

OCD-ARTESIA

7032
APR 21 2009ATS-09-188
RMForm 3160-3
(February 2005)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTR-111-POTASH
WIPFORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

APPLICATION FOR PERMIT TO DRILL OR REENTER

| | | | | |
|--|-------|--|------------------------|---|
| 1a Type of work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER | | Split Estate | | 5 Lease Serial No NM 02953-c |
| 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. | | <73777> | | 7 If Unit or CA Agreement, Name and No |
| 3a Address P.O. Box 2267 Midland, TX 79702 | | 3b Phone No. (include area code) 432-686-3642 | | 8 Lease Name and Well No JAMES RANCH UNIT 113H <40607> |
| 4 Location of Well (Report location clearly and in accordance with any State requirements) At surface 2000' FSL & 200' FEL (U/L I), Sec, 36, T22S-R30E At proposed prod zone 2150' FSL & 330' FEL (U/L I), Sec 31, T22S-R31E | | UNORTHODOX LOCATION | | 9 API Well No 30-015- 37046 |
| 14 Distance in miles and direction from nearest town or post office: Approx 15 miles NE from Loving, NM | | 12 County or Parish Eddy | | 10 Field and Pool, or Exploratory Southeast Quahada Ridge Delaware <50443> 11 Sec, T R M or Blk and Survey or Area Section 31, T22S-R31E, N.M.P.M. |
| 15 Distance from proposed location to nearest property or lease line, ft (Also to nearest drg unit line, if any) | 330' | 16 No of acres in lease | 160 | 17 Spacing Unit dedicated to this well N/2 S/2 - |
| 18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft | 1528' | 19 Proposed Depth | 7,540' TVD; 12,172 TMD | 20 BLM/BIA Bond No on file NM2308 |
| 21 Elevations (Show whether DF, KDB, RT, GL, etc) GL 3316* | | 22 Approximate date work will start* | 03/15/2009 | 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 <i>Donny G. Glanton</i> | Name (Printed/Typed) Donny G. Glanton | Date 12/19/2008 |
|--------------------------------------|--|--------------------|

Title
Sr. Lease Operations ROW Representative

| | | |
|--|---|---------------------|
| Approved by <i>Linda S. C. Rundell</i> | Name (Printed/Typed) Linda S. C. Rundell | Date APR 17 2009 |
|--|---|---------------------|

| | |
|-------------------------|---------------------------|
| Title STATE DIRECTOR | Office NM STATE OFFICE |
|-------------------------|---------------------------|

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

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

*(Instructions on page 2)

CARLSBAD CONTROLLED WATER BASIN

SEE ATTACHED FOR
CONDITIONS OF APPROVALAPPROVAL 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 30-015-37046 | Pool Code 50443 | Pool Name Southeast Quabada Ridge - Delaware |
| Property Code 4060 | Property Name JAMES RANCH UNIT | Well Number 113H |
| OGRID No. 7377 | Operator Name EOG RESOURCES, INC. | Elevation 3316.3' |

Surface Location

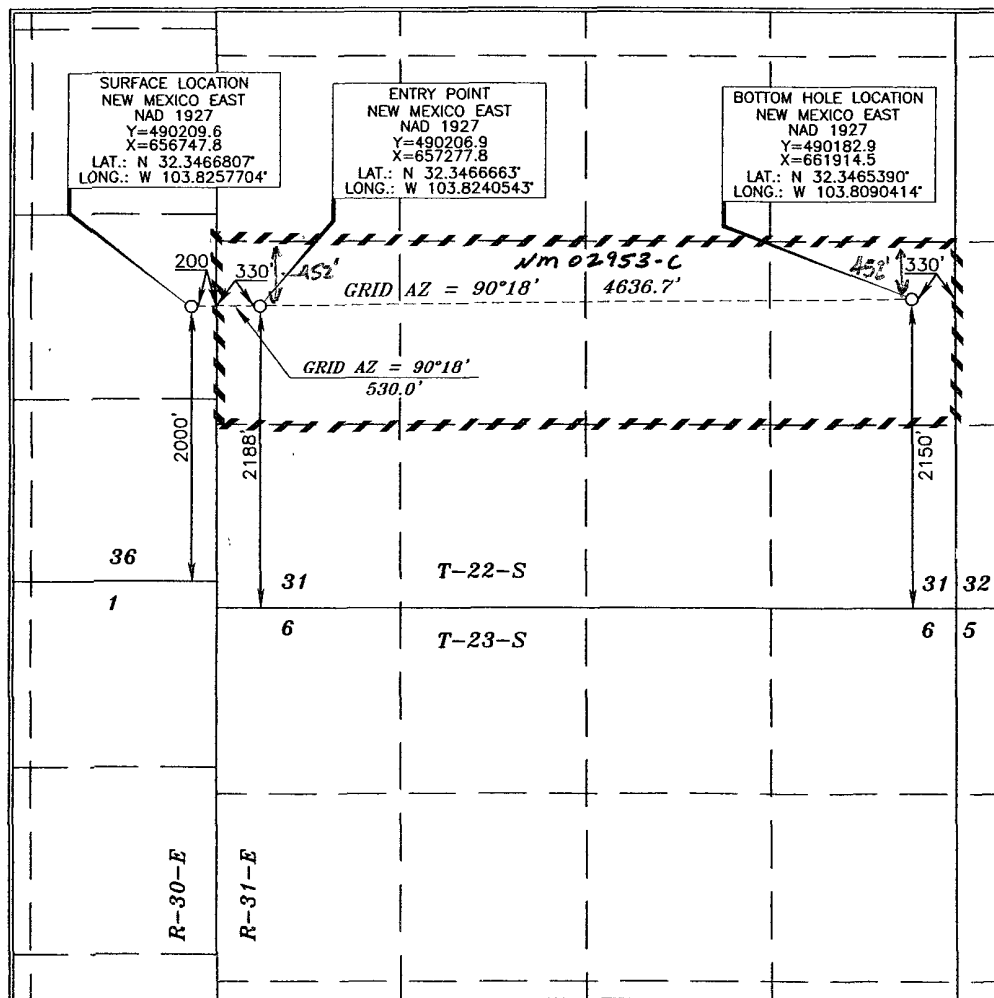
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|-----------|-----------------|--------------------------|---------|---------------|------------------|---------------|----------------|-------------|
| I | 36 | 22 SOUTH | 30 EAST, N.M.P.M. | | 2000 | SOUTH | 200 | 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 |
|---------------|-----------|-----------------|--------------------------|---------|---------------|------------------|---------------|----------------|-------------|
| I | 31 | 22 SOUTH | 31 EAST, N.M.P.M. | | 2150 | SOUTH | 330 | EAST | EDDY |

| | | | |
|-------------------------------|-----------------|--------------------|-----------|
| Dedicated Acres 160 | Joint or Infill | Consolidation Code | Order No. |
|-------------------------------|-----------------|--------------------|-----------|

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.

Don D. Muth 12/19/08
Signature Date

Donny G. Glatton
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.

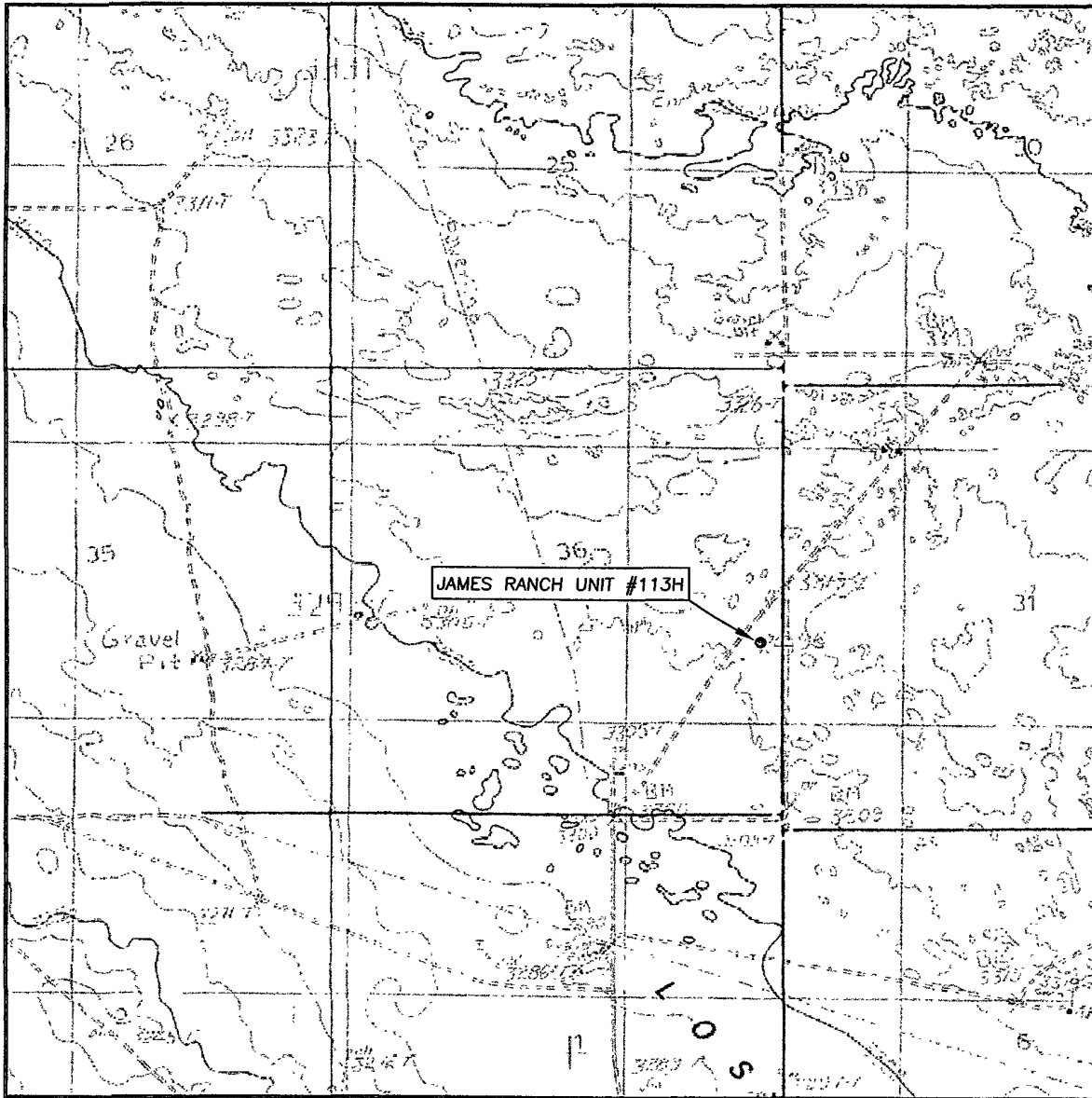
Terry G. Paul 12/2/2008
Date of Survey

Signature and Seal of Professional Surveyor

Terry G. Paul 12/2/2008
Certificate Number 15079

WO# 081118WL (Rev. A)(KA)

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'

SEC. 36 TWP. 22-S RGE. 30-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 2000' FSL & 200' FEL

ELEVATION 3316.3'

OPERATOR EOG RESOURCES INC.

