

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work DRILL REENTER
1b. Type of Well Oil Well Gas Well Other Single Zone Multiple Zone

2. Name of Operator **EOG Resources Inc. (7377)**
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 **170' FNL & 2310' FEL, U/L (B)**
At proposed prod. zone **330' FSL & 1650' FEL, U/L O**
UNORTHODOX LOCATION

14. Distance in miles and direction from nearest town or post office*
+/- 5 Miles South East from Malaga, NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any) **170'**
16. No. of Acres in lease **2560**

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. **1590'**
19. Proposed Depth **PH 8400**
12037 MD - 7420 TVD

21. Elevations (Show whether DF, KDB, RT, GL, etc.) **3104'**
22. Approximate date work will start* **5/1/2011**

5. Lease Serial No. **NM 15303**
6. If Indian, Allottee or Tribe Name
7. Unit or CA Agreement Name and No.
8. Lease Name and Well No. **Herd Bull 14 Federal 2H (38612)**
9. API Well No. **30-015-79234**
10. Field and Pool, or Exploratory **Pierce Crossing; BS, East (96473)**
11. Sec., T., R., M., or Blk. and Survey or Area **Sec 14, T25S, R29E**
12. County or Parish **Eddy**
13. State **NM**
17. Spacing Unit dedicated to this well **160**
20. BLM/BIA Bond No on file **NM 2308**
23. Estimated duration **30 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 *Stan Wagner* Name (Printed/Typed) **Stan Wagner** Date **2/22/11**
Title **Regulatory Analyst**

Approved by (Signautre) **/s/ Don Peterson** Name (Printed/Typed) **CARLSBAD FIELD OFFICE** Date **JUN 23 2011**
Title **FIELD MANAGER**

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)

RECEIVED
JUL 15 2011
NMOCD ARTESIA

CARLSBAD CONTROLLED WATER BASIN
Actions on page 2)

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

**APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED**

(Handwritten mark)

Permit Information:

Well Name: Herd Bull 14 Federal No. 2H

Location:

SL: 170' FNL & 2310' FEL, Section 14, T-25-S, R-29-E, Eddy Co., N.M.

BHL: 330' FSL & 1650' FEL, Section 14, T-25-S, R-29-E, Eddy Co., N.M.

Casing Program:

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
14.75"	0 - 700'	11.75"	42#	H40	STC	1.10	1.25	1.60
<i>See CoA</i> 11.00"	0-3,200' 0'-2,600'	8.625"	32#	J55	LTC	1.10	1.25	1.60
7.875"	0'-12,037'	5.5"	17#	N80	LTC	1.10	1.25	1.60

Cement Program: *See CoA*

Depth	No. Sacks	Wt. ppg	Yld Ft ³ /ft	Slurry Description
700'	325	14.8	1.32	Class C + 0.005 pps Static Free + 2% CaCl ₂ + 0.25 pps CelloFlake + 0.005 gps FP-6L (TOC @ surface) (AHS = 15.75" + 25% excess)
3,200'	475	12.7	2.01	Class C + 2% SMS + 0.8% R-3 + 0.25 pps CelloFlake + 0.005 pps Static Free (TOC @ surface) (AHS = 12.15" + 25% excess)
	200	14.8	1.32	Tail: Class 'C' + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free (TOC @ 2,600') (AHS = 12.15" + 0% excess)
BH Plug 8400'-8200'	75	18.0	0.90	Class H + 0.005 lbs/sx Static Free + 5% Salt + 1.2% CD31 + 0.005 gps FP-6L (AHS = 8.00" + 0% excess)
KO Plug 600'	250	18.0	0.90	Class H + 0.005 lbs/sx Static Free + 5% Salt + 1.2% CD31 + 0.005 gps FP-6L (AHS = 8.50" + 0% excess)
12,037'	200	10.8	3.67	60:40:0 Class 'C' + 15.00 lb/sk BA-90 + 4.00% MPA-5 + 3.00% SMS + 5.00% A-10 + 1.00% BA-10A + 0.80% ASA-301 + 2.90% R-21 + 8.00 lb/sk LCM-1 + 0.005 lb/sk Static Free (TOC @ 2,700') (AHS = 8.85" + 25% excess)
	235	11.8	2.38	50:50:10 Class 'H' + 0.80% FL-52 + 0.45% ASA-301 + 0.40% SMS + 2.00% Salt + 3.00 lb/sx LCM-1 + 0.20% R-21 + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free (TOC @ 5,200') (AHS = 8.85" + 25% excess)
	875	14.2	1.28	50:50:2 Class 'H' + 0.65% FL-52 + 0.20% CD-32 + 0.15% SMS + 2.00% Salt + 0.10% R-3 + 0.005 lb/sk Static Free (TOC @ 6,900') (AHS = 8.10" + 10% excess)

AHS = Average hole size (estimated)

Mud Program:

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 - 700'	Fresh - Gel	8.6-8.8	28-34	N/c
700' - 3,200' 3296	Brine	10.0-10.2	28-34	N/c
3,320' - 8,400' Pilot hole	Cut Brine	8.4-9.0	28-34	N/c
KOP - TD Lateral	Cut Brine	9.0-9.5	28-34	N/c

