

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

ATS-12-600
FORM APPROVED
OMB NO 1004-0137
Expires July 31, 2010

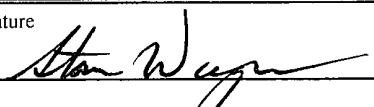
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a Type of Work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5 Lease Serial No NM-0438001
1b Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6 If Indian, Allottee or Tribe Name
2 Name of Operator EOG Resources Inc.		7 Unit or CA Agreement Name and No 83/2012
3a Address P.O. Box 2267 Midland, Texas 79702	3b. Phone No. (include area code) 432-686-3689	8 Lease Name and Well No. Ross Draw 8 Fed 6H
4 Location of Well (Report location clearly and in accordance with any State requirements)* At surface 330' FNL & 850' FEL, U/L A At proposed prod zone 330' FSL & 380' FEL, U/L P		9 API Well No 30-015-40564
14 Distance in miles and direction from nearest town or post office* +/- 48 miles NW from Jal NM		10 Field and Pool, or Exploratory Wildcat, Bone Spring, WES
15 Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg unit line, if any) 330'		11 Sec, T, R, M, or Blk and Survey or Area Sec 8, T26S, R31E
16 No. of Acres in lease 2201.36		12 County or Parish Eddy
17 Spacing Unit dedicated to this well 320 acres		13 State NM
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. Crosses RD 8 Fed 3H		19. Proposed Depth MAXTVD 8804' 8765 V - 13578 M
20. BLM/BIA Bond No on file NM 2308		21. Elevations (Show whether DF, KDB, RT, GL, etc) 3286' GL
22 Approximate date work will start* 11/1/11		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 | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above) |
| 2. A Drilling Plan. | 5. Operator certification. |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office) | 6. Such other site specific information and/or plans as may be required by the BLM |

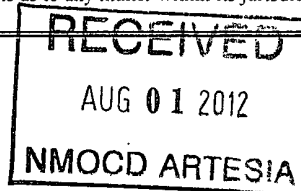
25 Signature 	Name (Printed/Typed) Stan Wagner	Date 4/4/12
Title Regulatory Analyst		
Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed) /s/ Don Peterson	Date JUL 31 2012
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon
Conditions of approval, if any, are attached.

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)



Carlsbad Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVALApproval Subject to General Requirements
& Special Stipulations Attached

OPERATOR CERTIFICATION

I certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal Laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true, and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements. Executed this 5th day of April, 2012.

Name: Roger Motley

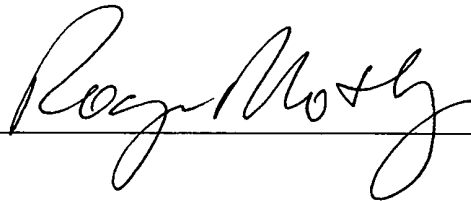
Position: Sr. Lease Operations ROW Representative

Address: P.O. Box 2267, Midland, TX 79705

Telephone: (432) 686-3642

Email: roger_motley@eogresources.com

Signed

A handwritten signature in cursive script, reading "Roger Motley", is written over a horizontal line.

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S St Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease- 4 Copies
Fee Lease- 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015- 40564	Pool Code 96405-97860	Well Name JENNINGS; Wildcat; Bone Spring, West
Property Code 38686	Property Name ROSS DRAW "8" FED.	Well Number 6H
OGRIID No. 7377	Operator Name EOG RESOURCES, INC.	Elevation 3286 8'

Surface Location

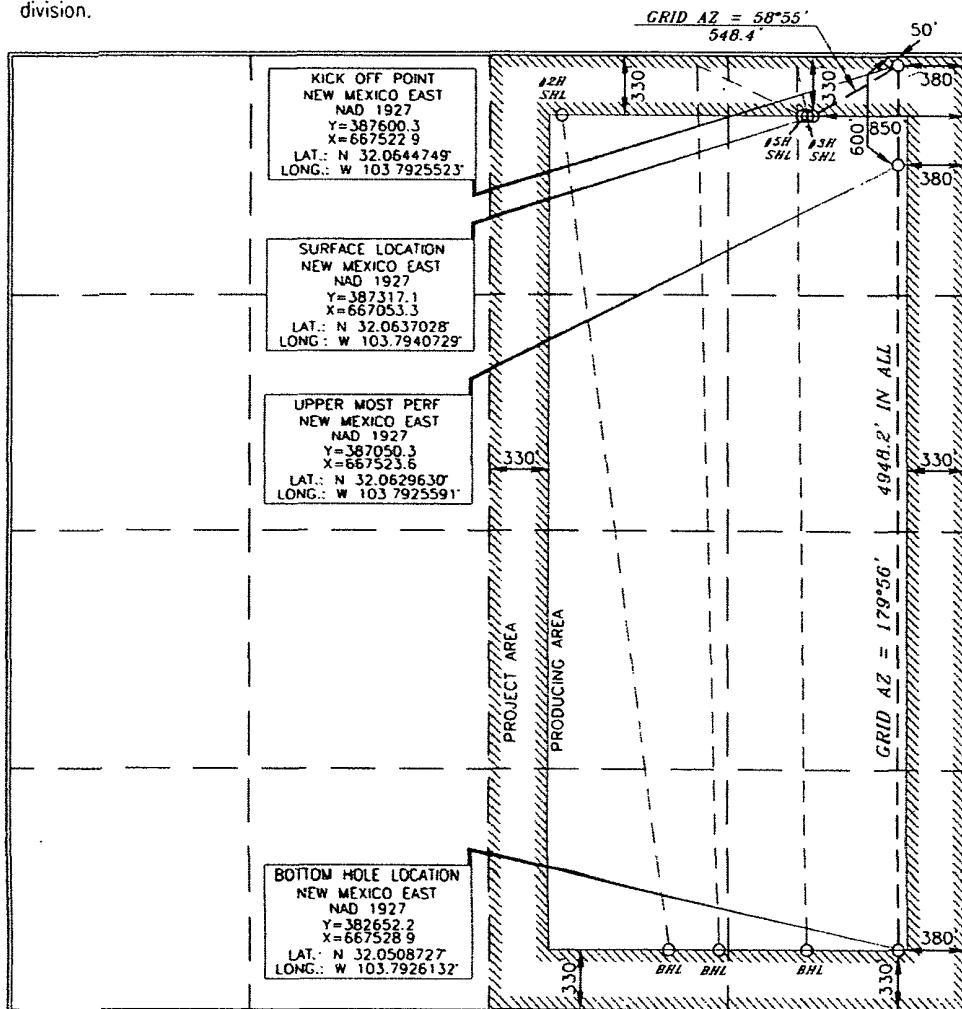
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	8	26 SOUTH	31 EAST, N.M.P.M.		330'	NORTH	850'	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	8	26 SOUTH	31 EAST, N.M.P.M.		330'	SOUTH	380'	EAST	EDDY

Dedicated Acres 32.0	Joint or Infill	Consolidation Code	Order No 13598 7/31
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature: Stan Wagner
Date: 4/12

Printed Name: Stan Wagner

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was obtained from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date of Survey: JANUARY 17, 2012
Signature: Tony O. Paul
Professional Seal of Professional Surveyor
Certificate Number: 15079

EOG RESOURCES, INC.
ROSS DRAW 8 FED NO. 6H

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	1,320'
Top of Salt	1,560'
Base of Salt	3,845'
Lamar	4,055'
Bell Canyon	4,080'
Cherry Canyon	4,980'
Brushy Canyon	6,276'
Bone Spring Lime	8,040'
TD	8,765'

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

Upper Permian Sands	0- 400'	Fresh Water
Brushy Canyon	6,276'	Oil
Bone Spring Lime	8,040'	Oil

No other Formations are expected to give up oil, gas or fresh water in measurable quantities. Surface fresh water sands will be protected by setting 13.375" casing at 1345' and circulating cement back to surface.

4. CASING PROGRAM - NEW

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF _{min} Collapse	DF _{min} Burst	DF _{min} Tension
17.5"	0 – 1345'	13.375"	54.5#	J55	STC	1.125	1.25	1.60
12.25"	0-4000'	9.625"	40#	J55	LTC	1.125	1.25	1.60
8.75"	0'-13,578'	5.500"	17#	P110 or HCP110	LTC	1.125	1.25	1.60

**EOG RESOURCES, INC.
ROSS DRAW 8 FED NO. 6H**

Cementing Program:

Depth	No. Sacks	Wt. lb/gal	Yld Ft ³ /ft	Slurry Description
1345'	500	13.5	1.73	Lead: Class C + 4.0% Bentonite + 0.6% CD-32 + 0.5% CaCl ₂ + 0.25 lb/sk Cello-Flake (TOC @ surface)
	300	14.8	1.34	Tail: Class C + 0.005 pps Static Free + 2% CaCl ₂ + 0.25 pps CelloFlake + 0.005 gps FP-6L
4,000'	600	12.7	2.22	Lead: Class 'C' + 1.50% R-3 + 0.25 lb/sk Cello-Flake + 2.0% Sodium Metasilicate + 10% Salt + 0.005 lb/sk Static Free (TOC @ surface)
	200	14.8	1.32	Tail: Class 'C' + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
13,578'	300	10.8	3.67	Lead: 60:40:0 Class 'C' + 15.00 lb/sk BA-90 + 4.00% MPA-5 + 3.00% SMS + 5.00% A-10 + 1.00% BA-10A + 0.80% ASA-301 + 2.90% R-21 + 8.00 lb/sk LCM-1 + 0.005 lb/sk Static Free (TOC @ 3500')
	225	11.8	2.38	Middle: 50:50:10 Class 'H' + 0.80% FL-52 + 0.45% ASA-301 + 0.40% SMS + 2.00% Salt + 3.00 lb/sx LCM-1 + 0.20% R-21 + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
	1300	14.2	1.28	Tail: 50:50:2 Class 'H' + 0.65% FL-52 + 0.20% CD-32 + 0.15% SMS + 2.00% Salt + 0.10% R-3 + 0.005 lb/sk Static Free

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:

- Variance is requested to use a co-flex line between the BOP and choke manifold (instead of using a 4" OD steel line).
- The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a double ram-type (10,000 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. The surface casing will be tested to 1500 psi for 30 minutes.
- Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 3000/ 250 psig and the annular preventer to 2500/ 250 psig. The intermediate casing will be tested to 2000 psi for 30 minutes.

EOG RESOURCES, INC.
ROSS DRAW 8 FED NO. 6H

- Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.
- A hydraulically operated choke will be installed prior to drilling out of the intermediate casing shoe.

6. TYPES AND CHARACTERISTICS OF THE PROPOSED MUD SYSTEM:

The applicable depths and properties of the drilling fluid systems are as follows.

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1345'	Fresh Water Gel	8.6-8.8	28-34	N/c
1345' – 4,000'	Saturated Brine	10.0-10.2	28-34	N/c
4,000' – 8,357'	Fresh Water	8.4-8.6	28-34	N/c
8,357' – 13,578' Lateral	Cut Brine Water	9.0-9.5	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) H₂S monitoring and detection equipment will be utilized from surface casing point to TD.

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

Open-hole logs are not planned for this well.

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

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

The estimated bottom-hole temperature (BHT) at TD is 155 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 3800 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.
ROSS DRAW 8 FED NO. 6H

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.

