HTS08-ST

Form 3160-3
(February 2005)

OCD-ARTESIA

158

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007

195

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☑ DRILL ☐ REENTER	5. Lease Serial No. **NM 100529 (N/2)**
	6. If Indian, Allotee or Tribe Name
	7. If Unit or CA Agreement, Name and No.
1b. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone	8. Lease Name and Well No. **Llano 1 Fed 2H**
2. Name of Operator **EOG Resources, Inc.**	9. API Well No. 30-015-36060
3a. Address **P.O. Box 2267 Midland, TX 79702**	3b. Phone No. *(include area code)* **432-686-3642**
	10. Field and Pool, or Exploratory Re Penasco **(Wolfcamp)**
4. Location of Well *(Report location clearly and in accordance with any State requirements.*)* At surface **1800' FNL & 380' FEL (U/L H)** At proposed prod. zone **1880' FNL & 660' FWL (U/L E)**	JAN 23 2008 OCD-ARTESIA 11. Sec., T. R. M. or Blk. and Survey or Area **Section 1, T18S-R23E, N.M.P.M.**
14. Distance in miles and direction from nearest town or post office* **Approx 6 miles ESE of Hope, NM**	12. County or Parish **Eddy** / 13. State **NM**

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) **380'**	16. No. of acres in lease **320**	17. Spacing Unit dedicated to this well **N/2 Sec 1, T18S-R23E, N.M.P.M.**
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft **1,120'**	19. Proposed Depth **5,100' TVD; 8,866' TMD**	20. BLM/BIA Bond No. on file **NM2308**
21. Elevations (Show whether DF, KDB, RT, GL, etc.) **GL 3860'**	22. Approximate date work will start* **12/04/2007**	23. Estimated duration **24**

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25 Signature Donny G. Glanton	Name *(Printed/Typed)* **Donny G. Glanton**	Date **10/03/2007**
Title **Sr. Lease Operations ROW Representative**		
Approved by *(Signature)* /S/ DAVID D. EVANS	Name *(Printed/Typed)* /S/ DAVID D. EVANS	Date JAN 18 2008
Title FOR 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.

*(Instructions on page 2)

Roswell Controlled Water Basin

SEE ATTACHED FOR CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

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	Pool Code	Pool Name
	97512	Rio Penasco (Wolfcamp)

Property Code	Property Name	Well Number
36958	LLANO 1 FED.	2H
OGRID No.	**Operator Name**	**Elevation**
7377	EOG RESOURCES, INC.	3860'

Surface Location

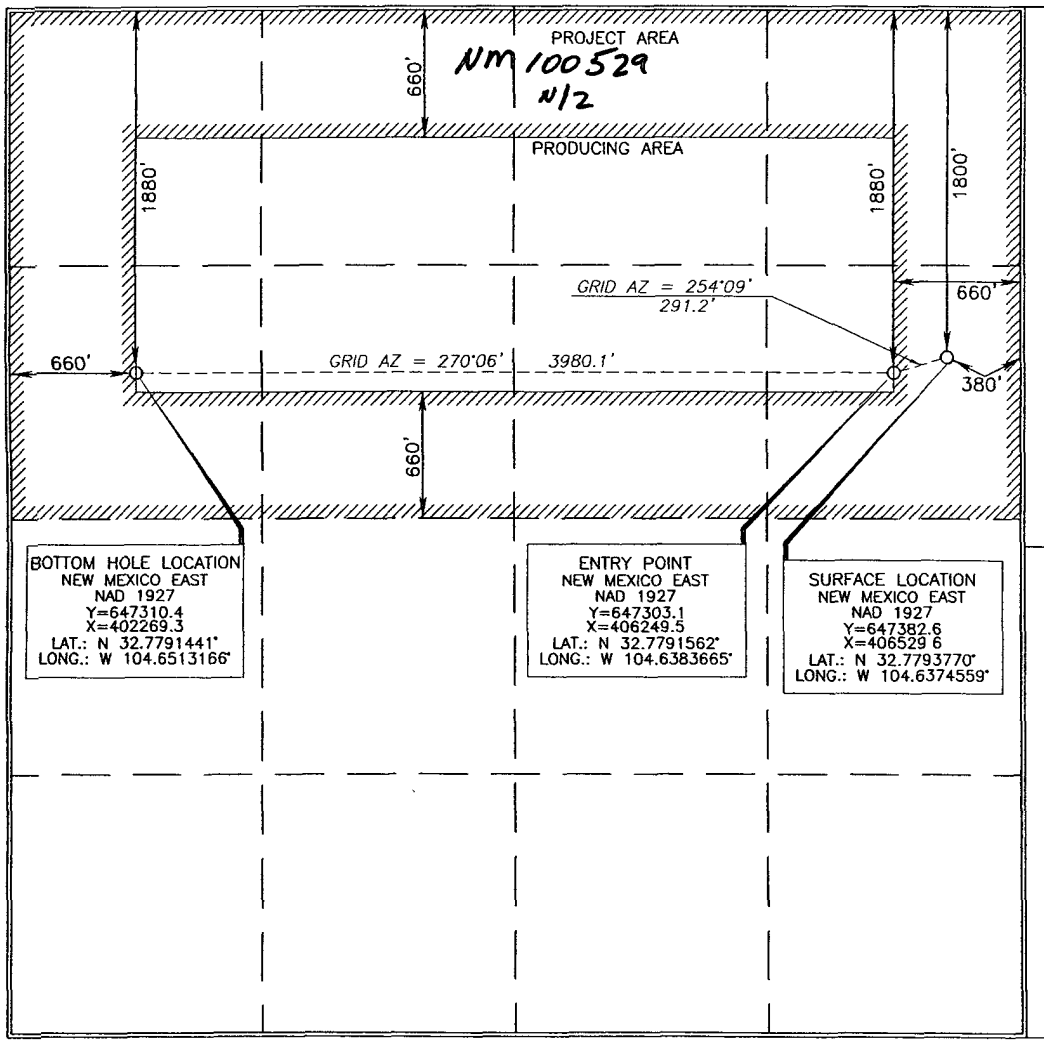
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	1	18 SOUTH	23 EAST, N.M.P.M.		1800'	NORTH	380'	EAST	EDDY

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
E	1	18 SOUTH	23 EAST, N.M.P.M.		1880'	NORTH	660'	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			

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 — Date: 8/16/2007

Donny G. Glanton
Printed Name

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted 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.

