

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APR 20 2012

45-12-78
FORM APPROVED
OMB NO 1004-0137
Expires July 31, 2010

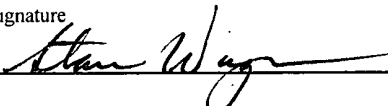
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work ☒ DRILL ☐ REENTER		5. Lease Serial No. NMNL08504 SHL NMNL08503 BHL
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. Vaca 24 Fed Com 5H 39180
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface 50' FSL & 2190' FEL, U/L O Sec 24 At proposed prod. zone 2310' FSL & 2190' FEL, U/L O J Non-Standard Location		9. API Well No. 30-025-40536
14. Distance in miles and direction from nearest town or post office* +/- 28 miles Southwest from Jal, NM		10. Field and Pool, or Exploratory MC Red Hills; Bone Spring UPPER
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) 50'		11. Sec., T., R., M., or Blk. and Survey or Area Sec 24, T25S, R33E 97900
16. No. of Acres in lease 2998		12. County or Parish Lea
17. Spacing Unit dedicated to this well E/2 24, SE/4 13		13. State NM
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. Cross Vaca 13-8H		20 BLM/BIA Bond No. on file NM 2308
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3328' GL		22. Approximate date work will start* 1/1/2012
		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) Stan Wagner	Date 10/18/2011
Title Regulatory Analyst		
Approved by (Signautre) /s/ Don Peterson	Name (Printed/Typed) /s/ Don Peterson	Date APR 17 2012
Title Jr 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.

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 APPROVALAPPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

APR 25 2012

EOG RESOURCES, INC.
VACA 24 FED COM NO. 5H

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	1,090'
Top of Salt	1,460'
Base of Salt	4,950'
Lamar	5,190'
Bell Canyon	5,220'
Cherry Canyon	6,210'
Brushy Canyon	7,780'
Bone Spring Lime	9,270'

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

Upper Permian Sands	0- 400'	Fresh Water
Cherry Canyon	6,210'	Oil
Brushy Canyon	7,780'	Oil
Bone Spring Lime	9,270'	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 1,115' and circulating cement back to surface.

4. CASING PROGRAM - NEW

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
17.5"	0 - 1115'	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
12.25"	4000'-5050'	9.625"	40#	HCK55	LTC	1.125	1.25	1.60
8.75"	0'-16,785'	5.5"	17#	P110 or HCP110	LTC	1.125	1.25	1.60

See COA
See COA
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EOG RESOURCES, INC.
VACA 24 FED COM NO. 5H

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. The intermediate casing will be tested to 2000 psi for 30 minutes.

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:

see
COA

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 - 1,115'	Fresh water + Gel	8.6-8.8	28-34	N/c
1,115' - 5,050'	Saturated Brine	10.0-10.2	28-34	N/c
5,050' - 8,972'	Cut Brine	8.6-9.5	28-34	N/c
8,972' - 16,785' Lateral	Cut Brine	8.6-9.5	28-34	N/c

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the wellsite at all times.

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) H₂S monitoring and detection equipment will be utilized from surface casing point to TD.

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EOG RESOURCES, INC.
VACA 24 FED COM NO. 5H

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

Open-hole logs are not planned for this well.

GR-CCL

Will be run in cased hole during completions phase of operations.

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

The estimated bottom hole temperature (BHT) at TD is 155 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 4092 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 90-120 days will be required for completion and testing before a decision is made to install permanent facilities.

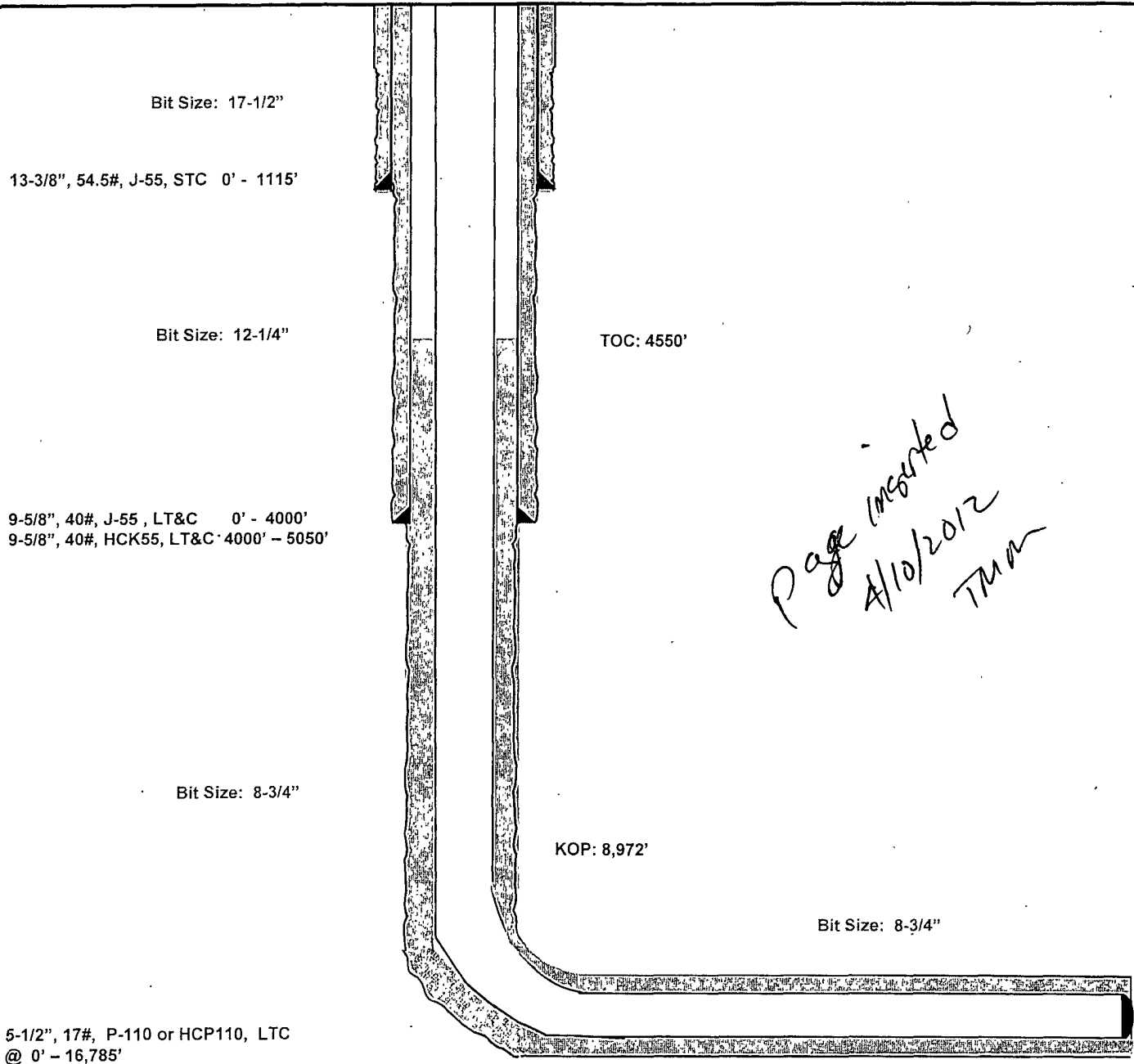
Vaca 24 Fed Com #5H
Red Hills
Lea County, New Mexico

