742.18	
10,700.00	89.00	89.92	9,516.33	-5,877.23	1.96	1,404.76	1,404.76	0.00	599,804.96	682,842.16	

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #3H
Project:	Lea County	TVD Reference:	RKB-30' @ 3639.10usft (Cactus #123)
Site:	Lusk.23 Federal	MD Reference:	RKB-30' @ 3639.10usft (Cactus #123)
Well:	#3H	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)	D Leg (°/100usft)	Northing (usft)	Easting (usft)	
10,800.00	89.00	89.92	9,518.07	-5,878.97	2.10	1,504.74	1,504.75	0.00	599,805.10	682,942.14	
10,900.00	89.00	89.92	9,519.82	-5,880.72	2.24	1,604.73	1,604.73	0.00	599,805.24	683,042.13	
11,000.00	89.00	89.92	9,521.57	-5,882.47	2.38	1,704.71	1,704.72	0.00	599,805.38	683,142.11	
11,100.00	89.00	89.92	9,523.31	-5,884.21	2.52	1,804.70	1,804.70	0.00	599,805.52	683,242.10	
11,200.00	89.00	89.92	9,525.06	-5,885.96	2.66	1,904.68	1,904.69	0.00	599,805.66	683,342.08	
11,300.00	89.00	89.92	9,526.80	-5,887.70	2.80	2,004.67	2,004.67	0.00	599,805.80	683,442.07	
11,400.00	89.00	89.92	9,528.55	-5,889.45	2.94	2,104.65	2,104.65	0.00	599,805.94	683,542.05	
11,500.00	89.00	89.92	9,530.29	-5,891.19	3.08	2,204.64	2,204.64	0.00	599,806.08	683,642.04	
11,600.00	89.00	89.92	9,532.04	-5,892.94	3.22	2,304.62	2,304.62	0.00	599,806.22	683,742.02	
11,700.00	89.00	89.92	9,533.78	-5,894.68	3.36	2,404.61	2,404.61	0.00	599,806.36	683,842.01	
11,800.00	89.00	89.92	9,535.53	-5,896.43	3.50	2,504.59	2,504.59	0.00	599,806.50	683,941.99	
11,900.00	89.00	89.92	9,537.27	-5,898.17	3.64	2,604.58	2,604.58	0.00	599,806.64	684,041.98	
12,000.00	89.00	89.92	9,539.02	-5,899.92	3.78	2,704.56	2,704.56	0.00	599,806.78	684,141.96	
12,100.00	89.00	89.92	9,540.76	-5,901.66	3.92	2,804.55	2,804.55	0.00	599,806.92	684,241.95	
12,200.00	89.00	89.92	9,542.51	-5,903.41	4.06	2,904.53	2,904.53	0.00	599,807.06	684,341.93	
12,300.00	89.00	89.92	9,544.25	-5,905.15	4.20	3,004.51	3,004.52	0.00	599,807.20	684,441.91	
12,400.00	89.00	89.92	9,546.00	-5,906.90	4.33	3,104.50	3,104.50	0.00	599,807.33	684,541.90	
12,500.00	89.00	89.92	9,547.74	-5,908.64	4.47	3,204.48	3,204.49	0.00	599,807.47	684,641.88	
12,600.00	89.00	89.92	9,549.49	-5,910.39	4.61	3,304.47	3,304.47	0.00	599,807.61	684,741.87	
12,700.00	89.00	89.92	9,551.23	-5,912.13	4.75	3,404.45	3,404.46	0.00	599,807.75	684,841.85	
12,800.00	89.00	89.92	9,552.98	-5,913.88	4.89	3,504.44	3,504.44	0.00	599,807.89	684,941.84	
12,900.00	89.00	89.92	9,554.72	-5,915.62	5.03	3,604.42	3,604.43	0.00	599,808.03	685,041.82	
13,000.00	89.00	89.92	9,556.47	-5,917.37	5.17	3,704.41	3,704.41	0.00	599,808.17	685,141.81	
13,100.00	89.00	89.92	9,558.22	-5,919.12	5.31	3,804.39	3,804.40	0.00	599,808.31	685,241.79	
13,200.00	89.00	89.92	9,559.96	-5,920.86	5.45	3,904.38	3,904.38	0.00	599,808.45	685,341.78	
13,300.00	89.00	89.92	9,561.71	-5,922.61	5.59	4,004.36	4,004.37	0.00	599,808.59	685,441.76	
13,400.00	89.00	89.92	9,563.45	-5,924.35	5.73	4,104.35	4,104.35	0.00	599,808.73	685,541.75	