LEASE JAMES RANCH UNIT #113H

U.S.G.S. TOPOGRAPHIC MAP
LOS MEDANOS, N.M.

Asel Surveying

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



EOG RESOURCES, INC.
JAMES RANCH 113H

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

| | |
|---------------------|--------|
| Rustler | 240' |
| Lamar | 3,855' |
| Bell Canyon | 3,890' |
| Cherry Canyon | 4,835' |
| Brushy Canyon | 6,200' |
| Lower Brushy Canyon | 7,430' |

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

| | | |
|---------------------|---------|-------------|
| Upper Permian Sands | 0- 200' | Fresh Water |
| Bell Canyon | 3,890' | Oil |
| Cherry Canyon | 4,835' | Oil |
| Brushy Canyon | 6,200' | Oil |
| Lower Brushy Canyon | 7,430' | 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 650' and circulating cement back to surface.

4. CASING PROGRAM-NEW

| <u>Hole</u> | <u>Interval</u> | <u>OD Csg</u> | <u>Weight</u> | <u>Grade</u> | <u>Conn.</u> | <u>Collapse</u> | <u>Burst</u> | <u>Tension</u> |
|----------------|-----------------|---------------|---------------|--------------|--------------|-----------------|---------------|----------------|
| | | | | | | <u>Design</u> | <u>Design</u> | <u>Design</u> |
| 17.50" | 0-650' | 13.375" | 48# | H-40 | ST&C | 2.64 | 1.45 | 3.37 |
| 12.25" | 0-3,900' | 9.625" | 40# | J-55 | LT&C | 1.50 | 1.61 | 3.38 |
| 8.75" & 7.875" | 0-12,172' | 5.5" | 17# | N-80 | LT&C | 1.84 | 1.26 | 2.19 |

8.75" hole to 7890' MD
7.875" hole from 7890' - 12172' MD
Cementing Program:

13.375" Surface Casing: Cement to surface, Lead: 210 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

EOG RESOURCES, INC.
JAMES RANCH 113H

9 625" Intermediate Casing: Cement to surface, Lead: 850 sx 35:65 Poz: C + 0.005 pps Static Free + 5% NaCl + 0.25 pps CelloFlake + 5 pps LCM-1 + 0.005 gps FP-6L + 6% Bentonite, 12.4 ppg, 2.10 yield
Tail: 200 sx Prem Plus C + 0.25 pps CelloFlake + 0.005 FP-6L + 0.005 pps Static Free + 1% CaCl₂, 14.8 ppg, 1.34 yield

5.50" Production Casing: Cement to 3,300', Lead: 750 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 bottom and drill pipe rams on top. All BOP's and accessory equipment will be tested in accordance with Onshore Oil & Gas order No. 2 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 annular preventer to 2500/ 250 psig.

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

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.
JAMES RANCH 113H

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:

| <u>Depth</u> | <u>Type</u> | <u>Wt</u> <u>(PPG)</u> | <u>Viscosity</u> <u>(sec)</u> | <u>Waterloss</u> <u>(cc)</u> |
|----------------|-------------------|---------------------------|----------------------------------|---------------------------------|
| 0-650' | Fresh - Gel | 8.6-8.8 | 28-34 | N/c |
| 650'-3,900' | Brine | 10.0-10.2 | 28-34 | N/c |
| 3,900'-6,000' | Fresh water | 8.4-8.6 | 28-34 | N/c |
| 6,000'-7,100' | Cut Brine | 8.8-9.6 | 28-34 | N/c |
| 7,100'-7,717' | Cut Brine | 8.8-9.6 | 28-34 | 10-15 |
| 7,030'-12,172' | Polymer (Lateral) | 8.8-9.6 | 35-45 | 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. Possible FMI over selected intervals.

Possible sidewall cores based on shows.

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

The estimated bottom hole temperature (BHT) at TD is 150 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 3300 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.

Permit Information:

Well Name: James Ranch Unit #113H

Location:

SL: 2000' FSL & 200' FEL, Section 36, T-22-S, R-30-E, Eddy Co., N.M.

BHL: 2150' FSL & 330' FEL, Section 31, T-22-S, R-31-E, Eddy Co., N.M.

Casing Program:

| Casing | Setting Depth | Hole Size | Casing Size | Casing Weight | Casing Grade | Desired TOC |
|--------------|---------------|-----------------|-------------|---------------|--------------|-------------|
| Surface | 650' | 17-1/2" | 13-3/8" | 48# | H-40 | Surface |
| Intermediate | 3,900' | 12-1/4" | 9-5/8" | 40# | J-55 | Surface |
| Production | 12,172' | 8-3/4" & 7-7/8" | 5-1/2" | 17# | N-80 | 3,300' |

Cement Program:

← see COA

see COA

| Depth | No. Sacks | Slurries: |
|---------|-----------|---|
| 650' | 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% CaCl ₂ + 0.25 pps CelloFlake + 0.005 gps FP-6L |
| 3,900' | 850 | Lead: 35:65 Poz: C + 0.005 pps Static Free + 5% NaCl + 0.25 pps CelloFlake + 5 pps LCM-1 + 0.005 gps FP-6L + 6% Bentonite |
| | 200 | Tail: Premium Plus C + 0.005 pps Static Free + 1% CaCl ₂ + 0.25 pps CelloFlake + 0.005 gps FP-6L |
| 12,172' | 750 | 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 |
| | 600 | 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 | Type | Weight (ppg) | Viscosity | Water Loss |
|------------------|---------------------------------|--------------|-----------|------------|
| 0 - 650' | Fresh - Gel | 8.6-8.8 | 28-34 | N/c |
| 650' - 3,900' | Brine | 10.0-10.2 | 28-34 | N/c |
| 3,900' - 6,000' | Fresh Water | 8.4 - 8.6 | 28-34 | N/c |
| 6,000' - 7,100' | Cut Brine | 8.8-9.6 | 28-34 | N/c |
| 7,100' - 7,717' | Cut Brine | 8.8-9.6 | 28-34 | 10-15 |
| 7,030' - 12,172' | Cut Brine/ Polymer (Lateral) | 8.8-9.6 | 40-45 | 10-25 |

EOG Resources Inc

Planning Report

| | | | |
|-----------|------------------------|------------------------------|---------------------------------------|
| Database: | EDM | Local Co-ordinate Reference: | Well James Ranch Unit #113H |
| Company: | Midland - New Mexico | TVD Reference: | WELL @ 3335.30ft (Original Well Elev) |
| Project: | Delaware | MD Reference: | WELL @ 3335 30ft (Original Well Elev) |
| Site: | James Ranch Unit #113H | North Reference: | Grid |
| Well: | James Ranch Unit #113H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | James Ranch Unit #113H | | |
| Design: | Original Plan | | |

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

| | | | | | |
|-----------------------|---------|------------------------|--------------|-------------------|-------------------|
| Site | | James Ranch Unit #113H | | | |
| Site Position: | | Northing: | 490,209.60ft | Latitude: | 32° 20' 48.050 N |
| From: | Map | Easting: | 656,747.80ft | Longitude: | 103° 49' 32.774 W |
| Position Uncertainty: | 0 00 ft | Slot Radius: | " | Grid Convergence: | 0.27 deg |

| | | | | | | |
|----------------------|------------------------|---------|---------------------|---------------|---------------|-------------------|
| Well | James Ranch Unit #113H | | | | | |
| Well Position | +N/-S | 0.00 ft | Northing: | 490,209.60 ft | Latitude: | 32° 20' 48.050 N |
| | +E/-W | 0.00 ft | Easting: | 656,747.80 ft | Longitude: | 103° 49' 32.774 W |
| Position Uncertainty | | 0.00 ft | Wellhead Elevation: | ft | Ground Level: | 3,316.30 ft |

| | | | | | |
|-----------|------------------------|-------------|-------------------|-----------------|---------------------|
| Wellbore | James Ranch Unit #113H | | | | |
| Magnetics | Model Name | Sample Date | Declination (deg) | Dip Angle (deg) | Field Strength (nT) |
| | IGRF200510 | 12/11/2008 | 8.00 | 60.33 | 48,940 |

| | | | | |
|-------------------|--------------------------|---------------|---------------|--------------------|
| Design | | Original Plan | | |
| Audit Notes: | | | | |
| Version: | Phase: | PROTOTYPE | Tie On Depth: | 0.00 |
| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (deg) |
| | 0.00 | 0.00 | 0.00 | 90.30 |

| Plan Sections | | | | | | | | | | |
|---------------------|-------------------|---------------|---------------------|------------|------------|-----------------------|----------------------|---------------------|-----------|-------------------|
| Measured Depth (ft) | Inclination (deg) | Azimuth (deg) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (?/100ft) | Build Rate (?/100ft) | Turn Rate (?/100ft) | TFO (deg) | Target |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 4,000.00 | 0.00 | 0.00 | 4,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 4,300.00 | 6.00 | 90.30 | 4,299.45 | -0.08 | 15.69 | 2.00 | 2.00 | 0.00 | 90.30 | |
| 7,030.00 | 6.00 | 90.30 | 7,014.50 | -1.58 | 301.05 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 7,890.36 | 90.00 | 90.30 | 7,540.00 | -4.63 | 884.67 | 9.76 | 9.76 | 0.00 | 0.00 | |
| 7,890.52 | 90.00 | 90.30 | 7,540.00 | -4.63 | 884.83 | 3.00 | 0.00 | -3.00 | -90.00 | |
| 12,172.30 | 90.00 | 90.30 | 7,540.00 | -26.70 | 5,166.55 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 12,172.45 | 90.00 | 90.30 | 7,540.00 | -26.70 | 5,166.71 | 3.00 | 0.00 | 3.00 | 90.00 | BHL (James Ranch) |

EOG Resources Inc

Planning Report

| | | | |
|-----------|------------------------|------------------------------|---------------------------------------|
| Database: | EDM | Local Co-ordinate Reference: | Well James Ranch Unit #113H |
| Company: | Midland - New Mexico | TVD Reference: | WELL @ 3335 30ft (Original Well Elev) |
| Project: | Delaware | MD Reference: | WELL @ 3335 30ft (Original Well Elev) |
| Site: | James Ranch Unit #113H | North Reference: | Grid |
| Well: | James Ranch Unit #113H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | James Ranch Unit #113H | | |
| Design: | Original Plan | | |