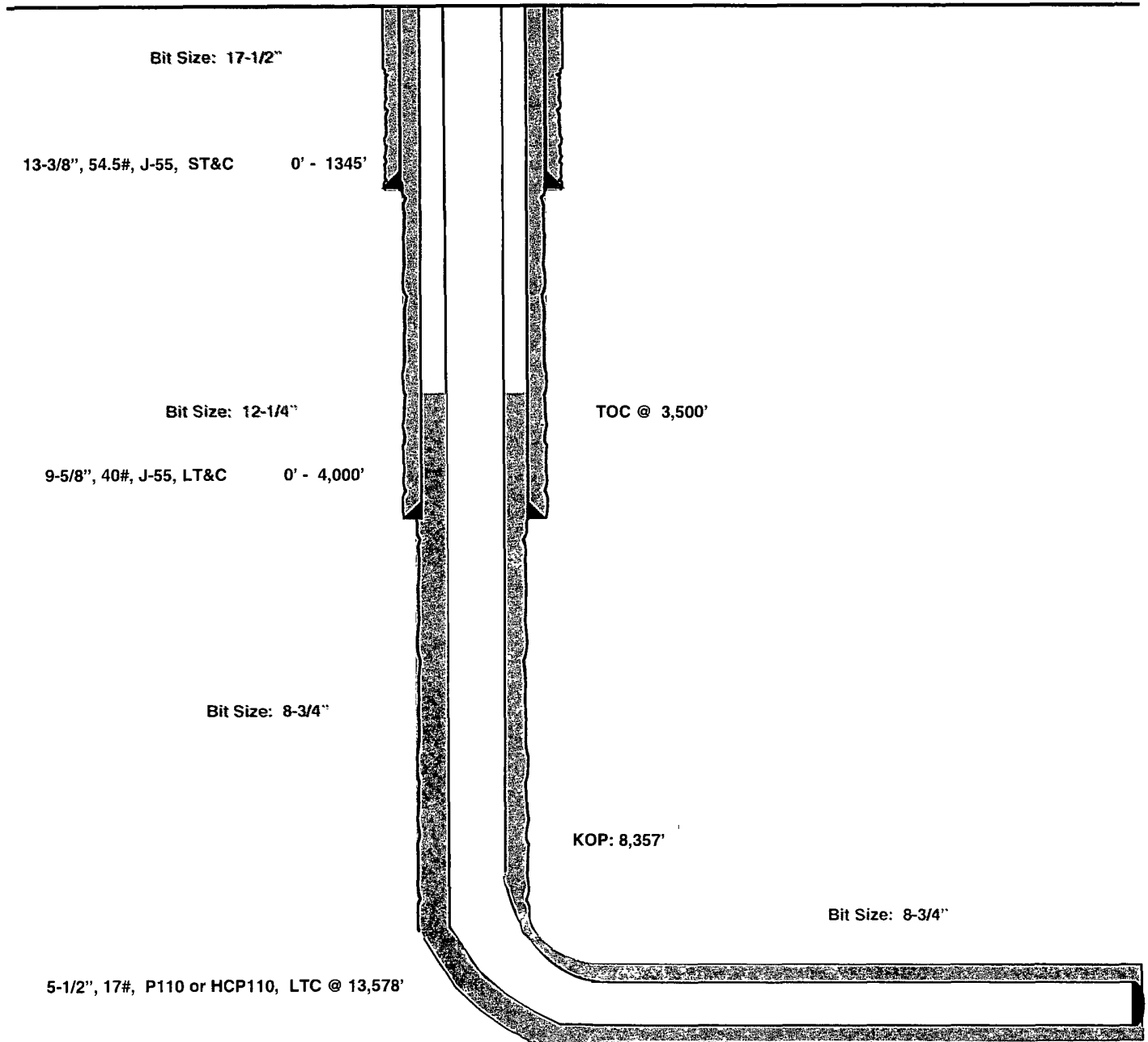
Ross Draw 8 Fed #6H
Eddy County, New Mexico

330' FNL
850' FEL
Section 8
T-26-S, R-31-E

Proposed Wellbore

API: 30-015-*****

KB: 3,316.8'
GL: 3,286.8'

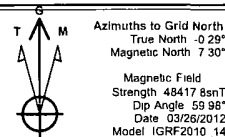


Lateral:
13,578' MD, 8,765' TVD
BH Location: 330' FSL & 380' FEL
Section 8
T-26-S, R-31-E

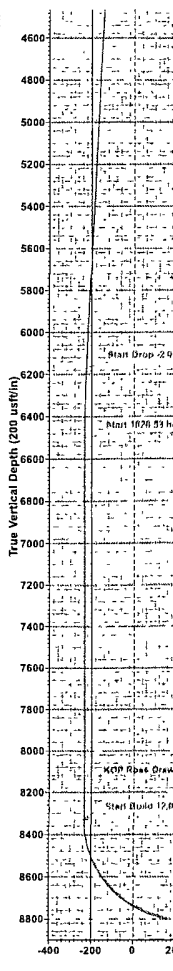
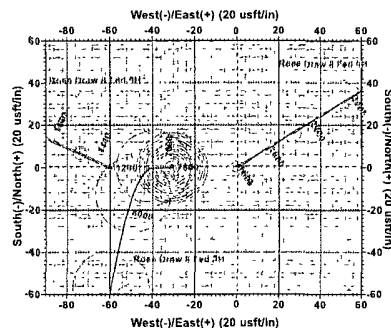
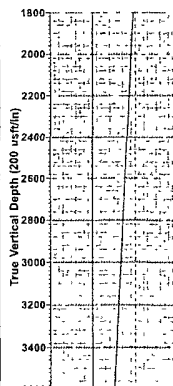
EOG Resources

Project: Eddy County, NM (Nad27)
Site: Ross Draw 8 Fed
Well: Ross Draw 8 Fed 6H
Wellbore: Wellbore #1
Plan: Plan #1 032612
Rig: Cactus Rig No. 123

PROJECT DETAILS Eddy County, NM (Nad27)
 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
 Location North: Gnd



PHOENIX
 TECHNOLOGY SERVICES



ANNOTATIONS		
TVD	MD	Annotation
1500.00	1500.00	Start Build 2.50
1765.59	1766.19	Start 4432.28 hold at 1766.19 MD
6188.01	6198.47	Start Drop -2.00
6500.00	6531.21	Start 1826.53 hold at 6531.21 MD
8326.53	8357.74	Start Build 12.00
8802.98	9111.91	Start 4466.64 hold at 9111.91 MD
8765.00	13578.55	TD at 13578.55

FORMATION TOP DETAILS

No formation data is available

WELL DETAILS: Ross Draw 8 Fed 6H

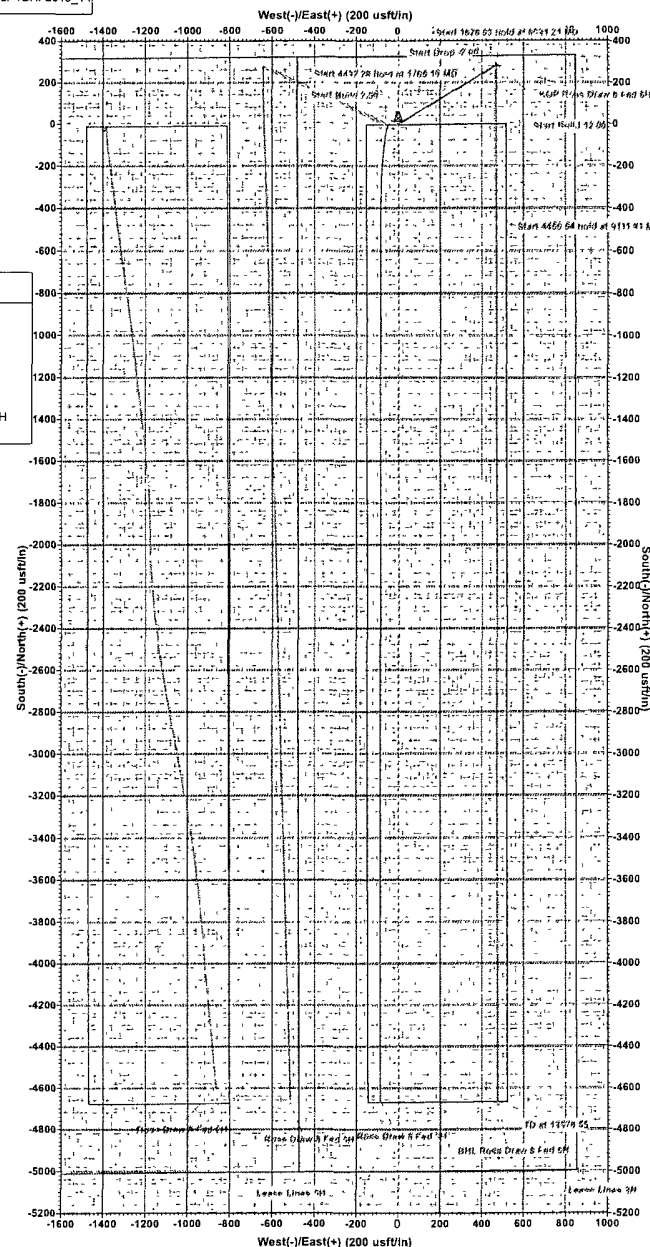
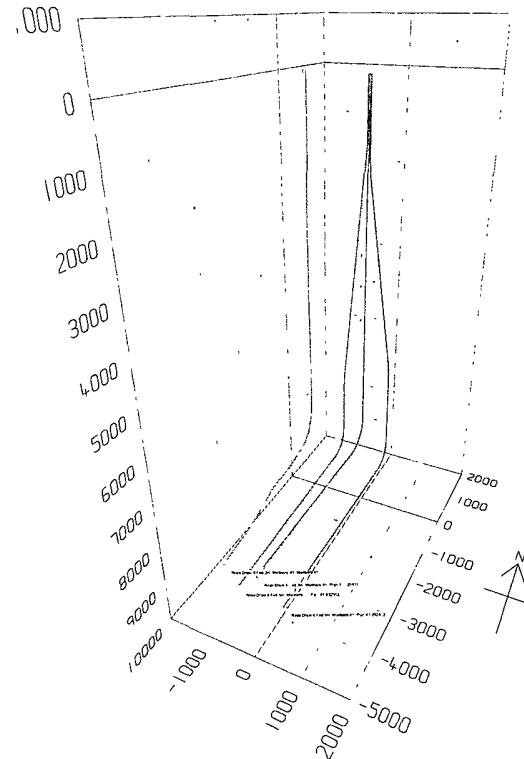
Ground Level 3286.80
 Northing 367317.10
 Easting 667053.30
 Latitude 32° 3' 49.3299 N
 Longitude 103° 47' 38.6621 W

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
KOP Ross Draw 8 Fed 6H	8326.53	283.20	469.60	367600.50	667522.80	Point
BHL Ross Draw 8 Fed 6H	8765.00	-4664.90	475.60	362652.20	667528.90	Point

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSecl
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0.00
1766.19	6.65	58.91	1765.59	7.97	13.22	2.50	58.91	-6.59
6188.47	6.65	58.91	6188.01	273.23	453.07	0.00	0.00	-225.87
6531.21	0.00	0.00	6500.00	283.20	469.60	2.00	180.00	-234.11
8357.74	0.00	0.00	8326.53	283.20	469.60	0.00	0.00	-234.11
9111.91	90.50	179.93	8803.98	-188.43	470.18	12.00	179.93	245.10
13578.55	90.50	179.93	8765.00	-4664.90	475.60	0.00	0.00	4689.08



EOG Resources

Eddy County, NM (Nad27)

Ross Draw 8 Fed

Ross Draw 8 Fed 6H

Wellbore #1

Plan: Plan #1 032612

EOG Resources

26 March, 2012



Phoenix Technology Services

EOG Resources



Company:	EOG Resources	Local Co-ordinate Reference:	Well Ross Draw 8 Fed 6H
Project:	Eddy County, NM (Nad27)	TVD Reference:	WELL @ 3316.80usft (Original Well Elev)
Site:	Ross Draw 8 Fed	MD Reference:	WELL @ 3316.80usft (Original Well Elev)
Well:	Ross Draw 8 Fed 6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 032612	Database:	GCR DB v5000

