

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

15-11-614
FORM APPROVED
OMB NO. 1004-0137
Expires July 31, 2010

SECRETARY'S POTASH

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work ☒ DRILL ☐ REENTER		5. Lease Serial No. LC-063621a (SHL)	
1b. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator EOG Resources Inc. 7377		7. Unit or CA Agreement Name and No.	
3a. Address P.O. Box 2267 Midland, Texas 79702		8. Lease Name and Well No. Sand Tank 17 Fed Com 3H 20944	
3b. Phone No. (include area code) 432-686-3689		9. API Well No. 30-015- 39168	
4. Location of Well (Report location clearly and in accordance with any State requirements)* At surface 1980' FNL & 2310' FEL, U/L G, Sec 17, T18S, R30E At proposed prod. zone 1980' FNL & 2310' FWL, Sec 16, T18S, R30E		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		12. County or Parish Eddy	
13. State NM		14. Distance in miles and direction from nearest town or post office* Approximately +/- 6 miles South from Loco Hills, NM	
15. Distance from proposed* location to nearest property or lease line, ft. 1420' from ST 17-4H (Also to nearest drg. unit line, if any)		16. No. of Acres in lease 1040	
17. Spacing Unit dedicated to this well 160		18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 330'	
19. Proposed Depth Pilot Hole 8300' 8112 TVD - 12456 MD		20. BLM/BIA Bond No. on file NM 2308	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3465' 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 <i>Stan Wagner</i>	Name (Printed/Typed) Stan Wagner	Date 4/15/11
Title Regulatory Analyst		
Approved by (Signature) /s/ Jesse J. Juen	Name (Printed/Typed) /s/ Jesse J. Juen	Date JUN 21 2011
Title FOR 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.

Oil Conservation Division
Case No. 10
Exhibit No. 10

RECEIVED
JUN 27 2011
NM OCD ARTESIA
K2 07/05/11

ROSWELL CONTROLLED WATER BASIN

*(Instructions on page 2)

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

EOG RESOURCES, INC.
SAND TANK 17 FED COM NO. 3H

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	280'
Top of Salt	410'
Base of Salt	1,280'
Yates	1,430'
Seven Rivers	1,860'
Queen	2,400'
Grayburg	2,790'
San Andres	3,440'
Bone Spring 1	4,420'
1 st Bone Spring Sand	7,040'
2 nd Bone Spring	7,350'
2 nd Bone Spring Sand	7,600'
Top "F" Sand	8,000'
TD	8,300'

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

Upper Permian Sands	0- 280'	Fresh Water
Queen	2,400'	Oil
Grayburg	2,790'	Oil
San Andres	3,440'	Oil
Bone Spring 1	4,420'	Oil
1 st Bone Spring Sand	7,040'	Oil
2 nd Bone Spring	7,350'	Oil
2 nd Bone Spring Sand	7,600'	Oil
Top "F" Sand	8,000'	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

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
14.75"	0 - 350' 275'	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'-12,456'	5.500"	17#	L80 or N80	LTC	1.125	1.25	1.60

EOG RESOURCES, INC.
SAND TANK 17 FED COM NO. 3H

Cementing Program:

Depth	No. Sacks	Wt. lb/gal	Yld Ft ³ /ft	Slurry Description
350'	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
12,456'	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. 3H

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' 275	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
7,562' - 12,456'	Cut Brine	8.5-9.0	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

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 143 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 3500 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. 3H**

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.