Planned Survey

| Measured Depth (ft) | Inclination (deg) | Azimuth (deg) | 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 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 200.00 | 0.00 | 0.00 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 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 |
| 600.00 | 0.00 | 0.00 | 600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 700.00 | 0.00 | 0.00 | 700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 800.00 | 0.00 | 0.00 | 800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 900.00 | 0.00 | 0.00 | 900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,000.00 | 0.00 | 0.00 | 1,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,100.00 | 0.00 | 0.00 | 1,100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,200.00 | 0.00 | 0.00 | 1,200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,300.00 | 0.00 | 0.00 | 1,300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,400.00 | 0.00 | 0.00 | 1,400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,500.00 | 0.00 | 0.00 | 1,500.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,600.00 | 0.00 | 0.00 | 1,600.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,700.00 | 0.00 | 0.00 | 1,700.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,800.00 | 0.00 | 0.00 | 1,800.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1,900.00 | 0.00 | 0.00 | 1,900.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,000.00 | 0.00 | 0.00 | 2,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,100.00 | 0.00 | 0.00 | 2,100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,200.00 | 0.00 | 0.00 | 2,200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,300.00 | 0.00 | 0.00 | 2,300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2,400.00 | 0.00 | 0.00 | 2,400.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 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 | 0.00 | 0.00 | 3,100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3,200.00 | 0.00 | 0.00 | 3,200.00 | 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 |
| 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 |
| 4,000.00 | 0.00 | 0.00 | 4,000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4,100.00 | 2.00 | 90.30 | 4,099.98 | -0.01 | 1.75 | 1.75 | 2.00 | 2.00 | 0.00 |
| 4,200.00 | 4.00 | 90.30 | 4,199.84 | -0.04 | 6.98 | 6.98 | 2.00 | 2.00 | 0.00 |
| 4,300.00 | 6.00 | 90.30 | 4,299.45 | -0.08 | 15.69 | 15.69 | 2.00 | 2.00 | 0.00 |
| 4,400.00 | 6.00 | 90.30 | 4,398.90 | -0.14 | 26.15 | 26.15 | 0.00 | 0.00 | 0.00 |
| 4,500.00 | 6.00 | 90.30 | 4,498.36 | -0.19 | 36.60 | 36.60 | 0.00 | 0.00 | 0.00 |
| 4,600.00 | 6.00 | 90.30 | 4,597.81 | -0.25 | 47.05 | 47.05 | 0.00 | 0.00 | 0.00 |
| 4,700.00 | 6.00 | 90.30 | 4,697.26 | -0.30 | 57.50 | 57.50 | 0.00 | 0.00 | 0.00 |
| 4,800.00 | 6.00 | 90.30 | 4,796.71 | -0.36 | 67.96 | 67.96 | 0.00 | 0.00 | 0.00 |
| 4,900.00 | 6.00 | 90.30 | 4,896.17 | -0.41 | 78.41 | 78.41 | 0.00 | 0.00 | 0.00 |
| 5,000.00 | 6.00 | 90.30 | 4,995.62 | -0.47 | 88.86 | 88.86 | 0.00 | 0.00 | 0.00 |
| 5,100.00 | 6.00 | 90.30 | 5,095.07 | -0.52 | 99.31 | 99.32 | 0.00 | 0.00 | 0.00 |
| 5,200.00 | 6.00 | 90.30 | 5,194.52 | -0.57 | 109.77 | 109.77 | 0.00 | 0.00 | 0.00 |
| 5,300.00 | 6.00 | 90.30 | 5,293.97 | -0.63 | 120.22 | 120.22 | 0.00 | 0.00 | 0.00 |

EOG Resources Inc

Planning Report

| | | | |
|-----------|------------------------|------------------------------|---------------------------------------|
| Database: | EDM | Local Co-ordinate Reference: | Well: James Ranch Unit #113H |
| Company: | Midland - New Mexico | TVD Reference: | WELL @ 3335 30ft (Original Well Elev) |
| Project: | Delaware | MD Reference: | WELL @ 3335 30ft (Original Well Elev) |
| Site: | James Ranch Unit #113H | North Reference: | Grid |
| Well: | James Ranch Unit #113H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | James Ranch Unit #113H | | |
| Design: | Original Plan | | |

| Planned Survey | | | | | | | | | |
|-------------------------------|-------------------|---------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft) | Inclination (deg) | Azimuth (deg) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (?/100ft) | Build Rate (?/100ft) | Turn Rate (?/100ft) |
| 5,400.00 | 6.00 | 90.30 | 5,393.43 | -0.68 | 130.67 | 130.67 | 0.00 | 0.00 | 0.00 |
| 5,500.00 | 6.00 | 90.30 | 5,492.88 | -0.74 | 141.13 | 141.13 | 0.00 | 0.00 | 0.00 |
| 5,600.00 | 6.00 | 90.30 | 5,592.33 | -0.79 | 151.58 | 151.58 | 0.00 | 0.00 | 0.00 |
| 5,700.00 | 6.00 | 90.30 | 5,691.78 | -0.85 | 162.03 | 162.03 | 0.00 | 0.00 | 0.00 |
| 5,800.00 | 6.00 | 90.30 | 5,791.23 | -0.90 | 172.48 | 172.49 | 0.00 | 0.00 | 0.00 |
| 5,900.00 | 6.00 | 90.30 | 5,890.69 | -0.96 | 182.94 | 182.94 | 0.00 | 0.00 | 0.00 |
| 6,000.00 | 6.00 | 90.30 | 5,990.14 | -1.01 | 193.39 | 193.39 | 0.00 | 0.00 | 0.00 |
| 6,100.00 | 6.00 | 90.30 | 6,089.59 | -1.07 | 203.84 | 203.84 | 0.00 | 0.00 | 0.00 |
| 6,200.00 | 6.00 | 90.30 | 6,189.04 | -1.12 | 214.29 | 214.30 | 0.00 | 0.00 | 0.00 |
| 6,300.00 | 6.00 | 90.30 | 6,288.50 | -1.18 | 224.75 | 224.75 | 0.00 | 0.00 | 0.00 |
| 6,400.00 | 6.00 | 90.30 | 6,387.95 | -1.23 | 235.20 | 235.20 | 0.00 | 0.00 | 0.00 |
| 6,500.00 | 6.00 | 90.30 | 6,487.40 | -1.29 | 245.65 | 245.66 | 0.00 | 0.00 | 0.00 |
| 6,600.00 | 6.00 | 90.30 | 6,586.85 | -1.34 | 256.11 | 256.11 | 0.00 | 0.00 | 0.00 |
| 6,700.00 | 6.00 | 90.30 | 6,686.30 | -1.40 | 266.56 | 266.56 | 0.00 | 0.00 | 0.00 |
| 6,800.00 | 6.00 | 90.30 | 6,785.76 | -1.45 | 277.01 | 277.01 | 0.00 | 0.00 | 0.00 |
| 6,900.00 | 6.00 | 90.30 | 6,885.21 | -1.51 | 287.46 | 287.47 | 0.00 | 0.00 | 0.00 |
| 7,000.00 | 6.00 | 90.30 | 6,984.66 | -1.56 | 297.92 | 297.92 | 0.00 | 0.00 | 0.00 |
| 7,030.00 | 6.00 | 90.30 | 7,014.50 | -1.58 | 301.05 | 301.06 | 0.00 | 0.00 | 0.00 |
| 7,100.00 | 12.83 | 90.30 | 7,083.51 | -1.64 | 312.50 | 312.50 | 9.76 | 9.76 | 0.00 |
| 7,200.00 | 22.60 | 90.30 | 7,178.65 | -1.80 | 342.89 | 342.90 | 9.76 | 9.76 | 0.00 |
| 7,300.00 | 32.36 | 90.30 | 7,267.27 | -2.04 | 388.98 | 388.98 | 9.76 | 9.76 | 0.00 |
| 7,400.00 | 42.12 | 90.30 | 7,346.78 | -2.35 | 449.42 | 449.43 | 9.76 | 9.76 | 0.00 |
| 7,500.00 | 51.89 | 90.30 | 7,414.89 | -2.74 | 522.48 | 522.48 | 9.76 | 9.76 | 0.00 |
| 7,514.59 | 53.31 | 90.30 | 7,423.75 | -2.80 | 534.07 | 534.08 | 9.76 | 9.76 | 0.00 |
| PP (James Ranch #113H) | | | | | | | | | |
| 7,600.00 | 61.65 | 90.30 | 7,469.62 | -3.17 | 606.02 | 606.03 | 9.76 | 9.76 | 0.00 |
| 7,700.00 | 71.41 | 90.30 | 7,509.40 | -3.65 | 697.64 | 697.65 | 9.76 | 9.76 | 0.00 |
| 7,800.00 | 81.18 | 90.30 | 7,533.06 | -4.16 | 794.67 | 794.68 | 9.76 | 9.76 | 0.00 |
| 7,890.36 | 90.00 | 90.30 | 7,540.00 | -4.63 | 884.67 | 884.69 | 9.76 | 9.76 | 0.00 |
| 7,890.52 | 90.00 | 90.30 | 7,540.00 | -4.63 | 884.83 | 884.84 | 3.00 | 0.00 | -3.00 |
| 7,900.00 | 90.00 | 90.30 | 7,540.00 | -4.68 | 894.31 | 894.33 | 0.00 | 0.00 | 0.00 |
| 8,000.00 | 90.00 | 90.30 | 7,540.00 | -5.20 | 994.31 | 994.33 | 0.00 | 0.00 | 0.00 |
| 8,100.00 | 90.00 | 90.30 | 7,540.00 | -5.71 | 1,094.31 | 1,094.33 | 0.00 | 0.00 | 0.00 |
| 8,200.00 | 90.00 | 90.30 | 7,540.00 | -6.23 | 1,194.31 | 1,194.33 | 0.00 | 0.00 | 0.00 |
| 8,300.00 | 90.00 | 90.30 | 7,540.00 | -6.74 | 1,294.31 | 1,294.33 | 0.00 | 0.00 | 0.00 |
| 8,400.00 | 90.00 | 90.30 | 7,540.00 | -7.26 | 1,394.31 | 1,394.33 | 0.00 | 0.00 | 0.00 |
| 8,500.00 | 90.00 | 90.30 | 7,540.00 | -7.77 | 1,494.31 | 1,494.33 | 0.00 | 0.00 | 0.00 |
| 8,600.00 | 90.00 | 90.30 | 7,540.00 | -8.29 | 1,594.31 | 1,594.33 | 0.00 | 0.00 | 0.00 |
| 8,700.00 | 90.00 | 90.30 | 7,540.00 | -8.80 | 1,694.30 | 1,694.33 | 0.00 | 0.00 | 0.00 |
| 8,800.00 | 90.00 | 90.30 | 7,540.00 | -9.32 | 1,794.30 | 1,794.33 | 0.00 | 0.00 | 0.00 |
| 8,900.00 | 90.00 | 90.30 | 7,540.00 | -9.84 | 1,894.30 | 1,894.33 | 0.00 | 0.00 | 0.00 |
| 9,000.00 | 90.00 | 90.30 | 7,540.00 | -10.35 | 1,994.30 | 1,994.33 | 0.00 | 0.00 | 0.00 |
| 9,100.00 | 90.00 | 90.30 | 7,540.00 | -10.87 | 2,094.30 | 2,094.33 | 0.00 | 0.00 | 0.00 |
| 9,200.00 | 90.00 | 90.30 | 7,540.00 | -11.38 | 2,194.30 | 2,194.33 | 0.00 | 0.00 | 0.00 |
| 9,300.00 | 90.00 | 90.30 | 7,540.00 | -11.90 | 2,294.30 | 2,294.33 | 0.00 | 0.00 | 0.00 |
| 9,400.00 | 90.00 | 90.30 | 7,540.00 | -12.41 | 2,394.29 | 2,394.33 | 0.00 | 0.00 | 0.00 |
| 9,500.00 | 90.00 | 90.30 | 7,540.00 | -12.93 | 2,494.29 | 2,494.33 | 0.00 | 0.00 | 0.00 |
| 9,600.00 | 90.00 | 90.30 | 7,540.00 | -13.44 | 2,594.29 | 2,594.33 | 0.00 | 0.00 | 0.00 |
| 9,700.00 | 90.00 | 90.30 | 7,540.00 | -13.96 | 2,694.29 | 2,694.33 | 0.00 | 0.00 | 0.00 |
| 9,800.00 | 90.00 | 90.30 | 7,540.00 | -14.47 | 2,794.29 | 2,794.33 | 0.00 | 0.00 | 0.00 |
| 9,900.00 | 90.00 | 90.30 | 7,540.00 | -14.99 | 2,894.29 | 2,894.33 | 0.00 | 0.00 | 0.00 |
| 10,000.00 | 90.00 | 90.30 | 7,540.00 | -15.50 | 2,994.29 | 2,994.33 | 0.00 | 0.00 | 0.00 |
| 10,100.00 | 90.00 | 90.30 | 7,540.00 | -16.02 | 3,094.29 | 3,094.33 | 0.00 | 0.00 | 0.00 |

