Carlsbad Field Office
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Form 3160-3
(June 2015)

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMLC0029338B

6. If Indian, Allotee or Tribe Name

1a. Type of work: [✓] DRILL [ ] REENTER
1b. Type of Well: [✓] Oil Well [ ] Gas Well [ ] Other
1c. Type of Completion: [ ] Hydraulic Fracturing [✓] Single Zone [ ] Multiple Zone

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.
SPOCK FEDERAL COM
4H 324979

2. Name of Operator
EOG RESOURCES INCORPORATED 7377

9. API Well No.
30-015-45725

3a. Address
1111 Bagby Sky Lobby2 Houston TX 77002

3b. Phone No. *(include area code)*
(713)651-7000

10. Field and Pool, or Exploratory
LOCO HILLS / GLORIETA YESO

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface SWNW / 2129 FNL / 572 FWL / LAT 32.8504332 / LONG -103.932125
At proposed prod. zone SENE / 2112 FNL / 100 FEL / LAT 32.8504415 / LONG -103.917122

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 12 / T17S / R30E / NMP

14. Distance in miles and direction from nearest town or post office*

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)
352 feet

16. No of acres in lease
160

17. Spacing Unit dedicated to this well
240

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
250 feet

19. Proposed Depth
5365 feet / 9882 feet

20. BLM/BIA Bond No. in file
FED: NM2308

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3747 feet

22. Approximate date work will start*
01/15/2019

23. Estimated duration
60 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

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 requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Tina Huerta / Ph: (575)748-4168	09/11/2018
Title: Regulatory Specialist		
Approved by *(Signature)* (Electronic Submission)	Name *(Printed/Typed)* Cody Layton / Ph: (575)234-5959	Date 01/24/2019
Title: Assistant Field Manager Lands & Minerals	Office: CARLSBAD	

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.

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.

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 01/24/2019

RWP 2-14-19

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM I: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the wen, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionany drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

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

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

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

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

The BLM conects this information to anow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

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Additional Operator Remarks

Location of Well

1. SHL: SWNW / 2129 FNL / 572 FWL / TWSP: 17S / RANGE: 30E / SECTION: 12 / LAT: 32.8504332 / LONG: -103.932125 (TVD: 0 feet, MD: 0 feet)
   PPP: SENW / 2112 FNL / 1420 FWL / TWSP: 17S / RANGE: 30E / SECTION: 12 / LAT: 32.8504734 / LONG: -103.9293632 (TVD: 5340 feet, MD: 6123 feet)
   BHL: SENE / 2112 FNL / 100 FEL / TWSP: 17S / RANGE: 30E / SECTION: 12 / LAT: 32.8504415 / LONG: -103.917122 (TVD: 5365 feet, MD: 9882 feet)

BLM Point of Contact

Name: Katrina Ponder
Title: Geologist
Phone: 5752345969
Email: kponder@blm.gov

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**EOG Resources Incorporated**
LEASE NO.:	**NMLC0029338B**
WELL NAME & NO.:	**Spock Federal Com 4H**
SURFACE HOLE FOOTAGE:	**2129'/N & 572'/W**
BOTTOM HOLE FOOTAGE	**2112'/N & 100'/E**
LOCATION:	**Section 12, T.17 S., R.30 E., NMPM**
COUNTY:	**Eddy County, New Mexico**

COA

H2S	◉ Yes	○ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	○ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP

A. Hydrogen Sulfide

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Grayburg** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **9-5/8** inch surface casing shall be set at approximately **400** 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 surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **7 x 5 ½** inch intermediate casing is:
   - Cement to surface. If cement does not circulate see B.1.a, c-d above.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ Chaves and Roosevelt Counties
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
During office hours call (575) 627-0272.
After office hours call (575)

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

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

1. 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.
   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).

b. When the operator proposes to set surface casing with Spudder Rig
   - Notify the BLM when moving in and removing the Spudder Rig.
   - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
   - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. 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.

3. The record of the drilling rate along with the GR/N well log (one log per well pad is acceptable) run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. 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.

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

B. 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. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
c. Manufacturer representative shall install the test plug for the initial BOP test.
d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

   a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

   b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

   c. The tests shall be done by an independent service company utilizing a test plug. The results of the test shall be reported to the appropriate BLM office.

   d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

   e. 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.

f. 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. This test shall be performed prior to the test at full stack pressure.

g. 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.

C. 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.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

Waste Minimization Plan (WMP)

In the interest of resource development, submission of additional well gas capture development plan information is deferred but may be required by the BLM Authorized Officer at a later date.

ZS 011419

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	EOG Resources Incorporated
LEASE NO.:	NMLC0029338B
WELL NAME & NO.:	Spock Federal Com 4H
SURFACE HOLE FOOTAGE:	2129'/N & 572'/W
BOTTOM HOLE FOOTAGE	2112'/N & 100'/E
LOCATION:	Section 12, T.17 S., R.30 E., NMPM
COUNTY:	Eddy County, New Mexico

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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.

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)

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken: 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, 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 feet from the source of the noise.

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

Timing Limitation Exceptions:
The Carlsbad Field Office will publish an annual map of where the LPC timing and noise stipulations and conditions of approval (Limitations) will apply for the identified year (between March 1 and June 15) based on the latest survey information. The LPC Timing Area map will identify areas which are Habitat Areas (HA), Isolated Population Area (IPA), and Primary Population Area (PPA). The LPC Timing Area map will also have an area in red crosshatch. The red crosshatch area is the only area where an operator is required to submit a request for exception to the LPC Limitations. If an operator is operating outside the red crosshatch area, the LPC Limitations do not apply for that year and an exception to LPC Limitations is not required.

Hydrology:
The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank or 24 hour production, whichever is greater. Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

A leak detection plan will be submitted to the BLM Carlsbad Field Office for approval prior to pipeline installation. The method could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

Electric Lines: Any water erosion that may occur due to the construction of overhead electric line and during the life of the power line will be quickly corrected and proper measures will be taken to prevent future erosion.

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) 234-5909 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 strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

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

Payment shall be made to the BLM prior to removal of any federal mineral materials. 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. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. 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 twenty-five (25) 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.

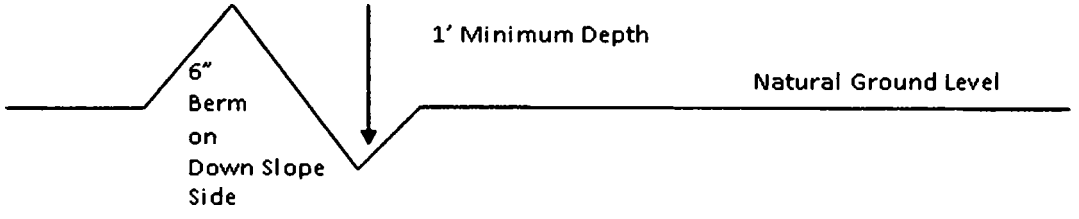
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route 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 cattle guards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted 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 fences.

Public Access

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

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

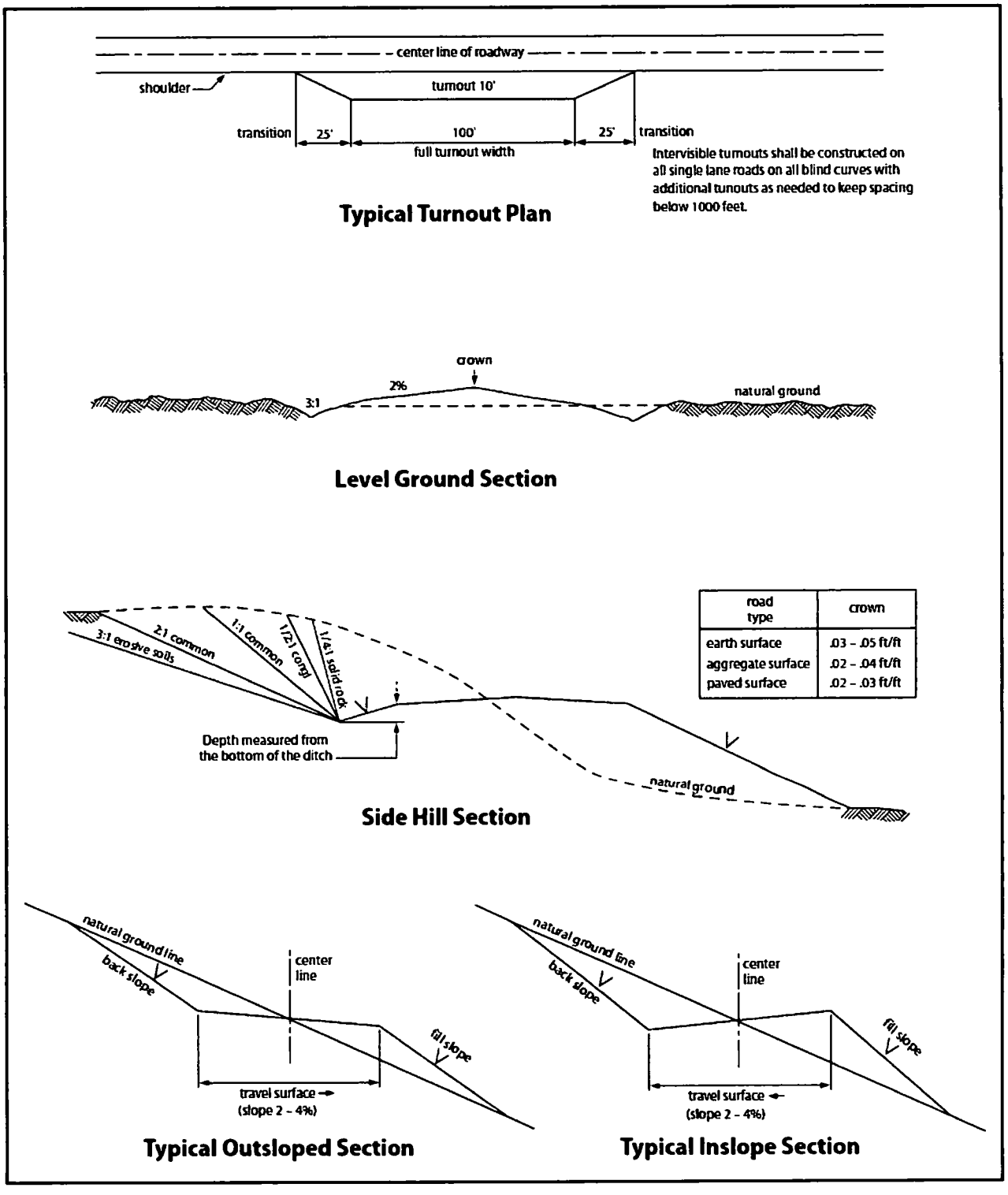


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. 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.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

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** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the Grant and attachments, including stipulations, survey plat(s) and/or map(s), shall be on location during construction. BLM personnel may request to review a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, Holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC § 2601 *et seq.* (1982) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant (*see* 40 CFR, Part 702-799 and in particular, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. Holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. § 9601, *et seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et seq.*) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way Holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way Holder on the Right-of-Way. This provision applies without

regard to whether a release is caused by Holder, its agent, or unrelated third parties.

4. Holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. Holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of Holder including, but not limited to: construction, operation, maintenance, and termination of the facility;

b. Activities of other parties including, but not limited to:
   (1) Land clearing
   (2) Earth-disturbing and earth-moving work
   (3) Blasting
   (4) Vandalism and sabotage;

c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of Holder, regardless of fault. Upon failure of Holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he/she deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of Holder. Such action by the Authorized Officer shall not relieve Holder of any responsibility as provided herein.

6. All construction and maintenance activity shall be confined to the authorized right-of-way width of **20** feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline shall be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline shall be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity shall be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation shall be allowed unless approved in

writing by the Authorized Officer.

8. Holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline shall be "snaked" around hummocks and dunes rather than suspended across these features.

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder 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 will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible

for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

16. 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, powerline 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.

17. Surface pipelines shall be less than or equal to 4 inches and a working pressure below 125 psi.

18. Special Stipulations:

a. **Lesser Prairie-Chicken:** Oil and gas activities 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 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. Normal vehicle use on existing roads will not be restricted.

VIII. 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.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation 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 that is free of contaminants 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.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

IX. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture for LPC Sand/Shinnery Sites

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 shall be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed shall be either certified or registered seed. The seed container shall 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). 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. Seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may 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:

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Operator Certification Data Report

01/31/2019

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 which currently 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.

NAME: Tina Huerta **Signed on:** 08/06/2018

Title: Regulatory Specialist

Street Address: 104 SOUTH FOURTH STREET

City: Artesia **State:** NM **Zip:** 88210

Phone: (575)748-4168

Email address: tina_huerta@eogresources.com

Field Representative

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Application Data Report

01/31/2019

APD ID: 10400032829 **Submission Date:** 09/11/2018

Operator Name: EOG RESOURCES INCORPORATED

Well Name: SPOCK FEDERAL COM **Well Number:** 4H

Well Type: OIL WELL **Well Work Type:** Drill

Show Final Text

Section 1 - General

APD ID: 10400032829 **Tie to previous NOS?** **Submission Date:** 09/11/2018

BLM Office: CARLSBAD **User:** Tina Huerta **Title:** Regulatory Specialist

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMLC0029338B **Lease Acres:** 160

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? NO **Federal or Indian agreement:**

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO **APD Operator:** EOG RESOURCES INCORPORATED

Operator letter of designation:

Operator Info

Operator Organization Name: EOG RESOURCES INCORPORATED

Operator Address: 1111 Bagby Sky Lobby2

Zip: 77002

Operator PO Box:

Operator City: Houston **State:** TX

Operator Phone: (713)651-7000

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO **Mater Development Plan name:**

Well in Master SUPO? NO **Master SUPO name:**

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: SPOCK FEDERAL COM **Well Number:** 4H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** LOCO HILLS **Pool Name:** GLORIETA YESO

Is the proposed well in an area containing other mineral resources? USEABLE WATER,OIL

Operator Name: EOG RESOURCES INCORPORATED

Well Name: SPOCK FEDERAL COM **Well Number:** 4H

Describe other minerals:

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** YES **New surface disturbance?** N

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** KIRK FEDERAL COM **Number:** 1H

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: DELINEATION

Describe sub-type:

Distance to town: **Distance to nearest well:** 250 FT **Distance to lease line:** 352 FT

Reservoir well spacing assigned acres Measurement: 240 Acres

Well plat: SpockFederalCom4HPlat_20181112084751.pdf

Well work start Date: 01/15/2019 **Duration:** 60 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number:

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	[redacted]	FNL	[redacted]	FWL	17S	30E	12	Aliquot SWNW	[redacted]	[redacted]	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0029338B	[redacted]	0	0
KOP Leg #1	[redacted]	FNL	[redacted]	FWL	17S	30E	12	Aliquot SWNW	[redacted]	[redacted]	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0029338B	[redacted]	4684	4684
PPP Leg #1	[redacted]	FNL	[redacted]	FWL	17S	30E	12	Aliquot SENW	[redacted]	[redacted]	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM002748	[redacted]	6123	5340

Drilling Plan Data Report
01/31/2019

APD ID: 10400032829 **Submission Date:** 09/11/2018

Operator Name: EOG RESOURCES INCORPORATED

Well Name: SPOCK FEDERAL COM **Well Number:** 4H

Well Type: OIL WELL **Well Work Type:** Drill

[redacted]

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	RUSTLER	3757	304	304		USEABLE WATER,OIL	No
2	GRAYBURG	1005	2752	2752		OIL	No
3	SAN ANDRES	692	3065	3065		OIL	No
4	GLORIETA	-784	4541	4541		OIL	No
5	YESO	-858	4615	4615		OIL	Yes

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M **Rating Depth:** 400

Equipment: Rotating head, remote hydraulic choke, flare line

Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP stack to the choke manifold. See attached for specs for hydrostatic test chart.
Testing Procedure: The minimum blowout preventer equipment (BOPE) attached will consist of mud cross and double ram-type (3000 psi WP) preventer and an annular preventer (3000 psi WP). Both units will be hydraulically operated and the ram-type will be equipped with blind rams on bottom and drill pipe rams on top. All BOPE will be tested in accordance with Onshore Order No. 2. Before drilling out the surface casing, the ram-type BOP and accessory equipment will be tested to 3000/250 psig and the annular preventer to 1500/250 psig. The surface casing will be tested to 1500 psi for 30 minutes. Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A hydraulically operated choke will be installed prior to drilling out of the surface casing shoe.

Choke Diagram Attachment:

3MChokeManifoldDiagram_20180806142044.pdf

BOP Diagram Attachment:

3000BOPEXHIBIT1_20180806142055.pdf

Operator Name: EOG RESOURCES INCORPORATED

Well Name: SPOCK FEDERAL COM **Well Number:** 4H

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	12.25	9.625	NEW	API	N	0	400	0	400			400	J-55	36	LTC	1.125	1.25	BUOY	1.8	BUOY	1.6
2	PRODUCTION	8.75	7.0	NEW	API	N	0	5426	0	5426			5426	L-80	29	BUTT	1.125	1.25	BUOY	1.8	BUOY	1.6
3	PRODUCTION	8.75	5.5	NEW	API	N	5426	9882	5426	9882			4456	L-80	17	BUTT	1.125	1.25	BUOY	1.8	BUOY	1.6

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

SpockFederalCom4HBLMPlan_20180821153655.pdf

Operator Name: EOG RESOURCES INCORPORATED

Well Name: SPOCK FEDERAL COM **Well Number:** 4H

Casing Attachments

Casing ID: 2 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

SpockFederalCom4HBLMPlan_20180821153714.pdf

Casing ID: 3 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

SpockFederalCom4HBLMPlan_20180821153725.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	400	190	1.34	1.34	45	100	Class C	Calcium Chloride
PRODUCTION	Lead		0	5426	450	2.47	11.9	198	35	Class 50/50 Poz C	BWOW, Salt, Bentonite Gel, Anti Settling Agent, Kolseal, Celloflake, Defoamer

Operator Name: EOG RESOURCES INCORPORATED

Well Name: SPOCK FEDERAL COM **Well Number:** 4H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Lead		5426	9882	1030	1.48	13	271	35	Class PVL	BWOW, Salt, Expanding Cement, Fluid Loss, Anti Settling Agent, Defoamer

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: Adequate Barite to raise mud weight in system to 10 ppg

Describe the mud monitoring system utilized: Pason Flow Sensors and PVT Monitor Systems

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
400	9882	WATER-BASED MUD	9.2	10.2							
0	400	WATER-BASED MUD	8.6	8.8							

Operator Name: EOG RESOURCES INCORPORATED

Well Name: SPOCK FEDERAL COM **Well Number:** 4H

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

No logs planned for this well

List of open and cased hole logs run in the well:

DS

Coring operation description for the well:

No coring planned

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 2846 **Anticipated Surface Pressure:** 1665.7

Anticipated Bottom Hole Temperature(F): 105

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

SpockFederalCom4HH2SPlanSummary_20180806142831.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

SpockFederalCom4HPlot_20180821154444.pdf
SpockFederalCom4HSurveys_20180821154552.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

FlexHoseAtt_20180806153045.pdf
WellheadSystemProd_20180806153046.pdf
WellheadSystemSurfProd_20180806153046.pdf
Spock4HGasCapture_20180814085611.pdf
SpockFederalComMaps_20180814093210.pdf
SpockWellsMiscMap_20180814093232.pdf
SpockFederalCom4HOtherAtt_20180815163821.pdf
SpockFederalComWellsMiscMaps_20180815164214.pdf
SpockFederalCom4HSUPO_20180816122201.pdf
SpockFederalComWellsWaterMap_20180816122215.pdf

Operator Name: EOG RESOURCES INCORPORATED

Well Name: SPOCK FEDERAL COM **Well Number:** 4H

Other Variance attachment:

EXIBIT 1a
EOG Resources, Inc.
3M Choke Manifold Equipment

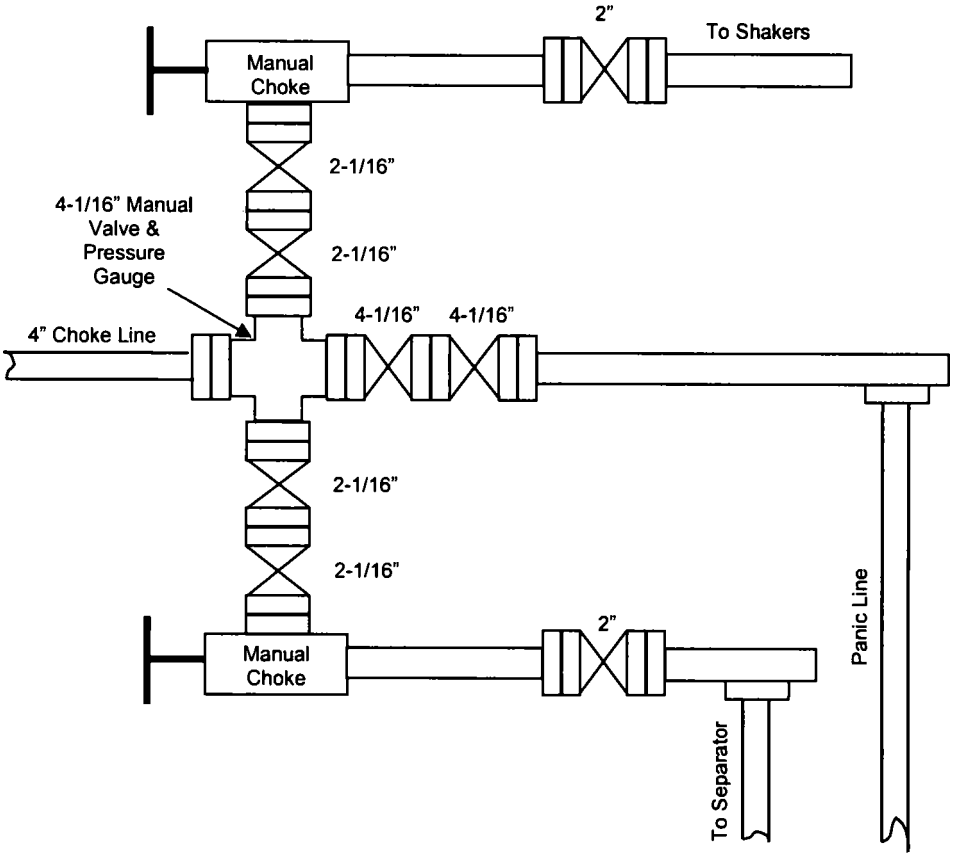
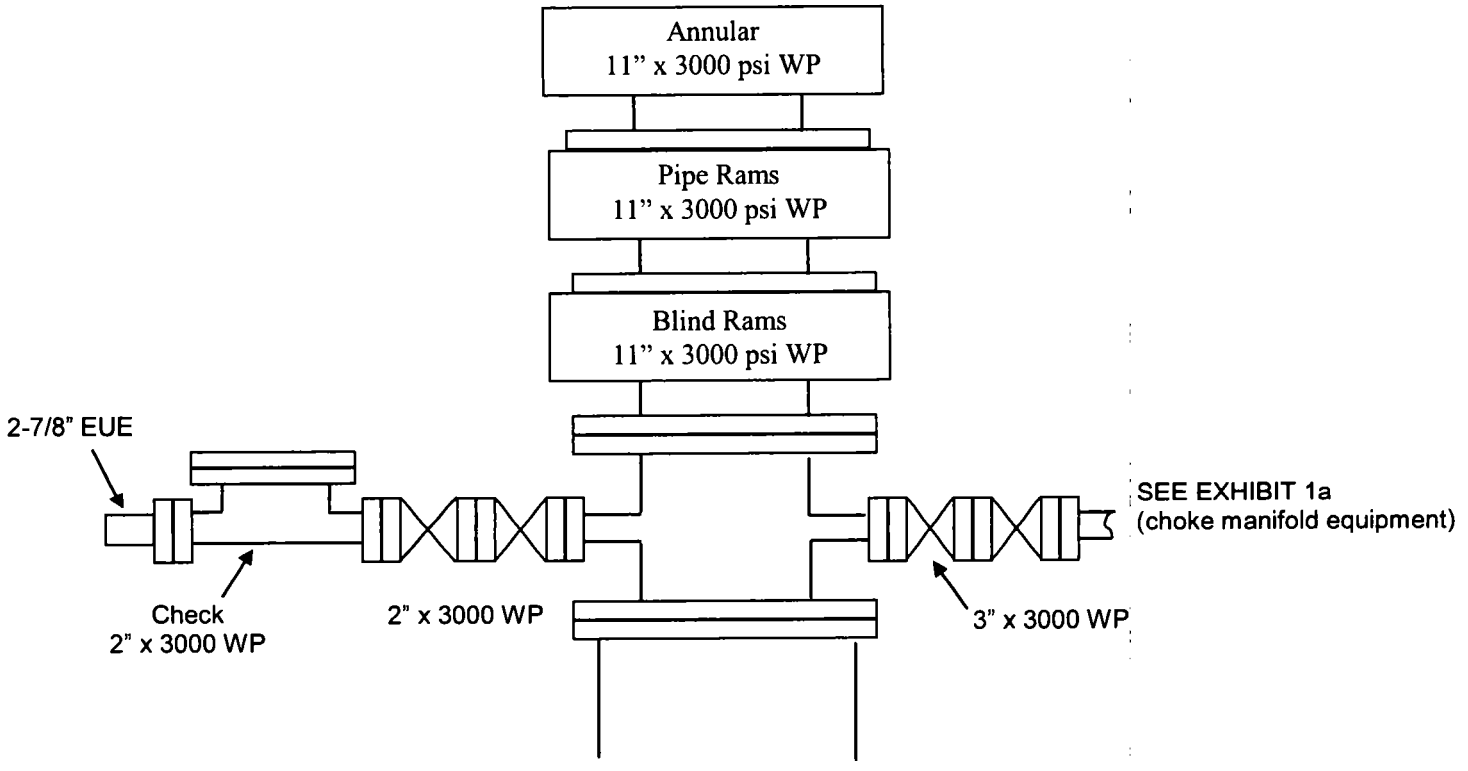


EXHIBIT 1

EOG Resources
3000 PSI BOPE



EOG RESOURCES, INC.
SPOCK FEDERAL COM NO. 4H

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

Rustler	304'
Tansill	1,306'
Yates	1,473'
Seven Rivers	1,741'
Queen	2,355'
Grayburg	2,752'
San Andres	3,065'
Glorieta	4,541'
Yeso	4,615'
TD	9,882'

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

Rustler	304'	Fresh Water, Oil
Grayburg	2,752'	Oil
San Andres	3,065'	Oil
Glorieta	4,541'	Oil
Yeso	4,615'	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 9.625" casing at 400' and circulating cement back to surface.

4. CASING PROGRAM - NEW

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF_{min} Collapse	DF_{min} Burst	DF_{min} Tension
12.25"	0'-400'	9.625"	36#	J-55	LTC	1.125	1.25	1.60
8.75"	0' –5426 '	7"	29#	L-80	BTC	1.125	1.25	1.60
8.75"	5426'-9882'	5 ½"	17#	L-80	BTC	1.125	1.25	1.60

EOG RESOURCES, INC.
SPOCK FEDERAL COM NO. 4H

Cementing Program:
Note: Cement volumes based on bit size plus at least 100% excess on surface and 35% excess in production string.

Depth	No. Sacks	Wt. lb/gal	Yld Ft^3/ft	Volume Ft^3	Slurry Description
400'	190	1.34	1.34	45	Tail: Class 'C' + 2%PF1(Calcium Chloride) (100% excess)
9882'	450	11.9	2.47	198	Lead: Class 50/50 PozC + 5%PF44(BWOW)(Salt) + 10% PF20(Bentonite Gel) +.2%PF153(Anti Settling Agent(+ 3#/sk OF42(Kolseal) + 0.125#/sk PF29 (celloflake) + 0.4#/sk PF45 (Defoamer) (TOC @ Surface) 35% Excess
	1030	13	1.48	271	Tail: Class PVL + 1.3% PF44(BWOW)(Salt) + 5% PF174 (Expanding Cement) + 0.5% PF606 (Fluid Loss) + 0.1% PF153 (Anti Settling Agent) + 0.4#/sk PF45 (Defoamer) 35% Excess

5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

A variance is requested to use a co-flex line between the BOP and choke manifold, dependent on rig selection (instead of using a steel line). Certification and specs are attached.

The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a double rams with blind rams & pipe rams preventer (3,000 psi WP) and an annular preventer (3,000-psi WP). Both units will be hydraulically operated and the ram-type will be equipped with blind rams on bottom and drill pipe rams on top. All BOPE will be tested in accordance with Onshore Oil & Gas order No. 2.

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 3,000/ 250 psig and the annular preventer to 1,500/ 250 psig. The surface casing will be tested to 1200 psi for 30 minutes.

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

A hydraulically operated choke will be installed prior to drilling out of the surface casing shoe.

6. TYPES AND CHARACTERISTICS OF THE PROPOSED MUD SYSTEM:

During this procedure we plan to use a Closed-Loop System and haul contents to the required disposal.

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

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 400'	Fresh Water	8.6-8.8	28-32	N/c
400' – 9882' Vertical/Curve/Lateral	Brine/Cut Brine	9.2-10.2	32-34	N/c

The highest mud weight needed to balance formation is expected to be 10.2 ppg. In order to maintain hole stability, mud weights up to 10.2 ppg may be utilized.

An electronic pit volume totalizer (PVT) will be utilized on the circulating system, to monitor pit volume, flow rate, pump pressure and stroke rate.

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.

(C) H_2S monitoring and detection equipment will be utilized from surface casing point to TD.

8. LOGGING, TESTING AND CORING PROGRAM:

Open-hole logs are not planned for this well.

GR–Directional surveys will be run in open hole during drilling phase of operations.