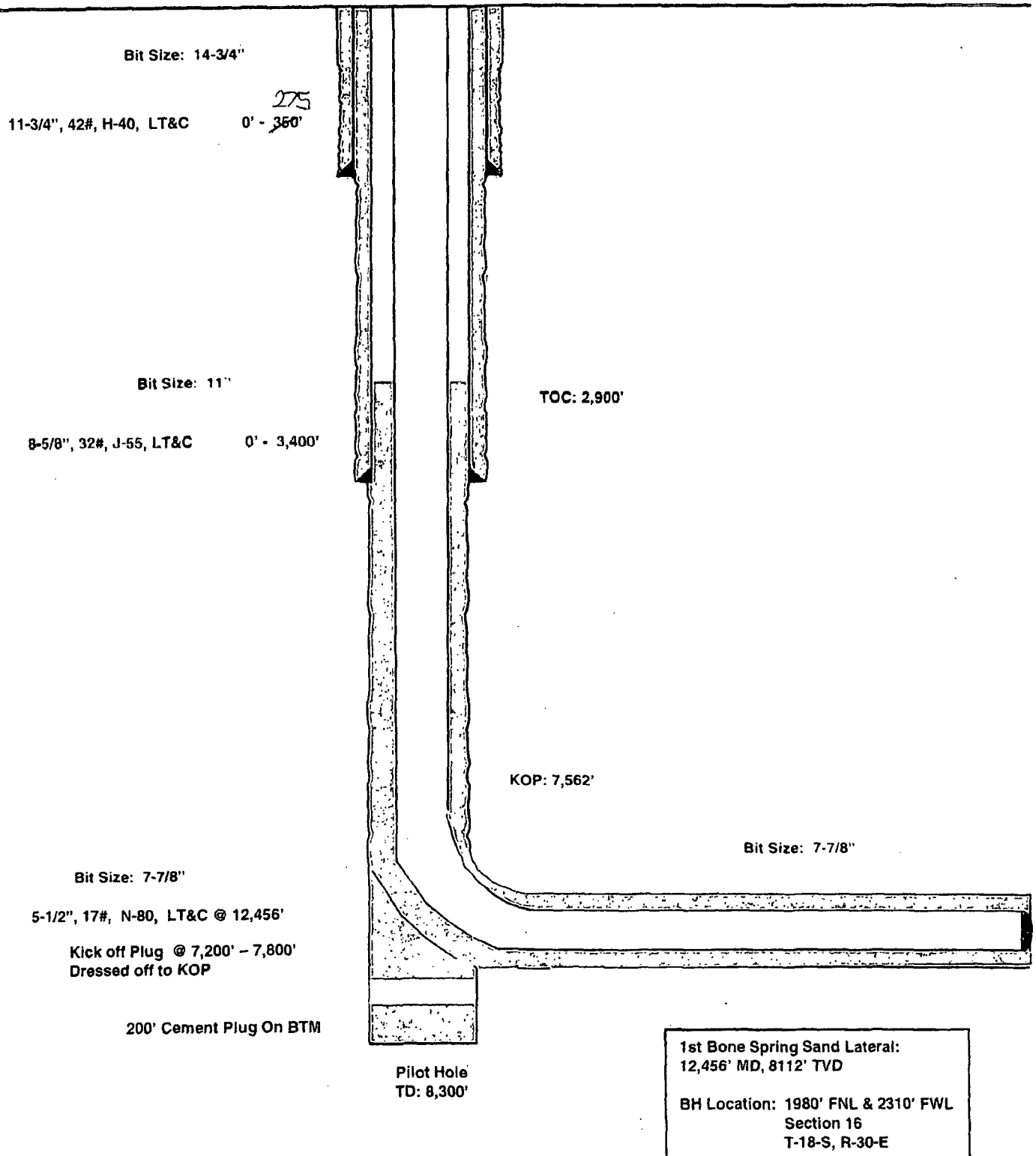
Sand Tank 17 Fed Com #3H
Sand Tank
Eddy County, New Mexico

1980' FNL
2310' FEL
Section 17
T-18-S, R-30-E

Proposed Wellbore

API: 30-015-*****

KB: 3,484.1'
GL: 3,465.1'





EOG Resources, Inc.

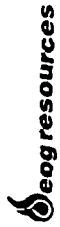
Eddy County
Sand Tank "17" Fed. Com
#3H
OH

Plan: Design #1

Pathfinder X & Y Planning Report

31 March, 2011

PATHFINDER
A Schlumberger Company



Pathfinder
Pathfinder X & Y Planning Report



Company: EOG Resources, Inc.		Well #3H WELL @ 3484.10usft (Original Well Elev) WELL @ 3484.10usft (Original Well Elev) Grid Minimum Curvature EDM 5000.1 Single User Db	
Project: Eddy County		Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Database:	
Site: Sand Tank #17 Fed. Com			
Wellbore: OH			
Design: Design #1			
Project Eddy County			
Map System: US State Plane 1927 (Exact solution)		System Datum: Mean Sea Level	
Geo Datum: NAD 1927 (NADCON CONUS)			
Map Zone: New Mexico East 3001			
Site Sand Tank #17 Fed. Com			
Site Position: From: Map		Northings: 637,852.200 usft 604,691,600 usft Latitude: Longitude: Grid Convergence:	
Position Uncertainty: 0.00 usft		Slot Radius: 13.3/16" 0.18"	
Well #3H			
Well Position +N-S +E-W 0.00 usft 0.00 usft 0.00 usft		Northings: 636,432.200 usft 604,771,700 usft Latitude: Longitude: Ground Level:	
Position Uncertainty 0.00 usft		Wellhead Elevation: usft 3,465.10 usft	
Wellbore OH			
Magnetics Model Name Sample Date 03/31/11		Dip Angle Field Strength (nT) 60.63 48,942	
Design Design #1			
Audit Notes: Version:			
Vertical Section: Depth From (TVD) (usft) 0.00		Tie On Depth: 0.00 Direction (°) 89.98	
Survey Tool Program Date 03/31/11			
From (usft) 0.00		To (usft) 12,455.20	
Survey (Wellbore) Design #1 (OH)		Description MWD MWD - Standard	