EOG Resources Inc

Planning Report

| | | | |
|-----------|------------------------|------------------------------|---------------------------------------|
| Database: | EDM | Local Co-ordinate Reference: | Well James Ranch Unit #113H |
| Company: | Midland - New Mexico | TVD Reference: | WELL @ 3335 30ft (Original Well Elev) |
| Project: | Delaware | MD Reference: | WELL @ 3335.30ft (Original Well Elev) |
| Site: | James Ranch Unit #113H | North Reference: | Grid |
| Well: | James Ranch Unit #113H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | James Ranch Unit #113H | | |
| Design: | Original Plan | | |

| Planned Survey | | | | | | | | | |
|-------------------------|-------------------|---------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft) | Inclination (deg) | Azimuth (deg) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (?/100ft) | Build Rate (?/100ft) | Turn Rate (?/100ft) |
| 10,200.00 | 90.00 | 90.30 | 7,540.00 | -16.53 | 3,194.28 | 3,194.33 | 0.00 | 0.00 | 0.00 |
| 10,300.00 | 90.00 | 90.30 | 7,540.00 | -17.05 | 3,294.28 | 3,294.33 | 0.00 | 0.00 | 0.00 |
| 10,400.00 | 90.00 | 90.30 | 7,540.00 | -17.57 | 3,394.28 | 3,394.33 | 0.00 | 0.00 | 0.00 |
| 10,500.00 | 90.00 | 90.30 | 7,540.00 | -18.08 | 3,494.28 | 3,494.33 | 0.00 | 0.00 | 0.00 |
| 10,600.00 | 90.00 | 90.30 | 7,540.00 | -18.60 | 3,594.28 | 3,594.33 | 0.00 | 0.00 | 0.00 |
| 10,700.00 | 90.00 | 90.30 | 7,540.00 | -19.11 | 3,694.28 | 3,694.33 | 0.00 | 0.00 | 0.00 |
| 10,800.00 | 90.00 | 90.30 | 7,540.00 | -19.63 | 3,794.28 | 3,794.33 | 0.00 | 0.00 | 0.00 |
| 10,900.00 | 90.00 | 90.30 | 7,540.00 | -20.14 | 3,894.27 | 3,894.33 | 0.00 | 0.00 | 0.00 |
| 11,000.00 | 90.00 | 90.30 | 7,540.00 | -20.66 | 3,994.27 | 3,994.33 | 0.00 | 0.00 | 0.00 |
| 11,100.00 | 90.00 | 90.30 | 7,540.00 | -21.17 | 4,094.27 | 4,094.33 | 0.00 | 0.00 | 0.00 |
| 11,200.00 | 90.00 | 90.30 | 7,540.00 | -21.69 | 4,194.27 | 4,194.33 | 0.00 | 0.00 | 0.00 |
| 11,300.00 | 90.00 | 90.30 | 7,540.00 | -22.20 | 4,294.27 | 4,294.33 | 0.00 | 0.00 | 0.00 |
| 11,400.00 | 90.00 | 90.30 | 7,540.00 | -22.72 | 4,394.27 | 4,394.33 | 0.00 | 0.00 | 0.00 |
| 11,500.00 | 90.00 | 90.30 | 7,540.00 | -23.23 | 4,494.27 | 4,494.33 | 0.00 | 0.00 | 0.00 |
| 11,600.00 | 90.00 | 90.30 | 7,540.00 | -23.75 | 4,594.27 | 4,594.33 | 0.00 | 0.00 | 0.00 |
| 11,700.00 | 90.00 | 90.30 | 7,540.00 | -24.27 | 4,694.26 | 4,694.33 | 0.00 | 0.00 | 0.00 |
| 11,800.00 | 90.00 | 90.30 | 7,540.00 | -24.78 | 4,794.26 | 4,794.33 | 0.00 | 0.00 | 0.00 |
| 11,900.00 | 90.00 | 90.30 | 7,540.00 | -25.30 | 4,894.26 | 4,894.33 | 0.00 | 0.00 | 0.00 |
| 12,000.00 | 90.00 | 90.30 | 7,540.00 | -25.81 | 4,994.26 | 4,994.33 | 0.00 | 0.00 | 0.00 |
| 12,100.00 | 90.00 | 90.30 | 7,540.00 | -26.33 | 5,094.26 | 5,094.33 | 0.00 | 0.00 | 0.00 |
| 12,172.30 | 90.00 | 90.30 | 7,540.00 | -26.70 | 5,166.55 | 5,166.62 | 0.00 | 0.00 | 0.00 |
| 12,172.45 | 90.00 | 90.30 | 7,540.00 | -26.70 | 5,166.71 | 5,166.78 | 3.00 | 0.00 | 3.00 |
| BHL (James Ranch #113H) | | | | | | | | | |

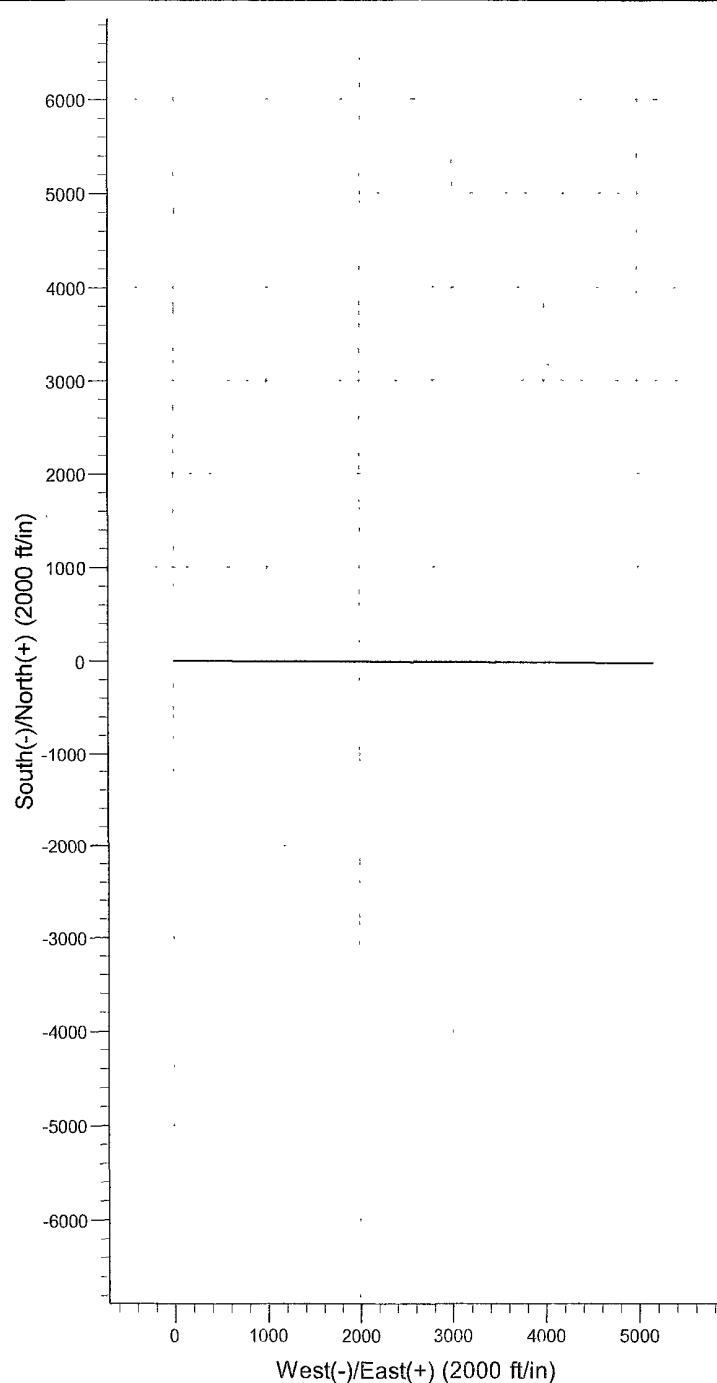
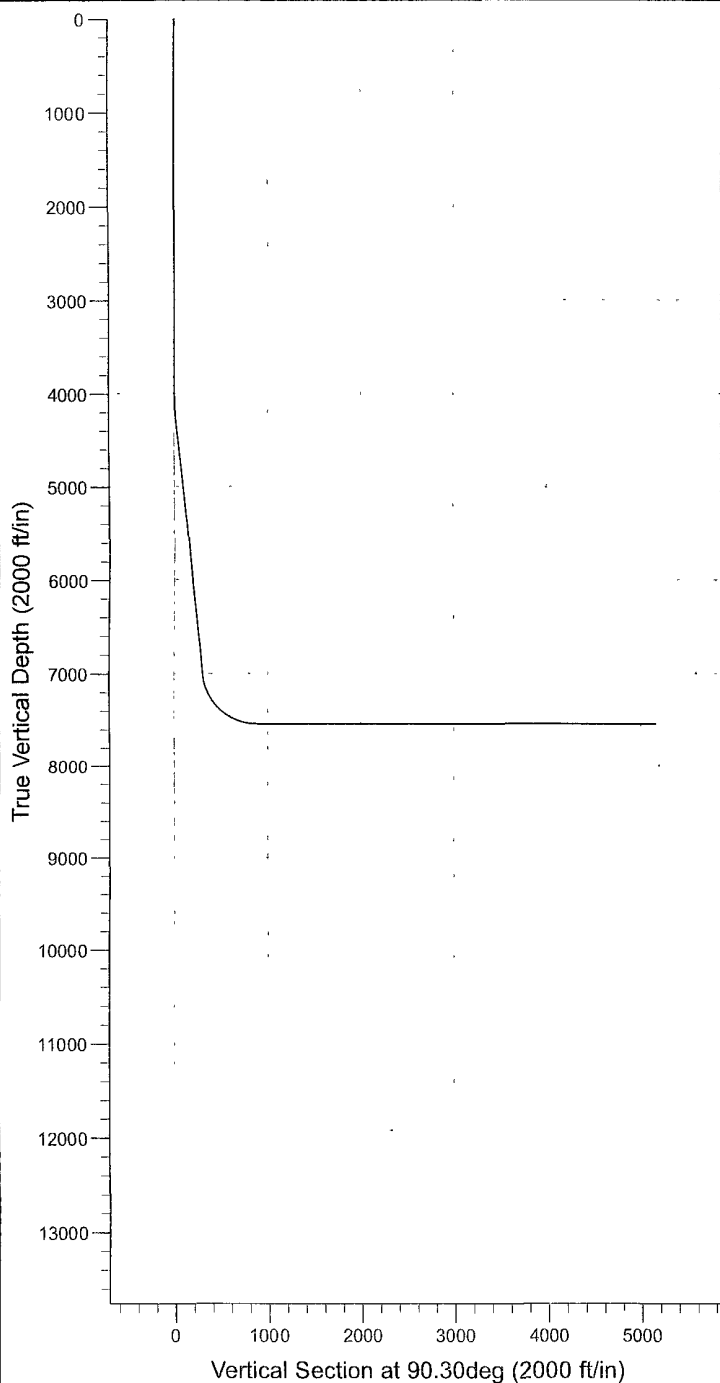
| Targets | | | | | | | | | |
|--------------------|--|-----------------|----------------|----------|------------|------------|---------------|--------------|------------------------------------|
| Target Name | hit/miss target | Dip Angle (deg) | Dip Dir. (deg) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude Longitude |
| BHL (James Ranch # | - plan hits target center | 0.00 | 0.00 | 7,540.00 | -26.70 | 5,166.71 | 490,182.90 | 661,914.50 | 32° 20' 47.540 N 103° 48' 32.549 W |
| - Point | | | | | | | | | |
| PP (James Ranch #1 | - plan misses target center by 7.46ft at 7514.59ft MD (7423.75 TVD, -2.80 N, 534.07 E) | 0.00 | 0.00 | 7,430.00 | -2.70 | 530.00 | 490,206.90 | 657,277.80 | 32° 20' 47.999 N 103° 49' 26.596 W |
| - Point | | | | | | | | | |