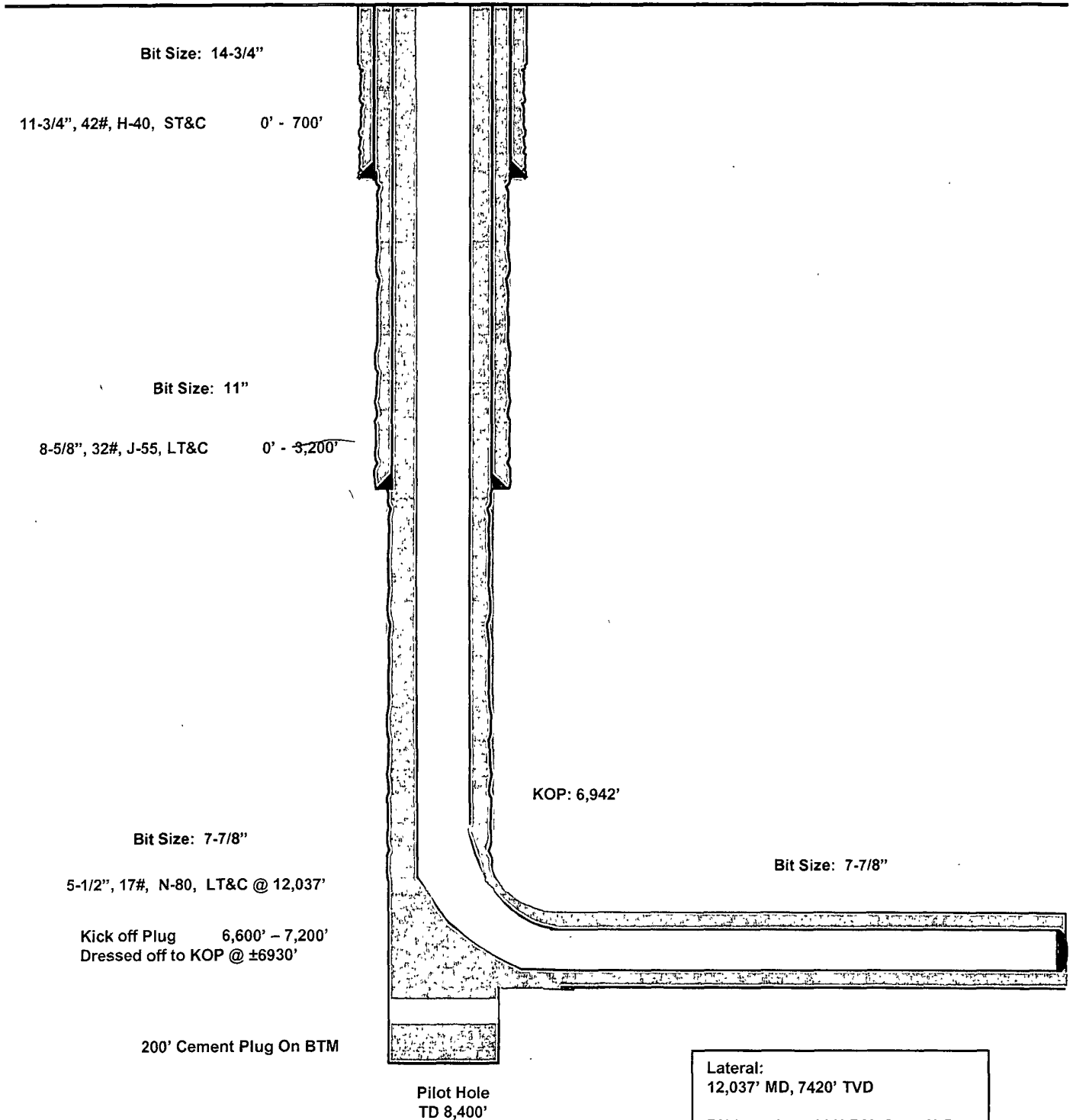
Herd Bull 14 Federal #2H
Eddy County, New Mexico

170' FNL
2310' FEL
Section 14
T-25-S, R-29-E

Proposed Wellbore

API: 30-015-*****

KB: 3,123.7'
GL: 3,104.7'



Lateral:
12,037' MD, 7420' TVD
BH Location: 330' FSL & 1650' FEL
Section 14
T-25-S, R-29-E

**EOG RESOURCES, INC.
HERD 14 FEDERAL NO. 2H**

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	620'
Top of Salt	680'
Salado	1,400'
Base of Salt	3,050'
Lamar	3,253'
Bell Canyon	3,282'
Cherry Canyon	4,163'
Brushy Canyon	5,420'
Bone Spring Lime	7,030'
1 st Bone Spring Sand	8,023'
Pilot hole TD	8,400'

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

Upper Permian Sands	0- 620'	Fresh Water
Bell Canyon	3,282'	Oil
Cherry Canyon	4,163'	Oil
Bone Spring Lime	7,030'	Oil
1 st Bone Spring Sand	8,023'	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 700' 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 - 700'	11.75"	42#	H40	STC	1.125	1.25	1.60
11.00"	0- 3,200 '	8.625"	32#	J55	LTC	1.125	1.25	1.60
7.875"	0'-12,037'	5.5"	17#	N80	LTC	1.125	1.25	1.60

See CoA

**EOG RESOURCES, INC.
HERD 14 FEDERAL NO. 2H**

Cementing Program:

see
COA

Depth	No. Sacks	Wt. ppg	Yld Ft ³ /ft	Slurry Description
700'	325	14.8	1.32	Class C + 0.005 pps Static Free + 2% CaCl ₂ + 0.25 pps CelloFlake + 0.005 gps FP-6L (TOC @ surface) (AHS = 15.75" + 25% excess)
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	200	14.8	1.32	Tail: Class 'C' + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free (TOC @ 2,600') (AHS = 12.15" + 0% excess)
BH Plug 8400'-8200'	75	18.0	0.90	Class H + 0.005 lbs/sx Static Free + 5% Salt + 1.2% CD31 + 0.005 gps FP-6L (AHS = 8.00" + 0% excess)
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	235	11.8	2.38	50:50:10 Class 'H' + 0.80% FL-52 + 0.45% ASA-301 + 0.40% SMS + 2.00% Salt + 3.00 lb/sx LCM-1 + 0.20% R-21 + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free (TOC @ 5,200') (AHS = 8.85" + 25% excess)
	875	14.2	1.28	50:50:2 Class 'H' + 0.65% FL-52 + 0.20% CD-32 + 0.15% SMS + 2.00% Salt + 0.10% R-3 + 0.005 lb/sk Static Free (TOC @ 6,900') (AHS = 8.10" + 10% excess)

Cement volumes based on bit size + 25% excess.

5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

(SEE EXHIBIT #1)

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a double ram-type (5000 psi WP) preventer and an annular preventer (5000-psi WP). Units will be hydraulically operated and the ram-type will be equipped with blind rams on bottom and drill pipe rams on top. All BOP's and accessory equipment will be tested in accordance with Onshore Oil & Gas order No. 2. Prior to drilling out of the surface casing, the BOP's will be tested to 2000/250 psig. Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 5000/ 250 psig and the annular preventer to 2500/ 250 psig.

**EOG RESOURCES, INC.
HERD 14 FEDERAL NO. 2H**

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

A hydraulically operated choke will not be installed prior to the setting and cementing of the intermediate casing string, but will be installed prior to drilling out of the intermediate casing shoe.

6. TYPES AND CHARACTERISTICS OF THE PROPOSED MUD SYSTEM:

The well will be drilled to TD with a combination of fresh water and brine water, with polymer sweeps. The applicable depths and properties of this system are as follows:

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 700'	Fresh - Gel	8.6-8.8	28-34	N/c
700' – 3,200'	Brine	10.0-10.2	28-34	N/c
3,320' – 8,400' Pilot hole	Cut Brine	8.4-9.0	28-34	N/c
KOP – TD Lateral	Cut Brine	9.0-9.5	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.

6. 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.

EOG RESOURCES, INC.
HERD 14 FEDERAL NO. 2H

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

Open-hole logging is anticipated in the 7-7/8" hole section. The anticipated logging suites scheduled for this hole section are listed below:

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

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

The estimated bottom hole temperature (BHT) at TD is 145 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 3700 psig. No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. No major loss circulation zones have been reported in offsetting wells.

10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

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



A Schlumberger Company

EOG Resources, Inc.

