Form 3160-3 (February 2005)

UNITED STATES DEPARTMENT OF THE INTERIOR

ATEMOROUM 15

Lease Senal No.	
NM 82896	

Expires	March	31,	2007	E	11-0	8-	7
on Count No							

BUREAU OF LAND MANA	GEMENT	DOTACLE	11112 02050				
APPLICATION FOR PERMIT TO E	PRILL OR REENTER	PUIASH	6 If Indian, Allote	e or Tribe	Name		
la Type of work DRILL REENTER	₹		7 If Unit or CA Ag	reement, Na	me and I	No	
Ib Type of Well  ☐ Gas Well  ☐ Other	Single Zone Muli	tiple Zone	8. Lease Name and Gila 12 Fed 2				
2. Name of Operator EOG Resources, Inc.			9 API Well No. 30-015-	64	01		
3a. Address P.O. Box 2267 Midland, TX 79702	Bb Phone No (include area code) 432-686-3642		10 Field and Pool, or Northwest Po		•	ıre	
4 Location of Well (Report location clearly and in accordance with arry  At surface  At proposed prod zone  430' FSL & 660' FWL (U/L M) U	30'FSL & 2250'	FEL	11. Sec , T R. M or Section 12, T		,		
At proposed prod zone 430' FSL & 660' FWL (U/L M) Y 3  14 Distance in miles and direction from nearest town or post offices  Approx 25 miles SE from Loving, NM	C.L.04/19/0	8	12 County or Parish  Eddy		13 Stat	le NM	
		Mater Basin 17 Spacing Unit dedicated to this					
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft  1,500'	19 Proposed Depth <b>8,000' TVD; 11,000 TMD</b>	Troposed Septi.			1/BIA Bond No. on file 2308		
21. Elevations (Show whether DF, KDB, RT, GL, etc.) GL 3518'	22. Approximate date work will st 06/01/2008	tart*	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 thi	s form				
Well plat certified by a registered surveyor     A Drilling Plan     A Surface Use Plan (if the location is on National Forest System L SUPO must be filed with the appropriate Forest Service Office)	Item 20 above ands, the 5 Operator certification	). fication	ormation and/or plans	J		·	
25 Signature Im J. Meh	Name (Printed/Typed)  Donny G. Glanton	Name (Printed/Typed)  Donny G. Glanton			03/2008		
Title Sr. Lease Operations ROW Representative	\ .			`			
Approved by (Signature) Is/ Linda S.C. Rundell	Name (Printed/Typed) /s/ L	inda S.C	C. Rundell	Dajun	1 7	2008	
STATE DIRECTOR	Office NM S	STATE	OFFI <b>CE</b>				

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

\*(Instructions on page 2)



APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS **A**TTACHED



**NOTE**: NEW PIT RULE 19-15-17 NMAC PART 17 A form C-144 must be approved before starting drilling operations.

## UCU-AKIESIA

Form 3160-5 (February 2005)

# UNITED STATES DEPARTMENT OF THE INTERIOR

FORM APPROVED
OM B No 1004-0137
Expires March 31, 2007

BUREAU OF LAND MANAGEMEN	VT 5 Lease Senal No
SUNDRY NOTICES AND REPORTS	
Do not use this form for proposals to drill of abandoned well. Use Form 3160-3 (APD) for	
SUBMIT IN TRIPLICATE- Other instructions	on reverse side. 7 If Unit or CA/Agreement, Name and/or No
1. Type of Well Gas Well Other	8 Well Name and No
2 Name of Operator EOG RESOURCES, INC.	GILA 12 FED 2H  9 API Well No
	: No (include area code)
P.O. Box 2267 Midland, Texas 79702 432 68  4 Location of Well (Footage, Sec., T., R., M., or Survey Description)	6 3642 10 Field and Pool, or Exploratory Area Northwest Poker Lake Delaware
630' FSL & 2250' FEL of Section 12, T24S-R30E, N.M.P.M. (UL/O)	11 County or Perish State
430'FSL : 330'FWL . f Section 12, T245 - R308 (UL)	
	E NATURE OF NOTICE, REPORT, OR OTHER DATA
TYPE OF SUBMISSION	TYPE OF ACTION
3 Subsequent Report	e Treat Reclamation Well Integrity onstruction Recomplete Volter MOVE SURFACE
Final Abandonment Notice Convert to Injection Plug Br	d Abandon Temporarily Abandon LOCATION  Lock Water Disposal
determined that the site is ready for final inspection)	· ·
14. Thereby certify that the foregoing is true and correct	
Name (Printed/Typed)  Donny G. Glanton	Title Senior Lease Operations ROW Representative
Signature Ju J. Mat	Date 4/16/08
THIS SPACE FOR FEDER	AL OR STATE OFFICE USE
Approved by /s/ Linda S.C. Rundel	STATE DIRECTOR Date JUN 1 7 2008
Conditions of approval, if any, are attached Approval of this notice does not we certify that the applicant holds legal or equitable title to those rights in the subject which would entitle the applicant to conduct operations thereon	rrant or t lease Office NM STATE OFFICE
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212 make it a crime for	any nerson knowingly and willfully to make to any department or agency of the United

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, firtitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

## GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations, and reports of such operations when completed, as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this

form and the number of copies to be submitted, particularly with regard to local area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from the local Federal office.

#### SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13 - Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or

present productive zones, or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to top of any left in the hole; method of closing top of well and date well site conditioned for final inspection looking to approval of the abandonment.

#### **NOTICES**

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan, (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162 3-2, 3162 3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases. Response to this request is mandatory.

