

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

11-867
FORM APPROVED
OMB NO. 1004-0137
Expires July 31, 2010

30-015-39671

APPLICATION FOR PERMIT TO DRILL OR REENTER

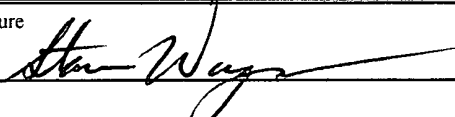
SECRETARY'S POTASH

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. Sand Tank 17 Fed Com 5H [20944]	
3a. Address P.O. Box 2267 Midland, Texas 79702		3b. Phone No. (include area code) 432-686-3689	
4. Location of Well (Report location clearly and in accordance with any State requirements) At surface 700' FSL & 2350' FEL, U/L O, Sec 17, T18S, R30E At proposed prod zone 660' FSL & 2310' FWL, U/L N, Sec 16, T18S, R30E		9. API Well No. 30-015-39671 10. Field and Pool, or Exploratory Sand Tank, Bone Spring [96832] 11. Sec., T., R., M., or Blk. and Survey or Area Sec 17, T18S, R30E	
14. Distance in miles and direction from nearest town or post office* Approximately +/- 6 miles South from Loco Hills, NM		12. County or Parish Eddy	
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 560'	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1180' to ST 17-4H		17. Spacing Unit dedicated to this well 160	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3468' GL		20. BLM/BIA Bond No. on file NM 2308	
22. Approximate date work will start* 01/01/2012		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.
2. A Drilling Plan
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).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be required by the BLM

25. Signature 	Name (Printed/Typed) Stan Wagner	Date 7/26/11
Title Regulatory Analyst		
Approved by (Signature) /s/ Tony J. Herrell	Name (Printed/Typed) /s/ Tony J. Herrell	Date NOV 21 2011
Title ACTING STATE DIRECTOR		
Office NM STATE 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)

ROSWELL CONTROLLED WATER BASIN

RECEIVED
NOV 29 2011
NMOCD ARTESIA

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

SEE ATTACHED FOR
CONDITIONS OF APPROVAL



30-015-39671

DISTRICT I --- CHECKLIST FOR INTENTS TO DRILL

Operator EDG OGRID # 2377
 Well Name & # SAND TANK 17 FBO COM. Surface Type (F) (S) (P)
 Location: UL 0, Sect 17, Township 18 s, RNG 30 e, Sub-surface Type (F) (S) (P)

- A. Date C101 rec'd 11/29/2011 C101 reviewed 11/30/2011
- B. 1. Check mark, Information is OK on Forms:
 OGRID ☒ BONDING ☒ PROP CODE 1, WELL # , SIGNATURE
 2. Inactive Well list as of: 11/30/2011 # wells , # Inactive wells
 a. District Grant APD but see number of inactive wells:
 No letter required ☒; Sent Letter to Operator , to Santa Fe
 3. Additional Bonding as of: 11/30/2011
 a. District Denial because operator needs addition bonding:
 No Letter required ☒; Sent Letter to Operator , To Santa Fe
 b. District Denial because of Inactive well list and Financial Assurance:
 No Letter required ☒; Sent Letter to Operator , To Santa Fe
- C. C102 YES ☒ NO , Signature
 1. Pool SAND TANK B.S., Code 96832
 a. Dedicated acreage , What Units
 b. SUR. Location Standard ; Non-Standard Location
 c. Well shares acres: Yes , No , # of wells plus this well #
 2. 2nd. Operator in same acreage, Yes , No
 Agreement Letter , Disagreement letter
 3. Intent to Directional Drill Yes ☒ No
 a. Dedicated acreage 160, What Units
 b. Bottomhole Location Standard ☒ Non-Standard Bottomhole
 4. Downhole Commingle: Yes , No
 a. Pool #2 , Code , Acres
 Pool #3 , Code , Acres
 Pool #4 , Code , Acres
 5. POTASH Area Yes , No ☒
 D. Blowout Preventer Yes ☒ No
 E. H2S Yes ☒ No
 F. C144 Pit Registration Yes ☒ No
 G. Does APD require Santa Fe Approval:
 1. Non-Standard Location: Yes , No ☒ NSL #
 2. Non-Standard Proration: Yes , No ☒ NSP #
 3. Simultaneous Dedication: Yes , No ☒ SD #
 Number of wells Plus #
 4. Injection order Yes , No ☒ PMX # or WFX #
 5. SWD order Yes , NO ☒ SWD #
 6. DHC from SF ; DHC-HOB ; Holding
 7. OCD Approval Date 11/30/2011 API #30-0 15-30-39671
 8. Reviewers RES

* Need to enter in ONGARD (12/2/2011)

30-015-39671

EOG RESOURCES, INC.
SAND TANK 17 FED COM NO. 5H
REVISED 8/12/11

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	190'
Top of Salt	390'
Base of Salt	1,220'
Yates	1,370'
Seven Rivers	1,790'
Queen	2,440'
Grayburg	2,820'
San Andres	3,360'
Bone Spring 1	4,500'
1 st Bone Spring Sand	7,160'
2 nd Bone Spring	7,450'
2 nd Bone Spring Sand	7,737'
Top "F" Sand	8,110'
TD	8,300'

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

Upper Permian Sands	0- 190'	Fresh Water
Queen	2,440'	Oil
Grayburg	2,820'	Oil
San Andres	3,360'	Oil
Bone Spring 1	4,500'	Oil
1 st Bone Spring Sand	7,160'	Oil
2 nd Bone Spring	7,450'	Oil
2 nd Bone Spring Sand	7,737'	Oil
Top "F" Sand	8,110'	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 350' and circulating cement back to surface.