Project:	Eddy County, NM (Nad27)	System Datum:	Mean Sea Level
Map System:	US State Plane 1927 (Exact solution)		
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site:	Ross Draw 8 Fed		
Site Position:		Northing:	387,290.50 usft
From:	Map	Easting:	663,109.60 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 3' 49.2593 N
		Longitude:	103° 48' 24.4920 W
		Grid Convergence:	0.28 °

Well	Ross Draw 8 Fed 6H					
Well Position	+N-S	0.00 usft	Northing:	387,317.10 usft	Latitude:	32° 3' 49.3299 N
	+E-W	0.00 usft	Easting:	667,053.30 usft	Longitude:	103° 47' 38.6621 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,286.80 usft

Wellbore		Wellbore #1			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	03/26/12	7.58	59.98	48,418

Design: Plan #1 032612				
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	174.18

Survey Tool Program	Date	03/26/12		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
0.00	13,578.55	Plan #1 032612 (Wellbore #1)	MWD	MWD - Standard

Phoenix Technology Services
EOG Resources



Company:	EOG Resources	Local Co-ordinate Reference:	Well Ross Draw 8 Fed 6H
Project:	Eddy County, NM (Nad27)	TVD Reference:	WELL @ 3316.80usft (Original Well Elev)
Site:	Ross Draw 8 Fed	MD Reference:	WELL @ 3316.80usft (Original Well Elev)
Well:	Ross Draw 8 Fed 6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 032612	Database:	GCR DB v5000

Planned Survey												
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)		
0 00	0.00	0 00	-3,316.80	0 00	0.00	0 00	0.00	0.00	387,317.10	667,053.30		
100.00	0.00	0.00	-3,216.80	100.00	0.00	0.00	0.00	0.00	387,317.10	667,053.30		
200.00	0.00	0.00	-3,116.80	200.00	0.00	0.00	0.00	0.00	387,317.10	667,053.30		
300.00	0.00	0.00	-3,016.80	300.00	0.00	0.00	0.00	0.00	387,317.10	667,053.30		
400.00	0.00	0.00	-2,916.80	400.00	0.00	0.00	0.00	0.00	387,317.10	667,053.30		
500.00	0.00	0.00	-2,816.80	500.00	0.00	0.00	0.00	0.00	387,317.10	667,053.30		
600.00	0.00	0.00	-2,716.80	600.00	0.00	0.00	0.00	0.00	387,317.10	667,053.30		
700.00	0.00	0.00	-2,616.80	700.00	0.00	0.00	0.00	0.00	387,317.10	667,053.30		
800.00	0.00	0.00	-2,516.80	800.00	0.00	0.00	0.00	0.00	387,317.10	667,053.30		
900.00	0.00	0.00	-2,416.80	900.00	0.00	0.00	0.00	0.00	387,317.10	667,053.30		
1,000.00	0.00	0.00	-2,316.80	1,000.00	0.00	0.00	0.00	0.00	387,317.10	667,053.30		
1,100.00	0.00	0.00	-2,216.80	1,100.00	0.00	0.00	0.00	0.00	387,317.10	667,053.30		
1,200.00	0.00	0.00	-2,116.80	1,200.00	0.00	0.00	0.00	0.00	387,317.10	667,053.30		
1,300.00	0.00	0.00	-2,016.80	1,300.00	0.00	0.00	0.00	0.00	387,317.10	667,053.30		
1,400.00	0.00	0.00	-1,916.80	1,400.00	0.00	0.00	0.00	0.00	387,317.10	667,053.30		
1,500.00	0.00	0.00	-1,816.80	1,500.00	0.00	0.00	0.00	0.00	387,317.10	667,053.30		
Start Build 2.50												
1,600.00	2.50	58.91	-1,716.83	1,599.97	1.13	1.87	-0.93	2.50	387,318.23	667,055.17		
1,700.00	5.00	58.91	-1,617.05	1,699.75	4.50	7.47	-3.72	2.50	387,321.60	667,060.77		
1,766.19	6.65	58.91	-1,551.21	1,765.59	7.97	13.22	-6.59	2.50	387,325.07	667,066.52		
Start 4432.28 hold at 1766.19 MD												
1,800.00	6.65	58.91	-1,517.63	1,799.17	10.00	16.58	-8.26	0.00	387,327.10	667,069.88		
1,900.00	6.65	58.91	-1,418.30	1,898.50	15.98	26.50	-13.21	0.00	387,333.08	667,079.80		
2,000.00	6.65	58.91	-1,318.97	1,997.83	21.97	36.43	-18.16	0.00	387,339.07	667,089.73		
2,100.00	6.65	58.91	-1,219.65	2,097.15	27.95	46.35	-23.11	0.00	387,345.05	667,099.65		
2,200.00	6.65	58.91	-1,120.32	2,196.48	33.94	56.27	-28.05	0.00	387,351.04	667,109.57		
2,300.00	6.65	58.91	-1,020.99	2,295.81	39.92	66.20	-33.00	0.00	387,357.02	667,119.50		

Phoenix Technology Services
EOG Resources



Company:	EOG Resources	Local Co-ordinate Reference:	Well Ross Draw 8 Fed 6H
Project:	Eddy County, NM (Nad27)	TVD Reference:	WELL @ 3316.80usft (Original Well Elev)
Site:	Ross Draw 8 Fed	MD Reference:	WELL @ 3316.80usft (Original Well Elev)
Well:	Ross Draw 8 Fed 6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 032612	Database:	GCR DB v5000

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (%/100usft)	Northing (usft)	Easting (usft)	
2,400.00	6.65	58.91	-921.67	2,395.13	45.91	76.12	-37.95	0.00	387,363.01	667,129.42	
2,500.00	6.65	58.91	-822.34	2,494.46	51.89	86.04	-42.90	0.00	387,368.99	667,139.34	
2,600.00	6.65	58.91	-723.02	2,593.78	57.88	95.97	-47.84	0.00	387,374.98	667,149.27	
2,700.00	6.65	58.91	-623.69	2,693.11	63.86	105.89	-52.79	0.00	387,380.96	667,159.19	
2,800.00	6.65	58.91	-524.36	2,792.44	69.84	115.82	-57.74	0.00	387,386.94	667,169.12	
2,900.00	6.65	58.91	-425.04	2,891.76	75.83	125.74	-62.68	0.00	387,392.93	667,179.04	
3,000.00	6.65	58.91	-325.71	2,991.09	81.81	135.66	-67.63	0.00	387,398.91	667,188.96	
3,100.00	6.65	58.91	-226.38	3,090.42	87.80	145.59	-72.58	0.00	387,404.90	667,198.89	
3,200.00	6.65	58.91	-127.06	3,189.74	93.78	155.51	-77.53	0.00	387,410.88	667,208.81	
3,300.00	6.65	58.91	-27.73	3,289.07	99.77	165.43	-82.47	0.00	387,416.87	667,218.73	
3,400.00	6.65	58.91	71.59	3,388.39	105.75	175.36	-87.42	0.00	387,422.85	667,228.66	
3,500.00	6.65	58.91	170.92	3,487.72	111.74	185.28	-92.37	0.00	387,428.84	667,238.58	
3,600.00	6.65	58.91	270.25	3,587.05	117.72	195.21	-97.32	0.00	387,434.82	667,248.51	
3,700.00	6.65	58.91	369.57	3,686.37	123.71	205.13	-102.26	0.00	387,440.81	667,258.43	
3,800.00	6.65	58.91	468.90	3,785.70	129.69	215.05	-107.21	0.00	387,446.79	667,268.35	
3,900.00	6.65	58.91	568.23	3,885.03	135.68	224.98	-112.16	0.00	387,452.78	667,278.28	
4,000.00	6.65	58.91	667.55	3,984.35	141.66	234.90	-117.10	0.00	387,458.76	667,288.20	
4,100.00	6.65	58.91	766.88	4,083.68	147.65	244.82	-122.05	0.00	387,464.75	667,298.12	
4,200.00	6.65	58.91	866.20	4,183.00	153.63	254.75	-127.00	0.00	387,470.73	667,308.05	
4,300.00	6.65	58.91	965.53	4,282.33	159.61	264.67	-131.95	0.00	387,476.71	667,317.97	
4,400.00	6.65	58.91	1,064.86	4,381.66	165.60	274.60	-136.89	0.00	387,482.70	667,327.90	
4,500.00	6.65	58.91	1,164.18	4,480.98	171.58	284.52	-141.84	0.00	387,488.68	667,337.82	
4,600.00	6.65	58.91	1,263.51	4,580.31	177.57	294.44	-146.79	0.00	387,494.67	667,347.74	
4,700.00	6.65	58.91	1,362.84	4,679.64	183.55	304.37	-151.74	0.00	387,500.65	667,357.67	
4,800.00	6.65	58.91	1,462.16	4,778.96	189.54	314.29	-156.68	0.00	387,506.64	667,367.59	
4,900.00	6.65	58.91	1,561.49	4,878.29	195.52	324.21	-161.63	0.00	387,512.62	667,377.51	
5,000.00	6.65	58.91	1,660.81	4,977.61	201.51	334.14	-166.58	0.00	387,518.61	667,387.44	

Phoenix Technology Services
EOG Resources



Company:	EOG Resources	Local Co-ordinate Reference:	Well Ross Draw 8 Fed 6H
Project:	Eddy County, NM (Nad27)	TVD Reference:	WELL @ 3316.80usft (Original Well Elev)
Site:	Ross Draw 8 Fed	MD Reference:	WELL @ 3316.80usft (Original Well Elev)
Well:	Ross Draw 8 Fed 6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 032612	Database:	GCR DB v5000

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (%/100usft)	Northing (usft)	Easting (usft)
5,100.00	6.65	58.91	1,760.14	5,076.94	207.49	344.06	-171.52	0.00	387,524.59	667,397.36
5,200.00	6.65	58.91	1,859.47	5,176.27	213.48	353.99	-176.47	0.00	387,530.58	667,407.29
5,300.00	6.65	58.91	1,958.79	5,275.59	219.46	363.91	-181.42	0.00	387,536.56	667,417.21
5,400.00	6.65	58.91	2,058.12	5,374.92	225.45	373.83	-186.37	0.00	387,542.55	667,427.13
5,500.00	6.65	58.91	2,157.45	5,474.25	231.43	383.76	-191.31	0.00	387,548.53	667,437.06
5,600.00	6.65	58.91	2,256.77	5,573.57	237.42	393.68	-196.26	0.00	387,554.52	667,446.98
5,700.00	6.65	58.91	2,356.10	5,672.90	243.40	403.60	-201.21	0.00	387,560.50	667,456.90
5,800.00	6.65	58.91	2,455.42	5,772.22	249.38	413.53	-206.16	0.00	387,566.48	667,466.83
5,900.00	6.65	58.91	2,554.75	5,871.55	255.37	423.45	-211.10	0.00	387,572.47	667,476.75
6,000.00	6.65	58.91	2,654.08	5,970.88	261.35	433.38	-216.05	0.00	387,578.45	667,486.68
6,100.00	6.65	58.91	2,753.40	6,070.20	267.34	443.30	-221.00	0.00	387,584.44	667,496.60
6,198.47	6.65	58.91	2,851.21	6,168.01	273.23	453.07	-225.87	0.00	387,590.33	667,506.37
Start Drop -2.00										
6,200.00	6.62	58.91	2,852.73	6,169.53	273.32	453.22	-225.94	2.00	387,590.42	667,506.52
6,300.00	4.62	58.91	2,952.24	6,269.04	278.38	461.61	-230.13	2.00	387,595.48	667,514.91
6,400.00	2.62	58.91	3,052.04	6,368.84	281.65	467.03	-232.83	2.00	387,598.75	667,520.33
6,500.00	0.62	58.91	3,151.99	6,468.79	283.11	469.45	-234.04	2.00	387,600.21	667,522.75
6,531.21	0.00	0.00	3,183.20	6,500.00	283.20	469.60	-234.11	2.00	387,600.30	667,522.90
Start 1826.53 hold at 6531.21 MD										
6,600.00	0.00	0.00	3,251.99	6,568.79	283.20	469.60	-234.11	0.00	387,600.30	667,522.90
6,700.00	0.00	0.00	3,351.99	6,668.79	283.20	469.60	-234.11	0.00	387,600.30	667,522.90
6,800.00	0.00	0.00	3,451.99	6,768.79	283.20	469.60	-234.11	0.00	387,600.30	667,522.90
6,900.00	0.00	0.00	3,551.99	6,868.79	283.20	469.60	-234.11	0.00	387,600.30	667,522.90
7,000.00	0.00	0.00	3,651.99	6,968.79	283.20	469.60	-234.11	0.00	387,600.30	667,522.90
7,100.00	0.00	0.00	3,751.99	7,068.79	283.20	469.60	-234.11	0.00	387,600.30	667,522.90
7,200.00	0.00	0.00	3,851.99	7,168.79	283.20	469.60	-234.11	0.00	387,600.30	667,522.90
7,300.00	0.00	0.00	3,951.99	7,268.79	283.20	469.60	-234.11	0.00	387,600.30	667,522.90