BLM would like you to know that you do not have to respond to this or any other Federal agency sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 25 minutes per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington D.C. 20240

(Form 3160-5, page 2)

District |

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Río 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 96046 Pool Name Northwest 30-015-Poker Lake Delaware Property Code Property Name Well Number 27021 OGRID No. GILA 12 FED. 2HOperator Name Elevation EOG RESOURCES, INC. 7377 *3518.3*′

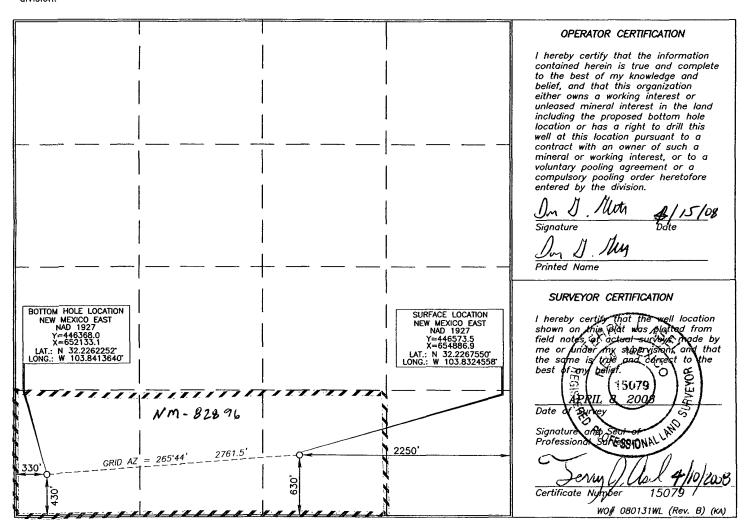
Surface Location

				, 400					
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	12	24 SOUTH	30 EAST, N.M.P.M.		630'	SOUTH	2250'	EAST	EDDY
			5 11 11 1			. = -			· · · · · · · · · · · · · · · · · · ·

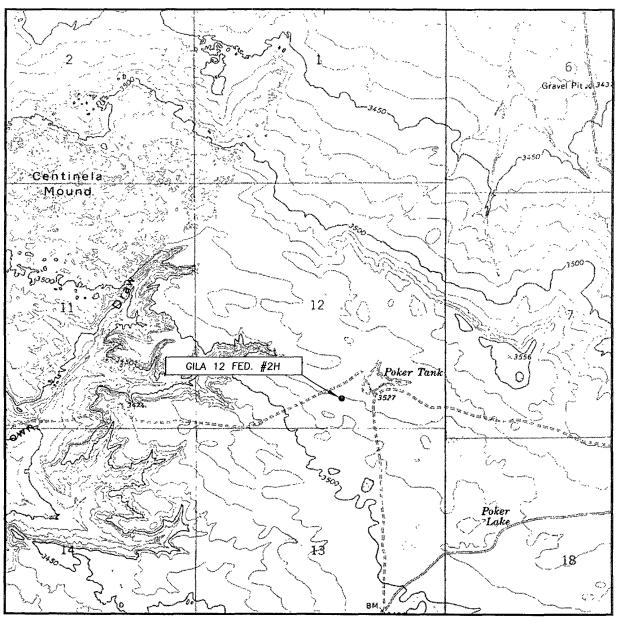
Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range		Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	12	24 SOUTH	30 EAST, N.M.P.M.			430'	SOUTH	330'	WEST	EDDY
Dedicated	Acres	Joint or Infill	Consolidation Code	Order No.						
120										

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.



# · LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'

SEC. 12 TWP. 24-S RGE. 30-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 630' FSL & 2250' FEL

ELEVATION 3518.3'

OPERATOR EOG RESOURCES INC.

LEASE GILA 12 FED. #2H

U.S.G.S. TOPOGRAPHIC MAP

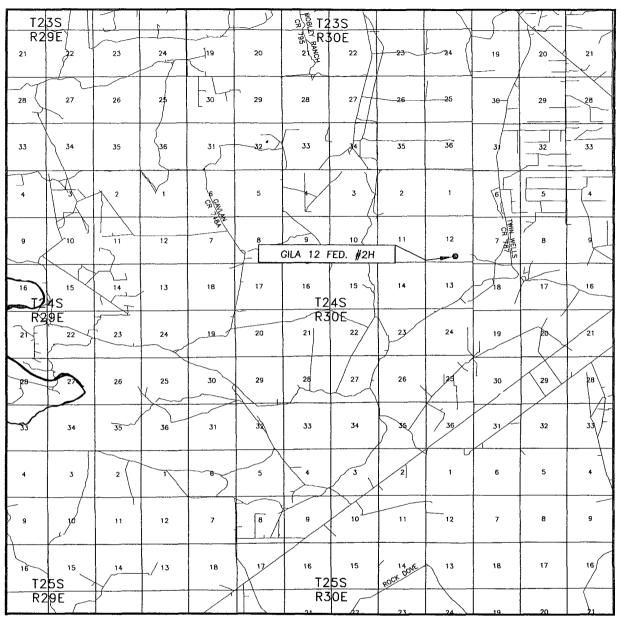
BIG SINKS, N.M.

Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR HOBBS, NEW MEXICO - 575-393-9146



# VICINITY MAP



SEC. 12 TWP. 24-S RGE. 30-E
SURVEY N.M.P.M.
COUNTY EDDY
DESCRIPTION 630' FSL & 2250' FEL
ELEVATION 3518.3'
OPERATOR EOG RESOURCES INC.