4. CASING PROGRAM - NEW

*See
copy*

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
14.75"	0 - 350' 320	11.75"	42#	H40	STC	1.125	1.25	1.60
11"	0-3,400'	8.625"	32#	J55	LTC	1.125	1.25	1.60
7.875"	0'-12,606'	5.500"	17#	L80 or N80	LTC	1.125	1.25	1.60

EOG RESOURCES, INC.
SAND TANK 17 FED COM NO. 5H
REVISED 8/12/11

Cementing Program:

Depth	No. Sacks	Wt. lb/gal	Yld Ft ³ /ft	Slurry Description
350' 320'	250	14.8	1.35	Lead: Class C + 0.005 pps Static Free + 2% CaCl ₂ + 0.25 pps CelloFlake + 0.005 gps FP-6L (TOC @ surface)
3,400'	400	12.7	2.21	Lead: Class C + 2% SMS + 1.0% R-3 + 0.25 pps CelloFlake + 0.005 pps Static Free (TOC @ surface)
	200	14.8	1.32	Tail: Class C + 0.25 pps Celloflake + 0.005 pps Static Free + 0.005 gps FL-6L
BH Plug 8300'-8100'	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
12,606'	500	11.8	2.31	Lead: 50:50:10 Class C + 1.25% FL-52A + 0.30% ASA-301 + 0.15% ASA-301 + 0.15% SMS + 0.25 pps Celloflake + 0.005 pps Static Free (TOC @ 2,900')
	850	14.2	1.30	Tail: 50:50:2 Class 'H' + Class H + 0.65% FL-52A + 0.20% CD-32 + 0.20% SMS + 5% Salt + 0.15% R-3 + 0.005 pps 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.

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.

EOG RESOURCES, INC.
SAND TANK 17 FED COM NO. 5H
REVISED 8/12/11

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 – 350' <i>320</i>	Fresh Water Gel	8.6-8.8	28-34	N/c
350' – 3,400'	Saturated Brine	10.0-10.2	28-34	N/c
3,400' – 8,300'	Fresh Water	8.4-8.6	28-34	N/c
7,672' – 12,606' Lateral	Cut Brine	8.5-9.0	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*

No open hole logs are planned.

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

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

The estimated bottom-hole temperature (BHT) at TD is 144 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 3560 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.

EOG RESOURCES, INC.
SAND TANK 17 FED COM NO. 5H
REVISED 8/12/11

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.

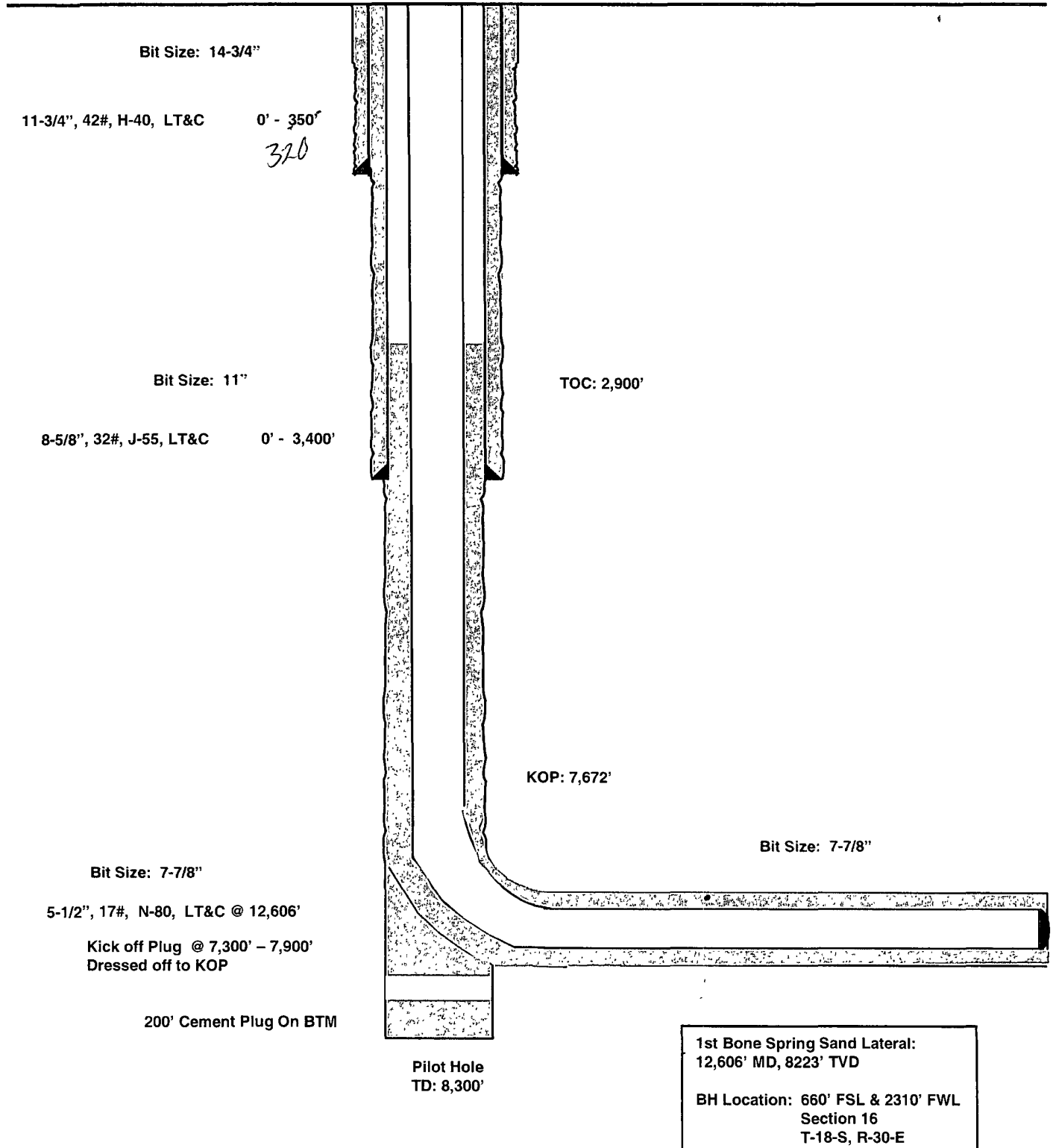
Sand Tank 17 Fed Com #5H
Sand Tank
Eddy County, New Mexico

700' FSL
2350' FEL
Section 17
T-18-S, R-30-E

Proposed Wellbore

API: 30-015-*****

KB: 3,487.0'
GL: 3,468.0'





EOG Resources, Inc.