50' FSL
2190' FEL
Section 24
T-25-S, R-33-E

Proposed Wellbore

API: 30-025-

KB: 3,358.7'
GL: 3,328.7'



Lateral: 16,785' MD, 9,450' TVD

BH Location: 2310' FSL & 2190' FEL
Section 13
T-25-S, R-33-E



Azimuths to Grid North
 True North: -0.43°
 Magnetic North: 7.08°

Magnetic Field
 Strength: 48559.4nT
 Dip Angle: 60.10°
 Date: 10/6/2011
 Model: IGRF200510

PATHFINDER

A Schlumberger Company

Project: Lea County
 Site: Vaca "24" Fed Com
 Well: #5H
 Wellbore: OH
 Plan: Plan #1 (#5H/OH)

WELL DETAILS: #5H

Ground Elevation: 3328.7
 RKB Elevation: KB = 30 @ 3358.7usft (Cactus #123)
 Rig Name: Cactus #123

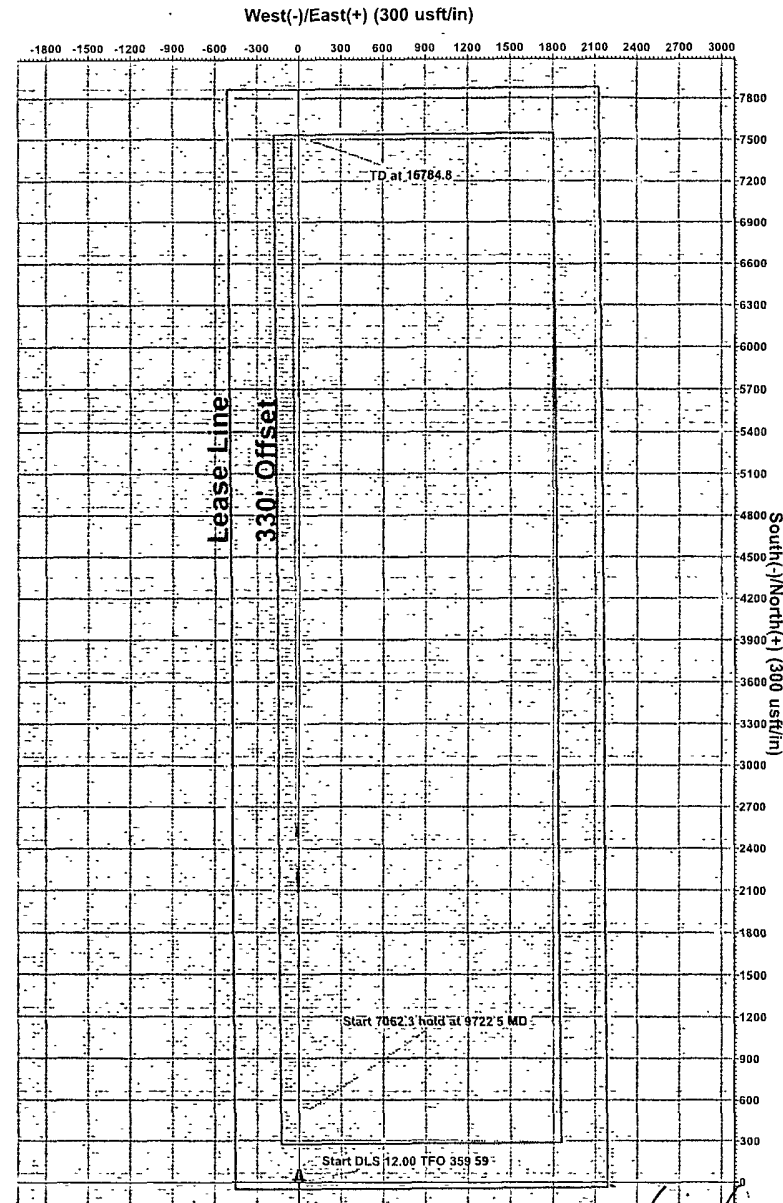
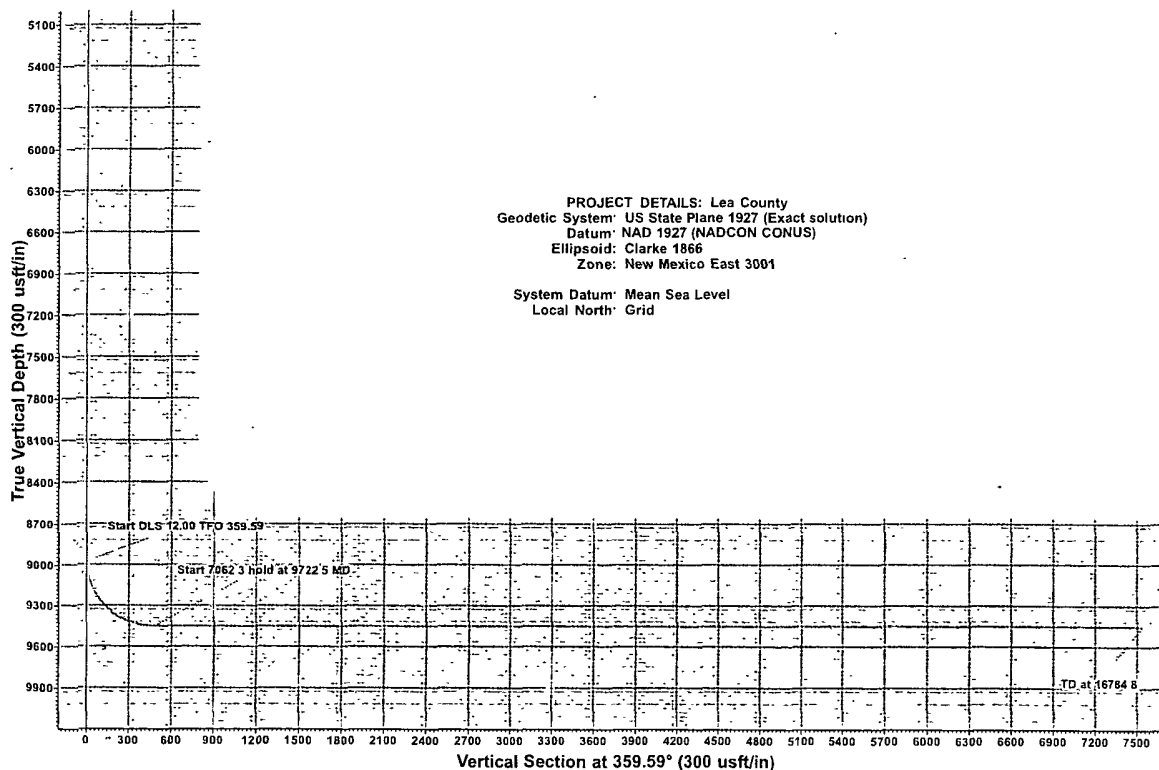
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	404236.100	750556.700	32° 6' 31.593 N	103° 31' 26.857 W

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
PBHL (#5H)	9450.0	7539.6	-53.7	411775.700	750503.000

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	8972.5	0.00	0.00	8972.5	0.0	0.0	0.00	0.00	0.0	
3	9722.5	90.00	359.59	9450.0	477.5	-3.4	12.00	359.59	477.5	
4	16784.8	90.00	359.59	9450.0	7539.6	-53.7	0.00	0.00	7539.8	PBHL (#5H)



See COA concerning wellbore proximity for drilling and for stimulation considerations

Plan, Plan #1 (#5H/OH)	
Created By: Sam Biffle	Date: 10.55, October 06 2011
Checked: _____	Date: _____



EOG Resources, Inc.