Company: EOG Resources, Inc. Project: Eddy County Site: Sand Tank "17" Fed. Com Well: #3H Wellbore: OH Design: Design #1				Local Co-ordinate Reference: TVD Reference: WELL @ 3484.10usft (Original Well Elev) MD Reference: WELL @ 3484.10usft (Original Well Elev) North Reference: Grid Survey Calculation Method: Minimum Curvature Database: EDM 5000.1 Single User Db							Well #3H	
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	NS (usft)	EW (usft)	V. Sec (usft)	D Leg (°/100usft)	Northing (usft)	Easting (usft)		
0.00	0.00	0.00	0.00	3,484.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
100.00	0.00	0.00	100.00	3,384.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
200.00	0.00	0.00	200.00	3,284.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
300.00	0.00	0.00	300.00	3,184.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
400.00	0.00	0.00	400.00	3,084.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
500.00	0.00	0.00	500.00	2,984.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
600.00	0.00	0.00	600.00	2,884.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
700.00	0.00	0.00	700.00	2,784.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
800.00	0.00	0.00	800.00	2,684.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
900.00	0.00	0.00	900.00	2,584.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
1,000.00	0.00	0.00	1,000.00	2,484.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
1,100.00	0.00	0.00	1,100.00	2,384.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
1,200.00	0.00	0.00	1,200.00	2,284.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
1,300.00	0.00	0.00	1,300.00	2,184.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
1,400.00	0.00	0.00	1,400.00	2,084.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
1,500.00	0.00	0.00	1,500.00	1,984.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
1,600.00	0.00	0.00	1,600.00	1,884.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
1,700.00	0.00	0.00	1,700.00	1,784.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
1,800.00	0.00	0.00	1,800.00	1,684.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
1,900.00	0.00	0.00	1,900.00	1,584.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
2,000.00	0.00	0.00	2,000.00	1,484.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
2,100.00	0.00	0.00	2,100.00	1,384.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
2,200.00	0.00	0.00	2,200.00	1,284.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
2,300.00	0.00	0.00	2,300.00	1,184.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
2,400.00	0.00	0.00	2,400.00	1,084.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
2,500.00	0.00	0.00	2,500.00	984.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		
2,600.00	0.00	0.00	2,600.00	884.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70		

Company:			EOG Resources, Inc.			Local Co-ordinate Reference:			Well #3H		
Project:			Eddy County			TVD Reference:			WELL @ 3484.10ust (Original Well Elev)		
Site:			Sand Tank #17 Fed. Com			MD Reference:			WELL @ 3484.10ust (Original Well Elev)		
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 (ust)	Inc (°)	Azi (°)	TVD (ust)	TVDSS (ust)	N/S (ust)	E/W (ust)	V. Sec (ust)	D Leg (°/100ust)	Northing (ust)	Eastng (ust)	
2,700.00	0.00	0.00	2,700.00	784.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
2,800.00	0.00	0.00	2,800.00	684.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
2,900.00	0.00	0.00	2,900.00	584.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
3,000.00	0.00	0.00	3,000.00	484.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
3,100.00	0.00	0.00	3,100.00	384.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
3,200.00	0.00	0.00	3,200.00	284.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
3,300.00	0.00	0.00	3,300.00	184.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
3,400.00	0.00	0.00	3,400.00	84.10	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
3,500.00	0.00	0.00	3,500.00	-15.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
3,600.00	0.00	0.00	3,600.00	-115.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
3,700.00	0.00	0.00	3,700.00	-215.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
3,800.00	0.00	0.00	3,800.00	-315.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
3,900.00	0.00	0.00	3,900.00	-415.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
4,000.00	0.00	0.00	4,000.00	-515.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
4,100.00	0.00	0.00	4,100.00	-615.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
4,200.00	0.00	0.00	4,200.00	-715.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
4,300.00	0.00	0.00	4,300.00	-815.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
4,400.00	0.00	0.00	4,400.00	-915.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
4,500.00	0.00	0.00	4,500.00	-1,015.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
4,600.00	0.00	0.00	4,600.00	-1,115.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
4,700.00	0.00	0.00	4,700.00	-1,215.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
4,800.00	0.00	0.00	4,800.00	-1,315.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
4,900.00	0.00	0.00	4,900.00	-1,415.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
5,000.00	0.00	0.00	5,000.00	-1,515.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
5,100.00	0.00	0.00	5,100.00	-1,615.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
5,200.00	0.00	0.00	5,200.00	-1,715.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70	
5,300.00	0.00	0.00	5,300.00	-1,815.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70	