Phoenix Technology Services
EOG Resources



Company:	EOG Resources	Local Co-ordinate Reference:	Well Ross Draw 8 Fed 6H
Project:	Eddy County, NM (Nad27)	TVD Reference:	WELL @ 3316.80usft (Original Well Elev)
Site:	Ross Draw 8 Fed	MD Reference:	WELL @ 3316.80usft (Original Well Elev)
Well:	Ross Draw 8 Fed 6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 032612	Database:	GCR DB v5000

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
7,400.00	0.00	0.00	4,051.99	7,368.79	283.20	469.60	-234.11	0.00	387,600.30	667,522.90	
7,500.00	0.00	0.00	4,151.99	7,468.79	283.20	469.60	-234.11	0.00	387,600.30	667,522.90	
7,600.00	0.00	0.00	4,251.99	7,568.79	283.20	469.60	-234.11	0.00	387,600.30	667,522.90	
7,700.00	0.00	0.00	4,351.99	7,668.79	283.20	469.60	-234.11	0.00	387,600.30	667,522.90	
7,800.00	0.00	0.00	4,451.99	7,768.79	283.20	469.60	-234.11	0.00	387,600.30	667,522.90	
7,900.00	0.00	0.00	4,551.99	7,868.79	283.20	469.60	-234.11	0.00	387,600.30	667,522.90	
8,000.00	0.00	0.00	4,651.99	7,968.79	283.20	469.60	-234.11	0.00	387,600.30	667,522.90	
8,100.00	0.00	0.00	4,751.99	8,068.79	283.20	469.60	-234.11	0.00	387,600.30	667,522.90	
8,200.00	0.00	0.00	4,851.99	8,168.79	283.20	469.60	-234.11	0.00	387,600.30	667,522.90	
8,300.00	0.00	0.00	4,951.99	8,268.79	283.20	469.60	-234.11	0.00	387,600.30	667,522.90	
8,357.74	0.00	0.00	5,009.73	8,326.53	283.20	469.60	-234.11	0.00	387,600.30	667,522.90	
Start Build 12.00											
8,400.00	5.07	179.93	5,051.94	8,368.74	281.33	469.60	-232.25	12.00	387,598.43	667,522.90	
8,500.00	17.07	179.93	5,149.90	8,466.70	262.16	469.63	-213.18	12.00	387,579.26	667,522.93	
8,600.00	29.07	179.93	5,241.73	8,558.53	223.05	469.67	-174.26	12.00	387,540.15	667,522.97	
8,700.00	41.07	179.93	5,323.42	8,640.22	165.69	469.74	-117.19	12.00	387,482.79	667,523.04	
8,800.00	53.07	179.93	5,391.41	8,708.21	92.61	469.83	-44.48	12.00	387,409.71	667,523.13	
8,900.00	65.07	179.93	5,442.71	8,759.51	6.98	469.93	40.72	12.00	387,324.08	667,523.23	
9,000.00	77.07	179.93	5,475.09	8,791.89	-87.44	470.05	134.66	12.00	387,229.66	667,523.35	
9,100.00	89.07	179.93	5,487.13	8,803.93	-186.52	470.17	233.25	12.00	387,130.58	667,523.47	
9,111.91	90.50	179.93	5,487.18	8,803.98	-198.43	470.18	245.10	12.00	387,118.67	667,523.48	
Start 4466.64 hold at 9111.91 MD											
9,200.00	90.50	179.93	5,486.41	8,803.21	-286.52	470.29	332.74	0.00	387,030.58	667,523.59	
9,300.00	90.50	179.93	5,485.54	8,802.34	-386.52	470.41	432.24	0.00	386,930.58	667,523.71	
9,400.00	90.50	179.93	5,484.66	8,801.46	-486.51	470.53	531.73	0.00	386,830.59	667,523.83	
9,500.00	90.50	179.93	5,483.79	8,800.59	-586.51	470.65	631.22	0.00	386,730.59	667,523.95	
9,600.00	90.50	179.93	5,482.92	8,799.72	-686.51	470.78	730.71	0.00	386,630.59	667,524.08	

Phoenix Technology Services
EOG Resources



Company:	EOG Resources	Local Co-ordinate Reference:	Well Ross Draw 8 Fed 6H
Project:	Eddy County, NM (Nad27)	TVD Reference:	WELL @ 3316.80usft (Original Well Elev)
Site:	Ross Draw 8 Fed	MD Reference:	WELL @ 3316.80usft (Original Well Elev)
Well:	Ross Draw 8 Fed 6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 032612	Database:	GCR DB v5000

Planned Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
9,700.00	90.50	179.93	5,482.05	8,798.85	-786.50	470.90	830.21	0.00	386,530.60	667,524.20	
9,800.00	90.50	179.93	5,481.17	8,797.97	-886.50	471.02	929.70	0.00	386,430.60	667,524.32	
9,900.00	90.50	179.93	5,480.30	8,797.10	-986.49	471.14	1,029.19	0.00	386,330.61	667,524.44	
10,000.00	90.50	179.93	5,479.43	8,796.23	-1,086.49	471.26	1,128.69	0.00	386,230.61	667,524.56	
10,100.00	90.50	179.93	5,478.56	8,795.36	-1,186.49	471.38	1,228.18	0.00	386,130.61	667,524.68	
10,200.00	90.50	179.93	5,477.68	8,794.48	-1,286.48	471.50	1,327.67	0.00	386,030.62	667,524.80	
10,300.00	90.50	179.93	5,476.81	8,793.61	-1,386.48	471.62	1,427.16	0.00	385,930.62	667,524.92	
10,400.00	90.50	179.93	5,475.94	8,792.74	-1,486.47	471.75	1,526.66	0.00	385,830.63	667,525.05	
10,500.00	90.50	179.93	5,475.07	8,791.87	-1,586.47	471.87	1,626.15	0.00	385,730.63	667,525.17	
10,600.00	90.50	179.93	5,474.19	8,790.99	-1,686.47	471.99	1,725.64	0.00	385,630.63	667,525.29	
10,700.00	90.50	179.93	5,473.32	8,790.12	-1,786.46	472.11	1,825.13	0.00	385,530.64	667,525.41	
10,800.00	90.50	179.93	5,472.45	8,789.25	-1,886.46	472.23	1,924.63	0.00	385,430.64	667,525.53	
10,900.00	90.50	179.93	5,471.57	8,788.37	-1,986.45	472.35	2,024.12	0.00	385,330.65	667,525.65	
11,000.00	90.50	179.93	5,470.70	8,787.50	-2,086.45	472.47	2,123.61	0.00	385,230.65	667,525.77	
11,100.00	90.50	179.93	5,469.83	8,786.63	-2,186.45	472.59	2,223.11	0.00	385,130.65	667,525.89	
11,200.00	90.50	179.93	5,468.96	8,785.76	-2,286.44	472.72	2,322.60	0.00	385,030.66	667,526.02	
11,300.00	90.50	179.93	5,468.08	8,784.88	-2,386.44	472.84	2,422.09	0.00	384,930.66	667,526.14	
11,400.00	90.50	179.93	5,467.21	8,784.01	-2,486.44	472.96	2,521.58	0.00	384,830.66	667,526.26	
11,500.00	90.50	179.93	5,466.34	8,783.14	-2,586.43	473.08	2,621.08	0.00	384,730.67	667,526.38	
11,600.00	90.50	179.93	5,465.47	8,782.27	-2,686.43	473.20	2,720.57	0.00	384,630.67	667,526.50	
11,700.00	90.50	179.93	5,464.59	8,781.39	-2,786.42	473.32	2,820.06	0.00	384,530.68	667,526.62	
11,800.00	90.50	179.93	5,463.72	8,780.52	-2,886.42	473.44	2,919.55	0.00	384,430.68	667,526.74	
11,900.00	90.50	179.93	5,462.85	8,779.65	-2,986.42	473.56	3,019.05	0.00	384,330.68	667,526.86	
12,000.00	90.50	179.93	5,461.98	8,778.78	-3,086.41	473.69	3,118.54	0.00	384,230.69	667,526.99	
12,100.00	90.50	179.93	5,461.10	8,777.90	-3,186.41	473.81	3,218.03	0.00	384,130.69	667,527.11	
12,200.00	90.50	179.93	5,460.23	8,777.03	-3,286.40	473.93	3,317.53	0.00	384,030.70	667,527.23	
12,300.00	90.50	179.93	5,459.36	8,776.16	-3,386.40	474.05	3,417.02	0.00	383,930.70	667,527.35	

Phoenix Technology Services
EOG Resources



Company:	EOG Resources	Local Co-ordinate Reference:	Well Ross Draw 8 Fed 6H
Project:	Eddy County, NM (Nad27)	TVD Reference:	WELL @ 3316.80usft (Original Well Elev)
Site:	Ross Draw 8 Fed	MD Reference:	WELL @ 3316.80usft (Original Well Elev)
Well:	Ross Draw 8 Fed 6H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Plan #1 032612	Database:	GCR DB v5000