LEASE GILA 12 FED. #2H

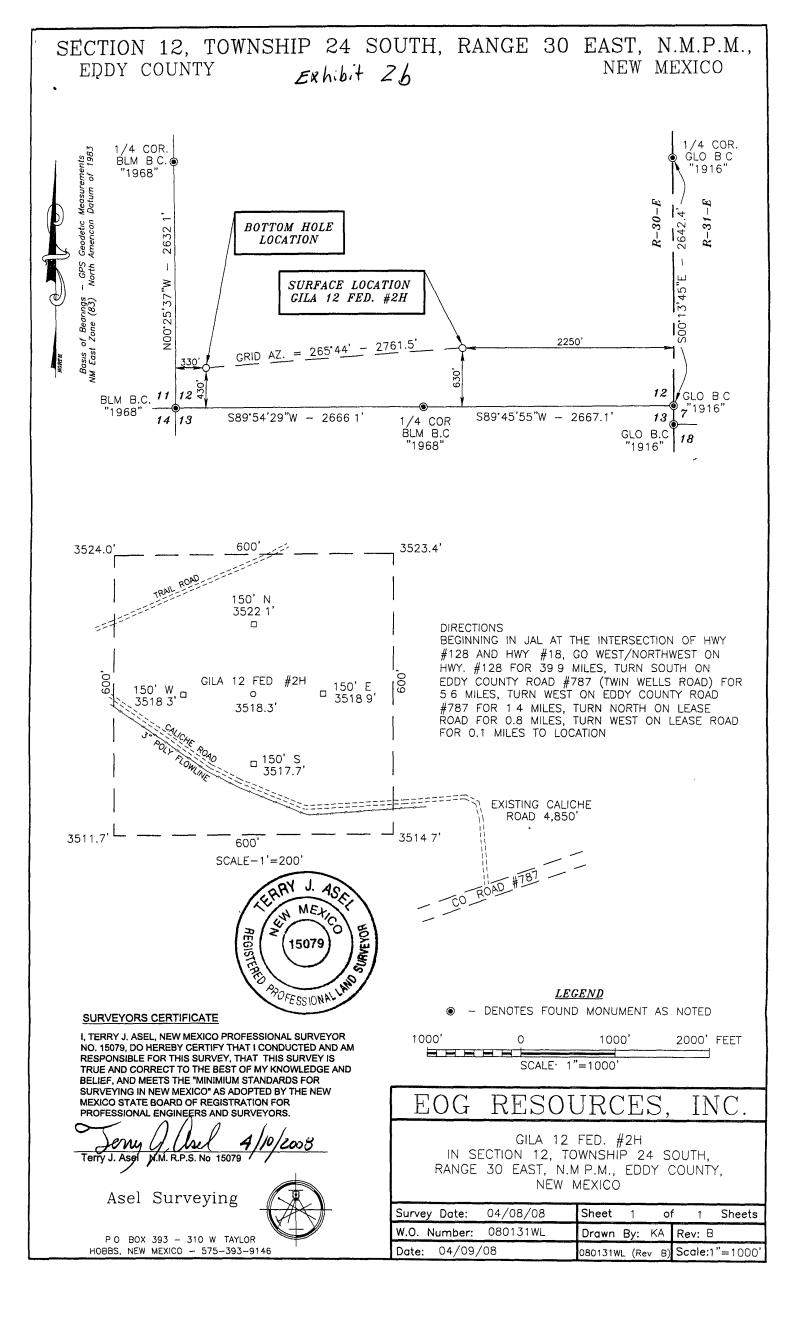
SCALE: 1" = 2 MILES

Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR HOBBS, NEW MEXICO - 575-393-9146



DIRECTIONS BEGINNING IN JAL AT THE INTERSECTION OF HWY. #128 AND HWY. #18, GO WEST/NORTHWEST ON HWY. #128 FOR 39.9 MILES, TURN SOUTH ON EDDY COUNTY ROAD #787 (TWINWELLS ROAD) FOR 5.6 MILES, TURN WEST ON EDDY COUNTY ROAD #787 FOR 1.4 MILES, TURN NORTH ON LEASE ROAD FOR 0.8 MILES, TURN WEST ON LEASE ROAD FOR 0.1 MILES TO LOCATION.



## **Permit Information:**

Well Name: Gila Fed 12 #2H Revised 4/15/08

Location:

SL 630' FSL & 2250' FEL, Section 12, T-24-S, R-30-E, Eddy Co., N.M.

BHL 430' FSL & 660' FWL, Section 12, T-24-S, R-30-E, Eddy Co., N.M.

## **Casing Program:**

Casing	Setting Depth	Hole Size	Casing Size	Casing Weight	Casing Grade	Desired TOC
Surface	500'	17-1/2"	13-3/8"	48#	H-40	Surface
Intermediate	4,200'	12-1/4"	9-5/8"	40#	J-55	Surface
Production	10,470'	8-3/4" & 7-7/8"	5 1/2"	17#	N-80	3,700'

## **Cement Program:**

Depth	No.	Slurries:
_	Sacks	
500'	210	Lead: 35:65 Poz: C + 4% Bentonite+ 0.005 gps FP-6L + 0.005 pps Static
		Free + 5 pps LCM-1 + 5% NaCl + 5% MPA-5 + 0.8% SMS
	200	Premium Plus C + 0.005 pps Static Free + 2% CaCl2 + 0.25 pps CelloFlake
		+ 0.005 gps FP-6L
4,200'	850	Lead: 50:50 Poz: C + 0.005 pps Static Free + 5% NaCl + 0.25 pps
		CelloFlake + 5 pps LCM-1 + 0.005 gps FP-6L + 10% Bentonite
	200	Tail: Premium Plus C + 0.005 pps Static Free + 1% CaCl2 + 0.25 pps
		CelloFlake + 0.005 gps FP-6L
10,470'	650	Lead: 50:50 Poz: C + 0.005 pps Static Free + 5% NaCl + 0.25 pps
		CelloFlake + 5 pps LCM-1 + 0.005 gps FP-6L + 10% Bentonite
	550	Tail: 50:50 Poz: H + 2% Bentonite + 0.005 gps FP-6L + 0.005 pps Static
		Free + 5% NaCl + 0.1% R-3 + 0.2% CD-32 + 0.3% FL-52A

## **Mud Program**:

Depth	Туре	Weight (ppg)	Viscosity	Water Loss
0 – 500'	Fresh - Gel	8.6-8.8	28-34	N/c
500' - 4,200'	Brine	10.0-10.2	28-34	N/c
4,200' – 7,000'	Fresh Water	8.4 - 8.6	28-34	N/c
7,000' – 7,500'	Cut Brine	8.8-9.6	28-34	N/c
7,500' – 8,200'	Cut Brine	8.8-9.6	28-34	10-15
7,433' – 10,470'	Cut Brine/	8.8-9.6	40-45	10-25
	Polymer (Lateral)			

## Planning Report

Database: Company: **EDM** 

Project:

Midland - New Mexico

Site: Well:

Wellbore:

Gila 12 Fed #2H Gila 12 Fed #2H

Delaware

Gila 12 Fed #2H Original Plan

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference: Survey Calculation Method: Well Gila 12 Fed #2H

WELL @ 3537 30ft (Original Well Elev) WELL @ 3537.30ft (Original Well Elev)

Minimum Curvature

Design: **Project** 

Delaware

Map System: Geo Datum:

US State Plane 1927 (Exact solution)

NAD 1927 (NADCON CONUS)

Map Zone:

New Mexico East 3001

System Datum:

Mean Sea Level

Gila 12 Fed #2H

Site Position:

Northing: Easting: Slot Radius: 446,573.50ft 654,886.90ft Latitude: Longitude:

32° 13' 36 319 N 103° 49' 56.841 W 0.27?