Lea County

Vaca "24" Fed Com

#5H

OH

Plan: Plan #1

Pathfinder X & Y Report

06 October, 2011

PATHFINDER
A Schlumberger Company

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #5H
Project:	Lea County	TVD Reference:	KB = 30 @ 3358.7usft (Cactus #123)
Site:	Vaca "24" Fed Com	MD Reference:	KB = 30 @ 3358.7usft (Cactus #123)
Well:	#5H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Single User Db

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

Site:	Vaca "24" Fed Com	Site Position:	
		From:	Map
Position Uncertainty:	0.0 usft	Northings:	404,217.700 usft
		Easting:	747,889.800 usft
		Slot Radius:	13-3/16 "
		Latitude:	32° 6' 31.608 N
		Longitude:	103° 31' 57.864 W
		Grid Convergence:	0.43 °

Well	#5H	Well Position	
		+N/-S	0.0 usft
		+E/-W	0.0 usft
Position Uncertainty	0.0 usft	Northings:	404,236.100 usft
		Easting:	750,556.700 usft
		Wellhead Elevation:	usft
		Latitude:	32° 6' 31.593 N
		Longitude:	103° 31' 26.857 W
		Ground Level:	3,328.7 usft

Wellbore	OH	Magnetics	
		Model Name	IGRF200510
		Sample Date	10/6/2011
		Declination (°)	7.51
		Dip Angle (°)	60.10
		Field Strength (nT)	48,559

Design	Plan #1	Audit Notes:	
		Version:	
		Phase:	PLAN
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.0	0.0	0.0
		Direction (°)	359.59

Survey Tool Program:	Date 10/6/2011	From (usft)	
		To (usft)	
		Survey (Wellbore)	Plan #1 (OH)
		Tool Name	MWD
		Description	MWD - Standard

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #5H
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Well:	#5H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec. (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
0.0	0.00	0.00	0.0	-3,358.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
100.0	0.00	0.00	100.0	-3,258.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
200.0	0.00	0.00	200.0	-3,158.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
300.0	0.00	0.00	300.0	-3,058.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
400.0	0.00	0.00	400.0	-2,958.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
500.0	0.00	0.00	500.0	-2,858.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
600.0	0.00	0.00	600.0	-2,758.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
700.0	0.00	0.00	700.0	-2,658.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
800.0	0.00	0.00	800.0	-2,558.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
900.0	0.00	0.00	900.0	-2,458.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
1,000.0	0.00	0.00	1,000.0	-2,358.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
1,100.0	0.00	0.00	1,100.0	-2,258.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
1,200.0	0.00	0.00	1,200.0	-2,158.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
1,300.0	0.00	0.00	1,300.0	-2,058.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
1,400.0	0.00	0.00	1,400.0	-1,958.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
1,500.0	0.00	0.00	1,500.0	-1,858.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
1,600.0	0.00	0.00	1,600.0	-1,758.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
1,700.0	0.00	0.00	1,700.0	-1,658.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
1,800.0	0.00	0.00	1,800.0	-1,558.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
1,900.0	0.00	0.00	1,900.0	-1,458.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
2,000.0	0.00	0.00	2,000.0	-1,358.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
2,100.0	0.00	0.00	2,100.0	-1,258.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
2,200.0	0.00	0.00	2,200.0	-1,158.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
2,300.0	0.00	0.00	2,300.0	-1,058.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
2,400.0	0.00	0.00	2,400.0	-958.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
2,500.0	0.00	0.00	2,500.0	-858.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
2,600.0	0.00	0.00	2,600.0	-758.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #5H
Project:	Lea County	TVD Reference:	KB = 30 @ 3358.7usft (Cactus #123)
Site:	Vaca "24" Fed Com	MD Reference:	KB = 30 @ 3358.7usft (Cactus #123)
Well:	#5H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
2,700.0	0.00	0.00	2,700.0	-658.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
2,800.0	0.00	0.00	2,800.0	-558.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
2,900.0	0.00	0.00	2,900.0	-458.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
3,000.0	0.00	0.00	3,000.0	-358.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
3,100.0	0.00	0.00	3,100.0	-258.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
3,200.0	0.00	0.00	3,200.0	-158.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
3,300.0	0.00	0.00	3,300.0	-58.7	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
3,400.0	0.00	0.00	3,400.0	41.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
3,500.0	0.00	0.00	3,500.0	141.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
3,600.0	0.00	0.00	3,600.0	241.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
3,700.0	0.00	0.00	3,700.0	341.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
3,800.0	0.00	0.00	3,800.0	441.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
3,900.0	0.00	0.00	3,900.0	541.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
4,000.0	0.00	0.00	4,000.0	641.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
4,100.0	0.00	0.00	4,100.0	741.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
4,200.0	0.00	0.00	4,200.0	841.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
4,300.0	0.00	0.00	4,300.0	941.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
4,400.0	0.00	0.00	4,400.0	1,041.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
4,500.0	0.00	0.00	4,500.0	1,141.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
4,600.0	0.00	0.00	4,600.0	1,241.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
4,700.0	0.00	0.00	4,700.0	1,341.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
4,800.0	0.00	0.00	4,800.0	1,441.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
4,900.0	0.00	0.00	4,900.0	1,541.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
5,000.0	0.00	0.00	5,000.0	1,641.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
5,100.0	0.00	0.00	5,100.0	1,741.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
5,200.0	0.00	0.00	5,200.0	1,841.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
5,300.0	0.00	0.00	5,300.0	1,941.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	



Pathfinder
Pathfinder X & Y Report



A Schlumberger Company

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #5H
Project:	Lea County	TVD Reference:	KB = 30 @ 3358.7usft (Cactus #123)
Site:	Vaca "24" Fed Com	MD Reference:	KB = 30 @ 3358.7usft (Cactus #123)
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Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Single User Db