JUNE 14, 2007
Date of Survey

Signature and Seal of Professional Surveyor

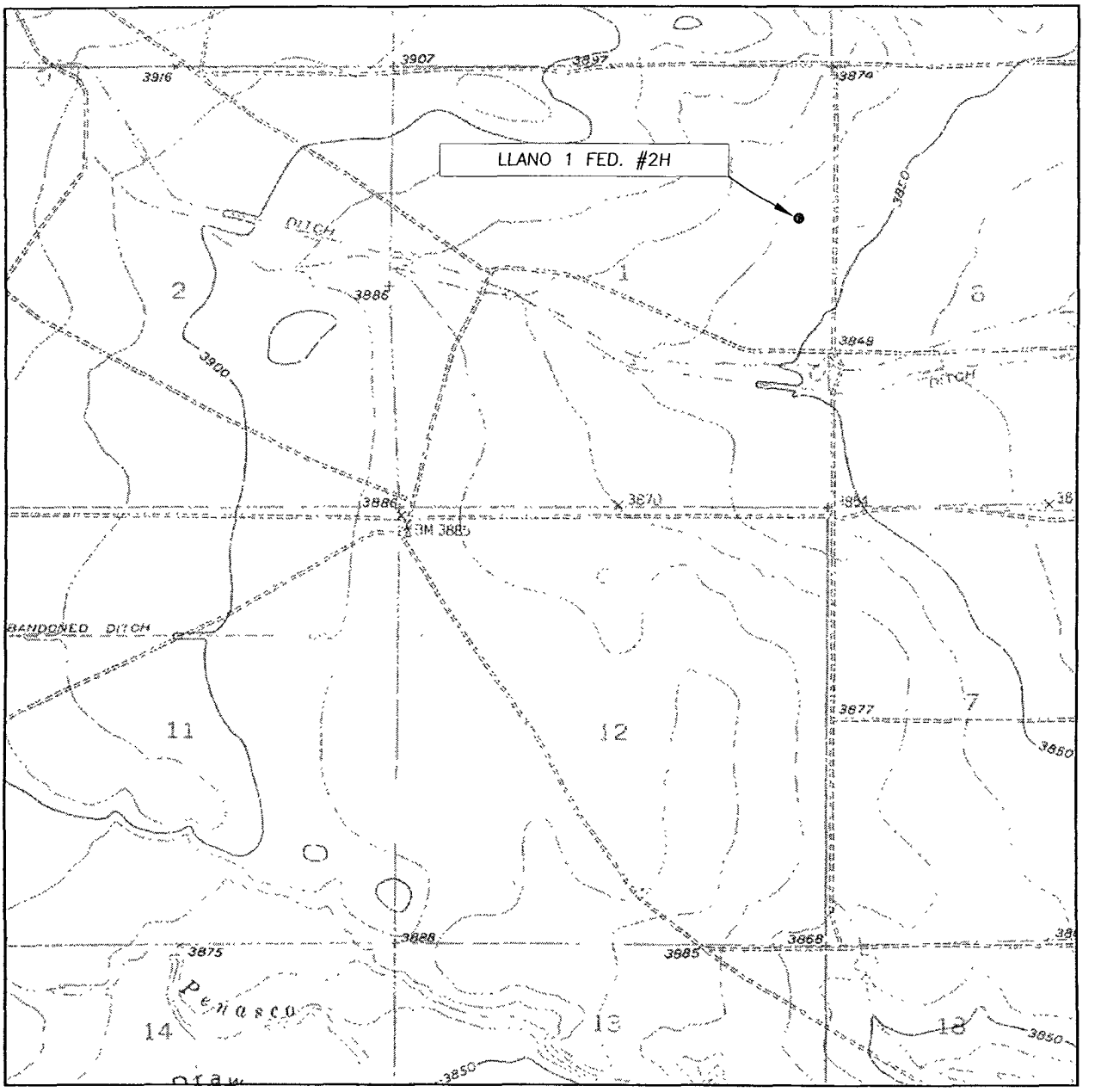
NEW MEXICO — 15079 — REGISTERED PROFESSIONAL LAND SURVEYOR

Certificate Number 15079

8/10/2007

WO# 070614WL-c (JL)

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'

SEC. 1 TWP. 18-S RGE. 23-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1800' FNL & 380' FEL

ELEVATION 3860'

OPERATOR EOG RESOURCES INC.

LEASE LLANO 1 FED #2H

U.S.G.S. TOPOGRAPHIC MAP
HOPE, N.M.

Asel Surveying
& Consulting

P.O BOX 393 - 310 W. TAYLOR
HOBBS, NEW MEXICO - 505-393-9146

EOG RESOURCES, INC.
LLANO 1 FED #2H

DRILLING PROGRAM

1. GEOLOGIC NAME OF SURFACE FORMATION:

Quaternary Alluvium	0-200

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

San Andres	235'
Glorieta	1,550'
Tubb	2,230'
Abo Shale	3,575'
Wolfcamp Pay	4,465'

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

Quanterary Alluvium	0- 200'	Fresh Water
San Andres	235'	Oil
Glorieta	1,550'	Oil/Gas
Tubb	2,230'	Oil/Gas
Abo/Wolfcamp Pay	4,465'	Gas

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 8.625" casing at ~~900'~~ and circulating cement back to surface.

See COA

4. CASING PROGRAM – NEW CASING

See COA

Hole	Interval	OD Csg	Weight	Grade	Conn.	Collapse Design Factor	Burst Design Factor	Tension Design Factor
12.250"	0-900'	8.625"	32#	J-55	LT&C	6.01	5.41	16.49
7.875"	0-8,866'	5.5"	17#	N-80	LT&C	2.89	1.17	2.94

Cementing Program:

8.625" Surface Casing:	Cement to surface, Lead: 560 sx Light Prem Plus + 5 pps Gilsonite + 2% $CaCl_2$, 12.4 ppg, 2.05 yield Tail: 370 sx Prem Plus + 2% $CaCl_2$, 14.8 ppg, 1.35 yield
5.50" Production:	Cement to surface, Lead: 400sx Interfill C + 0.125 pps Poly-E-Flake, 11.9 ppg, 2.47 yield Tail: 800 sx 50:50 Poz Premium + 5% LAP-1 + 0.2% Econolite, 14.4 ppg, 1.25 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 3M system.

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.

EOG Resources requests a variance to eliminate the stipulation requiring a BOPE test within 500' of the Wolfcamp. The Wolfcamp is not expected to be abnormally pressured (approx 1,800 lbs.) and the BOPE will be tested to the appropriate pressure requirements as per Onshore Order No. 2 prior to drilling out of the surface casing.

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:

Depth	Type	Wt (PPG)	Viscosit (sec)	Waterloss (cc)
0-900'	Fresh – Gel	8.6-8.8	28-34	N/c
900'-4,400'	Cut Brine	8.8-9.2	28-34	N/c
4,400'-5,000'	Cut Brine	8.8-9.2	28-34	10-15
4,328'-8,866'	Polymer (Lateral)	9.0-9.4	40-45	10-25

See COA

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 +/-900' to TVD.