Eddy County

Herd Bull 14 Federal

#2H

OH

Plan: Plan #1

Pathfinder X & Y Planning Report

28 January, 2011



A Schlumberger Company

Company: EOG Resources, Inc.	Local Co-ordinate Reference: Well #2H
Project: Eddy County	TYD Reference: WELL @ 3123.70usft (Original Well Elev)
Site: Herd Bull 14 Federal	MD Reference: WELL @ 3123.70usft (Original Well Elev)
Well: #2H	North Reference: Grid
Wellbore: OH	Survey Calculation Method: Minimum Curvature
Design: Plan #1	Database: EDM 5000.1 Single User Db

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

Site: Herd Bull 14 Federal		
Site Position:	Northing: 408,809.500 usft	Latitude: 32° 7' 24.197 N
From: Map	Easting: 615,085.300 usft	Longitude: 103° 57' 41.711 W
Position Uncertainty: 0.00 usft	Slot Radius: 13-3/16 "	Grid Convergence: 0.20 °

Well: #2H			
Well Position	+N/-S 0.00 usft	Northing: 413,683.200 usft	Latitude: 32° 8' 12.343 N
	+E/-W 0.00 usft	Easting: 617,563.500 usft	Longitude: 103° 57' 12.694 W
Position Uncertainty 0.00 usft		Wellhead Elevation: usft	Ground Level: 3,104.70 usft

Wellbore: OH					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	01/27/11	7.79	60.07	48,597

Design: Plan #1				
Audit Notes:				
Version:	Phase: PLAN	Tie On Depth: 0.00		
Vertical Section:	Depth From (TYD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	172.46

Survey Tool Program:	Date: 01/28/11			
From (usft):	To (usft):	Survey (Wellbore)	Tool Name	Description
0.00	12,036.64	Plan #1 (OH)	MWD	MWD - Standard



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Pathfinder Pathfinder X & Y Planning Report



A Schlumberger Company

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	WELL @ 3123.70usft (Original Well Elev)
Site:	Herd Bull 14 Federal	MD Reference:	WELL @ 3123.70usft (Original Well Elev)
Well:	#2H	North Reference:	Grd
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #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	3,123.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
100.00	0.00	0.00	100.00	3,023.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
200.00	0.00	0.00	200.00	2,923.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
300.00	0.00	0.00	300.00	2,823.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
400.00	0.00	0.00	400.00	2,723.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
500.00	0.00	0.00	500.00	2,623.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
600.00	0.00	0.00	600.00	2,523.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
700.00	0.00	0.00	700.00	2,423.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
800.00	0.00	0.00	800.00	2,323.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
900.00	0.00	0.00	900.00	2,223.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
1,000.00	0.00	0.00	1,000.00	2,123.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
1,100.00	0.00	0.00	1,100.00	2,023.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
1,200.00	0.00	0.00	1,200.00	1,923.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
1,300.00	0.00	0.00	1,300.00	1,823.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
1,400.00	0.00	0.00	1,400.00	1,723.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
1,500.00	0.00	0.00	1,500.00	1,623.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
1,600.00	0.00	0.00	1,600.00	1,523.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
1,700.00	0.00	0.00	1,700.00	1,423.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
1,800.00	0.00	0.00	1,800.00	1,323.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
1,900.00	0.00	0.00	1,900.00	1,223.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
2,000.00	0.00	0.00	2,000.00	1,123.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
2,100.00	0.00	0.00	2,100.00	1,023.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
2,200.00	0.00	0.00	2,200.00	923.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
2,300.00	0.00	0.00	2,300.00	823.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
2,400.00	0.00	0.00	2,400.00	723.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
2,500.00	0.00	0.00	2,500.00	623.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	
2,600.00	0.00	0.00	2,600.00	523.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50	



A Schlumberger Company

Pathfinder Pathfinder X & Y Planning Report



A Schlumberger Company

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	WELL @ 3123.70usft (Original Well Elev)
Site:	Herd Bull 14 Federal	MD Reference:	WELL @ 3123.70usft (Original Well Elev)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1	Database:	EDM 5000.1 Single User Db

Planned Survey												
MD (usft)	Incl (°)	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	423.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
2,800.00	0.00	0.00	2,800.00	323.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
2,900.00	0.00	0.00	2,900.00	223.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
3,000.00	0.00	0.00	3,000.00	123.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
3,100.00	0.00	0.00	3,100.00	23.70	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
3,200.00	0.00	0.00	3,200.00	-76.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
3,300.00	0.00	0.00	3,300.00	-176.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
3,400.00	0.00	0.00	3,400.00	-276.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
3,500.00	0.00	0.00	3,500.00	-376.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
3,600.00	0.00	0.00	3,600.00	-476.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
3,700.00	0.00	0.00	3,700.00	-576.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
3,800.00	0.00	0.00	3,800.00	-676.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
3,900.00	0.00	0.00	3,900.00	-776.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
4,000.00	0.00	0.00	4,000.00	-876.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
4,100.00	0.00	0.00	4,100.00	-976.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
4,200.00	0.00	0.00	4,200.00	-1,076.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
4,300.00	0.00	0.00	4,300.00	-1,176.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
4,400.00	0.00	0.00	4,400.00	-1,276.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
4,500.00	0.00	0.00	4,500.00	-1,376.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
4,600.00	0.00	0.00	4,600.00	-1,476.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
4,700.00	0.00	0.00	4,700.00	-1,576.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
4,800.00	0.00	0.00	4,800.00	-1,676.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
4,900.00	0.00	0.00	4,900.00	-1,776.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
5,000.00	0.00	0.00	5,000.00	-1,876.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
5,100.00	0.00	0.00	5,100.00	-1,976.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
5,200.00	0.00	0.00	5,200.00	-2,076.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
5,300.00	0.00	0.00	5,300.00	-2,176.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	WELL @ 3123.70usft (Original Well Elev)
Site:	Herd Bull 14 Federal	MD Reference:	WELL @ 3123 70usft (Original Well Elev)
Well:	#2H	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 (°)	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	-2,276.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
5,500.00	0.00	0.00	5,500.00	-2,376.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
5,600.00	0.00	0.00	5,600.00	-2,476.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
5,700.00	0.00	0.00	5,700.00	-2,576.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
5,800.00	0.00	0.00	5,800.00	-2,676.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
5,900.00	0.00	0.00	5,900.00	-2,776.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
6,000.00	0.00	0.00	6,000.00	-2,876.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
6,100.00	0.00	0.00	6,100.00	-2,976.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
6,200.00	0.00	0.00	6,200.00	-3,076.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
6,300.00	0.00	0.00	6,300.00	-3,176.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
6,400.00	0.00	0.00	6,400.00	-3,276.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
6,500.00	0.00	0.00	6,500.00	-3,376.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
6,600.00	0.00	0.00	6,600.00	-3,476.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
6,700.00	0.00	0.00	6,700.00	-3,576.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
6,800.00	0.00	0.00	6,800.00	-3,676.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
6,900.00	0.00	0.00	6,900.00	-3,776.30	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
6,942.50	0.00	0.00	6,942.50	-3,818.80	0.00	0.00	0.00	0.00	413,683.20	617,563.50		
KOP-6942.50°MD;0.00°INC,0.00°AZI,6942.50°TVD												
6,950.00	0.90	172.46	6,950.00	-3,826.30	-0.06	0.01	0.06	12.00	413,683.14	617,563.51		
6,975.00	3.90	172.46	6,974.97	-3,851.27	-1.10	0.15	1.11	12.00	413,682.10	617,563.65		
7,000.00	6.90	172.46	6,999.86	-3,876.16	-3.43	0.45	3.46	12.00	413,679.77	617,563.95		
7,025.00	9.90	172.46	7,024.59	-3,900.89	-7.05	0.93	7.11	12.00	413,676.15	617,564.43		
7,050.00	12.90	172.46	7,049.09	-3,925.39	-11.95	1.58	12.05	12.00	413,671.25	617,565.08		
7,075.00	15.90	172.46	7,073.31	-3,949.61	-18.11	2.40	18.27	12.00	413,665.09	617,565.90		
7,100.00	18.90	172.46	7,097.16	-3,973.46	-25.52	3.38	25.74	12.00	413,657.68	617,566.88		
7,125.00	21.90	172.46	7,120.59	-3,996.89	-34.16	4.52	34.45	12.00	413,649.04	617,568.02		
7,150.00	24.90	172.46	7,143.53	-4,019.83	-44.00	5.82	44.38	12.00	413,639.20	617,569.32		