**Grid Convergence:** 

From:

Gila 12 Fed #2H

+N/-S **Well Position** +E/-W 0.00 ft

0.00 ft

Northing: Easting:

446,573 50 ft 654,886.90 ft Latitude: Longitude:

32° 13' 36 319 N 103° 49' 56.841 W

**Position Uncertainty** 

**Position Uncertainty:** 

0.00 ft 0.00 ft

Wellhead Elevation:

Ground Level:

3,518.30ft

Wellbore

Gila 12 Fed #2H

Original Plan

**Model Name** Magnetics 

Sample Date

Declination

Dip Angle

Field Strength

IGRF200510

4/15/2008

48,928

**Design** 

**Audit Notes:** 

Version:

Phase:

**PROTOTYPE** 

Tie On Depth:

0.00

**Vertical Section:** 

Depth From (TVD) (ft) 7,915.00

0.00

+E/-W (ft) 0.00

Direction ் (?) ு 265.73

Plan Sections Measured			Vertical			Dogleg	Build &	Turn		
Depth (ft)	Inclination (?)	Azimuth (?)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Rate (?/100ft)	Rate (?/100ft)	Rate (?/100ft)	TFO (?)	Target
0 00	0.00	0 00	0.00	0.00	0.00	0.00	0.00	0.00	0 00	7,9° 6,00° 6
7,433.00	0 00	0.00	7,433.00	0.00	0.00	0.00	0.00	0.00	0 00	
8,190.12	90.00	265.73	7,915.00	-35.89	-480.66	11.89	11 89	0 00	265.73	
8,190 22	90.00	265.73	7,915.00	-35.89	-480.75	3 00	0 00	3.00	90 00	
10,469 50	90.00	265 73	7,915 00	-205.49	-2,753.71	0.00	0.00	0 00	0.00	
10,469.59	90.00	265 73	7,915.00	-205 50	-2,753 81	3.00	0.00	-3.00	-90.00 BH	IL (Gila #2H)

Planning Report

Database:

Company: Midland - New Mexico

Project: Delaware

Site:

Gila 12 Fed #2H

Well: Gila 12 Fed #2H Wellbore: Gila 12 Fed #2H
Design: Original Plan

Local Co-ordinate Reference: Well Gila 12 Fed #2H

TVD Reference: WELL @ 3537.30ft (Original Well Elev)

WELL @ 3537.30ft (Original Well Elev)

North Reference: Grid

Survey Calculation Method: Minimum Curvature

## Planned Survey

i i i			1000	The given of		E. Kurry	" " " " " " " " " " " " " " " " " " "		Carlotte Like	St. 1. 1. 1.	
1000	Measured	š , , , ,		Vertical		in a surjective	Vertical	Dogleg	Build	Turn	1.
2 3 1	Depth	Inclination		Depth	+N/-S		Section	Rate	Rate	Rate	1,00
10.4	(ft)	A (2)	(?)	(ft)	ू <sub>र्ज</sub> (ft) े	(ft)	/ (ft)	(?/100ft)	(?/100ft)	(?/100ft)	
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	300.00	0 00	0.00	300 00	0 00	0 00	0 00	0.00	0.00	0 00	
	400 00	0.00	0.00	400.00	0.00	0 00	0.00	0.00	0.00	0.00	
	500.00	0.00	0.00	500.00	0.00	0.00	0 00	0.00	0 00	0.00	
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	1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0 00	0.00	0.00	
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	•										
	2,000.00	0.00 0.00	0.00 0.00	2,000.00 2,100.00	0.00 0 00	0 00	0.00 0.00	0.00 0.00	0 00 0 00	0.00 0.00	
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	2,500.00	0 00	0 00	2,500.00	0 00	0.00	0.00	0 00	0.00	0 00	
	2,600.00	0.00	0 00	2,600 00	0.00	0 00	0.00	0.00	0.00	0 00	
	2,700.00	0.00	0.00	2,700 00	0.00	0 00	0.00	0 00	0.00	0 00	
	2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0 00	0.00	0 00	
	2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00	
	3,000.00	0.00	0.00	3,000.00	0 00	0.00	0.00	0.00	0 00	0.00	
	3,100.00 3,200.00	0.00 0.00	0.00 0.00	3,100.00 3,200.00	0 00 0.00	0.00 0.00	0.00 0.00	0 00 0.00	0 00 0 00	0.00 0.00	
	3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00	
	3,400.00	0 00	0 00	3,400.00	0.00	0.00	0 00	0.00	0.00	0.00	1
	3,500.00	0.00	0.00	3,500 00	0 00	0 00	0.00	0.00	0.00	0.00	
	3,600.00	0.00	0.00	3,600.00	0 00	0.00	0.00	0.00	0 00	0.00	
	3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0 00	0.00	
	3,800.00	0 00	0 00	3,800 00	0 00	0.00	0.00	0.00	0 00	0.00	
	3,900.00	0.00	0 00	3,900 00	0.00	0.00	0 00	0.00	0.00	0.00	ì
ì	4,000.00	0.00 0.00	0.00	4,000.00 4,100.00	0.00	0 00	0.00	0 00	0.00	0.00	1
	4,100 00 4,200 00	0.00	0.00 0.00	4,100.00	0.00 0.00	0 00 0.00	0 00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	
	4,300 00	0.00	0.00	4,300.00	0 00	0.00	0.00	0.00	0.00	0.00	
	4,400.00	0 00	0 00	4,400.00	0 00	0.00	0.00	0.00	0.00	0.00	Ì
	4,500.00	0.00	0.00	4,500.00	0 00	0 00	0 00	0 00	0.00	0.00	
	4,600.00	0.00	0 00	4,600.00	0 00	0 00	0.00	0 00	0.00	0.00	
	4,700 00	0 00	0.00	4,700.00	0.00	0 00	0 00	0 00	0 00	0.00	
	4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
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Planning Report

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				Planning	Report				
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Planning Report

Database:

EDM

Midland - New Mexico

Company: Project:

Delaware

Site: Well: Wellbore:

Design:

Gila 12 Fed #2H Gila 12 Fed #2H Gila 12 Fed #2H

Original Plan

Local Co-ordinate Reference: Well Gila 12 Fed #2H
TVD Reference: WELL @ 3537.30ft (Original Well Elev)

TVD Reference: MD Reference: North Reference:

WELL @ 3537.30ft (Original Well Elev)

Grid

FNorth Rejerence: Grid Grid Grid Survey Calculation Method: Minimum Curvature

Planned Survey

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Target Name - hit/miss target Dip	SA SAN	Dip Dir. (?)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
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EOG RESOURCES, INC. Gila 12 Fed 2H Eddy Co. NM

## 1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

## 2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

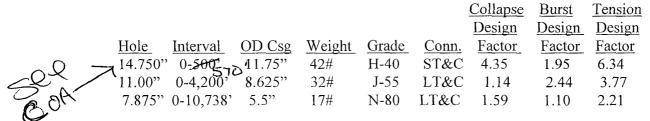
Rustler	520'
Lamar	4,215'
Bell Canyon	4,265'
Cherry Canyon	5,135'
Brushy Canyon	6,425'
Bone Spring	8,020'

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

Upper Permian Sands	0-400'	Fresh Water
Bell Canyon	4,265'	Oil
Cherry Canyon	5,135'	Oil
Brushy Canyon	6,425'	Oil
Bone Spring	8,020'	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 500' and circulating cement back to surface.