Possible sidewall cores based on shows.

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

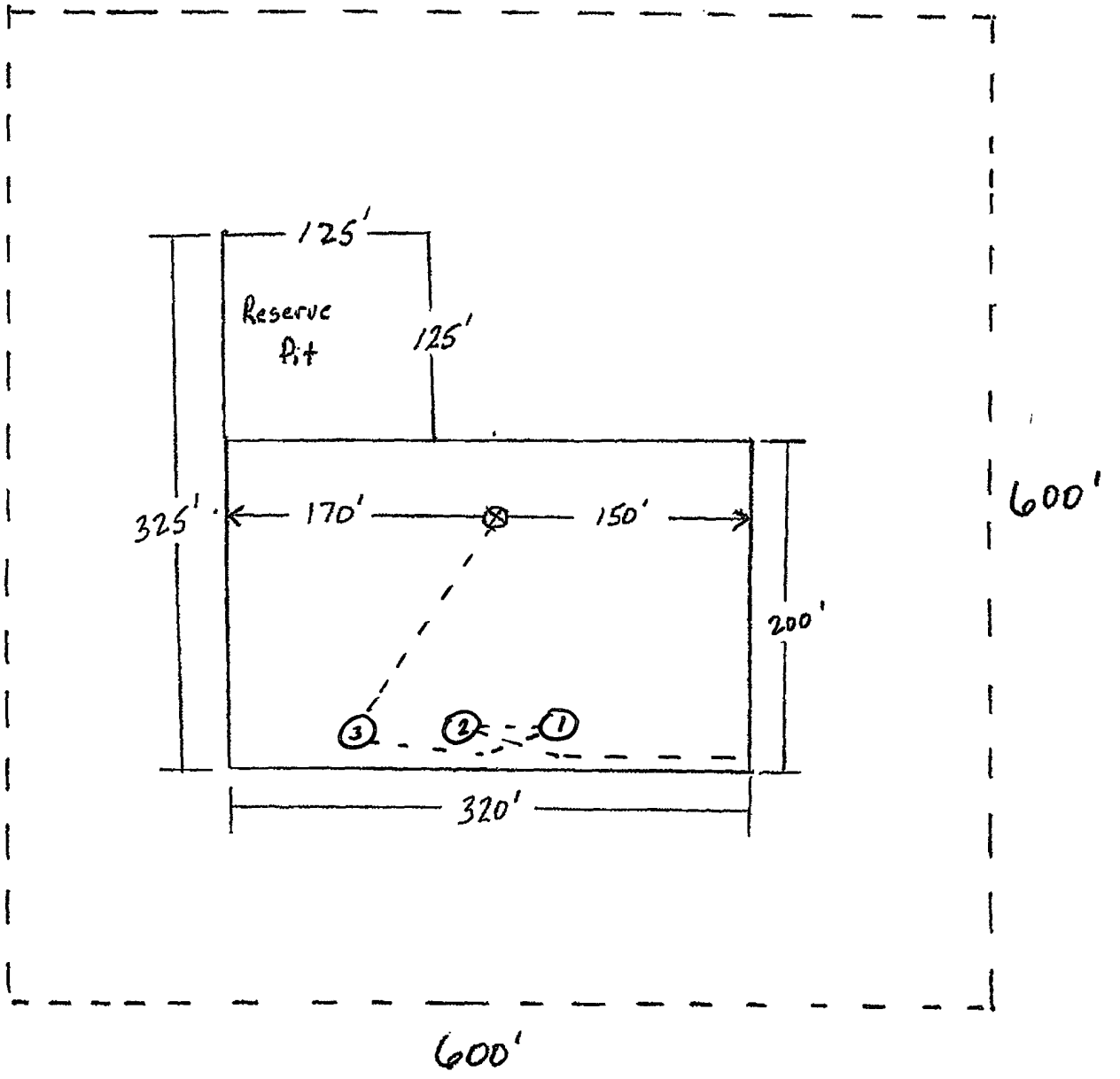
The estimated bottom hole temperature (BHT) at TD is 125 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 2000 psig. No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. No major loss circulation zones have been reported in offsetting wells.

10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

The drilling operation should be finished in approximately one month. If the well is productive, an additional 30-60 days will be required for completion and testing before a decision is made to install permanent facilities.

PRODUCTION FACILITY LAYOUT

Well Name: Llano 1 Fed 2H



Legend:

Item 1: TANK
Item 2: METER
ITEM 3: SEPARATOR

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

EXHIBIT "4"