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

The estimated bottom-hole temperature (BHT) at TD is 105 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 2846 psig (based on 10.2 ppg MW). Hydrogen sulfide has been encountered, reported or are known to exist at this depth in this area. Severe loss circulation is expected from spud to surface casing point.

10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

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

(A) EOG Resources requests the option to contract a Surface Rig to drill, set surface casing, and cement on the subject well. After WOC 8 hours or 500 psi compressive strength (whichever is greater), the Surface Rig will move off so the wellhead can be installed. A welder will cut the casing to the proper height and weld on the wellhead (both "A" and "B" sections). The weld will be tested to 1000 psi. All valves will be closed and a wellhead cap will be installed (diagram attached). If the timing between rigs is such that EOG Resources would not be able to preset the surface, the Primary Rig will MIRU and drill the well in its entirety per the APD.

11. WELLHEAD:

A multi-bowl wellhead system will be utilized.

After running the 9-5/8" surface casing, a 9 5/8" BOP/BOPE system with a minimum working pressure of 3,000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 3,000 psi pressure test. This pressure test will be repeated at least every 30 days, as per Onshore Order No. 2

The minimum working pressure of the BOP and related BOPE required for drilling below the surface casing shoe shall be 3,000 psi.

The multi-bowl wellhead will be installed by vendor's representative(s). A copy of the installation instructions for the Stream Flo HES Multi-Bowl WH system has been sent to the NM BLM office in Carlsbad, NM.

The wellhead will be installed by a third party welder while being monitored by WH vendor's representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

The surface casing string will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.

EOG RESOURCES, INC.
SPOCK FEDERAL COM NO. 4H

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Permian

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EOG RESOURCES, INC.
SPOCK FEDERAL COM NO. 4H

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Note: Cement volumes based on bit size plus at least 100% excess on surface and 35% excess in production string.

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EOG RESOURCES, INC.
SPOCK FEDERAL COM NO. 4H

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EOG RESOURCES, INC.
Spock Federal Com 4H

Hydrogen Sulfide Plan Summary

A. All personnel shall receive proper H2S training in accordance with Onshore Order III.C.3.a.

B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.

C. Required Emergency Equipment:

- Well control equipment
  a. Flare line 150' from wellhead to be ignited by flare gun.
  b. Choke manifold with a remotely operated choke.
  c. Mud/gas separator

- Protective equipment for essential personnel.

  Breathing apparatus:
  a. Rescue Packs (SCBA) — 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
  b. Work/Escape packs —4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity.
  c. Emergency Escape Packs —4 packs shall be stored in the doghouse for emergency evacuation.

  Auxiliary Rescue Equipment:
  a. Stretcher
  b. Two OSHA full body harness
  c. 100 ft 5/8 inch OSHA approved rope
  d. 1-20# class ABC fire extinguisher

- H2S detection and monitoring equipment:
  The stationary detector with three sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: Rig floor / Bell nipple / End of flow line or where well bore fluid is being discharged.
  (Gas sample tubes will be stored in the safety trailer)

- Visual warning systems.
  a. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
  b. A colored condition flag will be on display, reflecting the current condition at the site at the time.
  c. Two wind socks will be placed in strategic locations, visible from all angles.

EOG RESOURCES, INC.
Spock Federal Com 4H

- Mud program:
  The mud program has been designed to minimize the volume of H2S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H2S bearing zones.

- Metallurgy:
  All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.

- Communication:
  Communication will be via cell phones and land lines where available.

EOG RESOURCES, INC.
Spock Federal Com 4H

Emergency Assistance Telephone List

PUBLIC SAFETY:	**911 or**
Eddy County Sheriff's Department	(575) 887-7551
Fire Department:	
Carlsbad	(575) 885-3125
Artesia	(575) 746-5050
Hospitals:	
Carlsbad	(575) 887-4121
Artesia	(575) 748-3333
Hobbs	(575) 392-1979
Dept. of Public Safety/Carlsbad	(575) 748-9718
Highway Department	(575) 885-3281
New Mexico Oil Conservation	(575) 476-3440
U.S. Dept. of Labor	(575) 887-1174

EOG Resources, Inc.	
EOG / Artesia	Office (575) 748-1471

Company Drilling Consultants:	
Brent Patterson	Cell (575) 365-7032

Drilling Engineer	
Jeremiah Mullen	Office (575) 748-4378
	Cell (575) 703-5467

Drilling Manager	
Tim Bussell	Office (575) 748-4221
	Cell (575) 365-5695

Safety	
Brian Chandler (HSE Manager)	Office (432) 686-3695
	Cell (817) 239-0251

Project: Eddy County (NAD83)
Site: Spock
Well: Spock Federal Com #4H
Wellbore: Lateral
Design: Plan #1
Ground Elevation 3757.000
Northing 673405.00
Easting 664326.00
KB @ 3775.000usft (Planning Rig)

PROJECT DETAILS: Eddy County (NAD83)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

eog resources

T G M

Azimuths to Grid North
True North: -0.22°
Magnetic North: 6.83°

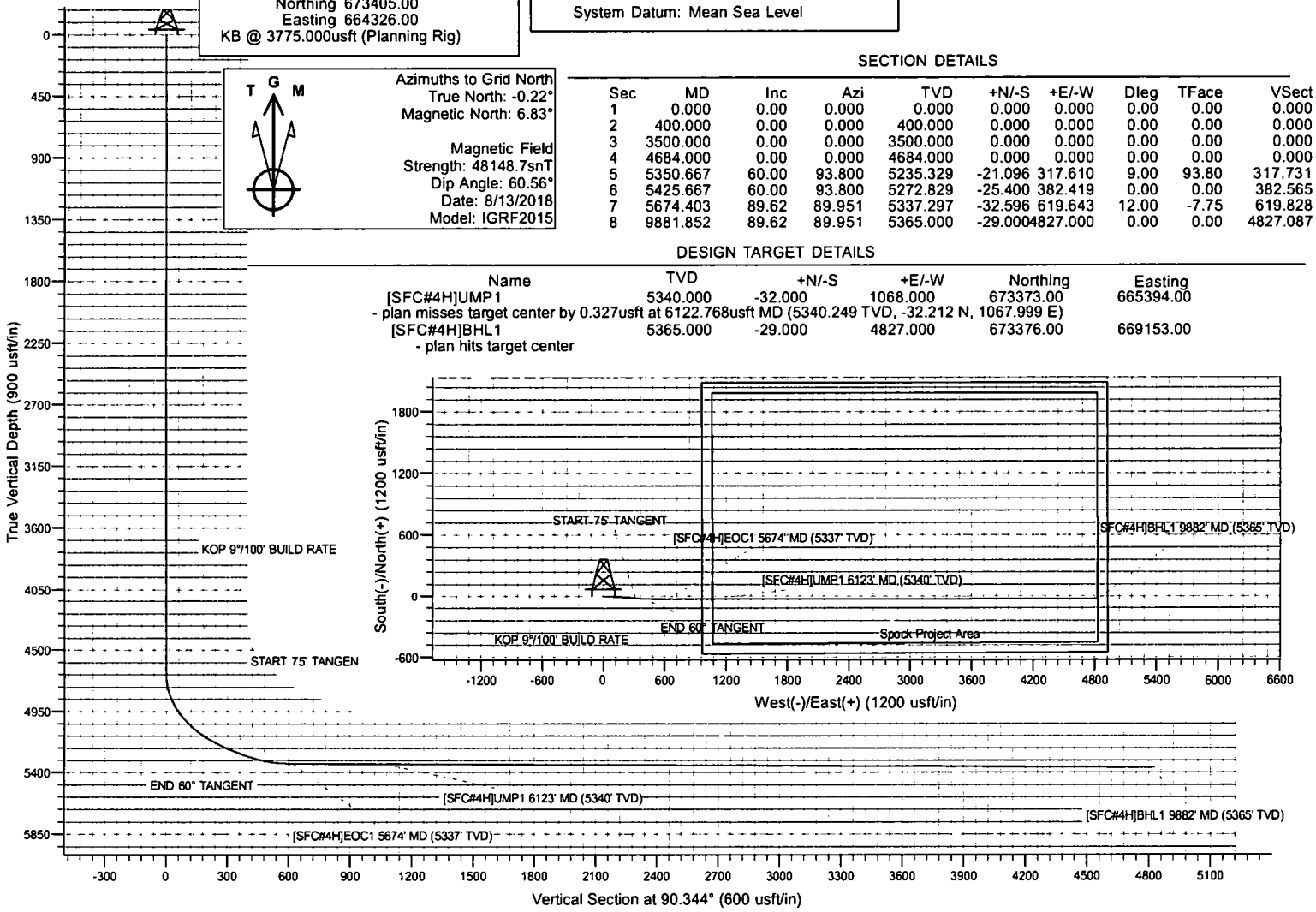
Magnetic Field
Strength: 48148.7snT
Dip Angle: 60.56°
Date: 8/13/2018
Model: IGRF2015

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.000	0.00	0.000	0.000	0.000	0.000	0.00	0.00	0.000
2	400.000	0.00	0.000	400.000	0.000	0.000	0.00	0.00	0.000
3	3500.000	0.00	0.000	3500.000	0.000	0.000	0.00	0.00	0.000
4	4684.000	0.00	0.000	4684.000	0.000	0.000	0.00	0.00	0.000
5	5350.667	60.00	93.800	5235.329	-21.096	317.610	9.00	93.80	317.731
6	5425.667	60.00	93.800	5272.829	-25.400	382.419	0.00	0.00	382.565
7	5674.403	89.62	89.951	5337.297	-32.596	619.643	12.00	-7.75	619.828
8	9881.852	89.62	89.951	5365.000	-29.000	4827.000	0.00	0.00	4827.087

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
[SFC#4H]UMP1	5340.000	-32.000	1068.000	673373.00	665394.00
- plan misses target center by 0.327usft at 6122.768usft MD (5340.249 TVD, -32.212 N, 1067.999 E)					
[SFC#4H]BHL1	5365.000	-29.000	4827.000	673376.00	669153.00
- plan hits target center					



eog resources

EOG Resources - Artesia

Eddy County (NAD83)
Spock
Spock Federal Com #4H

Lateral

Plan: Plan #1

Standard Planning Report

17 August, 2018

Database:	EDM 5000.14	**Local Co-ordinate Reference:**	Well Spock Federal Com #4H
Company:	EOG Resources - Artesia	**TVD Reference:**	KB @ 3775.000usft (Planning Rig)
Project:	Eddy County (NAD83)	**MD Reference:**	KB @ 3775.000usft (Planning Rig)
Site:	Spock	**North Reference:**	Grid
Well:	Spock Federal Com #4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

Project	Eddy County (NAD83)		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Spock				
Site Position:		**Northing:**	673,405.00 usft	**Latitude:**	32° 51' 2.064 N
From:	Map	**Easting:**	664,326.00 usft	**Longitude:**	103° 55' 58.228 W
Position Uncertainty:	0.000 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.22 °

Well	Spock Federal Com #4H					
Well Position	**+N/-S**	0.000 usft	**Northing:**	673,405.00 usft	**Latitude:**	32° 51' 2.064 N
	+E/-W	0.000 usft	**Easting:**	664,326.00 usft	**Longitude:**	103° 55' 58.228 W
Position Uncertainty		0.000 usft	**Wellhead Elevation:**	3,775.000 usft	**Ground Level:**	3,757.000 usft

Wellbore	Lateral				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	8/13/2018	7.04	60.56	48,148.71054440

Design	Plan #1				
Audit Notes:					
Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.000
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.000	0.000	0.000	90.344	

Plan Survey Tool Program **Date** 8/13/2018

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.000	9,881.852	Plan #1 (Lateral)	MWD	
				OWSG MWD - Standard	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.000	0.00	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00	
400.000	0.00	0.000	400.000	0.000	0.000	0.00	0.00	0.00	0.00	
3,500.000	0.00	0.000	3,500.000	0.000	0.000	0.00	0.00	0.00	0.00	
4,684.000	0.00	0.000	4,684.000	0.000	0.000	0.00	0.00	0.00	0.00	
5,350.666	60.00	93.800	5,235.329	-21.096	317.610	9.00	9.00	0.00	93.80	
5,425.666	60.00	93.800	5,272.829	-25.400	382.419	0.00	0.00	0.00	0.00	
5,674.403	89.62	89.951	5,337.296	-32.596	619.643	12.00	11.91	-1.55	-7.75	
9,881.852	89.62	89.951	5,365.000	-29.000	4,827.000	0.00	0.00	0.00	0.00	[SFC#4H]BHL1

Database:	EDM 5000.14	**Local Co-ordinate Reference:**	Well Spock Federal Com #4H
Company:	EOG Resources - Artesia	**TVD Reference:**	KB @ 3775.000usft (Planning Rig)
Project:	Eddy County (NAD83)	**MD Reference:**	KB @ 3775.000usft (Planning Rig)
Site:	Spock	**North Reference:**	Grid
Well:	Spock Federal Com #4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.000	0.00	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00
100.000	0.00	0.000	100.000	0.000	0.000	0.000	0.00	0.00	0.00
200.000	0.00	0.000	200.000	0.000	0.000	0.000	0.00	0.00	0.00
300.000	0.00	0.000	300.000	0.000	0.000	0.000	0.00	0.00	0.00
400.000	0.00	0.000	400.000	0.000	0.000	0.000	0.00	0.00	0.00
500.000	0.00	0.000	500.000	0.000	0.000	0.000	0.00	0.00	0.00
600.000	0.00	0.000	600.000	0.000	0.000	0.000	0.00	0.00	0.00
700.000	0.00	0.000	700.000	0.000	0.000	0.000	0.00	0.00	0.00
800.000	0.00	0.000	800.000	0.000	0.000	0.000	0.00	0.00	0.00
900.000	0.00	0.000	900.000	0.000	0.000	0.000	0.00	0.00	0.00
1,000.000	0.00	0.000	1,000.000	0.000	0.000	0.000	0.00	0.00	0.00
1,100.000	0.00	0.000	1,100.000	0.000	0.000	0.000	0.00	0.00	0.00
1,200.000	0.00	0.000	1,200.000	0.000	0.000	0.000	0.00	0.00	0.00
1,300.000	0.00	0.000	1,300.000	0.000	0.000	0.000	0.00	0.00	0.00
1,400.000	0.00	0.000	1,400.000	0.000	0.000	0.000	0.00	0.00	0.00
1,500.000	0.00	0.000	1,500.000	0.000	0.000	0.000	0.00	0.00	0.00
1,600.000	0.00	0.000	1,600.000	0.000	0.000	0.000	0.00	0.00	0.00
1,700.000	0.00	0.000	1,700.000	0.000	0.000	0.000	0.00	0.00	0.00
1,800.000	0.00	0.000	1,800.000	0.000	0.000	0.000	0.00	0.00	0.00
1,900.000	0.00	0.000	1,900.000	0.000	0.000	0.000	0.00	0.00	0.00
2,000.000	0.00	0.000	2,000.000	0.000	0.000	0.000	0.00	0.00	0.00
2,100.000	0.00	0.000	2,100.000	0.000	0.000	0.000	0.00	0.00	0.00
2,200.000	0.00	0.000	2,200.000	0.000	0.000	0.000	0.00	0.00	0.00
2,300.000	0.00	0.000	2,300.000	0.000	0.000	0.000	0.00	0.00	0.00
2,400.000	0.00	0.000	2,400.000	0.000	0.000	0.000	0.00	0.00	0.00
2,500.000	0.00	0.000	2,500.000	0.000	0.000	0.000	0.00	0.00	0.00
2,600.000	0.00	0.000	2,600.000	0.000	0.000	0.000	0.00	0.00	0.00
2,700.000	0.00	0.000	2,700.000	0.000	0.000	0.000	0.00	0.00	0.00
2,800.000	0.00	0.000	2,800.000	0.000	0.000	0.000	0.00	0.00	0.00
2,900.000	0.00	0.000	2,900.000	0.000	0.000	0.000	0.00	0.00	0.00
3,000.000	0.00	0.000	3,000.000	0.000	0.000	0.000	0.00	0.00	0.00
3,100.000	0.00	0.000	3,100.000	0.000	0.000	0.000	0.00	0.00	0.00
3,200.000	0.00	0.000	3,200.000	0.000	0.000	0.000	0.00	0.00	0.00
3,300.000	0.00	0.000	3,300.000	0.000	0.000	0.000	0.00	0.00	0.00
3,400.000	0.00	0.000	3,400.000	0.000	0.000	0.000	0.00	0.00	0.00
3,500.000	0.00	0.000	3,500.000	0.000	0.000	0.000	0.00	0.00	0.00
3,600.000	0.00	0.000	3,600.000	0.000	0.000	0.000	0.00	0.00	0.00
3,700.000	0.00	0.000	3,700.000	0.000	0.000	0.000	0.00	0.00	0.00
3,800.000	0.00	0.000	3,800.000	0.000	0.000	0.000	0.00	0.00	0.00
3,900.000	0.00	0.000	3,900.000	0.000	0.000	0.000	0.00	0.00	0.00
4,000.000	0.00	0.000	4,000.000	0.000	0.000	0.000	0.00	0.00	0.00
4,100.000	0.00	0.000	4,100.000	0.000	0.000	0.000	0.00	0.00	0.00
4,200.000	0.00	0.000	4,200.000	0.000	0.000	0.000	0.00	0.00	0.00
4,300.000	0.00	0.000	4,300.000	0.000	0.000	0.000	0.00	0.00	0.00
4,400.000	0.00	0.000	4,400.000	0.000	0.000	0.000	0.00	0.00	0.00
4,500.000	0.00	0.000	4,500.000	0.000	0.000	0.000	0.00	0.00	0.00
4,600.000	0.00	0.000	4,600.000	0.000	0.000	0.000	0.00	0.00	0.00
4,684.000	0.00	0.000	4,684.000	0.000	0.000	0.000	0.00	0.00	0.00
KOP 9°/100' BUILD RATE									
4,700.000	1.44	93.800	4,699.998	-0.013	0.201	0.201	9.00	9.00	0.00
4,750.000	5.94	93.800	4,749.882	-0.227	3.411	3.412	9.00	9.00	0.00
4,800.000	10.44	93.800	4,799.359	-0.698	10.516	10.520	9.00	9.00	0.00
4,850.000	14.94	93.800	4,848.125	-1.426	21.473	21.481	9.00	9.00	0.00
4,900.000	19.44	93.800	4,895.879	-2.405	36.214	36.227	9.00	9.00	0.00

Database:	EDM 5000.14	**Local Co-ordinate Reference:**	Well Spock Federal Com #4H
Company:	EOG Resources - Artesia	**TVD Reference:**	KB @ 3775.000usft (Planning Rig)
Project:	Eddy County (NAD83)	**MD Reference:**	KB @ 3775.000usft (Planning Rig)
Site:	Spock	**North Reference:**	Grid
Well:	Spock Federal Com #4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,950.000	23.94	93.800	4,942.327	-3.630	54.647	54.668	9.00	9.00	0.00
5,000.000	28.44	93.800	4,987.182	-5.092	76.661	76.690	9.00	9.00	0.00
5,050.000	32.94	93.800	5,030.168	-6.783	102.118	102.157	9.00	9.00	0.00
5,100.000	37.44	93.800	5,071.020	-8.692	130.861	130.911	9.00	9.00	0.00
5,150.000	41.94	93.800	5,109.486	-10.808	162.715	162.777	9.00	9.00	0.00
5,200.000	46.44	93.800	5,145.328	-13.117	197.481	197.556	9.00	9.00	0.00
5,250.000	50.94	93.800	5,178.326	-15.605	234.946	235.036	9.00	9.00	0.00
5,300.000	55.44	93.800	5,208.277	-18.257	274.879	274.984	9.00	9.00	0.00
5,350.667	60.00	93.800	5,235.329	-21.096	317.610	317.731	9.00	9.00	0.00
START 75' TANGENT									
5,400.000	60.00	93.800	5,259.995	-23.927	360.240	360.377	0.00	0.00	0.00
5,425.667	60.00	93.800	5,272.829	-25.400	382.419	382.565	0.00	0.00	0.00
END 60° TANGENT									
5,450.000	62.89	93.358	5,284.458	-26.733	403.749	403.902	12.00	11.89	-1.82
5,475.000	65.87	92.927	5,295.266	-27.968	426.255	426.415	12.00	11.90	-1.72
5,500.000	68.84	92.515	5,304.890	-29.062	449.299	449.466	12.00	11.90	-1.65
5,525.000	71.82	92.120	5,313.303	-30.013	472.819	472.991	12.00	11.91	-1.58
5,550.000	74.80	91.738	5,320.482	-30.818	496.749	496.926	12.00	11.91	-1.53
5,575.000	77.78	91.366	5,326.407	-31.476	521.025	521.205	12.00	11.91	-1.49
5,600.000	80.76	91.003	5,331.063	-31.983	545.580	545.762	12.00	11.91	-1.45
5,625.000	83.74	90.646	5,334.436	-32.339	570.346	570.530	12.00	11.92	-1.43
5,650.000	86.71	90.293	5,336.516	-32.544	595.255	595.440	12.00	11.92	-1.41
5,674.403	89.62	89.951	5,337.296	-32.596	619.643	619.828	12.00	11.92	-1.40
[SFC#4H]EOC1 5674' MD (5337' TVD)									
5,700.000	89.62	89.951	5,337.465	-32.574	645.240	645.424	0.00	0.00	0.00
5,800.000	89.62	89.951	5,338.123	-32.488	745.237	745.419	0.00	0.00	0.00
5,900.000	89.62	89.951	5,338.782	-32.403	845.235	845.415	0.00	0.00	0.00
6,000.000	89.62	89.951	5,339.440	-32.317	945.233	945.410	0.00	0.00	0.00
6,100.000	89.62	89.951	5,340.099	-32.232	1,045.231	1,045.406	0.00	0.00	0.00
6,122.768	89.62	89.951	5,340.248	-32.212	1,067.998	1,068.173	0.00	0.00	0.00
[SFC#4H]UMP1 6123' MD (5340' TVD)									
6,200.000	89.62	89.951	5,340.757	-32.146	1,145.229	1,145.401	0.00	0.00	0.00
6,300.000	89.62	89.951	5,341.415	-32.061	1,245.226	1,245.397	0.00	0.00	0.00
6,400.000	89.62	89.951	5,342.074	-31.975	1,345.224	1,345.392	0.00	0.00	0.00
6,500.000	89.62	89.951	5,342.732	-31.890	1,445.222	1,445.387	0.00	0.00	0.00
6,600.000	89.62	89.951	5,343.391	-31.805	1,545.220	1,545.383	0.00	0.00	0.00
6,700.000	89.62	89.951	5,344.049	-31.719	1,645.218	1,645.378	0.00	0.00	0.00
6,800.000	89.62	89.951	5,344.708	-31.634	1,745.215	1,745.374	0.00	0.00	0.00
6,900.000	89.62	89.951	5,345.366	-31.548	1,845.213	1,845.369	0.00	0.00	0.00
7,000.000	89.62	89.951	5,346.025	-31.463	1,945.211	1,945.365	0.00	0.00	0.00
7,100.000	89.62	89.951	5,346.683	-31.377	2,045.209	2,045.360	0.00	0.00	0.00
7,200.000	89.62	89.951	5,347.341	-31.292	2,145.207	2,145.356	0.00	0.00	0.00
7,300.000	89.62	89.951	5,348.000	-31.206	2,245.204	2,245.351	0.00	0.00	0.00
7,400.000	89.62	89.951	5,348.658	-31.121	2,345.202	2,345.347	0.00	0.00	0.00
7,500.000	89.62	89.951	5,349.317	-31.035	2,445.200	2,445.342	0.00	0.00	0.00
7,600.000	89.62	89.951	5,349.975	-30.950	2,545.198	2,545.338	0.00	0.00	0.00
7,700.000	89.62	89.951	5,350.634	-30.865	2,645.195	2,645.333	0.00	0.00	0.00
7,800.000	89.62	89.951	5,351.292	-30.779	2,745.193	2,745.329	0.00	0.00	0.00
7,900.000	89.62	89.951	5,351.950	-30.694	2,845.191	2,845.324	0.00	0.00	0.00
8,000.000	89.62	89.951	5,352.609	-30.608	2,945.189	2,945.320	0.00	0.00	0.00
8,100.000	89.62	89.951	5,353.267	-30.523	3,045.187	3,045.315	0.00	0.00	0.00
8,200.000	89.62	89.951	5,353.926	-30.437	3,145.184	3,145.311	0.00	0.00	0.00
8,300.000	89.62	89.951	5,354.584	-30.352	3,245.182	3,245.306	0.00	0.00	0.00

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Project:	Eddy County (NAD83)	**MD Reference:**	KB @ 3775.000usft (Planning Rig)
Site:	Spock	**North Reference:**	Grid
Well:	Spock Federal Com #4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,400.000	89.62	89.951	5,355.243	-30.266	3,345.180	3,345.301	0.00	0.00	0.00
8,500.000	89.62	89.951	5,355.901	-30.181	3,445.178	3,445.297	0.00	0.00	0.00
8,600.000	89.62	89.951	5,356.560	-30.095	3,545.176	3,545.292	0.00	0.00	0.00
8,700.000	89.62	89.951	5,357.218	-30.010	3,645.173	3,645.288	0.00	0.00	0.00
8,800.000	89.62	89.951	5,357.876	-29.925	3,745.171	3,745.283	0.00	0.00	0.00
8,900.000	89.62	89.951	5,358.535	-29.839	3,845.169	3,845.279	0.00	0.00	0.00
9,000.000	89.62	89.951	5,359.193	-29.754	3,945.167	3,945.274	0.00	0.00	0.00
9,100.000	89.62	89.951	5,359.852	-29.668	4,045.165	4,045.270	0.00	0.00	0.00
9,200.000	89.62	89.951	5,360.510	-29.583	4,145.162	4,145.265	0.00	0.00	0.00
9,300.000	89.62	89.951	5,361.169	-29.497	4,245.160	4,245.261	0.00	0.00	0.00
9,400.000	89.62	89.951	5,361.827	-29.412	4,345.158	4,345.256	0.00	0.00	0.00
9,500.000	89.62	89.951	5,362.485	-29.326	4,445.156	4,445.252	0.00	0.00	0.00
9,600.000	89.62	89.951	5,363.144	-29.241	4,545.154	4,545.247	0.00	0.00	0.00
9,700.000	89.62	89.951	5,363.802	-29.155	4,645.151	4,645.243	0.00	0.00	0.00
9,800.000	89.62	89.951	5,364.461	-29.070	4,745.149	4,745.238	0.00	0.00	0.00
9,881.852	89.62	89.951	5,365.000	-29.000	4,826.999	4,827.086	0.00	0.00	0.00
[SFC#4H]BHL1 9882' MD (5365' TVD)									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
[SFC#4H]UMP1	0.00	0.000	5,340.000	-32.000	1,068.000	673,373.00	665,394.00	32° 51' 1.707 N	103° 55' 45.710 W
- plan misses target center by 0.327usft at 6122.768usft MD (5340.249 TVD, -32.212 N, 1067.999 E)									
- Point									
[SFC#4H]BHL1	0.00	0.000	5,365.000	-29.000	4,827.000	673,376.00	669,153.00	32° 51' 1.593 N	103° 55' 1.644 W
- plan hits target center									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
4,684.000	4,684.000	0.000	0.000	KOP 9°/100' BUILD RATE
5,350.667	5,235.329	-21.096	317.610	START 75' TANGENT
5,425.667	5,272.829	-25.400	382.419	END 60° TANGENT
5,674.403	5,337.296	-32.596	619.643	[SFC#4H]EOC1 5674' MD (5337' TVD)
6,122.768	5,340.248	-32.212	1,067.998	[SFC#4H]UMP1 6123' MD (5340' TVD)
9,881.852	5,365.000	-29.000	4,826.999	[SFC#4H]BHL1 9882' MD (5365' TVD)

Manufacturer: Midwest Hose & Specialty

Serial Number: SN#90067

Length: 35'

Size: OD = 8" ID = 4"

Ends: Flanges Size: 4-1/16"

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

MIDWEST

HOSE AND SPECIALTY INC.

INTERNAL HYDROSTATIC TEST REPORT

Customer:	P.O. Number:
CACTUS	RIG #123
	Asset # M10761

HOSE SPECIFICATIONS

Type: CHOKE LINE		Length: 35'	
I.D. 4"	*INCHES*	O.D. 8"	*INCHES*

WORKING PRESSURE	TEST PRESSURE	BURST PRESSURE
10,000 *PSI*	15,000 *PSI*	*PSI*

COUPLINGS

Type of End Fitting
4 1/16 10K FLANGE

Type of Coupling:	MANUFACTURED BY
SWEDGED	MIDWEST HOSE & SPECIALTY

PROCEDURE

Hose assembly pressure tested with water at ambient temperature.

TIME HELD AT TEST PRESSURE	ACTUAL BURST PRESSURE:
1 *MIN.*	0 *PSI*

COMMENTS:
SN#90067 M10761
Hose is covered with stainless steel armour cover and wraped with fire resistant vermiculite coated fiberglass insulation rated for 1500 degrees complete with lifting eyes

Date:	Tested By:	Approved:
6/6/2011	BOBBY FINK	MENDI JACKSON

Midwest Hose & Specialty, Inc.