Eddy County

Sand Tank "17" Fed. Com

#5H

OH

Plan: Design #1

Pathfinder X & Y Planning Report

31 March, 2011



Company: EOG Resources, Inc. Project: Eddy County Site: Sand Tank "17" Fed. Com Well: #5H Wellbore: OH Design: Design #1	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Database:	Well #5H WELL @ 3487.00usft (McVay #4) WELL @ 3487.00usft (McVay #4) Grid Minimum Curvature EDM 5000.1 Single User Db
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Project: Eddy County	
Map System: US State Plane 1927 (Exact solution) Geo Datum: NAD 1927 (NADCON CONUS) Map Zone: New Mexico East 3001	System Datum: Mean Sea Level

Site: Sand Tank "17" Fed. Com	
Site Position: From: Map Position Uncertainty: 0.00 usft	Northing: 637,852.200 usft Easting: 604,691.600 usft Slot Radius: 13-3/16 "
	Latitude: 32° 45' 11.112 N Longitude: 103° 59' 34.083 W Grid Convergence: 0 18 °

Well: #5H	
Well Position +N/-S 0.00 usft +E/-W 0.00 usft Position Uncertainty 0.00 usft	Northing: 633,834.400 usft Easting: 604,740.200 usft Wellhead Elevation: usft
	Latitude: 32° 44' 31.353 N Longitude: 103° 59' 33.666 W Ground Level: 3,468.00 usft

Wellbore: OH	
Magnetics: Model Name Sample Date Declination (°) Dip Angle (°) Field Strength (nT)	
IGRF200510 03/31/11 7.83 60.62 48,937	

Design: Design #1	
Audit Notes:	
Version: Phase: PLAN Tie On Depth: 0.00	
Vertical Section: Depth From (TVD) (usft) +N/-S (usft) +E/-W (usft) Direction (°)	
0.00 0.00 0.00 90.44	

Survey Tool Program: Date 03/31/11	
From (usft) To (usft) Survey (Wellbore) Tool Name Description	
0.00 12,606.07 Design #1 (OH) MWD MWD - Standard	

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #5H
Project:	Eddy County	TVD Reference:	WELL @ 3487.00usft (McVay #4)
Site:	Sand Tank #17 Fed. Com	MD Reference:	WELL @ 3487.00usft (McVay #4)
Well:	#5H	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	3,487.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
100.00	0.00	0.00	100.00	3,387.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
200.00	0.00	0.00	200.00	3,287.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
300.00	0.00	0.00	300.00	3,187.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
400.00	0.00	0.00	400.00	3,087.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
500.00	0.00	0.00	500.00	2,987.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
600.00	0.00	0.00	600.00	2,887.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
700.00	0.00	0.00	700.00	2,787.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
800.00	0.00	0.00	800.00	2,687.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
900.00	0.00	0.00	900.00	2,587.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
1,000.00	0.00	0.00	1,000.00	2,487.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
1,100.00	0.00	0.00	1,100.00	2,387.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
1,200.00	0.00	0.00	1,200.00	2,287.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
1,300.00	0.00	0.00	1,300.00	2,187.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
1,400.00	0.00	0.00	1,400.00	2,087.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
1,500.00	0.00	0.00	1,500.00	1,987.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
1,600.00	0.00	0.00	1,600.00	1,887.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
1,700.00	0.00	0.00	1,700.00	1,787.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
1,800.00	0.00	0.00	1,800.00	1,687.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
1,900.00	0.00	0.00	1,900.00	1,587.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
2,000.00	0.00	0.00	2,000.00	1,487.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
2,100.00	0.00	0.00	2,100.00	1,387.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
2,200.00	0.00	0.00	2,200.00	1,287.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
2,300.00	0.00	0.00	2,300.00	1,187.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
2,400.00	0.00	0.00	2,400.00	1,087.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
2,500.00	0.00	0.00	2,500.00	987.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
2,600.00	0.00	0.00	2,600.00	887.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	