Llano 1 Fed 2H

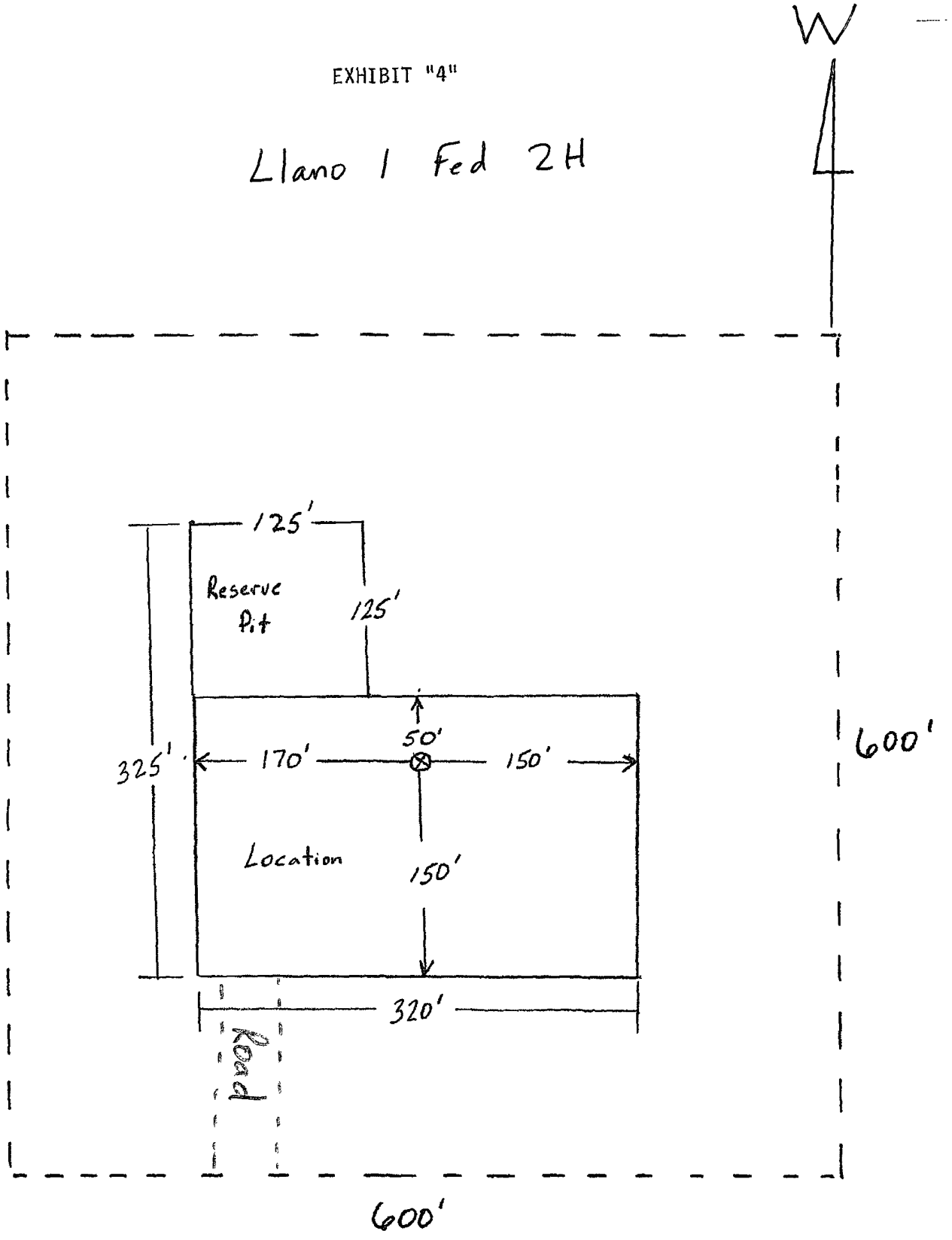
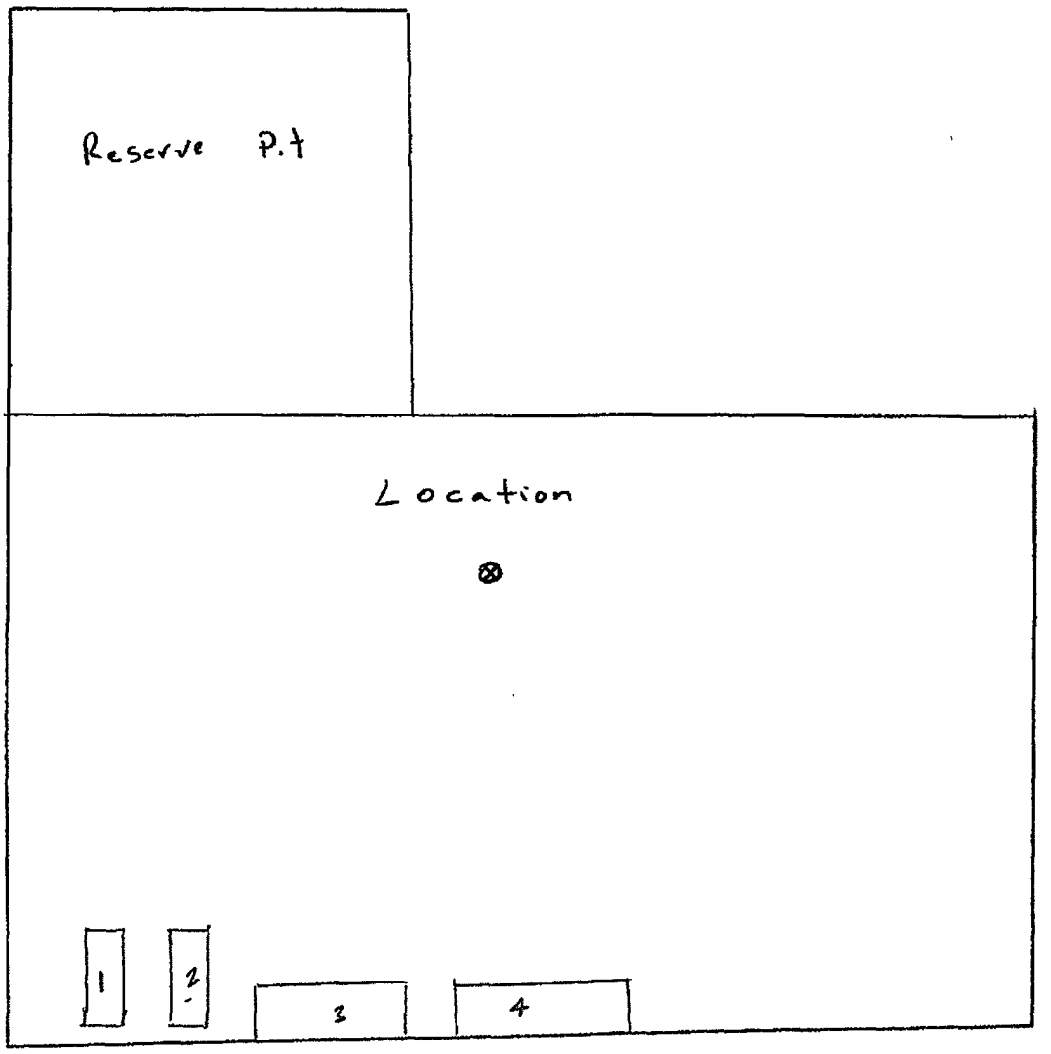


EXHIBIT 5

WELL NAME: Llano 1 Fed 2H



Items 1-4: Drilling Trailers

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, 3000 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 3000 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.

EOG Resources, Inc.