A Schlumberger Company

Pathfinder Pathfinder X & Y Planning Report



A Schlumberger Company

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	WELL @ 3123.70usft (Original Well Elev)
Site:	Herd Bull 14 Federal	MD Reference:	WELL @ 3123.70usft (Original Well Elev)
Well:	#2H	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 (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)		
7,175.00	27.90	172.46	7,165.92	-4,042.22	-55.01	7.28	55.49	12.00	413,628.19	617,570.78		
7,200.00	30.90	172.46	7,187.70	-4,064.00	-67.18	8.89	67.76	12.00	413,616.02	617,572.39		
7,225.00	33.90	172.46	7,208.81	-4,085.11	-80.46	10.65	81.16	12.00	413,602.74	617,574.15		
7,250.00	36.90	172.46	7,229.18	-4,105.48	-94.81	12.55	95.64	12.00	413,588.39	617,576.05		
7,275.00	39.90	172.46	7,248.77	-4,125.07	-110.20	14.59	111.16	12.00	413,573.00	617,578.09		
7,300.00	42.90	172.46	7,267.52	-4,143.82	-126.59	16.76	127.69	12.00	413,556.61	617,580.26		
7,325.00	45.90	172.46	7,285.39	-4,161.69	-143.93	19.05	145.18	12.00	413,539.27	617,582.55		
7,350.00	48.90	172.46	7,302.31	-4,178.61	-162.17	21.46	163.58	12.00	413,521.03	617,584.96		
7,375.00	51.90	172.46	7,318.24	-4,194.54	-181.26	23.99	182.84	12.00	413,501.94	617,587.49		
7,400.00	54.90	172.46	7,333.15	-4,209.45	-201.15	26.63	202.91	12.00	413,482.05	617,590.13		
7,425.00	57.90	172.46	7,346.98	-4,223.28	-221.79	29.36	223.73	12.00	413,461.41	617,592.86		
7,450.00	60.90	172.46	7,359.71	-4,236.01	-243.12	32.18	245.24	12.00	413,440.08	617,595.68		
7,475.00	63.90	172.46	7,371.29	-4,247.59	-265.08	35.09	267.39	12.00	413,418.12	617,598.59		
7,500.00	66.90	172.46	7,381.70	-4,258.00	-287.61	38.07	290.12	12.00	413,395.59	617,601.57		
7,525.00	69.89	172.46	7,390.90	-4,267.20	-310.65	41.12	313.36	12.00	413,372.55	617,604.62		
7,550.00	72.89	172.46	7,398.88	-4,275.18	-334.14	44.23	337.05	12.00	413,349.06	617,607.73		
7,575.00	75.89	172.46	7,405.60	-4,281.90	-358.01	47.39	361.13	12.00	413,325.19	617,610.89		
7,600.00	78.89	172.46	7,411.06	-4,287.36	-382.19	50.59	385.52	12.00	413,301.01	617,614.09		
7,625.00	81.89	172.46	7,415.23	-4,291.53	-406.62	53.82	410.17	12.00	413,276.58	617,617.32		
7,650.00	84.89	172.46	7,418.10	-4,294.40	-431.24	57.08	435.00	12.00	413,251.96	617,620.58		
7,675.00	87.89	172.46	7,419.68	-4,295.98	-455.97	60.35	459.95	12.00	413,227.23	617,623.85		
7,692.56	90.00	172.46	7,420.00	-4,296.30	-473.37	62.66	477.50	12.00	413,209.83	617,626.16		
EOG-7692.56 MD; 90.00° INC; 172.46° AZI; 7420.00 TVD												
7,700.00	90.00	172.46	7,420.00	-4,296.30	-480.75	63.63	484.94	0.00	413,202.45	617,627.13		
7,800.00	90.00	172.46	7,420.00	-4,296.30	-579.89	76.76	584.94	0.00	413,103.31	617,640.26		
7,900.00	90.00	172.46	7,420.00	-4,296.30	-679.02	89.88	684.94	0.00	413,004.18	617,653.38		
8,000.00	90.00	172.46	7,420.00	-4,296.30	-778.16	103.00	784.94	0.00	412,905.04	617,666.50		