Pathfinder
Pathfinder X & Y Planning Report

PATHFINDER
A Schlumberger Company

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #5H
Project:	Eddy County	TVD Reference:	WELL @ 3487.00usft (McVay #4)
Site:	Sand Tank "17" Fed. Com	MD Reference:	WELL @ 3487.00usft (McVay #4)
Well:	#5H	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)	
2,700.00	0.00	0.00	2,700.00	787.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
2,800.00	0.00	0.00	2,800.00	687.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
2,900.00	0.00	0.00	2,900.00	587.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
3,000.00	0.00	0.00	3,000.00	487.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
3,100.00	0.00	0.00	3,100.00	387.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
3,200.00	0.00	0.00	3,200.00	287.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
3,300.00	0.00	0.00	3,300.00	187.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
3,400.00	0.00	0.00	3,400.00	87.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
3,500.00	0.00	0.00	3,500.00	-13.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
3,600.00	0.00	0.00	3,600.00	-113.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
3,700.00	0.00	0.00	3,700.00	-213.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
3,800.00	0.00	0.00	3,800.00	-313.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
3,900.00	0.00	0.00	3,900.00	-413.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
4,000.00	0.00	0.00	4,000.00	-513.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
4,100.00	0.00	0.00	4,100.00	-613.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
4,200.00	0.00	0.00	4,200.00	-713.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
4,300.00	0.00	0.00	4,300.00	-813.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
4,400.00	0.00	0.00	4,400.00	-913.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
4,500.00	0.00	0.00	4,500.00	-1,013.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
4,600.00	0.00	0.00	4,600.00	-1,113.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
4,700.00	0.00	0.00	4,700.00	-1,213.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
4,800.00	0.00	0.00	4,800.00	-1,313.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
4,900.00	0.00	0.00	4,900.00	-1,413.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
5,000.00	0.00	0.00	5,000.00	-1,513.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
5,100.00	0.00	0.00	5,100.00	-1,613.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
5,200.00	0.00	0.00	5,200.00	-1,713.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
5,300.00	0.00	0.00	5,300.00	-1,813.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #5H
Project:	Eddy County	TVD Reference:	WELL @ 3487.00usft (McVay #4)
Site:	Sand Tank "17" Fed. Com	MD Reference:	WELL @ 3487 00usft (McVay #4)
Well:	#5H	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)	
5,400.00	0 00	0 00	5,400.00	-1,913 00	0.00	0.00	0 00	0.00	633,834.40	604,740.20	
5,500.00	0 00	0.00	5,500.00	-2,013 00	0.00	0 00	0.00	0.00	633,834.40	604,740.20	
5,600.00	0.00	0 00	5,600.00	-2,113.00	0 00	0.00	0.00	0.00	633,834 40	604,740.20	
5,700.00	0.00	0 00	5,700.00	-2,213.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
5,800.00	0 00	0.00	5,800.00	-2,313.00	0.00	0.00	0.00	0.00	633,834 40	604,740.20	
5,900.00	0.00	0.00	5,900.00	-2,413 00	0.00	0.00	0 00	0.00	633,834.40	604,740.20	
6,000.00	0.00	0.00	6,000.00	-2,513.00	0 00	0 00	0.00	0 00	633,834.40	604,740 20	
6,100.00	0.00	0.00	6,100.00	-2,613.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
6,200.00	0.00	0.00	6,200.00	-2,713 00	0.00	0.00	0.00	0.00	633,834.40	604,740 20	
6,300.00	0.00	0.00	6,300.00	-2,813 00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
6,400.00	0.00	0.00	6,400.00	-2,913.00	0 00	0.00	0.00	0.00	633,834 40	604,740.20	
6,500 00	0.00	0.00	6,500.00	-3,013.00	0.00	0.00	0.00	0 00	633,834.40	604,740.20	
6,600 00	0.00	0.00	6,600.00	-3,113.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
6,700.00	0.00	0.00	6,700.00	-3,213 00	0.00	0 00	0.00	0.00	633,834.40	604,740.20	
6,800.00	0.00	0.00	6,800 00	-3,313.00	0 00	0.00	0.00	0 00	633,834.40	604,740.20	
6,900.00	0.00	0.00	6,900.00	-3,413.00	0 00	0 00	0.00	0 00	633,834.40	604,740.20	
7,000 00	0 00	0 00	7,000.00	-3,513 00	0.00	0.00	0.00	0 00	633,834.40	604,740.20	
7,100.00	0.00	0.00	7,100 00	-3,613.00	0.00	0.00	0 00	0.00	633,834.40	604,740 20	
7,200.00	0.00	0.00	7,200.00	-3,713 00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
7,300 00	0.00	0.00	7,300.00	-3,813.00	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
7,400.00	0 00	0 00	7,400.00	-3,913.00	0 00	0.00	0.00	0.00	633,834.40	604,740.20	
7,500.00	0 00	0.00	7,500.00	-4,013.00	0.00	0.00	0.00	0 00	633,834 40	604,740.20	
7,600.00	0 00	0.00	7,600 00	-4,113 00	0.00	0.00	0 00	0 00	633,834.40	604,740.20	
7,672.50	0.00	0.00	7,672.50	-4,185.50	0.00	0.00	0.00	0.00	633,834.40	604,740.20	
KOP-7672.50'MD,0.00°INC,0.00°AZI,7672.50'TVD											
7,675.00	0.30	90.44	7,675 00	-4,188.00	0.00	0 01	0.01	12.00	633,834.40	604,740.21	
7,700.00	3.30	90.44	7,699.98	-4,212.98	-0.01	0 79	0.79	12.00	633,834.39	604,740.99	

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #5H
Project:	Eddy County	TVD Reference:	WELL @ 3487.00usft (McVay #4)
Site:	Sand Tank "17" Fed. Com	MD Reference:	WELL @ 3487.00usft (McVay #4)
Well:	#5H	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)	
7,725.00	6.30	90.44	7,724.89	-4,237.89	-0.02	2.88	2.88	12.00	633,834.38	604,743.08	
7,750.00	9.30	90.44	7,749.66	-4,262.66	-0.05	6.27	6.27	12.00	633,834.35	604,746.47	
7,775.00	12.30	90.44	7,774.21	-4,287.21	-0.08	10.96	10.96	12.00	633,834.32	604,751.16	
7,800.00	15.30	90.44	7,798.49	-4,311.49	-0.13	16.92	16.92	12.00	633,834.27	604,757.12	
7,825.00	18.30	90.44	7,822.42	-4,335.42	-0.19	24.14	24.14	12.00	633,834.21	604,764.34	
7,850.00	21.30	90.44	7,845.94	-4,358.94	-0.25	32.61	32.61	12.00	633,834.15	604,772.81	
7,875.00	24.29	90.44	7,868.99	-4,381.99	-0.32	42.29	42.29	12.00	633,834.08	604,782.49	
7,900.00	27.29	90.44	7,891.49	-4,404.49	-0.41	53.17	53.17	12.00	633,833.99	604,793.37	
7,925.00	30.29	90.44	7,913.40	-4,426.40	-0.50	65.21	65.21	12.00	633,833.90	604,805.41	
7,950.00	33.29	90.44	7,934.65	-4,447.65	-0.60	78.38	78.38	12.00	633,833.80	604,818.58	
7,975.00	36.29	90.44	7,955.17	-4,468.17	-0.71	92.64	92.64	12.00	633,833.69	604,832.84	
8,000.00	39.29	90.44	7,974.93	-4,487.93	-0.83	107.96	107.96	12.00	633,833.57	604,848.16	
8,025.00	42.29	90.44	7,993.85	-4,506.85	-0.95	124.29	124.29	12.00	633,833.45	604,864.49	
8,050.00	45.29	90.44	8,011.90	-4,524.90	-1.09	141.59	141.59	12.00	633,833.31	604,881.79	
8,075.00	48.29	90.44	8,029.01	-4,542.01	-1.23	159.80	159.81	12.00	633,833.17	604,900.00	
8,100.00	51.29	90.44	8,045.15	-4,558.15	-1.37	178.89	178.90	12.00	633,833.03	604,919.09	
8,125.00	54.29	90.44	8,060.27	-4,573.27	-1.53	198.80	198.81	12.00	633,832.87	604,939.00	
8,150.00	57.29	90.44	8,074.32	-4,587.32	-1.69	219.47	219.48	12.00	633,832.71	604,959.67	
8,175.00	60.29	90.44	8,087.28	-4,600.28	-1.85	240.85	240.86	12.00	633,832.55	604,981.05	
8,200.00	63.29	90.44	8,099.10	-4,612.10	-2.02	262.88	262.88	12.00	633,832.38	605,003.08	
8,225.00	66.29	90.44	8,109.75	-4,622.75	-2.19	285.49	285.50	12.00	633,832.21	605,025.69	
8,250.00	69.28	90.44	8,119.20	-4,632.20	-2.37	308.63	308.64	12.00	633,832.03	605,048.83	
8,275.00	72.28	90.44	8,127.42	-4,640.42	-2.55	332.24	332.25	12.00	633,831.85	605,072.44	
8,300.00	75.28	90.44	8,134.40	-4,647.40	-2.74	356.24	356.25	12.00	633,831.66	605,096.44	
8,325.00	78.28	90.44	8,140.12	-4,653.12	-2.92	380.57	380.58	12.00	633,831.48	605,120.77	
8,350.00	81.28	90.44	8,144.55	-4,657.55	-3.11	405.17	405.18	12.00	633,831.29	605,145.37	
8,375.00	84.28	90.44	8,147.70	-4,660.70	-3.30	429.97	429.98	12.00	633,831.10	605,170.17	