WELL DETAILS. James Ranch Unit #113H

| | | | | | | |
|-------|-------|-----------|---------------|------------------|-------------------|------|
| +N/-S | +E/-W | Northing | Ground Level. | 3316.30 | | |
| 0.00 | 0.00 | 490209.60 | Easting | Latitude | Longitude | Slot |
| | | | 656747.80 | 32° 20' 48.050 N | 103° 49' 32.774 W | |

SECTION DETAILS

| Sec | MD | Inc | Azi | TVD | +N/-S | +E/-W | D Leg | T Fac | Target | Sec |
|-----|---------|-------|-------|---------|--------|---------|-------|--------|---------|-----|
| 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2 | 4000.00 | 0.00 | 0.00 | 4000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 3 | 4300.00 | 6.00 | 90.30 | 4299.45 | -0.08 | 15.69 | 2.00 | 90.30 | 15.69 | |
| 4 | 7030.00 | 6.00 | 90.30 | 7014.50 | -1.58 | 301.05 | 0.00 | 0.00 | 301.06 | |
| 5 | 7890.36 | 90.00 | 90.30 | 7540.00 | -4.63 | 884.67 | 9.76 | 0.00 | 884.69 | |
| 6 | 7890.52 | 90.00 | 90.30 | 7540.00 | -4.63 | 884.83 | 3.00 | -90.00 | 884.84 | |
| 7 | 2172.30 | 90.00 | 90.30 | 7540.00 | -26.70 | 5166.55 | 0.00 | 0.00 | 5166.62 | |
| 8 | 2172.45 | 90.00 | 90.30 | 7540.00 | -26.70 | 5166.71 | 0.00 | 0.00 | 5166.78 | |



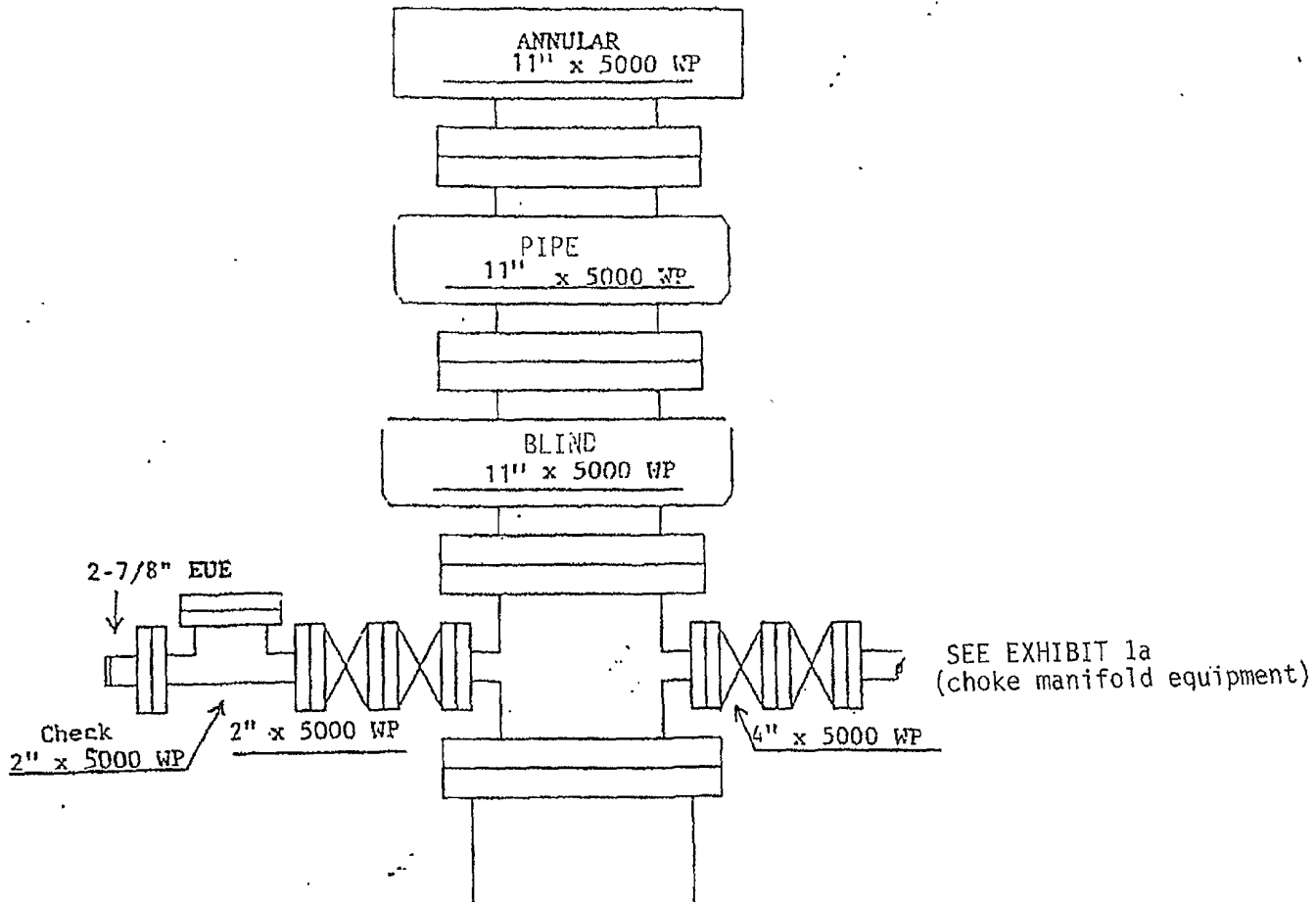
EOG RESOURCES, INC.
JAMES RANCH 113H
ATTACHMENT TO EXHIBIT #1

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 kill lines to be securely anchored especially ends of choke lines.
6. Equipment through which bit must pass shall be at least as large as the diameter of the casing being drilled through.
7. Kelly cock on kelly.
8. Extension wrenches and hand wheels to be properly installed.
9. Blow out preventer control to be located as close to driller's position as feasible.
10. Blow out preventer closing equipment to include minimum 40-gallon accumulator, two independent sources of pump power on each closing unit installation, and meet all API specifications.