Company:	EOG Resources, Inc	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	WELL @ 3123.70usft (Original Well Eley)
Site:	Herd-Bull 14 Federal	MD Reference:	WELL @ 3123.70usft (Original Well Eley)
Well:	#2H	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 (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
8,100.00	90.00	172.46	7,420.00	-4,296.30	-877.29	116.12	884.94	0.00	412,805.91	617,679.62	
8,200.00	90.00	172.46	7,420.00	-4,296.30	-976.43	129.24	984.94	0.00	412,706.77	617,692.74	
8,300.00	90.00	172.46	7,420.00	-4,296.30	-1,075.56	142.36	1,084.94	0.00	412,607.64	617,705.86	
8,400.00	90.00	172.46	7,420.00	-4,296.30	-1,174.70	155.49	1,184.94	0.00	412,508.50	617,718.99	
8,500.00	90.00	172.46	7,420.00	-4,296.30	-1,273.83	168.61	1,284.94	0.00	412,409.37	617,732.11	
8,600.00	90.00	172.46	7,420.00	-4,296.30	-1,372.97	181.73	1,384.94	0.00	412,310.23	617,745.23	
8,700.00	90.00	172.46	7,420.00	-4,296.30	-1,472.11	194.85	1,484.94	0.00	412,211.09	617,758.35	
8,800.00	90.00	172.46	7,420.00	-4,296.30	-1,571.24	207.97	1,584.94	0.00	412,111.96	617,771.47	
8,900.00	90.00	172.46	7,420.00	-4,296.30	-1,670.38	221.10	1,684.94	0.00	412,012.82	617,784.60	
9,000.00	90.00	172.46	7,420.00	-4,296.30	-1,769.51	234.22	1,784.94	0.00	411,913.69	617,797.72	
9,100.00	90.00	172.46	7,420.00	-4,296.30	-1,868.65	247.34	1,884.94	0.00	411,814.55	617,810.84	
9,200.00	90.00	172.46	7,420.00	-4,296.30	-1,967.78	260.46	1,984.94	0.00	411,715.42	617,823.96	
9,300.00	90.00	172.46	7,420.00	-4,296.30	-2,066.92	273.58	2,084.94	0.00	411,616.28	617,837.08	
9,400.00	90.00	172.46	7,420.00	-4,296.30	-2,166.05	286.70	2,184.94	0.00	411,517.15	617,850.20	
9,500.00	90.00	172.46	7,420.00	-4,296.30	-2,265.19	299.83	2,284.94	0.00	411,418.01	617,863.33	
9,600.00	90.00	172.46	7,420.00	-4,296.30	-2,364.32	312.95	2,384.94	0.00	411,318.88	617,876.45	
9,700.00	90.00	172.46	7,420.00	-4,296.30	-2,463.46	326.07	2,484.94	0.00	411,219.74	617,889.57	
9,800.00	90.00	172.46	7,420.00	-4,296.30	-2,562.59	339.19	2,584.94	0.00	411,120.61	617,902.69	
9,900.00	90.00	172.46	7,420.00	-4,296.30	-2,661.73	352.31	2,684.94	0.00	411,021.47	617,915.81	
10,000.00	90.00	172.46	7,420.00	-4,296.30	-2,760.86	365.44	2,784.94	0.00	410,922.34	617,928.94	
10,100.00	90.00	172.46	7,420.00	-4,296.30	-2,860.00	378.56	2,884.94	0.00	410,823.20	617,942.06	
10,200.00	90.00	172.46	7,420.00	-4,296.30	-2,959.14	391.68	2,984.94	0.00	410,724.06	617,955.18	
10,300.00	90.00	172.46	7,420.00	-4,296.30	-3,058.27	404.80	3,084.94	0.00	410,624.93	617,968.30	
10,400.00	90.00	172.46	7,420.00	-4,296.30	-3,157.41	417.92	3,184.94	0.00	410,525.79	617,981.42	
10,500.00	90.00	172.46	7,420.00	-4,296.30	-3,256.54	431.04	3,284.94	0.00	410,426.66	617,994.54	
10,600.00	90.00	172.46	7,420.00	-4,296.30	-3,355.68	444.17	3,384.94	0.00	410,327.52	618,007.67	
10,700.00	90.00	172.46	7,420.00	-4,296.30	-3,454.81	457.29	3,484.94	0.00	410,228.39	618,020.79	



A Schlumberger Company

Pathfinder
Pathfinder X & Y Planning Report



A Schlumberger Company

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #2H
Project:	Eddy County	TVD Reference:	WELL @ 3123.70usft (Original Well Elev)
Site:	Herd Bull 14 Federal	MD Reference:	WELL @ 3123.70usft (Original Well Elev)
Well:	#2H	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 (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
10,800.00	90.00	172.46	7,420.00	-4,296.30	-3,553.95	470.41	3,584.94	0.00	410,129.25	618,033.91	
10,900.00	90.00	172.46	7,420.00	-4,296.30	-3,653.08	483.53	3,684.94	0.00	410,030.12	618,047.03	
11,000.00	90.00	172.46	7,420.00	-4,296.30	-3,752.22	496.65	3,784.94	0.00	409,930.98	618,060.15	
11,100.00	90.00	172.46	7,420.00	-4,296.30	-3,851.35	509.78	3,884.94	0.00	409,831.85	618,073.28	
11,200.00	90.00	172.46	7,420.00	-4,296.30	-3,950.49	522.90	3,984.94	0.00	409,732.71	618,086.40	
11,300.00	90.00	172.46	7,420.00	-4,296.30	-4,049.62	536.02	4,084.94	0.00	409,633.58	618,099.52	
11,400.00	90.00	172.46	7,420.00	-4,296.30	-4,148.76	549.14	4,184.94	0.00	409,534.44	618,112.64	
11,500.00	90.00	172.46	7,420.00	-4,296.30	-4,247.89	562.26	4,284.94	0.00	409,435.31	618,125.76	
11,600.00	90.00	172.46	7,420.00	-4,296.30	-4,347.03	575.39	4,384.94	0.00	409,336.17	618,138.89	
11,700.00	90.00	172.46	7,420.00	-4,296.30	-4,446.17	588.51	4,484.94	0.00	409,237.03	618,152.01	
11,800.00	90.00	172.46	7,420.00	-4,296.30	-4,545.30	601.63	4,584.94	0.00	409,137.90	618,165.13	
11,900.00	90.00	172.46	7,420.00	-4,296.30	-4,644.44	614.75	4,684.94	0.00	409,038.76	618,178.25	
12,000.00	90.00	172.46	7,420.00	-4,296.30	-4,743.57	627.87	4,784.94	0.00	408,939.63	618,191.37	
12,036.79	90.00	172.46	7,420.00	-4,296.30	-4,780.04	632.70	4,821.73	0.00	408,903.16	618,196.20	

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,942.50	6,942.50	0.00	0.00	KOP-6942.50'MD,0.00°INC,0.00°AZI,6942.50'TVD
7,692.56	7,420.00	-473.37	62.66	EOC-7692.56'MD,90.00°INC,172.46°AZI,7420.00'TVD
12,036.79	7,420.00	-4,780.04	632.70	TD at 12036.79

Checked By: _____ Approved By: _____ Date: _____



Project: Eddy County
 Site: Herd Bull 14 Federal
 Well: #2H
 Wellbore: OH
 Plan: Plan #1 (#2H/OH)



Azimuths to Grid North
 True North: -0.20°
 Magnetic North: 7.59°

Magnetic Field
 Strength: 48597.1snT
 Dip Angle: 60.07°
 Date: 01/27/2011
 Model: IGRF200510



WELL DETAILS: #2H

Ground Elevation: 3104.70
 RKB Elevation: WELL @ 3123.70usft (Original Well Elev)
 Rig Name: Original Well Elev

+N/-S	+E/-W	Northing	Eastng	Latitude	Longitude	Slot
0.00	0.00	413683.200	617563.500	32° 8' 12.343 N	103° 57' 12.694 W	