Pathfinder
Pathfinder X & Y Planning Report



Company: EOG Resources, Inc.		Local Co-ordinate Reference:				Well #3H				
Project: Eddy County		TVD Reference:				WELL @ 3484.10usft (Original Well Elev)				
Site: Sand Tank "17" Fed. Com		MD Reference:				WELL @ 3484.10usft (Original Well Elev)				
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 (")	Asl (')	TVD (usft)	TVDSS (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	D Leg ("/100usft)	Northing (usft)	Easting (usft)
5,400.00	0.00	0.00	5,400.00	-1,915.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
5,500.00	0.00	0.00	5,500.00	-2,015.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
5,600.00	0.00	0.00	5,600.00	-2,115.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
5,700.00	0.00	0.00	5,700.00	-2,215.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
5,800.00	0.00	0.00	5,800.00	-2,315.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
5,900.00	0.00	0.00	5,900.00	-2,415.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
6,000.00	0.00	0.00	6,000.00	-2,515.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
6,100.00	0.00	0.00	6,100.00	-2,615.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
6,200.00	0.00	0.00	6,200.00	-2,715.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
6,300.00	0.00	0.00	6,300.00	-2,815.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
6,400.00	0.00	0.00	6,400.00	-2,915.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
6,500.00	0.00	0.00	6,500.00	-3,015.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
6,600.00	0.00	0.00	6,600.00	-3,115.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
6,700.00	0.00	0.00	6,700.00	-3,215.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
6,800.00	0.00	0.00	6,800.00	-3,315.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
6,900.00	0.00	0.00	6,900.00	-3,415.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
7,000.00	0.00	0.00	7,000.00	-3,515.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
7,100.00	0.00	0.00	7,100.00	-3,615.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
7,200.00	0.00	0.00	7,200.00	-3,715.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
7,300.00	0.00	0.00	7,300.00	-3,815.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
7,400.00	0.00	0.00	7,400.00	-3,915.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
7,500.00	0.00	0.00	7,500.00	-4,015.90	0.00	0.00	0.00	0.00	636,432.20	604,771.70
7,562.50	0.00	0.00	7,562.50	-4,078.40	0.00	0.00	0.00	0.00	636,432.20	604,771.70
KOP-7562.50"MD,0.00"INC,0.00"AZI,7562.50"TVD										
7,575.00	1.50	89.98	7,575.00	-4,090.90	0.00	0.16	0.16	12.00	636,432.20	604,771.86
7,600.00	4.50	89.98	7,599.96	-4,115.86	0.00	1.47	1.47	12.00	636,432.20	604,773.17
7,625.00	7.50	89.98	7,624.82	-4,140.72	0.00	4.08	4.08	12.00	636,432.20	604,775.78