Llano 1 Fed 2H

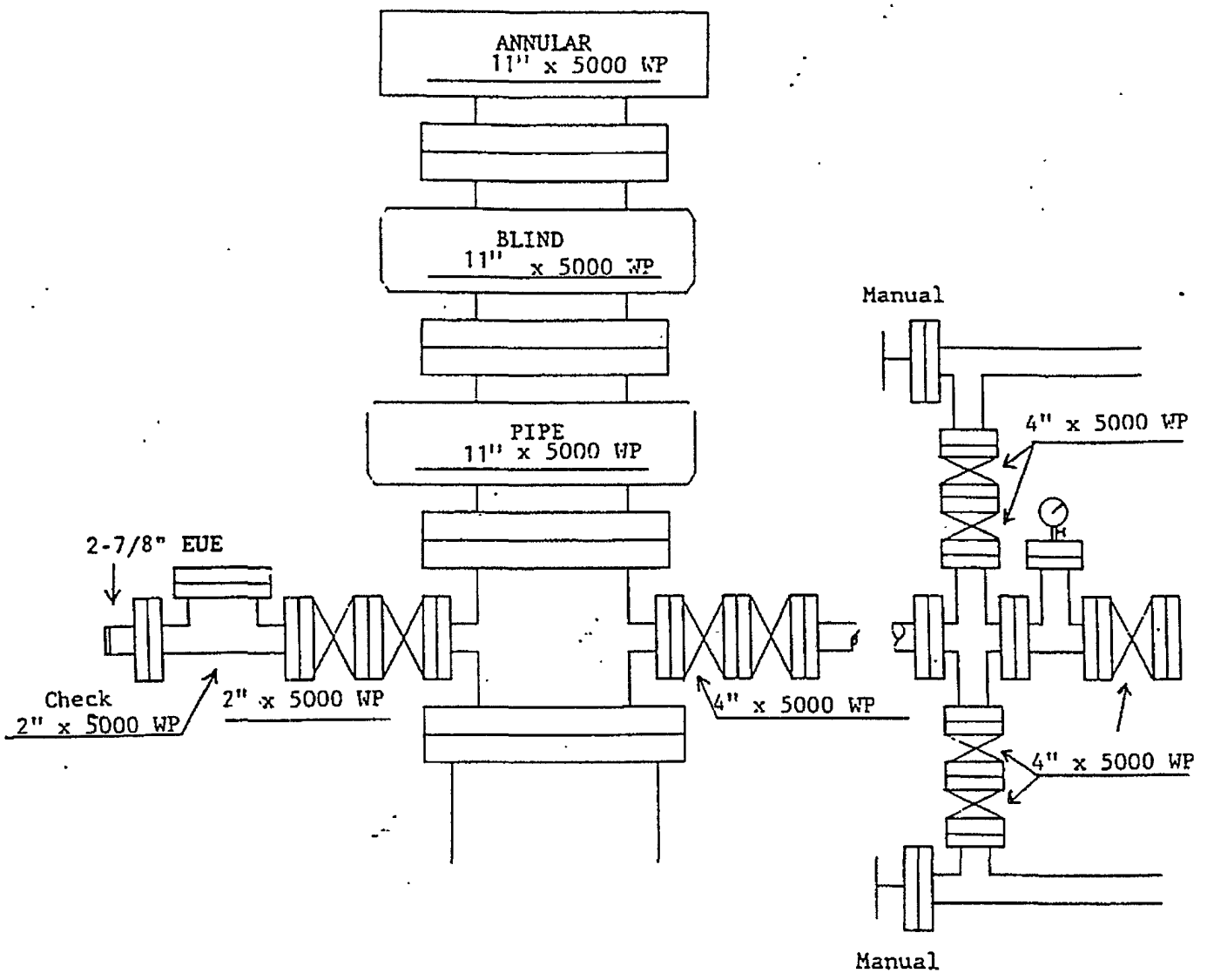


Exhibit 1

EOG RESOURCES INC.

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well Llano 1 Fed #2H
Company:	EOG - Midland (3)	**TVD Reference:**	WELL @ 3879 00ft (Original Well Elev)
Project:	Thames	**MD Reference:**	WELL @ 3879 00ft (Original Well Elev)
Site:	Llano 1 Fed #2H	**North Reference:**	Grid
Well:	Llano 1 Fed #2H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Llano 1 Fed #2H		
Design:	Pre Gyro Plan		

Project Thames

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Ground Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site Llano 1 Fed #2H

Site Position:		**Northing:**	647,382 60ft	**Latitude:**	32° 46' 45.757 N
From:	Map	**Easting:**	406,529.60ft	**Longitude:**	104° 38' 14.841 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	"	**Grid Convergence:**	-0 16 °

Well Llano 1 Fed #2H

Well Position	**+N/-S**	0 00 ft	**Northing:**	647,382.60 ft	**Latitude:**	32° 46' 45.757 N
	+E/-W	0.00 ft	**Easting:**	406,529 60 ft	**Longitude:**	104° 38' 14 841 W
Position Uncertainty		0 00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	3,860.00ft

Wellbore Llano 1 Fed #2H

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2005	9/7/2007	8.54	60.58	49,156

Design Pre Gyro Plan

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	4,714.00	0.00	0.00	269.03

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0 00	0 00	0.00	0.00	0.00	0.00	0 00	0.00	0.00	
4,328.00	0 00	360.00	4,328.00	0 00	0.00	0.00	0.00	0.00	360 00	
5,085 12	90.00	269.03	4,810 00	-8 16	-481 93	11.89	11.89	0.00	269.03	
6,085 12	90.00	269.03	4,810 00	-25.09	-1,481.79	0.00	0.00	0.00	0.00	
6,151.88	92 00	269.03	4,808.83	-26.22	-1,548.52	3.00	3 00	0.00	-0 04	
8,865 61	92 00	269.03	4,714.00	-72 20	-4,260.20	0.00	0 00	0.00	0.00	
8,865.71	92.00	269.03	4,714.00	-72.20	-4,260 30	3 00	-2.63	1.44	0.00	BHL (Llano #2H)

EOG RESOURCES INC.