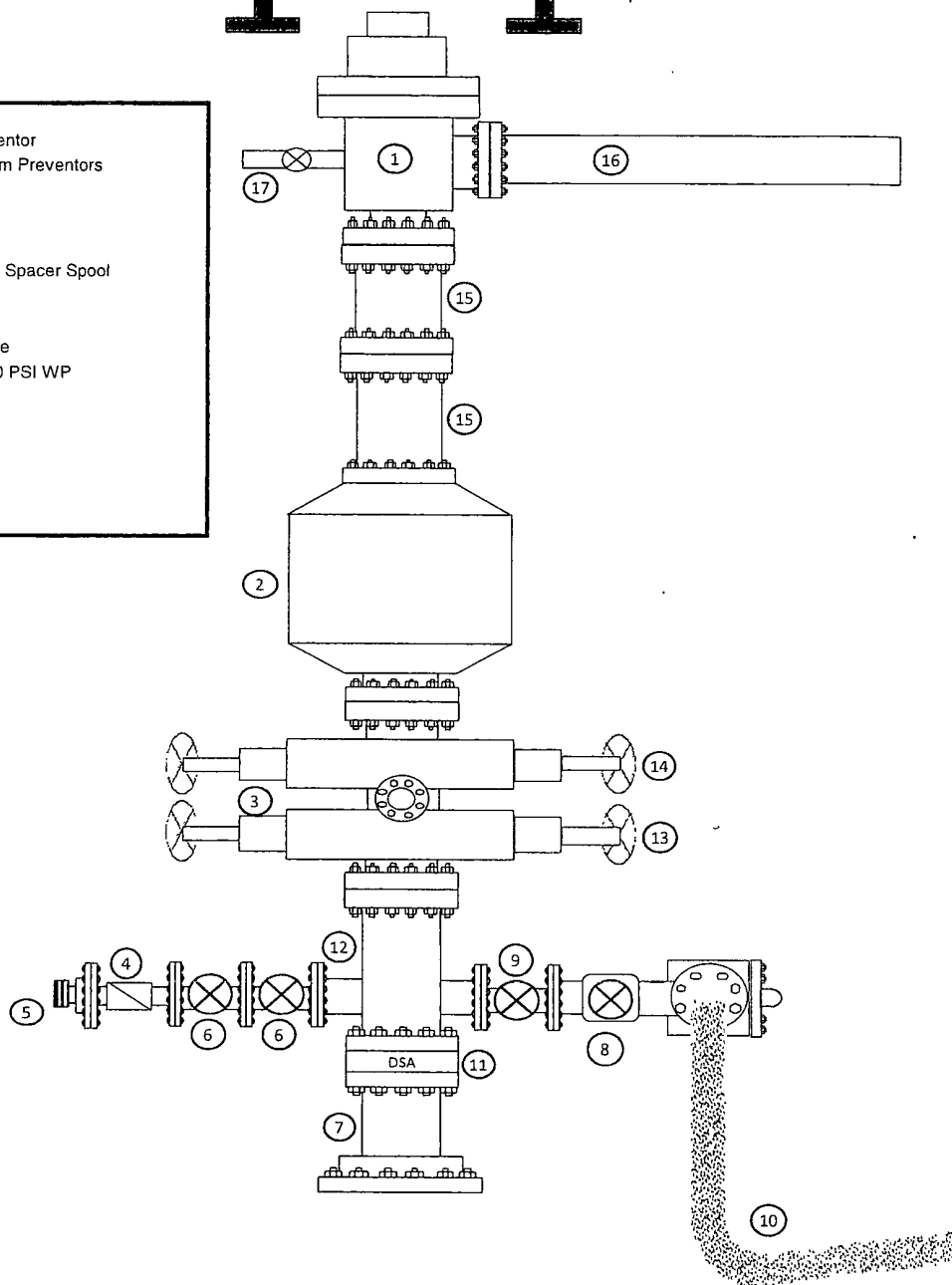
Planned Survey										
MD (usft)	Inc. (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
12,400.00	90.50	179.93	5,458.48	8,775.28	-3,486.40	474.17	3,516.51	0.00	383,830.70	667,527.47
12,500.00	90.50	179.93	5,457.61	8,774.41	-3,586.39	474.29	3,616.00	0.00	383,730.71	667,527.59
12,600.00	90.50	179.93	5,456.74	8,773.54	-3,686.39	474.41	3,715.50	0.00	383,630.71	667,527.71
12,700.00	90.50	179.93	5,455.87	8,772.67	-3,786.39	474.53	3,814.99	0.00	383,530.71	667,527.83
12,800.00	90.50	179.93	5,454.99	8,771.79	-3,886.38	474.66	3,914.48	0.00	383,430.72	667,527.96
12,900.00	90.50	179.93	5,454.12	8,770.92	-3,986.38	474.78	4,013.97	0.00	383,330.72	667,528.08
13,000.00	90.50	179.93	5,453.25	8,770.05	-4,086.37	474.90	4,113.47	0.00	383,230.73	667,528.20
13,100.00	90.50	179.93	5,452.38	8,769.18	-4,186.37	475.02	4,212.96	0.00	383,130.73	667,528.32
13,200.00	90.50	179.93	5,451.50	8,768.30	-4,286.37	475.14	4,312.45	0.00	383,030.73	667,528.44
13,300.00	90.50	179.93	5,450.63	8,767.43	-4,386.36	475.26	4,411.95	0.00	382,930.74	667,528.56
13,400.00	90.50	179.93	5,449.76	8,766.56	-4,486.36	475.38	4,511.44	0.00	382,830.74	667,528.68
13,500.00	90.50	179.93	5,448.89	8,765.69	-4,586.35	475.50	4,610.93	0.00	382,730.75	667,528.80
13,578.55	90.50	179.93	5,448.20	8,765.00	-4,664.90	475.60	4,689.08	0.00	382,652.20	667,528.90
TD at 13578.55										

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,500.00	1,500.00	0.00	0.00	Start Build 2.50
1,766.19	1,765.59	7.97	13.22	Start 4432 28 hold at 1766.19 MD
6,198.47	6,168.01	273.23	453.07	Start Drop -2.00
6,531.21	6,500.00	283.20	469.60	Start 1826.53 hold at 6531.21 MD
8,357.74	8,326.53	283.20	469.60	Start Build 12.00
9,111.91	8,803.98	-198.43	470.18	Start 4466.64 hold at 9111.91 MD
13,578.55	8,765.00	-4,664.90	475.60	TD at 13578.55

Checked By: _____ Approved By: _____ Date: _____

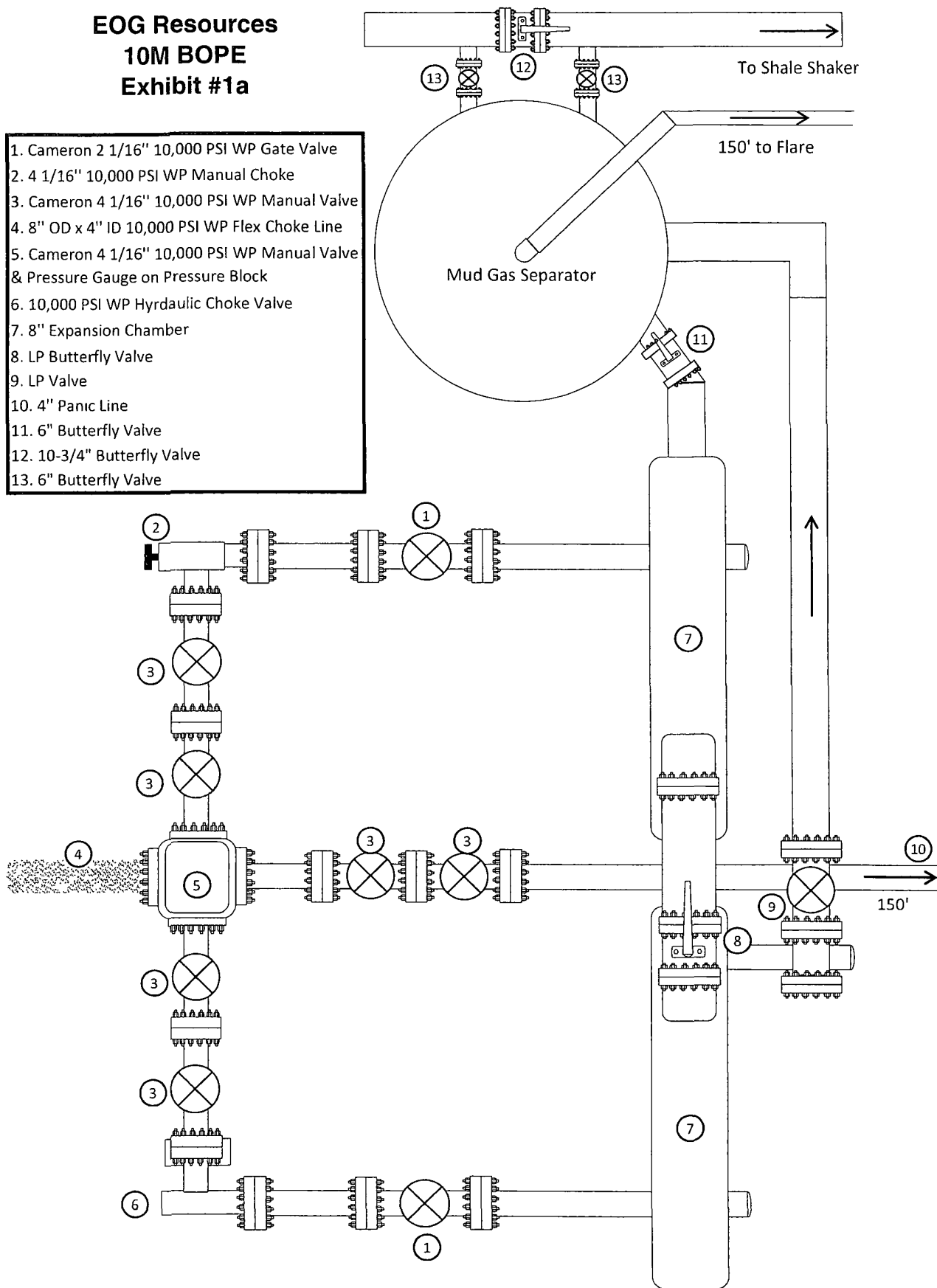
Rig Floor

Requirements



EOG Resources
10M BOPE
Exhibit #1a

1. Cameron 2 1/16" 10,000 PSI WP Gate Valve
2. 4 1/16" 10,000 PSI WP Manual Choke
3. Cameron 4 1/16" 10,000 PSI WP Manual Valve
4. 8" OD x 4" ID 10,000 PSI WP Flex Choke Line
5. Cameron 4 1/16" 10,000 PSI WP Manual Valve & Pressure Gauge on Pressure Block
6. 10,000 PSI WP Hyrdraulic Choke Valve
7. 8" Expansion Chamber
8. LP Butterfly Valve
9. LP Valve
10. 4" Panic Line
11. 6" Butterfly Valve
12. 10-3/4" Butterfly Valve
13. 6" Butterfly Valve



EOG RESOURCES, INC.
ROSS DRAW 8 FED 6H

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.

Manufacturer: Midwest Hose & Specialty

Serial Number: SN#90067

Length: 35'

Size: OD = 8" ID = 4"

Ends: Flanges Size: 4-1/16"

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

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

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

Closure Plan for Closed Loop Drilling System

1. METHODS OF HANDLING WASTE MATERIALS

- a. Drill cuttings shall be disposed of in steel cuttings bins (catch tanks) on the drilling pad (behind the steel mud tanks). The bin and cuttings shall be hauled to a division approved facility by an approved transporter. At the facility, the cuttings shall be removed from the bin and the bin shall be returned to the drilling site for reuse, moved to the next drilling site or returned to the provider.
- b. Remaining drilling fluids shall be hauled off by approved transports to a division approved disposal facility. Water produced during completion shall be put in storage tanks and disposed of at a division approved facility. Oil and condensate produced shall be put in a storage tank and sold or put in a sales pipeline.

2. RECLAMATION

- a. Within 120 days after the drilling and completion of the well, the location area shall be reduced as determined by operator to the minimum area necessary to safely and effectively operate the well. The reclaimed location area shall be restored to the condition that existed prior to oil and gas operations.

OPERATING AND MAINTENANCE PLAN – CLOSED LOOP SYSTEM

19.15.17.12 OPERATIONAL REQUIREMENTS:

A. General specifications. An operator shall maintain and operate a pit, closed-loop system, below-grade tank or sump in accordance with the following requirements.