Planned Survey											
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5,400.0	0.00	0 00	5,400.0	2,041.3	0 0	0 0	0 0	0.00	404,236.10	750,556.70	
5,500.0	0.00	0.00	5,500.0	2,141.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
5,600.0	0.00	0.00	5,600.0	2,241.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
5,700.0	0.00	0.00	5,700.0	2,341.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
5,800.0	0.00	0.00	5,800.0	2,441.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
5,900.0	0.00	0.00	5,900.0	2,541.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
6,000.0	0.00	0.00	6,000.0	2,641.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
6,100.0	0.00	0.00	6,100.0	2,741.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
6,200.0	0.00	0.00	6,200.0	2,841.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
6,300.0	0.00	0.00	6,300.0	2,941.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
6,400.0	0.00	0.00	6,400.0	3,041.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
6,500.0	0.00	0.00	6,500.0	3,141.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
6,600.0	0.00	0.00	6,600.0	3,241.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
6,700.0	0.00	0.00	6,700.0	3,341.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
6,800.0	0.00	0.00	6,800.0	3,441.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
6,900.0	0.00	0.00	6,900.0	3,541.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
7,000.0	0.00	0.00	7,000.0	3,641.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
7,100.0	0.00	0.00	7,100.0	3,741.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
7,200.0	0.00	0.00	7,200.0	3,841.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
7,300.0	0.00	0.00	7,300.0	3,941.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
7,400.0	0.00	0.00	7,400.0	4,041.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
7,500.0	0.00	0.00	7,500.0	4,141.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
7,600.0	0.00	0.00	7,600.0	4,241.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
7,700.0	0.00	0.00	7,700.0	4,341.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
7,800.0	0.00	0.00	7,800.0	4,441.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
7,900.0	0.00	0.00	7,900.0	4,541.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
8,000.0	0.00	0.00	8,000.0	4,641.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #5H
Project:	Lea County	TVD Reference:	KB = 30 @ 3358.7usft (Cactus #123)
Site:	Vaca "24" Fed Com	MD Reference:	KB = 30 @ 3358.7usft (Cactus #123)
Well:	#5H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
8,100.0	0.00	0.00	8,100.0	4,741.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
8,200.0	0.00	0.00	8,200.0	4,841.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
8,300.0	0.00	0.00	8,300.0	4,941.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
8,400.0	0.00	0.00	8,400.0	5,041.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
8,500.0	0.00	0.00	8,500.0	5,141.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
8,600.0	0.00	0.00	8,600.0	5,241.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
8,700.0	0.00	0.00	8,700.0	5,341.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
8,800.0	0.00	0.00	8,800.0	5,441.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
8,900.0	0.00	0.00	8,900.0	5,541.3	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
8,972.5	0.00	0.00	8,972.5	5,613.8	0.0	0.0	0.0	0.00	404,236.10	750,556.70	
8,975.0	0.30	359.59	8,975.0	5,616.3	0.0	0.0	0.0	12.00	404,236.11	750,556.70	
9,000.0	3.30	359.59	9,000.0	5,641.3	0.8	0.0	0.8	12.00	404,236.89	750,556.69	
9,025.0	6.30	359.59	9,024.9	5,666.2	2.9	0.0	2.9	12.00	404,238.98	750,556.68	
9,050.0	9.30	359.59	9,049.7	5,691.0	6.3	0.0	6.3	12.00	404,242.38	750,556.66	
9,075.0	12.30	359.59	9,074.2	5,715.5	11.0	-0.1	11.0	12.00	404,247.06	750,556.62	
9,100.0	15.30	359.59	9,098.5	5,739.8	16.9	-0.1	16.9	12.00	404,253.02	750,556.58	
9,125.0	18.30	359.59	9,122.4	5,763.7	24.1	-0.2	24.1	12.00	404,260.25	750,556.53	
9,150.0	21.30	359.59	9,145.9	5,787.2	32.6	-0.2	32.6	12.00	404,268.71	750,556.47	
9,175.0	24.30	359.59	9,169.0	5,810.3	42.3	-0.3	42.3	12.00	404,278.40	750,556.40	
9,200.0	27.30	359.59	9,191.5	5,832.8	53.2	-0.4	53.2	12.00	404,289.28	750,556.32	
9,225.0	30.30	359.59	9,213.4	5,854.7	65.2	-0.5	65.2	12.00	404,301.32	750,556.24	
9,250.0	33.30	359.59	9,234.6	5,875.9	78.4	-0.6	78.4	12.00	404,314.49	750,556.14	
9,275.0	36.30	359.59	9,255.2	5,896.5	92.7	-0.7	92.7	12.00	404,328.76	750,556.04	
9,300.0	39.30	359.59	9,274.9	5,916.2	108.0	-0.8	108.0	12.00	404,344.08	750,555.93	
9,325.0	42.30	359.59	9,293.8	5,935.1	124.3	-0.9	124.3	12.00	404,360.41	750,555.81	
9,350.0	45.30	359.59	9,311.9	5,953.2	141.6	-1.0	141.6	12.00	404,377.72	750,555.69	
9,375.0	48.30	359.59	9,329.0	5,970.3	159.8	-1.1	159.8	12.00	404,395.94	750,555.56	

Company: EOG Resources, Inc.
Project: Lea County
Site: Vaca "24" Fed Com
Well: #5H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:
Well #5H
KB = 30 @ 3358.7usft (Cactus #123)
KB = 30 @ 3358.7usft (Cactus #123)
Grid
Minimum Curvature
EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
9,400.0	51.30	359.59	9,345.1	5,986.4	178.9	-1.3	178.9	12.00	404,415.03	750,555.43	
9,425.0	54.30	359.59	9,360.2	6,001.5	198.8	-1.4	198.8	12.00	404,434.94	750,555.28	
9,450.0	57.30	359.59	9,374.3	6,015.6	219.5	-1.6	219.5	12.00	404,455.61	750,555.14	
9,475.0	60.30	359.59	9,387.2	6,028.5	240.9	-1.7	240.9	12.00	404,476.99	750,554.98	
9,500.0	63.30	359.59	9,399.1	6,040.4	262.9	-1.9	262.9	12.00	404,499.02	750,554.83	
9,525.0	66.30	359.59	9,409.7	6,051.0	285.5	-2.0	285.5	12.00	404,521.64	750,554.67	
9,550.0	69.30	359.59	9,419.1	6,060.4	308.7	-2.2	308.7	12.00	404,544.79	750,554.50	
9,575.0	72.30	359.59	9,427.4	6,068.7	332.3	-2.4	332.3	12.00	404,568.39	750,554.33	
9,600.0	75.30	359.59	9,434.3	6,075.6	356.3	-2.5	356.3	12.00	404,592.40	750,554.16	
9,625.0	78.30	359.59	9,440.0	6,081.3	380.6	-2.7	380.6	12.00	404,616.73	750,553.99	
9,650.0	81.30	359.59	9,444.5	6,085.8	405.2	-2.9	405.2	12.00	404,641.33	750,553.81	
9,675.0	84.30	359.59	9,447.6	6,088.9	430.0	-3.1	430.0	12.00	404,666.13	750,553.64	
9,700.0	87.30	359.59	9,449.4	6,090.7	455.0	-3.2	455.0	12.00	404,691.06	750,553.46	
9,722.5	90.00	359.59	9,450.0	6,091.3	477.5	-3.4	477.5	12.00	404,713.55	750,553.30	
9,800.0	90.00	359.59	9,450.0	6,091.3	555.0	-4.0	555.0	0.00	404,791.05	750,552.75	
9,900.0	90.00	359.59	9,450.0	6,091.3	654.9	-4.7	655.0	0.00	404,891.05	750,552.04	
10,000.0	90.00	359.59	9,450.0	6,091.3	754.9	-5.4	755.0	0.00	404,991.05	750,551.32	
10,100.0	90.00	359.59	9,450.0	6,091.3	854.9	-6.1	855.0	0.00	405,091.04	750,550.61	
10,200.0	90.00	359.59	9,450.0	6,091.3	954.9	-6.8	955.0	0.00	405,191.04	750,549.90	
10,300.0	90.00	359.59	9,450.0	6,091.3	1,054.9	-7.5	1,055.0	0.00	405,291.04	750,549.19	
10,400.0	90.00	359.59	9,450.0	6,091.3	1,154.9	-8.2	1,155.0	0.00	405,391.04	750,548.47	
10,500.0	90.00	359.59	9,450.0	6,091.3	1,254.9	-8.9	1,255.0	0.00	405,491.03	750,547.76	
10,600.0	90.00	359.59	9,450.0	6,091.3	1,354.9	-9.7	1,355.0	0.00	405,591.03	750,547.05	
10,700.0	90.00	359.59	9,450.0	6,091.3	1,454.9	-10.4	1,455.0	0.00	405,691.03	750,546.34	
10,800.0	90.00	359.59	9,450.0	6,091.3	1,554.9	-11.1	1,555.0	0.00	405,791.03	750,545.63	
10,900.0	90.00	359.59	9,450.0	6,091.3	1,654.9	-11.8	1,655.0	0.00	405,891.02	750,544.91	
11,000.0	90.00	359.59	9,450.0	6,091.3	1,754.9	-12.5	1,755.0	0.00	405,991.02	750,544.20	