## 4. CASING PROGRAM-NEW



**Cementing Program:** 

11.75" Surface Casing: Cement to surface, Lead: 130 sx 35:65 Poz: C +

0.005 pps Static Free + 5% NaCl + 5 pps LCM-1 + 0.005 gps FP-6L + 5 pps MPA-5 + 0.8% SMS, 12.7

ppg, 2.02 yield

Tail: 200 sx Premium Plus C + 0.005 pps Static Free + 2% CaCl2 + 0.25 pps CelloFlake + 0.005 gps

FP-6L, 14.8 ppg, 1.33 yield

1.

EOG RESOURCES, INC. Gila 12 Fed 2H Eddy Co. NM

8.625" Intermediate Casing: Cement to surface, Lead: 755 sx 50:50 Poz: C +

0.005 pps Static Free + 5% NaCl + 0.25 pps CelloFlake + 5 pps LCM-1 + 0.005 gps FP-6L +

10% Bentonite, 11.8 ppg, 2.45 yield

Tail: 200 sx Prem Plus C + 0.25 pps CelloFlake + 0.005 FP-6L + 0.005 pps Static Free + 1% CaCl<sub>2</sub>,

14.8 ppg, 1.34 yield

5.50" Production Casing: Cement to 3,700', Lead: 550 sx 50:50 Poz: C +

0.005 pps Static Free + 5% NaCl + 0.25 pps CelloFlake + 5 pps LCM-1 + 0.005 gps FP-6L +

10% Bentonite, 11.8 ppg, 2.29 yield

Tail: 600 sx 50:50 Poz: H + 2% Bentonite + 0.005 gps FP-6L + 0.005 pps Static Free + 5% NaCl + 0.1% R-3 + 0.2% CD-32 + 0.3% FL-52A, 14.2 ppg,

1.30 yield

## 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 top and drill pipe rams on bottom. All BOP's and accessory equipment will be tested in accordance with Onshore Oil & Gas order No. 2. for a 2M system prior to drilling out of the surface casing shoe and while drilling the intermediate section. Before drilling out of the intermediate casing, the ram-type BOP and accessory equipment will be tested to 5000/ 250 psig and the annulur preventer to 3500/ 250 psig.

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

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.

EOG RESOURCES, INC. Gila 12 Fed 2H Eddy Co. NM

## 6. TYPES AND CHARACTERISTICS OF THE PROPOSED MUD SYSTEM:

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

Wt Viscosity Waterloss

		Wτ	v iscosity	waterioss
<u>Depth</u>	<u>Type</u>	<u>(PPG)</u>	(sec)	<u>(cc)</u>
0-500"	Fresh – Gel	8.6-8.8	28-34	N/c
<i>.</i> 500'-4,200'	Brine	10.0-10.2	28-34	N/c
4,200'-7,000'	Fresh water	8.4-8.6	28-34	N/c
7,000'-7,500'	Cut Brine	8.8-9.6	28-34	N/c
7,500'-8,200'	Cut Brine	8.8-9.6	28-34	10-15
7,433'-10,738'	Polymer (Lateral)	8.8-9.6	40-45	10-25

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

## 7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:

- (A) A kelly cock will be kept in the drill string at all times.
- (B) A full opening drill pipe-stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.

## 8 LOGGING, TESTING AND CORING PROGRAM:

Electric logging will consist of GR-Dual Laterlog and GR-Compensated Density-Neutron from TD to intermediate casing with a GR- Compensated Neutron run from intermediate casing to surface and optional Sonic from TD to intermediate casing. FMI from TD to 6000'.

Possible sidewall cores based on shows.

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

The estimated bottom hole temperature (BHT) at TD is 135 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 3500 psig. No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. No major loss circulation zones have been reported in offsetting wells.

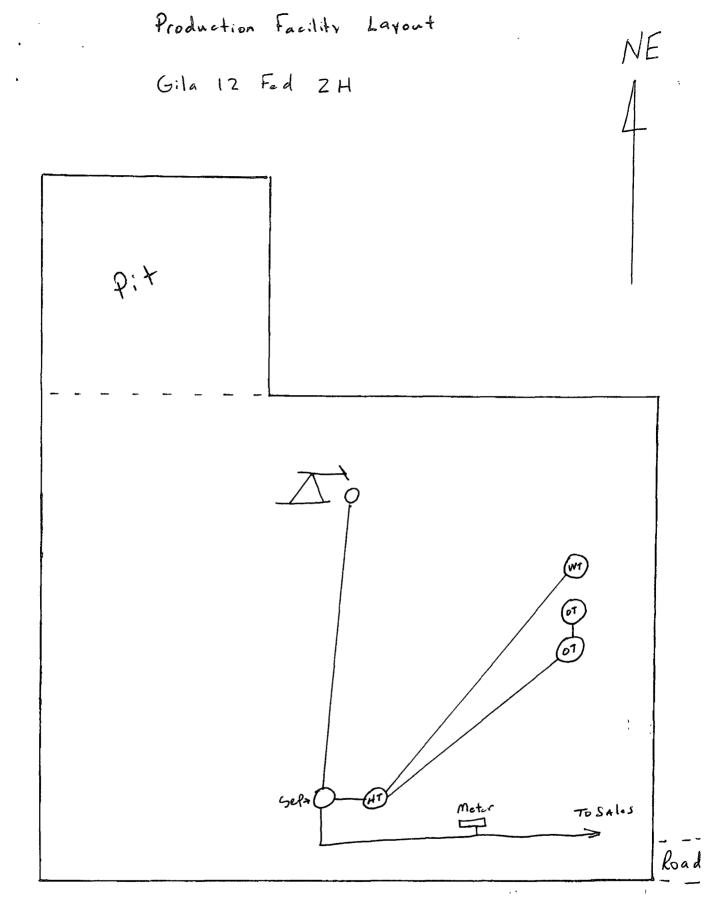
EOG RESOURCES, INC. Gila 12 Fed 2H Eddy Co. NM

## 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 30-60 days will be required for completion and testing before a decision is made to install permanent facilities.