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well Llano 1 Fed #2H
Company:	EOG - Midland (3)	**TVD Reference:**	WELL @ 3879 00ft (Original Well Elev)
Project:	Thames	**MD Reference:**	WELL @ 3879 00ft (Original Well Elev)
Site:	Llano 1 Fed #2H	**North Reference:**	Grid
Well:	Llano 1 Fed #2H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Llano 1 Fed #2H		
Design:	Pre Gyro Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0 00	0.00	0 00	0.00	0.00	0 00	0.00	0.00	0.00	0 00
100.00	0.00	360.00	100.00	0 00	0 00	0.00	0 00	0 00	0.00
200 00	0.00	360 00	200.00	0.00	0.00	0.00	0 00	0.00	0.00
300.00	0.00	360 00	300.00	0 00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	360 00	400.00	0 00	0.00	0.00	0 00	0.00	0.00
500.00	0.00	360 00	500.00	0.00	0.00	0 00	0 00	0.00	0 00
600.00	0.00	360 00	600.00	0.00	0.00	0.00	0.00	0 00	0 00
700.00	0 00	360 00	700.00	0 00	0.00	0.00	0 00	0.00	0 00
800.00	0.00	360.00	800.00	0 00	0.00	0.00	0 00	0.00	0 00
900.00	0.00	360 00	900.00	0.00	0 00	0 00	0 00	0.00	0.00
1,000.00	0.00	360 00	1,000.00	0.00	0 00	0 00	0 00	0.00	0.00
1,100.00	0.00	360.00	1,100.00	0.00	0 00	0.00	0.00	0.00	0.00
1,200.00	0.00	360.00	1,200.00	0 00	0.00	0.00	0 00	0.00	0 00
1,300.00	0.00	360 00	1,300.00	0.00	0 00	0 00	0 00	0.00	0 00
1,400 00	0.00	360.00	1,400.00	0.00	0.00	0.00	0 00	0 00	0 00
1,500.00	0.00	360.00	1,500.00	0.00	0.00	0.00	0 00	0.00	0.00
1,600.00	0.00	360.00	1,600.00	0.00	0.00	0 00	0.00	0.00	0 00
1,700.00	0.00	360 00	1,700.00	0 00	0.00	0.00	0 00	0 00	0.00
1,800.00	0.00	360 00	1,800.00	0.00	0 00	0.00	0 00	0.00	0.00
1,900 00	0.00	360 00	1,900.00	0 00	0.00	0.00	0.00	0 00	0.00
2,000 00	0 00	360.00	2,000.00	0 00	0.00	0.00	0 00	0.00	0.00
2,100.00	0.00	360.00	2,100.00	0.00	0 00	0 00	0 00	0.00	0.00
2,200 00	0.00	360.00	2,200.00	0.00	0 00	0.00	0 00	0.00	0.00
2,300.00	0.00	360.00	2,300 00	0.00	0 00	0.00	0 00	0.00	0 00
2,400 00	0.00	360.00	2,400.00	0.00	0.00	0 00	0 00	0.00	0.00
2,500.00	0 00	360.00	2,500 00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	360.00	2,600.00	0.00	0.00	0.00	0.00	0 00	0 00
2,700.00	0.00	360.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800 00	0.00	360.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0 00	360.00	2,900.00	0.00	0.00	0.00	0.00	0 00	0.00
3,000.00	0.00	360.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100 00	0.00	360 00	3,100 00	0.00	0 00	0.00	0.00	0.00	0 00
3,200 00	0.00	360 00	3,200.00	0.00	0.00	0 00	0 00	0.00	0.00
3,300 00	0.00	360.00	3,300.00	0.00	0 00	0 00	0 00	0 00	0 00
3,400 00	0 00	360.00	3,400.00	0.00	0 00	0 00	0 00	0 00	0 00
3,500 00	0.00	360.00	3,500.00	0 00	0.00	0.00	0.00	0.00	0 00
3,600 00	0.00	360.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	360.00	3,700.00	0.00	0.00	0.00	0.00	0 00	0.00
3,800.00	0.00	360.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	360 00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000 00	0.00	360 00	4,000 00	0.00	0.00	0.00	0 00	0.00	0 00
4,100 00	0.00	360 00	4,100 00	0 00	0.00	0.00	0.00	0 00	0.00
4,200.00	0 00	360.00	4,200.00	0 00	0.00	0 00	0.00	0 00	0.00
4,300.00	0 00	360.00	4,300.00	0.00	0 00	0 00	0.00	0 00	0.00
4,328 00	0.00	360.00	4,328.00	0.00	0 00	0.00	0.00	0 00	0 00
4,400 00	8.56	269.03	4,399.73	-0.09	-5.37	5 37	11.89	11 89	0.00
4,500 00	20 45	269 03	4,496.37	-0.51	-30.36	30 36	11.89	11.89	0.00
4,600 00	32 33	269 03	4,585 79	-1.27	-74 72	74.73	11.89	11.89	0.00
4,700 00	44 22	269 03	4,664.15	-2.31	-136.55	136 57	11.89	11.89	0.00
4,800.00	56.11	269.03	4,728.10	-3 61	-213 19	213 22	11.89	11.89	0.00
4,884.71	66.18	269 03	4,768.93	-4 86	-287 27	287.31	11 89	11.89	0.00
PP (Llano #2H)									
4,900.00	67.99	269.03	4,774.88	-5.10	-301.35	301 39	11.89	11.89	0.00