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #5H
Project:	Lea County	TVD Reference:	KB = 30 @ 3358.7usft (Cactus #123)
Site:	Vaca "24" Fed Com	MD Reference:	KB = 30 @ 3358.7usft (Cactus #123)
Well:	#5H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000 1 Single User Db

Planned Survey												
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)		
11,100.0	90.00	359.59	9,450.0	6,091.3	1,854.9	-13.2	1,855.0	0.00	406,091.02	750,543.49		
11,200.0	90.00	359.59	9,450.0	6,091.3	1,954.9	-13.9	1,955.0	0.00	406,191.02	750,542.78		
11,300.0	90.00	359.59	9,450.0	6,091.3	2,054.9	-14.6	2,055.0	0.00	406,291.01	750,542.06		
11,400.0	90.00	359.59	9,450.0	6,091.3	2,154.9	-15.3	2,155.0	0.00	406,391.01	750,541.35		
11,500.0	90.00	359.59	9,450.0	6,091.3	2,254.9	-16.1	2,255.0	0.00	406,491.01	750,540.64		
11,600.0	90.00	359.59	9,450.0	6,091.3	2,354.9	-16.8	2,355.0	0.00	406,591.01	750,539.93		
11,700.0	90.00	359.59	9,450.0	6,091.3	2,454.9	-17.5	2,455.0	0.00	406,691.00	750,539.22		
11,800.0	90.00	359.59	9,450.0	6,091.3	2,554.9	-18.2	2,555.0	0.00	406,791.00	750,538.50		
11,900.0	90.00	359.59	9,450.0	6,091.3	2,654.9	-18.9	2,655.0	0.00	406,891.00	750,537.79		
12,000.0	90.00	359.59	9,450.0	6,091.3	2,754.9	-19.6	2,755.0	0.00	406,990.99	750,537.08		
12,100.0	90.00	359.59	9,450.0	6,091.3	2,854.9	-20.3	2,855.0	0.00	407,090.99	750,536.37		
12,200.0	90.00	359.59	9,450.0	6,091.3	2,954.9	-21.0	2,955.0	0.00	407,190.99	750,535.65		
12,300.0	90.00	359.59	9,450.0	6,091.3	3,054.9	-21.8	3,055.0	0.00	407,290.99	750,534.94		
12,400.0	90.00	359.59	9,450.0	6,091.3	3,154.9	-22.5	3,155.0	0.00	407,390.98	750,534.23		
12,500.0	90.00	359.59	9,450.0	6,091.3	3,254.9	-23.2	3,255.0	0.00	407,490.98	750,533.52		
12,600.0	90.00	359.59	9,450.0	6,091.3	3,354.9	-23.9	3,355.0	0.00	407,590.98	750,532.81		
12,700.0	90.00	359.59	9,450.0	6,091.3	3,454.9	-24.6	3,455.0	0.00	407,690.98	750,532.09		
12,800.0	90.00	359.59	9,450.0	6,091.3	3,554.9	-25.3	3,555.0	0.00	407,790.97	750,531.38		
12,900.0	90.00	359.59	9,450.0	6,091.3	3,654.9	-26.0	3,655.0	0.00	407,890.97	750,530.67		
13,000.0	90.00	359.59	9,450.0	6,091.3	3,754.9	-26.7	3,755.0	0.00	407,990.97	750,529.96		
13,100.0	90.00	359.59	9,450.0	6,091.3	3,854.9	-27.5	3,855.0	0.00	408,090.97	750,529.24		
13,200.0	90.00	359.59	9,450.0	6,091.3	3,954.9	-28.2	3,955.0	0.00	408,190.96	750,528.53		
13,300.0	90.00	359.59	9,450.0	6,091.3	4,054.9	-28.9	4,055.0	0.00	408,290.96	750,527.82		
13,400.0	90.00	359.59	9,450.0	6,091.3	4,154.9	-29.6	4,155.0	0.00	408,390.96	750,527.11		
13,500.0	90.00	359.59	9,450.0	6,091.3	4,254.9	-30.3	4,255.0	0.00	408,490.96	750,526.40		
13,600.0	90.00	359.59	9,450.0	6,091.3	4,354.9	-31.0	4,355.0	0.00	408,590.95	750,525.68		
13,700.0	90.00	359.59	9,450.0	6,091.3	4,454.9	-31.7	4,455.0	0.00	408,690.95	750,524.97		

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #5H
Project:	Lea County	TVD Reference:	KB = 30 @ 3358.7usft (Cactus #123)
Site:	Vaca "24" Fed Com	MD Reference:	KB = 30 @ 3358.7usft (Cactus #123)
Well:	#5H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Single User Db