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #3H
Project:	Lea County	TVD Reference:	RKB-30' @ 3639.10usft (Cactus #123)
Site:	Lusk 23 Federal	MD Reference:	RKB-30' @ 3639.10usft (Cactus #123)
Well:	#3H	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)	D Leg (°/100usft)	Northing (usft)	Easting (usft)	
13,500.00	89.00	89.92	9,565.20	-5,926.10	5.87	4,204.33	4,204.33	0.00	599,808.87	685,641.73	
13,600.00	89.00	89.92	9,566.94	-5,927.84	6.01	4,304.32	4,304.32	0.00	599,809.01	685,741.72	
13,700.00	89.00	89.92	9,568.69	-5,929.59	6.15	4,404.30	4,404.30	0.00	599,809.15	685,841.70	
13,800.00	89.00	89.92	9,570.43	-5,931.33	6.29	4,504.28	4,504.29	0.00	599,809.29	685,941.68	
13,900.00	89.00	89.92	9,572.18	-5,933.08	6.43	4,604.27	4,604.27	0.00	599,809.43	686,041.67	
13,914.13	89.00	89.92	9,572.42	-5,933.32	6.45	4,618.40	4,618.40	0.00	599,809.45	686,055.80	

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		N/S (usft)	E/W (usft)	
9,022.50	9,022.50	0.00	0.00	KOP-9022.50'MD,0.00°INC,0.00°AZI,9022.50'TVD
9,764.33	9,500.00	0.66	469.24	EOC-9764.33'MD,89.00°INC,89.92°AZI,9500.00'TVD
13,914.13	9,572.42	6.45	4,618.40	TD at 13914.13