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #5H
Project:	Eddy County	TVD Reference:	WELL @ 3487.00usft (McVay #4)
Site:	Sand Tank "17" Fed. Com	MD Reference:	WELL @ 3487.00usft (McVay #4)
Well:	#5H	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)	
8,400.00	87.28	90.44	8,149.53	-4,662.53	-3.49	454.90	454.91	12.00	633,830.91	605,195.10	
8,414.33	89.00	90.44	8,150.00	-4,663.00	-3.60	469.22	469.24	12.00	633,830.80	605,209.42	
EOC-8414.33°MD,89.00°INC,90.44°AZI,8150.00°TVD											
8,500.00	89.00	90.44	8,151.50	-4,664.50	-4.26	554.87	554.89	0.00	633,830.14	605,295.07	
8,600.00	89.00	90.44	8,153.24	-4,666.24	-5.03	654.86	654.88	0.00	633,829.37	605,395.06	
8,700.00	89.00	90.44	8,154.99	-4,667.99	-5.80	754.84	754.86	0.00	633,828.60	605,495.04	
8,800.00	89.00	90.44	8,156.73	-4,669.73	-6.56	854.82	854.84	0.00	633,827.84	605,595.02	
8,900.00	89.00	90.44	8,158.48	-4,671.48	-7.33	954.80	954.83	0.00	633,827.07	605,695.00	
9,000.00	89.00	90.44	8,160.22	-4,673.22	-8.10	1,054.78	1,054.81	0.00	633,826.30	605,794.98	
9,100.00	89.00	90.44	8,161.97	-4,674.97	-8.87	1,154.77	1,154.80	0.00	633,825.53	605,894.97	
9,200.00	89.00	90.44	8,163.71	-4,676.71	-9.64	1,254.75	1,254.78	0.00	633,824.76	605,994.95	
9,300.00	89.00	90.44	8,165.46	-4,678.46	-10.40	1,354.73	1,354.77	0.00	633,824.00	606,094.93	
9,400.00	89.00	90.44	8,167.20	-4,680.20	-11.17	1,454.71	1,454.75	0.00	633,823.23	606,194.91	
9,500.00	89.00	90.44	8,168.95	-4,681.95	-11.94	1,554.69	1,554.74	0.00	633,822.46	606,294.89	
9,600.00	89.00	90.44	8,170.69	-4,683.69	-12.71	1,654.67	1,654.72	0.00	633,821.69	606,394.87	
9,700.00	89.00	90.44	8,172.44	-4,685.44	-13.48	1,754.66	1,754.71	0.00	633,820.92	606,494.86	
9,800.00	89.00	90.44	8,174.18	-4,687.18	-14.24	1,854.64	1,854.69	0.00	633,820.16	606,594.84	
9,900.00	89.00	90.44	8,175.93	-4,688.93	-15.01	1,954.62	1,954.68	0.00	633,819.39	606,694.82	
10,000.00	89.00	90.44	8,177.67	-4,690.67	-15.78	2,054.60	2,054.66	0.00	633,818.62	606,794.80	
10,100.00	89.00	90.44	8,179.42	-4,692.42	-16.55	2,154.58	2,154.65	0.00	633,817.85	606,894.78	
10,200.00	89.00	90.44	8,181.16	-4,694.16	-17.31	2,254.57	2,254.63	0.00	633,817.09	606,994.77	
10,300.00	89.00	90.44	8,182.91	-4,695.91	-18.08	2,354.55	2,354.62	0.00	633,816.32	607,094.75	
10,400.00	89.00	90.44	8,184.65	-4,697.65	-18.85	2,454.53	2,454.60	0.00	633,815.55	607,194.73	
10,500.00	89.00	90.44	8,186.40	-4,699.40	-19.62	2,554.51	2,554.59	0.00	633,814.78	607,294.71	
10,600.00	89.00	90.44	8,188.15	-4,701.15	-20.39	2,654.49	2,654.57	0.00	633,814.01	607,394.69	
10,700.00	89.00	90.44	8,189.89	-4,702.89	-21.15	2,754.47	2,754.56	0.00	633,813.25	607,494.67	
10,800.00	89.00	90.44	8,191.64	-4,704.64	-21.92	2,854.46	2,854.54	0.00	633,812.48	607,594.66	