Internal Hydrostatic Test Graph

Customer: CACTUS

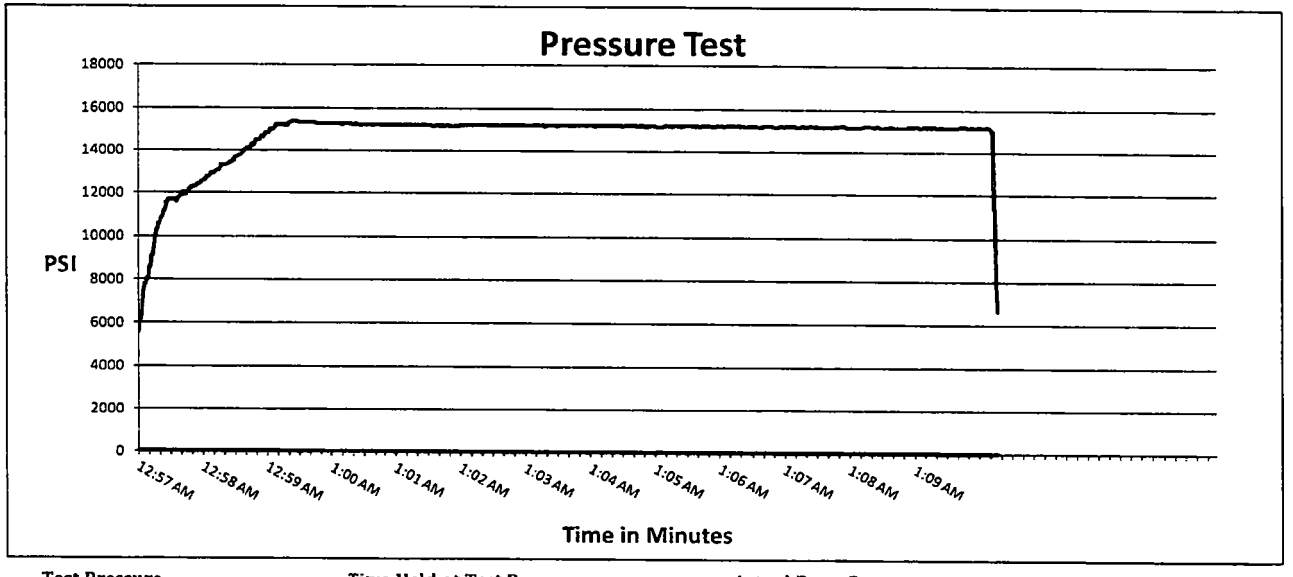
SALES ORDER# 90067

Hose Specifications

Hose Type	Length
C & K	35'
I.D.	**O.D.**
4"	8"
Working Pressure	**Burst Pressure**
10000 PSI	Standard Safety Multiplier Applies

Verification

Type of Fitting	Coupling Method
4 1/16 10K	Swage
Die Size	**Final O.D.**
6.62"	6.68"
Hose Serial #	**Hose Assembly Serial #**
	90067



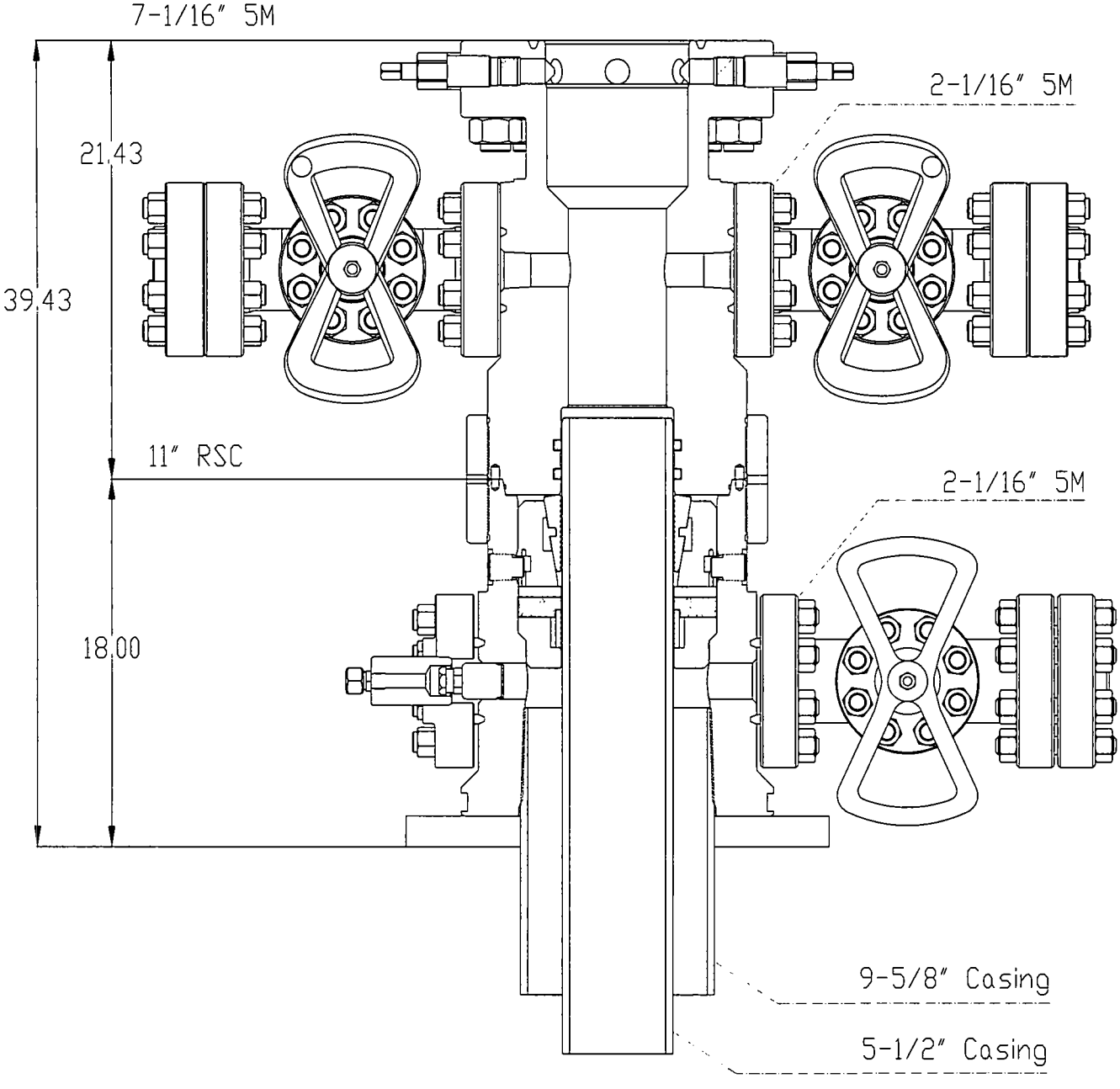
Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	11 1/4 Minutes		15439 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: *Bobby Fink*

Approved By: *Mendi Jackson*

Mendi Jackson



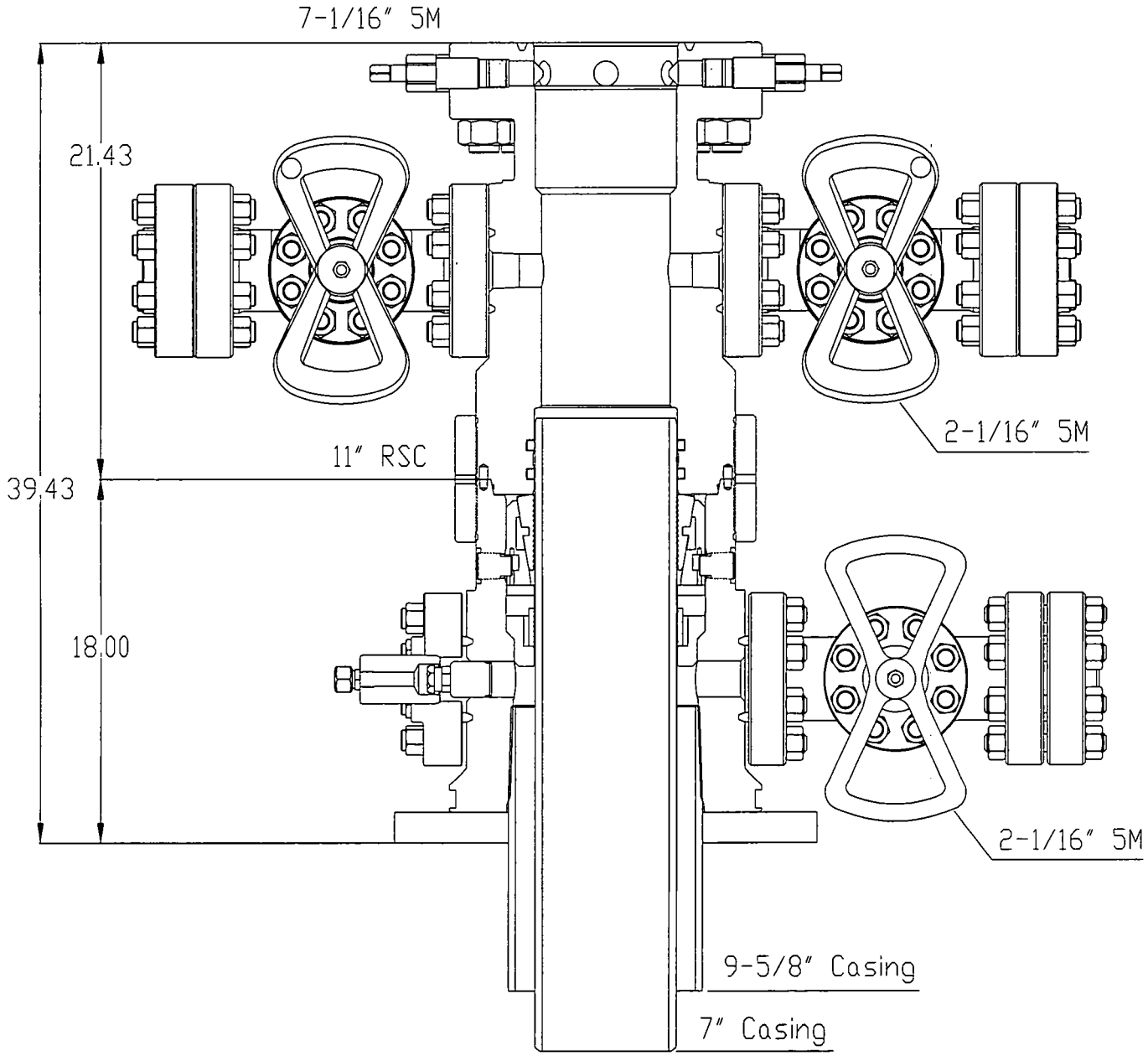
*CONCEPT QUOTE DRAWING

EOG RESOURCES INC.
9-5/8" X 5-1/2" 5M
HES WELLHEAD SYSTEM
QUOTE: HOU - 119274

DWN	CB	3/01/18
CHK		
APP		
	BY	DATE

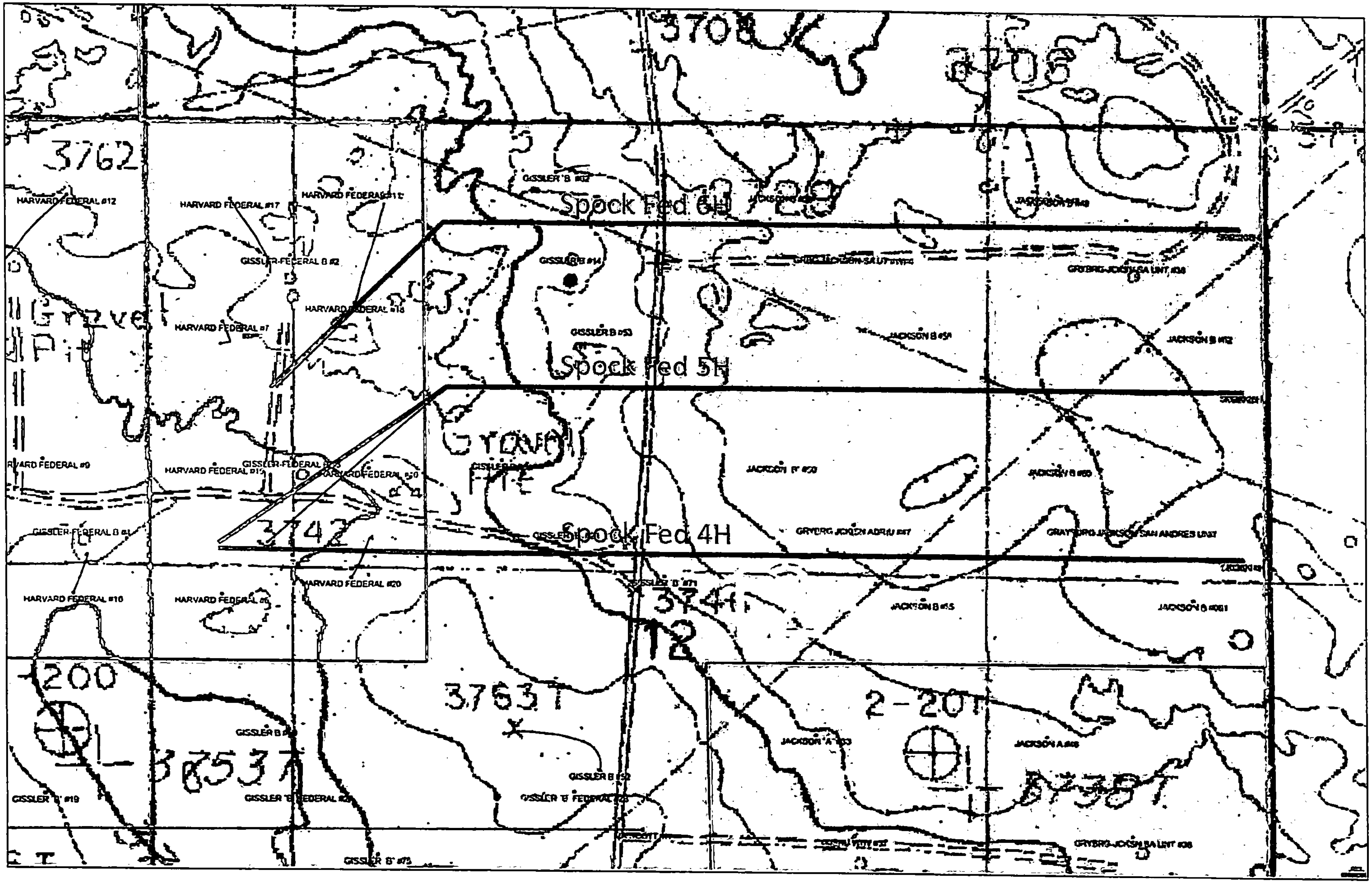
Stream Flo
Worldwide Expertise - Global Strength

DRAWING NO
WH-17830
PG 2

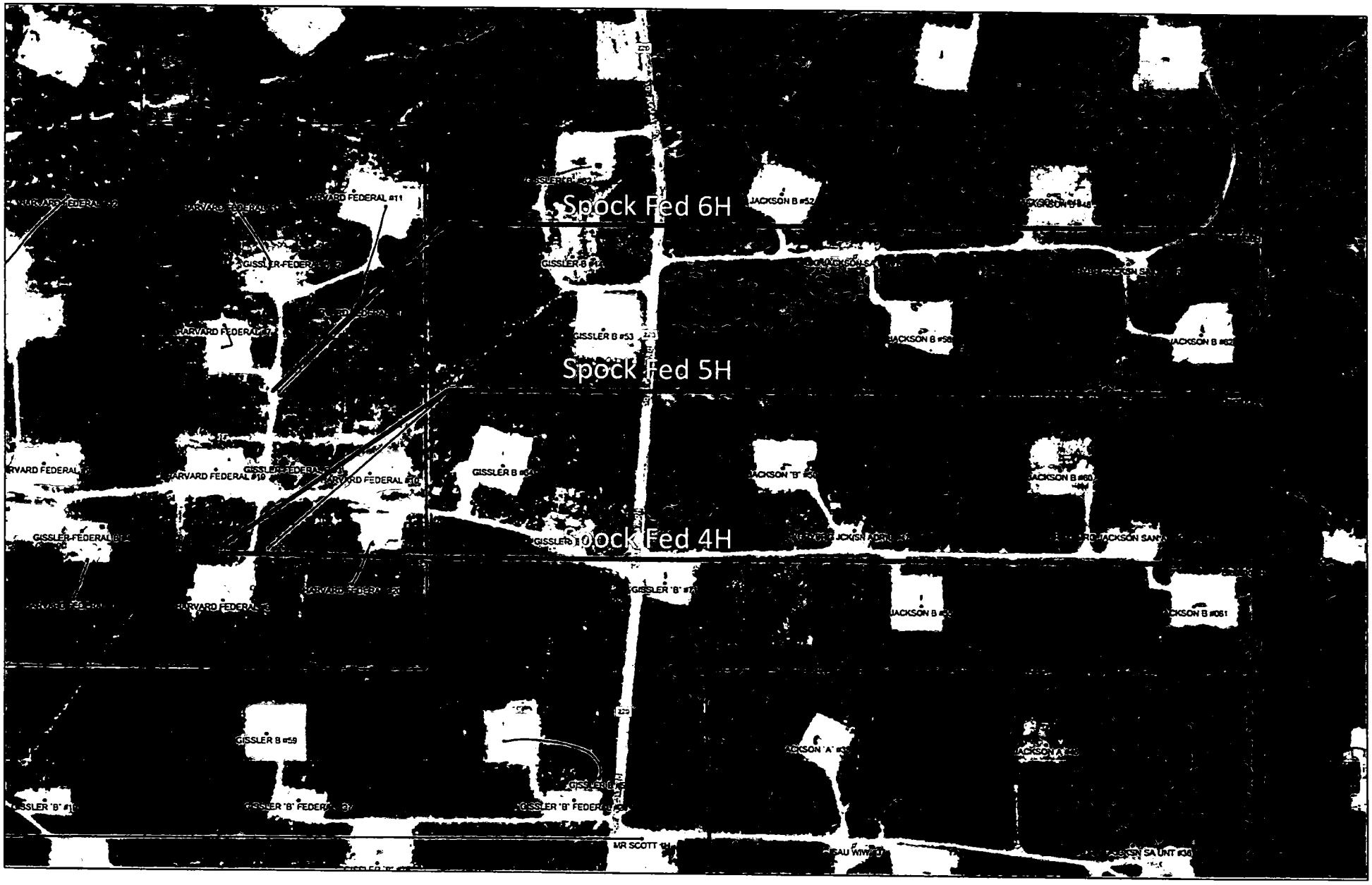


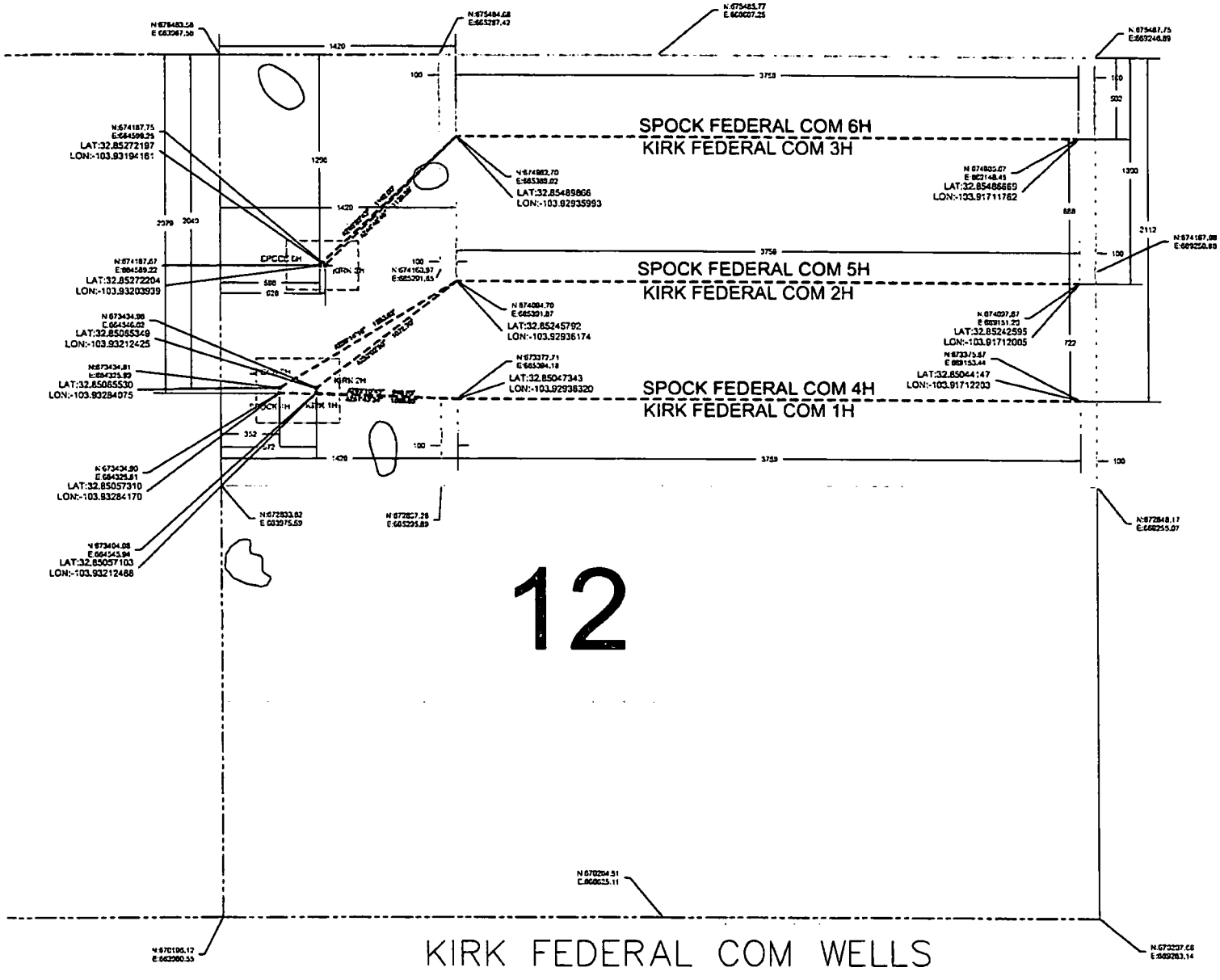
*CONCEPT QUOTE DRAWING

EOG RESOURCES INC. 9-5/8" X 7" 5M HES WELLHEAD SYSTEM QUOTE: HOU - 119274	DWN	CB	1/25/18	Stream Flo Woldwide Expertise - Global Strength	DRAWING NO WH-17830
	CHK				
	APP				
		BY	DATE		



Spock Fed 6H
Spock Fed 5H
Spock Fed 4H
3708
3762
3742
3741
3763
12
HARVARD FEDERAL #12
HARVARD FEDERAL #17
GISSLER-FEDERAL B #2
HARVARD FEDERAL #7
HARVARD FEDERAL #10
HARVARD FEDERAL #20
GISSLER-FEDERAL B #1
GISSLER B #14
GISSLER B #53
GISSLER B #52
JACKSON B #12
JACKSON B #55
GRAYBURG JACKSON SAN ANDRES UNIT

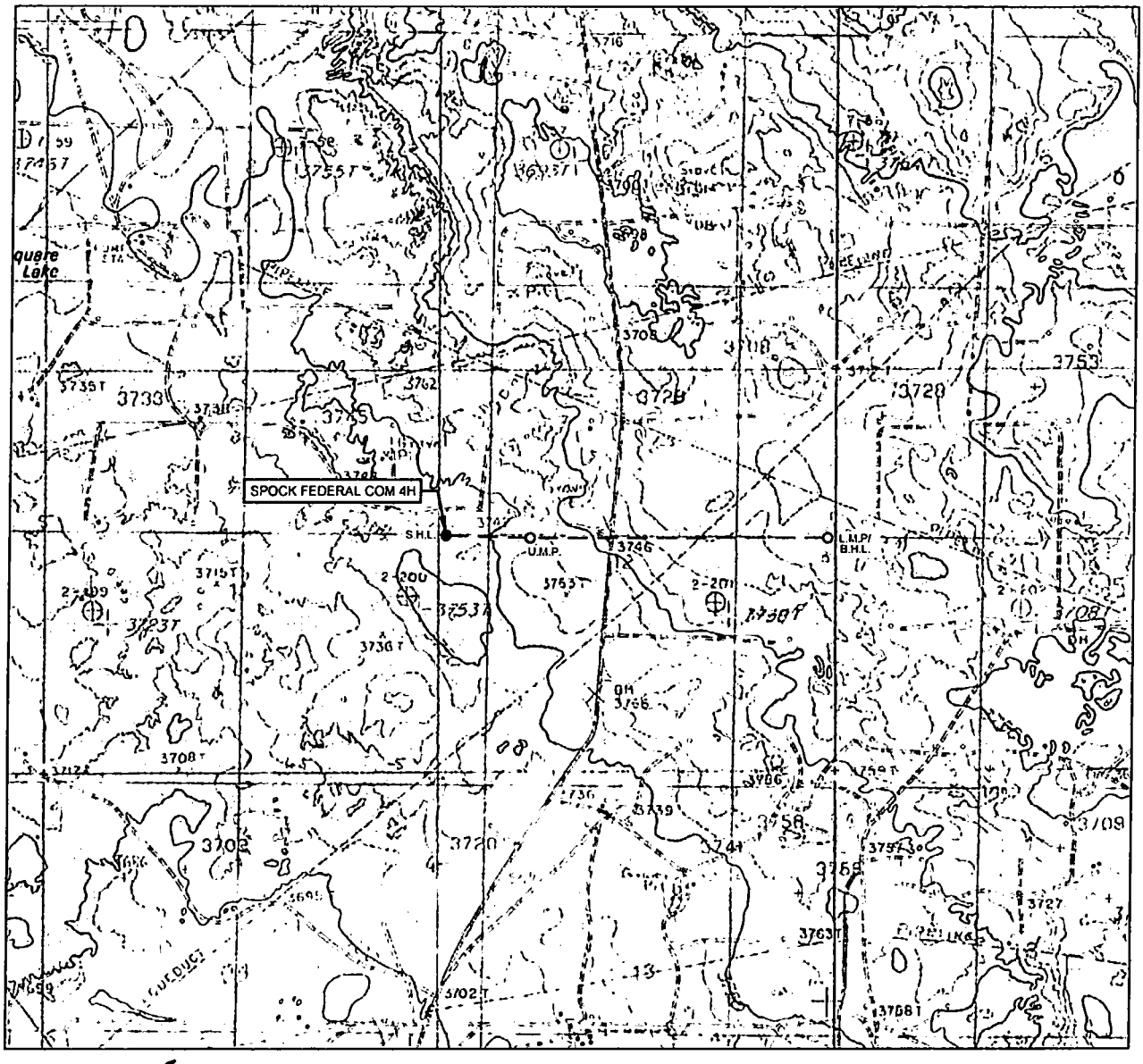

Spock Fed 6H
Spock Fed 5H
Spock Fed 4H



12

KIRK FEDERAL COM WELLS

LOCATION & ELEVATION VERIFICATION MAP



eog resources, inc.

LEASE NAME & WELL NO.: SPOCK FEDERAL COM 4H

SECTION 12 TWP 17-S RGE 30-E SURVEY N.M.P.M.
COUNTY EDDY STATE NM ELEVATION 3757'
DESCRIPTION 2079 FNL & 352 FWL

LATITUDE N 32.8505731 LONGITUDE W 103.9328417

-N-

SCALE: 1" = 2000'

0' 1000' 2000'

THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

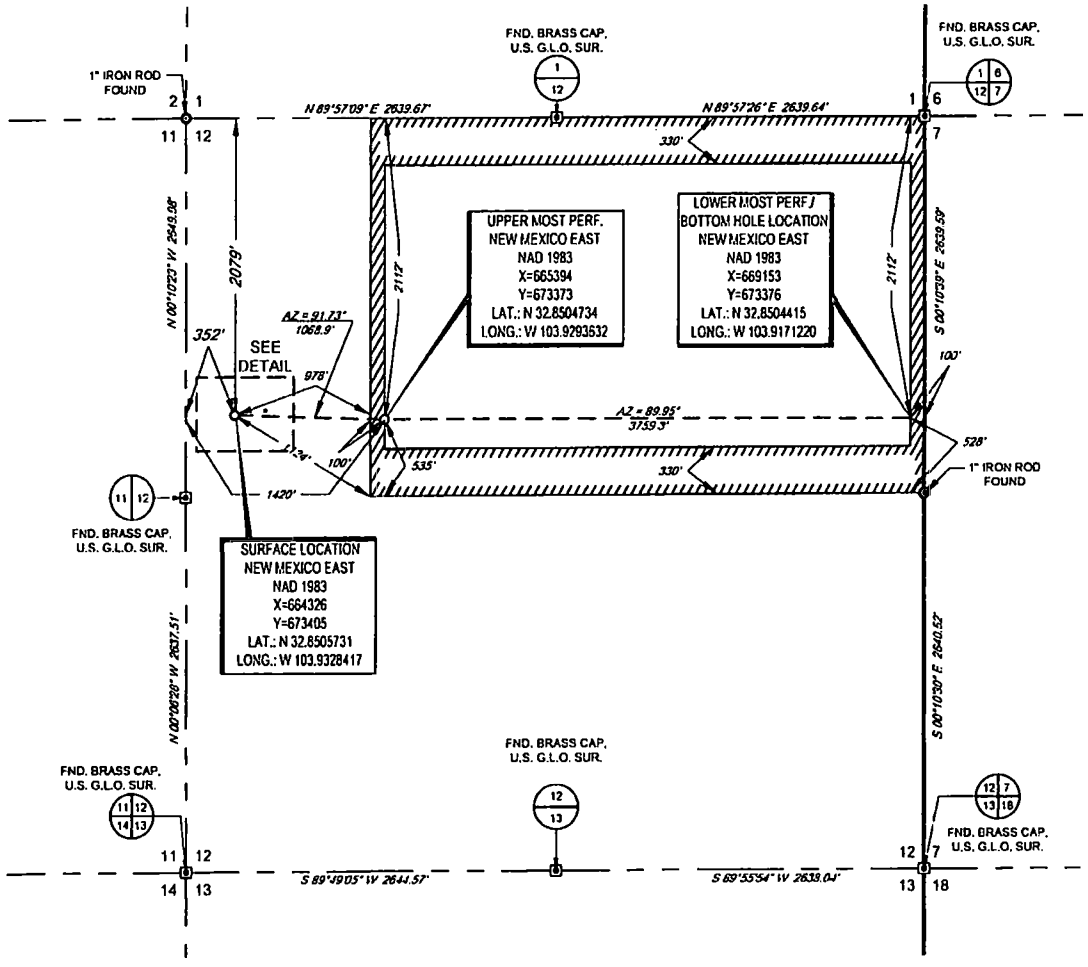
ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.