Checked By: _____ Approved By: _____ Date: _____

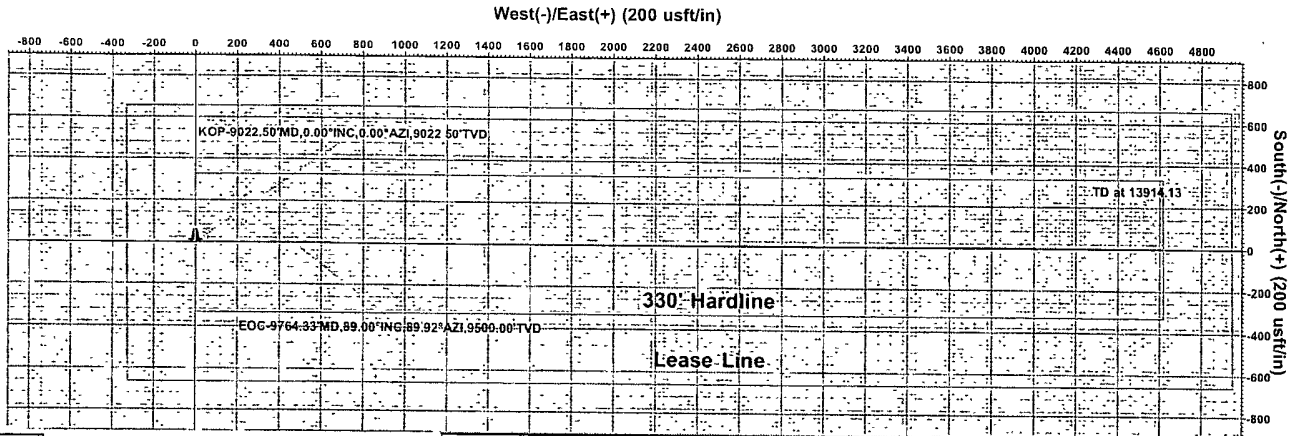


Azimuths to Grid North
True North: -0.32°
Magnetic North: 7.39°

Magnetic Field
Strength: 48905.4snT
Dip Angle: 60.58°
Date: 04/07/2011
Model: IGRF200510

PATHFINDER
A Schlumberger Company

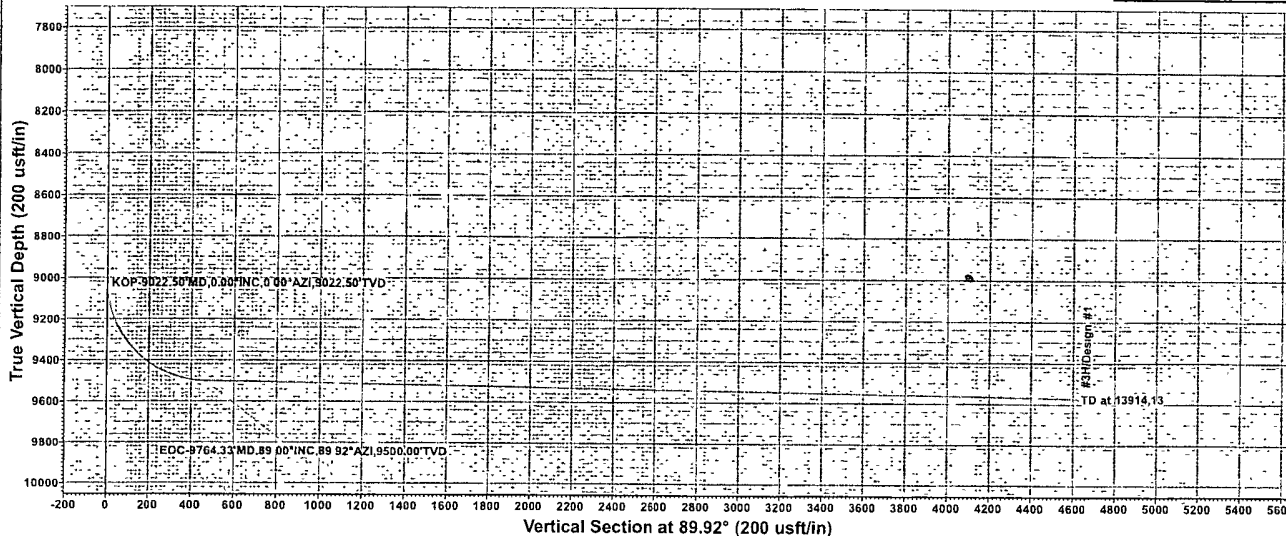
Project: Lea County
Site: Lusk 23 Federal
Well: #3H
Wellbore: OH
Plan: Design #1 (#3H/OH)



SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dip	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29022.50	0.00	0.00	9022.50	0.00	0.00	0.00	0.00	0.00	0.00
39764.33	89.00	89.92	9500.00	0.86	469.24	12.00	89.92	469.24	
43914.13	89.00	89.92	9572.42	6.45	4618.40	0.00	0.00	4618.40	BHL (Lusk23#3H)

WELL DETAILS #3H					
Ground Elevation: 3609.10					
RKB Elevation RKB-30' @ 3639.10usft (Cactus #123)					
Rig Name Cactus #123					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	599803.000	681437.400	32° 38' 51.275 N	103° 44' 37.915 W

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)					
Name	TVD	+N/-S	+E/-W	Northing	Easting
BHL (Lusk23#3H)	9500.00	6.10	4618.40	599809.100	686055.800