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #5H
Project:	Eddy County	TVD Reference:	WELL @ 3487.00usft (McVay #4)
Site:	Sand Tank "17" Fed. Com	MD Reference:	WELL @ 3487.00usft (McVay #4)
Well:	#5H	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)	
10,900.00	89.00	90.44	8,193.38	-4,706.38	-22.69	2,954.44	2,954.53	0.00	633,811.71	607,694.64	
11,000.00	89.00	90.44	8,195.13	-4,708.13	-23.46	3,054.42	3,054.51	0.00	633,810.94	607,794.62	
11,100.00	89.00	90.44	8,196.87	-4,709.87	-24.22	3,154.40	3,154.49	0.00	633,810.18	607,894.60	
11,200.00	89.00	90.44	8,198.62	-4,711.62	-24.99	3,254.38	3,254.48	0.00	633,809.41	607,994.58	
11,300.00	89.00	90.44	8,200.36	-4,713.36	-25.76	3,354.37	3,354.46	0.00	633,808.64	608,094.57	
11,400.00	89.00	90.44	8,202.11	-4,715.11	-26.53	3,454.35	3,454.45	0.00	633,807.87	608,194.55	
11,500.00	89.00	90.44	8,203.85	-4,716.85	-27.30	3,554.33	3,554.43	0.00	633,807.10	608,294.53	
11,600.00	89.00	90.44	8,205.60	-4,718.60	-28.06	3,654.31	3,654.42	0.00	633,806.34	608,394.51	
11,700.00	89.00	90.44	8,207.34	-4,720.34	-28.83	3,754.29	3,754.40	0.00	633,805.57	608,494.49	
11,800.00	89.00	90.44	8,209.09	-4,722.09	-29.60	3,854.27	3,854.39	0.00	633,804.80	608,594.47	
11,900.00	89.00	90.44	8,210.83	-4,723.83	-30.37	3,954.26	3,954.37	0.00	633,804.03	608,694.46	
12,000.00	89.00	90.44	8,212.58	-4,725.58	-31.13	4,054.24	4,054.36	0.00	633,803.27	608,794.44	
12,100.00	89.00	90.44	8,214.32	-4,727.32	-31.90	4,154.22	4,154.34	0.00	633,802.50	608,894.42	
12,200.00	89.00	90.44	8,216.07	-4,729.07	-32.67	4,254.20	4,254.33	0.00	633,801.73	608,994.40	
12,300.00	89.00	90.44	8,217.81	-4,730.81	-33.44	4,354.18	4,354.31	0.00	633,800.96	609,094.38	
12,400.00	89.00	90.44	8,219.56	-4,732.56	-34.21	4,454.17	4,454.30	0.00	633,800.19	609,194.37	
12,500.00	89.00	90.44	8,221.30	-4,734.30	-34.97	4,554.15	4,554.28	0.00	633,799.43	609,294.35	
12,606.07	89.00	90.44	8,223.16	-4,736.16	-35.79	4,660.20	4,660.34	0.00	633,798.61	609,400.40	
PBHL(ST17#5)											

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,672.50	7,672.50	0.00	0.00	KOP-7672.50°MD,0.00°INC,0.00°AZI,7672.50°TVD
8,414.33	8,150.00	-3.60	469.22	EOC-8414.33°MD,89.00°INC,90.44°AZI,8150.00°TVD
12,606.07	8,223.16	-35.79	4,660.20	TD at 12606.07



Pathfinder
Pathfinder X & Y Planning Report

PATHFINDER
A Schlumberger Company

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #5H
Project:	Eddy County	TVD Reference:	WELL @ 3487.00usft (McVay #4)
Site:	Sand Tank "17" Fed Com	MD Reference:	WELL @ 3487 00usft (McVay #4)
Well:	#5H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDM 5000.1 Single User Db

Checked By: _____	Approved By: _____	Date: _____
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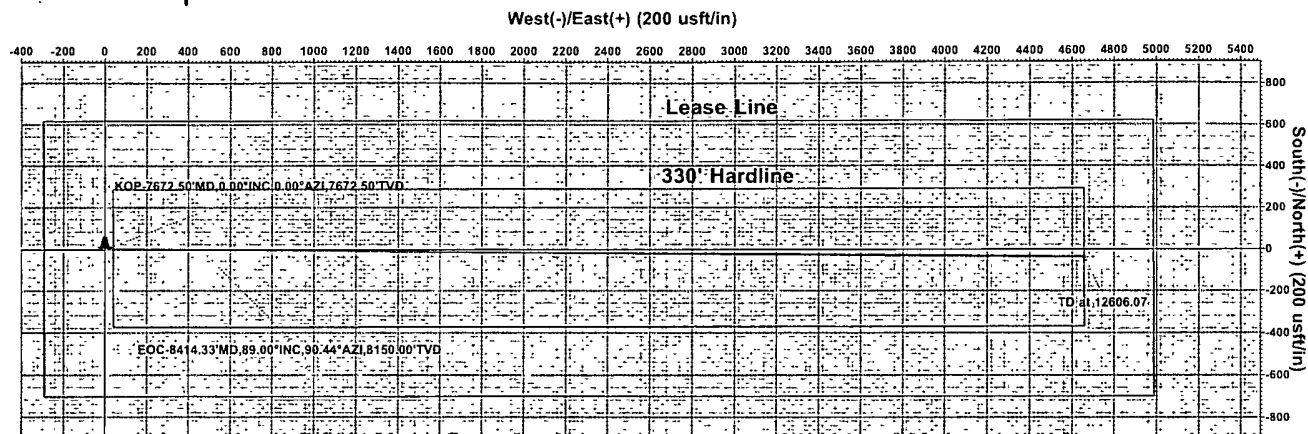


Azimuths to Grid North
True North: -0.18°
Magnetic North: 7.65°

Magnetic Field
Strength: 48937.5snT
Dip Angle: 60.62°
Date: 03/31/2011
Model: IGRF200510

PATHFINDER®
A Schlumberger Company

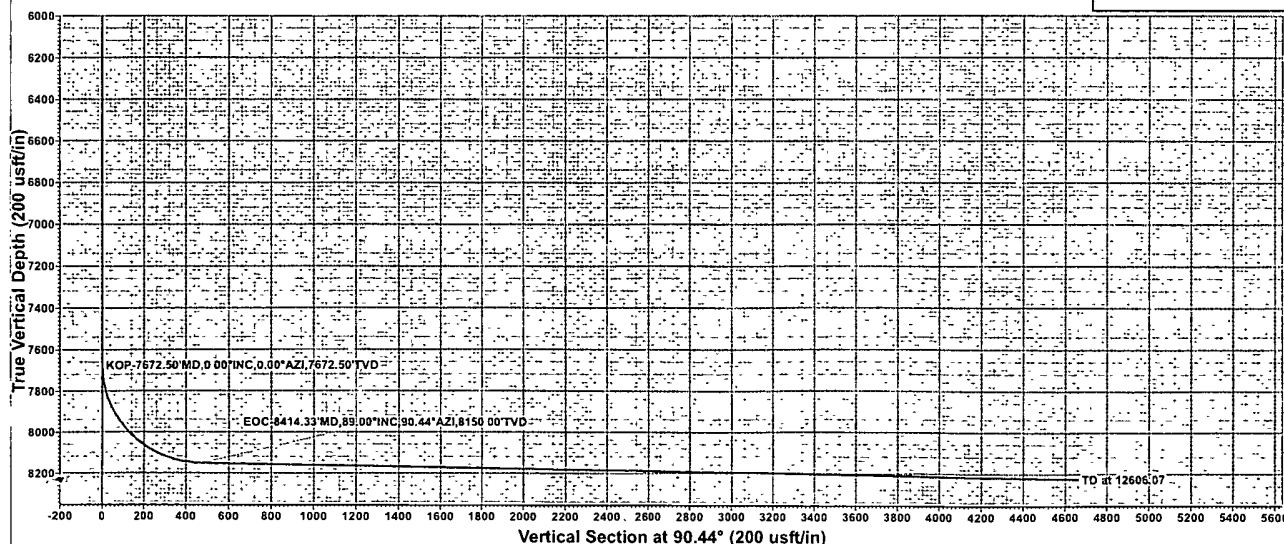
Project: Eddy County
Site: Sand Tank "17" Fed. Com
Well: #5H
Wellbore: OH
Plan: Design #1 (#5H/OH)