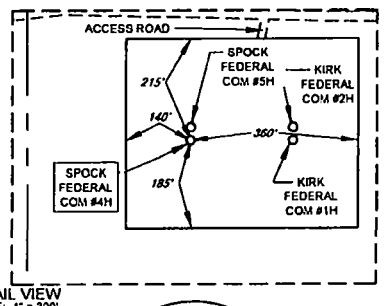
TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

eog resources, inc.

EXHIBIT 2A

SECTION 12, TOWNSHIP 17-S, RANGE 30-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO





DETAIL VIEW
SCALE: 1" = 300'

SCALE: 1" = 1000'
0' 500' 1000'

LEASE NAME & WELL NO.: SPOCK FEDERAL COM 4H

SECTION 12 TWP 17-S RGE 30-E SURVEY N.M.P.M.
COUNTY EDDY STATE NM
DESCRIPTION 2079 FNL & 352 FWL

DISTANCE & DIRECTION
FROM INT. OF NM-18 N. & HWY. 82, GO WEST ON HWY. 82 ±36.8 MILES, THENCE RIGHT (NORTH) ON SQUARE LAKE ROAD ±2.5, THENCE LEFT (WEST) ON LEASE ROAD ±0.3 MILES TO A POINT ±107 FEET EAST OF THE LOCATION.

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.

THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

MICHAEL B. BROWN
NEW MEXICO
18329
PROFESSIONAL SURVEYOR

Michael Blake Brown, P.S. No. 18329
AUGUST 9, 2018

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 148 · FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 · FAX (817) 744-7554
2903 NORTH BIG SPRING · MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (600) 767-1553 · FAX (432) 682-1743
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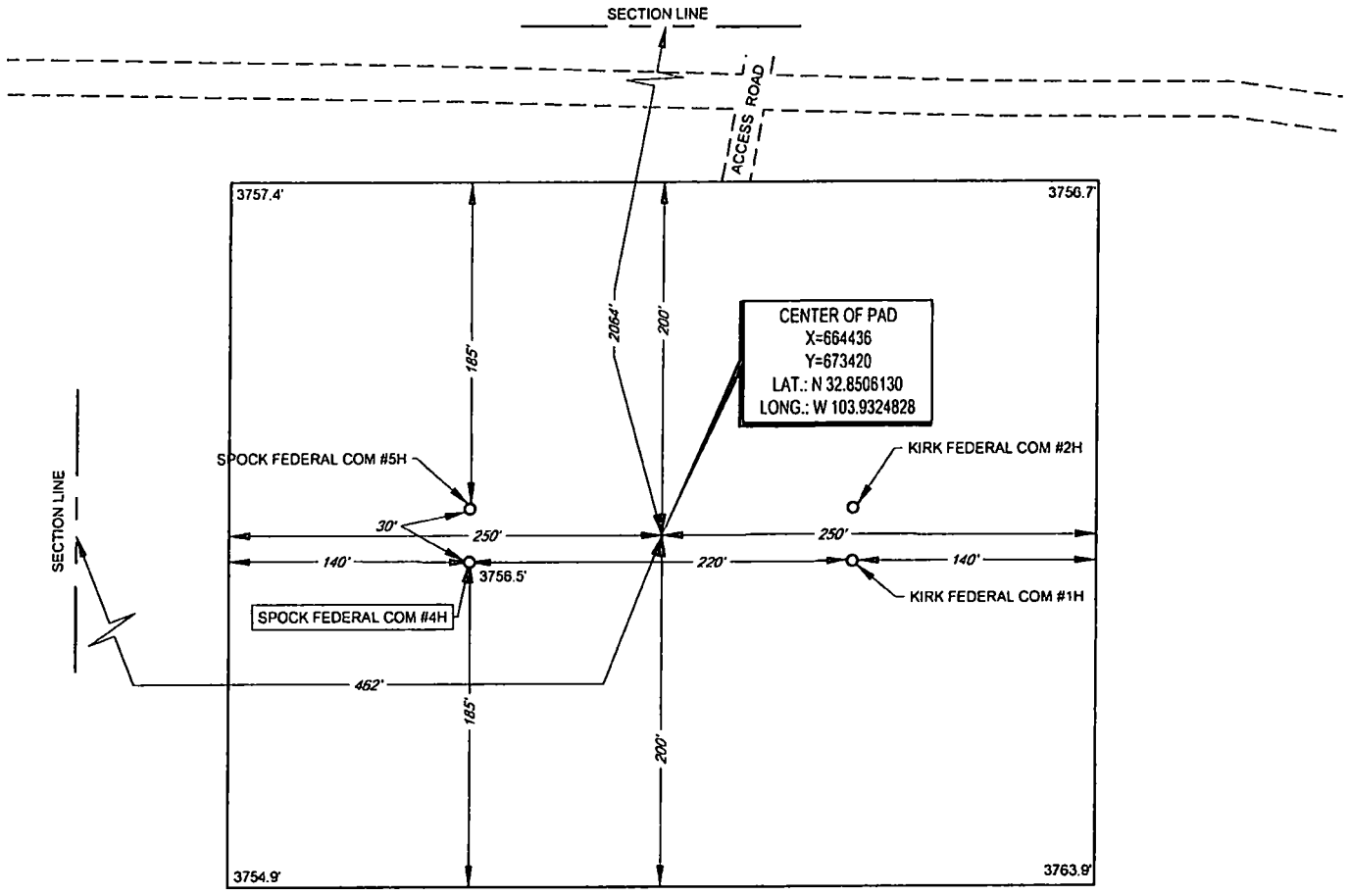
S:\SURVEY\EOG_ARTESIA\SPOCK_FEDERAL\FINAL_PRODUCTS\LO_SPOCK_FEDERAL_COM_4H.DWG 8/9/2018 9:37:03 PM cbrown

EXHIBIT 2B

eog resources, inc.

SECTION 12, TOWNSHIP 17-S, RANGE 30-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

DETAIL VIEW
SCALE: 1" = 100'



LEASE NAME & WELL NO.: SPOCK FEDERAL COM 4H

4H LATITUDE N 32.8505731 4H LONGITUDE W 103.9328417

CENTER OF PAD IS 2064' FNL & 462' FWL

LEGEND

- CENTERLINE ROAD
- SECTION LINE
- EXISTING PIPELINE

N

SCALE: 1" = 100'

0' 50' 100'

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.

THIS PROPOSED PAD SITE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

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TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
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TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

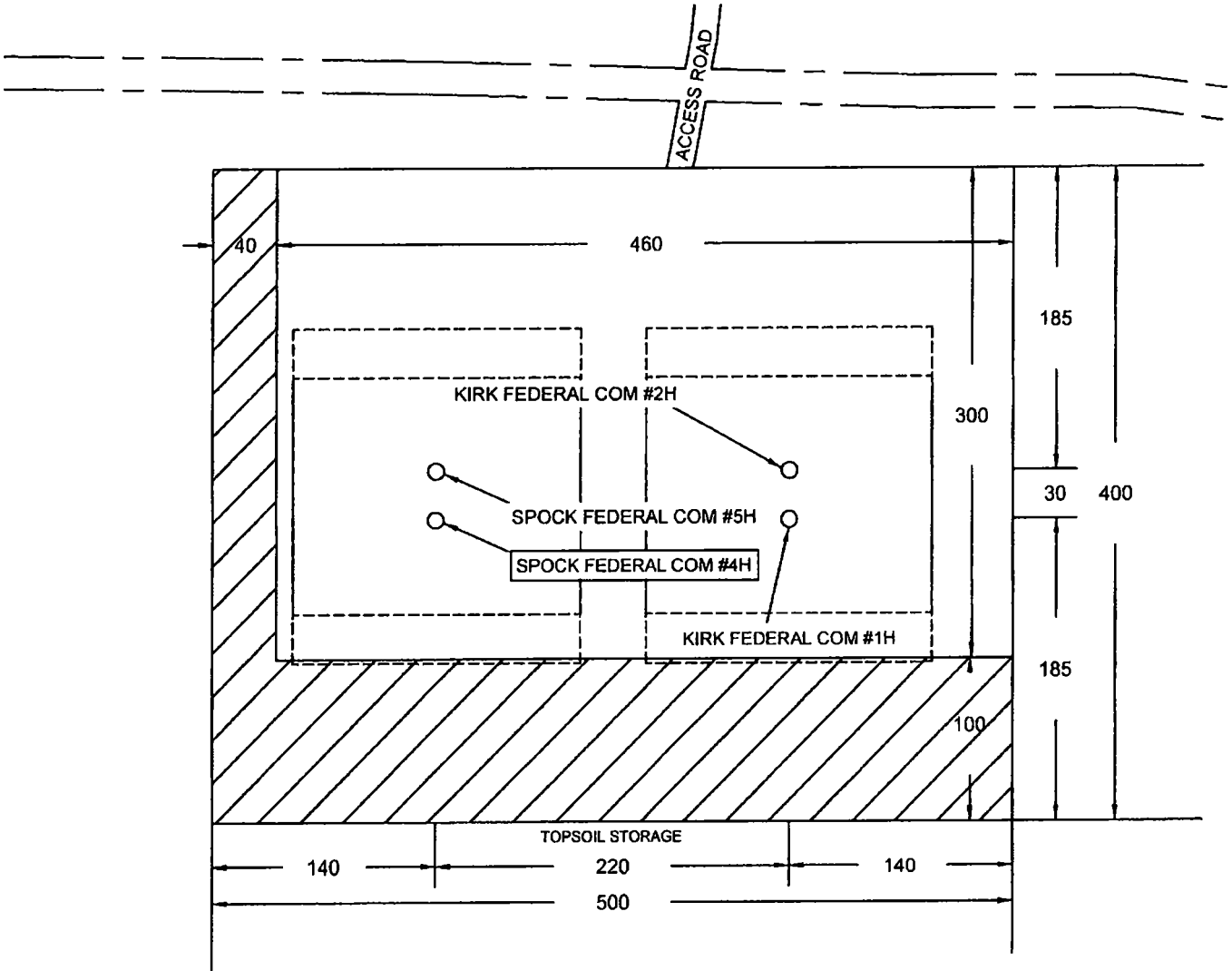
ORIGINAL DOCUMENT SIZE: 8.5" X 11"

EXHIBIT 2C

RECLAMATION AND FACILITY DIAGRAM - PRODUCTION FACILITIES DIAGRAM

SECTION 12, TOWNSHIP 17-S, RANGE 30-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

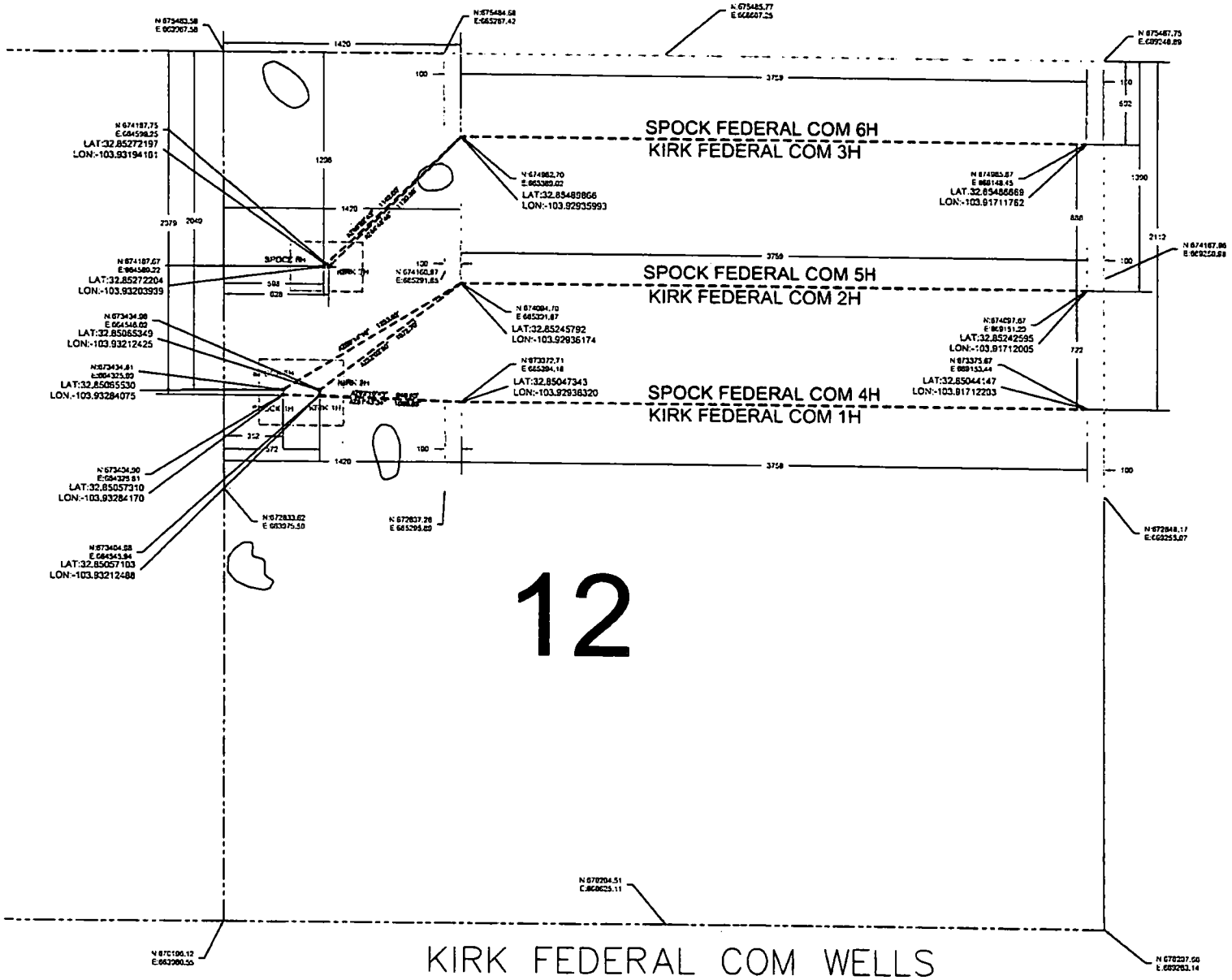
DETAIL VIEW
SCALE: 1" = 100'



LEASE NAME & WELL NO.: SPOCK FEDERAL COM 4H

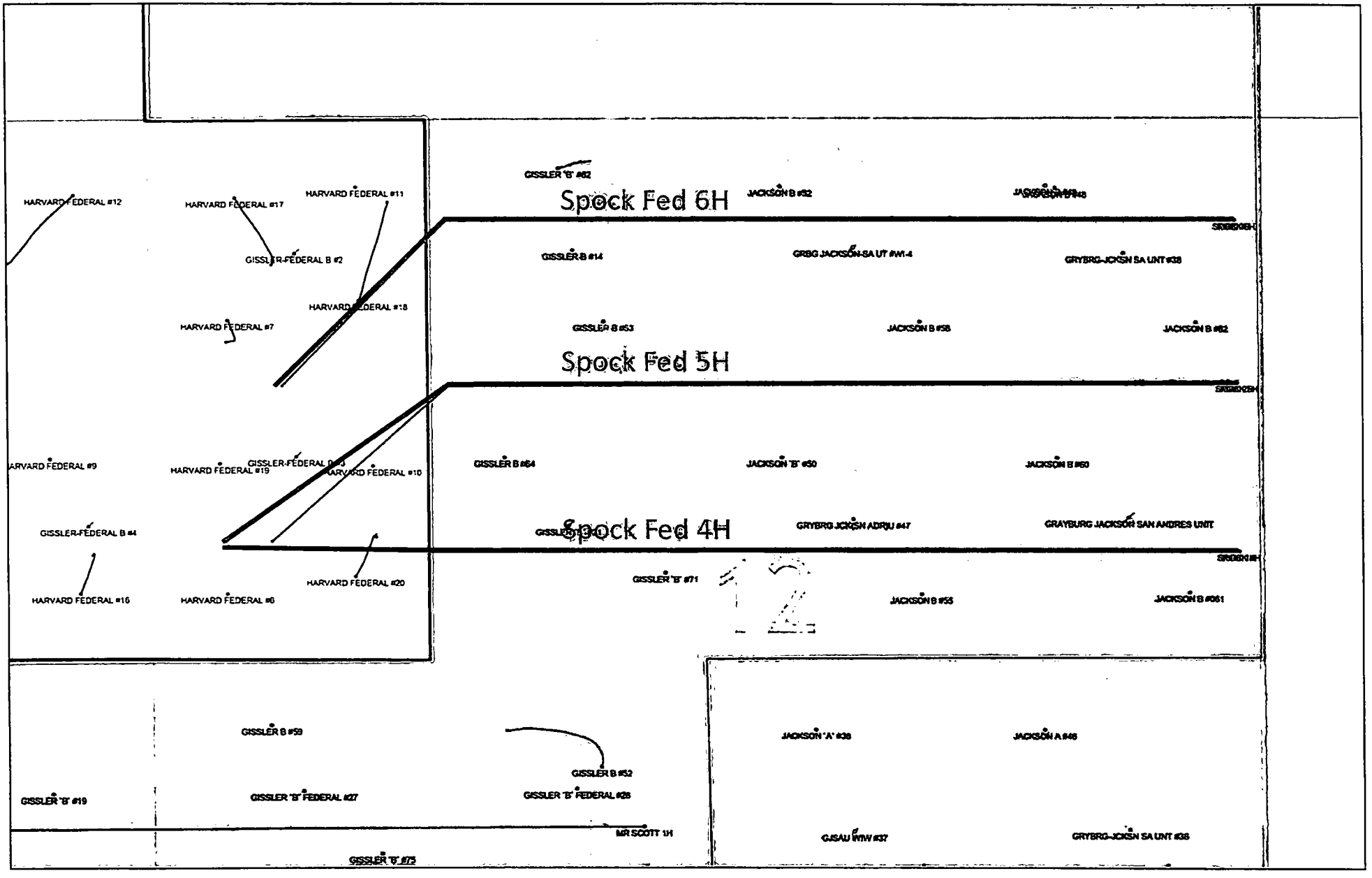
4H LATITUDE N 32.8505731 4H LONGITUDE W 103.9328417

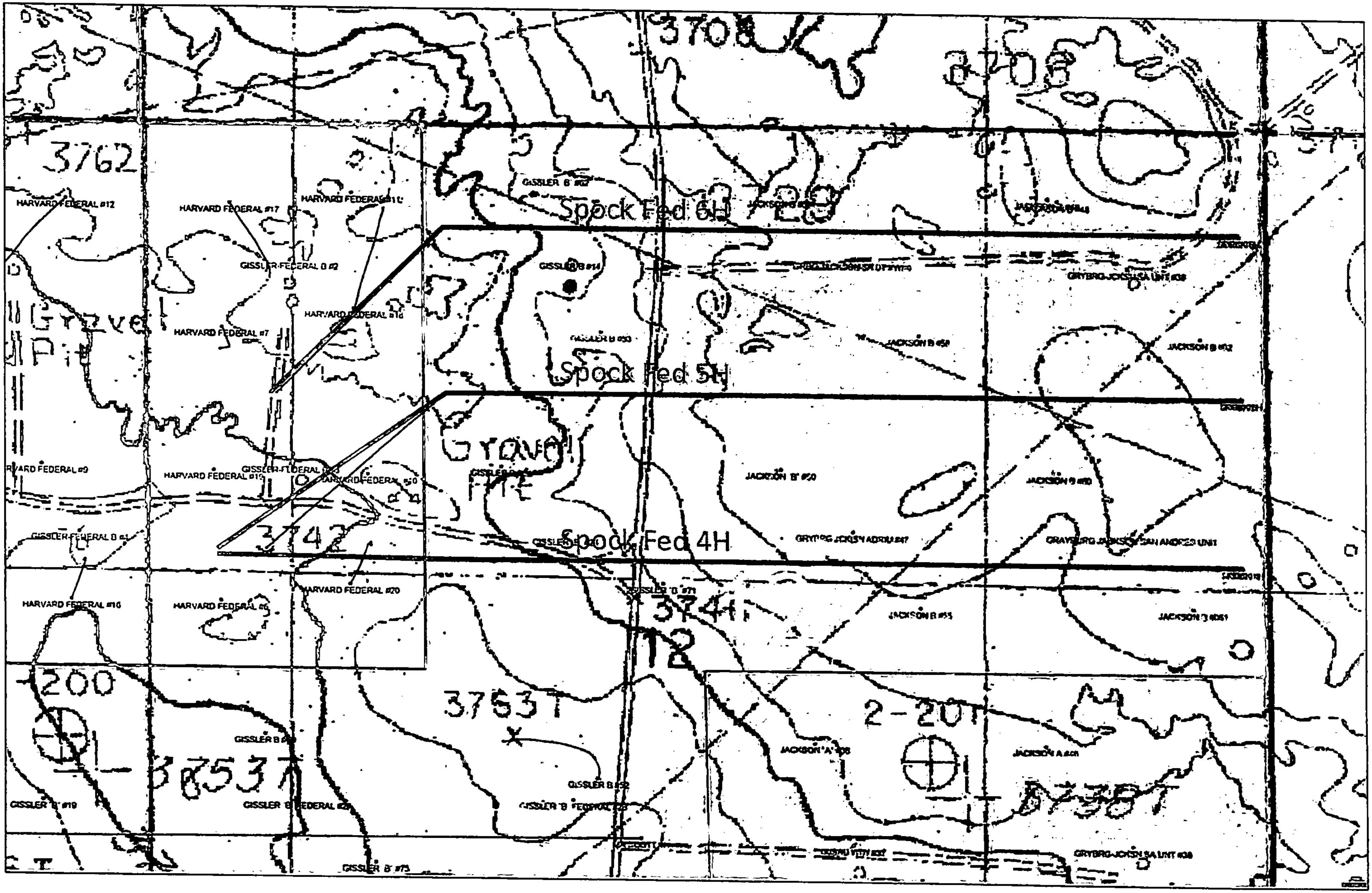
S:\SURVEY\EOG_ARTESIA\SPOCK_FEDERAL\FINAL_PRODUCTS\LO_SPOCK_FEDERAL_COM_4H.DWG 8/9/2018 3:37:04 PM csmith5



12

KIRK FEDERAL COM WELLS


Spock Fed 6H
Spock Fed 5H
Spock Fed 4H
GISSLER 'B' #62
HARVARD FEDERAL #12
HARVARD FEDERAL #17
HARVARD FEDERAL #11
GISSLER-FEDERAL B #2
HARVARD FEDERAL #18
HARVARD FEDERAL #7
JACKSON B #52
GISSLER B #14
GRBG JACKSON-SA UT #WI-4
GRYBRG-JCKSN SA UNT #38
GISSLER B #53
JACKSON B #58
JACKSON B #62
HARVARD FEDERAL #9
HARVARD FEDERAL #19
HARVARD FEDERAL #10
GISSLER B #64
JACKSON 'B' #50
JACKSON B #60
GISSLER-FEDERAL B #4
HARVARD FEDERAL #16
HARVARD FEDERAL #6
HARVARD FEDERAL #20
GRYBRG JCKSN ADRU #47
GRAYBURG JACKSON SAN ANDRES UNIT
GISSLER 'B' #71
JACKSON B #55
JACKSON B #061
GISSLER B #59
GISSLER B #52
GISSLER 'B' #19
GISSLER 'B' FEDERAL #27
GISSLER 'B' FEDERAL #28
MR SCOTT 1H
GISSLER 'B' #75
JACKSON 'A' #36
JACKSON A #46
GJSAU WIW #37
GRYBRG-JCKSN SA UNT #36



3762
3708
HARVARD FEDERAL #12
HARVARD FEDERAL #17
GISSLER-FEDERAL B #2
HARVARD FEDERAL #7
HARVARD FEDERAL #9
HARVARD FEDERAL #19
HARVARD FEDERAL #10
HARVARD FEDERAL #6
HARVARD FEDERAL #20
Spock Fed 6H
Spock Fed 5H
Spock Fed 4H
GISSLER B #14
Gravel Pit
3742
3741
12
3753
2-201
JACKSON B #50
JACKSON B #52
JACKSON B #55
GRAYBURG JACKSON SAN ANDRES UNIT
GISSLER B #52
GRYBRG-JCKSN SA UNIT #38


Spock Fed 6H
Spock Fed 5H
Spock Fed 4H
HARVARD FEDERAL #11
GISSLER B #53
JACKSON B #52
GISSLER B #59
MR SCOTT

MULTI-POINT SURFACE USE AND OPERATIONS PLAN
EOG Resources, Inc.

Spock Federal Com 4H
2079' FNL and 352' FWL Section 12, T17S-R30E - Surface Hole Location
2112' FNL and 100' FEL Section 12, T17S-R30E -Bottom Hole Location
Eddy County, New Mexico

This plan is submitted with Form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effect associated with the operations.

1. EXISTING ROADS:

The County map showing the well and roads in the vicinity of the proposed location. The proposed well site is located approximately 27 miles northeast of Artesia, New Mexico and the access route to the location is indicated on Exhibit. Operator will maintain existing roads in condition the same or better than before operations begin. Operator will repair pot holes, clear ditches, repair the crown, etc. All existing structures along the entire access route such as cattle guards, other range improvement projects, culverts, etc. will be properly repaired or replaced if they are damaged or have deteriorated beyond practical use. Operator will reasonably prevent and abate fugitive dust as needed when created by vehicular traffic and equipment caused by the operator. The BLM's written approval will be acquired before application of surfactants, binding agents, or other dust suppression chemicals on roadways.

DIRECTIONS:
From Artesia, go West on US-82 for approximately 27.5 miles. Turn left (North) onto CR220 (Square Lake Rd). Travel North on CR220 for 2.5 miles. Turn left (West) to lease road. Continue down lease road for 0.3 miles. Location will be located south of roadway approximately 10 yards.

2. PLANNED ACCESS ROAD.

A. Existing access road runs along Southeast edge of well location. The road will be crowned and ditched to a 2% slope from the tip of the crown to the edge of the driving surface.
B. The road will be 14 feet in width (driving surface) and will be adequately drained to control to control runoff and soil erosion. Ditches will be 3' wide with a 3:1 slopes.
C. The road will be bladed with drainage on one side. A traffic turnout may be built.
D. Existing roads will be maintained in the same or better condition.
E. The route of road is visible.

3. LOCATION OF EXISTING WELL

A. There is no drilling activity within a one-mile radius of the well site.
B. Exhibits shows existing wells within a one-mile radius of the proposed well site.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

   A. There are no production facilities on this lease at the present time.
   B. Central tank battery will be an on location gathering facility with water and gas take away.

5. LOCATION AND TYPE OF WATER SUPPLY:

   A. It is planned to drill the proposed well with a fresh water system. The water will be obtained from commercial sources and will be hauled to the location by truck over the existing and proposed roads shown in Exhibit.

6. SOURCE OF CONSTRUCTION MATERIALS:

   Dirt contractor will locate closest pit and obtain any permits and materials needed for construction of the well location.

7. METHODS OF HANDLING WASTE DISPOSAL:

   A. This well will be drilled with a closed loop system
   B. The closed loop system will be constructed, maintained, and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division – the "Pit Rule" 19.15.17 NMAC.
   C. Drilling fluids will be removed after drilling and completions are completed.
   D. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or separate disposal application will be submitted.
   E. Oil produced during operations will be stored in tanks until sold.
   F. Current laws and regulations pertaining to the disposal of human waste will be complied with.
   G. All trash, junk, and other waste materials will be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not approved.

8. ANCILLARY FACILITIES: None.

9. WELLSITE LAYOUT:

   A. Exhibit shows the relative location and dimensions of the well pad, the closed loop mud system, location of the drilling equipment. All of the location will be constructed within the 400' x 500' staked area.
   B. A 400' x 500' area has been staked and flagged.

9. PLANS FOR RESTORATION:

   A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleaned of all trash and junk to leave the well site in as aesthetically pleasing a condition as possible. The location will be reduced to a 250' x 250' after completion operations have been conducted. At this point the surfacing material will be removed and topsoil will be redistributed. The area will be contoured as closely as possible to its original state and reseeded. Please note Reclamation Plat.

B. If the proposed well is plugged and abandoned, all equipment and other material will be removed. The location will be cleaned of all trash and junk to leave the well site in as aesthetically pleasing a condition as possible. At this point the surfacing material will be removed, topsoil will be redistributed. The area will be contoured as closely as possible to its original location and reseeded. These actions will be completed and accomplished as expeditiously as possible.