WELL NAME: Gila 12 Fed 2H NE Reserve P.t Location

Items 1-4: Drilling Trailers



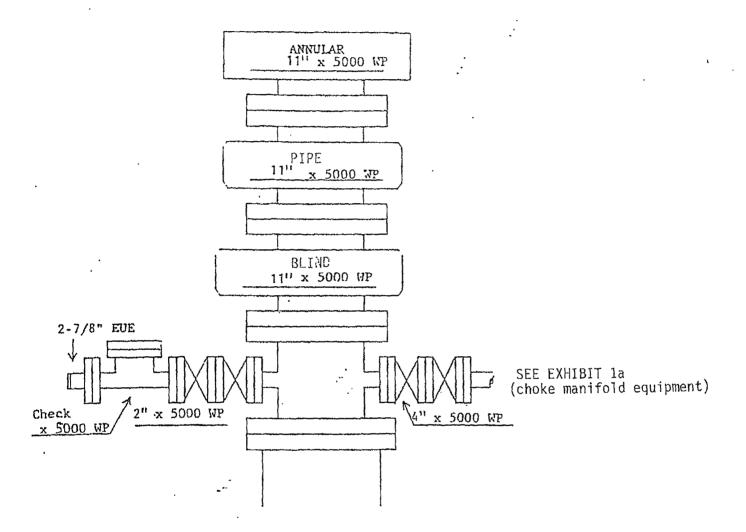
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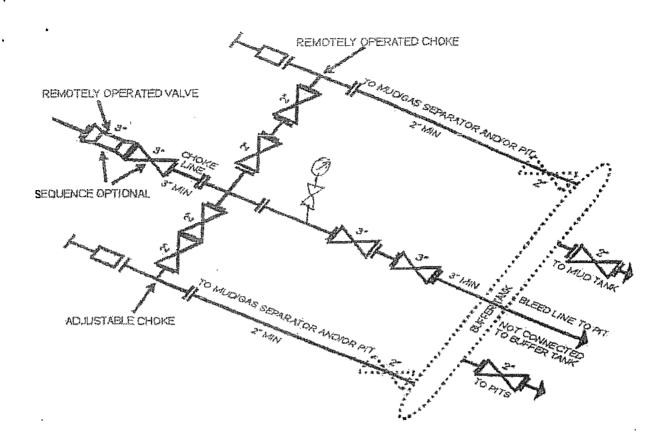
## EOG RESOURCES, INC. Gila 12 Fed 2H Eddy Co. NM

#### 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.

# Gila 12 Fed 2H





## 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]

EOG RESOURCES, INC. Gila 12 Fed 2H Eddy Co. NM

## SURFACE USE PLAN OF OPERATION

SHL: 330' FSL & 1650' FEL, Unit O, Section 12, T24S-R30E, N.M.P.M., Eddy, NM BHL: 430' FSL & 660' FWL, Unit M, Section 12, T24S-R30E, N.M.P.M., Eddy, NM

## 1. EXISTING ROADS:

- a. The well site and elevation plat for the proposed well are reflected on the well site layout; Form C-102. The well was staked by Terry Asel, RPL 15079.
- b. All roads into the location are depicted on Exhibit 2 & 2a.
- c. <u>Directions to Locations:</u> Beginning in Jal at the intersection of Hwy 128 and Hwy 18, Go west/northwest on Hwy 128 for 39.9 miles, then turn south on Eddy County Road 787 (Twin Wells Road) for 5.6 miles, turn west on Eddy County Road 787 for 1.4 miles, turn north on existing lease road for 0.8 miles to location.

#### 2. NEW OR RECONSTRUCTED ACCESS ROAD:

- a. The well site layout, Exhibit 2b shows the layout. The proposed access utilizing an existing lease road begins from County Road 787 and trends north to SE corner of well pad. (See 1c above for driving directions).
- b. The maximum width of the road will be 15'. It will be crowned and made of 6" of rolled and compacted caliche. Water will be deflected, as necessary, to avoid accumulation and prevent soil erosion.
- c. Surface material will be native caliche. This material will be obtained from a BLM approved pit nearest in proximity to the location. The average grade will be approximately 1%.
- d. No cattleguards, gates or fence cuts will be required. No turnouts are planned.

## 3. LOCATION OF EXISTING WELLS:

Exhibit #3 shows all existing wells within a one-mile radius of this well.

# 4. LOCATION OF EXISTING AND/OR PROPOSED PRODUCTION FACILITIES:

- a. In the event the well is found to be productive, the Gila 12 Fed 2H tank battery would be utilized and the necessary production equipment will be installed at the well site. See Production Facilities Layout diagram.
- b. As a proposed oil well, we anticipate the need for electrical service.
- c. All flow lines will adhere to API standards.
- d. As a proposed oil well, we anticipate the need for electrical service.

## EOG RESOURCES, INC. Gila 12 Fed 2H Eddy Co. NM

- e. If the well is productive, rehabilitation plans are as follows:
  - i. The reserve pit will be back filled after the contents of the pit are dry (within 120 days after completion, weather permitting).
  - ii. The original topsoil from the well site will be returned to the location. The drill site will be contoured as close as possible to the original state.

#### 5. LOCATION AND TYPE OF WATER SUPPLY:

This location will be drilled using a combination of water mud systems (outlined in the drilling program). The water will be obtained from commercial water stations in the area and hauled to location by transport truck using existing and proposed roads shown in Exhibit 2. On occasion, water will be obtained from existing water wells. In these cases where a poly pipeline is used to transport water for drilling purposes, proper authorizations will be secured. If poly pipeline is used to transport fresh water to the location, proper authorization will be secured by the contractor.

## 6. CONSTRUCTION MATERIALS

All caliche utilized for the drilling pad and proposed access road will be obtained from an existing BLM approved pit or from prevailing deposits found under the location. All roads will be constructed of rolled and compacted caliche. Will use BLM recommended use of extra caliche from other locations close by roads, if available.

## 7. METHODS OF HANDLING WASTE MATERIALS

- a. Drill cuttings will be disposed of in the reserve pit.
- b. All trash, junk, and other waste material will be contained in trash cages or trash bins to prevent scattering. When a job is completed, all contents will be removed and disposed of in an approved landfill.
- c. The supplier, including broken sacks, will pick up salts remaining after completion of well.
- d. If necessary, a porto-john will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
- e. Remaining drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry enough to be broken for further drying. If the drilling fluids do not evaporate in a reasonable time they will be hauled off by transports to a state approved disposal site. Later pits will be broken out to speed dry. Water produced during completion will be put in reserve pits. Oil and condensate produced will be put in a storage tank and sold.
- f. Disposal of fluids to be transported by the following companies:

EOG RESOURCES, INC. Gila 12 Fed 2H Eddy Co. NM

- i. RGB TRUCKING
- ii. LOBO TRUCKING
- iii. I & W TRUCKING
- iv. CRANE HOT OIL & TRANSPORT

#### 8. ANCILLARY FACILITIES:

a. No airstrip, campsite, or other facilities will be built.