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

SECTION DETAILS

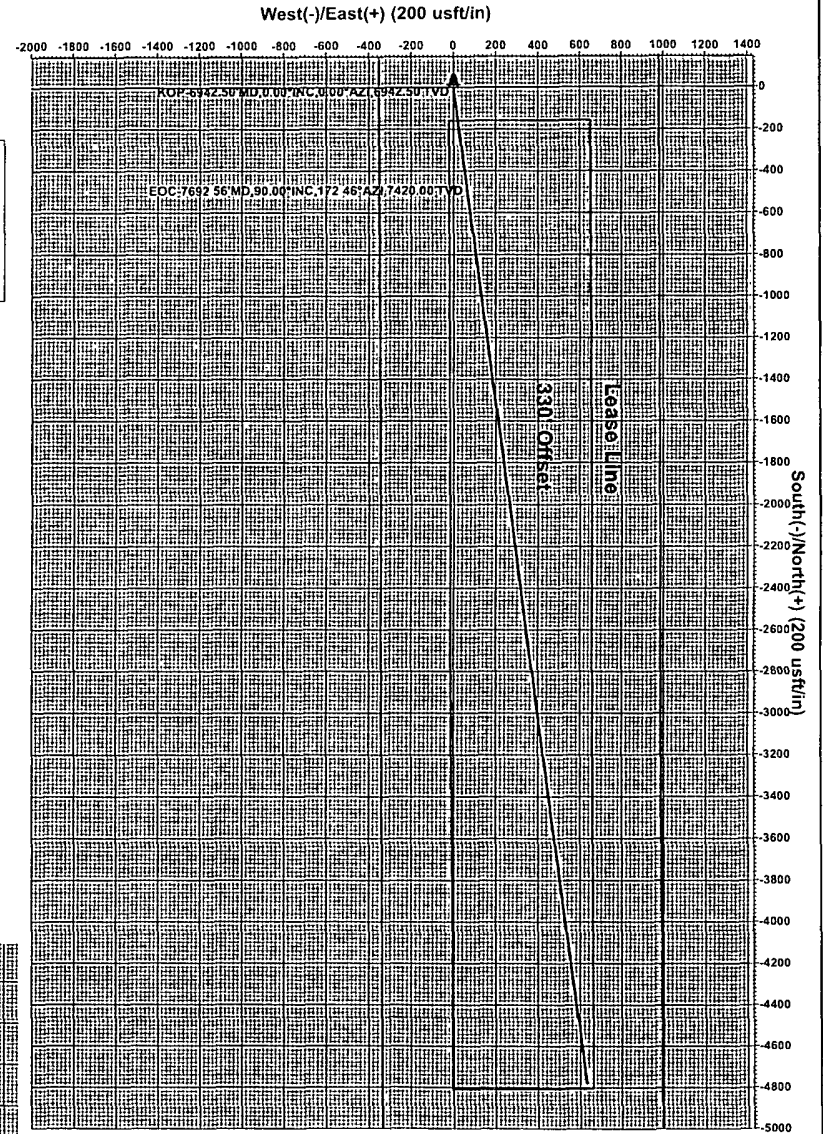
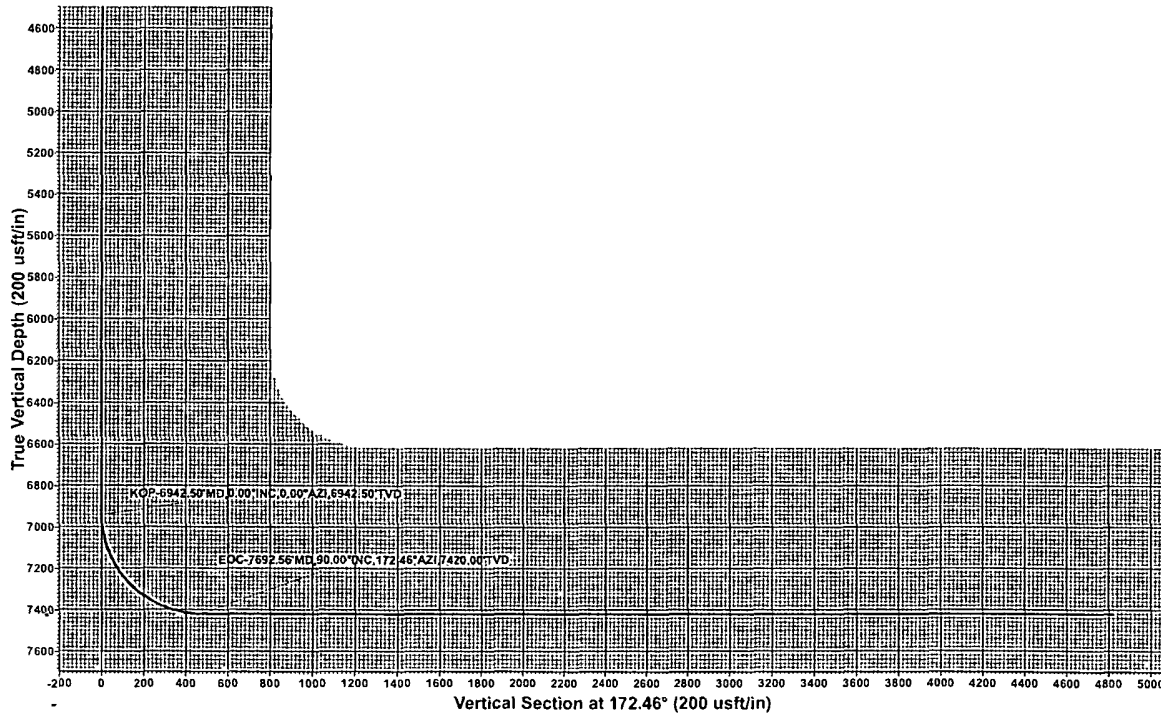
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6942.50	0.00	0.00	6942.50	0.00	0.00	0.00	0.00	0.00	0.00
7692.56	90.00	172.46	7420.00	-473.37	62.66	12.00	172.46	477.50	
12036.79	90.00	172.46	7420.00	-4780.04	632.70	0.00	0.00	4821.73	PBHL (HB2)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Eastng	Shape
PBHL (HB2)	7420.00	-4780.00	633.00	408903.200	618196.500	Point