Company:			EOG Resources, Inc.			Local Co-ordinates Reference:			Well #3H		
Project:			Eddy County			TVD Reference:			WELL @ 3484.10usft (Original Well Elev)		
Site:			Sand Tank "17" Fed. Com			MD Reference:			WELL @ 3484.10usft (Original Well Elev)		
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)	
7,650.00	10.50	89.98	7,649.51	-4,165.41	0.00	7.99	7.99	12.00	636,432.20	604,779.69	
7,675.00	13.50	89.98	7,673.96	-4,189.86	0.00	13.19	13.19	12.00	636,432.20	604,784.89	
7,700.00	16.50	89.98	7,698.11	-4,214.01	0.01	19.66	19.66	12.00	636,432.21	604,791.36	
7,725.00	19.50	89.98	7,721.88	-4,237.78	0.01	27.38	27.38	12.00	636,432.21	604,799.08	
7,750.00	22.49	89.98	7,745.22	-4,261.12	0.01	36.34	36.34	12.00	636,432.21	604,808.04	
7,775.00	25.49	89.98	7,768.06	-4,283.96	0.02	46.50	46.50	12.00	636,432.22	604,818.20	
7,800.00	28.49	89.98	7,790.33	-4,306.23	0.02	57.85	57.85	12.00	636,432.22	604,829.55	
7,825.00	31.49	89.98	7,811.98	-4,327.86	0.02	70.34	70.34	12.00	636,432.22	604,842.04	
7,850.00	34.49	89.98	7,832.95	-4,348.85	0.03	83.96	83.96	12.00	636,432.23	604,855.66	
7,875.00	37.49	89.98	7,853.17	-4,369.07	0.03	98.65	98.65	12.00	636,432.23	604,870.35	
7,900.00	40.49	89.98	7,872.60	-4,388.50	0.04	114.37	114.37	12.00	636,432.24	604,886.07	
7,925.00	43.49	89.98	7,891.18	-4,407.08	0.05	131.10	131.10	12.00	636,432.25	604,902.80	
7,950.00	46.49	89.98	7,908.86	-4,424.76	0.05	148.77	148.77	12.00	636,432.25	604,920.47	
7,975.00	49.49	89.98	7,925.59	-4,441.49	0.06	167.34	167.34	12.00	636,432.26	604,939.04	
8,000.00	52.49	89.98	7,941.32	-4,457.22	0.07	186.77	186.77	12.00	636,432.27	604,958.47	
8,025.00	55.49	89.98	7,956.02	-4,471.92	0.07	206.99	206.99	12.00	636,432.27	604,978.69	
8,050.00	58.49	89.98	7,969.64	-4,485.54	0.08	227.95	227.95	12.00	636,432.28	604,999.65	
8,075.00	61.49	89.98	7,982.14	-4,498.04	0.09	249.59	249.59	12.00	636,432.29	605,021.29	
8,100.00	64.49	89.98	7,993.50	-4,509.40	0.09	271.86	271.86	12.00	636,432.29	605,043.56	
8,125.00	67.48	89.98	8,003.67	-4,519.57	0.10	294.70	294.70	12.00	636,432.30	605,066.40	
8,150.00	70.48	89.98	8,012.64	-4,528.54	0.11	318.03	318.03	12.00	636,432.31	605,089.73	
8,175.00	73.48	89.98	8,020.37	-4,536.27	0.12	341.80	341.80	12.00	636,432.32	605,113.50	
8,200.00	76.48	89.98	8,026.84	-4,542.74	0.13	365.95	365.95	12.00	636,432.33	605,137.65	
8,225.00	79.48	89.98	8,032.05	-4,547.95	0.14	390.39	390.39	12.00	636,432.34	605,162.09	
8,250.00	82.48	89.98	8,035.97	-4,551.87	0.14	415.08	415.08	12.00	636,432.34	605,186.78	
8,275.00	85.48	89.98	8,038.59	-4,554.49	0.15	439.94	439.94	12.00	636,432.35	605,211.64	
8,300.00	88.48	89.98	8,039.90	-4,555.80	0.16	464.90	464.90	12.00	636,432.36	605,236.60	