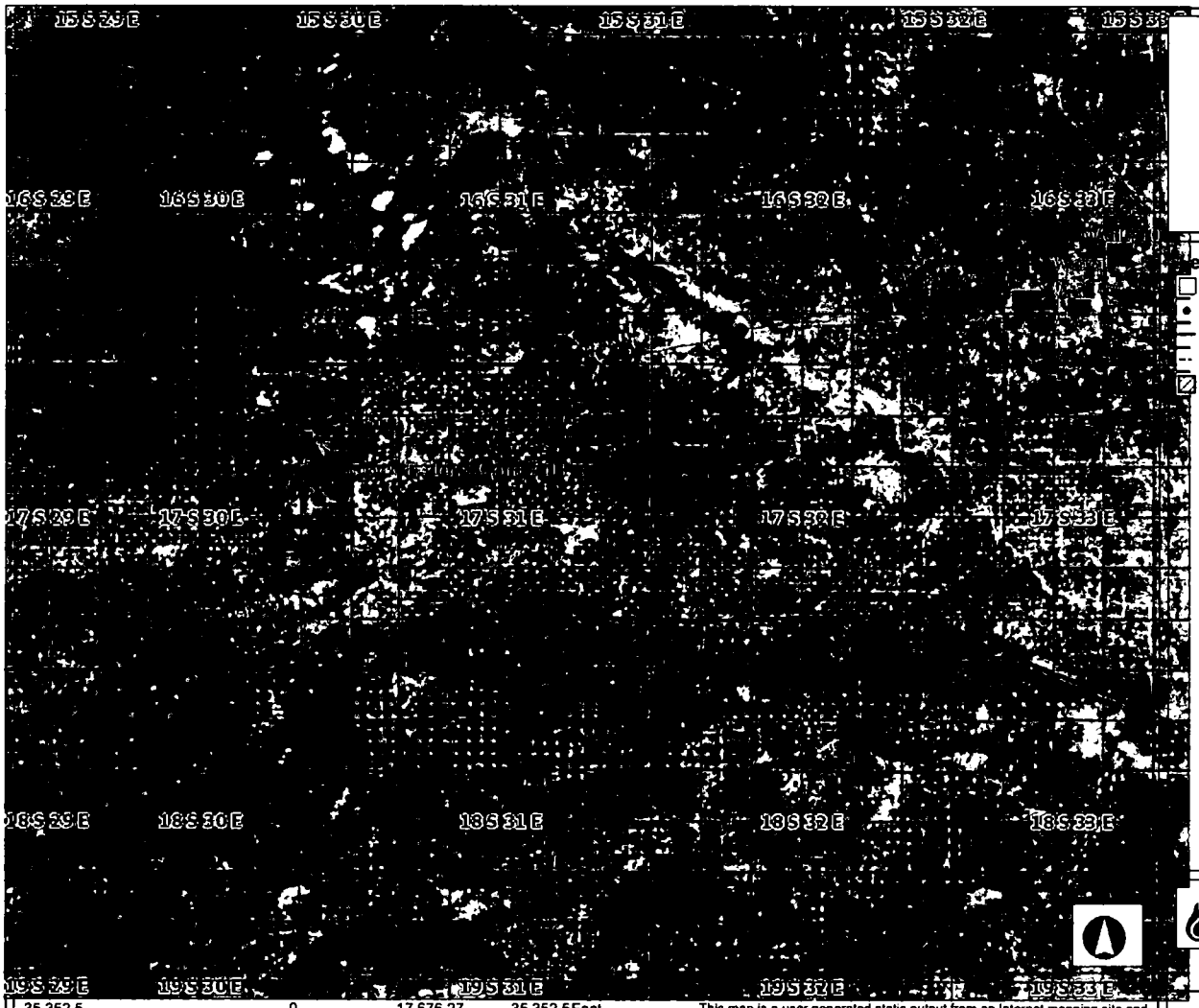
C. The reclamation of the pad will be done in sixty days if possible after the well is put in production.

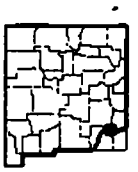
11. SURFACE OWNERSHIP:

Surface Estate:	Bureau of Land Management 620 E. Greene Street Carlsbad, NM 88220-6292
Mineral Estate:	BLM – NMLC-029338B leased to COG Operating LLC 600 W Illinois Ave Midland, TX 79701/4882

12. OTHER INFORMATION:

A. Topography: Refer to the existing archaeological report for a description of the topography, flora, fauna, soil characteristics, dwellings, historical and cultural sites.
B. The primary surface use is for grazing.





Legend

- Jeffersonian Sections
- Artesia SHL Directional
- Artesia Well Path
- Well Plans
- Well Pad Areas
- Land Calendar Legend
  - EXPIRATION
  - OBLIGATION
  - PAYMENT

35,352.5 0 17,676.27 35,352.5 Feet

1: 212,115

Projection: WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Date: 7/19/2018

eog resources

ARTESIA DIVISION

Water Source Map
Spock Federal Com #4H,#5H, #6H

Author: Trixy Duke

APD ID: 10400032829 **Submission Date:** 09/11/2018

Operator Name: EOG RESOURCES INCORPORATED

Well Name: SPOCK FEDERAL COM **Well Number:** 4H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

SpockFederalCom4HExistingRoadMap_20180814084215.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT **Row(s) Exist?** NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

SpockFederalCom4HExistingWellsMap_20180814084520.pdf

Operator Name: EOG RESOURCES INCORPORATED

Well Name: SPOCK FEDERAL COM **Well Number:** 4H

Existing Wells description:

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: Includes flowlines

Production Facilities map:

SpockWellsProductionFacilityMapwithFlowlines_20180815103459.pdf
BO_ENTERPRISE_CTB_T17S_R30E_SEC12_20181112092542.pdf
EP_ENTERPRISE_CTB_GL_SEC12_20181112092543.pdf
EP_ENTERPRISE_CTB_TO_DCP_GAS_TIE_IN_20181112092543.pdf
EP_ENTERPRISE_CTB_WL_SEC3_20181112092544.pdf
EP_ENTERPRISE_CTB_WL_SEC11_20181112092545.pdf
EP_ENTERPRISE_CTB_WL_SEC10_20181112092544.pdf
EP_ENTERPRISE_CTB_WL_SEC12_20181112092545.pdf
FederalFWR_20181112152205.JPG

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: DUST CONTROL, INTERMEDIATE/PRODUCTION CASING, STIMULATION, SURFACE CASING

Water source type: GW WELL

Describe type:

Source longitude:

Source latitude:

Source datum: NAD83

Water source permit type: WATER WELL

Source land ownership: PRIVATE

Water source transport method: PIPELINE

Source transportation land ownership: PRIVATE

Water source volume (barrels): 120000

Source volume (acre-feet): 15.467172

Source volume (gal): 5040000

Water source and transportation map:

SpockFederalComWellsWaterMap_20180816121846.pdf
BIRDOFPREY_FRAC_POND_SEC12_20181112092601.pdf

Water source comments:

New water well? NO

Operator Name: EOG RESOURCES INCORPORATED

Well Name: SPOCK FEDERAL COM **Well Number:** 4H

New Water Well Info

Well latitude: **Well Longitude:** **Well datum:**

Well target aquifer:

Est. depth to top of aquifer(ft): **Est thickness of aquifer:**

Aquifer comments:

Aquifer documentation:

Well depth (ft): **Well casing type:**

Well casing outside diameter (in.): **Well casing inside diameter (in.):**

New water well casing? **Used casing source:**

Drilling method: **Drill material:**

Grout material: **Grout depth:**

Casing length (ft.): **Casing top depth (ft.):**

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Construction Materials description:

Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Drill fluids and produced oil and water from the well during drilling and completing operations will be stored safely and disposed of properly in an NMOCD approved disposal facility. Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly. Human waste and grey water will be properly contained of and disposed of properly. After drilling and completion operations; trash, chemicals, salts, frac sand, and other waste material will be removed and disposed of properly at a state approved disposal facility.
Amount of waste: 0 barrels

Waste disposal frequency : Daily

Safe containment description: Steel Tanks

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL
Disposal type description:

Disposal location description: Trucked to NMOCD approved disposal facility

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? NO

Description of cuttings location

Cuttings area length (ft.) **Cuttings area width (ft.)**

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

WellSiteDiagram_20180814084607.pdf
SpockFederalCom4HOtherAtt_20181112093011.pdf
SpockWellsInfrastructure_20181112151301.pdf
Comments:

Operator Name: EOG RESOURCES INCORPORATED

Well Name: SPOCK FEDERAL COM **Well Number:** 4H

Section 10 - Plans for Surface Reclamation

Type of disturbance: No New Surface Disturbance **Multiple Well Pad Name:** KIRK FEDERAL COM

Multiple Well Pad Number: 1H

Recontouring attachment:

Drainage/Erosion control construction: Proper erosion control methods will be used on the area to control erosion, runoff, and siltation of the surrounding area.

Drainage/Erosion control reclamation: The interim reclamation will be monitored periodically to ensure that vegetation has reestablished and that erosion is controlled.

Well pad proposed disturbance (acres): 0	**Well pad interim reclamation (acres):**	**Well pad long term disturbance (acres):**
Road proposed disturbance (acres): 0	**Road interim reclamation (acres):**	**Road long term disturbance (acres):**
Powerline proposed disturbance (acres): 0	**Powerline interim reclamation (acres):** 0	**Powerline long term disturbance (acres):** 0
Pipeline proposed disturbance (acres): 0	**Pipeline interim reclamation (acres):**	**Pipeline long term disturbance (acres):**
Other proposed disturbance (acres): 0	**Other interim reclamation (acres):**	**Other long term disturbance (acres):**
Total proposed disturbance: 0	**Total interim reclamation:**	**Total long term disturbance:**

Disturbance Comments:

Reconstruction method: In areas planned for interim reclamation, all the surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads. Areas planned for interim reclamation will be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.

Topsoil redistribution: Topsoil will be evenly respreads and aggressively revegetated over the entire disturbed area not needed for all-weather operations including cuts and fills. To see the area, the proper BLM seed mixture, free of noxious weeds, will be used. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

Soil treatment: Re-seed according to BLM standards. All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, and that erosion is controlled.

Existing Vegetation at the well pad: Grass, forbs, and small wood vegetation, such as mesquite will be excavated as the topsoil is removed. Large wood vegetation will be stripped and stored separately and respreads evenly on the site following topsoil respreading. Topsoil depth is defined as the top layer of soil that contains 80% of the roots. In areas to be heavily disturbed, the top 6 inches of soil material, will be stripped and stockpiled on the perimeter of the well location and along the perimeter of the access road to control run-on and run-off, to keep topsoil viable, and to make redistribution of topsoil more efficient during interim reclamation. Stockpiled topsoil should include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils.

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: All disturbed areas, including roads, pipelines, pads, will be recontoured to the contour existing prior to the initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: All disturbed areas, including roads, pipelines, pads, will be recontoured to the contour existing prior to the initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.
Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: All disturbed areas, including roads, pipelines, pads, will be recontoured to the contour existing prior to the initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.
Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed type:

Seed source:

Seed name:

Source name:

Source address:

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre:

Proposed seeding season:

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: **Last Name:**

Phone: **Email:**

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, erosion is controlled, and free of noxious weeds. Weeds will be treated if found.
Weed treatment plan attachment:

Monitoring plan description: Reclamation will be completed within 6 months of well plugging. All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, erosion is controlled, and free of noxious weeds.
Monitoring plan attachment:

Success standards: N/A

Pit closure description: N/A

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

Operator Name: EOG RESOURCES INCORPORATED

Well Name: SPOCK FEDERAL COM **Well Number:** 4H

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Section 12 - Other Information

Right of Way needed? NO **Use APD as ROW?**

ROW Type(s):

ROW Applications

SUPO Additional Information:

Use a previously conducted onsite? NO

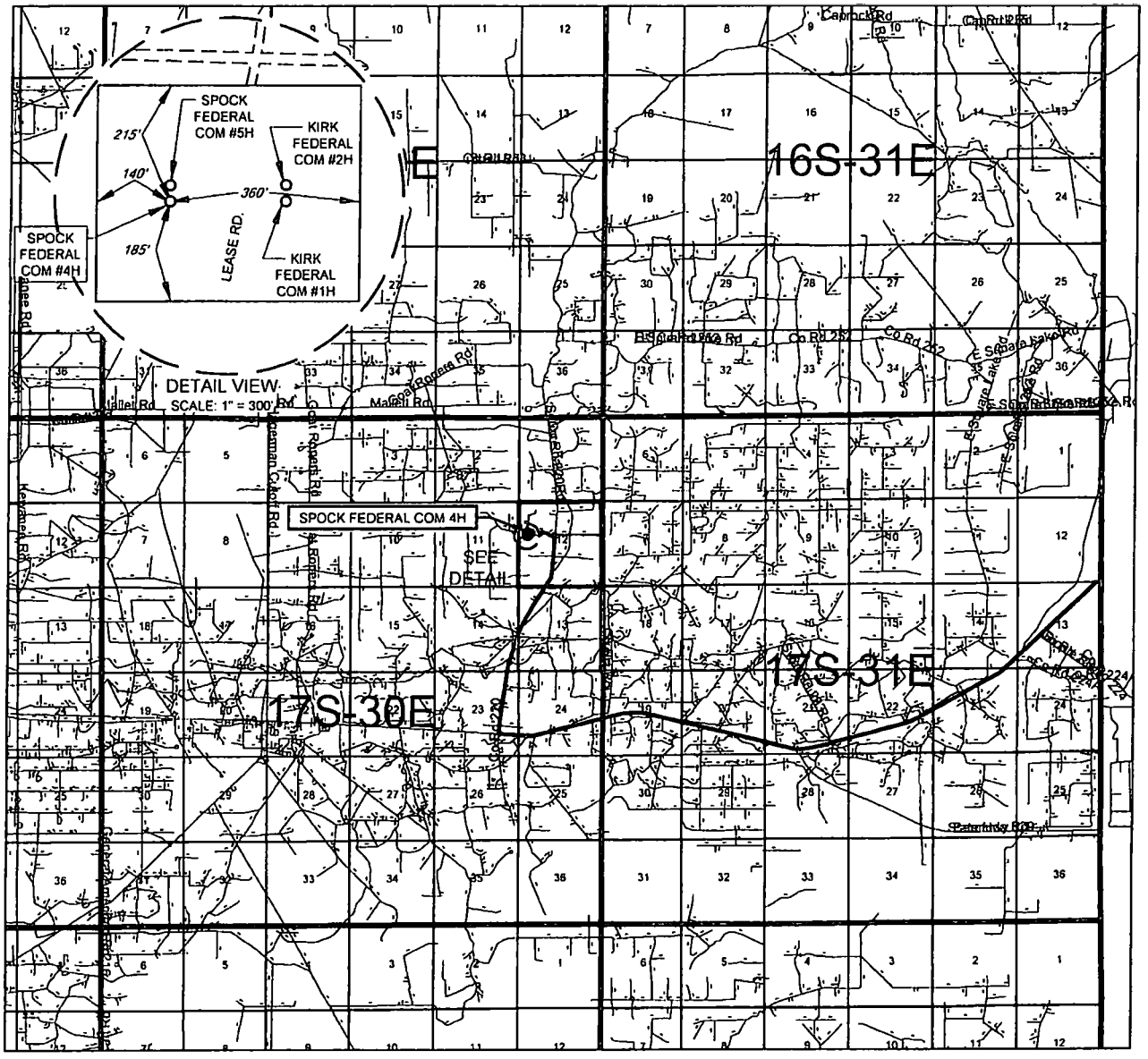
Previous Onsite information:

Other SUPO Attachment

SpockFederalCom4HSUPO_20180816122111.pdf

EXHIBIT 2

VICINITY MAP



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LEASE NAME & WELL NO.: SPOCK FEDERAL COM 4H

SECTION 12 TWP 17-S RGE 30-E SURVEY N.M.P.M.
COUNTY EDDY STATE NM
DESCRIPTION 2079 FNL & 352 FWL

DISTANCE & DIRECTION

FROM INT. OF NM-18 N. & HWY. 82, GO WEST ON HWY. 82 ±36.8 MILES, THENCE RIGHT (NORTH) ON SQUARE LAKE ROAD ±2.5, THENCE LEFT (WEST) ON LEASE ROAD ±0.3 MILES TO A POINT ±107 FEET EAST OF THE LOCATION.

-N-

SCALE: 1" = 10000'

0' 5000' 10000'

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EXHIBIT 3

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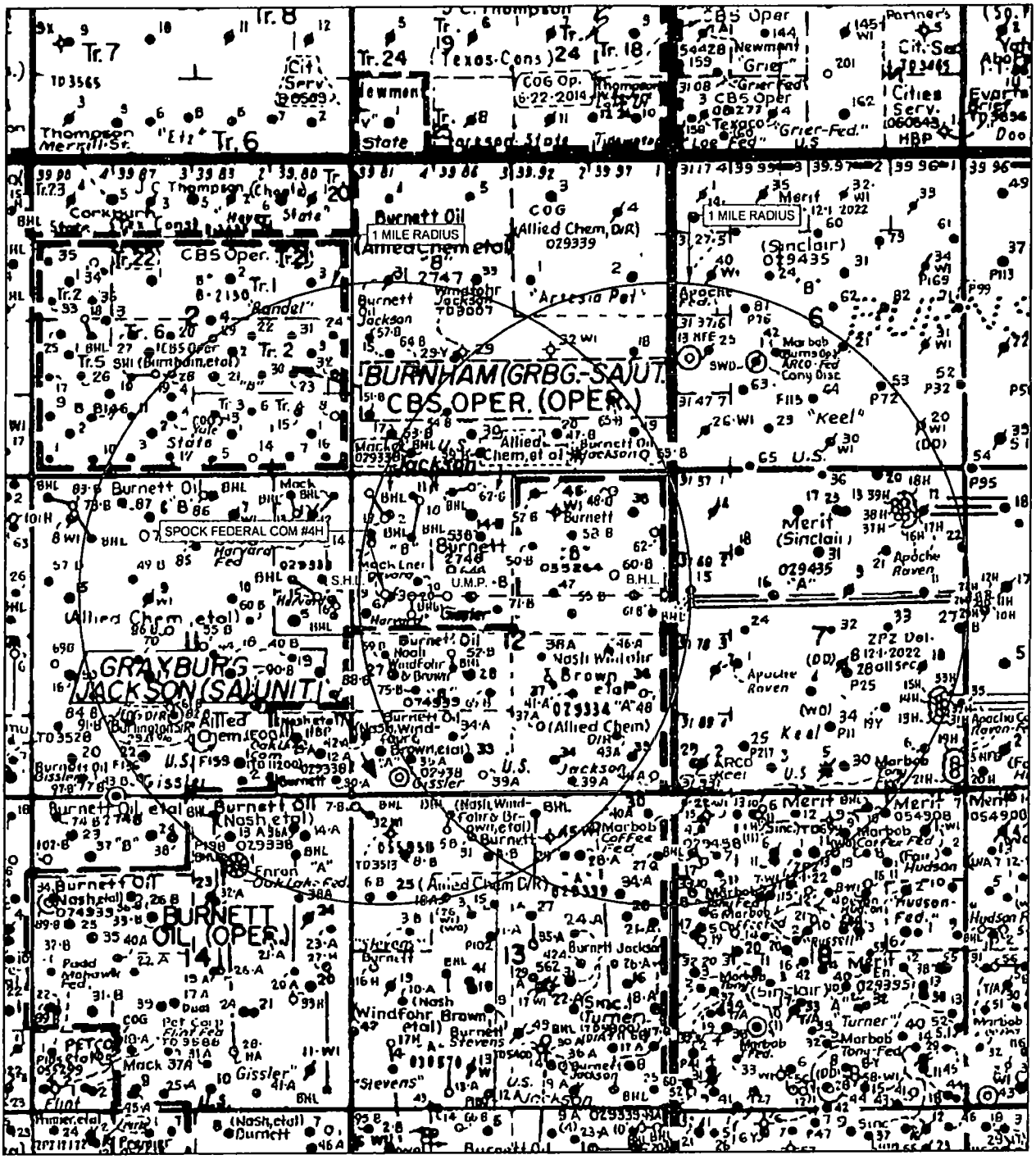
EDDY COUNTY, NEW MEXICO



LEASE NAME & WELL NO.: SPOCK FEDERAL COM 4H

SCALE: NTS

#1H LATITUDE N 32.8505731 #1H LONGITUDE W 103.9328417

-N-

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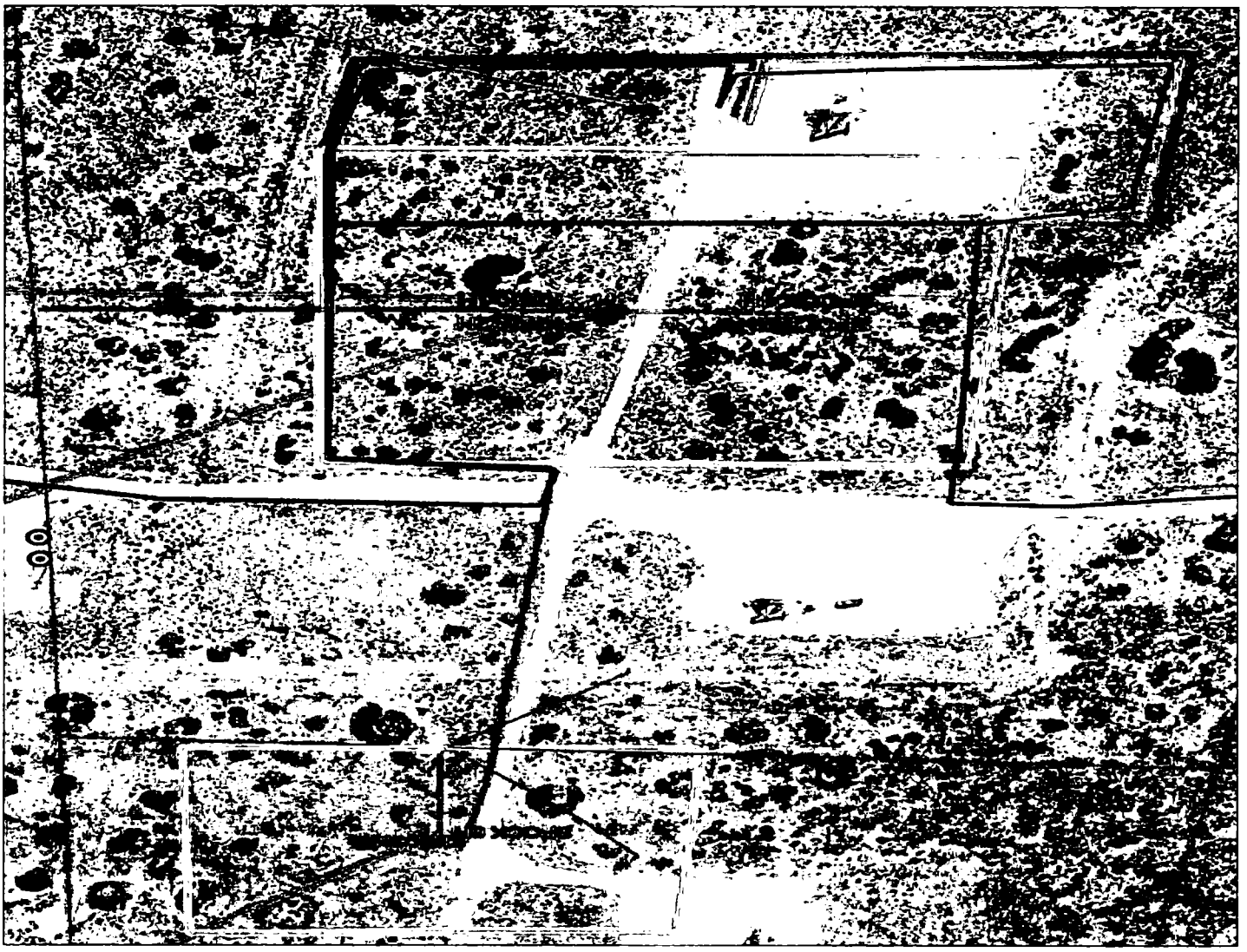
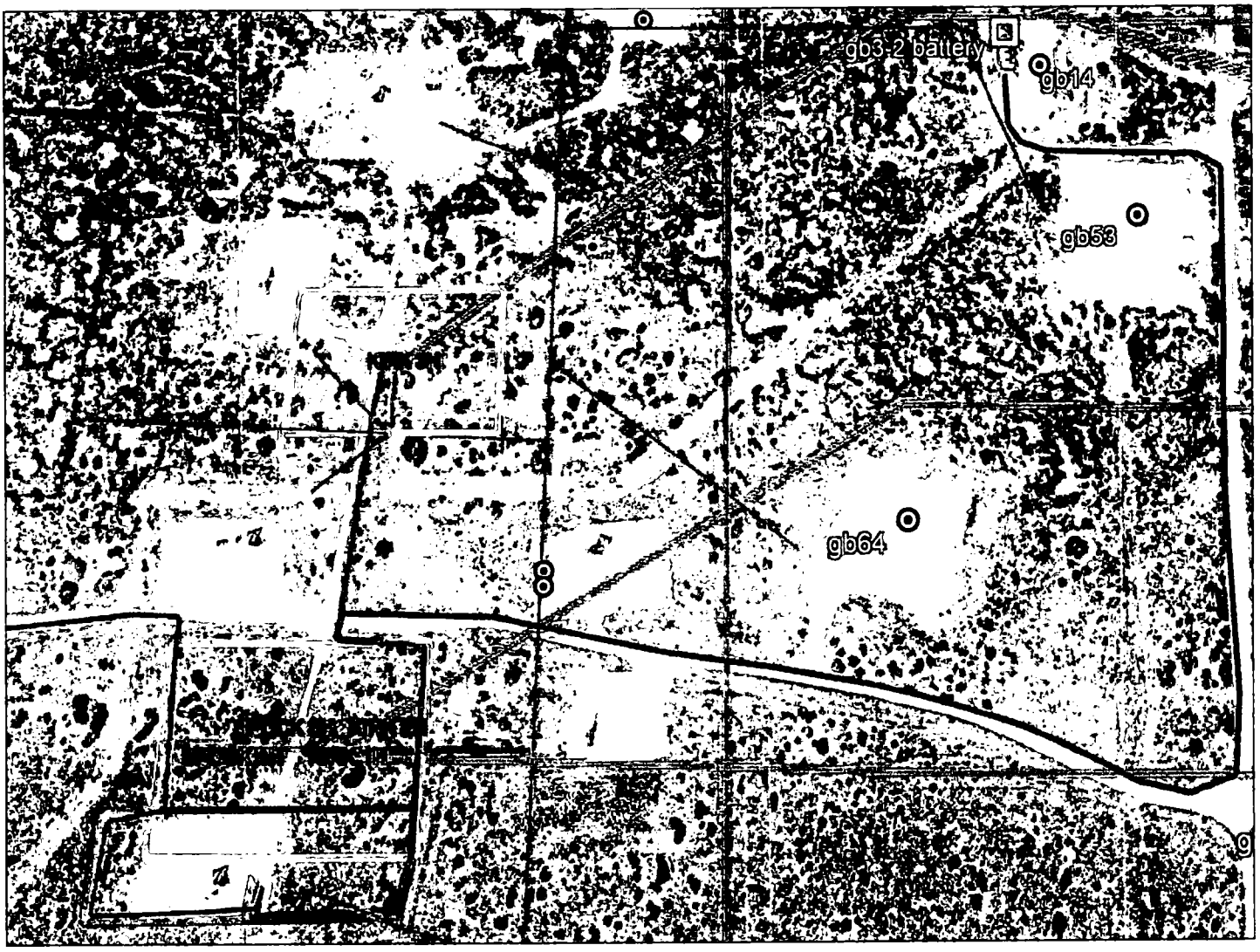
Legend/Key for Spock Wells

Proposed Flowlines for Wells, water takeaway, and gas takeaway		
	Proposed Electrical Hookup	Total Footage - 725 ft
	Spock #4H Flowline Path	2- 4" Poly SDR-7 Flowlines, 2- 4" Flexsteel Lines (working pressures 75-125 psi) total
	Spock #5H Flowline Path	2- 4" Poly SDR-7 Flowlines, 2- 4" Flexsteel Lines (working pressures 75-125 psi) total
	Spock #6H Flowline Path	2- 4" Poly SDR-7 Flowlines, 2- 4" Flexsteel Lines (working pressures 75-125 psi) total
	Water Transfer Line	4- 4" Poly SDR-7 Flowlines, total footage per
	Surface gas gathering lines to Gissler batteries	4- 4" Poly SDR-7 Flowlines, total footage per line = 5,000'

	Proposed Electrical Hookup
	Current CVE Electric Grid
	Projected Wellbore Paths
	Spock #4H Flowline Path
	Spock #5H Flowline Path
	Spock #6H Flowline Path
	Proposed location for Enterprise CTB
	Water Transfer Line
	EOG Acreage Outline
	Surface gas gathering lines to Gissler batteries