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7672.50	0.00	0.00	7672.50	0.00	0.00	0.00	0.00	0.00	
8414.33	89.00	90.44	8150.00	-3.60	469.22	12.00	90.44	469.24	
12606.07	89.00	90.44	8223.16	-35.79	4660.20	0.00	0.00	4660.34	PBHL(ST17#5)

WELL DETAILS #5H						
Ground Elevation: 3468.00						
RKB Elevation: WELL @ 3487.00usft (McVay #4)						
Rig Name: McVay #4						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	633834.400	604740.200	32° 44' 31.353 N	103° 59' 33.666 W	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)						
TVD	+N/-S	+E/-W	Northing	Easting	Shape	
PBHL(ST17#5) 8223.16	-35.50	4660.20	633798.900	609400.400	Point	



LEGEND

◆ Design #1

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

Plan: Design #1 (#5H/OH)			
Created By	Nate Bingham	Date	14.57, March 31 2011
Checked		Date	

EXHIBIT 1

EOG Resources
5000 PSI BOPE
Sand Tank Fed Com #5H

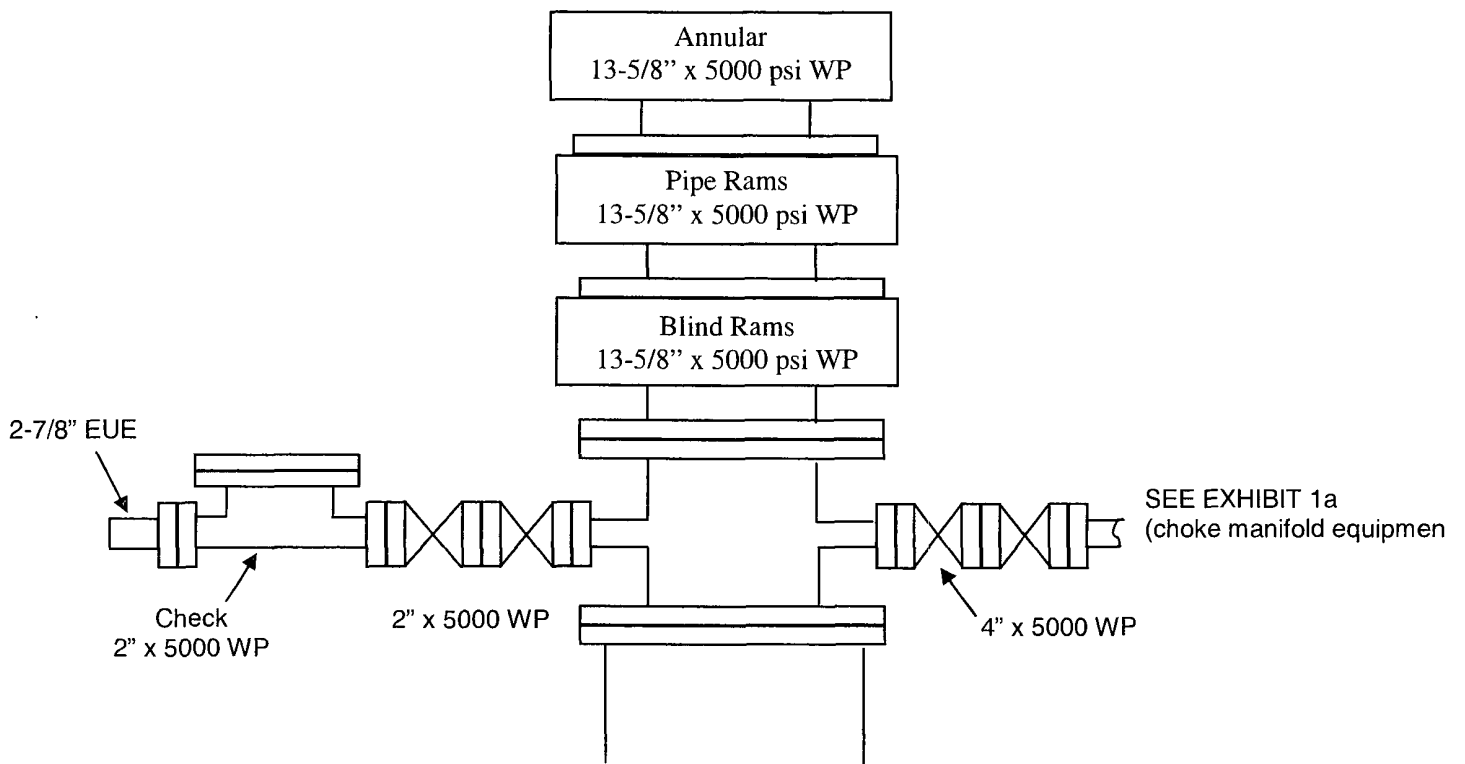
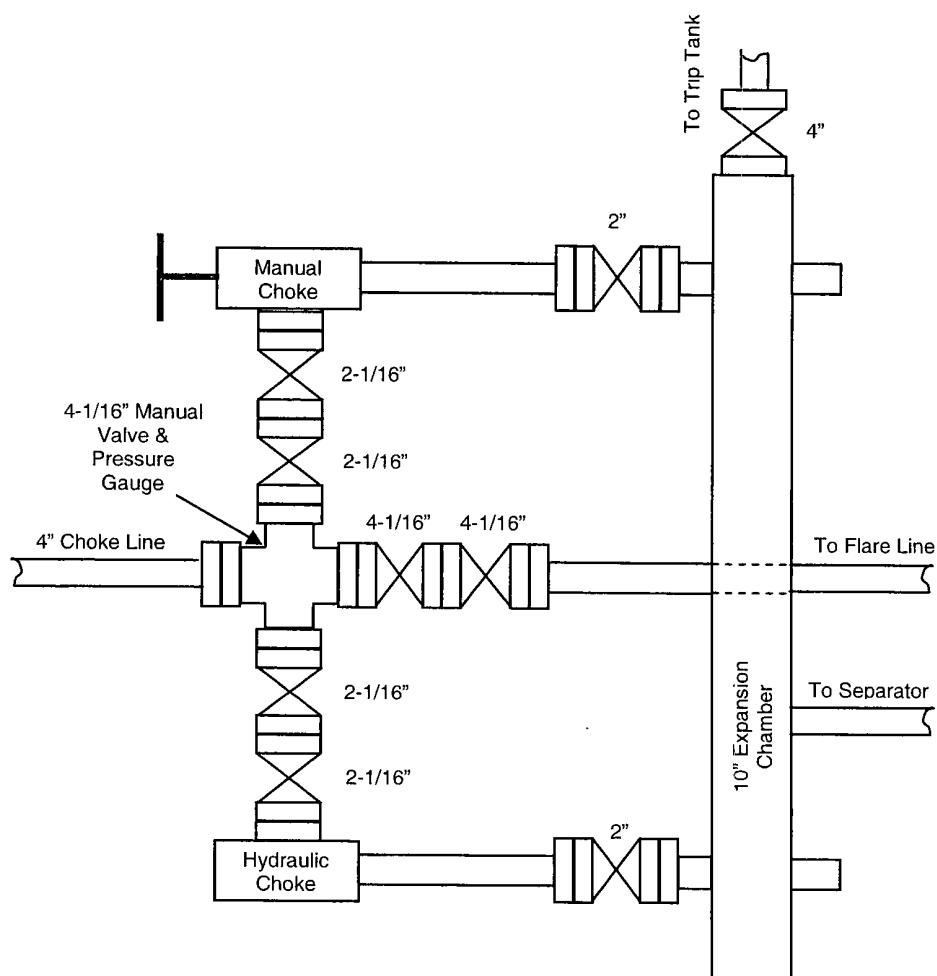