Pathfinder
Pathfinder X & Y Planning Report



Company: EOG Resources, Inc.		Local Co-ordinate Reference:		Well #3H						
Project: Eddy County		TVD Reference:		WELL @ 3484.10ustf (Original Well Elev)						
Site: Sand Tank #17- Fed. Com		MD Reference:		WELL @ 3484.10ustf (Original Well Elev)						
Well: #3H		North Reference:		Grid						
Wellbore: OH		Survey Calculation Method:		Minimum Curvature						
Design: #1		Database:		EDM 5000.1 Single User Db						
Planned Survey										
MD (ustf)	Inc (°)	Azi (°)	TVD (ustf)	TVDSS (ustf)	N/S (ustf)	EW (ustf)	V. Sec (ustf)	ADog (°/100ustf)	Northing (ustf)	Easting (ustf)
8,304.33	89.00	89.98	8,040.00	-4,555.90	0.16	469.24	469.24	12.00	636,432.36	605,240.94
EOC-8304.33MD,89.00°INC,89.98°AZI,8040.00TVD										
8,400.00	89.00	89.98	8,041.67	-4,557.57	0.20	564.89	564.89	0.00	636,432.40	605,336.59
8,500.00	89.00	89.98	8,043.41	-4,559.31	0.23	664.87	664.87	0.00	636,432.43	605,436.57
8,600.00	89.00	89.98	8,045.16	-4,561.06	0.27	764.86	764.86	0.00	636,432.47	605,536.56
8,700.00	89.00	89.98	8,046.91	-4,562.81	0.30	864.84	864.84	0.00	636,432.50	605,636.54
8,800.00	89.00	89.98	8,048.65	-4,564.55	0.34	964.83	964.83	0.00	636,432.54	605,736.53
8,900.00	89.00	89.98	8,050.40	-4,566.30	0.37	1,064.81	1,064.81	0.00	636,432.57	605,836.51
9,000.00	89.00	89.98	8,052.14	-4,568.04	0.41	1,164.80	1,164.80	0.00	636,432.61	605,936.50
9,100.00	89.00	89.98	8,053.89	-4,569.79	0.44	1,264.78	1,264.78	0.00	636,432.64	606,036.48
9,200.00	89.00	89.98	8,055.63	-4,571.53	0.48	1,364.77	1,364.77	0.00	636,432.68	606,136.47
9,300.00	89.00	89.98	8,057.38	-4,573.28	0.51	1,464.75	1,464.75	0.00	636,432.71	606,236.45
9,400.00	89.00	89.98	8,059.12	-4,575.02	0.55	1,564.74	1,564.74	0.00	636,432.75	606,336.44
9,500.00	89.00	89.98	8,060.87	-4,576.77	0.58	1,664.72	1,664.72	0.00	636,432.78	606,436.42
9,600.00	89.00	89.98	8,062.61	-4,578.51	0.62	1,764.71	1,764.71	0.00	636,432.82	606,536.41
9,700.00	89.00	89.98	8,064.36	-4,580.26	0.65	1,864.69	1,864.69	0.00	636,432.85	606,636.39
9,800.00	89.00	89.98	8,066.10	-4,582.00	0.69	1,964.68	1,964.68	0.00	636,432.89	606,736.38
9,900.00	89.00	89.98	8,067.85	-4,583.75	0.72	2,064.66	2,064.66	0.00	636,432.92	606,836.36
10,000.00	89.00	89.98	8,069.59	-4,585.49	0.76	2,164.65	2,164.65	0.00	636,432.96	606,936.35
10,100.00	89.00	89.98	8,071.34	-4,587.24	0.79	2,264.63	2,264.63	0.00	636,432.99	607,036.33
10,200.00	89.00	89.98	8,073.08	-4,588.98	0.83	2,364.61	2,364.61	0.00	636,433.03	607,136.31
10,300.00	89.00	89.98	8,074.83	-4,590.73	0.86	2,464.60	2,464.60	0.00	636,433.06	607,236.30
10,400.00	89.00	89.98	8,076.57	-4,592.47	0.90	2,564.58	2,564.58	0.00	636,433.10	607,336.28
10,500.00	89.00	89.98	8,078.32	-4,594.22	0.93	2,664.57	2,664.57	0.00	636,433.13	607,436.27
10,600.00	89.00	89.98	8,080.06	-4,595.96	0.97	2,764.55	2,764.55	0.00	636,433.17	607,536.25
10,700.00	89.00	89.98	8,081.81	-4,597.71	1.00	2,864.54	2,864.54	0.00	636,433.20	607,636.24
10,800.00	89.00	89.98	8,083.56	-4,599.46	1.03	2,964.52	2,964.52	0.00	636,433.23	607,736.22