(1) The operator shall operate and maintain a pit, closed-loop system, below-grade tank or sump to contain liquids and solids and maintain the integrity of the liner, liner system or secondary containment system, prevent contamination of fresh water and protect public health and the environment.

Operator shall operate and maintain a closed loop system.

(2) The operator shall recycle, reuse or reclaim all drilling fluids in a manner that prevents the contamination of fresh water and protects public health and the environment.

Operator shall recycle, reuse or reclaim all drilling fluids used. Excess or unused fluid shall be disposed of at division approved facilities.

(3) The operator shall not discharge into or store any hazardous waste in a pit, closed-loop system, below-grade tank or sump.

Operator shall not knowingly discharge hazardous waste into the closed loop system.

(4) If the integrity of the pit liner is compromised, or if any penetration of the liner occurs above the liquid's surface, then the operator shall notify the appropriate division district office within 48 hours of the discovery and repair the damage or replace the liner.

No Pit liner. Closed loop system.

(5) If a lined pit develops a leak, or if any penetration of the liner occurs below the liquid's surface, then the operator shall remove all liquid above the damage or leak line from the pit within 48 hours and repair the damage or replace the liner.

No Pit liner. Closed loop system. If a leak develops in any of the closed loop tanks, all liquid shall be removed from the effected tank within 48 hours and any damage shall be repaired prior to putting the tank back in service.

OPERATING AND MAINTENANCE PLAN – CLOSED LOOP SYSTEM

(6) The operator shall install a level measuring device in a lined pit containing fluids to monitor the level of the fluid surface, so that the operator may recognize unanticipated change in volume of fluids.

No pit. Closed loop system. Excess fluid shall be removed appropriately from the catch tanks.

(7) The injection or withdrawal of liquids from a lined pit shall be accomplished through a header, diverter or other hardware that prevents damage to the liner by erosion, fluid jets or impact from installation and removal of hoses or pipes.

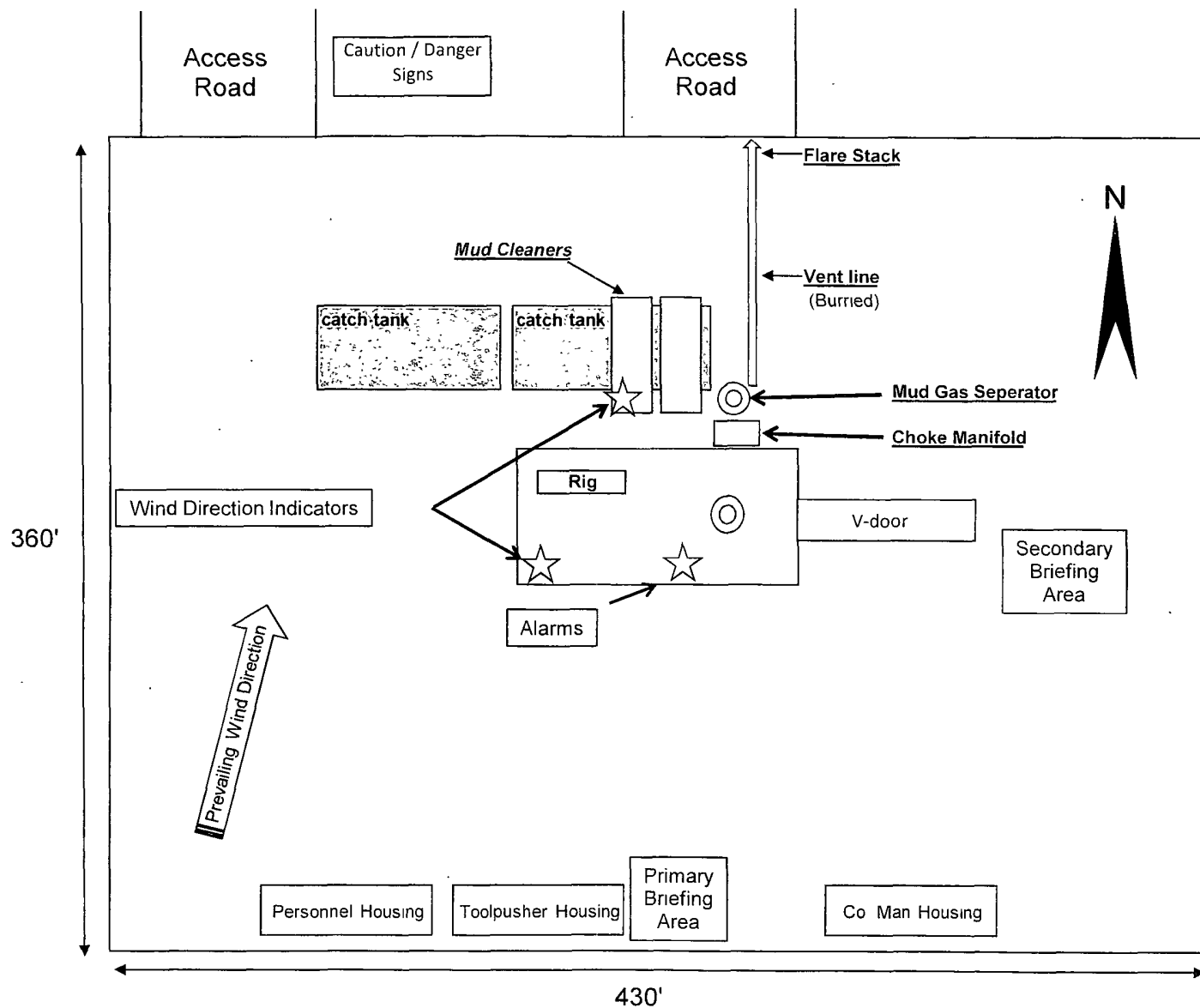
No pit. Closed loop system. Excess fluid shall be removed appropriately from the catch tanks using a re-circulating pump or vacuum trucks.

(8) The operator shall operate and install a pit, below-grade tank or sump to prevent the collection of surface water run-on.

Operator shall berm or collect surface water run- on and dispose of at a division approved facility.

(9) The operator shall install, or maintain on site, an oil absorbent boom or other device to contain and remove oil from a pit's surface.

Operator shall install a skimmer system on catch tanks, circulating tanks and over-flow tanks as needed to collect oil.



EOG Resources
Ross Draw 8 Fed #6H

Well Site Diagram

EOG Resources, Inc.

Legal's:

Ross Draw 8 Fed No. 6H

Eddy Co. New Mexico

330' FNL & 850' FEL Surface Location

Section 8

T-26-S, R-31-E

Lat: N 32.0637028

Long: W 103.7940729

330' FSL & 380' FEL Bottom Hole Location

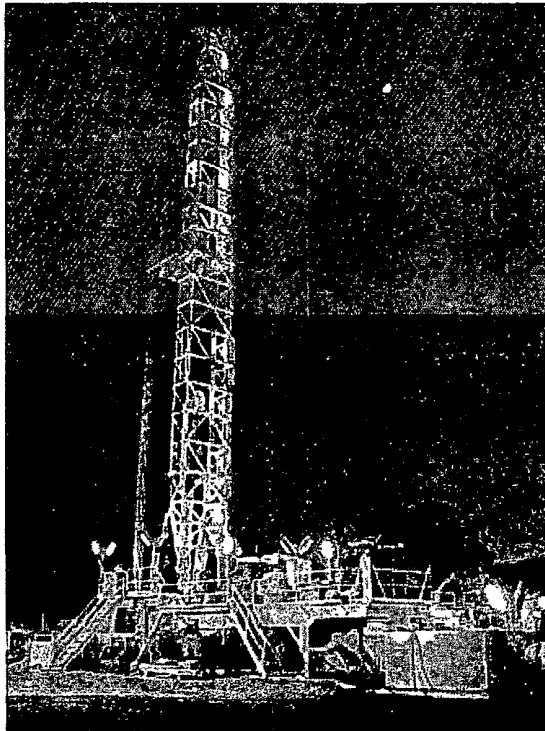
Section 8

T-26-S, R-31-E

Lat: N 32.0508727

Long: W 103.7926132

H₂S "Contingency Plan"



Safety Solutions, LLC
3222 Commercial Dr.

(432) 686-8555
Midland, TX 79701

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H₂S CONTINGENCY PLAN SECTION

Scope:

This contingency plan provides an organized plan of action for alerting and protecting the public within an area of exposure prior to an intentional release, or following the accidental release of a potentially hazardous volume of hydrogen sulfide. The plan establishes guidelines for all personnel whose work activity may involve exposure to Hydrogen Sulfide Gas (H₂S).

Objective:

Prevent any and all accidents, and prevent the uncontrolled release of H₂S into the atmosphere.

Provide proper evacuation procedures to cope with emergencies.

Provide immediate and adequate medical attention should an injury occur.

Discussion of Plan:

Suspected Problem Zones:

Implementation: This plan, with all details, is to be fully implemented 1000' before drilling into the first sour zone.

Emergency Response Procedure: This section outlines the conditions and denotes steps to be taken in the event of an emergency.

Emergency Equipment and Procedure: This section outlines the safety and emergency equipment that will be required for the drilling of this well.

Training Provisions: This section outlines the training provisions that must be adhered to 1000' before drilling into the first sour zone.

Emergency call list: Included are the telephone numbers of all persons that would need to be contacted, should an H₂S emergency occur.

Briefing: This section deals with the briefing of all persons involved with the drilling of this well.

Public Safety: Public Safety Personnel will be made aware of the drilling of this well.

Check Lists: Status check lists and procedural check lists have been included to ensure adherence to the plan.

General Information: A general information section has been included to supply support information.

EMERGENCY PROCEDURES SECTION

I. In the event of any evidence of H₂S level above 10ppm, take the following steps immediately:

- a. Secure breathing apparatus.
- b. Order non-essential personnel out of the danger zone.
- c. Take steps to determine if the H₂S level can be corrected or suppressed, and if so, proceed with normal operations.

II. If uncontrollable conditions occur, proceed with the following:

- a. Take steps to protect and/or remove any public downwind of the rig, including partial evacuation or isolation. Notify necessary public safety personnel and the New Mexico Oil Conservation Division of the situation.
- b. Remove all personnel to the Safe Briefing Area.
- c. Notify public safety personnel for help with maintaining roadblocks and implementing evacuation.
- d. Determine and proceed with the best possible plan to regain control of the well. Maintain tight security and safety measures.

III. Responsibility:

- a. The Company Approved Supervisor shall be responsible for the total implementation of the plan.
- b. The Company Approved Supervisor shall be in complete command during any emergency.
- c. The Company Approved Supervisor shall designate a back up Supervisor in the event that he/she is not available.

EMERGENCY PROCEDURE IMPLEMENTATION

I. Drilling or Tripping

a. All Personnel

- i. When alarm sounds, don escape unit and report to upwind Safe Briefing Area.
- ii. Check status of other personnel (buddy system).
- iii. Secure breathing apparatus.
- iv. Wait for orders from supervisor.

b. Drilling Foreman

- i. Report to the upwind Safe Briefing Area.
- ii. Don Breathing Apparatus and return to the point of release with the Tool Pusher or Driller (buddy system).
- iii. Determine the concentration of H₂S.
- iv. Assess the situation and take appropriate control measures.

c. Tool Pusher

- i. Report to the upwind Safe Briefing Area.
- ii. Don Breathing Apparatus and return to the point of release with the Drilling Foreman or the Driller (buddy system).
- iii. Determine the concentration of H₂S.
- iv. Assess the situation and take appropriate control measures.

d. Driller

- i. Check the status of other personnel (in a rescue attempt, always use the buddy system).
- ii. Assign the least essential person to notify the Drilling Foreman and Tool Pusher, in the event of their absence.
- iii. Assume the responsibility of the Drilling Foreman and the Tool Pusher until they arrive, in the event of their absence.

e. Derrick Man and Floor Hands

- i. Remain in the upwind Safe Briefing Area until otherwise instructed by a supervisor.

f. Mud Engineer

- i. Report to the upwind Safe Briefing Area.
- ii. When instructed, begin check of mud for pH level and H₂S level.

g. Safety Personnel

- i. Don Breathing Apparatus.
- ii. Check status of personnel.
- iii. Wait for instructions from Drilling Foreman or Tool Pusher.