Planned Survey											
MD (usft)	Inc (°)	Azi. (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	D Leg (°/100usft)	Northing (usft)	Easting (usft)	
13,800.0	90.00	359.59	9,450.0	6,091.3	4,554.8	-32.4	4,555.0	0.00	408,790.95	750,524.26	
13,900.0	90.00	359.59	9,450.0	6,091.3	4,654.8	-33.2	4,655.0	0.00	408,890.95	750,523.55	
14,000.0	90.00	359.59	9,450.0	6,091.3	4,754.8	-33.9	4,755.0	0.00	408,990.94	750,522.83	
14,100.0	90.00	359.59	9,450.0	6,091.3	4,854.8	-34.6	4,855.0	0.00	409,090.94	750,522.12	
14,200.0	90.00	359.59	9,450.0	6,091.3	4,954.8	-35.3	4,955.0	0.00	409,190.94	750,521.41	
14,300.0	90.00	359.59	9,450.0	6,091.3	5,054.8	-36.0	5,055.0	0.00	409,290.94	750,520.70	
14,400.0	90.00	359.59	9,450.0	6,091.3	5,154.8	-36.7	5,155.0	0.00	409,390.93	750,519.99	
14,500.0	90.00	359.59	9,450.0	6,091.3	5,254.8	-37.4	5,255.0	0.00	409,490.93	750,519.27	
14,600.0	90.00	359.59	9,450.0	6,091.3	5,354.8	-38.1	5,355.0	0.00	409,590.93	750,518.56	
14,700.0	90.00	359.59	9,450.0	6,091.3	5,454.8	-38.9	5,455.0	0.00	409,690.93	750,517.85	
14,800.0	90.00	359.59	9,450.0	6,091.3	5,554.8	-39.6	5,555.0	0.00	409,790.92	750,517.14	
14,900.0	90.00	359.59	9,450.0	6,091.3	5,654.8	-40.3	5,655.0	0.00	409,890.92	750,516.42	
15,000.0	90.00	359.59	9,450.0	6,091.3	5,754.8	-41.0	5,755.0	0.00	409,990.92	750,515.71	
15,100.0	90.00	359.59	9,450.0	6,091.3	5,854.8	-41.7	5,855.0	0.00	410,090.92	750,515.00	
15,200.0	90.00	359.59	9,450.0	6,091.3	5,954.8	-42.4	5,955.0	0.00	410,190.91	750,514.29	
15,300.0	90.00	359.59	9,450.0	6,091.3	6,054.8	-43.1	6,055.0	0.00	410,290.91	750,513.58	
15,400.0	90.00	359.59	9,450.0	6,091.3	6,154.8	-43.8	6,155.0	0.00	410,390.91	750,512.86	
15,500.0	90.00	359.59	9,450.0	6,091.3	6,254.8	-44.5	6,255.0	0.00	410,490.91	750,512.15	
15,600.0	90.00	359.59	9,450.0	6,091.3	6,354.8	-45.3	6,355.0	0.00	410,590.90	750,511.44	
15,700.0	90.00	359.59	9,450.0	6,091.3	6,454.8	-46.0	6,455.0	0.00	410,690.90	750,510.73	
15,800.0	90.00	359.59	9,450.0	6,091.3	6,554.8	-46.7	6,555.0	0.00	410,790.90	750,510.01	
15,900.0	90.00	359.59	9,450.0	6,091.3	6,654.8	-47.4	6,655.0	0.00	410,890.90	750,509.30	
16,000.0	90.00	359.59	9,450.0	6,091.3	6,754.8	-48.1	6,755.0	0.00	410,990.89	750,508.59	
16,100.0	90.00	359.59	9,450.0	6,091.3	6,854.8	-48.8	6,855.0	0.00	411,090.89	750,507.88	
16,200.0	90.00	359.59	9,450.0	6,091.3	6,954.8	-49.5	6,955.0	0.00	411,190.89	750,507.17	
16,300.0	90.00	359.59	9,450.0	6,091.3	7,054.8	-50.2	7,055.0	0.00	411,290.89	750,506.45	
16,400.0	90.00	359.59	9,450.0	6,091.3	7,154.8	-51.0	7,155.0	0.00	411,390.88	750,505.74	

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #5H
Project:	Lea County	TVD Reference:	KB = 30 @ 3358.7usft (Cactus #123)
Site:	Vaca "24" Fed Com	MD Reference:	KB = 30 @ 3358.7usft (Cactus #123)
Well:	#5H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Single User Db

Planned Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (%/100usft)	Northing (usft)	Easting (usft)
16,500.0	90.00	359.59	9,450.0	6,091.3	7,254.8	-51.7	7,255.0	0.00	411,490.88	750,505.03
16,600.0	90.00	359.59	9,450.0	6,091.3	7,354.8	-52.4	7,355.0	0.00	411,590.88	750,504.32
16,700.0	90.00	359.59	9,450.0	6,091.3	7,454.8	-53.1	7,455.0	0.00	411,690.88	750,503.60
16,784.8	90.00	359.59	9,450.0	6,091.3	7,539.6	-53.7	7,539.8	0.00	411,775.70	750,503.00

Checked By: _____	Approved By: _____	Date: _____
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EOG Resources