Pathfinder
Pathfinder X & Y Planning Report



Company: EOG Resources, Inc.		Local Co-ordinate Reference:				Well #3H				
Project: Eddy County		TVD Reference:				WELL @ 3484.10ustf (Original Well Elev)				
Site: Sand Tank #17 Fed. Com		MD Reference:				WELL @ 3484.10ustf (Original Well Elev)				
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 (ustf)	Inc (°)	Azi (°)	TVO (ustf)	TVDSS (ustf)	N/S (ustf)	E/W (ustf)	V. Sec (ustf)	D Leg (°/100ustf)	Northing (ustf)	Easting (ustf)
10,900.00	89.00	89.98	8,085.30	-4,601.20	1.07	3,084.51	3,084.51	0.00	636,433.27	607,836.21
11,000.00	89.00	89.98	8,087.05	-4,602.95	1.10	3,164.49	3,164.49	0.00	636,433.30	607,936.19
11,100.00	89.00	89.98	8,088.79	-4,604.69	1.14	3,264.48	3,264.48	0.00	636,433.34	608,036.18
11,200.00	89.00	89.98	8,090.54	-4,606.44	1.17	3,364.46	3,364.46	0.00	636,433.37	608,136.16
11,300.00	89.00	89.98	8,092.28	-4,608.18	1.21	3,464.45	3,464.45	0.00	636,433.41	608,236.15
11,400.00	89.00	89.98	8,094.03	-4,609.93	1.24	3,564.43	3,564.43	0.00	636,433.44	608,336.13
11,500.00	89.00	89.98	8,095.77	-4,611.67	1.28	3,664.42	3,664.42	0.00	636,433.48	608,436.12
11,600.00	89.00	89.98	8,097.52	-4,613.42	1.31	3,764.40	3,764.40	0.00	636,433.51	608,536.10
11,700.00	89.00	89.98	8,099.26	-4,615.16	1.35	3,864.39	3,864.39	0.00	636,433.55	608,636.09
11,800.00	89.00	89.98	8,101.01	-4,616.91	1.38	3,964.37	3,964.37	0.00	636,433.58	608,736.07
11,900.00	89.00	89.98	8,102.75	-4,618.65	1.42	4,064.36	4,064.36	0.00	636,433.62	608,836.06
12,000.00	89.00	89.98	8,104.50	-4,620.40	1.45	4,164.34	4,164.34	0.00	636,433.65	608,936.04
12,100.00	89.00	89.98	8,106.24	-4,622.14	1.49	4,264.33	4,264.33	0.00	636,433.69	609,036.03
12,200.00	89.00	89.98	8,107.99	-4,623.89	1.52	4,364.31	4,364.31	0.00	636,433.72	609,136.01
12,300.00	89.00	89.98	8,109.73	-4,625.63	1.56	4,464.29	4,464.29	0.00	636,433.76	609,235.99
12,400.00	89.00	89.98	8,111.48	-4,627.38	1.59	4,564.28	4,564.28	0.00	636,433.79	609,335.98
12,455.83	89.00	89.98	8,112.45	-4,628.35	1.61	4,620.10	4,620.10	0.00	636,433.81	609,391.80
PBHL(ST17-#3)										

Plan Annotations				Local Coordinates		Comment	
Measured Depth (ustf)	Vertical Depth (ustf)	+N/-S (ustf)	+E/-W (ustf)				
7,562.50	7,562.50	0.00	0.00	0.00	0.00	KOP-7562.50 MD, 0.00° INC, 0.00° AZI, 7562.50° TVD	
8,304.33	8,040.00	0.16	469.24	469.24	0.00	EOC-8304.33 MD, 89.00° INC, 89.98° AZI, 8040.00° TVD	
12,455.83	8,112.45	1.61	4,620.10	4,620.10	0.00	TD at 12455.83	



Pathfinder
Pathfinder X & Y Planning Report



Company: Project: Site: Well: Wellbore: Design:	EOG Resources, Inc. Eddy County Sand Tank "17" Fed. Com #3H OH Design #1	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method: Database:	Well #3H WELL @ 3484.10usft (Original Well Elev) WELL @ 3484.10usft (Original Well Elev) Grid Minimum Curvature EDM 5000 1 Single User Db
--	---	--	--

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------

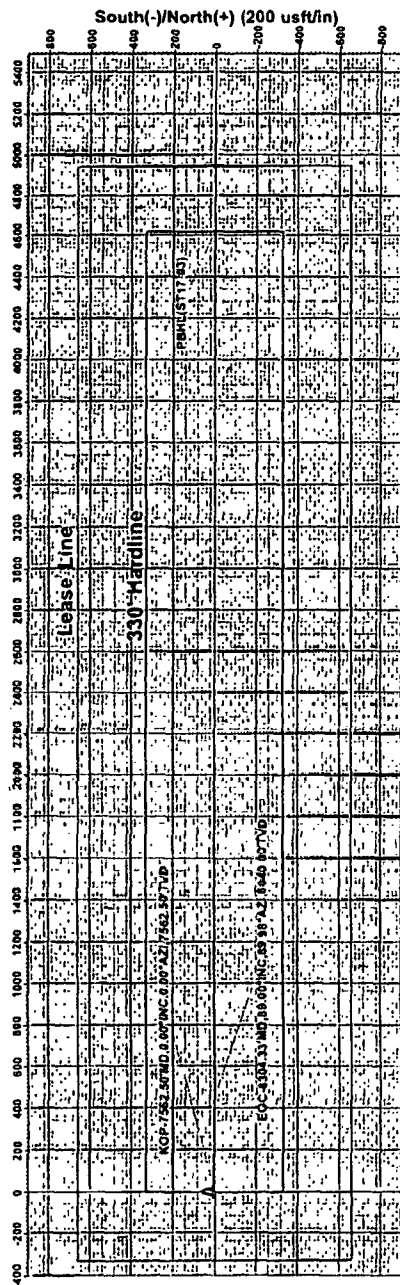


Azimuths to Grid North
True North: -0.18°
Magnetic North: 7.65°
Magnetic Field
Strength: 48941.8nT
Dip Angle: 60.83°
Date: 03/31/2011
Model: IGRF200510

PATHFINDER
A Schlumberger Company

Project: Eddy County
Site: Sand Tank "17" Fed. Com
Well: #3H
Wellbore: OH
Plan: Design #1 (#3H/OH)

West(-)/East(+) (200 usf/in)



SECTION DETAILS									
MD	Inc	Azi	TVD	*N/S	*E/W	Diep	TFace	Vsect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7562.50	0.00	0.00	7562.50	0.00	0.00	0.00	0.00	0.00	0.00
8304.33	89.00	89.98	8040.00	0.16	469.24	12.00	89.88	469.24	
12455.83	89.00	89.98	8112.45	1.51	4629.10	0.00	0.00	4629.10	PBHLST117 #3

WELL DETAILS: RSH

Ground Elevation: 3485.18
RSH Elevation: WELL @ 3484.10m (Original Well Elev)
Rig Name: Original Well Elev

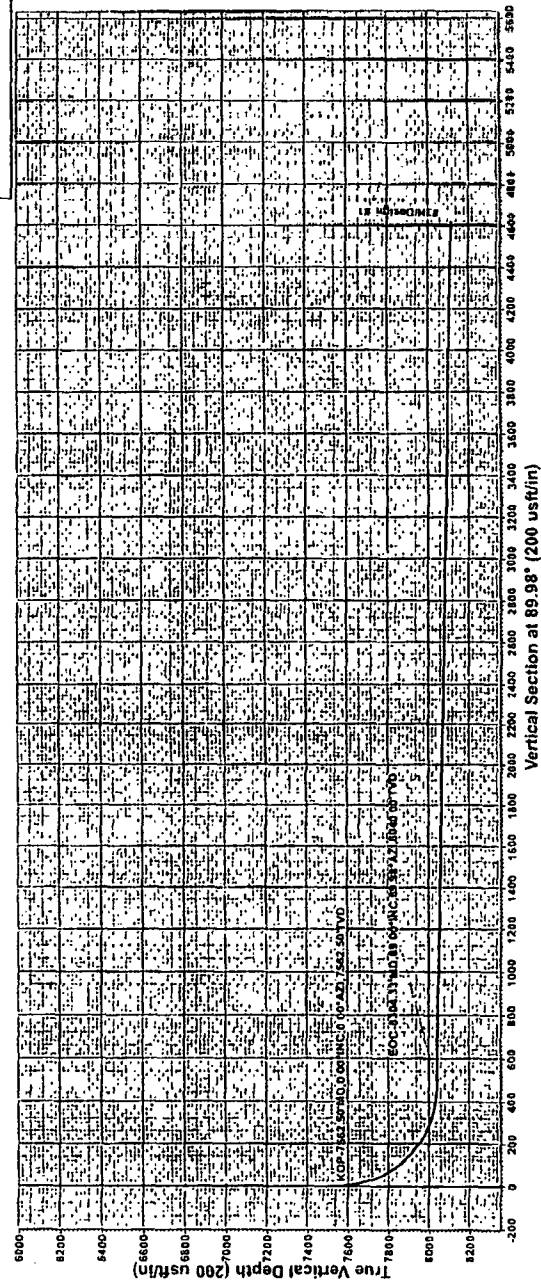
*N-S	*E-W	Northing	Easting	Latitude	Longitude	Spot
8.00	8.00	63643.200	604771.700	$32^\circ 46' 57.058''$ N	$102^\circ 59' 33.189''$ W	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

PBHLST117	TVD	*N-S	*E-W	Northing	Easting	Shape
	439112.45	2.00	4629.10	63643.200	604771.700	Point

LEGEND

◆ Design #1



Vertical Section at 89.98° (200 usf/in)

PROJECT DETAILS: Eddy County
Geodetic System: US State Plane 1987 (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 (Planning)
Created By: Kate Bingham Date: 15-11-2011
Checked: _____ Date: _____