Database:	EDM	**Local Co-ordinate Reference:**	Well Llano 1 Fed #2H
Company:	EOG - Midland (3)	**TVD Reference:**	WELL @ 3879.00ft (Original Well Elev)
Project:	Thames	**MD Reference:**	WELL @ 3879.00ft (Original Well Elev)
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Well:	Llano 1 Fed #2H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Llano 1 Fed #2H		
Design:	Pre Gyro Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,000.00	79 88	269.03	4,802.50	-6 73	-397 26	397.32	11.89	11 89	0 00
5,085 12	90.00	269.03	4,810 00	-8.16	-481.93	482.00	11 89	11 89	0.00
5,100.00	90.00	269.03	4,810 00	-8.41	-496.80	496 88	0 00	0.00	0.00
5,200.00	90.00	269.03	4,810.00	-10.10	-596 79	596.88	0.00	0.00	0.00
5,300.00	90.00	269 03	4,810.00	-11.80	-696.78	696.88	0 00	0 00	0.00
5,400.00	90 00	269.03	4,810 00	-13 49	-796.76	796.88	0.00	0.00	0 00
5,500.00	90 00	269.03	4,810.00	-15.18	-896 75	896.88	0.00	0.00	0 00
5,600.00	90.00	269.03	4,810.00	-16.88	-996 73	996.88	0.00	0.00	0.00
5,700.00	90.00	269.03	4,810.00	-18.57	-1,096.72	1,096 88	0.00	0 00	0.00
5,800 00	90.00	269 03	4,810.00	-20.26	-1,196 70	1,196.88	0 00	0.00	0 00
5,900.00	90.00	269.03	4,810 00	-21.95	-1,296.69	1,296.88	0.00	0.00	0 00
6,000.00	90 00	269.03	4,810.00	-23.65	-1,396.68	1,396.88	0.00	0.00	0.00
6,085.12	90.00	269.03	4,810.00	-25.09	-1,481.79	1,482.00	0 00	0 00	0.00
6,100.00	90.45	269.03	4,809.94	-25.34	-1,496 66	1,496.88	3 00	3 00	0 00
6,151.88	92 00	269.03	4,808 83	-26.22	-1,548.52	1,548.74	3.00	3.00	0.00
6,200.00	92 00	269.03	4,807 15	-27.03	-1,596.60	1,596.83	0.00	0 00	0 00
6,300 00	92.00	269.03	4,803.66	-28.73	-1,696.53	1,696.77	0.00	0.00	0.00
6,400.00	92.00	269.03	4,800.16	-30 42	-1,796.45	1,796.71	0.00	0 00	0.00
6,500.00	92.00	269.03	4,796.67	-32.12	-1,896.38	1,896.65	0 00	0.00	0 00
6,600.00	92 00	269.03	4,793.17	-33 81	-1,996.30	1,996 59	0.00	0 00	0.00
6,700.00	92.00	269.03	4,789 68	-35.51	-2,096.23	2,096 53	0.00	0 00	0.00
6,800.00	92.00	269.03	4,786 19	-37.20	-2,196 15	2,196.47	0.00	0.00	0.00
6,900.00	92.00	269.03	4,782.69	-38.89	-2,296 08	2,296.41	0 00	0.00	0 00
7,000.00	92.00	269.03	4,779.20	-40.59	-2,396.00	2,396 34	0.00	0 00	0.00
7,100.00	92.00	269.03	4,775.70	-42.28	-2,495.93	2,496.28	0.00	0 00	0 00
7,200.00	92.00	269.03	4,772.21	-43.98	-2,595.85	2,596 22	0.00	0 00	0.00
7,300.00	92.00	269.03	4,768.71	-45.67	-2,695.77	2,696.16	0.00	0 00	0.00
7,400 00	92 00	269.03	4,765.22	-47.37	-2,795 70	2,796.10	0 00	0.00	0.00
7,500.00	92 00	269.03	4,761 72	-49.06	-2,895 62	2,896.04	0.00	0.00	0.00
7,600 00	92.00	269 03	4,758.23	-50.75	-2,995.55	2,995.98	0.00	0.00	0.00
7,700.00	92.00	269.03	4,754.74	-52.45	-3,095.47	3,095.92	0.00	0.00	0.00
7,800.00	92.00	269.03	4,751 24	-54.14	-3,195.40	3,195.86	0.00	0.00	0.00
7,900.00	92.00	269.03	4,747.75	-55.84	-3,295.32	3,295.79	0.00	0.00	0.00
8,000.00	92 00	269 03	4,744.25	-57.53	-3,395.25	3,395.73	0.00	0.00	0.00
8,100.00	92.00	269 03	4,740.76	-59.23	-3,495.17	3,495.67	0.00	0.00	0 00
8,200.00	92.00	269.03	4,737.26	-60.92	-3,595 10	3,595.61	0.00	0.00	0 00
8,300.00	92.00	269 03	4,733.77	-62.62	-3,695.02	3,695.55	0 00	0 00	0 00
8,400.00	92.00	269.03	4,730.27	-64 31	-3,794.94	3,795.49	0.00	0 00	0.00
8,500 00	92 00	269.03	4,726 78	-66.00	-3,894 87	3,895.43	0.00	0.00	0.00
8,600.00	92.00	269.03	4,723.28	-67 70	-3,994.79	3,995.37	0.00	0 00	0.00
8,700.00	92.00	269.03	4,719.79	-69.39	-4,094.72	4,095 31	0.00	0.00	0.00
8,800.00	92.00	269.03	4,716.30	-71.09	-4,194.64	4,195 25	0.00	0.00	0 00
8,865.61	92 00	269 03	4,714.00	-72.20	-4,260.20	4,260.81	0.00	0.00	0.00
8,865.71	92.00	269 03	4,714.00	-72.20	-4,260.30	4,260.91	3 00	-2 63	1.44
BHL (Llano #2H)									