II. Taking a Kick

- a. All Personnel report to the upwind Safe Briefing Area.
- b. Follow standard BOP procedures.

III. Open Hole Logging

- a. All unnecessary personnel should leave the rig floor.
- b. Drilling Foreman and Safety Personnel should monitor the conditions and make necessary safety equipment recommendations.

IV. Running Casing or Plugging

- a. Follow "Drilling or Tripping" procedures.
- b. Assure that all personnel have access to protective equipment.

SIMULATED BLOWOUT CONTROL DRILLS

All drills will be initiated by activating alarm devices (air horn). One long blast, on the air horn, for ACTUAL and SIMULATED Blowout Control Drills. This operation will be performed by the Drilling Foreman or Tool Pusher at least one time per week for each of the following conditions, with each crew:

Drill #1 Bottom Drilling

Drill #2 Tripping Drill Pipe

In each of these drills, the initial reaction time to shutting in the well shall be timed as well as the total time for the crew to complete its entire pit drill assignment. The times must be recorded on the IADC Driller's Log as "Blowout Control Drill".

Drill No.:

Reaction Time to Shut-In: minutes, seconds.

Total Time to Complete Assignment: minutes, seconds.

I. Drill Overviews

a. Drill No. 1 – Bottom Drilling

- i. Sound the alarm immediately.
- ii. Stop the rotary and hoist Kelly joint above the rotary table.
- iii. Stop the circulatory pump.
- iv. Close the drill pipe rams.
- v. Record casing and drill pipe shut-in pressures and pit volume increases.

b. Drill No. 2 – Tripping Drill Pipe

- i. Sound the alarm immediately.
- ii. Position the upper tool joint just above the rotary table and set the slips.
- iii. Install a full opening valve or inside blowout preventer tool in order to close the drill pipe.
- iv. Close the drill pipe rams.
- v. Record the shut-in annular pressure.

II. Crew Assignments

a. Drill No. 1 – Bottom Drilling

i. Driller

1. Stop the rotary and hoist Kelly joint above the rotary table.
2. Stop the circulatory pump.
3. Check Flow.
4. If flowing, sound the alarm immediately
5. Record the shut-in drill pipe pressure
6. Determine the mud weight increase needed or other courses of action.

ii. Derrickman

1. Open choke line valve at BOP.
2. Signal Floor Man #1 at accumulator that choke line is open.
3. Close choke and upstream valve after pipe tam have been closed.
4. Read the shut-in annular pressure and report readings to Driller.

iii. Floor Man #1

1. Close the pipe rams after receiving the signal from the Derrickman.
2. Report to Driller for further instructions.

iv. Floor Man #2

1. Notify the Tool Pusher and Operator representative of the H₂S alarms.
2. Check for open fires and, if safe to do so, extinguish them.
3. Stop all welding operations.
4. Turn-off all non-explosions proof lights and instruments.
5. Report to Driller for further instructions.

v. Tool Pusher

1. Report to the rig floor.
2. Have a meeting with all crews.

3. Compile and summarize all information.
4. Calculate the proper kill weight.
5. Ensure that proper well procedures are put into action.

vi. Operator Representative

1. Notify the Drilling Superintendent.
2. Determine if an emergency exists and if so, activate the contingency plan.

b. Drill No. 2 – Tripping Pipe

i. Driller

1. Sound the alarm immediately when mud volume increase has been detected.
2. Position the upper tool joint just above the rotary table and set slips.
3. Install a full opening valve or inside blowout preventer tool to close the drill pipe.
4. Check flow.
5. Record all data reported by the crew.
6. Determine the course of action.

ii. Derrickman

1. Come down out of derrick.
2. Notify Tool Pusher and Operator Representative.
3. Check for open fires and, if safe to do so , extinguish them.
4. Stop all welding operations.
5. Report to Driller for further instructions.

iii. Floor Man #1

1. Pick up full opening valve or inside blowout preventer tool and stab into tool joint above rotary table (with Floor Man #2).
2. Tighten valve with back-up tongs.

3. Close pipe rams after signal from Floor Man #2.
4. Read accumulator pressure and check for possible high pressure fluid leaks in valves or piping.
5. Report to Driller for further instructions.

iv. Floor Man #2

1. Pick-up full opening valve or inside blowout preventer tool and stab into tool joint above rotary table (with Floor Man #1).
2. Position back-up tongs on drill pipe.
3. Open choke line valve at BOP.
4. Signal Floor Man #1 at accumulator that choke line is open.
5. Close choke and upstream valve after pipe rams have been closed.
6. Check for leaks on BOP stack and choke manifold.
7. Read annular pressure.
8. Report readings to the Driller.

v. Tool Pusher

1. Report to the rig floor.
2. Have a meeting with all of the crews.
3. Compile and summarize all information.
4. See that proper well kill procedures are put into action.

vi. Operator Representative

1. Notify Drilling Superintendent
2. Determine if an emergency exists, and if so, activate the contingency plan.

IGNITION PROCEDURES

Responsibility:

The decision to ignite the well is the responsibility of the DRILLING FOREMAN in concurrence with the STATE POLICE. In the event the Drilling Foreman is incapacitated, it becomes the responsibility of the RIG TOOL PUSHER. This decision should be made only as a last resort and in a situation where it is clear that:

1. Human life and property are endangered.
2. There is no hope of controlling the blowout under the prevailing conditions.

If time permits, notify the main office, but do not delay if human life is in danger. Initiate the first phase of the evacuation plan.

Instructions for Igniting the Well:

1. Two people are required for the actual igniting operation. Both men must wear self-contained breathing apparatus and must use a full body harness and attach a retrievable safety line to the D-Ring in the back. One man must monitor the atmosphere for explosive gases with the LEL monitor, while the Drilling Foreman is responsible for igniting the well.
2. The primary method to ignite is a 25mm flare gun with a range of approximately 500 feet.
3. Ignite from upwind and do not approach any closer than is warranted.
4. Select the ignition site best suited for protection and which offers an easy escape route.
5. Before igniting, check for the presence of combustible gases.
6. After igniting, continue emergency actions and procedures as before.
7. All unassigned personnel will limit their actions to those directed by the Drilling Foreman.

Note: After the well is ignited, burning Hydrogen Sulfide will convert to Sulfur Dioxide, which is also highly toxic. Do not assume the area is safe after the well is ignited.

TRAINING PROGRAM

When working in an area where Hydrogen Sulfide (H₂S) might be encountered, definite training requirements must be carried out. The Company Supervisor will ensure that all personnel, at the well site, have had adequate training in the following:

1. Hazards and characteristics of Hydrogen Sulfide.
2. Physical effects of Hydrogen Sulfide on the human body.
3. Toxicity of Hydrogen Sulfide and Sulfur Dioxide.
4. H₂S detection, Emergency alarm and sensor location.
5. Emergency rescue.
6. Resuscitators.
7. First aid and artificial resuscitation.
8. The effects of Hydrogen Sulfide on metals.
9. Location safety.

Service company personnel and visiting personnel must be notified if the zone contains H₂S, and each service company must provide adequate training and equipment for their employees before they arrive at the well site.

EMERGENCY EQUIPMENT REQUIREMENTS

Lease Entrance Sign:

Should be located at the lease entrance with the following information:

CAUTION – POTENTIAL POISON GAS
HYDROGEN SULFIDE
NO ADMITTANCE WITHOUT AUTHORIZATION

Respiratory Equipment:

- Fresh air breathing equipment should be placed at the safe briefing areas and should include the following:
- Two SCBA's at each briefing area.
- Enough air line units to operate safely, anytime the H₂S concentration reaches the IDLH level (100 ppm).
- Cascade system with enough breathing air hose and manifolds to reach the rig floor, the derrickman and the other operation areas.

Windssocks or Wind Streamers:

- A minimum of two 10" windssocks located at strategic locations so that they may be seen from any point on location.
- Wind streamers (if preferred) should be placed at various locations on the well site to ensure wind consciousness at all times. (Corners of location).

Hydrogen Sulfide Detector and Alarms:

- 1 - Four channel H₂S monitor with alarms.
- Four (4) sensors located as follows: #1 – Rig Floor, #2 – Bell Nipple, #3 – Shale Shaker, #4 – Mud Pits.
- Gastec or Draeger pump with tubes.
- Sensor test gas.

Well Condition Sign and Flags:

The Well Condition Sign w/flags should be placed a minimum of 150' before you enter the location. It should have three (3) color coded flags (green, yellow and red) that will be used to denote the following location conditions:

GREEN – Normal Operating Conditions
YELLOW – Potential Danger
RED – Danger, H₂S Gas Present

Auxiliary Rescue Equipment:

- Stretcher
- 2 – 100' Rescue lines.
- First Aid Kit properly stocked.

Mud Inspection Equipment:

Garret Gas Train or Hach Tester for inspection of Hydrogen Sulfide in the drilling mud system.

Fire Extinguishers:

Adequate fire extinguishers shall be located at strategic locations.

Blowout Preventer:

- The well shall have hydraulic BOP equipment for the anticipated BHP.
- The BOP should be tested upon installation.
- BOP, Choke Line and Kill Line will be tested as specified by Operator.

Confined Space Monitor:

There should be a portable multi-gas monitor with at least 3 sensors (O₂, LEL H₂S). This instrument should be used to test the atmosphere of any confined space before entering. It should also be used for atmospheric testing for LEL gas before beginning any type of Hot Work. Proper calibration documentation will need to be provided.

Communication Equipment:

- Proper communication equipment such as cell phones or 2-way radios should be available at the rig.
- Radio communication shall be available for communication between the company man's trailer, rig floor and the tool pusher's trailer.

- Communication equipment shall be available on the vehicles.

Special Control Equipment:

- Hydraulic BOP equipment with remote control on the ground.
- Rotating head at the surface casing point.

Evacuation Plan:

- Evacuation routes should be established prior to spudding the well.
- Should be discussed with all rig personnel.

Designated Areas:***Parking and Visitor area:***

- All vehicles are to be parked at a pre-determined safe distance from the wellhead.
- Designated smoking area.

Safe Briefing Areas:

- Two Safe Briefing Areas shall be designated on either side of the location at the maximum allowable distance from the well bore so they offset prevailing winds or they are at a 180 degree angle if wind directions tend to shift in the area.
- Personal protective equipment should be stored at both briefing areas or if a moveable cascade trailer is used, it should be kept upwind of existing winds. When wind is from the prevailing direction, both briefing areas should be accessible.

Note:

- Additional equipment will be available at the Safety Solutions, LLC office.
- Additional personal H₂S monitors are available for all employees on location.
- Automatic Flare Igniters are recommended for installation on the rig.

Procedural Check List

Perform the following on each tour:

1. Check fire extinguishers to see that they have the proper charge.
2. Check breathing equipment to insure that they have not been tampered with.
3. Check pressure on the supply air bottles to make sure they are capable of recharging.
4. Make sure all of the Hydrogen Sulfide detection systems are operative.