Cactus #123

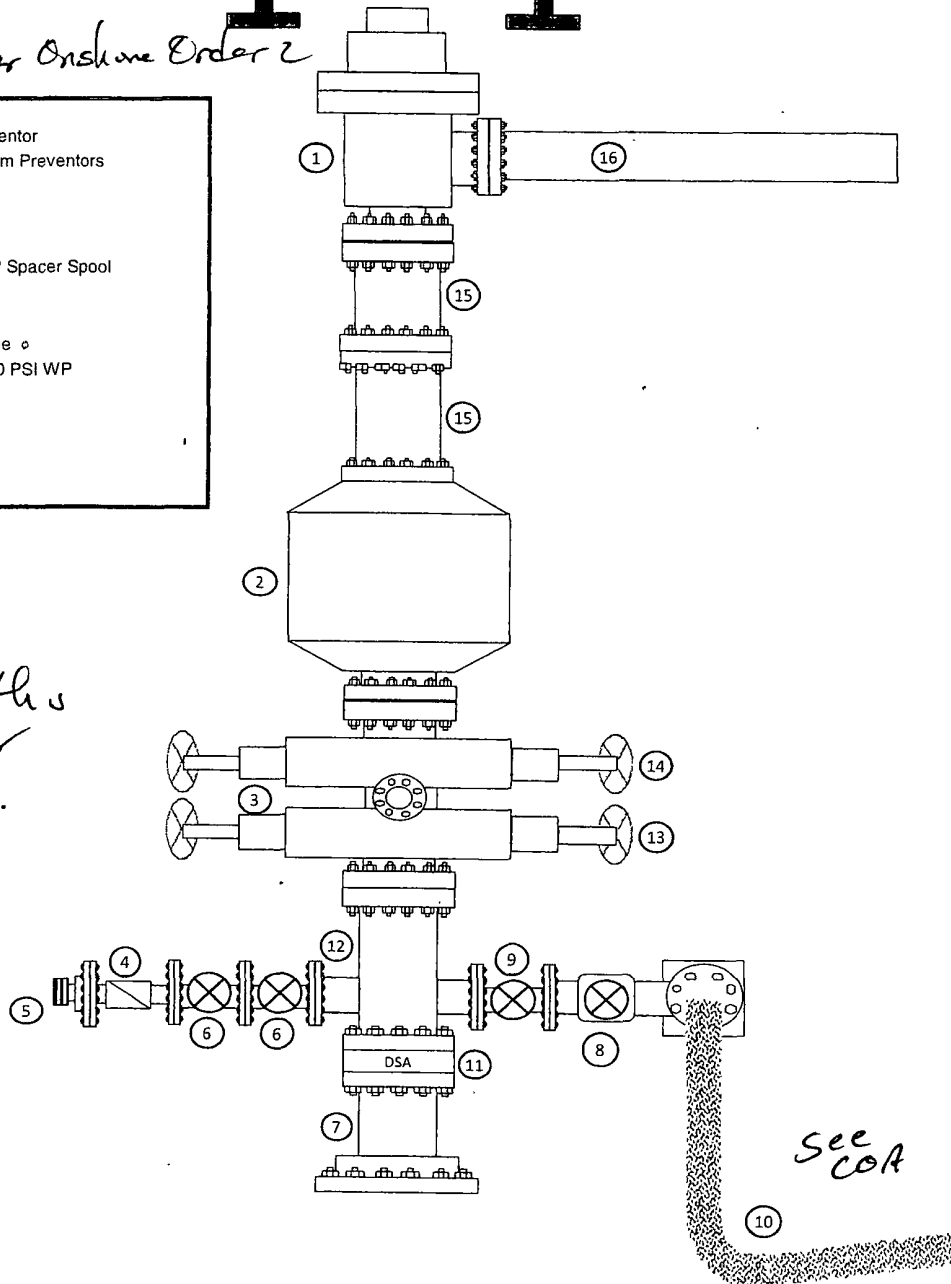
Exhibit #1

Rig Floor

fill line rejoined per Onshore Order 2

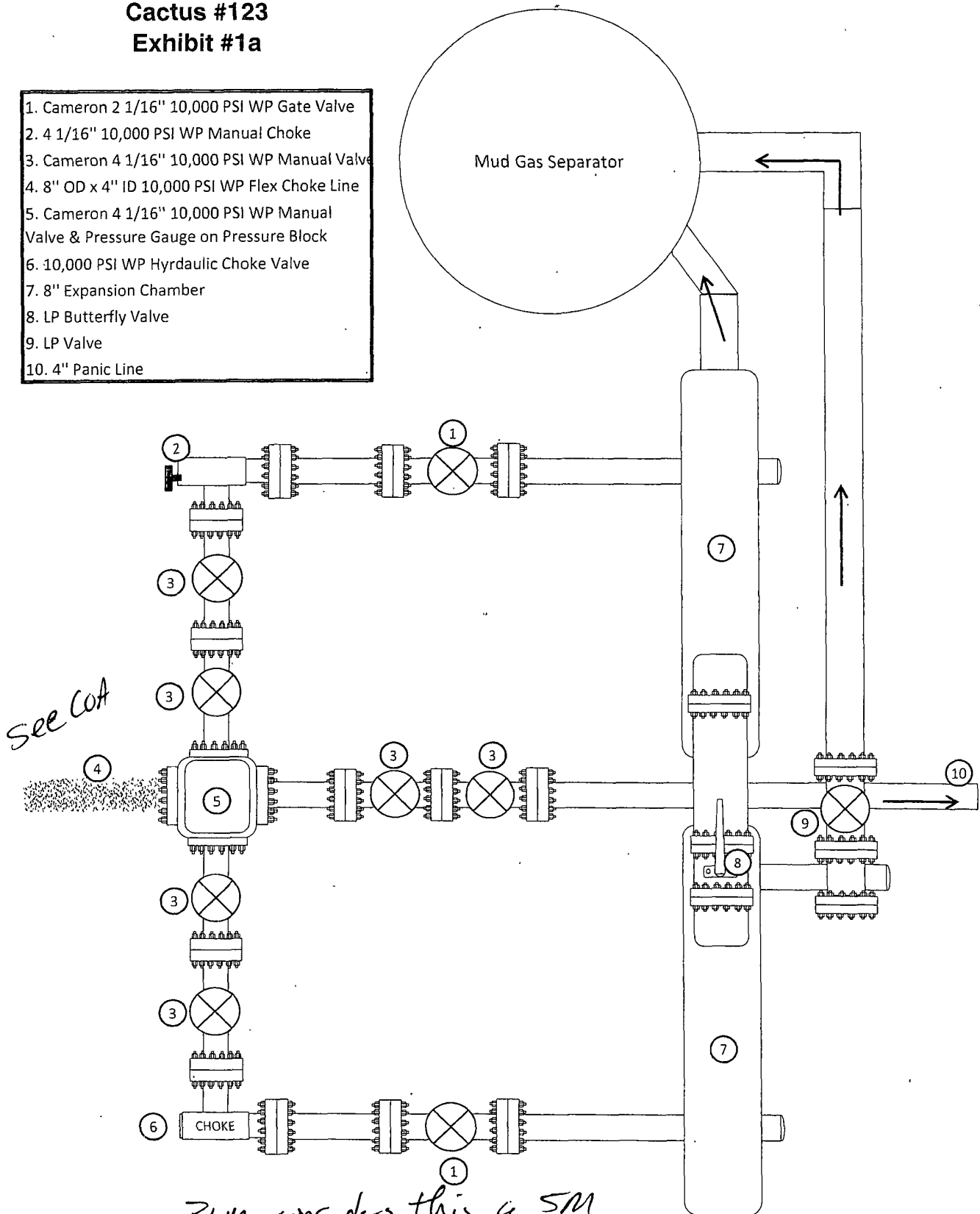
1. 13 5/8" Rotating Head
2. Hydril 13 5/8" 5,000 PSI WP GK Annular Preventor
3. 13 5/8" Cameron Type "U" 10,000 PSI WP Ram Preventors
4. 2 1/16" - 10,000 PSI WP Check Valve
5. 10,000 PSI WP - 1502 Union to kill line
6. 2 1/16" - 10,000 PSI WP Manual Valves
7. 13 5/8" 3,000 PSI WP x 13 5/8" 5,000 PSI WP Spacer Spool
8. 4 1/16" 10,000 PSI WP HCR Valve
9. 4 1/16" 10,000 PSI WP Manual Valve
10. 8" OD x 4" ID 10,000 PSI WP Flex Choke Line
11. DSA - 13 5/8" 10,000 PSI WP x 13 5/8" 5,000 PSI WP
12. Mud Cross - 13 5/8" 10,000 PSI WP
13. Blind Rams
14. Pipe Rams
15. 13 5/8" 5,000 PSI WP Spacer Spools
16. Flow Line

*BLM considers this
as SM system per
Onshore Order 2.*



EOG Resources
Cactus #123
Exhibit #1a

1. Cameron 2 1/16" 10,000 PSI WP Gate Valve
2. 4 1/16" 10,000 PSI WP Manual Choke
3. Cameron 4 1/16" 10,000 PSI WP Manual Valve
4. 8" OD x 4" ID 10,000 PSI WP Flex Choke Line
5. Cameron 4 1/16" 10,000 PSI WP Manual Valve & Pressure Gauge on Pressure Block
6. 10,000 PSI WP Hydraulic Choke Valve
7. 8" Expansion Chamber
8. LP Butterfly Valve
9. LP Valve
10. 4" Panic Line