LEGEND

• Design #1

PROJECT DETAILS: Lea 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

Plan: Design #1 (#3H/OH)	
Created By Nate Bingham	Date 9.57, April 07 2011
Checked	Date

EOG RESOURCES, INC.
LUSK 23 FEDERAL 3H

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
Lusk 23 Federal #3H

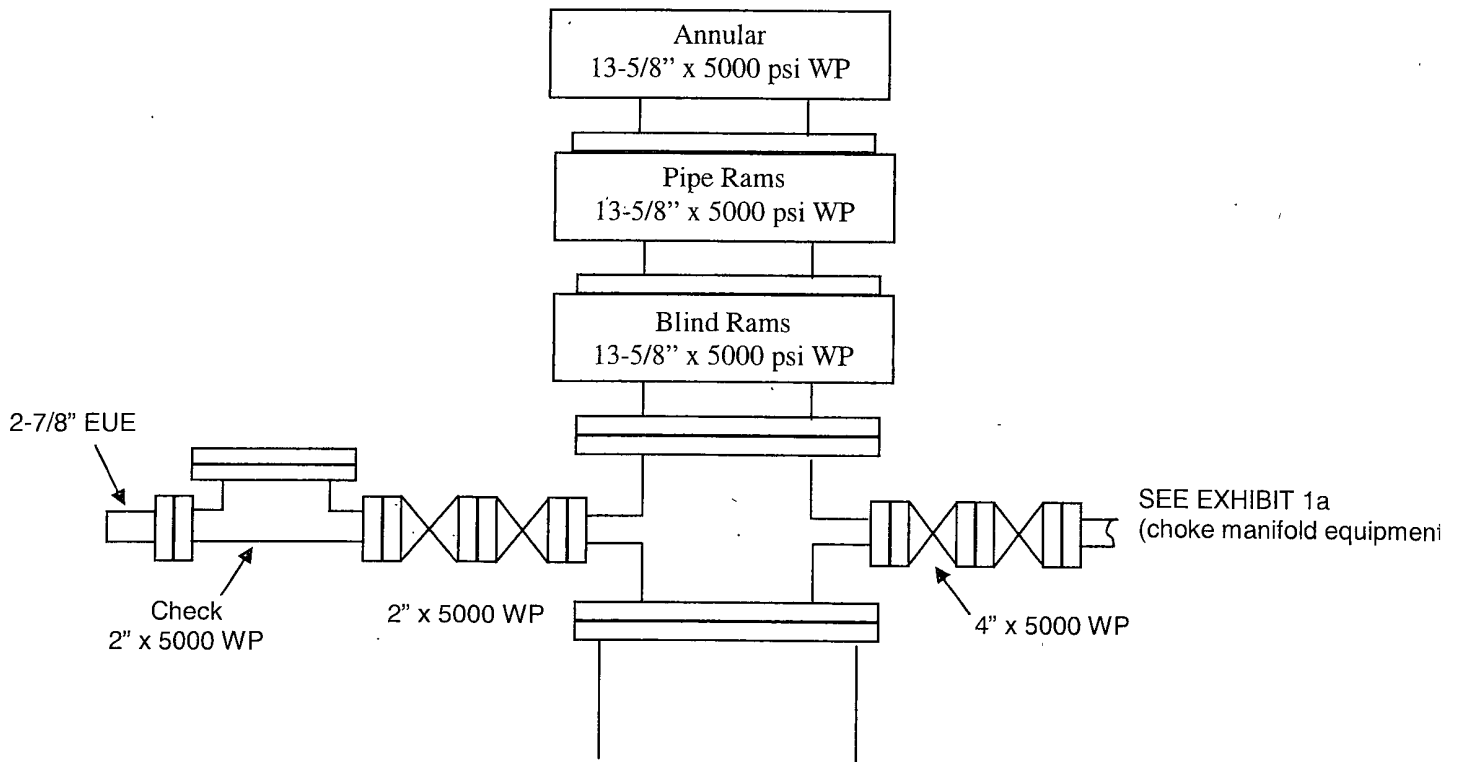
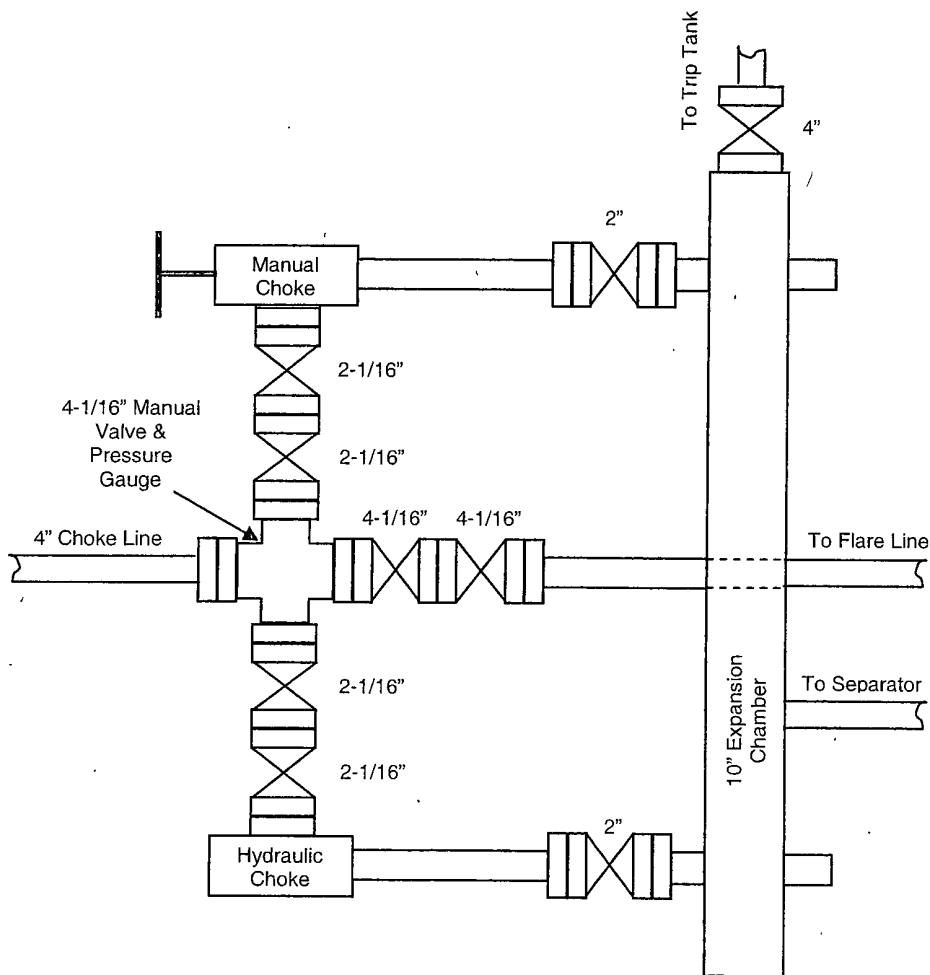
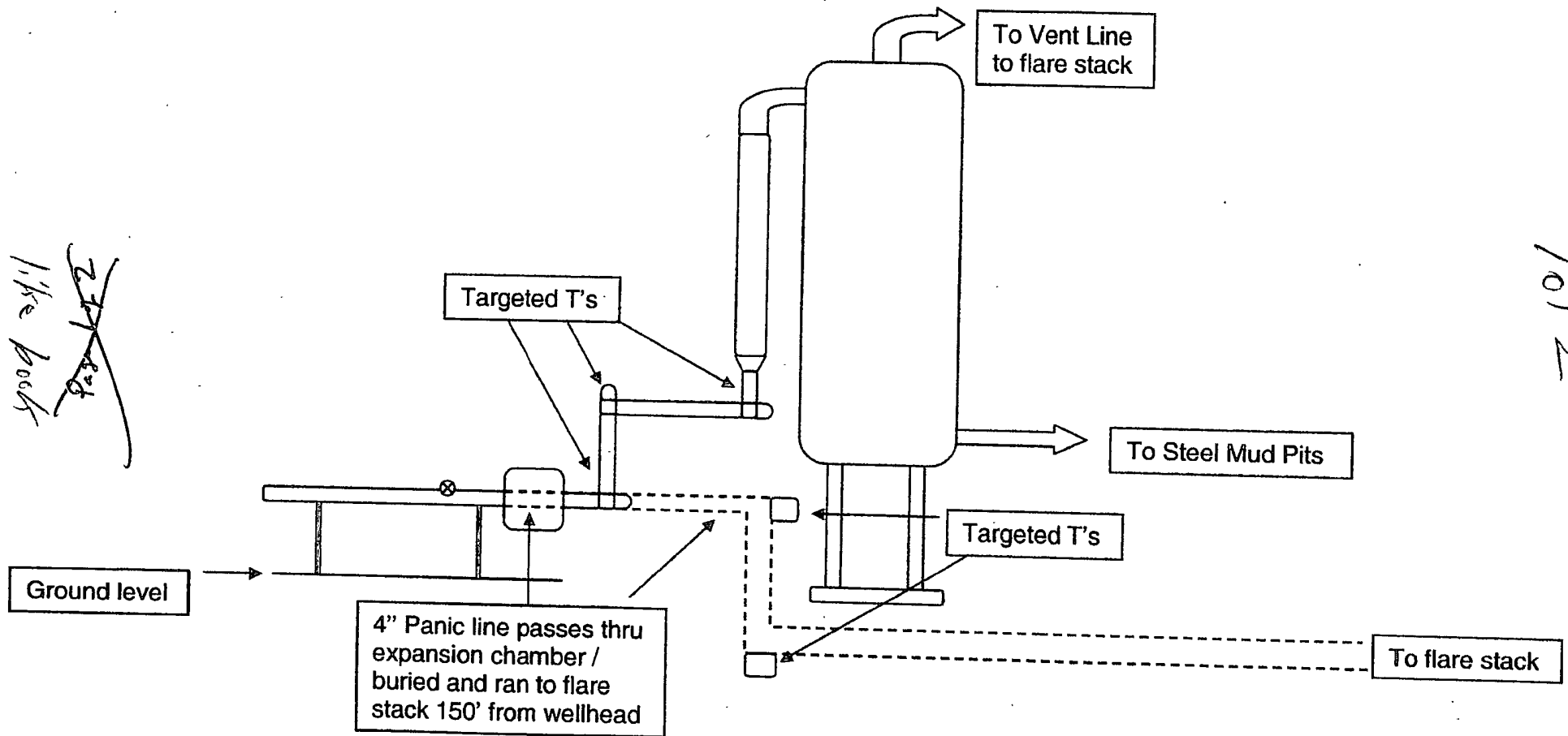