Perform the following each week:

1. Check each piece of breathing equipment to make sure that they are fully charged and operational. This requires that the air cylinder be opened and the mask assembly be put on and tested to make sure that the regulators and masks are properly working. Negative and Positive pressure should be conducted on all masks.
2. BOP skills.
3. Check supply pressure on BOP accumulator stand-by source.
4. Check all breathing air mask assemblies to see that straps are loosened and turned back, ready for use.
5. Check pressure on cascade air cylinders to make sure they are fully charged and ready to use for refill purposes if necessary.
6. Check all cascade system regulators to make sure they work properly.
7. Perform breathing drills with on-site personnel.
8. Check the following supplies for availability:
 - Stretcher
 - Safety Belts and Ropes
 - Spare air Bottles
 - Spare Oxygen Bottles (if resuscitator required)
 - Gas Detector Pump and Tubes
 - Emergency telephone lists
9. Test the Confined Space Monitor to verify the batteries are good

BRIEFING PROCEDURES

The following scheduled briefings will be held to ensure the effective drilling and operation of this project:

Pre-Spud Meeting

Date: Prior to spudding the well.

Attendance: Drilling Supervisor
 Drilling Engineer
 Drilling Foreman
 Rig Tool Pushers
 Rig Drillers
 Mud Engineer
 All Safety Personnel
 Key Service Company Personnel

Purpose: Review and discuss the well program, step-by-step, to insure complete understanding of assignments and responsibilities.

EVACUATION PLAN

General Plan

The direct lines of action prepared by SAFETY SOLUTIONS, LLC to protect the public from hazardous gas situations are as follows:

1. When the company approved supervisor (Drilling Foreman, Tool Pusher or Driller) determine that Hydrogen Sulfide gas cannot be limited to the well location, and the public will be involved, he will activate the evacuation plan. Escape routes are noted on the area map.
2. Company safety personnel or designee will notify the appropriate local government agency that a hazardous condition exists and evacuation needs to be implemented.
3. Company approved safety personnel that have been trained in the use of the proper emergency equipment will be utilized.
4. Law enforcement personnel (State Police, Local Police Department, Fire Department, and the Sheriff's Department) will be called to aid in setting up and maintaining road blocks. Also, they will aid in evacuation of the public if necessary.

NOTE: Law enforcement personnel will not be asked to come into a contaminated area. Their assistance will be limited to uncontaminated areas. Constant radio contact will be maintained with them.

5. After the discharge of gas has been controlled, "Company" safety personnel will determine when the area is safe for re-entry.

See Emergency Action Plan

Emergency Assistance Telephone List

PUBLIC SAFETY: **911 or**

Eddy County Sheriff's Department	(575) 887-7551
Kent Waller	
Fire Department:	
Carlsbad	(575) 885-3125
Artesia	(575) 746-5050
Hospitals:	
Carlsbad	(575) 887-4121
Artesia	(575) 748-3333
Hobbs	(575) 392-1979
Dept. of Public Safety/Carlsbad	(575) 748-9718
Highway Department	(575) 885-3281
New Mexico Oil Conservation	(575) 476-3440
U.S. Dept. of Labor	(575) 887-1174

EOG Resources, Inc.

EOG / Midland	Office (432) 686-3600
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Company Drilling Consultants:

Pearl Turner Tommy Turner	Cell (432) 894-3416
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Drilling Engineer

Steve Munsell	Office (432) 686-3609
	Cell (432) 894-1256

Operations Manager

Travis Lain	Office (432) 686-3740
	Cell (432) 254-3521

Drilling Superintendent

Barney Thompson	Office (432) 686-3678
	Cell (432) 254-9056

Field Drilling Superintendent

Ron Welch	Cell (432) 386-0592
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McVay Drilling

Cactus Drilling	Office (580) 799-2752
Cactus Drilling Rig #123	Rig (432) 894-3417

Tool Pusher:

Jackie Herndon	Cell (580) 799-2752
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Safety Consultants

Safety Solutions, LLC	Office (432) 686-8555
Cliff Strasner	Cell (432) 894-9789
Craig Strasner	Cell (432) 894-0341

Affected Notification List

(within a 65' radius of exposure @100ppm)

The geologic zones that will be encountered during drilling are known to contain hazardous quantities of H₂S. The accompanying map illustrates the affected areas of the community. The residents within this radius will be notified via a hand delivered written notice describing the activities, potential hazards, conditions of evacuation, evacuation drill siren alarms and other precautionary measures.

Evacuee Description:

Residents: **THERE ARE NO RESIDENTS WITHIN 3000' ROE.**

Notification Process:

A continuous siren audible to all residence will be activated, signaling evacuation of previously notified and informed residents.

Evacuation Plan:

All evacuees will migrate lateral to the wind direction.

The Oil Company will identify all home bound or highly susceptible individuals and make special evacuation preparations, interfacing with the local and emergency medical service as necessary.

Toxic Effects of H₂S Poisoning

Hydrogen Sulfide is extremely toxic. The acceptable ceiling concentration for eight-hour exposure is 10 PPM, which is .001% by volume. Hydrogen Sulfide is heavier than air (specific gravity – 1.192) and is colorless and transparent. Hydrogen Sulfide is almost as toxic as Hydrogen Cyanide and is 5-6 times more toxic than Carbon Monoxide. Occupational exposure limits for Hydrogen Sulfide and other gases are compared below in Table 1. Toxicity table for H₂S and physical effects are shown in Table 2.

Table 1
Permissible Exposure Limits of Various Gases

Common Name	Symbol	Sp. Gravity	TLV	STEL	IDLH
Hydrogen Cyanide	HCN	.94	4.7 ppm	C	
Hydrogen Sulfide	H ₂ S	1.192	10 ppm	15 ppm	100 ppm
Sulfide Dioxide	SO ₂	2.21	2 ppm	5 ppm	
Chlorine	CL	2.45	.5 ppm	1 ppm	
Carbon Monoxide	CO	.97	25 ppm	200 ppm	
Carbon Dioxide	CO ₂	1.52	5000 ppm	30,000 ppm	
Methane	CH ₄	.55	4.7% LEL	14% UEL	

Definitions

- A. TLV – Threshold Limit Value is the concentration employees may be exposed based on a TWA (time weighted average) for eight (8) hours in one day for 40 hours in one (1) week. This is set by ACGIH (American Conference of Governmental Hygienists) and regulated by OSHA.
- B. STEL – Short Term Exposure Limit is the 15 minute average concentration an employee may be exposed to providing that the highest exposure never exceeds the OEL (Occupational Exposure Limit). The OEL for H₂S is 19 PPM.
- C. IDLH – Immediately Dangerous to Life and Health is the concentration that has been determined by the ACGIH to cause serious health problems or death if exposed to this level. The IDLH for H₂S is 100 PPM.
- D. TWA – Time Weighted Average is the average concentration of any chemical or gas for an eight (8) hour period. This is the concentration that any employee may be exposed based on an TWA.

TABLE 2Toxicity Table of H₂S

Percent %	PPM	Physical Effects
.0001	1	Can smell less than 1 ppm.
.001	10	TLV for 8 hours of exposure.
.0015	15	STEL for 15 minutes of exposure.
.01	100	Immediately Dangerous to Life & Health. Kills sense of smell in 3 to 5 minutes.
.02	200	Kills sense of smell quickly, may burn eyes and throat.
.05	500	Dizziness, cessation of breathing begins in a few minutes .
.07	700	Unconscious quickly, death will result if not rescued promptly.
.10	1000	Death will result unless rescued promptly. Artificial resuscitation may be necessary.

PHYSICAL PROPERTIES OF H₂S

The properties of all gases are usually described in the context of seven major categories:

COLOR
ODOR
VAPOR DENSITY
EXPLOSIVE LIMITS
FLAMMABILITY
SOLUBILITY (IN WATER)
BOILING POINT

Hydrogen Sulfide is no exception. Information from these categories should be considered in order to provide a fairly complete picture of the properties of the gas.

COLOR – TRANSPARENT

Hydrogen Sulfide is colorless so it is invisible. This fact simply means that you can't rely on your eyes to detect its presence. In fact that makes this gas extremely dangerous to be around.

ODOR – ROTTEN EGGS

Hydrogen Sulfide has a distinctive offensive smell, similar to "rotten eggs". For this reason it earned its common name "sour gas". However, H₂S, even in low concentrations, is so toxic that it attacks and quickly impairs a victim's sense of smell, so it could be fatal to rely on your nose as a detection device.

VAPOR DENSITY – SPECIFIC GRAVITY OF 1.192

Hydrogen Sulfide is heavier than air so it tends to settle in low-lying areas like pits, cellars or tanks. If you find yourself in a location where H₂S is known to exist, protect yourself. Whenever possible, work in an area upwind and keep to higher ground.

EXPLOSIVE LIMITS – 4.3% TO 46%

Mixed with the right proportion of air or oxygen, H₂S will ignite and burn or explode, producing another alarming element of danger besides poisoning.

FLAMMABILITY

Hydrogen Sulfide will burn readily with a distinctive clear blue flame, producing Sulfur Dioxide (SO₂), another hazardous gas that irritates the eyes and lungs.

SOLUBILITY – 4 TO 1 RATIO WITH WATER

Hydrogen Sulfide can be dissolved in liquids, which means that it can be present in any container or vessel used to carry or hold well fluids including oil, water, emulsion and sludge. The solubility of H₂S is dependent on temperature and pressure, but if conditions are right, simply agitating a fluid containing H₂S may release the gas into the air.

BOILING POINT – (-76 degrees Fahrenheit)

Liquefied Hydrogen Sulfide boils at a very low temperature, so it is usually found as a gas.

RESPIRATOR USE

The Occupational Safety and Health Administration (OSHA) regulate the use of respiratory protection to protect the health of employees. OSHA's requirements are written in the Code of Federal Regulations, Title 29, Part 1910, Section 134, Respiratory Protection. This regulation requires that all employees who might be required to wear respirators, shall complete a OSHA mandated medical evaluation questionnaire. The employee then should be fit tested prior to wearing any respirator while being exposed to hazardous gases.

Written procedures shall be prepared covering safe use of respirators in dangerous atmospheric situations, which might be encountered in normal operations or in emergencies. Personnel shall be familiar with these procedures and the available respirators.

Respirators shall be inspected prior to and after each use to make sure that the respirator has been properly cleaned, disinfected and that the respirator works properly. The unit should be fully charged prior to being used.

Anyone who may use respirators shall be properly trained in how to properly seal the face piece. They shall wear respirators in normal air and then in a test atmosphere. (Note: Such items as facial hair (beard or sideburns) and eyeglass temple pieces will not allow a proper seal.) Anyone that may be expected to wear respirators should have these items removed before entering a toxic atmosphere. A special mask must be obtained for anyone who must wear eyeglasses. Contact lenses should not be allowed.

Respirators shall be worn during the following conditions:

- A. Any employee who works near the top or on the top of any tank unless tests reveal less than 20 ppm of H₂S.
- B. When breaking out any line where H₂S can reasonably be expected.
- C. When sampling air in areas where H₂S may be present.
- D. When working in areas where the concentration of H₂S exceeds the Threshold Limit Value for H₂S (10 ppm).
- E. At any time where there is a doubt as to the H₂S level in the area to be entered.

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	EOG RESOURCES, INC
LEASE NO.:	NM9020
WELL NAME & NO.:	6H ROSS DRAW 8 FED
SURFACE HOLE FOOTAGE:	330' FNL & 850' FEL
BOTTOM HOLE FOOTAGE:	330' FSL & 380' FEL
LOCATION:	Section 8, T.26S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Rerouting a Fence Line
 - Pipeline Requirement
 - Phantom Banks SMA Requirements
- ☒ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
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- ☒ **Drilling**
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- ☒ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**