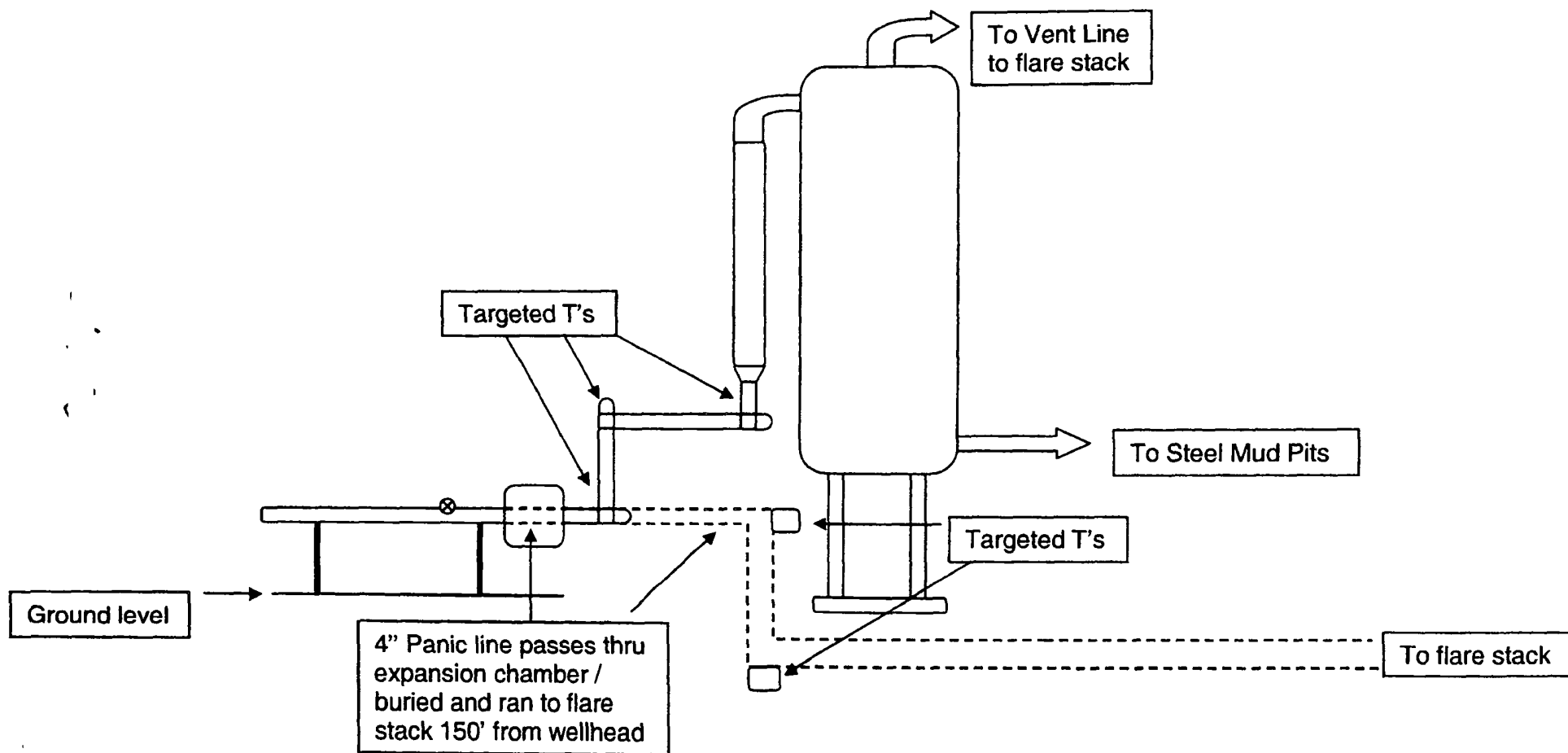
BLM considers this a SM system per Onshore Order ~

EOG RESOURCES, INC.
VACA 24 FED #5H

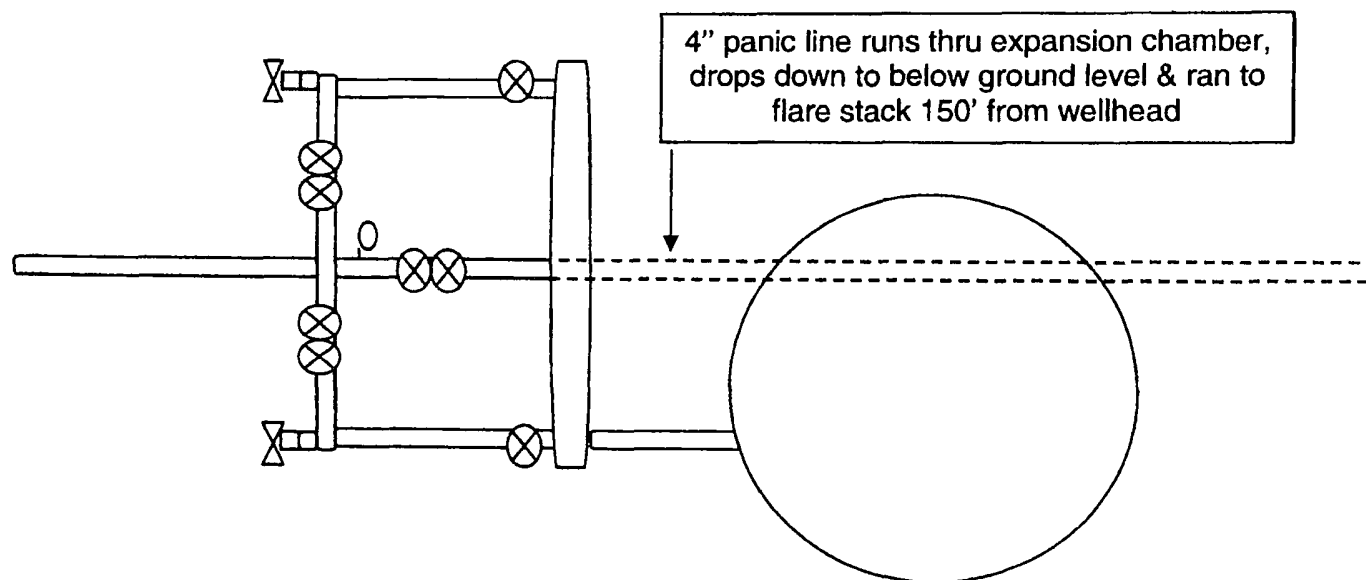
ATTACHMENT TO EXHIBIT #1

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.

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



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



Manufacturer: Midwest Hose & Specialty

Serial Number: SN#90067

Length: 35'

Size: OD = 8" ID = 4"

Ends: Flanges Size: 4-1/16"

WP Rating: 10,000 psi Anchors required by manufacturer: No

M I D W E S T
HOSE AND SPECIALTY INC.

INTERNAL HYDROSTATIC TEST REPORT		
Customer: CACTUS		P.O. Number: RIG #123 Asset # M10761
HOSE SPECIFICATIONS		
Type: CHOKER LINE		Length: 35'
I.D. 4" INCHES		O.D. 8" INCHES
WORKING PRESSURE 10,000 PSI	TEST PRESSURE 15,000 PSI	BURST PRESSURE PSI
COUPLINGS		
Type of End Fitting 4 1/16 10K FLANGE		
Type of Coupling: SWEDGED		MANUFACTURED BY MIDWEST HOSE & SPECIALTY
PROCEDURE		
<i>Hose assembly pressure tested with water at ambient temperature.</i>		
TIME HELD AT TEST PRESSURE 1 MIN.		ACTUAL BURST PRESSURE: 0 PSI
COMMENTS: SN#90067 M10761 Hose is covered with stainless steel armour cover and wrapped with fire resistant vermiculite coated fiberglass insulation rated for 1500 degrees complete with lifting eyes		
Date: 6/6/2011	Tested By: BOBBY FINK	Approved: MENDI JACKSON