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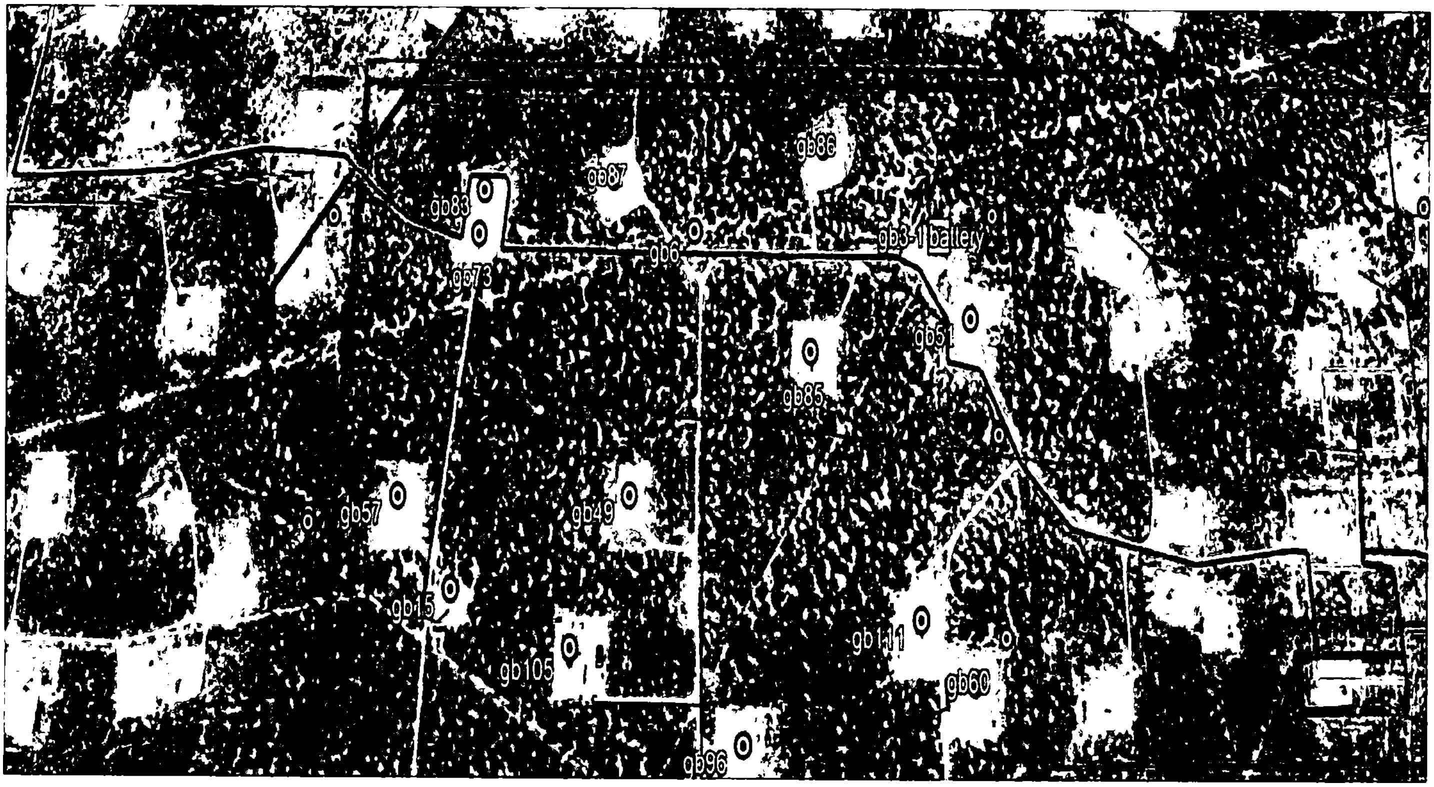
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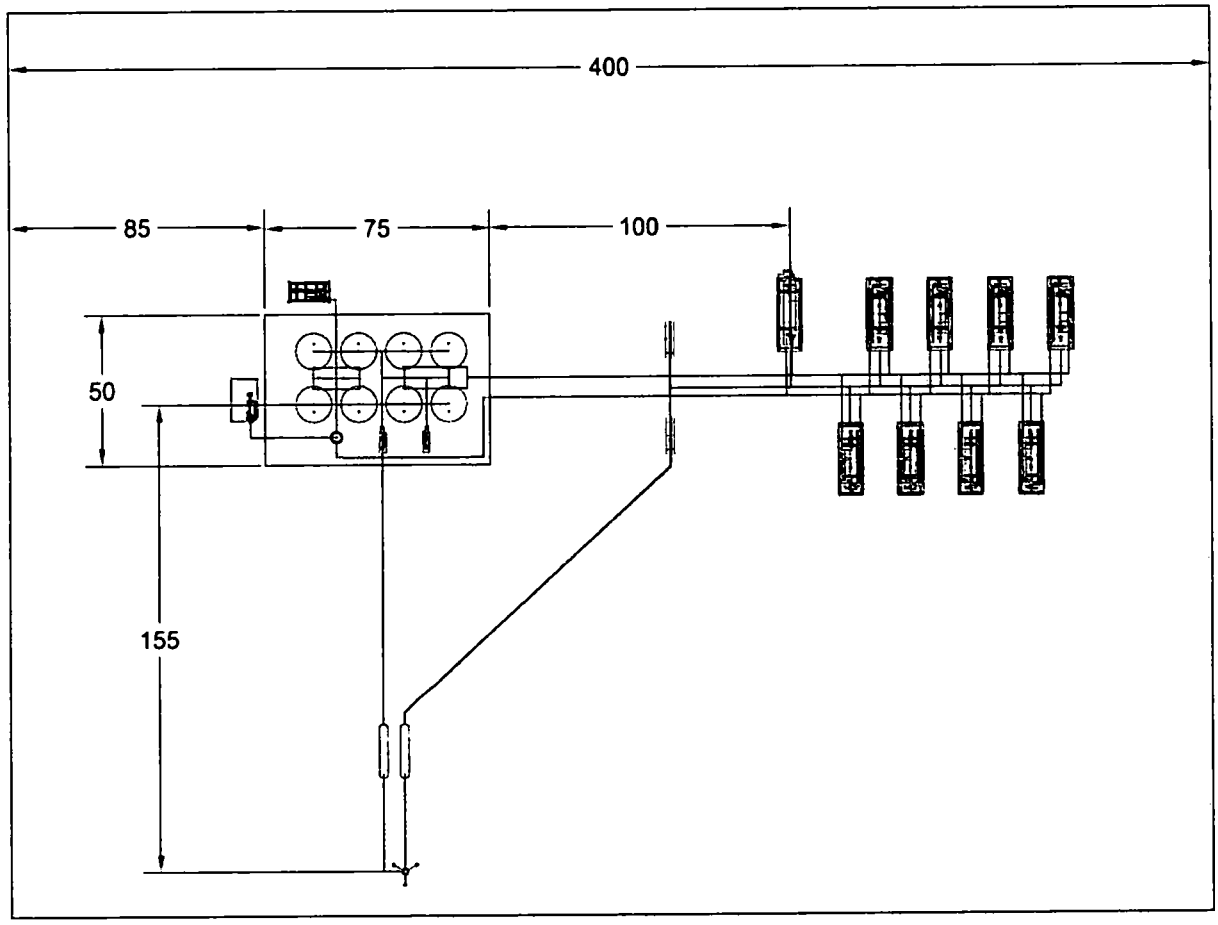
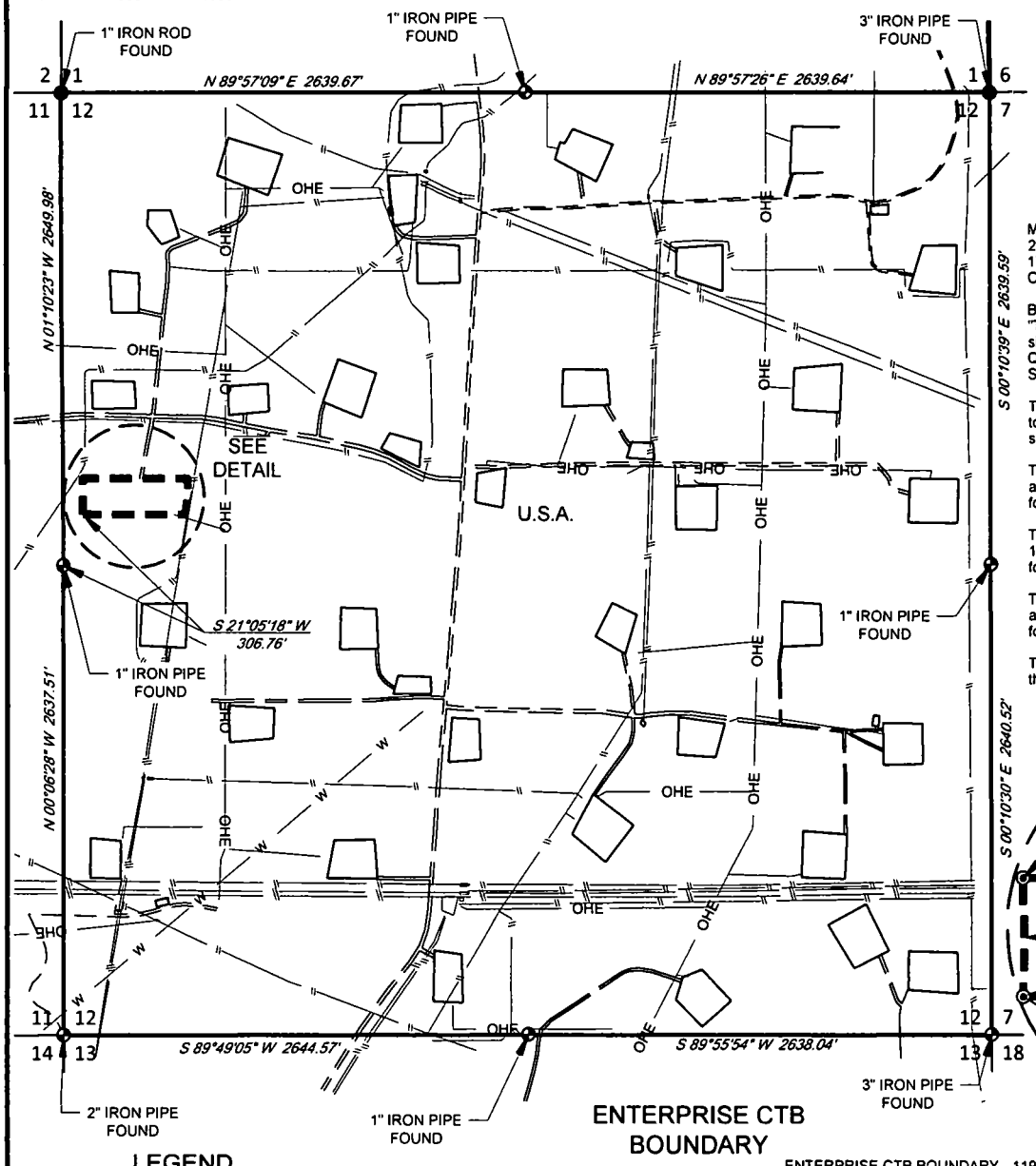

400
85
75
100
50
155

SCALE: 1" = 1000'

0' 500' 1000'

SECTION 12, TOWNSHIP 17-S, RANGE 30-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



-N-

Metes and Bounds Description of a proposed 2.73 acre CTB located within Section 12, Township 17 South, Range 30 East, N.M.P.M., in Eddy County, New Mexico.

BEGINNING at a 1/2" iron rod with cap stamped "Topographic" set for the Southwest corner of this site, from whence a brass cap found for the West Quarter corner of said Section 12, bears: S 21°05'18" W, a distance of 306.76 feet;

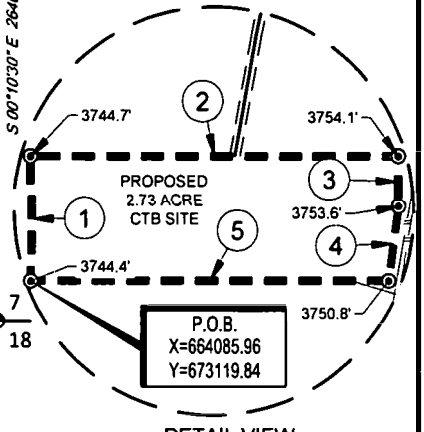
Thence N 00°00'00" W, a distance of 200.00 feet, to a 1/2" iron rod with cap stamped "Topographic" set for the Northwest corner of this site;

Thence N 90°00'00" E, a distance of 600.00 feet to a 1/2" iron rod with cap stamped "Topographic" set for the Northeast corner of this site;

Thence S 00°00'00" E, a distance of 80.00 feet to a 1/2" iron rod with cap stamped "Topographic" set for an angle point of this site;

Thence S 07°35'41" W, a distance of 121.06 feet to a 1/2" iron rod with cap stamped "Topographic" set for the Southeast corner of this site;

Thence N 90°00'00" W, a distance of 584.00 feet to the Point of Beginning.



DETAIL VIEW
SCALE: 1" = 300'

ENTERPRISE CTB BOUNDARY

ENTERPRISE CTB BOUNDARY - 119,040 SQ FT.
2.73 ACRES

LEGEND

- SURVEY/SECTION LINE
- TRACT BORDER
- PROPOSED SITE
- ROAD WAY
- FENCE LINE
- EXISTING PIPELINE
- OVERHEAD ELECTRIC
- WATER LINE
- IRON ROD FOUND
- IRON PIPE FOUND
- IRON ROD SET

LINE TABLE

LINE	BEARING	DISTANCE
1	N 00°00'00" W	200.00'
2	N 90°00'00" E	600.00'
3	S 00°00'00" E	80.00'
4	S 07°35'41" W	121.06'
5	N 90°00'00" W	584.00'

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Michael Blake Brown, P.S. No. 18329
AUGUST 12, 2018

eog resources, inc.

ENTERPRISE CTB	REVISION: INT	DATE
DATE: 08/14/2018		
FILE: BO_ENTERPRISE_CTB_T17S_R30E_SEC12		
DRAWN BY: SME		
SHEET: 1 OF 1		

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5. E.O.L./P.O.E. = END OF LINE/POINT OF EXIT
6. ADJOINER INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.

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SCALE: 1" = 1000'

0' 500' 1000'

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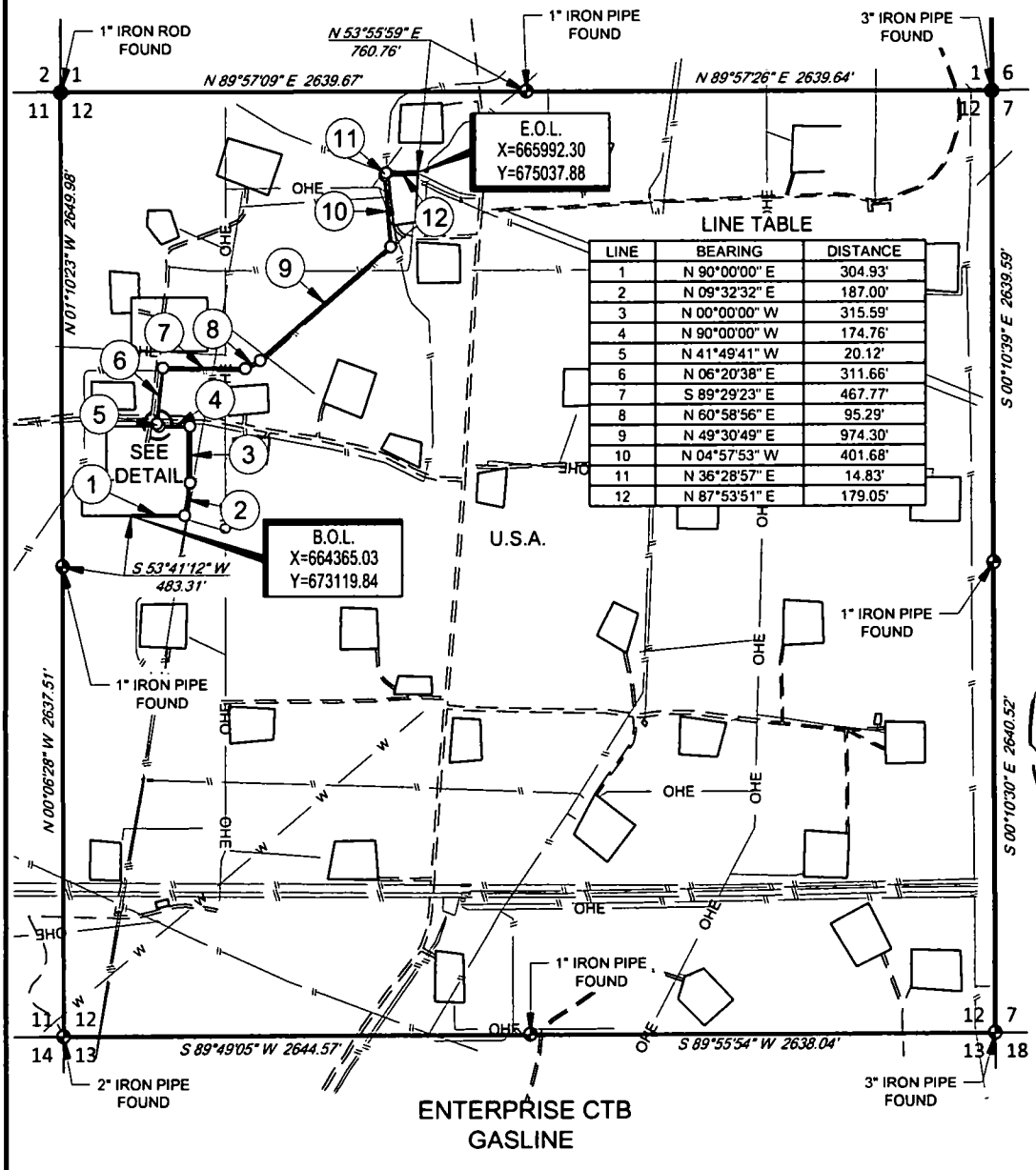
EDDY COUNTY, NEW MEXICO

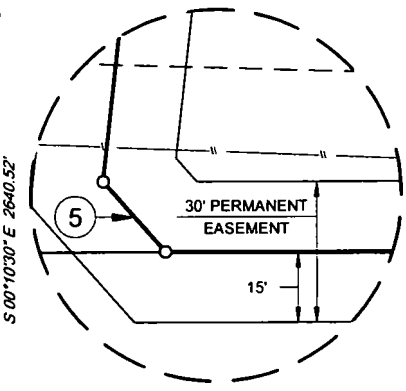


LINE TABLE

LINE	BEARING	DISTANCE
1	N 90°00'00" E	304.93'
2	N 09°32'32" E	187.00'
3	N 00°00'00" W	315.59'
4	N 90°00'00" W	174.76'
5	N 41°49'41" W	20.12'
6	N 06°20'38" E	311.66'
7	S 89°29'23" E	467.77'
8	N 60°58'56" E	95.29'
9	N 49°30'49" E	974.30'
10	N 04°57'53" W	401.68'
11	N 36°28'57" E	14.83'
12	N 87°53'51" E	179.05'

LEGEND

- SURVEY/SECTION LINE
- RANGE LINE
- TRACT BORDER
- SURVEYED BASELINE
- EDGE OF EASEMENT
- ROAD WAY
- FENCE LINE
- EXISTING PIPELINE
- OHE — OVERHEAD ELECTRIC
- W — WATER LINE
- IRON ROD FOUND
- IRON PIPE FOUND
- POINT OF INTERSECTION



DETAIL VIEW
SCALE: 1" = 40'

Being a proposed gasline easement being 30 feet in width, 15 feet left, and 15 feet right of the above platted centerline total line footage containing 3446.98 feet or 208.91 rods, containing 2.37 acres more or less.

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OCTOBER 1, 2018

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FILE: EP_ENTERPRISE_CTB_GL_SEC12		
DRAWN BY: IMU		
SHEET: 1 OF 1		

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SCALE: 1" = 1000'

0' 500' 1000'

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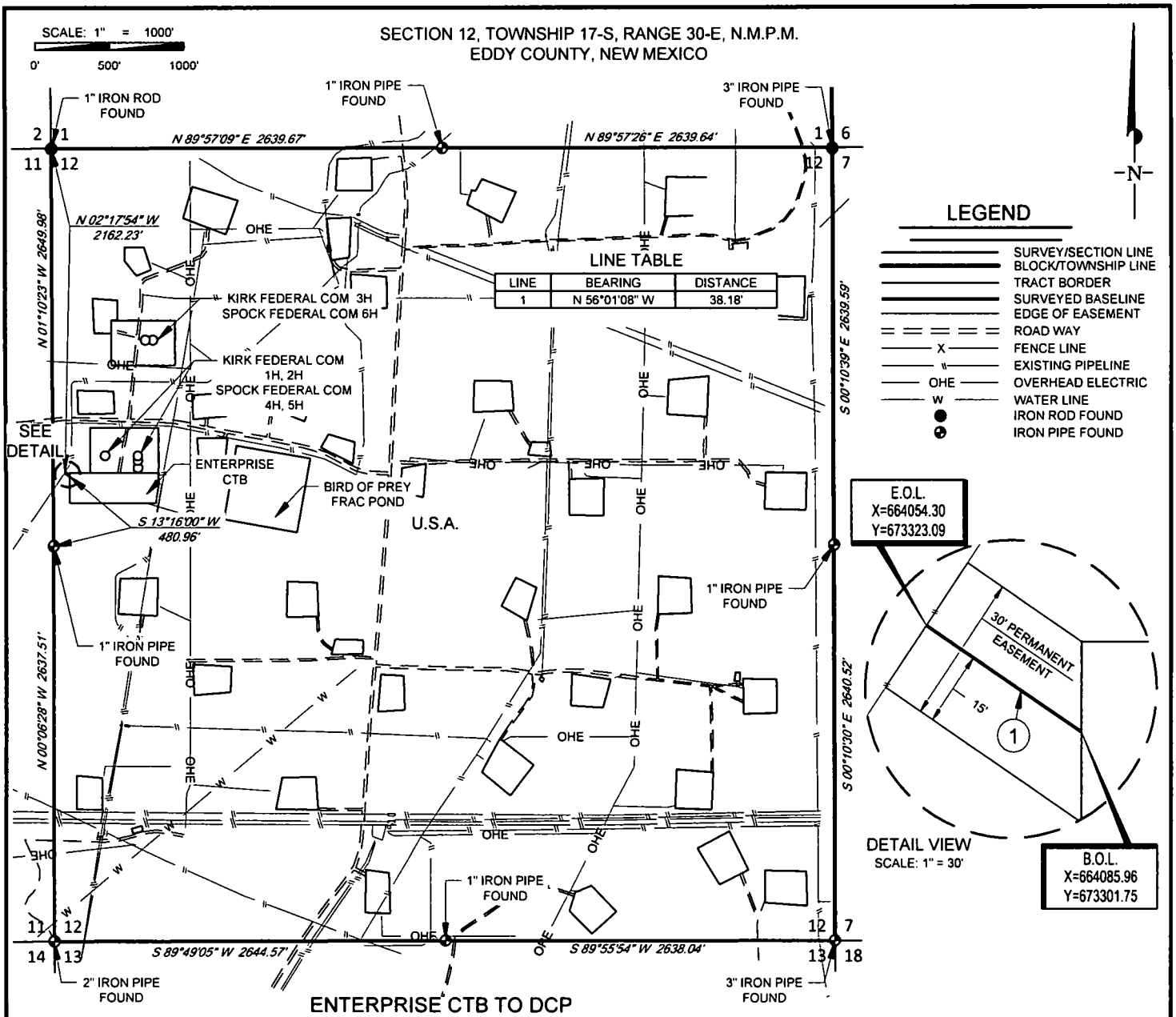
EDDY COUNTY, NEW MEXICO



LINE TABLE

LINE	BEARING	DISTANCE
1	N 56°01'08" W	38.18'

LEGEND

- SURVEY/SECTION LINE
- BLOCK/TOWNSHIP LINE
- TRACT BORDER
- SURVEYED BASELINE
- EDGE OF EASEMENT
- ROAD WAY
- FENCE LINE
- EXISTING PIPELINE
- OHE — OVERHEAD ELECTRIC
- W — WATER LINE
- IRON ROD FOUND
- IRON PIPE FOUND

DETAIL VIEW
SCALE: 1" = 30'

ENTERPRISE CTB TO DCP GAS TIE-IN

Being a proposed gas tie-in easement being 30 feet in width, 15 feet left, and 15 feet right of the above platted centerline total line footage containing 38.18 feet or 2.31 rods, containing 0.03 acres more or less.

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 148 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
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Michael Blake Brown, P.S. No. 18329
OCTOBER 25, 2018

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ENTERPRISE CTB TO DCP GAS TIE-IN	REVISION: INT	DATE
DATE: 10/25/2018		
FILE: EP_ENTERPRISE_CTB_TO_DCP_GAS_TIE-IN		
DRAWN BY: EAH		
SHEET: 1 OF 1		

NOTES:
1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"
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3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY EOG RESOURCES, INC. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE, AND MADE FOR THIS TRANSACTION ONLY.
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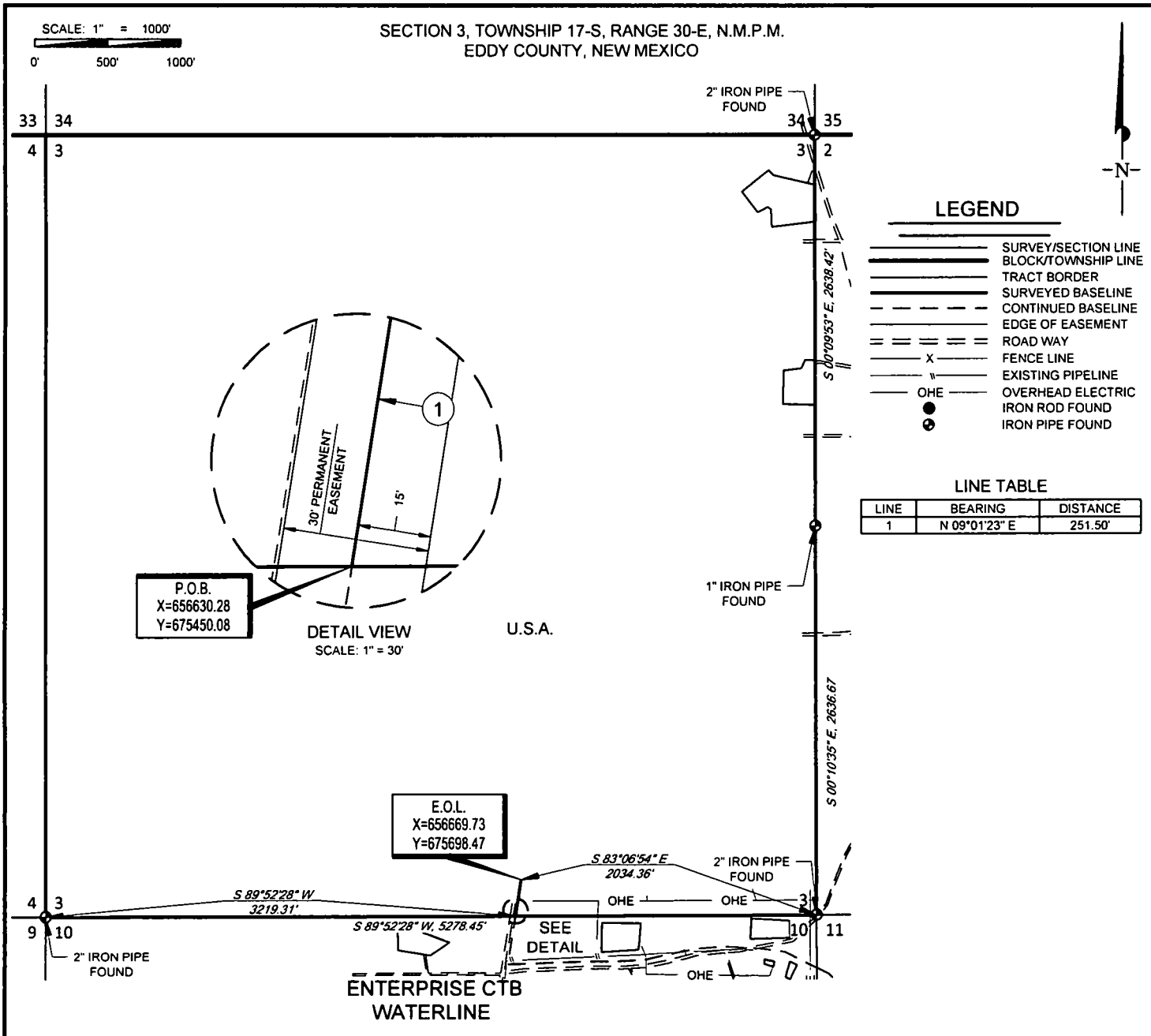
5. E.O.L./P.O.E. = END OF LINE/POINT OF EXIT
6. ADJOINER INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.

S:\SURVEY\EOG_ARTESIA\ENTERPRISE_CTB\FINAL_PRODUCTS\EP_ENTERPRISE_CTB_TO_DCP_GAS_TIE-IN.DWG 10/25/2018 11:19:58 AM ehombeck

SCALE: 1" = 1000'

0' 500' 1000'

SECTION 3, TOWNSHIP 17-S, RANGE 30-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



LEGEND

- SURVEY/SECTION LINE
- BLOCK/TOWNSHIP LINE
- TRACT BORDER
- SURVEYED BASELINE
- CONTINUED BASELINE
- EDGE OF EASEMENT
- ROAD WAY
- X — FENCE LINE
- EXISTING PIPELINE
- OHE — OVERHEAD ELECTRIC
- IRON ROD FOUND
- IRON PIPE FOUND

LINE TABLE

LINE	BEARING	DISTANCE
1	N 09°01'23" E	251.50'

Being a proposed waterline easement being 30 feet in width, 15 feet left, and 15 feet right of the above platted centerline total line footage containing 251.50 feet or 15.24 rods, containing 0.17 acres more or less.

TOPOGRAPHIC
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1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
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Michael Blake Brown, P.S. No. 18329
OCTOBER 1, 2018

eog resources, Inc.