EXHIBIT 1a
EOG Resources, Inc.
5M Choke Manifold Equipment

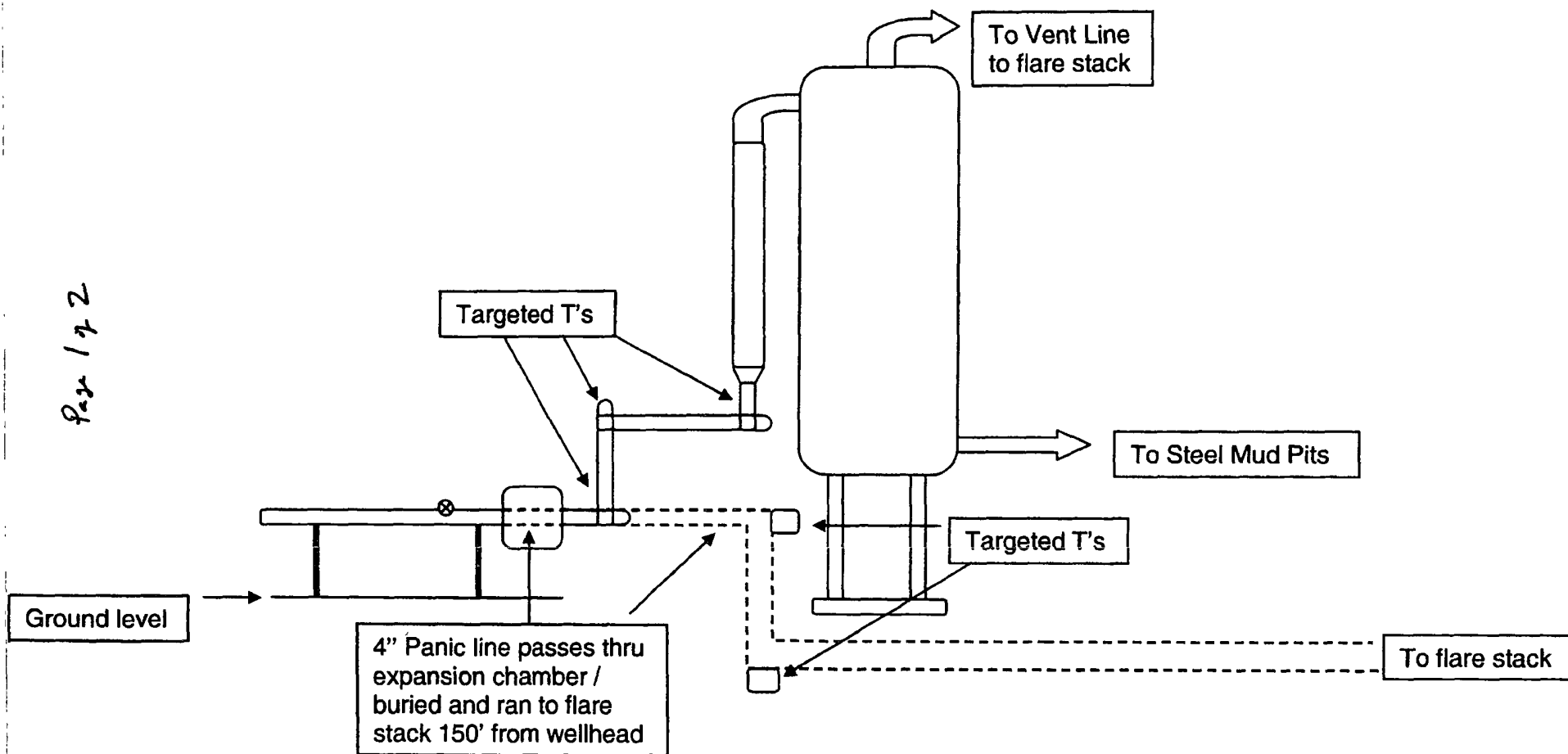


EOG RESOURCES, INC.
SAND TANK 17 FED COM 5H

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



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