#### 9. WELL SITE LAYOUT:

- a. Exhibit 4 shows the proposed well site layout with dimensions of the pad layout.
- b. Exhibit 5 shows proposed location of reserve and sump pits and living facilities.
- c. Mud pits in the active circulating system will be steel pits and the reserve pits will be lined.
- d. If needed, the reserve pit is to be line with polyethylene. The pit liner will be 12 mils thick. Pit liner will extend a minimum of two feet (2') over the reserve pit's dykes where the liner will be anchored down.
- e. The reserve pit will be fenced on three sides with four strands of barbed wire during drilling and completion phases. The fourth side will be fenced after all drilling operations have ceased. If the well is a producer, the reserve pit fence will be torn down after the pit contents have dried. The reserve pit and those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements.

#### 10. PLANS FOR SURFACE RECLAMATION:

- a. After concluding the drilling and/or completion operations, if the well is found non-commercial, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road will be reclaimed as directed by the BLM. The reserve pit area will be broken out and leveled after drying to a condition where these are feasible. The original top soil will again be returned to the pad and contoured, as close as possible, to the original topography. The pit will be closed per OCD compliance regulations.
- b. The pit lining will be buried or hauled away in order to return the location and road to their pristine nature. All pits will be filled and the location leveled, weather permitting, within 120 days after abandonment.

## EOG RESOURCES, INC. Gila 12 Fed 2H Eddy Co. NM

- c. The location and road will be rehabilitated as recommended by the BLM.
- d. The reserve pit will be fenced on three sides throughout drilling operations. After the rotary rig is removed, the reserve pit will be fenced on the fourth side to preclude endangering wildlife. The fencing will be in place until the pit is reclaimed.
- e. If the well is deemed commercially productive, the reserve pit will be restored as described in 10(A) within 120 days subsequent to the completion date. Caliche from areas of the pad site not required for operations will be reclaimed. The original top soil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be contoured, as close as possible, to match the original topography.

## 11. SURFACE OWNERSHIP

The surface is owned by the Bureau of Land Management (BLM). The surface is multiple use with the primary uses of the region for the grazing of livestock and the production of oil and gas. The proposed road routes and surface location will be restored as directed by the BLM.

EOG has secured verbal consent from Grazing Lessee (Jimmy Richardson) to relocate Lessee's buried water lines at EOG's expense.

## 12. OTHER INFORMATION:

- a. The area surrounding the well is sparse grassland. The topsoil is sandy & rocky in nature. The vegetation is sparse with native prairie grass, some mesquite bushes and various cacti. No wildlife was observed but it is likely that deer, rabbits coyotes, and rodents transverse the area.
- b. There are not dwellings within 2 miles of location.
- c. There is no permanent or live water within 1,000 feet of the location.
- d. A Cutural Resources Examination will be completed by 4/1/2008 and forwarded to the BLM office in Carlsbad, New Mexico.

## 13. BOND COVERAGE:

a. Bond Coverage is Nationwide; Bond No. NM 2308

EOG RESOURCES, INC. Gila 12 Fed 2H Eddy Co. NM

## **COMPANY REPRESENTATIVES:**

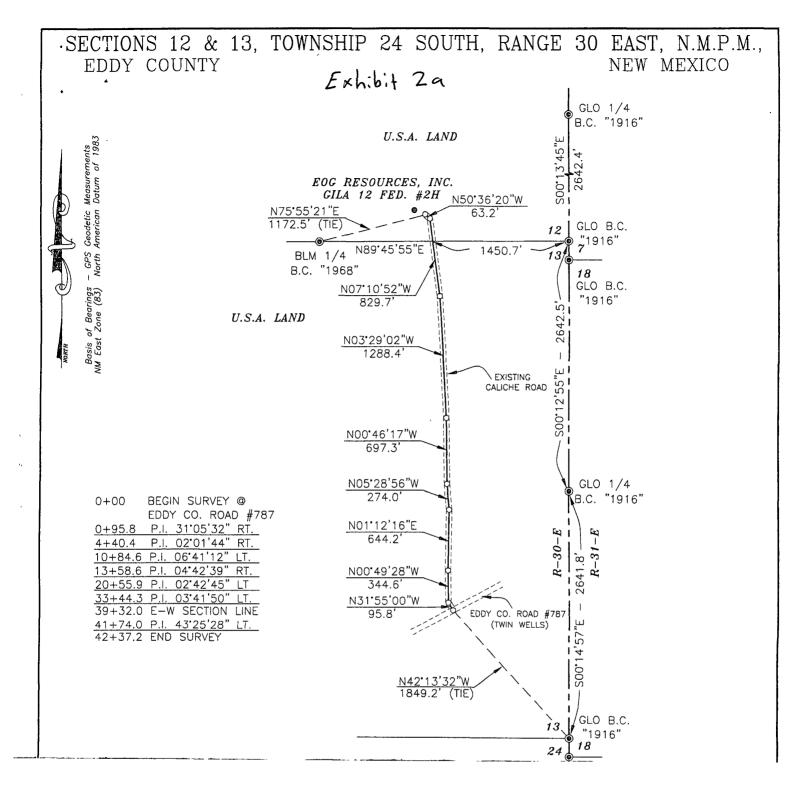
Representatives responsible for ensuring compliance of the surface use plan are listed below:

## Permitting & Land

Mr. Donny G. Glanton Senior Lease Operations ROW Representative EOG Resources, Inc. P.O. Box 2267 Midland, TX 79702 (432) 686-3642 Office (432) 770-0602 Cell

## **Drilling** Operations

Mr. Steve Munsell	Mr. Howard Kemp
	•
Drilling Engineer	Production Manager
EOG Resources, Inc.	EOG Resources, Inc
P.O. Box 2267	P.O. Box 2267
Midland, TX 79702	Midland, TX 79702
(432) 686-3609 Office	(432) 686-3704 Office
(432) 894-1256 Cell	(432) 634-1001 Cell



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# **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 28<sup>th</sup> day of February 2008.