EXHIBIT 1

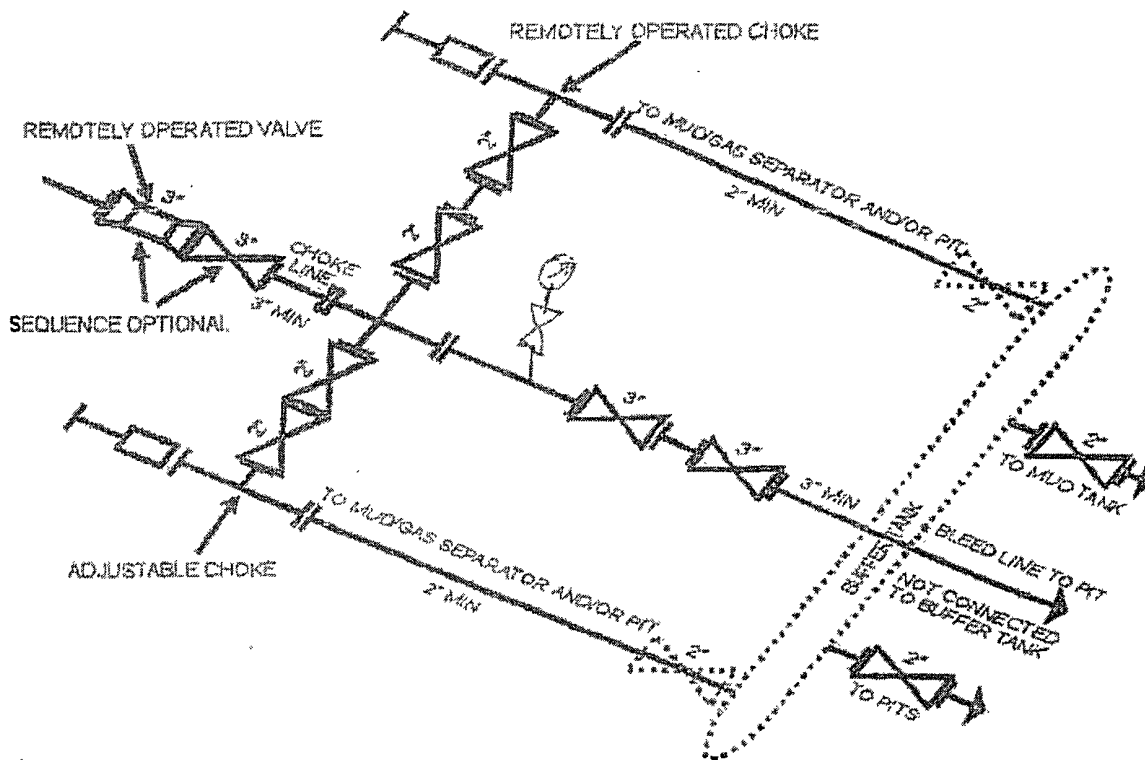
EOG Resources, Inc.

James Ranch Unit 113H



WELL NAME: James Ranch Unit 1134

Exhibit 1a



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

December 16, 2008

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 H₂S Contingency Plan for the James Ranch Unit #113H. The current plan is to complete this well in the Lower Brushy Canyon, which is sweet, and I do not anticipate encountering any H₂S bearing formations during drilling operations.

Sincerely,



Jason LaGrega
Drilling Engineer

**EOG RESOURCES, INC.
JAMES RANCH 113H**

SURFACE USE PLAN OF OPERATION

SHL: 2000' FSL & 200' FEL, Unit I, Section 36, T22S-R30E, N.M.P.M., Eddy, NM
BHL: 2150' FSL & 330' FEL, Unit I, Section 31, T22S-R31E, 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. Directions to Locations: Beginning at the intersection of State Hwy 31 and (old) State Hwy 128, go east on Hwy 128 for 10.2 miles, turn north on Eddy County Road 802 (Whipp Road) for 0.8 miles, turn west on lease road for 0.4 miles, turn north on lease road for 0.6 miles, turn east on lease road for 0.2 miles to location.

2. NEW OR RECONSTRUCTED ACCESS ROAD:

- a. The well site layout, Exhibit 2a shows the layout. No new roadway necessary as proposed location will reside next to the James Ranch Unit #27 well pad. (See 1c above for driving directions).
- b. The maximum width of the road will be 30'. 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 James Ranch Unit 113H 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, overhead electrical power will be constructed from existing electrical infrastructure at the James Ranch Unit #27.
- c. All gas transmission pipelines will adhere to API standards.
- d. Refer to b above.
- e. If the well is productive, rehabilitation plans are as follows:

EOG RESOURCES, INC.
JAMES RANCH 113H

- i. Within 120 days subsequent to the first date of sales, the location shall be reduced as determined by operator to the minimum area necessary to safely and effectively operate the well.
- ii. The original topsoil from the well site will be returned to the location. The location 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 & 2a. 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 shall be disposed of in a steel cuttings bin (catch tanks) on the drilling pad (behind the steel mud tanks). The bin and cuttings shall be hauled to an approved cuttings dumpsite.
At the site, the cuttings shall be removed from the bin & the bin shall be returned to the drilling site for reuse.
- b. All trash, junk, and other waste material shall be contained in trash cages or trash bins to prevent scattering. When a job is completed, all contents shall be removed and disposed of in an approved landfill.
- c. The supplier, including broken sacks, shall pick up salts remaining after completion of well.
- d. If necessary, a porto-john shall be provided for the rig crews. This equipment shall be properly maintained during the drilling and completion operations and shall be removed when all operations are complete.
- e. Remaining drilling fluids shall be hauled off by transports to a state approved disposal site. Water produced during completion shall be put in storage tanks and disposed of in a state approved disposal. Oil and condensate produced shall be put in a storage tank and sold.
- f. Disposal of fluids to be transported by the following companies:
 - i. RGB TRUCKING

EOG RESOURCES, INC.
JAMES RANCH 113H

- ii. LOBO TRUCKING
- iii. I & W TRUCKING
- iv. CRANE HOT OIL & TRANSPORT
- v. JWS
- vi. QUALITY TRUCKING

8. ANCILLARY FACILITIES:

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

9. WELL SITE LAYOUT:

- a. Exhibit 4 shows the production facilities layout.
- b. Exhibit 5 shows proposed location of reserve and sump pits, living facilities and well site layout with dimensions of the pad layout.
- c. Mud pits in the active circulating system shall be steel pits and the catch tanks shall be steel tanks set in shallow sumps behind the steel circulating tanks and sumps.
- d. The area where the catch tanks are placed shall 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 shall be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road shall be reclaimed as directed by the BLM. The catch tank area shall be broken out and leveled after drying to a condition where these are feasible. The original topsoil shall again be returned to the pad and contoured, as close as possible, to the original topography.
- b. The location and road shall be reclaimed as recommended by the BLM.
- c. If the well is deemed commercially productive, the catch tank area shall be restored as described in 10(a) within 120 days subsequent to the first date of sales. Caliche from areas of the pad site not required for operations shall be reclaimed. The original top soil shall be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad shall be contoured, as close as possible, to match the original topography.

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11. SURFACE OWNERSHIP

The surface is owned by the State of New Mexico. 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.

12. OTHER INFORMATION:

- a. The area surrounding the well is grassland. The topsoil is sandy in nature. The vegetation is moderately sparse with native prairie grass, cactus and shinnery oak. No wildlife was observed but it is likely that deer, rabbits, coyotes, birds 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 mile of the location.
- d. EOG will participate in the Permian Basin Memorandum of Agreement (MOA) signed by SHPO and the ACHP to use as an option for archaeological clearance.

13. BOND COVERAGE:

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

**EOG RESOURCES, INC.
JAMES RANCH 113H**

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 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 19th day of December 2008.

Name: Donny G. Glanton

Position: Sr. Lease Operations ROW Representative

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

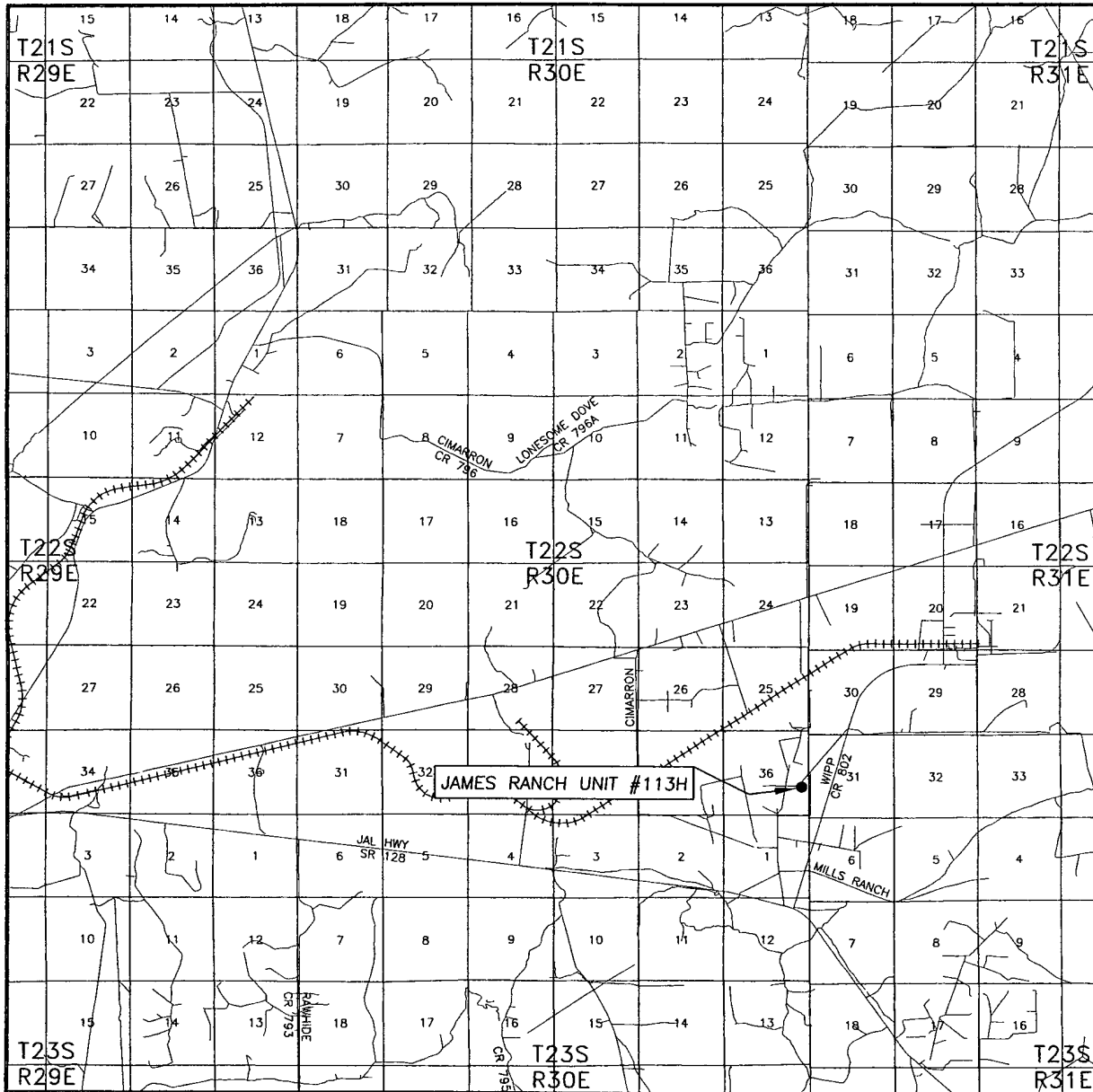
Telephone: 432-686-3642

Email: donny_glanton@eogresources.com

Signed: 

Exhibit 2

VICINITY MAP

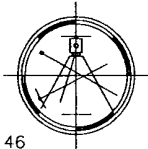


SEC. 36 TWP. 22-S RGE. 30-E
SURVEY N.M.P.M.
COUNTY EDDY
DESCRIPTION 2000' FSL & 200' FEL
ELEVATION 3316.3'
OPERATOR EOG RESOURCES INC.
LEASE JAMES RANCH UNIT #113H

SCALE: 1" = 2 MILES

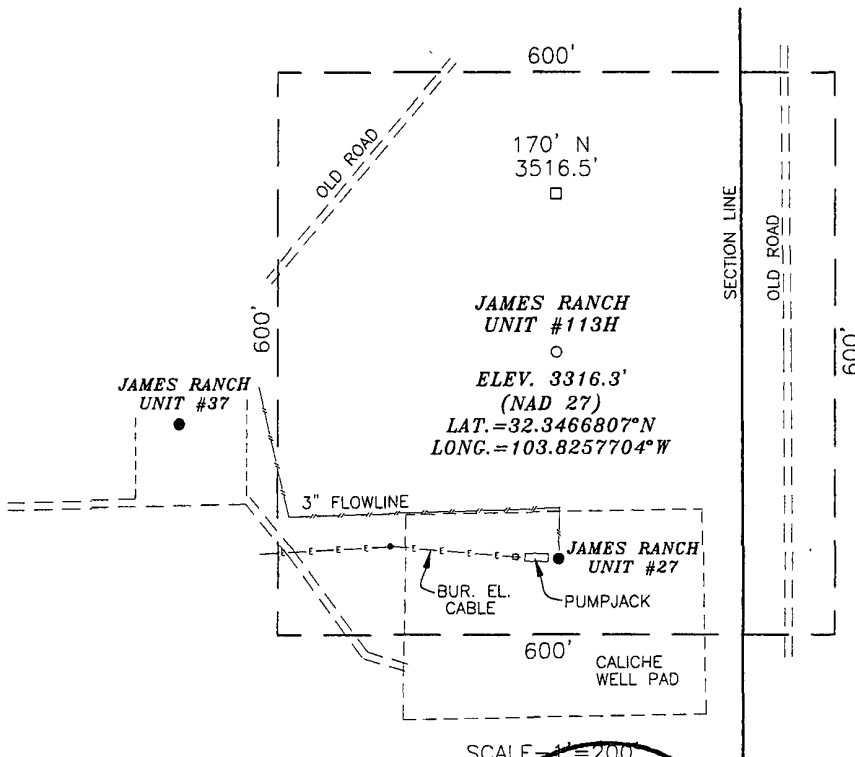
Asel Surveying

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



DIRECTIONS BEGINNING AT THE INTERSECTION OF STATE HWY. #31 AND (OLD) STATE HWY. #128, GO EAST ON HWY. #128 FOR 10.2 MILES, TURN NORTH ON EDDY COUNTY ROAD #802 (WIPP ROAD) FOR 0.8 MILES, GO WEST ON LEASE ROAD FOR 0.4 MILES, NORTH ON LEASE ROAD FOR 0.6 MILES, EAST FOR 0.2 MILES TO LOCATION.

Exhibit 2a



| | | |
|--------------------------------|---------------------|-----------------|
| Survey Date: 11/18/08 | Sheet 1 of 1 Sheets | |
| W.O. Number: 081118WL (Rev. A) | Drawn By: KA | Rev: A |
| Date: 12/02/08 | 081118WL | Scale: 1"=1000' |

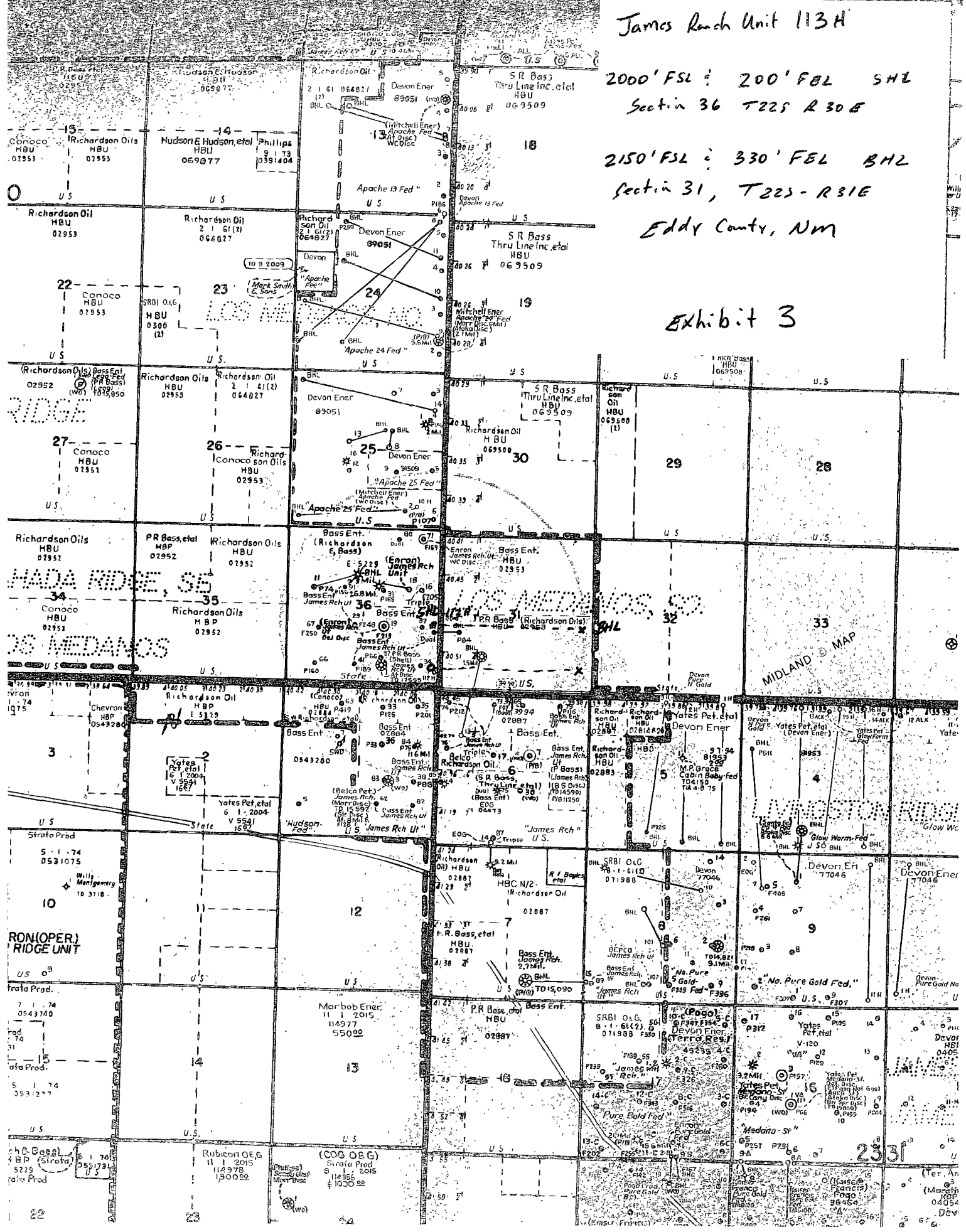
James Ranch Unit 113H

2000' FSL : 200' FBL SHL
Section 36 T22S R30E

2150' FSL : 330' FBL BHL
Section 31, T22S - R31E

Eddy County, NM

Exhibit 3



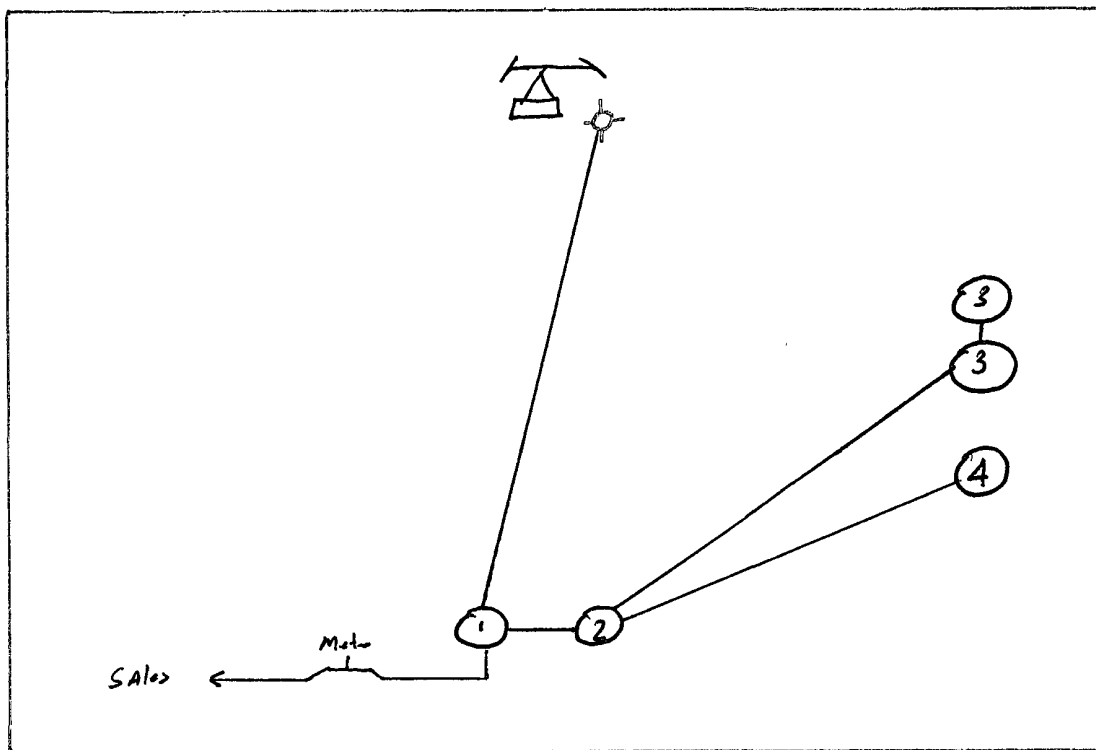
PRODUCTION FACILITY LAYOUT
Exhibit 4

N

WELL NAME: James Ranch Unit 113H

CLOSED LOOP
EQUIPMENT

Closed Loop
EQUIPMENT



1. Separator
2. Heater

3. Oil Tank
4. Water Tank

"NOT TO SCALE"

PECOS DISTRICT CONDITIONS OF APPROVAL

| | |
|-----------------------|---|
| OPERATOR'S NAME: | EOG Resources, Inc. |
| LEASE NO.: | NM02953C |
| WELL NAME & NO.: | James Ranch unit 113H |
| SURFACE HOLE FOOTAGE: | 2000' FSL & 200' FEL Section 36-T22S-R30E |
| BOTTOM HOLE FOOTAGE: | 2150' FSL & 330' FEL Section 31-T22S-R31E |
| LOCATION: | Section 31, T. 22 S., 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**
 - Lesser Prairie Chicken
 - Unit Well Requirements
 - PA expansion
- ☐ **Construction**
 - Notification
 - Topsoil
 - Reserve Pit
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
 - WIPP and R-111-P potash
 - High cave/karst
- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment/Reclamation**

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)

LESSER PRAIRIE-CHICKENS

No surface use is allowed during the following time periods; unless otherwise specified, this stipulation does not apply to operation and maintenance of production facilities.

For the purpose of: Protecting Lesser Prairie-Chickens:

Oil and gas activities, including 3-D geophysical exploration and drilling, will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th, annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

*Note: Due to the location occurring in a Lesser Prairie-Chicken Habitat Evaluation Area (HEA), as described in the 2008 Special Status Species Resource Management Plan Amendment, **non-emergency exceptions to this condition-of-approval will not be granted.**

Unit Well Requirements

Well to be turned over to unit operator upon completion. Unit operator is to file all sundries and completion report for the well. Unit operator to report well production.

PA Expansion

An amendment will be necessary for the PA in this area as this well bore has 50% within an existing PA and 50% outside the PA.

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 (575) 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 to be stripped is approximately 8 inches in depth. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

C. RESERVE PITS

Tanks are required for drilling operations: No Pits.

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

D. 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 (575) 234-5972.

E. 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.

F. 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

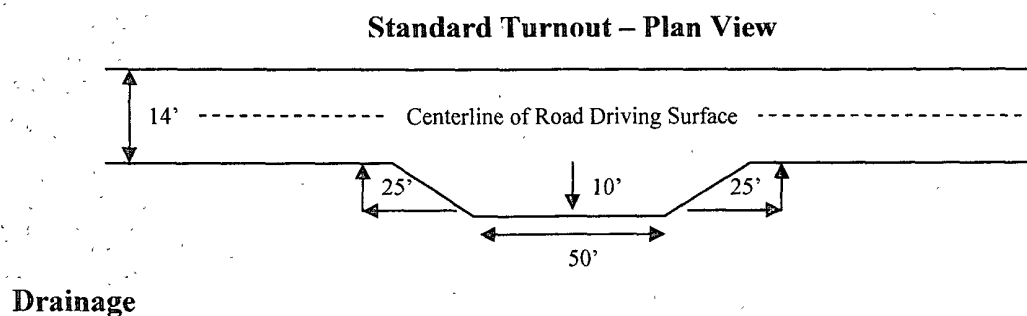
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

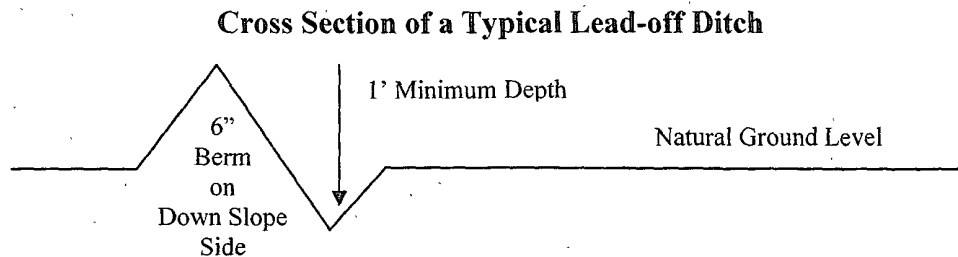
Turnouts

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:



Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outslowing 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.



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:

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

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

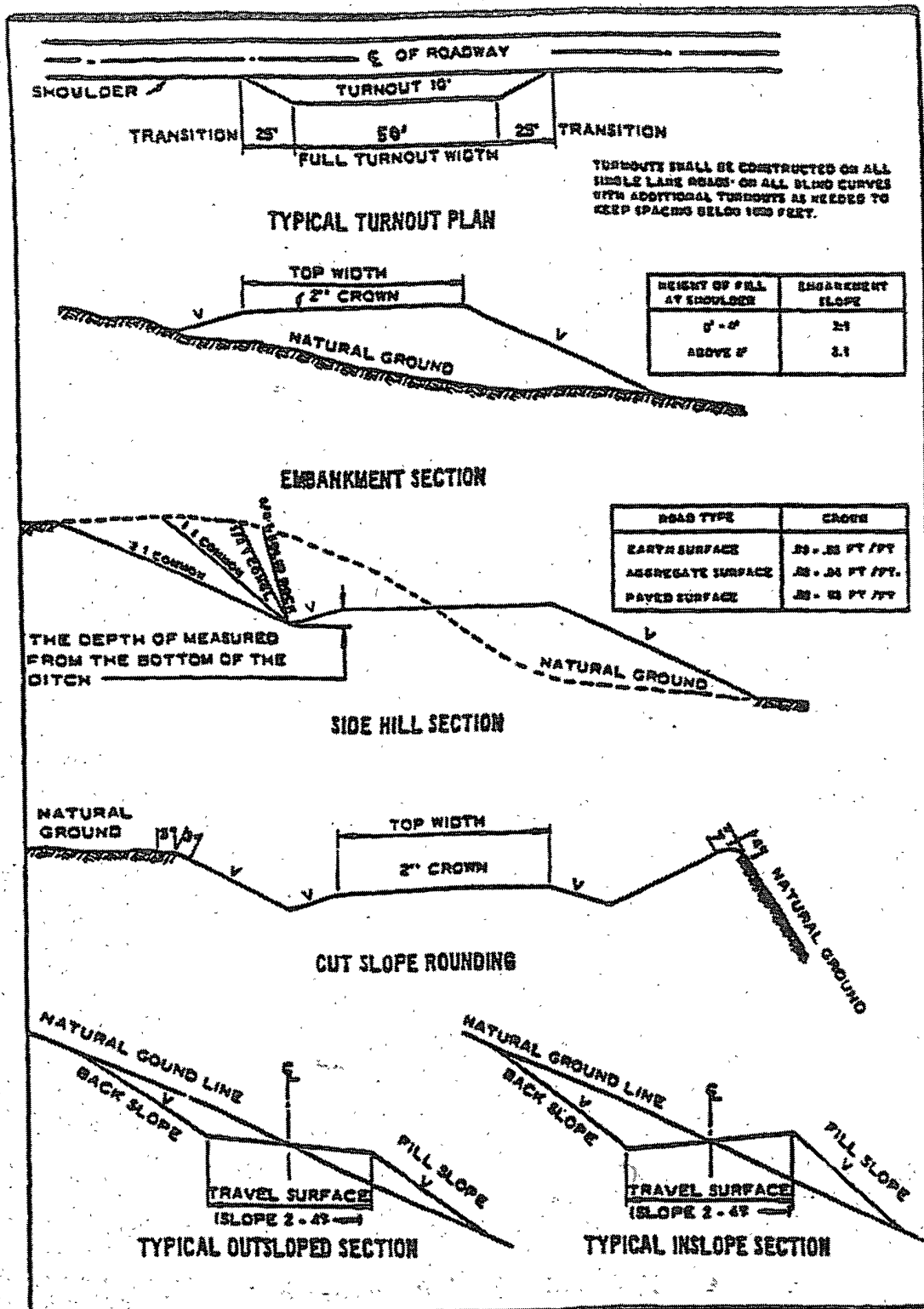
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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. 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 the area, 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.
4. Gamma-Ray/Neutron logs shall be run from the base of the Salado formation to the surface. The logs shall be run at a speed which allows the logs to be legible and no faster than manufacturer of the logging tools recommended speed. (R-111-P area only)

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

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

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 for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

R-111-P potash and WIPP requirements.

High cave/karst

Possible water flows in the Salado Group and Castile formation.

Possible lost circulation and water flows in the Delaware.

1. The 13-3/8 inch surface casing shall be set at approximately 650 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - 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 is to include the lead cement slurry.**
 - 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 9-5/8 inch intermediate casing is:
 - ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash and cave/karst concerns.

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

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

3. 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. **Additional cement will be required to circulate the cement.**

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.

5. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8"** intermediate casing shoe shall be **5000 (5M)** psi.

4. 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.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WIPP Requirements

The proposed well is located within 330' of the WIPP Land Withdrawal Area boundary. As a result, EOG Resources, Inc. is required to submit daily logs and deviation survey information to the Department of Energy per requirements of the Joint Powers Agreement.

EOG Resources, Inc. must ensure that the well pad or other support structures do not encroach on the WIPP Land Withdrawal Area and that no excavation, stockpiling, storage of equipment, or storage of chemicals takes place on the Land Withdrawal Area unless there is an approved Land Use Request from the WIPP Land Management Coordinator.

EOG Resources, Inc. must not drill across the west line of Section 31, from west to east, within 6000 feet of the ground surface.

Information from this well will be included in the Quarterly Drilling Report. Information will also be provided to the New Mexico Oil Conservation Division after drilling activities have been completed. Any future entry into the well for purposes of completing additional drilling will require supplemental information.

EOG Resources, Inc. can email the required information to Ms. Susan McCauslin at susan.mccauslin@wipp.ws or fax to her attention at 575-234-6003.

WWI 012609

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

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.

The 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 for LPC Sand/Shinnery 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 no 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 by the authorized officer.

Seed will be planted using a drill equipped with a 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 (smaller/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 Bristlegrass | 5lbs/A |
| Sand Bluestem | 5lbs/A |
| Little Bluestem | 3lbs/A |
| Big Bluestem | 6lbs/A |
| Plains Coreopsis | 2lbs/A |
| Sand Dropseed | 1lbs/A |

**Four-winged Saltbush 5lbs/A

* This can be used around well pads and other areas where caliche cannot be removed.

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = 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.



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Carlsbad Field Office
620 E. Greene St.
Carlsbad, NM 88220-6292



3160 (080)
NMNM-02953C

December 29, 2008

Department of Energy
Waste Isolation Pilot Plant
Attn: Ms. Susan McCauslin
P.O. Box 3090
Carlsbad, NM 88221

Dear Ms. McCauslin:

Enclosed for your review, please find attached an "Application for Permit to Drill" (APD) for one well proposed by EOG Resources, Inc, which is within the WIPP site boundary. This APD was received on December 24, 2008.

This well will be drilled horizontally from the following proposed location:

James Ranch Unit 113H,
Surface Hole located 2000' FSL & 200' FEL, Section 36, T. 22 S., R. 30 E.,
and Bottom Hole located 2150' FSL & 330' FEL, Section 31, T. 22 S., R. 31 E.,
Eddy County. The proposed total depth is 12,172 feet in the Delaware
Formation.

This is anticipated to be an oil well completion.

The well location is within the WIPP boundary, therefore if we do not hear from your office within 15 days from receipt of this letter we will process the APD with only our standard Conditions of Approval.

Please contact Duncan Whitlock at (505) 234-5926 or at the letterhead address if you have any questions or concerns about these wells or any well in the proximity of the WIPP site.

Sincerely,

James Stovall
Field Manager

NM (513, Minerals)