ENTERPRISE CTB WATERLINE	REVISION: INT	DATE
DATE: 10/01/2018		
FILE: EP_ENTERPRISE_CTB_WL_SEC3		
DRAWN BY: IMU		
SHEET: 1 OF 1		

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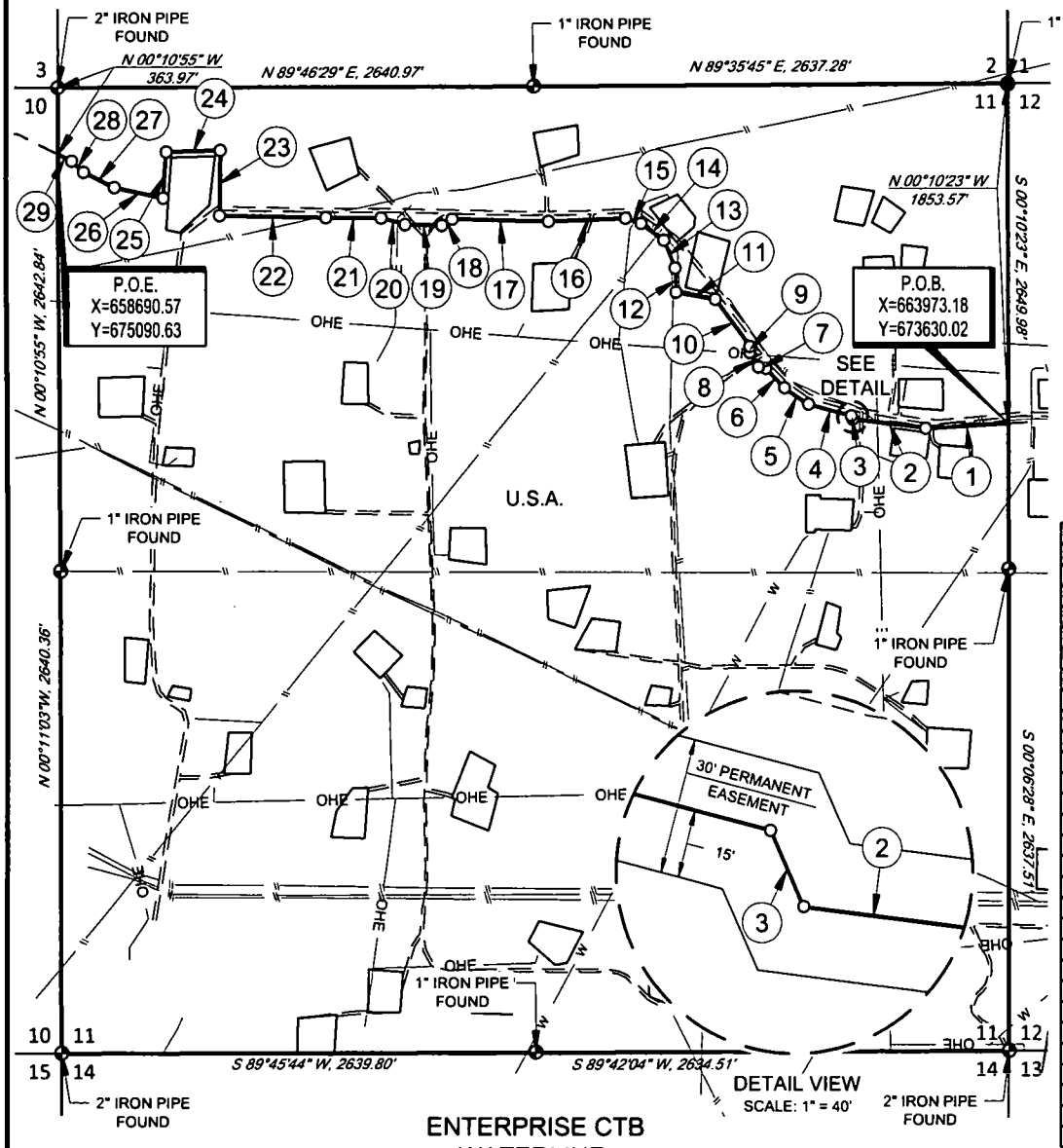
S:\SURVEY\EOG_ARTESIA\ENTERPRISE_CTB\FINAL_PRODUCTS\EP_ENTERPRISE_CTB_WL_SEC3.DWG 10/3/2018 2:54:07 PM csmith5

SCALE: 1" = 1000'

0' 500' 1000'

SECTION 11, TOWNSHIP 17-S, RANGE 30-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



ENTERPRISE CTB WATERLINE

Being a proposed waterline easement being 30 feet in width, 15 feet left, and 15 feet right of the above platted centerline total line footage containing 6513.86 feet or 394.78 rods, containing 4.49 acres more or less.

LEGEND

- SURVEY/SECTION LINE
- BLOCK/TOWNSHIP LINE
- TRACT BORDER
- SURVEYED BASELINE
- CONTINUED BASELINE
- EDGE OF EASEMENT
- ROAD WAY
- FENCE LINE
- EXISTING PIPELINE
- OHE — OVERHEAD ELECTRIC
- W — WATER LINE
- IRON ROD FOUND
- IRON PIPE FOUND
- POINT OF INTERSECTION

LINE TABLE

LINE	BEARING	DISTANCE
1	S 86°31'29" W	462.47'
2	N 82°53'09" W	409.32'
3	N 24°02'28" W	18.21'
4	N 75°22'34" W	248.09'
5	N 55°51'32" W	160.88'
6	N 44°11'52" W	147.93'
7	N 78°57'36" W	43.06'
8	N 30°56'52" W	91.50'
9	N 01°18'12" W	33.97'
10	N 36°58'00" W	320.55'
11	N 79°59'45" W	221.02'
12	N 02°37'35" W	131.13'
13	N 22°30'22" W	163.33'
14	N 54°12'08" W	155.46'
15	N 72°11'09" W	91.79'
16	S 87°37'20" W	427.18'
17	N 88°42'18" W	534.62'
18	S 59°31'15" W	67.07'
19	N 88°44'30" W	205.00'
20	N 75°02'12" W	138.13'
21	N 89°36'55" W	306.47'
22	N 89°01'25" W	590.14'
23	N 00°58'35" E	355.19'
24	S 88°06'50" W	300.88'
25	S 04°10'59" W	251.18'
26	N 77°53'48" W	276.27'
27	N 63°56'35" W	187.88'
28	N 47°18'10" W	89.38'
29	N 63°49'05" W	85.76'

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OCTOBER 1, 2018

ENTERPRISE CTB WATERLINE	REVISION: INT	DATE
DATE: 10/01/2018		
FILE: EP_ENTERPRISE_CTB_WL_SEC11		
DRAWN BY: IMU		
SHEET: 1 OF 1		

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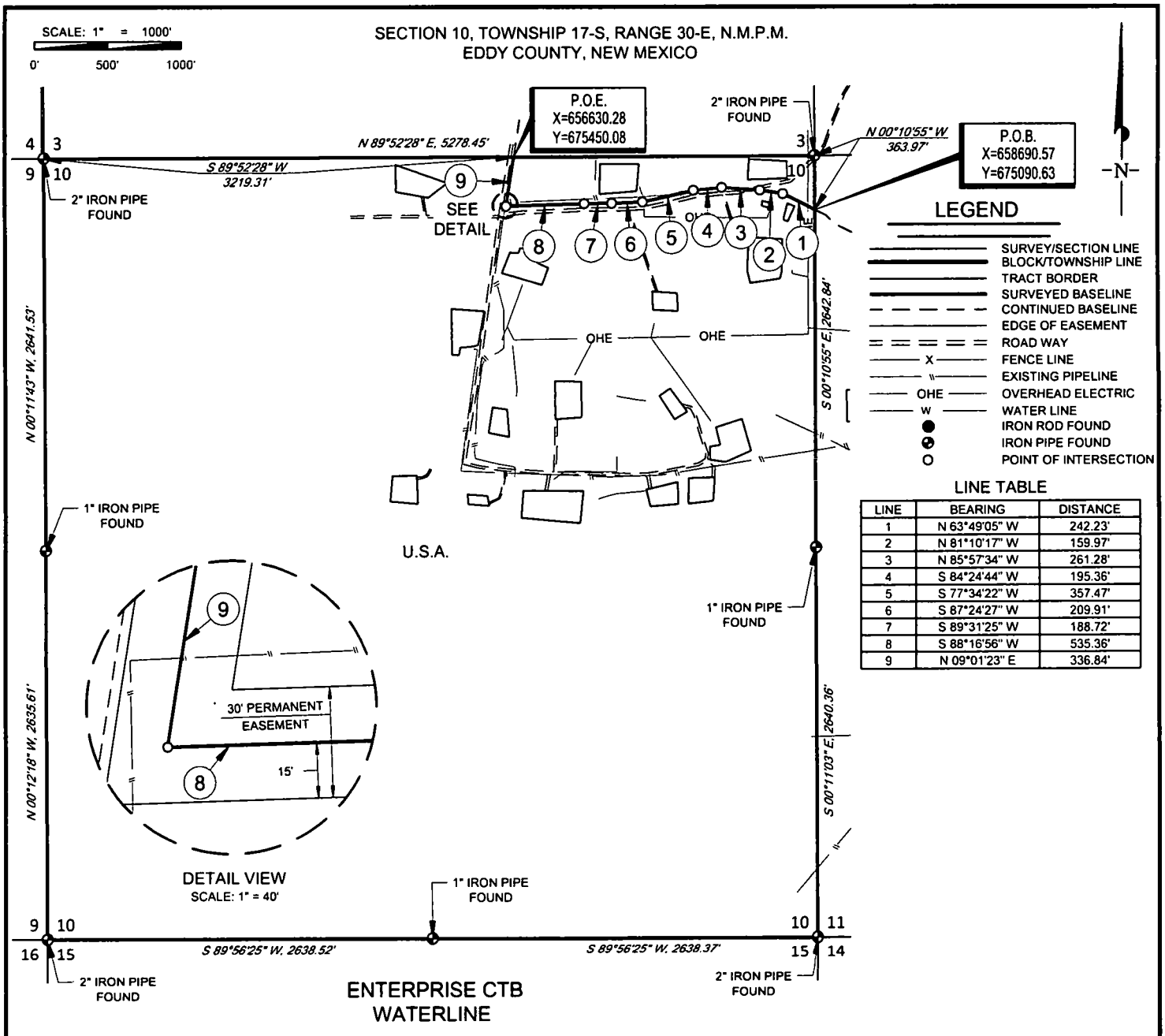
SCALE: 1" = 1000'

0' 500' 1000'

SECTION 10, TOWNSHIP 17-S, RANGE 30-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



LINE TABLE

LINE	BEARING	DISTANCE
1	N 63°49'05" W	242.23'
2	N 81°10'17" W	159.97'
3	N 85°57'34" W	261.28'
4	S 84°24'44" W	195.36'
5	S 77°34'22" W	357.47'
6	S 87°24'27" W	209.91'
7	S 89°31'25" W	188.72'
8	S 88°16'56" W	535.36'
9	N 09°01'23" E	336.84'

ENTERPRISE CTB WATERLINE

Being a proposed waterline easement being 30 feet in width, 15 feet left, and 15 feet right of the above platted centerline total line footage containing 2487.14 feet or 150.74 rods, containing 1.71 acres more or less.

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OCTOBER 1, 2018

ENTERPRISE CTB WATERLINE	REVISION: INT	DATE
DATE: 10/01/2018		
FILE: EP_ENTERPRISE_CTB_WL_SEC10		
DRAWN BY: IMU		
SHEET: 1 OF 1		

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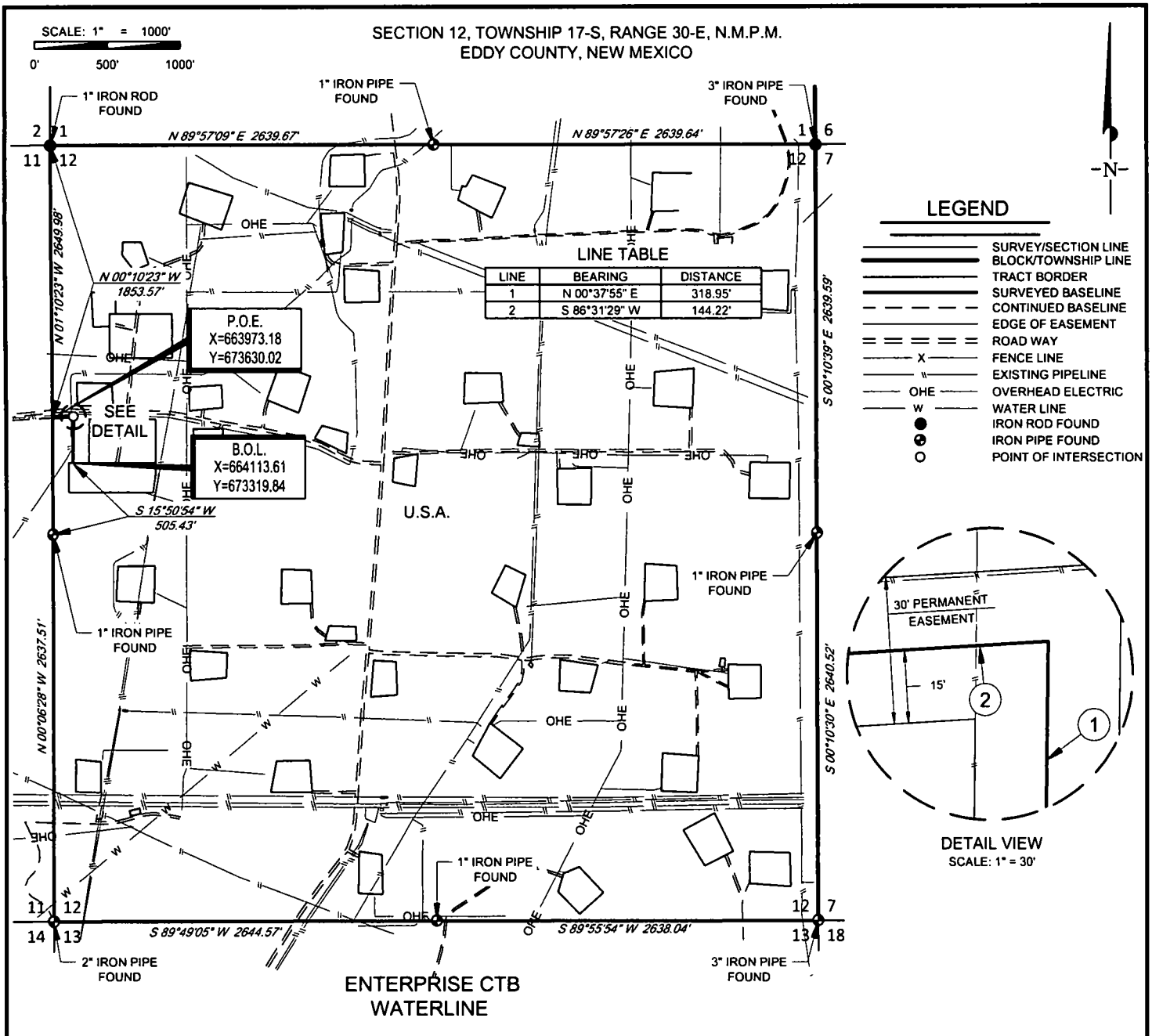
SCALE: 1" = 1000'

0' 500' 1000'

SECTION 12, TOWNSHIP 17-S, RANGE 30-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



LINE TABLE

LINE	BEARING	DISTANCE
1	N 00°37'55" E	318.95'
2	S 86°31'29" W	144.22'

LEGEND

- SURVEY/SECTION LINE
- BLOCK/TOWNSHIP LINE
- TRACT BORDER
- SURVEYED BASELINE
- CONTINUED BASELINE
- EDGE OF EASEMENT
- ROAD WAY
- FENCE LINE
- EXISTING PIPELINE
- OHE — OVERHEAD ELECTRIC
- W — WATER LINE
- IRON ROD FOUND
- IRON PIPE FOUND
- POINT OF INTERSECTION

DETAIL VIEW
SCALE: 1" = 30'

ENTERPRISE CTB WATERLINE

Being a proposed waterline easement being 30 feet in width, 15 feet left, and 15 feet right of the above platted centerline total line footage containing 463.17 feet or 28.07 rods, containing 0.32 acres more or less.

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OCTOBER 1, 2018

ENTERPRISE CTB WATERLINE	REVISION: INT	DATE
DATE: 10/01/2018		
FILE: EP_ENTERPRISE_CTB_WL_SEC12		
DRAWN BY: IMU		
SHEET: 1 OF 1		

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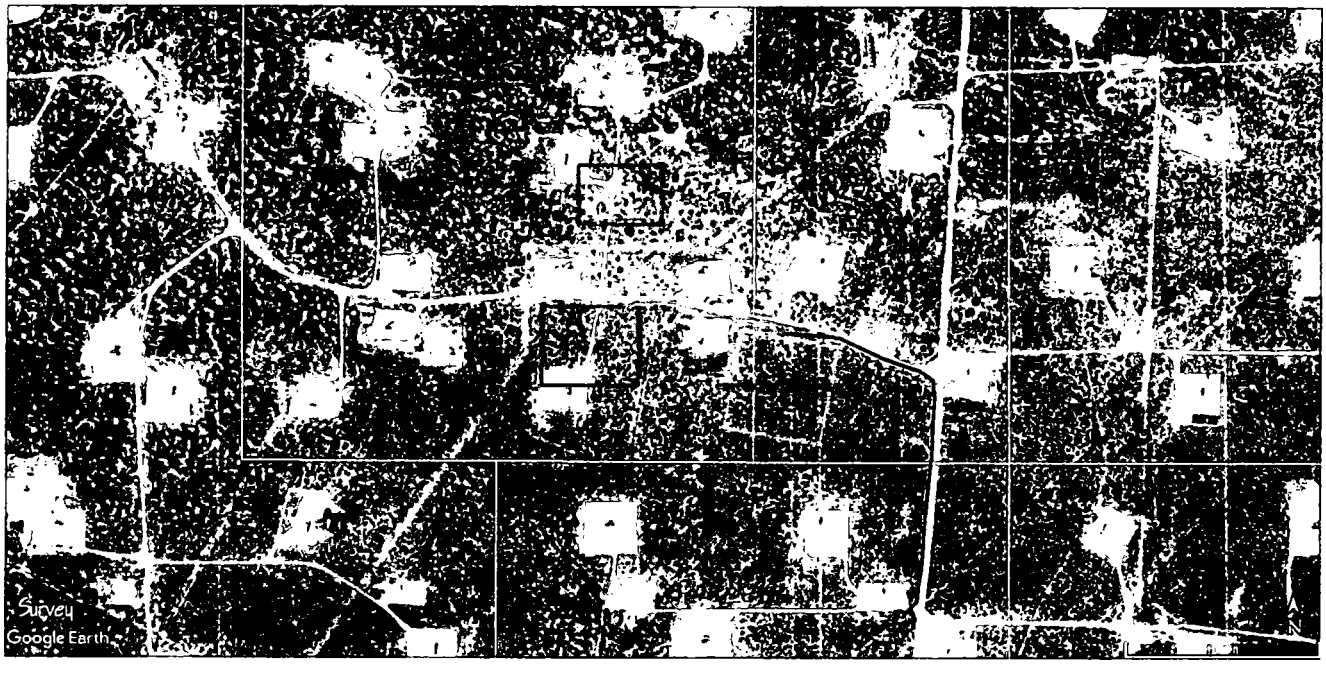
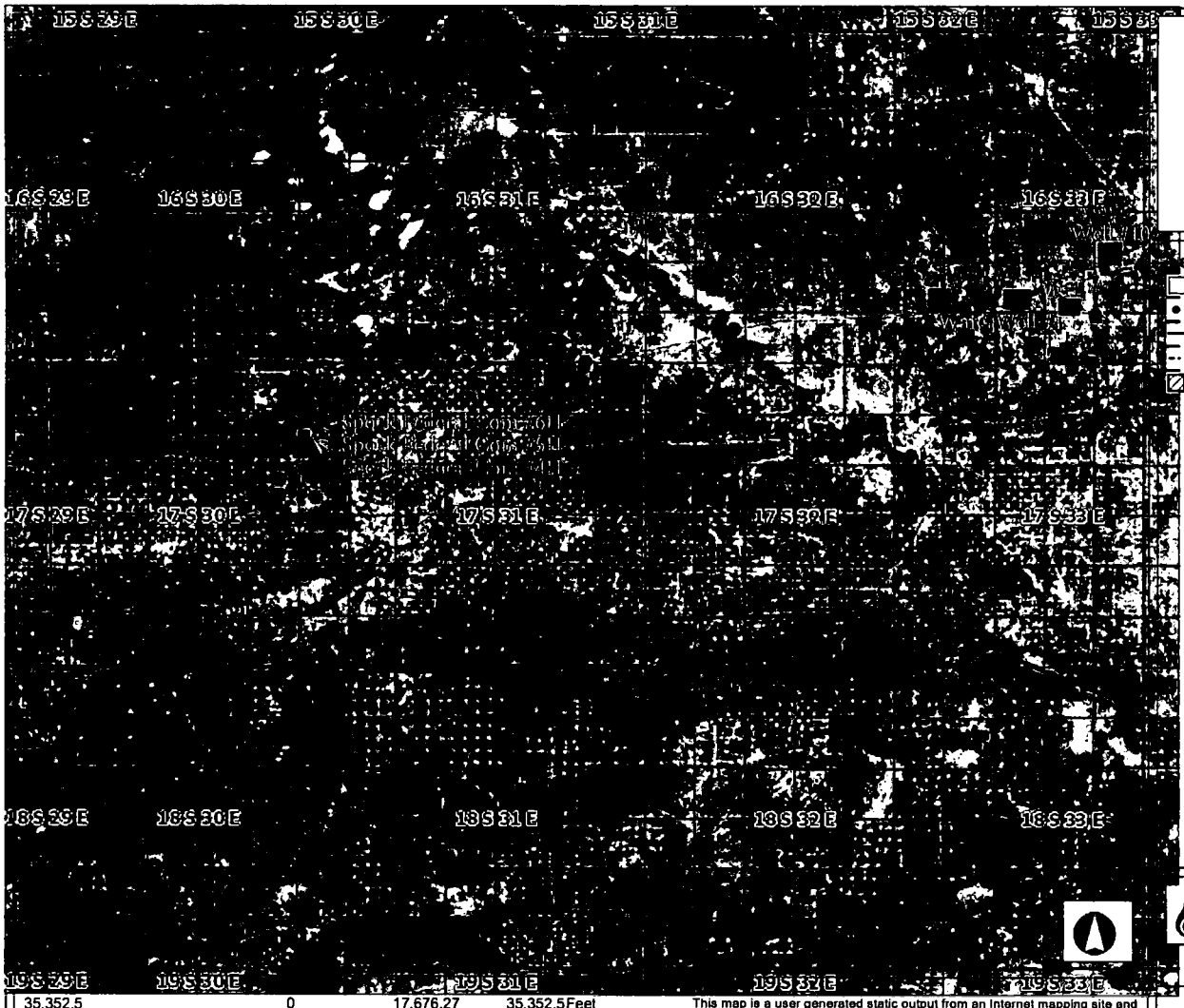
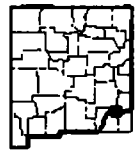

Survey
Google Earth





Legend

- Jeffersonian Sections
- Artesia SHL Directional
- Artesia Well Path
- Well Plans
- Well Pad Areas
- Land Calendar Legend
  - EXPIRATION
  - OBLIGATION
  - PAYMENT

35,352.5 0 17,676.27 35,352.5 Feet

1: 212,115

Projection: WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Date: 7/19/2018

eog resources

ARTESIA DIVISION

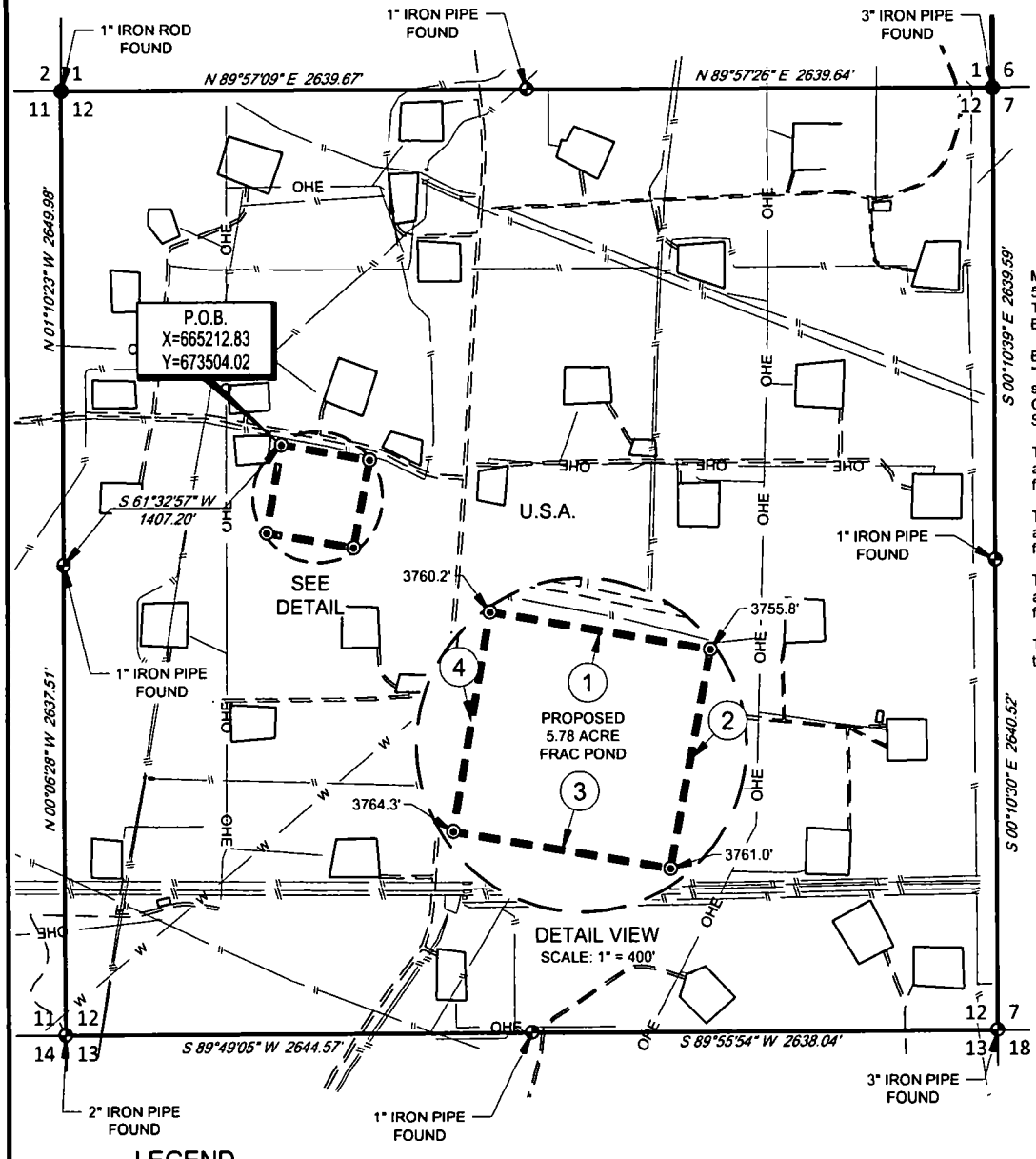
Water Source Map
Spock Federal Com #4H,#5H, #6H

Author: Trixy Duke

SCALE: 1" = 1000'

0' 500' 1000'

SECTION 12, TOWNSHIP 17-S, RANGE 30-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



-N-

BIRD OF PREY FRAC POND

Metes and Bounds Description of a proposed 5.78 acre frac pond located within Section 12, Township 17 South, Range 30 East, N.M.P.M., in Eddy County, New Mexico.

BEGINNING at a 1/2" iron rod with cap stamped "Topographic" set for the Northwest corner of this site, from whence a brass cap found for the West Quarter corner of said Section 12, bears: S 61°32'57" W, a distance of 1407.20 feet;

Thence S 80°18'27" E, a distance of 507.21 feet, to a 1/2" iron rod with cap stamped "Topographic" set for the Northeast corner of this site;

Thence S 10°30'52" W, a distance of 500.13 feet to a 1/2" iron rod with cap stamped "Topographic" set for the Southeast corner of this site;

Thence N 80°17'51" W, a distance of 500.03 feet to a 1/2" iron rod with cap stamped "Topographic" set for the Southwest corner of this site;

Thence N 09°41'30" E, a distance of 499.99 feet to the Point of Beginning.