EXHIBIT 1a
EOG Resources, Inc.
5M Choke Manifold Equipment



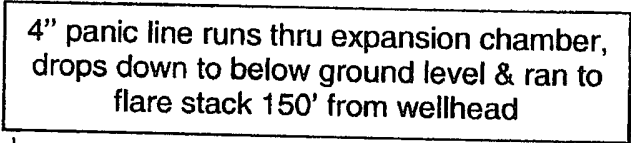
Profile View of Piping from Choke Manifold
to the Mud Gas Separator



~~21/8/88~~
like book

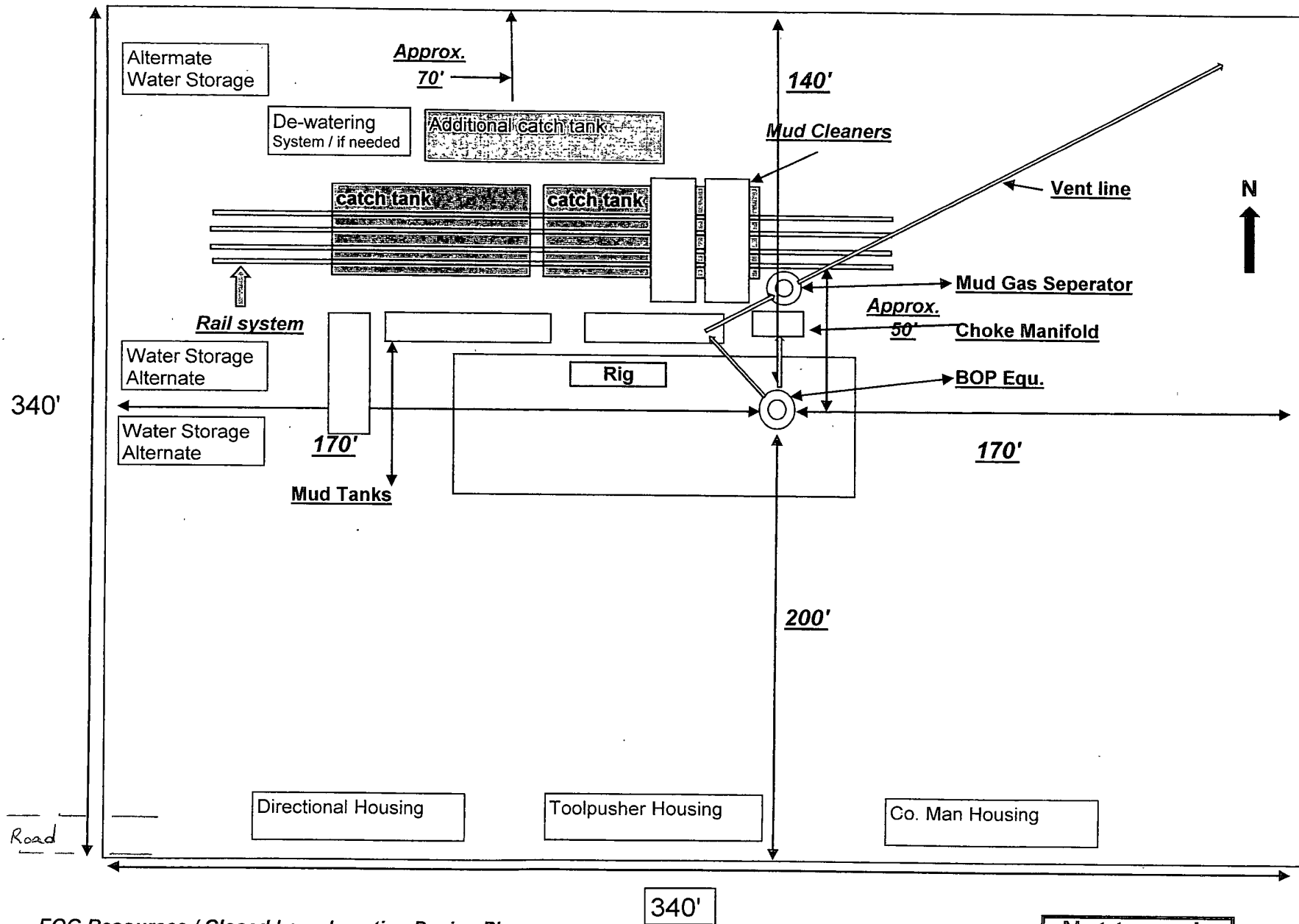
1082

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



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EXHIBIT 4
Lusk 23 Federal 3H



EOG Resources / Closed Loop Location Design Plan

6/30/2008

Not to scale