Name: Donny G. Glanton

Position: Sr. Lease Operations ROW Representative

Chy J. Mila

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

Telephone: 432-686-3642

Email: donny glanton@eogresources.com

Signed:

# PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME: EOG RESOURCES INC
LEASE NO.: NM82896
WELL NAME & NO.: 2H-GILA 12 FED
SURFACE HOLE FOOTAGE: 630' FSL & 2250' FEL
BOTTOM HOLE FOOTAGE 430' FSL & 330' FWL
LOCATION: Section 12, T. 24 S., R 30 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.

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Archaeology, Paleontology, and Historical Sites
Noxious Weeds
Special Requirements
Hydrology
<b>⊠</b> Construction
Notification
Topsoil
Closed Loop System
Federal Mineral Material Pits
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Road Section Diagram
<b>☑</b> Drilling
☐ Production (Post Drilling)
Well Structures & Facilities
Pipelines
Electric Lines
Final Ahandonmont/Declaration

## I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

## II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

## III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

## IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

# V. SPECIAL REQUIREMENT(S)

**Mitigation Measures:** The mitigation measures include the Pecos District Conditions of Approval, and some mitigation on the pad to prevent pollution of the near by playas.

In an effort to help protect the many playas in the area it has been determined the best solution is to go with a closed loop system on the proposed well location. This will help to protect the playas in the area and specifically the playa 420 feet southwest of the center stake. In order to further protect the integrity of the hydrology in the area a berm will need to be placed on the south and west side of the proposed pad. This will provide protection from any fluids or sediments being deposited into the near by playas.

Gila 12 Federal # 2H: Closed Loop System – V - Door East

## VI. CONSTRUCTION

## A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (505) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

## B. TOPSOIL

The operator shall stockpile the topsoil of the well pad. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

## **Closed Loop System V-Door East**

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

## C. FEDERAL MINERAL MATERIALS PIT

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Carlsbad Field Office at (505) 234-5972.

#### D. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

## E. ON LEASE ACCESS ROADS

#### Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

## **Surfacing**

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

#### Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

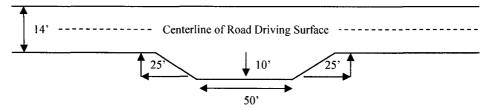
#### Ditching

Ditching shall be required on both sides of the road.

#### **Turnouts**

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

#### Standard Turnout - Plan View

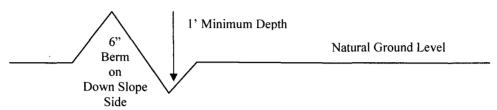


#### Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

## Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

## Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: 
$$\frac{400'}{4\%} + 100' = 200'$$
 lead-off ditch interval

#### **Culvert Installations**

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

#### Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

## Fence Requirement

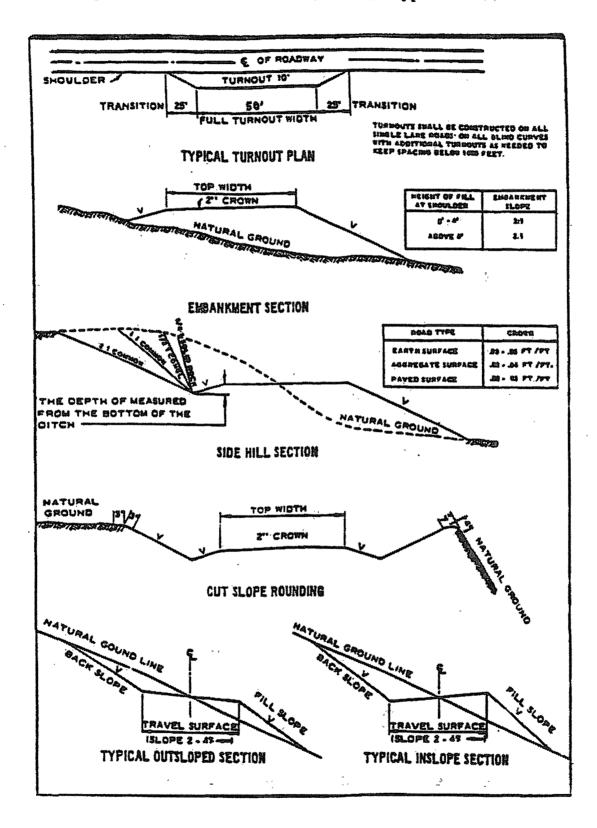
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

## **Public Access**

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 - Cross Sections and Plans For Typical Road Sections



## VII. DRILLING

## A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of **4 hours** in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOP/BOPE tests

## **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

- 1. Although Hydrogen Sulfide has not been reported in this section, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.
- 2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
- 3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

#### B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work.

Centralizers required on surface casing as per Onshore Order 2.III.B.1.f

Possible lost circulation in the Delaware and Bone Spring Formations. Moderate potential for karst features and caves. 1. The 11-3/4 inch surface casing shall be set at approximately 570 feet and cemented to the surface. Fresh water to be used to setting depth.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing.

- a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
- b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement).
- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial cementing will be done prior to drilling out that string.
- 2. The minimum required fill of cement behind the <u>8-5/8</u> inch intermediate casing is:
  - ⊠ Cement to surface. If cement does not circulate see B.1.a-d above.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing.

If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface.

- 3. The minimum required fill of cement behind the <u>5-1/2</u> inch production casing is:
  - Cement should tie-back at least 200 feet into previous casing string. **Operator** shall provide method of verification.

Centralizers required on horizontal leg, must be type for horizontal service and minimum of one every other joint.

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

## C. PRESSURE CONTROL

- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
- 2. The appropriate BLM office shall be notified a minimum of **4 hours** in advance for a representative to witness the tests.
  - a. The tests shall be done by an independent service company.
  - b. The results of the test shall be reported to the appropriate BLM office.
  - c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
  - d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

LB 4/15/08

# VIII. PRODUCTION (POST DRILLING)

## A. WELL STRUCTURES & FACILITIES

#### **Placement of Production Facilities**

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

#### **Containment Structures**

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

## **Painting Requirement**

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color Shale Green, Munsell Soil Color Chart # 5Y 4/2

- B. PIPELINES
- C. ELECTRIC LINES

## IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE

#### A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

At the time the well pad is to be reclaimed, operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

## Seed Mixture 1, for Loamy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)\* per acre. There shall be <u>no</u> primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection bye the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed\* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0

<sup>\*</sup>Pounds of pure live seed:

Pounds of seed x percent purity x percent gemination = pounds pure live seed (Insert Seed Mixture Here)

# X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.