LEGEND

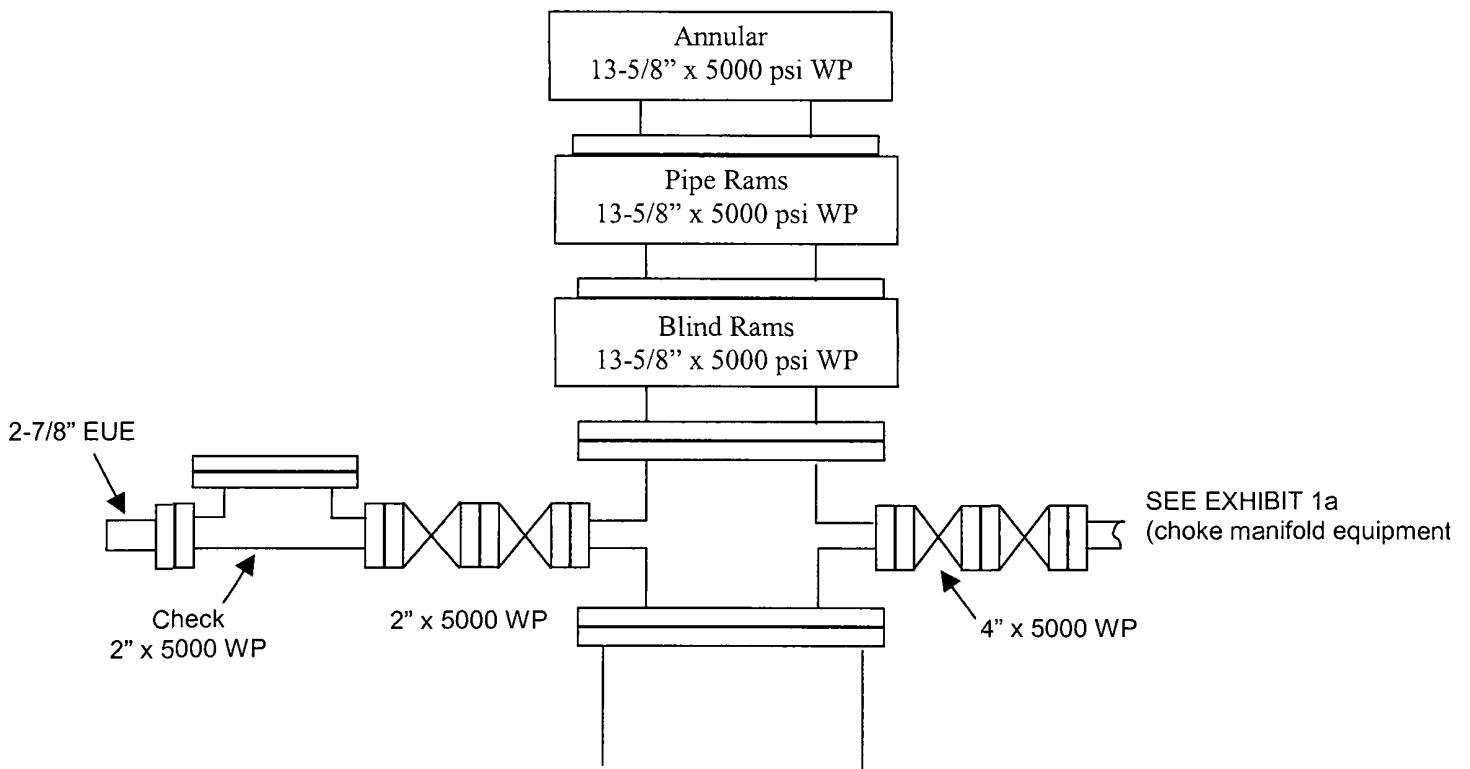
• Plan #1



Plan #1 (#2H/OH)
 Created By: Nate Bingham Date: 9/56, January 25 2011
 Checked: _____ Date: _____

EXHIBIT 1

EOG Resources
Herd 14 Federal No. 2H

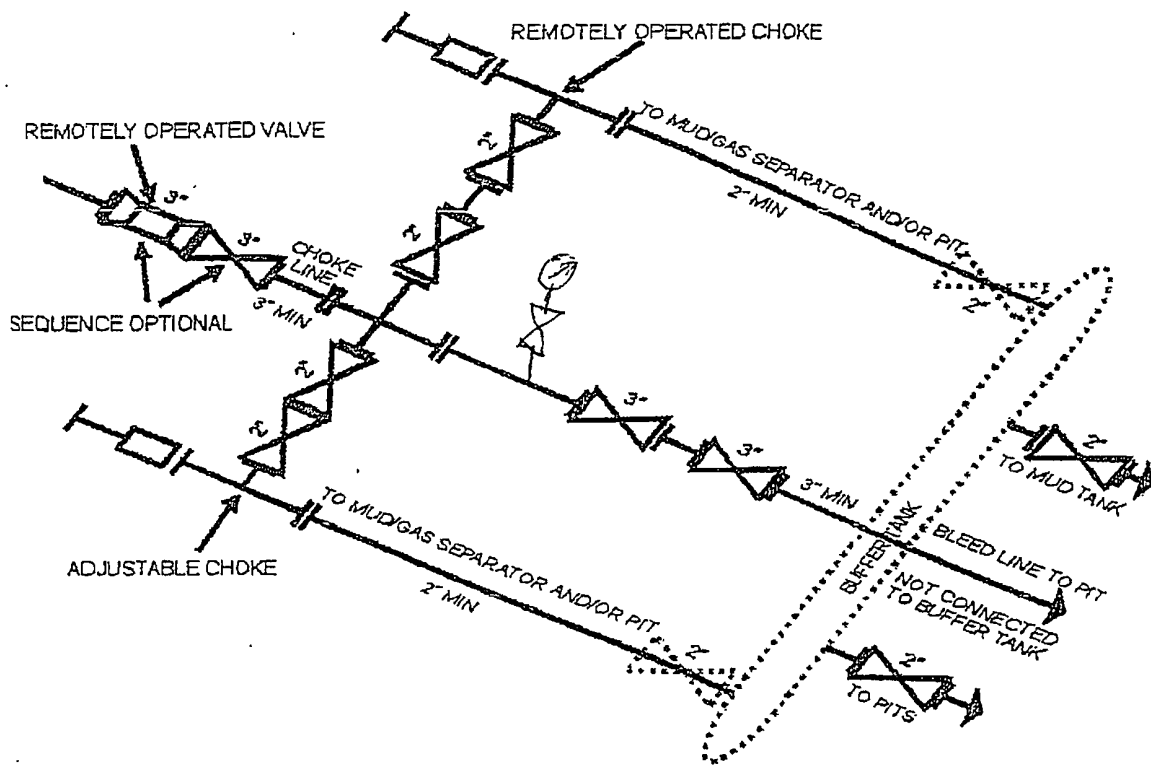


EOG RESOURCES, INC.
HERD BULL 14 FEDERAL 2H

ATTACHMENT TO EXHIBIT #1

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

EXHIBIT 1a
EOG Resources, Inc.

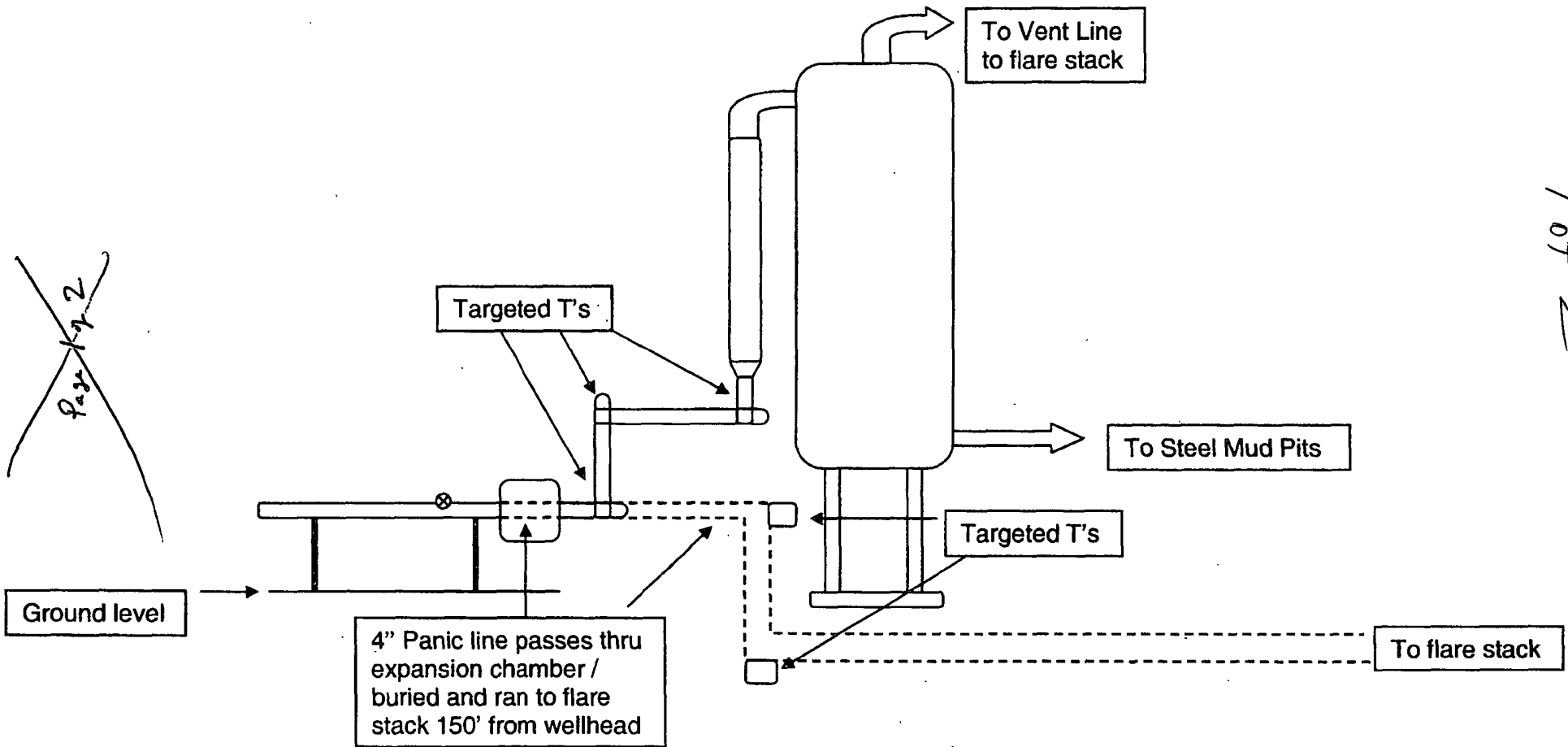


5M CHOKE MANIFOLD EQUIPMENT - CONFIGURATION OF CHOKES MAY VARY

Although not required for any of the choke manifold systems, buffer tanks are sometimes installed downstream of the choke assemblies for the purpose of manifolding the bleed lines together. When buffer tanks are employed, valves shall be installed upstream to isolate a failure or malfunction without interrupting flow control. Though not shown on 2M, 3M, 10M, OR 15M drawings, it would also be applicable to those situations.

[54 FR 39528, Sept. 27, 1989]

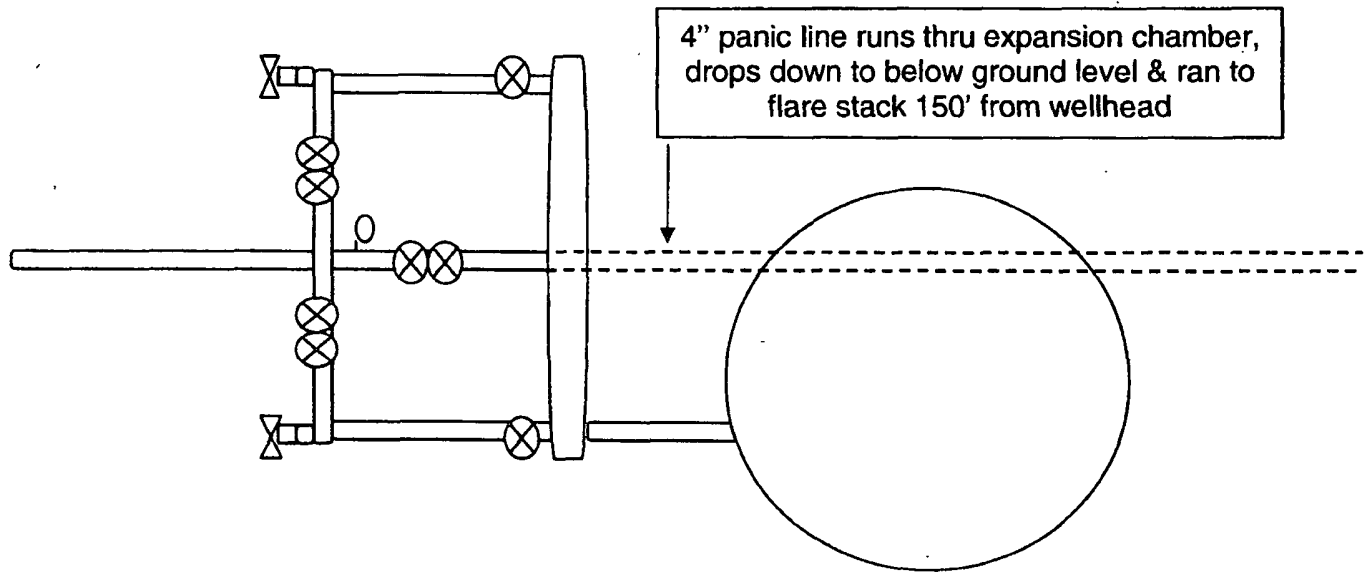
Profile View of Piping from Choke Manifold to the Mud Gas Separator



~~Page 1 of 2~~

1 of 2

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



~~Page 2 of 2~~

2 of 2

DISTRICT I --- CHECKLIST FOR INTENTS TO DRILL

Operator EOG RESOURCES INC OGRID # 7377
38612 Well Name & # HERD BULL # 2H Surface Type (F) (S) (P)
Location: UL B, Sect 14, Township 25 s, RNG 29 e, Sub-surface Type (F) (S) (P)
0-14-25s-29e

A. Date C101 rec'd / / C101 reviewed / /

B. 1. Check mark, Information is OK on Forms:
OGRID BONDING PROP CODE WELL # SIGNATURE

2. Inactive Well list as of: 7/22/11 # wells 437, # Inactive wells 3

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: 7/22/11
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 PIERCE COWLING; DS, EAST, Code 96473

a. Dedicated acreage 160, What Units BOGD

b. SUR. Location Standard : Non-Standard Location PP STANDARD

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 BOGD

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 FED

D. Blowout Preventer Yes No

E. H2S Yes No

F. C144 Pit Registration Yes , No , need

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 / /

API #30-015 -- 39234

8. Reviewers