Database:	EDM	**Local Co-ordinate Reference:**	Well Llano 1 Fed #2H
Company:	EOG - Midland (3)	**TVD Reference:**	WELL @ 3879.00ft (Original Well Elev)
Project:	Thames	**MD Reference:**	WELL @ 3879 00ft (Original Well Elev)
Site:	Llano 1 Fed #2H	**North Reference:**	Grid
Well:	Llano 1 Fed #2H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Llano 1 Fed #2H		
Design:	Pre Gyro Plan		

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
BHL (Llano #2H) - plan hits target - Point	0.00	360.00	4,714.00	-72 20	-4,260.30	647,310.40	402,269.30	32° 46' 44.919 N	104° 39' 4.740 W
PP (Llano #2H) - plan misses by 75.79ft at 4884.71ft MD (4768.93 TVD, -4.86 N, -287.27 E) - Point	0.00	0.00	4,780 00	-79.50	-280 10	647,303.10	406,249.50	32° 46' 44.962 N	104° 38' 18.119 W

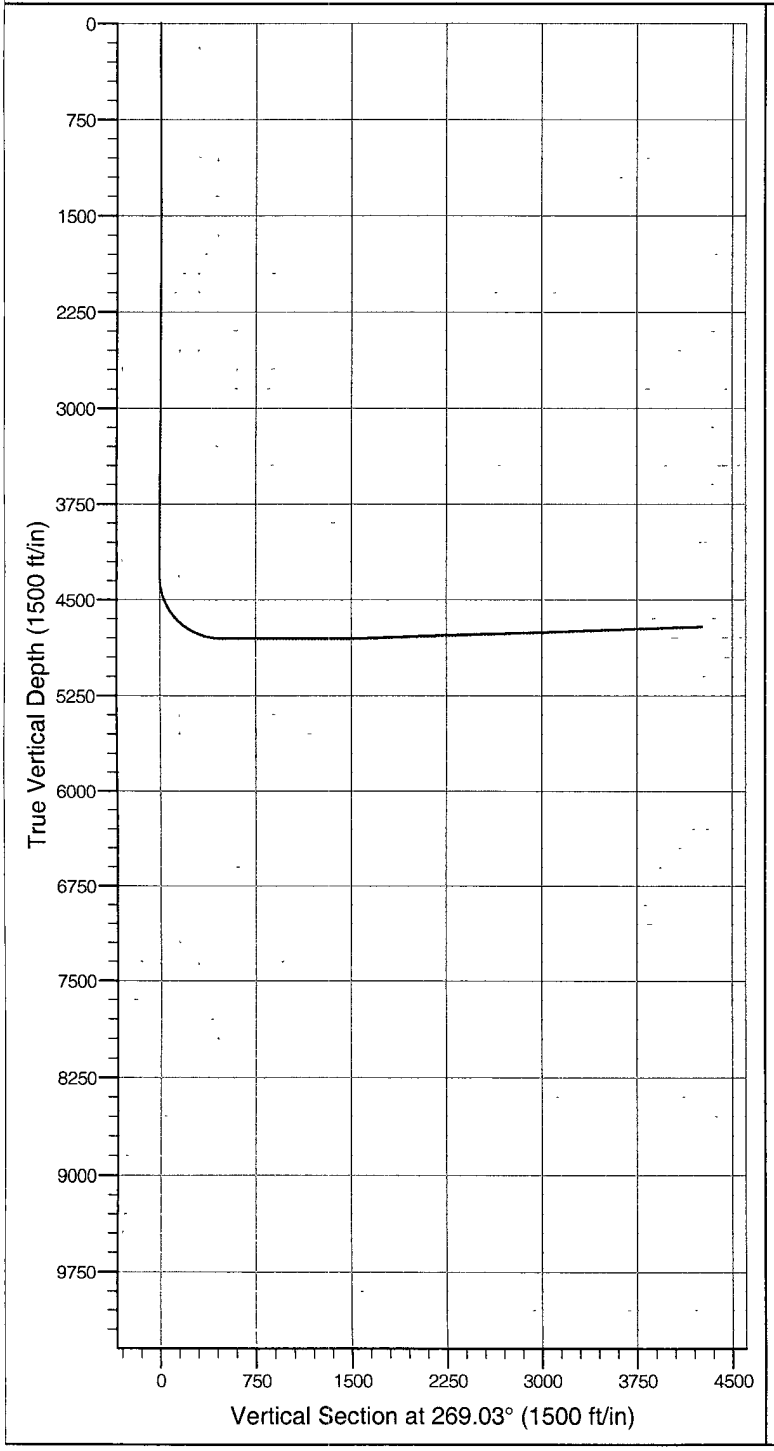
WELL DETAILS: Llano 1 Fed #2H

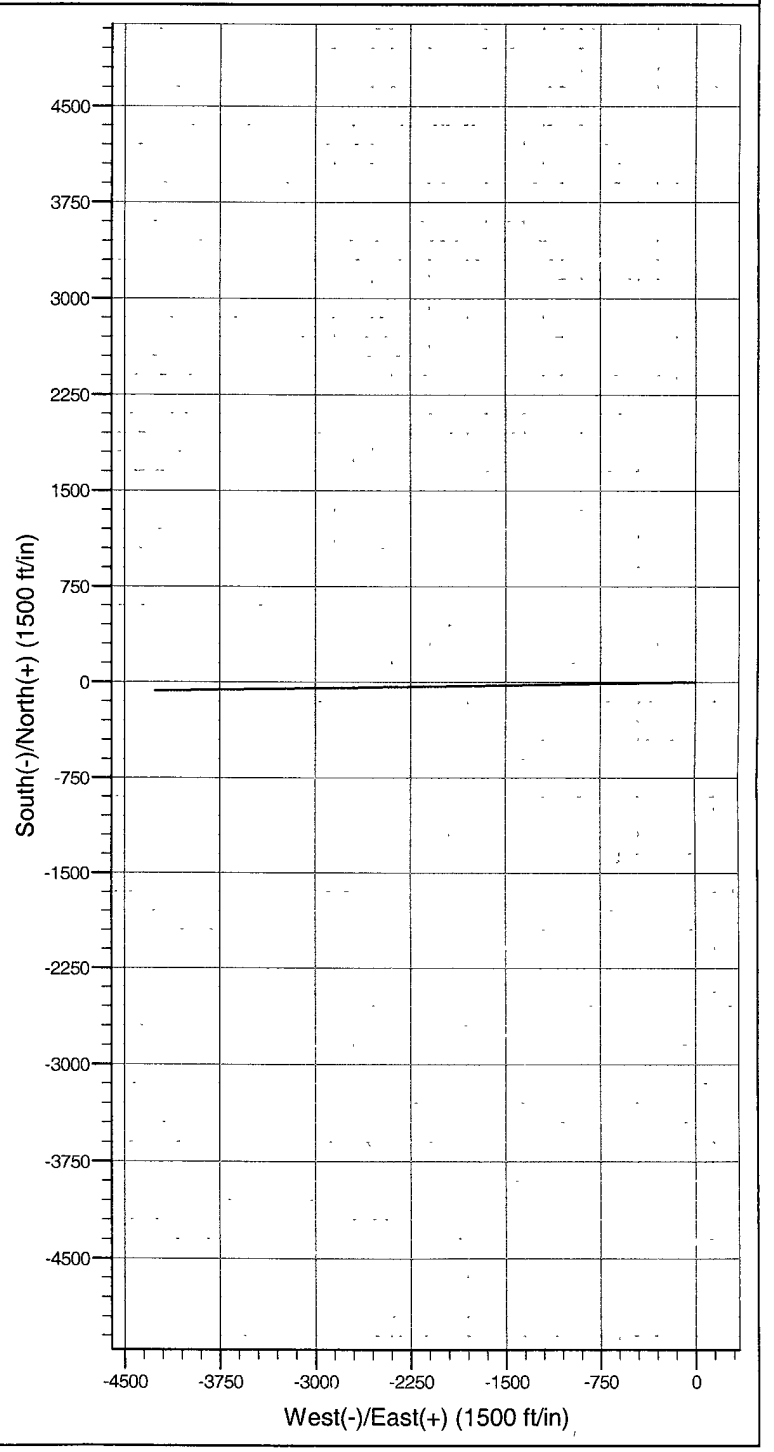
Ground Level: 3860.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	647382.60	406529.60	32° 46' 45.757 N	104° 38' 14.841 W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	4328.00	0.00	360.00	4328.00	0.00	0.00	0.00	360.00	0.00	
3	5085.12	90.00	269.03	4810.00	-8.16	-481.93	11.89	269.03	482.00	
4	6085.12	90.00	269.03	4810.00	-25.09	-1481.79	0.00	0.00	1482.00	
5	6151.88	92.00	269.03	4808.83	-26.22	-1548.52	3.00	-0.04	1548.74	
6	8865.61	92.00	269.03	4714.00	-72.20	-4260.20	0.00	0.00	4260.81	
7	8865.71	92.00	269.03	4714.00	-72.20	-4260.30	3.00	BHL (Llano #2H)		4260.91





eog resources

EOG Resources, Inc.
P.O. Box 2267
Midland, TX 79702
(432) 686-3600

September 7, 2007

State of New Mexico Energy, Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

To Whom It May Concern:

I am writing to request a waiver for the inclusion of an H_2S Contingency Plan for the Llano 1 Fed #2H. The current plan is to complete this well in the Wolfcamp, which is sweet, and I do not anticipate encountering any H_2S bearing formations during drilling operations.

Sincerely,

Jason LaGrega
Drilling Engineer

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

Mr. Jason LaGrega
Division Drilling Engineer
EOG Resources, Inc.
P.O. Box 2267
Midland, TX 79702
(432) 686-3633 Office
(432) 894-1217 Cell

Operations

Mr. Howard Kemp
Production Manager
EOG Resources, Inc
P.O. Box 2267
Midland, TX 79702
(432) 686-3704 Office
(432) 634-1001 Cell

OPERATOR CERTIFICATION

I hereby 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 3 day of October, 2007.

Name: Donny G. Glanton

Position: Sr. Lease Operations ROW Representative

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

Telephone: 432-686-3642

Field Representative (if not above signatory): _____

Address (if different from above): _____

Telephone (if different from above): _____

E-mail (optional): donny_glanton@eogresources.com

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 2 hours in advance for a representative to witness:

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. 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.**

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

1. The **8-5/8** inch surface casing shall be set **in the lower San Andres at approximately 1300** feet and cemented to the surface. **Fresh water mud to be used to setting depth of surface casing.**

   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 a 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 action will be done prior to drilling out that string.

Medium cave/karst with underground river nearby.
Possible lost circulation in the Grayburg and San Andres formations.
Possible high pressure gas bursts in the Wolfcamp with a potential of 3000 psi.

2. The minimum required fill of cement behind the **5-1/2** inch production casing is:

   ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

3. 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 2 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.

e. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation **if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days**. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

D. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

Engineer on call phone (after hours): **Carlsbad: (575) 706-2779**

WWI 111607