LINE TABLE

LINE	BEARING	DISTANCE
1	S 80°18'27" E	507.21'
2	S 10°30'52" W	500.13'
3	N 80°17'51" W	500.03'
4	N 09°41'30" E	499.99'

LEGEND

- SURVEY/SECTION LINE
- TRACT BORDER
- PROPOSED SITE
- ROAD WAY
- EXISTING PIPELINE
- OHE — OVERHEAD ELECTRIC
- W — WATER LINE
- IRON ROD FOUND
- IRON PIPE FOUND
- IRON ROD SET

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OCTOBER 2, 2018

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BIRD OF PREY FRAC POND	REVISION: INT	DATE
DATE: 10/02/2018		
FILE: BO_BIRDOFPREY_FRAC_POND_SEC12		
DRAWN BY: IMU		
SHEET: 1 OF 1		

NOTES:
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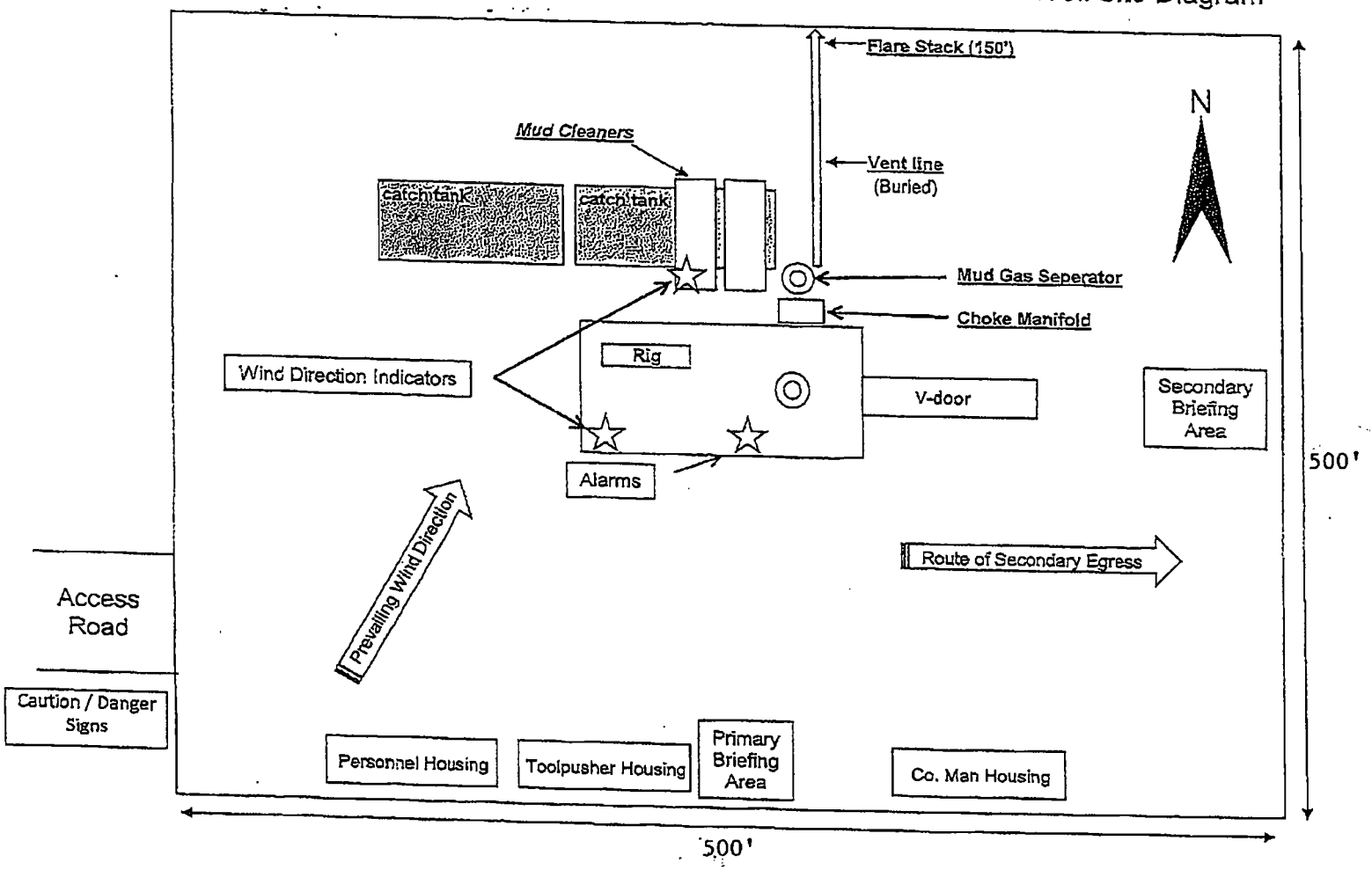
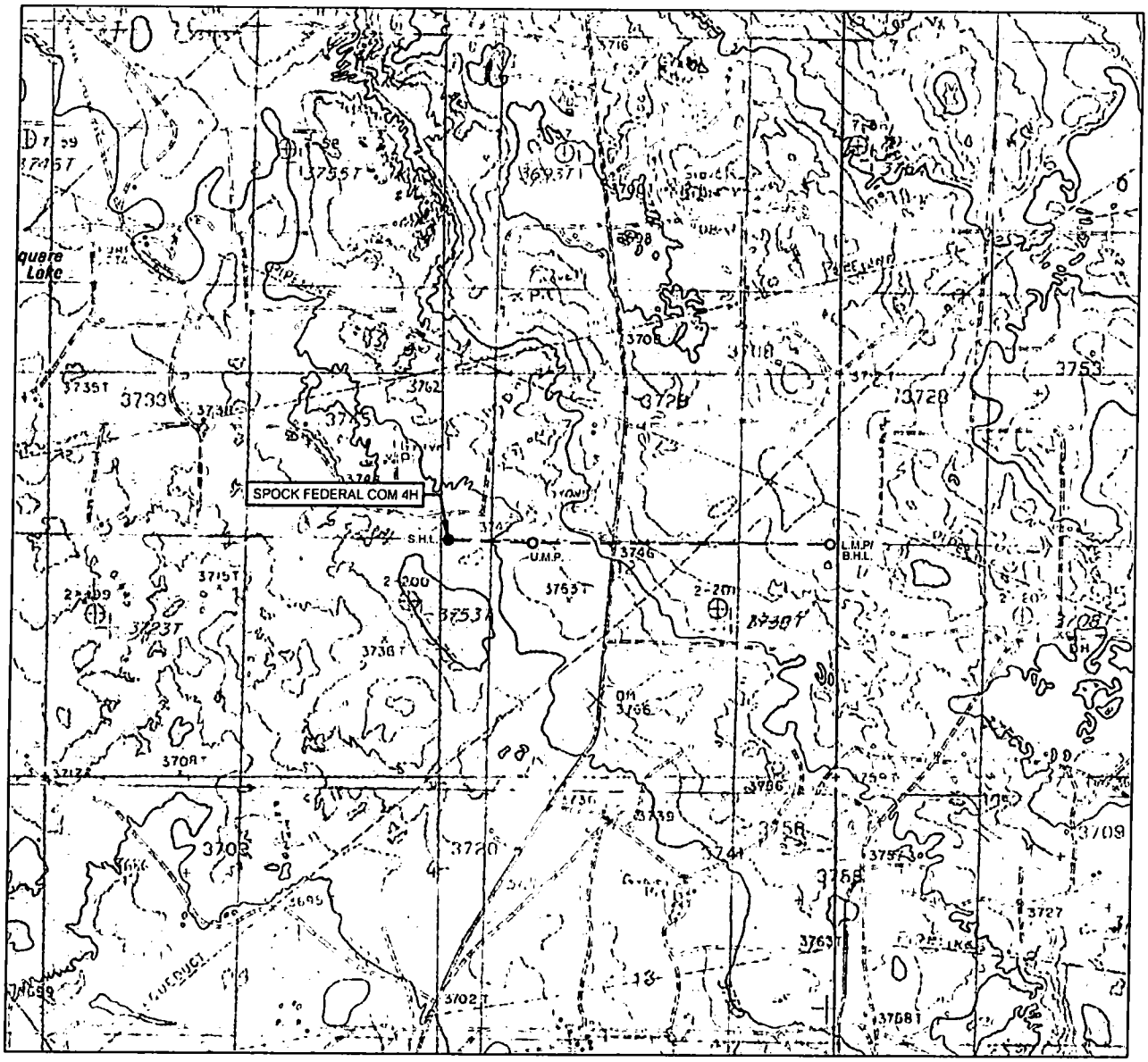
EOG Resources

Well Site Diagram



LOCATION & ELEVATION VERIFICATION MAP



eog resources, inc.

LEASE NAME & WELL NO.: SPOCK FEDERAL COM 4H

SECTION 12 TWP 17-S RGE 30-E SURVEY N.M.P.M.
COUNTY EDDY STATE NM ELEVATION 3757'
DESCRIPTION 2079 FNL & 352 FWL

LATITUDE N 32.8505731 LONGITUDE W 103.9328417

-N-

SCALE: 1" = 2000'

0' 1000' 2000'

THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

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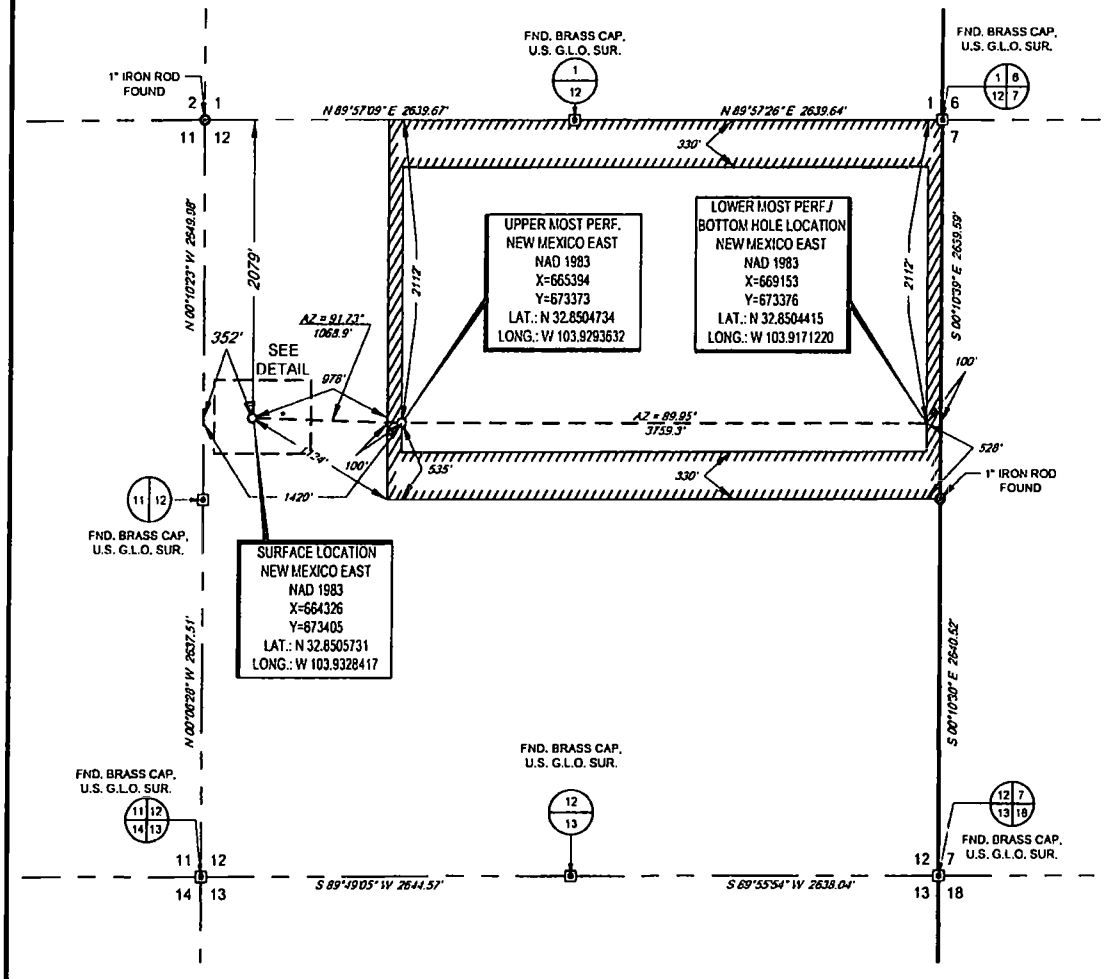
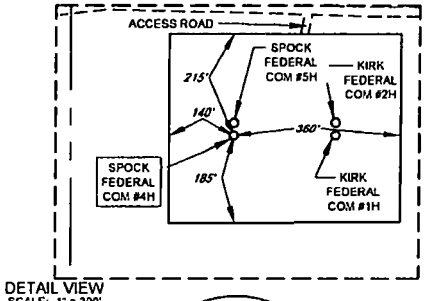
EXHIBIT 2A

SECTION 12, TOWNSHIP 17-S, RANGE 30-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO





DETAIL VIEW
SCALE: 1" = 300'

SCALE: 1" = 1000'
0' 500' 1000'

LEASE NAME & WELL NO.: SPOCK FEDERAL COM 4H

SECTION 12 TWP 17-S RGE 30-E SURVEY N.M.P.M.
COUNTY EDDY STATE NM
DESCRIPTION 2079 FNL & 352 FWL

DISTANCE & DIRECTION
FROM INT. OF NM-18 N. & HWY. 82, GO WEST ON HWY. 82 ±36.8 MILES, THENCE RIGHT (NORTH) ON SQUARE LAKE ROAD ±2.5, THENCE LEFT (WEST) ON LEASE ROAD ±0.3 MILES TO A POINT ±107 FEET EAST OF THE LOCATION.

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.

THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

MICHAEL B. BROWN
NEW MEXICO
18329
PROFESSIONAL SURVEYOR

Michael Blake Brown, P.S. No. 18329
AUGUST 9, 2018

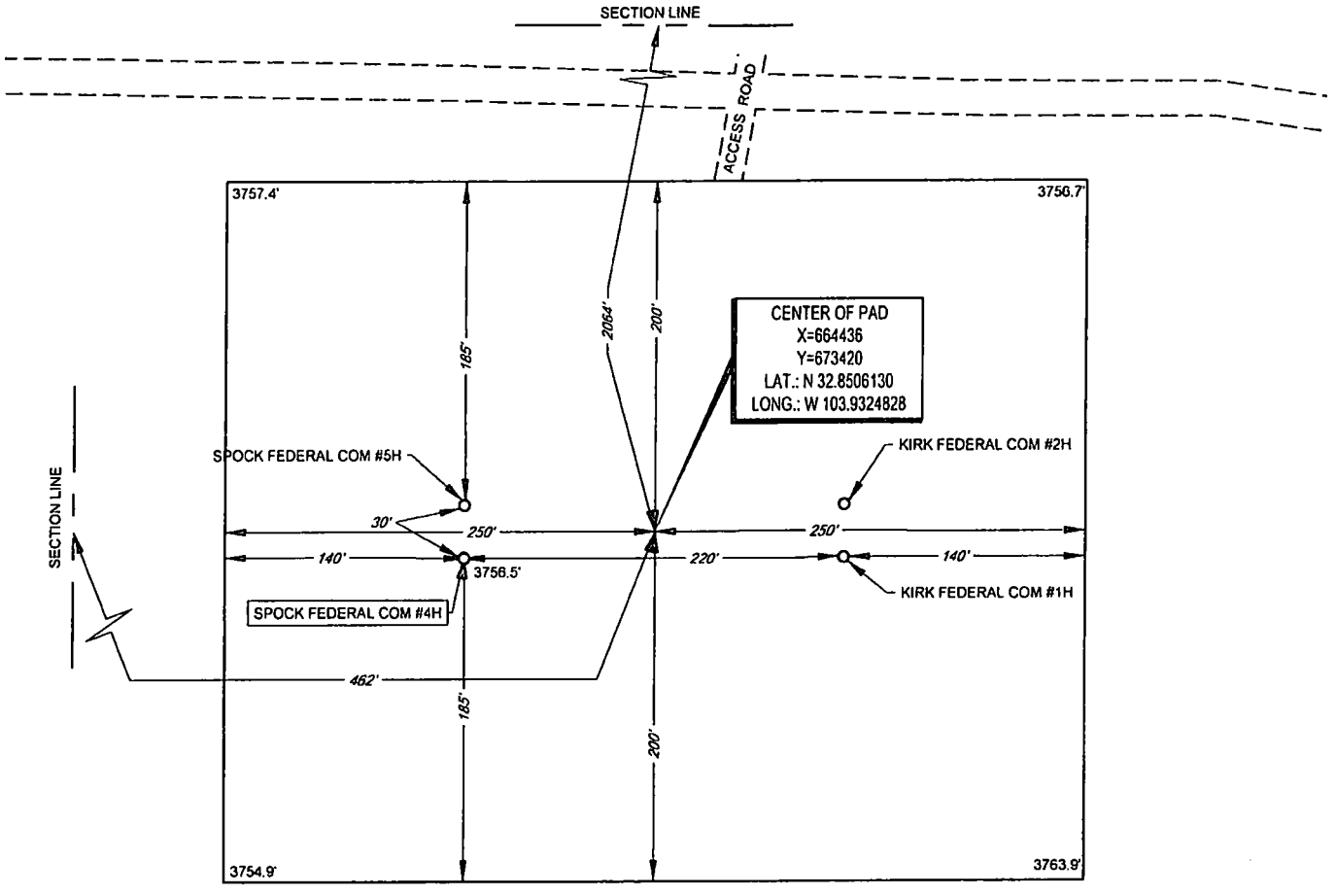
TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 148 · FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 · FAX (817) 744-7554
2903 NORTH BIG SPRING · MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1553 · FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

EXHIBIT 2B

eog resources, inc.

SECTION 12, TOWNSHIP 17-S, RANGE 30-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

DETAIL VIEW
SCALE: 1" = 100'



LEASE NAME & WELL NO.: SPOCK FEDERAL COM 4H

4H LATITUDE N 32.8505731 4H LONGITUDE W 103.9328417

CENTER OF PAD IS 2064' FNL & 462' FWL

LEGEND

- CENTERLINE ROAD
- SECTION LINE
- EXISTING PIPELINE

-N-

SCALE: 1" = 100'

0' 50' 100'

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.

THIS PROPOSED PAD SITE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

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WWW.TOPOGRAPHIC.COM

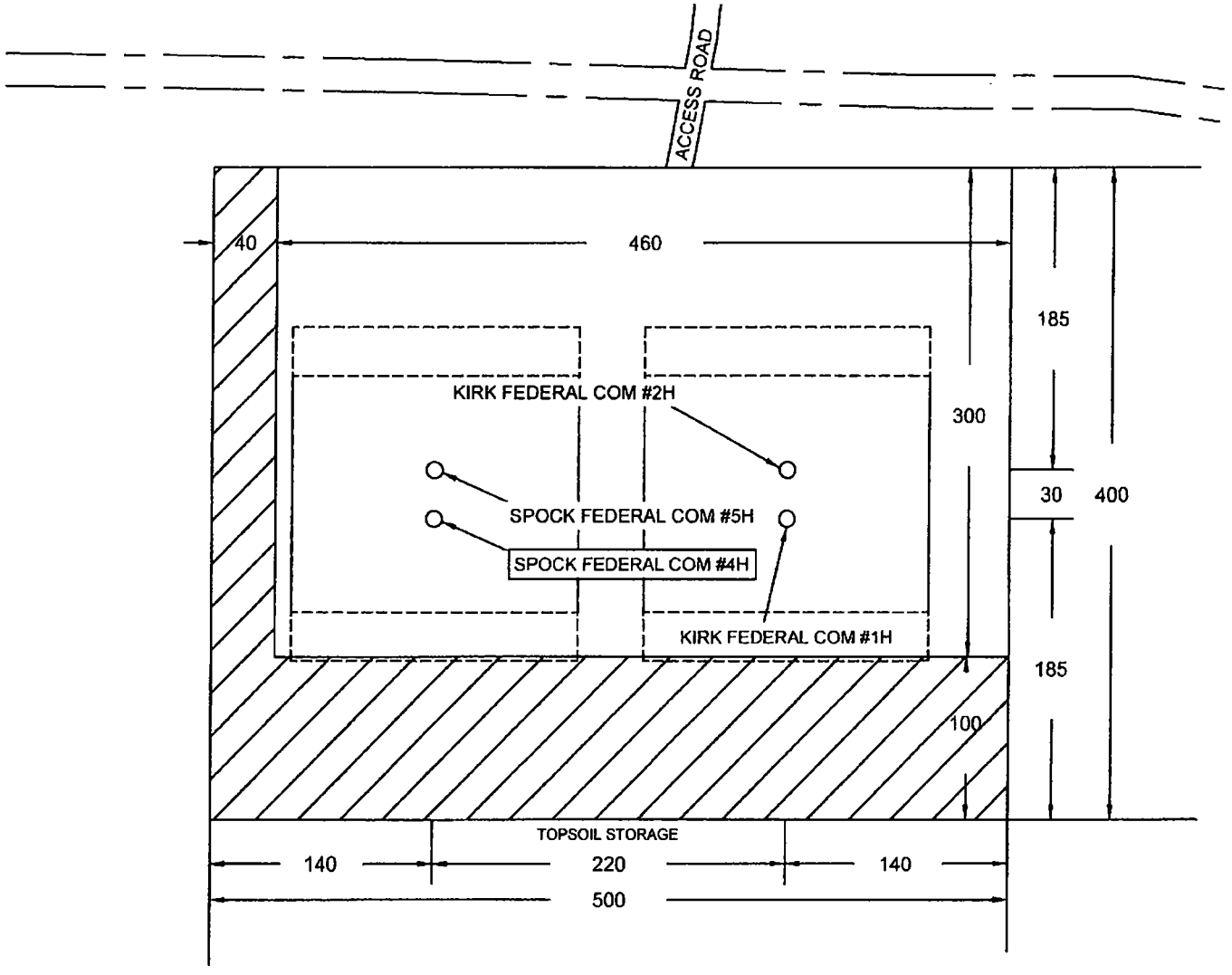
ORIGINAL DOCUMENT SIZE: 8.5" X 11"

EXHIBIT 2C

RECLAMATION AND FACILITY DIAGRAM - PRODUCTION FACILITIES DIAGRAM

SECTION 12, TOWNSHIP 17-S, RANGE 30-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

DETAIL VIEW
SCALE: 1" = 100'



LEASE NAME & WELL NO.: SPOCK FEDERAL COM 4H

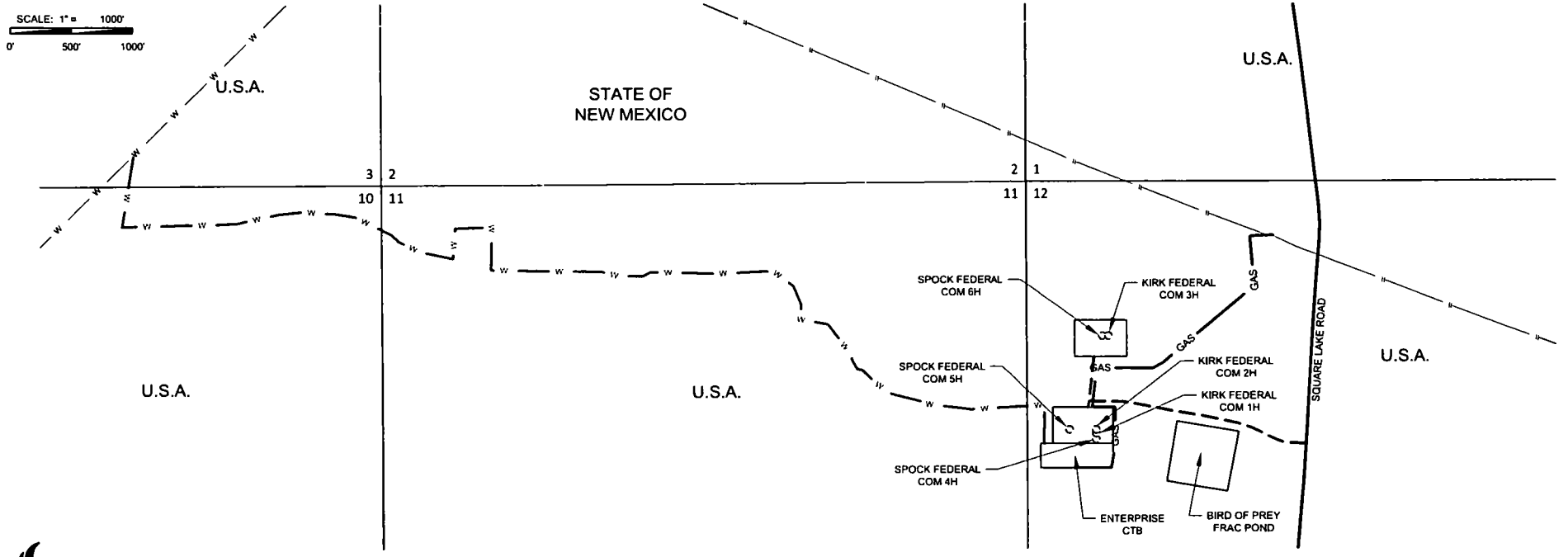
4H LATITUDE N 32.8505731 4H LONGITUDE W 103.9328417

S:\SURVEY\EOG_ARTESIA\SPOCK_FEDERAL\FINAL_PRODUCTS\LO_SPOCK_FEDERAL_COM_4H.DWG 6/8/2018 3:37:04 PM csmith5

EXHIBIT 5

SECTIONS 3, 10, 11, & 12, TOWNSHIP 17 SOUTH, RANGE 30 EAST, N.M.P.M.
EDDY COUNTY, NEW MEXICO

KIRK FEDERAL COM 1H-3H
SPOCK FEDERAL COM 1H-4H
INFRASTRUCTURE



eog resources, inc.

KIRK FEDERAL COM 1H-3H SPOCK FEDERAL COM 1H-4H INFRASTRUCTURE	REVISION:	
	INT	DATE
DATE: 10/9/2018		
FILE: SI_KIRK_SPOCK_FEDERAL_COM_INFRASTRUCTURE		
DRAWN BY: C.E.S.		
SHEET: 1 OF 1		

PROPOSED ROAD
-TOTAL FOOTAGE ..... 2,236 FT
FROM LEASE RD.
TO: KIRK FEDERAL COM 1H & 2H
SPOCK FEDERAL COM 4H & 5H ..... 2,184 FT
FROM: KIRK FEDERAL COM 1H & 2H
SPOCK FEDERAL COM 4H & 5H
TO: KIRK FEDERAL COM 3H
SPOCK FEDERAL COM 6H ..... 52 FT

PROPOSED GAS LINE
-TOTAL FOOTAGE ..... 3,447 FT

PROPOSED WATER LINE
-TOTAL FOOTAGE ..... 9,716 FT

MULTI-POINT SURFACE USE AND OPERATIONS PLAN
EOG Resources, Inc.

Spock Federal Com 4H
2079' FNL and 352' FWL Section 12, T17S-R30E - Surface Hole Location
2112' FNL and 100' FEL Section 12, T17S-R30E -Bottom Hole Location
Eddy County, New Mexico

This plan is submitted with Form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effect associated with the operations.

1. EXISTING ROADS:

The County map showing the well and roads in the vicinity of the proposed location. The proposed well site is located approximately 27 miles northeast of Artesia, New Mexico and the access route to the location is indicated on Exhibit. Operator will maintain existing roads in condition the same or better than before operations begin. Operator will repair pot holes, clear ditches, repair the crown, etc. All existing structures along the entire access route such as cattle guards, other range improvement projects, culverts, etc. will be properly repaired or replaced if they are damaged or have deteriorated beyond practical use. Operator will reasonably prevent and abate fugitive dust as needed when created by vehicular traffic and equipment caused by the operator. The BLM's written approval will be acquired before application of surfactants, binding agents, or other dust suppression chemicals on roadways.

DIRECTIONS:
From Artesia, go West on US-82 for approximately 27.5 miles. Turn left (North) onto CR220 (Square Lake Rd). Travel North on CR220 for 2.5 miles. Turn left (West) to lease road. Continue down lease road for 0.3 miles. Location will be located south of roadway approximately 10 yards.

2. PLANNED ACCESS ROAD.

A. Existing access road runs along Southeast edge of well location. The road will be crowned and ditched to a 2% slope from the tip of the crown to the edge of the driving surface.
B. The road will be 14 feet in width (driving surface) and will be adequately drained to control to control runoff and soil erosion. Ditches will be 3' wide with a 3:1 slopes.
C. The road will be bladed with drainage on one side. A traffic turnout may be built.
D. Existing roads will be maintained in the same or better condition.
E. The route of road is visible.

3. LOCATION OF EXISTING WELL

A. There is no drilling activity within a one-mile radius of the well site.
B. Exhibits shows existing wells within a one-mile radius of the proposed well site.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

   A. There are no production facilities on this lease at the present time.
   B. Central tank battery will be an on location gathering facility with water and gas take away.

5. LOCATION AND TYPE OF WATER SUPPLY:

   A. It is planned to drill the proposed well with a fresh water system. The water will be obtained from commercial sources and will be hauled to the location by truck over the existing and proposed roads shown in Exhibit.

6. SOURCE OF CONSTRUCTION MATERIALS:

   Dirt contractor will locate closest pit and obtain any permits and materials needed for construction of the well location.

7. METHODS OF HANDLING WASTE DISPOSAL:

   A. This well will be drilled with a closed loop system
   B. The closed loop system will be constructed, maintained, and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division – the "Pit Rule" 19.15.17 NMAC.
   C. Drilling fluids will be removed after drilling and completions are completed.
   D. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or separate disposal application will be submitted.
   E. Oil produced during operations will be stored in tanks until sold.
   F. Current laws and regulations pertaining to the disposal of human waste will be complied with.
   G. All trash, junk, and other waste materials will be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not approved.

8. ANCILLARY FACILITIES: None.

9. WELLSITE LAYOUT:

   A. Exhibit shows the relative location and dimensions of the well pad, the closed loop mud system, location of the drilling equipment. All of the location will be constructed within the 400' x 500' staked area.
   B. A 400' x 500' area has been staked and flagged.

9. PLANS FOR RESTORATION:

   A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleaned of all trash and junk to leave the well site in as aesthetically pleasing a condition as possible. The location will be reduced to a 250' x 250' after completion operations have been conducted. At this point the surfacing material will be removed and topsoil will be redistributed. The area will be contoured as closely as possible to its original state and reseeded. Please note Reclamation Plat.

B. If the proposed well is plugged and abandoned, all equipment and other material will be removed. The location will be cleaned of all trash and junk to leave the well site in as aesthetically pleasing a condition as possible. At this point the surfacing material will be removed, topsoil will be redistributed. The area will be contoured as closely as possible to its original location and reseeded. These actions will be completed and accomplished as expeditiously as possible.

C. The reclamation of the pad will be done in sixty days if possible after the well is put in production.

11. SURFACE OWNERSHIP:

Surface Estate:	Bureau of Land Management 620 E. Greene Street Carlsbad, NM 88220-6292
Mineral Estate:	BLM – NMLC-029338B leased to COG Operating LLC 600 W Illinois Ave Midland, TX 79701/4882

12. OTHER INFORMATION:

A. Topography: Refer to the existing archaeological report for a description of the topography, flora, fauna, soil characteristics, dwellings, historical and cultural sites.
B. The primary surface use is for grazing.

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: **Injection well name:**

Assigned injection well API number? **Injection well API number:**

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Bond Info Data Report

01/31/2019

Bond Information

Federal/Indian APD: FED

BLM Bond number: NM2308

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment: