Carlsbad Field Office
OCD Artesia

Form 3160-3
(March 2012)

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM120901

6. If Indian, Allotee or Tribe Name:

1a. Type of work: ☑ DRILL ☐ REENTER

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

1b. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.: JABBERWOCKY 1H 322242

2. Name of Operator: CHEVRON USA INCORPORATED 4323

9. API Well No.: 30-015-45161

3a. Address: 6301 Deauville Blvd. Midland TX 79706

3b. Phone No. *(include area code)*: (432)687-7866

10. Field and Pool, or Exploratory: PURPLE SAGE / WOLFCAMP, (GAS)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface: SESE / 367 FSL / 354 FEL / LAT 32.225634 / LONG -103.724133

At proposed prod. zone: NENE / 280 FNL / 330 FEL / LAT 32.252898 / LONG -103.724048

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 12 / T24S / R31E / NMP

14. Distance in miles and direction from nearest town or post office*: 33 miles

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): 330 feet

16. No. of acres in lease: 360

17. Spacing Unit dedicated to this well: 320

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 875 feet

19. Proposed Depth: 12343 feet / 22380 feet

20. BLM/BIA Bond No. on file: FED: CA0329

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3587 feet

22. Approximate date work will start*: 09/01/2017

23. Estimated duration: 130 days

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Dorian K Fuentes / Ph: (432)687-7631	05/26/2017

Title: Permitting Specialist

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	08/04/2018

Title	Office
Assistant Field Manager Lands & Minerals	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.

(Continued on page 2)

*(Instructions on page 2)

APPROVED WITH CONDITIONS

Approval Date: 08/04/2018

RECEIVED

AUG 10 2018

DISTRICT II-ARTESIA O.C.D.

RWP 8-14-18.

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 1: 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 well, 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 directionally 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.

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 well 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 will 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 collects this information to allow 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 Collection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

(Continued on page 3)

Additional Operator Remarks

Location of Well

1. SHL: SESE / 367 FSL / 354 FEL / TWSP: 24S / RANGE: 31E / SECTION: 12 / LAT: 32.225634 / LONG: -103.724133 (TVD: 0 feet, MD: 0 feet)
   PPP: SESE / 330 FSL / 330 FEL / TWSP: 24S / RANGE: 31E / SECTION: 12 / LAT: 32.225534 / LONG: -103.724055 (TVD: 12343 feet, MD: 22380 feet)
   BHL: NENE / 280 FNL / 330 FEL / TWSP: 24S / RANGE: 31E / SECTION: 1 / LAT: 32.252898 / LONG: -103.724048 (TVD: 12343 feet, MD: 22380 feet)

BLM Point of Contact

Name: Sipra Dahal
Title: Legal Instruments Examiner
Phone: 5752345983
Email: sdahal@blm.gov

Approval Date: 08/04/2018

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.

RECEIVED

AUG 10 2018

DISTRICT II-ARTESIA O.C.D.

PECOS DISTRICT
DRILLING OPERATIONS
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Chevron USA Inc.**
LEASE NO.:	**NMNM-120901**
WELL NAME & NO.:	**Jabberwocky 1H**
SURFACE HOLE FOOTAGE:	**0367' FSL & 0354' FEL**
BOTTOM HOLE FOOTAGE LOCATION:	**0280' FNL & 0330' FEL Sec. 01, T. 24 S., R 31 E. Section 12, T. 24 S., R 31 E., NMPM**
COUNTY:	**County, New Mexico**

Operator to submit sundry to add "COM" to the well name.

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

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)

☐ **Eddy County**

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

A. **Hydrogen Sulfide**

1. **Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log 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.**

B. CASING

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.

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

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.

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.

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

Secretary's Potash
Possibility of water and brine flows in the Salado and Castile.
Possibility of lost circulation in the Rustler, Red Beds, and Delaware.
Abnormal pressure may be encountered in the 3rd BS and all subsequent formations.

1. The **13-3/8** inch surface casing shall be set at approximately **850** feet (**in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, and if salt is encountered, set casing at least 25 feet 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 is to include the lead cement slurry.**

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

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

Formation below the 13-3/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

9-5/8'' Intermediate casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

Operator has proposed DV tool at depth of 4600', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

a. First stage to DV tool:___

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second stage above DV tool:

☐ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.**

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

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

3. Alternative production Designs:

Alternative Design #1:

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

☐ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification.

Alternative Design #2:

The minimum required fill of cement behind the **7-5/8** inch intermediate liner is:

☐ Cement as proposed by operator. Operator shall provide method of verification. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.**

Formation below the 7-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

Pilot hole is required to have a plug at the bottom of the hole. If two plugs are set, the BLM is to be contacted (575-361-2822) prior to tag of bottom plug, which must be a minimum of 200' in length. Operator can set one plug from bottom of pilot hole to kick-off point and save the WOC time for tagging the first plug. Note plug top on Subsequent Report sundry of drilling activities.

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

☐ Cement should tie-back at least 500 feet into previous casing string. Operator shall provide method of verification.

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

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API 53.

2. Variance approved to use flex line from BOP to choke manifold. 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.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be psi. **10M 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.**

Variance approved to use a 5M annular. The annular must be tested to full working pressure (5000 psi.)

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

    a. 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.

    b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.

    c. 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.

    d. The results of the test shall be reported to the appropriate BLM office.

    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 if test is done with a test plug and 30 minutes without a test plug. 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.

D. **DRILLING MUD**

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

E. DRILL STEM TEST

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

F. 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.

JAM 060418

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Chevron USA Inc
LEASE NO.:	NMNM120901
WELL NAME & NO.:	Jabberwocky 1H
SURFACE HOLE FOOTAGE:	367'/S & 354'/E
BOTTOM HOLE FOOTAGE	280'/N & 330'/E
LOCATION:	Section 12, T.24 S, R31 E, NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

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

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.

Below 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. 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 berm shall be maintained through the life of the well and 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.

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.

POTASH

Refer to Secretaries Potash Area

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the 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 .

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.

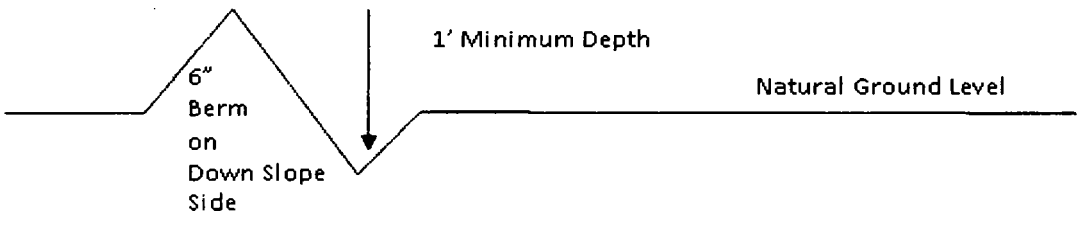
Ditching
Ditching shall be required on both sides of the road.

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, leadoff ditches, culvert installation, and low water crossings).

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



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

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

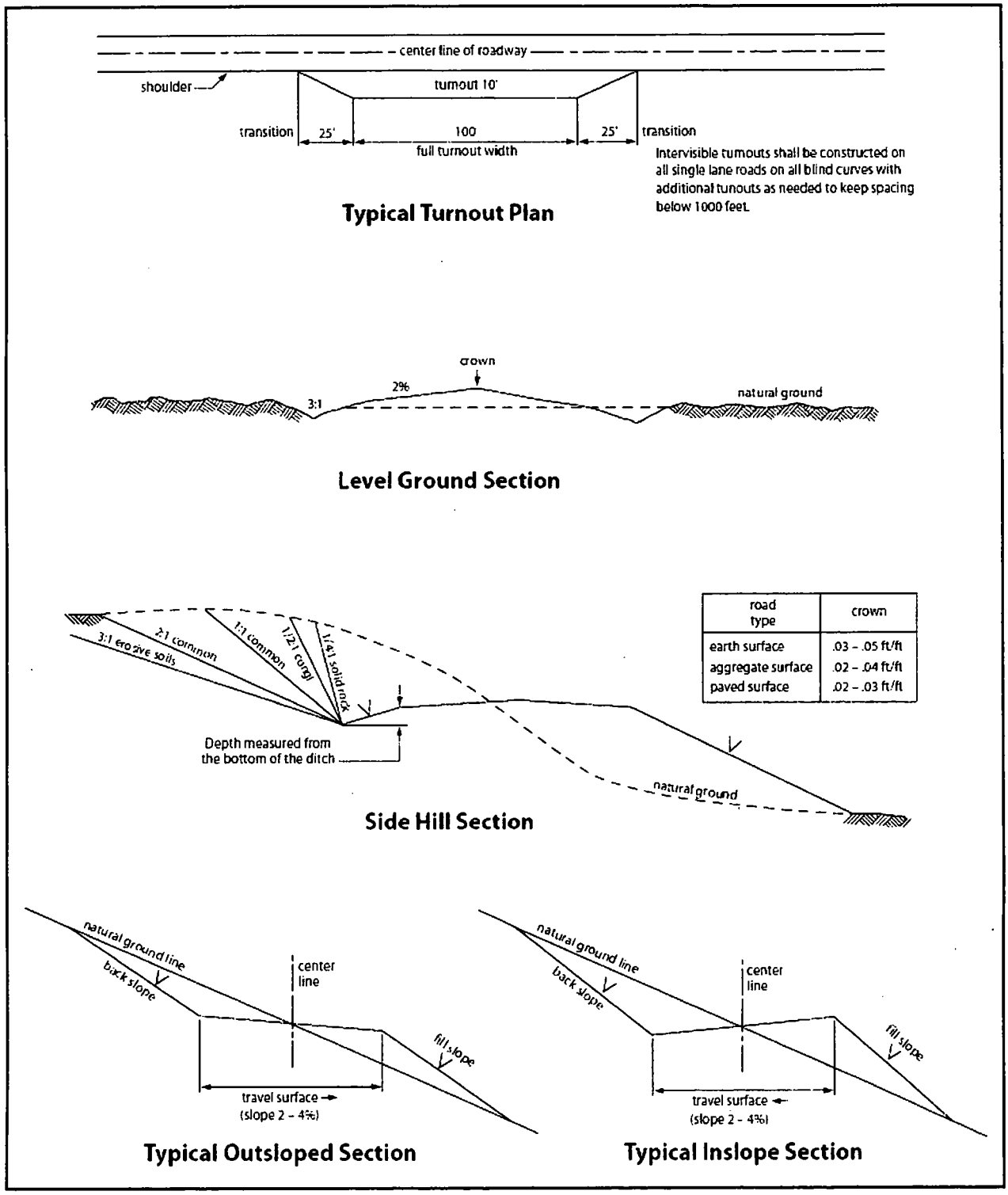


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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.

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you 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. The 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. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards 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

especially, 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. The 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 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 agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil 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 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 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 the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be **30** feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)

- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)

- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately ___6___ inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. 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.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

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. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

( ) seed mixture 1 ( ) seed mixture 3

() seed mixture 2 ( ) seed mixture 4

(X) seed mixture 2/LPC ( ) Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. 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. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. 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 before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural and/or paleontological resources (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 actions to prevent the loss of significant 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.

17. 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 associated roads, 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.

18. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

19. Special Stipulations:

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, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

C. **ELECTRIC LINES**

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you 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. The 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. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards 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 especially, 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. The 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 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 agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. 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 the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. 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 actions to prevent the loss of significant 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.

11. Special Stipulations:
- For reclamation remove poles, lines, transformer, etc. and dispose of properly.
- Fill in any holes from the poles removed.

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, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

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).

Below 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

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: Dorian K Fuentes **Signed on:** 05/25/2017

Title: Permitting Specialist

Street Address: 6301 Deauville Blvd

City: Midland **State:** TX **Zip:** 79706

Phone: (432)687-7631

Email address: djvo@chevron.com

Field Representative

Representative Name:

Street Address:

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

Phone:

Email address:

APD ID: 10400014560 **Submission Date:** 05/26/2017

Operator Name: CHEVRON USA INCORPORATED

Well Name: JABBERWOCKY **Well Number:** 1H

Well Type: CONVENTIONAL GAS WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400014560 **Tie to previous NOS?** 10400011878 **Submission Date:** 05/26/2017

BLM Office: CARLSBAD **User:** Dorian K Fuentes **Title:** Permitting Specialist

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

Lease number: NMNM120901 **Lease Acres:** 360

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

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

Agreement number:

Agreement name:

Keep application confidential? NO

Permitting Agent? NO **APD Operator:** CHEVRON USA INCORPORATED

Operator letter of designation:

Operator Info

Operator Organization Name: CHEVRON USA INCORPORATED

Operator Address: 6301 Deauville Blvd.

Zip: 79706

Operator PO Box:

Operator City: Midland **State:** TX

Operator Phone: (432)687-7866

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: JABBERWOCKY **Well Number:** 1H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** PURPLE SAGE **Pool Name:** WOLFCAMP, (GAS)

Is the proposed well in an area containing other mineral resources? POTASH

Operator Name: CHEVRON USA INCORPORATED

Well Name: JABBERWOCKY **Well Number:** 1H

Describe other minerals:

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** NO **New surface disturbance?**

Type of Well Pad: SINGLE WELL **Multiple Well Pad Name:** **Number:**

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

Well Work Type: Drill

Well Type: CONVENTIONAL GAS WELL

Describe Well Type:

Well sub-Type: EXPLORATORY (WILDCAT)

Describe sub-type:

Distance to town: 33 Miles **Distance to nearest well:** 875 FT **Distance to lease line:** 330 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: Jabberwocky_1H_C_102_05-24-2017.pdf

Well work start Date: 09/01/2017 **Duration:** 130 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	367	FSL	354	FEL	24S	31E	12	Aliquot SESE	32.225634	-103.724133	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 120901	3587	0	0
KOP Leg #1	367	FSL	354	FEL	24S	31E	12	Aliquot SESE	32.225634	-103.724133	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 120901	3587	0	0
PPP Leg #1	330	FSL	330	FEL	24S	31E	12	Aliquot SESE	32.225534	-103.724055	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 120901	-8756	22380	12343

Operator Name: CHEVRON USA INCORPORATED

Well Name: JABBERWOCKY **Well Number:** 1H

	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
EXIT Leg #1	330	FNL	330	FEL	24S	31E	1	Aliquot NENE	32.252761	-103.724048	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 069369	-8756	22380	12343
BHL Leg #1	280	FNL	330	FEL	24S	31E	1	Aliquot NENE	32.252898	-103.724048	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 069369	-8756	22380	12343

service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested. 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. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.

Choke Diagram Attachment:

Jabberwocky_1H_10K_BOPE_and_Choke_Schematic_Production_Hole_20171019070508.pdf

Jabberwocky_1H_Flex_choke_with_PSI_rating_20171214070054.pdf

BOP Diagram Attachment:

Jabberwocky_1H_10K_BOPE_and_Choke_Schematic_Production_Hole_20171019070521.pdf

---

Pressure Rating (PSI): 5M **Rating Depth:** 12043

Equipment: Chevron will have a minimum of a 5000 psi rig stack (see proposed schematic) for drill out below surface casing. Wolfcamp is NOT exposed until drillout of the intermediate casing - Stack will be tested as specified in the attached testing requirements.

Requesting Variance? YES

Variance request: Chevron requests a variance to use a FMC Technologies UH-S multibowl wellhead, which will be run through the rig floor on surface casing. BOPE will be nipped up and tested after cementing surface casing. Subsequent tests will be performed as needed, not to exceed 30 days. The field report from FMC Technologies and BOP test information will be provided in a subsequent report at the end of the well. Please see attached wellhead schematic. An installation manual has been placed on file with the BLM Office and remains unchanged from previous submittal. Another variance is requested to use a co-flex line between the BOP & choke manifold.
Testing Procedure: Test BOP from 250 psi to 5000 psi in Ram and 250 psi to 3500 psi in Annular. BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. Batch drilling of the surface, intermediate, and production will take place. A full BOP test will be performed unless approval from the BLM is received otherwise. Flex choke hose will be used for all wells on the pad (see attached specs). BOP test will be conducted by a third party.

Choke Diagram Attachment:

Jabberwocky_1H_10K_BOPE_and_Choke_Schematic_Production_Hole_20171019070152.pdf

BOP Diagram Attachment:

Jabberwocky_1H_10K_BOPE_and_Choke_Schematic_Production_Hole_20171019070212.pdf

---

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

Operator Name: CHEVRON USA INCORPORATED

Well Name: JABBERWOCKY **Well Number:** 1H

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	17.5	13.375	NEW	API	N	0	800	0	800	-5413	-6213	800	J-55	54.5	STC	1.8	3.12	DRY	2.26	DRY	3.17
2	INTERMEDIATE	12.025	9.625	NEW	API	Y	0	11010	0	11010	-5413	-16423	11010	L-80	43.5	LTC	1.23	1.28	DRY	1.5	DRY	1.6
3	PRODUCTION	8.5	5.5	NEW	API	N	0	22380	0	22380	-5413	-27393	22380	P-110	20	OTHER - TXP BTC	1.15	1.39	DRY	1.38	DRY	2.19

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Jabberwocky_1H_9_pt_plan_final_20171214070152.pdf

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Jabberwocky_1H_9.625_TXP_20171214071057.PDF

Casing Design Assumptions and Worksheet(s):

Jabberwocky_1H_Choke_hose_Spec_20171019104342.pdf

Operator Name: CHEVRON USA INCORPORATED

Well Name: JABBERWOCKY **Well Number:** 1H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Jabberwocky_1H_P110_ICY_TXP_BTC_05-24-2017.pdf

Jabberwocky_1H_P110IC_Wedge_513_05-24-2017.pdf

Jabberwocky_1H_P110IC_Wedge_521_05-24-2017.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	800	932	1.33	14.8	221	125	Class C	C
INTERMEDIATE	Lead	4600	0	4100	693	2.43	11.9	300	35	c	50:50 Poz: Class C + Extender, Antifoam, Salt
INTERMEDIATE	Tail		4100	4600	160	1.33	14.8	38	35	c	Class C + Retarder
INTERMEDIATE	Lead	4600	4600	10010	941	2.43	11.9	407	35	c	50:50 Poz: Class C + Extender, Antifoam, Retarder, Salt
INTERMEDIATE	Tail		10010	11010	372	1.22	15.6	81	35	h	Class H + Retarder, Extender, Antifoam
PRODUCTION	Lead		10000	21380	2513	1.38	13.2	618	35	50/50 Poz Class H	Class H + Extender, Antifoam, Dispersant, Fluid Loss
PRODUCTION	Tail		21380	22380	147	2.18	15	57	35	Acid Soluble Cement Class H	Class H + Viscosifier, Antifoam, Dispersant, Fluid Loss, Retarder, Expanding Agent

Operator Name: CHEVRON USA INCORPORATED

Well Name: JABBERWOCKY **Well Number:** 1H

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: A closed system will by utilized consisting of above ground steel tanks. All wastes accumulated during drilling operations will be contained in a portable trash cage and removed from location and deposited in an approved sanitary landfill. Sanitary wastes will be contained in a chemical porta-toilet and then hauled to an approved sanitary landfill. All fluids and cuttings will be disposed of in accordance with NMOCD regulations.

Describe the mud monitoring system utilized: A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH. Visual mud monitoring equipment shall be in place to detect volume changes indicating loss or gain of circulating fluid volume. When abnormal pressures are anticipated -- a pit volume totalizer (PVT), stroke counter, and flow sensor will be used to detect volume changes indicating loss or gain of circulating fluid volume. A weighting agent and lost circulating material (LCM) will be onsite to mitigate pressure or lost circulation as hole conditions dictate. - in compliance with onshore order #2.

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
800	11010	OIL-BASED MUD	8.7	9.2							
0	800	SPUD MUD	8.3	8.9							
11010	12750	OIL-BASED MUD	9	13							
11010	22380	OIL-BASED MUD	8.8	13							The mud weights will range depending on the targeted formation. The Wolfcamp A pore press will exceed 9.5 ppg, but due to wellbore stability, the mud program will exceed the pore pressure. To control pressure we are using 9.5 and may end up using heavier mud weight to 13.0 to 14.5.

Section 6 - Test, Logging, Coring

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

Drill Stem Tests are not planned
The logging program will be as follows:
Mudlogs 2 man mudlog INT CSG to TD Drill out of INT CSG
LWD MWD Gamma INT. & PROD. HOLE While Drilling

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

GR,MWD,MUDLOG

Coring operation description for the well:

Coventional whole core samples are not planned; direction survey will be run - will send log(s) when run.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 8344 **Anticipated Surface Pressure:** 5628.54

Anticipated Bottom Hole Temperature(F): 150

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:

Jabberwocky_1H__H2S_05-24-2017.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Jabberwocky_1H_Rig_Layout_05-24-2017.pdf

Jabberwocky_1H_Directional_Final_20171214072158.pdf

Other proposed operations facets description:

Stevens, Chevron respectfully submitted an alternate plan as well for an alternate approval as such all the information is listed on the Jabberwocky_1H_9 point plan final attached. Also attached under section 3 casing, are the casing specifications for the alternate casing design. Cementing program for alternate casing design with contingency string, **No change to surface and intermediate cement design with implementation of contingency string. The Max MW at 13 ppg corresponds with BHP. Thank you.

Other proposed operations facets attachment:

Other Variance attachment:

BLOWOUT PREVENTOR SCHEMATIC

Minimum Requirements

OPERATION :Intermediate Hole Section

Minimum System Pressure Rating : 5,000 psi

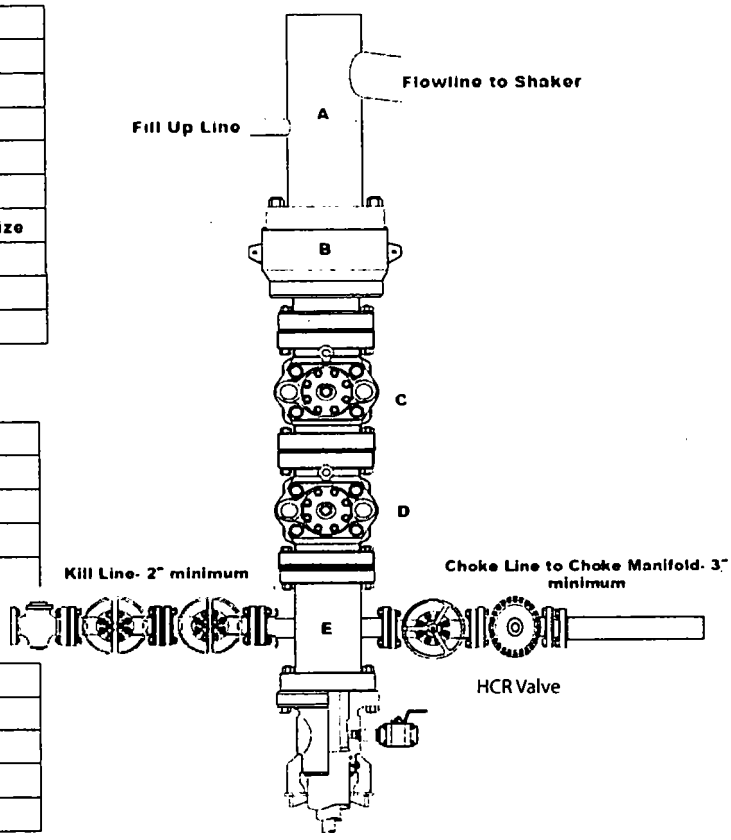
	SIZE	PRESSURE	DESCRIPTION
A		N/A	Bell Nipple
B	13 5/8"	5,000 psi	Annular
C	13 5/8"	5,000 psi	Pipe Ram
D	13 5/8"	5,000 psi	Blind Ram
E	13 5/8"	5,000 psi	Mud Cross
F			
DSA		As required for each hole size	
C-Sec			
B-Sec		13-5/8" 5K x 11" 5K	
A-Sec		13-3/8" SOW x 13-5/8" 5K	

Kill Line

SIZE	PRESSURE	DESCRIPTION
2"	5,000 psi	Gate Valve
2"	5,000 psi	Gate Valve
2"	5,000 psi	Check Valve

Choke Line

SIZE	PRESSURE	DESCRIPTION
3"	5,000 psi	Gate Valve
3"	5,000 psi	HCR Valve



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ **The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.**
- ☐ **All valves on the kill line and choke line will be full opening and will allow straight though flow.**
- ☐ **The kill line and choke line will be straight unless turns use tee blocks or are targeted with running tess, and will be anchored to prevent whip and reduce vibration.**
- ☐ **Manual (hand wheels) or automatic locking devices will be installed on all ram preventers. Hand wheels will also be installed on all manual valves on the choke line and kill line.**
- ☐ **A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve will remain open unless accumulator is inoperative.**
- ☐ **Upper kelly cock valve with handle will be available on rig floor along with safety valve and subs to fit all drill string connections in use.**

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer

Wellname: _____

Representative: _____

Date: _____

CHOKE MANIFOLD SCHEMATIC

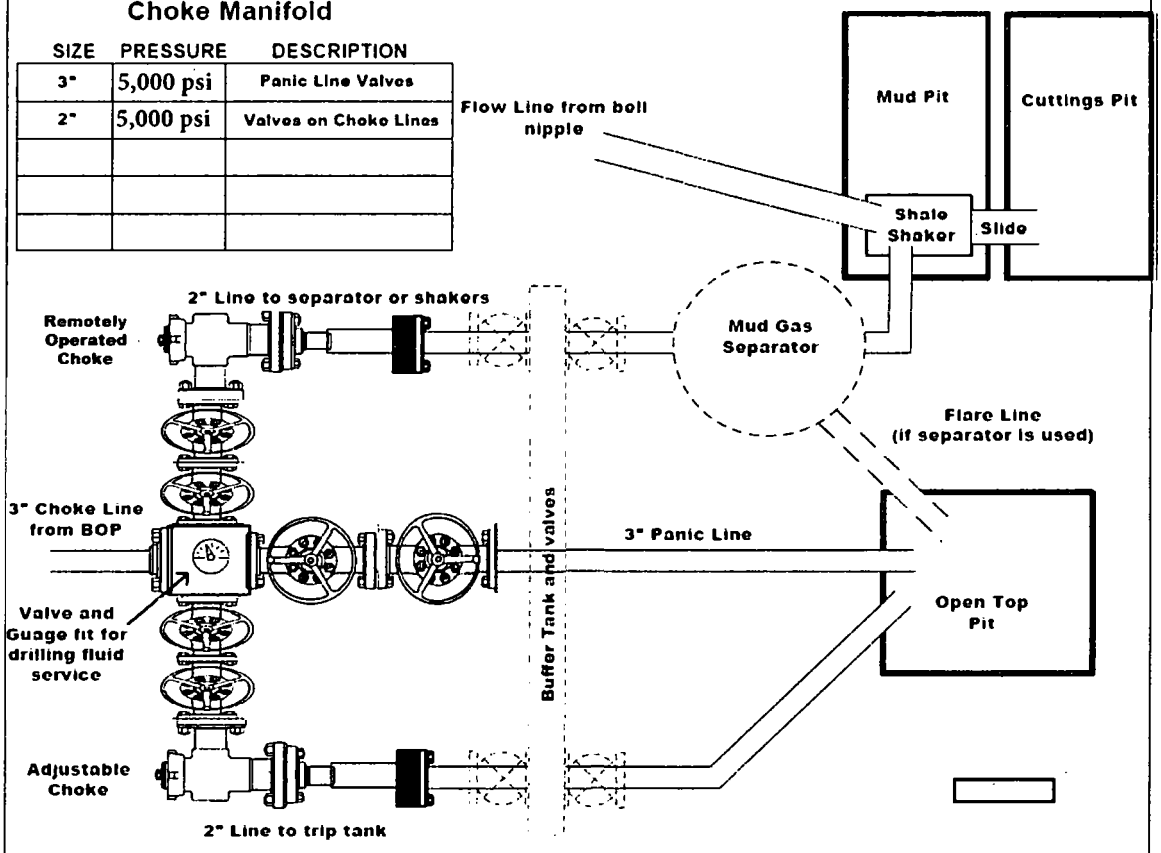
Minimum Requirements

OPERATION : Intermediate Hole Section

Minimum System Pressure Rating : 5,000 psi

Choke Manifold

SIZE	PRESSURE	DESCRIPTION
3"	5,000 psi	Panic Line Valves
2"	5,000 psi	Valves on Choke Lines



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ **The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.**
- ☐ **Adjustable Chokes may be Remotely Operated but will have backup hand pump for hydraulic actuation in case of loss of rig air pressure or power.**
- ☐ **Flare and Panic lines will terminate a minimum of 150' from the wellhead. These lines will terminate at a location as per approved APD.**
- ☐ **The choke line, kill line, and choke manifold lines will be straight unless turns use tee blocks or are targeted with running tess, and will be anchored to prevent whip and reduce vibration. This excludes the line between mud gas separator and shale shaker.**
- ☐ **All valves (except chokes) on choke line, kill line, and choke manifold will be full opening and will allow straight through flow. This excludes any valves between mud gas separator and shale shakers.**
- ☐ **All manual valves will have hand wheels installed.**
- ☐ **If used, flare system will have effective method for ignition**
- ☐ **All connections will be flanged, welded, or clamped (no threaded connections like hammer unions)**
- ☐ **If buffer tank is used, a valve will be used on all lines at any entry or exit point to or from the buffer tank.**

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer

Wellname: _____

Representative: _____

Date: _____

BLOWOUT PREVENTOR SCHEMATIC

Minimum Requirements

OPERATION :Production Hole Section

Minimum System Pressure Rating : 10,000 psi

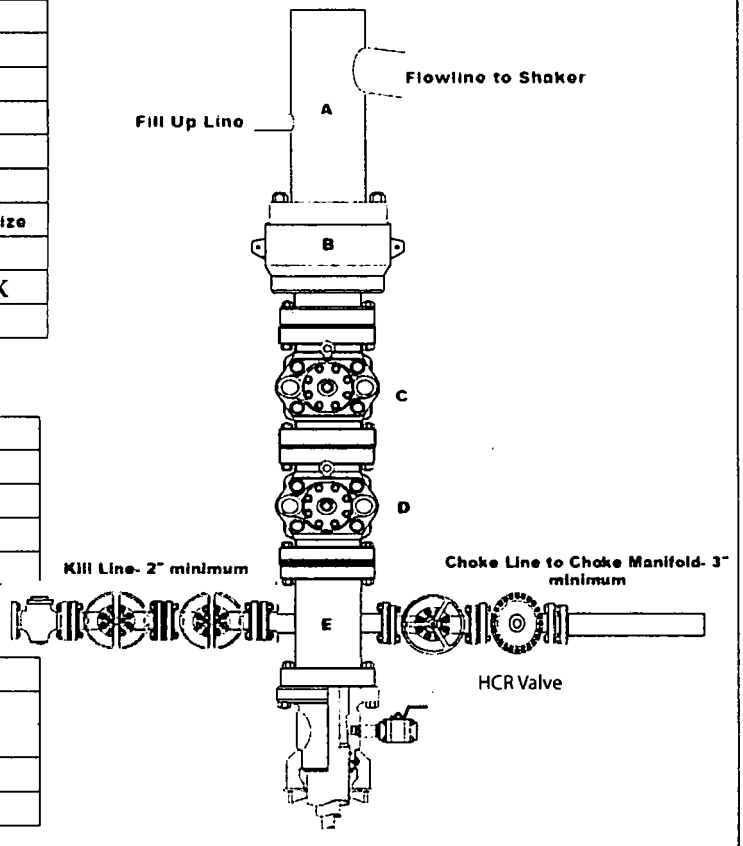
	SIZE	PRESSURE	DESCRIPTION
A		N/A	Bell Nipple
B	13 5/8"	10,000 psi	Annular
C	13 5/8"	10,000 psi	Pipe Ram
D	13 5/8"	10,000 psi	Blind Ram
E	13 5/8"	10,000 psi	Mud Cross
F			
DSA		As required for each hole size	
C-Sec		13-5/8" 10K	
B-Sec		13-5/8" 10K x 13-5/8" 5K	
A-Sec		13-3/8" SOW x 13-5/8" 5K	

Kill Line

SIZE	PRESSURE	DESCRIPTION
2"	10,000 psi	Gate Valve
2"	10,000 psi	Gate Valve
2"	10,000 psi	Check Valve

Choke Line

SIZE	PRESSURE	DESCRIPTION
3"	10,000 psi	Gate Valve
3"	10,000 psi	HCR Valve



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ **The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.**
- ☐ **All valves on the kill line and choke line will be full opening and will allow straight though flow.**
- ☐ **The kill line and choke line will be straight unless turns use tee blocks or are targeted with running tess, and will be anchored to prevent whip and reduce vibration.**
- ☐ **Manual (hand wheels) or automatic locking devices will be installed on all ram preventers. Hand wheels will also be installed on all manual valves on the choke line and kill line.**
- ☐ **A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve will remain open unless accumulator is inoperative.**
- ☐ **Upper kelly cock valve with handle will be available on rig floor along with safety valve and subs to fit all drill string connections in use.**

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer

Wellname: _____

Representative: _____

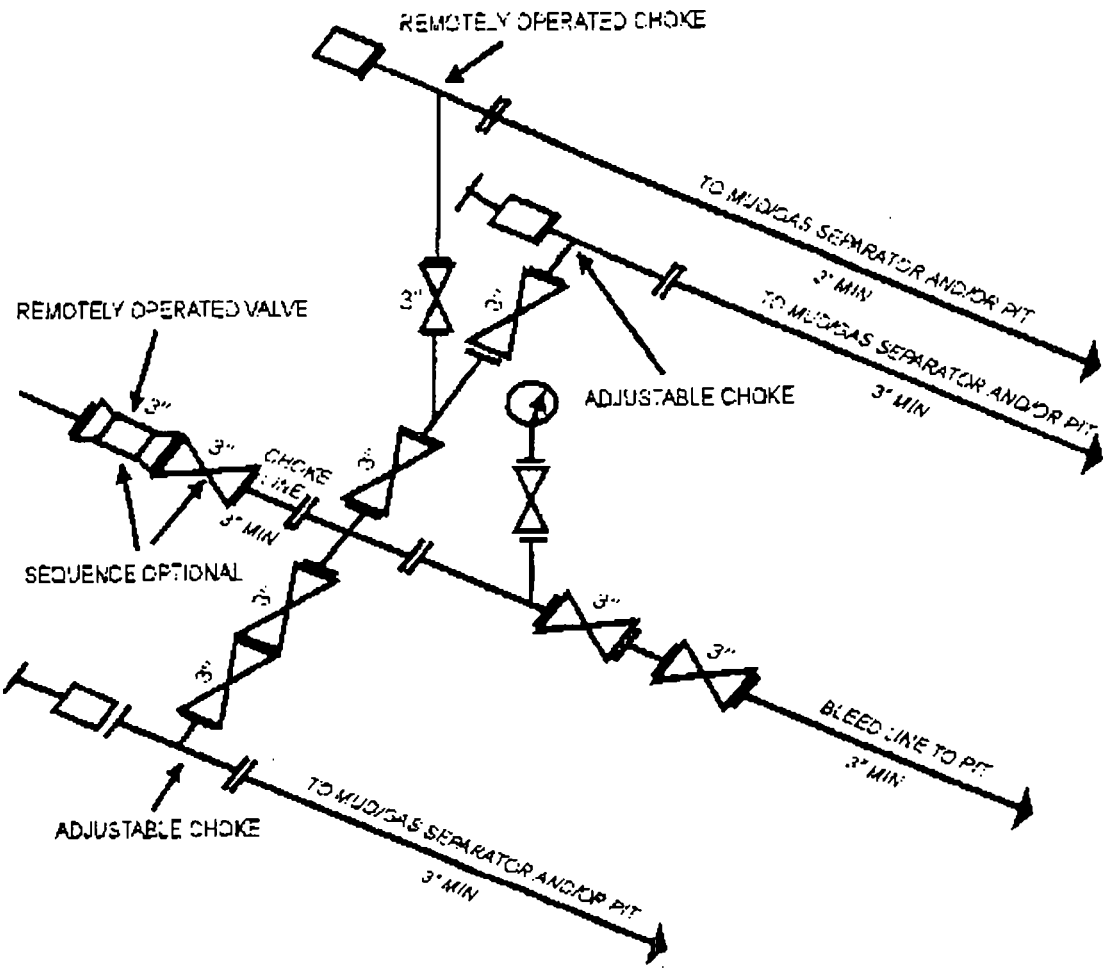
Date: _____

10M Choke Manifold SCHEMATIC

Minimum Requirements

OPERATION: Production Hole Sections

Minimum System Pressure Rating: 10,000 PSI



10M AND 15M CHOKE MANIFOLD EQUIPMENT - CONFIGURATION OF CHOKES MAY VARY

[53 FR 49661, Dec. 9, 1988 and 54 FR 39528, Sept. 27, 1989]

BOPE Testing

Minimum Requirements

Closing Unit and Accumulator Checklist

The following item must be performed, verified, and checked off at least once per well prior to low/high pressure testing of BOP equipment. This must be repeated after 6 months on the same well.

☐ **Precharge pressure for each accumulator bottle must fall within the range below. Bottles may be further charged with nitrogen gas only. Tested precharge pressures must be recorded for each individual bottle and kept on location through the end of the well. Test will be conducted prior to connecting unit to BOP stack.**

Check one that applies	Accumulator working pressure rating	Minimum acceptable operating pressure	Desired precharge pressure	Maximum acceptable precharge pressure	Minimum acceptable precharge pressure
☐	1500 psi	1500 psi	750 psi	800 psi	700 psi
☐	2000 psi	2000 psi	1000 psi	1100 psi	900 psi
☐	3000 psi	3000 psi	1000 psi	1100 psi	900 psi

☐ **Accumulator will have sufficient capacity to open the hydraulically-controlled choke line valve (if used), close all rams, close the annular preventer, and retain a minimum of 200 psi above the maximum acceptable precharge pressure (see table above) on the closing manifold without the use of the closing pumps. This test will be performed with test pressure recorded and kept on location through the end of the well**

☐ **Accumulator fluid reservoir will be double the usable fluid volume of the accumulator system capacity. Fluid level will be maintained at manufacturer's recommendations. Usable fluid volume will be recorded. Reservior capacity will be recorded. Reservoir fluid level will be recorded along with manufacturer's recommendation. All will be kept on location through the end of the well.**

☐ **Closing unit system will have two independent power sources (not counting accumulator bottles) to close the preventers.**

☐ **Power for the closing unit pumps will be available to the unit at all times so that the pumps will automatically start when the closing valve manifold pressure decreases to the pre-set level. It is recommended to check that air line to accumulator pump is "ON" during each tour change.**

☐ **With accumulator bottles isolated, closing unit will be capable of opening the hydraulically-operated choke line valve (if used) plus close the annular preventer on the smallest size drill pipe within 2 minutes and obtain a minimum of 200 psi above maximum acceptable precharge pressure (see table above) on the closing manifold. Test pressure and closing time will be recorded and kept on location through the end of the well.**

☐ **Master controls for the BOPE system will be located at the accumulator and will be capable of opening and closing all preventer and the choke line valve (if used)**

☐ **Remote controls for the BOPE system will be readily accessible (clear path) to the driller and located on the rig floor (not in the dog house). Remote controls will be capable of closing all preventers.**

☐ **Record accumulator tests in drilling reports and IADC sheet**

BOPE Test Checklist

The following item must be ckecked off prior to beginning test

☐ **BLM will be given at least 4 hour notice prior to beginning BOPE testing**

☐ **Valve on casing head below test plug will be open**

☐ **Test will be performed using clear water.**

The following item must be performed during the BOPE testing and then checked off

☐ **BOPE will be pressure tested when initially installed, whenever any seal subject to test pressure is broken, following related repairs, and at a minimum of 30 days intervals. Test pressure and times will be recorded by a 3rd party on a test chart and kept on location through the end of the well.**

☐ **Test plug will be used**

☐ **Ram type preventer and all related well control equipment will be tested to 250 psi (low) and 5,000 psi (high).**

☐ **Annular type preventer will be tested to 250 psi (low) and 3,500 psi (high).**

☐ **Valves will be tested from the working pressure side with all down stream valves open. The check valve will be held open to test the kill line valve(s)**

☐ **Each pressure test will be held for 10 minutes with no allowable leak off.**

☐ **Master controls and remote controls to the closing unit (accumulator) must be function tested as part of the BOP testing**

☐ **Record BOP tests and pressures in drilling reports and IADC sheet**

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer along with any/all BOP and accumulator test charts and reports from 3rd parties.

Wellname: _____

Representative: _____

Date: _____

BLOWOUT PREVENTOR SCHEMATIC

Minimum Requirements

OPERATION :Intermediate Hole Section

Minimum System Pressure Rating : 5,000 psi

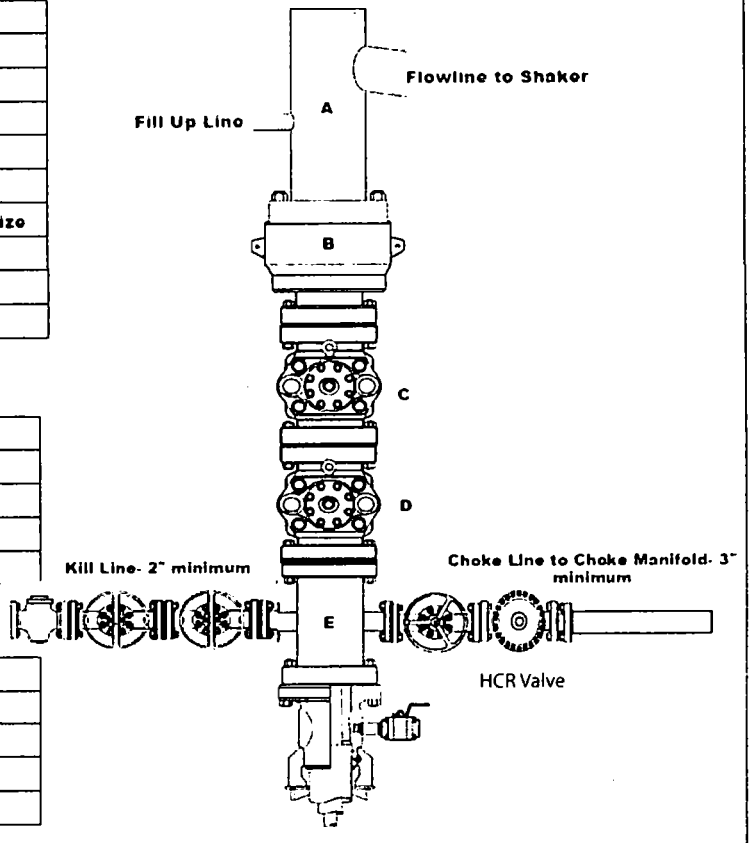
	SIZE	PRESSURE	DESCRIPTION
A		N/A	Bell Nipple
B	13 5/8"	5,000 psi	Annular
C	13 5/8"	5,000 psi	Pipe Ram
D	13 5/8"	5,000 psi	Blind Ram
E	13 5/8"	5,000 psi	Mud Cross
F			
DSA		As required for each hole size	
C-Sec			
B-Sec		13-5/8" 5K x 11" 5K	
A-Sec		13-3/8" SOW x 13-5/8" 5K	

Kill Line

SIZE	PRESSURE	DESCRIPTION
2"	5,000 psi	Gate Valve
2"	5,000 psi	Gate Valve
2"	5,000 psi	Check Valve

Choke Line

SIZE	PRESSURE	DESCRIPTION
3"	5,000 psi	Gate Valve
3"	5,000 psi	HCR Valve



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ **The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.**
- ☐ **All valves on the kill line and choke line will be full opening and will allow straight though flow.**
- ☐ **The kill line and choke line will be straight unless turns use tee blocks or are targeted with running tees, and will be anchored to prevent whip and reduce vibration.**
- ☐ **Manual (hand wheels) or automatic locking devices will be installed on all ram preventers. Hand wheels will also be installed on all manual valves on the choke line and kill line.**
- ☐ **A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve will remain open unless accumulator is inoperative.**
- ☐ **Upper kelly cock valve with handle will be available on rig floor along with safety valve and subs to fit all drill string connections in use.**

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer

Wellname: _____

Representative: _____

Date: _____

CHOKE MANIFOLD SCHEMATIC

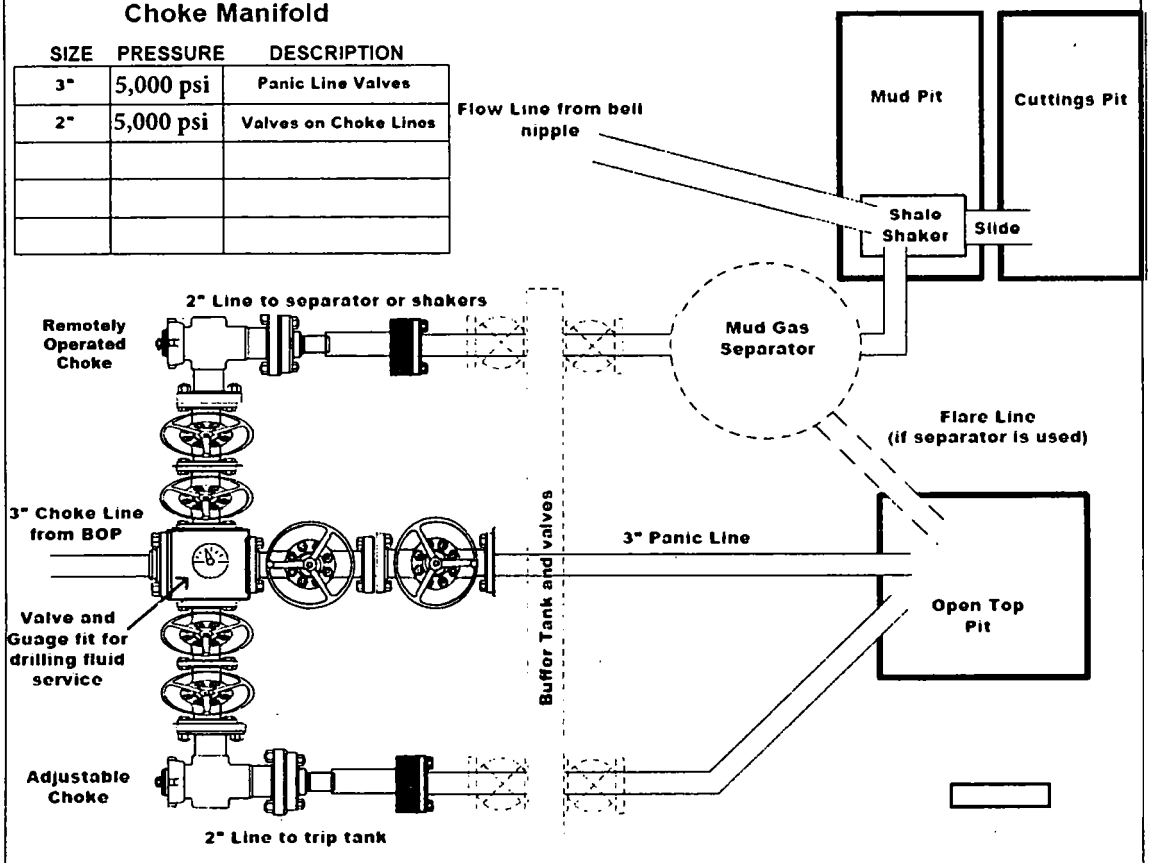
Minimum Requirements

OPERATION : Intermediate Hole Section

Minimum System Pressure Rating : 5,000 psi

Choke Manifold

SIZE	PRESSURE	DESCRIPTION
3"	5,000 psi	Panic Line Valves
2"	5,000 psi	Valves on Choke Lines



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ **The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.**
- ☐ **Adjustable Chokes may be Remotely Operated but will have backup hand pump for hydraulic actuation in case of loss of rig air pressure or power.**
- ☐ **Flare and Panic lines will terminate a minimum of 150' from the wellhead. These lines will terminate at a location as per approved APD.**
- ☐ **The choke line, kill line, and choke manifold lines will be straight unless turns use tee blocks or are targeted with running tess, and will be anchored to prevent whip and reduce vibration. This excludes the line between mud gas separator and shale shaker.**
- ☐ **All valves (except chokes) on choke line, kill line, and choke manifold will be full opening and will allow straight through flow. This excludes any valves between mud gas separator and shale shakers.**
- ☐ **All manual valves will have hand wheels installed.**
- ☐ **If used, flare system will have effective method for ignition**
- ☐ **All connections will be flanged, welded, or clamped (no threaded connections like hammer unions)**
- ☐ **If buffer tank is used, a valve will be used on all lines at any entry or exit point to or from the buffer tank.**

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer

Wellname: _____

Representative: _____

Date: _____

BLOWOUT PREVENTOR SCHEMATIC

Minimum Requirements

OPERATION :Production Hole Section

Minimum System Pressure Rating : 10,000 psi

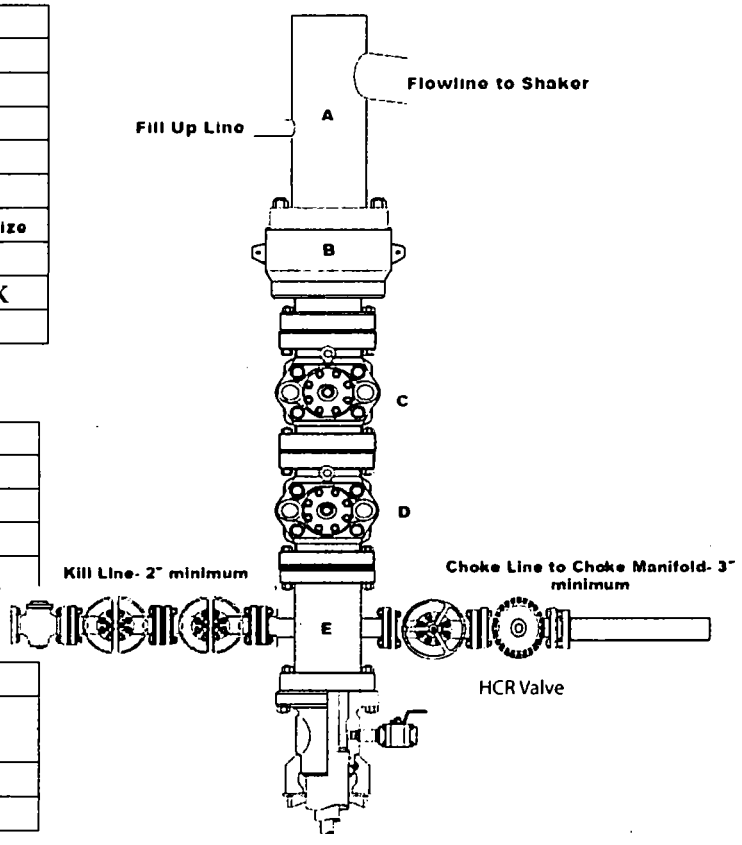
	SIZE	PRESSURE	DESCRIPTION
A		N/A	Bell Nipple
B	13 5/8"	10,000 psi	Annular
C	13 5/8"	10,000 psi	Pipe Ram
D	13 5/8"	10,000 psi	Blind Ram
E	13 5/8"	10,000 psi	Mud Cross
F			
DSA		As required for each hole size	
C-Sec		13-5/8" 10K	
B-Sec		13-5/8" 10K x 13-5/8" 5K	
A-Sec		13-3/8" SOW x 13-5/8" 5K	

Kill Line

SIZE	PRESSURE	DESCRIPTION
2"	10,000 psi	Gate Valve
2"	10,000 psi	Gate Valve
2"	10,000 psi	Check Valve

Choke Line

SIZE	PRESSURE	DESCRIPTION
3"	10,000 psi	Gate Valve
3"	10,000 psi	HCR Valve



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ **The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.**
- ☐ **All valves on the kill line and choke line will be full opening and will allow straight though flow.**
- ☐ **The kill line and choke line will be straight unless turns use tee blocks or are targeted with running tess, and will be anchored to prevent whip and reduce vibration.**
- ☐ **Manual (hand wheels) or automatic locking devices will be installed on all ram preventers. Hand wheels will also be installed on all manual valves on the choke line and kill line.**
- ☐ **A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve will remain open unless accumulator is inoperative.**
- ☐ **Upper kelly cock valve with handle will be available on rig floor along with safety valve and subs to fit all drill string connections in use.**

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer

Wellname: _____

Representative: _____

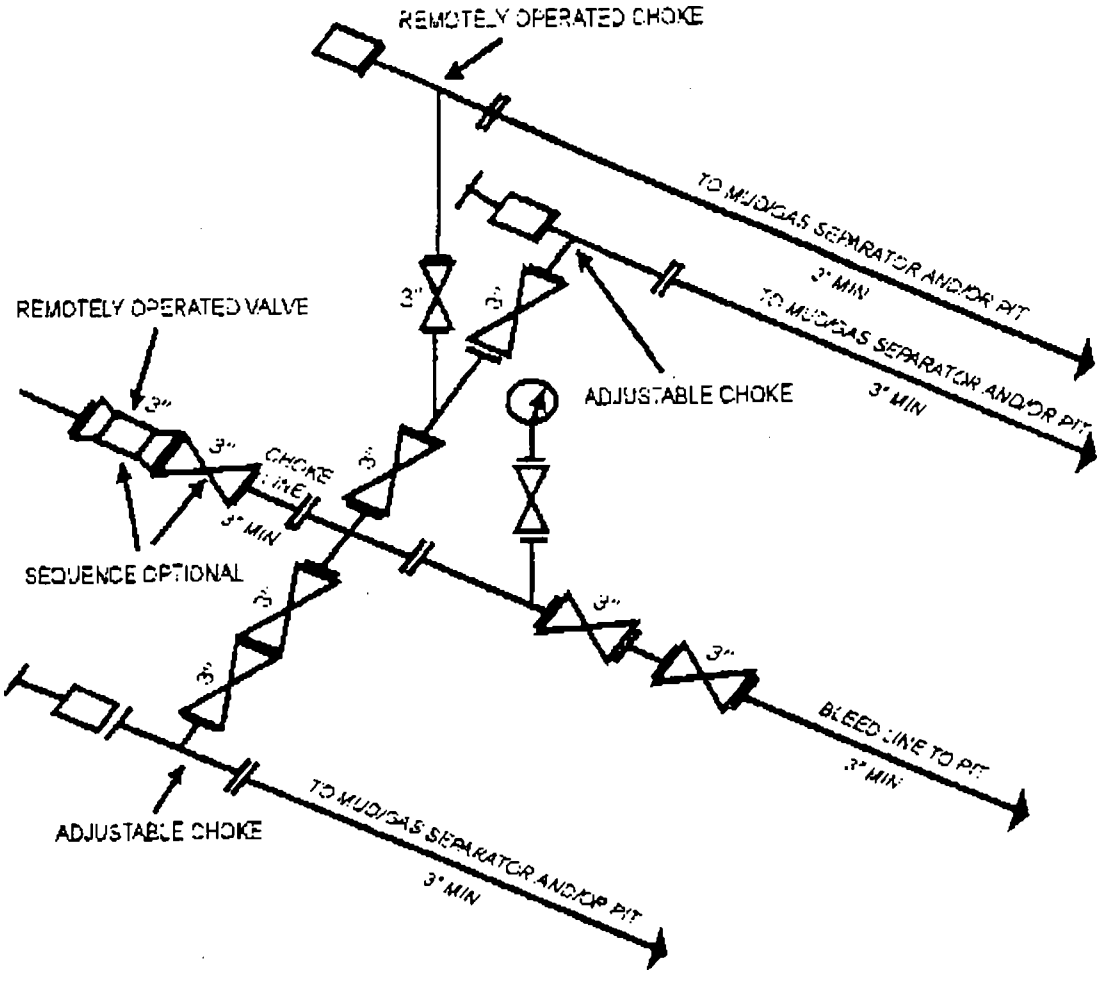
Date: _____

10M Choke Manifold SCHEMATIC

Minimum Requirements

OPERATION: Production Hole Sections

Minimum System Pressure Rating: 10,000 PSI



10M AND 15M CHOKE MANIFOLD EQUIPMENT - CONFIGURATION OF CHOKES MAY VARY

[53 FR 49661, Dec. 9, 1988 and 54 FR 39528, Sept. 27, 1989]

BOPE Testing

Minimum Requirements

Closing Unit and Accumulator Checklist

The following item must be performed, verified, and checked off at least once per well prior to low/high pressure testing of BOP equipment. This must be repeated after 6 months on the same well.

☐ **Precharge pressure for each accumulator bottle must fall within the range below. Bottles may be further charged with nitrogen gas only. Tested precharge pressures must be recorded for each individual bottle and kept on location through the end of the well. Test will be conducted prior to connecting unit to BOP stack.**

Check one that applies	Accumulator working pressure rating	Minimum acceptable operating pressure	Desired precharge pressure	Maximum acceptable precharge pressure	Minimum acceptable precharge pressure
☐	1500 psi	1500 psi	750 psi	800 psi	700 psi
☐	2000 psi	2000 psi	1000 psi	1100 psi	900 psi
☐	3000 psi	3000 psi	1000 psi	1100 psi	900 psi

☐ **Accumulator will have sufficient capacity to open the hydraulically-controlled choke line valve (if used), close all rams, close the annular preventor, and retain a minimum of 200 psi above the maximum acceptable precharge pressure (see table above) on the closing manifold without the use of the closing pumps. This test will be performed with test pressure recorded and kept on location through the end of the well**

☐ **Accumulator fluid reservoir will be double the usable fluid volume of the accumulator system capacity. Fluid level will be maintained at manufacturer's recommendations. Usable fluid volume will be recorded. Reservior capacity will be recorded. Reservoir fluid level will be recorded along with manufacturer's recommendation. All will be kept on location through the end of the well.**

☐ **Closing unit system will have two independent power sources (not counting accumulator bottles) to close the preventers.**

☐ **Power for the closing unit pumps will be available to the unit at all times so that the pumps will automatically start when the closing valve manifold pressure decreases to the pre-set level. It is recommended to check that air line to accumulator pump is "ON" during each tour change.**

☐ **With accumulator bottles isolated, closing unit will be capable of opening the hydraulically-operated choke line valve (if used) plus close the annular preventer on the smallest size drill pipe within 2 minutes and obtain a minimum of 200 psi above maximum acceptable precharge pressure (see table above) on the closing manifold. Test pressure and closing time will be recorded and kept on location through the end of the well.**

☐ **Master controls for the BOPE system will be located at the accumulator and will be capable of opening and closing all preventor and the choke line valve (if used)**

☐ **Remote controls for the BOPE system will be readily accessible (clear path) to the driller and located on the rig floor (not in the dog house). Remote controls will be capable of closing all preventers.**

☐ **Record accumulator tests in drilling reports and IADC sheet**

BOPE Test Checklist

The following item must be checked off prior to beginning test

☐ **BLM will be given at least 4 hour notice prior to beginning BOPE testing**

☐ **Valve on casing head below test plug will be open**

☐ **Test will be performed using clear water.**

The following item must be performed during the BOPE testing and then checked off

☐ **BOPE will be pressure tested when initially installed, whenever any seal subject to test pressure is broken, following related repairs, and at a minimum of 30 days intervals. Test pressure and times will be recorded by a 3rd party on a test chart and kept on location through the end of the well.**

☐ **Test plug will be used**

☐ **Ram type preventer and all related well control equipment will be tested to 250 psi (low) and 5,000 psi (high).**

☐ **Annular type preventer will be tested to 250 psi (low) and 3,500 psi (high).**

☐ **Valves will be tested from the working pressure side with all down stream valves open. The check valve will be held open to test the kill line valve(s)**

☐ **Each pressure test will be held for 10 minutes with no allowable leak off.**

☐ **Master controls and remote controls to the closing unit (accumulator) must be function tested as part of the BOP testing**

☐ **Record BOP tests and pressures in drilling reports and IADC sheet**

After installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer along with any/all BOP and accumulator test charts and reports from 3rd parties.

Wellname: _____

Representative: _____

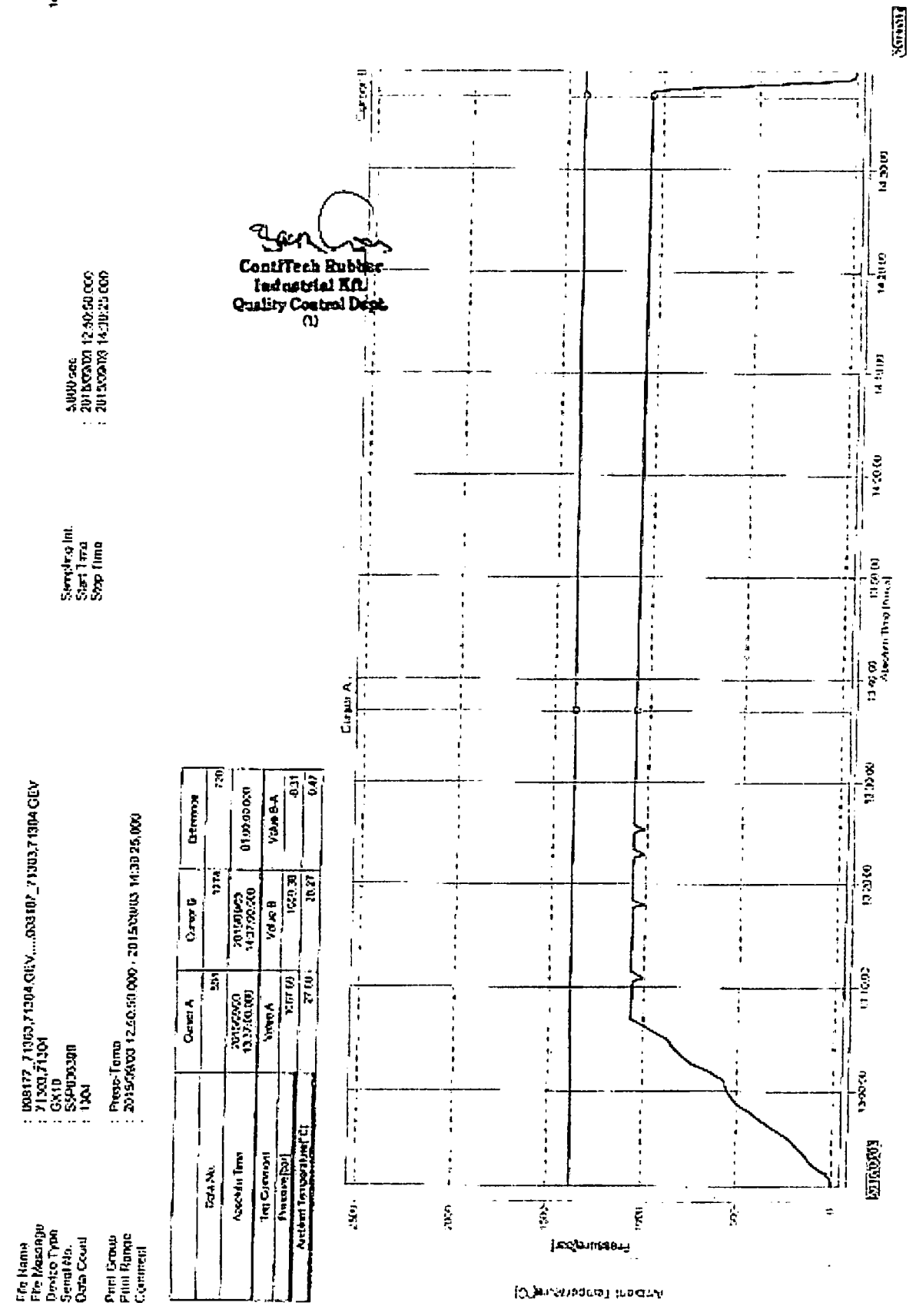
Date: _____

Hose Data Sheet

CRI Order No.	541802
Customer	ContiTech Oil & Marine Corp.
Customer Order No	4500606483 COM757207
Item No	1
Hose Type	Flexible Hose
Standard	**API SPEC 16 C** → FSL2
Inside dia in inches	3
Length	45 ft
Type of coupling one end	FLANGE 4.1/16" 10KPSI API SPEC 17D SV SWIVEL FLANGE C/W BX155ST/ST INLAID R.GR. SOUR
Type of coupling other end	FLANGE 4.1/16" 10KPSI API SPEC 17D SV SWIVEL FLANGE C/W BX155 ST/ST INLAID R.GR. SOUR
H2S service NACE MR0175	Yes
Working Pressure	10 000 psi
Design Pressure	10 000 psi
Test Pressure	15 000 psi
Safety Factor	2,25
Marking	USUAL PHOENIX
Cover	NOT FIRE RESISTANT
Outside protection	St.steel outer wrap
Internal stripwound tube	No
Lining	OIL + GAS RESISTANT SOUR
Safety clamp	Yes
Lifting collar	Yes
Element C	Yes
Safety chain	No
Safety wire rope	Yes
Max.design temperature [°C]	100
Min.design temperature [°C]	-20
Min. Bend Radius operating [m]	0,90
Min. Bend Radius storage [m]	0,90
Electrical continuity	The Hose is electrically continuous
Type of packing	WOODEN CRATE ISPM-15

ATTACHMENT OF QUALITY CONTROL INSPECTION AND TEST CERTIFICATE
No: 1609, 1610

CONTITECH RUBBER Industrial Kft.	No: QC-DB- 617 / 2015
	Page: 7 / 71



BLOWOUT PREVENTOR SCHEMATIC

Minimum Requirements

OPERATION :Intermediate Hole Section

Minimum System Pressure Rating : 5,000 psi

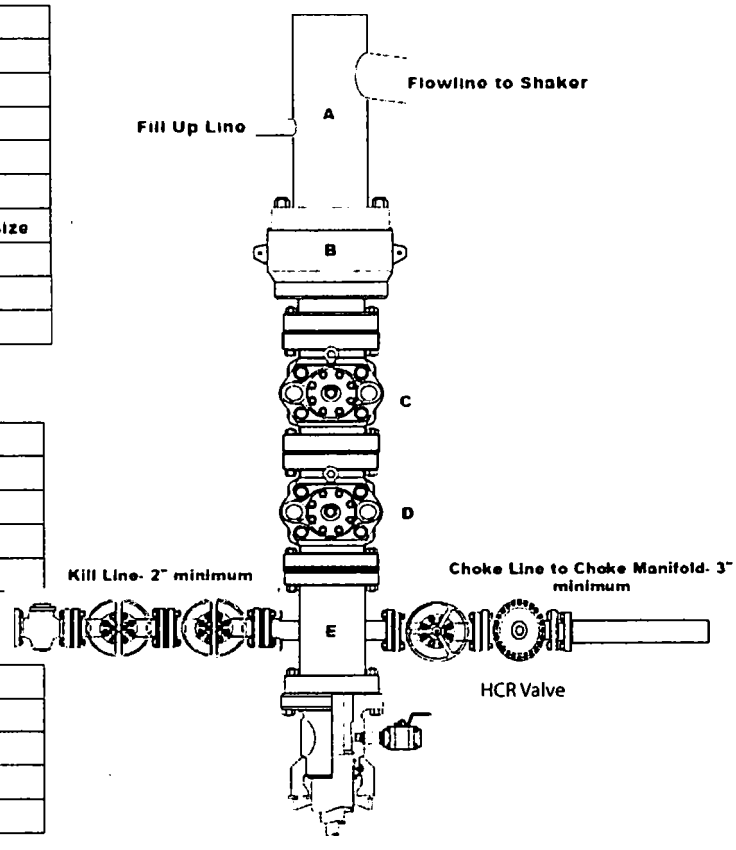
	SIZE	PRESSURE	DESCRIPTION
A		N/A	Bell Nipple
B	13 5/8"	5,000 psi	Annular
C	13 5/8"	5,000 psi	Pipe Ram
D	13 5/8"	5,000 psi	Blind Ram
E	13 5/8"	5,000 psi	Mud Cross
F			
DSA		As required for each hole size	
C-Sec			
B-Sec		13-5/8" 5K x 11" 5K	
A-Sec		13-3/8" SOW x 13-5/8" 5K	

Kill Line

SIZE	PRESSURE	DESCRIPTION
2"	5,000 psi	Gate Valve
2"	5,000 psi	Gate Valve
2"	5,000 psi	Check Valve

Choke Line

SIZE	PRESSURE	DESCRIPTION
3"	5,000 psi	Gate Valve
3"	5,000 psi	HCR Valve



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ **The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.**
- ☐ **All valves on the kill line and choke line will be full opening and will allow straight though flow.**
- ☐ **The kill line and choke line will be straight unless turns use tee blocks or are targeted with running tess, and will be anchored to prevent whip and reduce vibration.**
- ☐ **Manual (hand wheels) or automatic locking devices will be installed on all ram preventers. Hand wheels will also be installed on all manual valves on the choke line and kill line.**
- ☐ **A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve will remain open unless accumulator is inoperative.**
- ☐ **Upper kelly cock valve with handle will be available on rig floor along with safety valve and subs to fit all drill string connections in use.**

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer

Wellname: _____

Representative: _____

Date: _____

CHOKE MANIFOLD SCHEMATIC

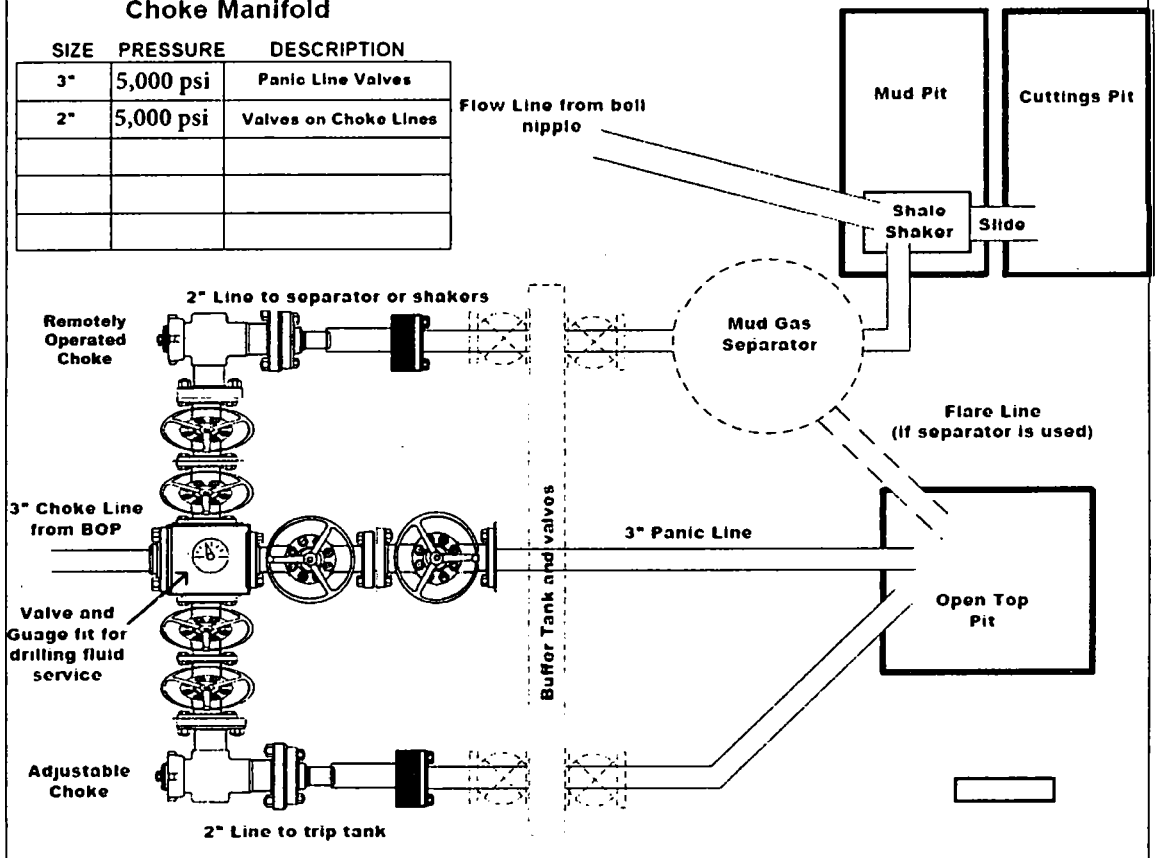
Minimum Requirements

OPERATION : Intermediate Hole Section

Minimum System Pressure Rating : 5,000 psi

Choke Manifold

SIZE	PRESSURE	DESCRIPTION
3"	5,000 psi	Panic Line Valves
2"	5,000 psi	Valves on Choke Lines



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ **The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.**
- ☐ **Adjustable Chokes may be Remotely Operated but will have backup hand pump for hydraulic actuation in case of loss of rig air pressure or power.**
- ☐ **Flare and Panic lines will terminate a minimum of 150' from the wellhead. These lines will terminate at a location as per approved APD.**
- ☐ **The choke line, kill line, and choke manifold lines will be straight unless turns use tee blocks or are targeted with running tess, and will be anchored to prevent whip and reduce vibration. This excludes the line between mud gas separator and shale shaker.**
- ☐ **All valves (except chokes) on choke line, kill line, and choke manifold will be full opening and will allow straight through flow. This excludes any valves between mud gas separator and shale shakers.**
- ☐ **All manual valves will have hand wheels installed.**
- ☐ **If used, flare system will have effective method for ignition**
- ☐ **All connections will be flanged, welded, or clamped (no threaded connections like hammer unions)**
- ☐ **If buffer tank is used, a valve will be used on all lines at any entry or exit point to or from the buffer tank.**

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer

Wellname: _____

Representative: _____

Date: _____

BLOWOUT PREVENTOR SCHEMATIC

Minimum Requirements

OPERATION :Production Hole Section

Minimum System Pressure Rating : 10,000 psi

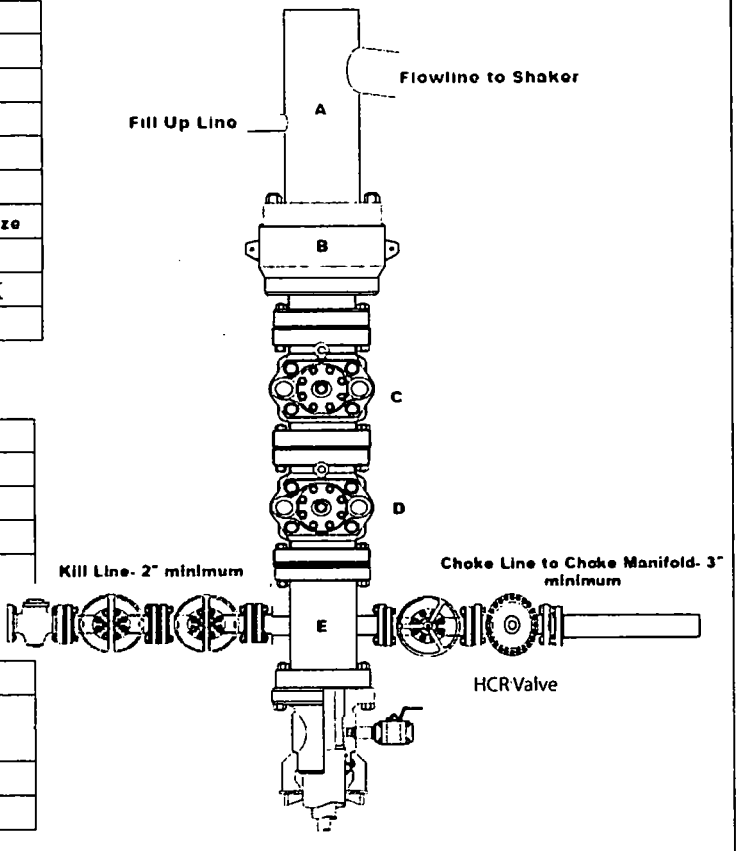
	SIZE	PRESSURE	DESCRIPTION
A		N/A	Bell Nipple
B	13 5/8"	10,000 psi	Annular
C	13 5/8"	10,000 psi	Pipe Ram
D	13 5/8"	10,000 psi	Blind Ram
E	13 5/8"	10,000 psi	Mud Cross
F			
DSA		As required for each hole size	
C-Sec		13-5/8" 10K	
B-Sec		13-5/8" 10K x 13-5/8" 5K	
A-Sec		13-3/8" SOW x 13-5/8" 5K	

Kill Line

SIZE	PRESSURE	DESCRIPTION
2"	10,000 psi	Gate Valve
2"	10,000 psi	Gate Valve
2"	10,000 psi	Check Valve

Choke Line

SIZE	PRESSURE	DESCRIPTION
3"	10,000 psi	Gate Valve
3"	10,000 psi	HCR Valve



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ **The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.**
- ☐ **All valves on the kill line and choke line will be full opening and will allow straight though flow.**
- ☐ **The kill line and choke line will be straight unless turns use tee blocks or are targeted with running tess, and will be anchored to prevent whip and reduce vibration.**
- ☐ **Manual (hand wheels) or automatic locking devices will be installed on all ram preventers. Hand wheels will also be installed on all manual valves on the choke line and kill line.**
- ☐ **A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve will remain open unless accumulator is inoperative.**
- ☐ **Upper kelly cock valve with handle will be available on rig floor along with safety valve and subs to fit all drill string connections in use.**

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer

Wellname: _____

Representative: _____

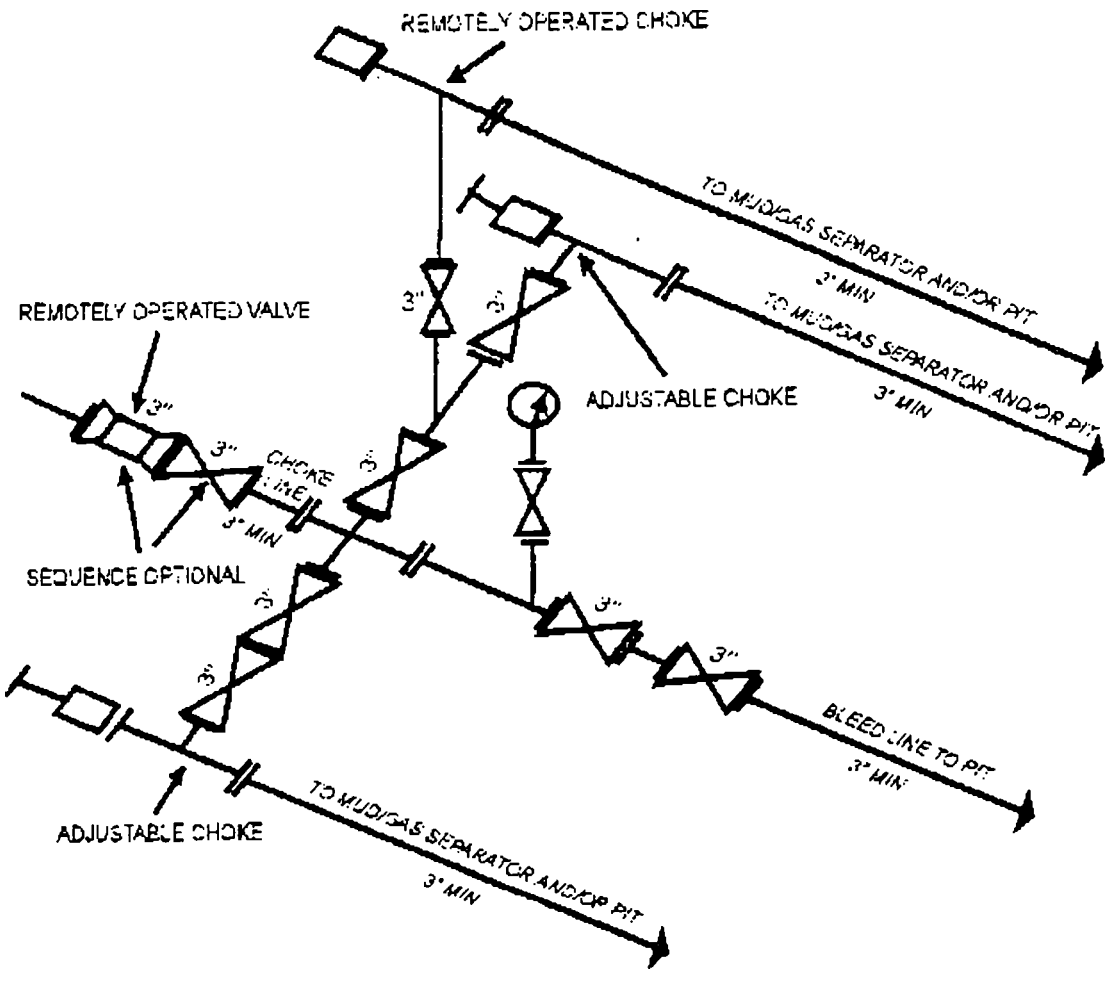
Date: _____

10M Choke Manifold SCHEMATIC

Minimum Requirements

OPERATION: Production Hole Sections

Minimum System Pressure Rating: 10,000 PSI



10M AND 15M CHOKE MANIFOLD EQUIPMENT - CONFIGURATION OF CHOKES MAY VARY

[53 FR 49661, Dec. 9, 1988 and 54 FR 39528, Sept. 27, 1989]

BOPE Testing

Minimum Requirements

Closing Unit and Accumulator Checklist

The following item must be performed, verified, and checked off at least once per well prior to low/high pressure testing of BOP equipment. This must be repeated after 6 months on the same well.

☐ **Precharge pressure for each accumulator bottle must fall within the range below. Bottles may be further charged with nitrogen gas only. Tested precharge pressures must be recorded for each individual bottle and kept on location through the end of the well. Test will be conducted prior to connecting unit to BOP stack.**

Check one that applies	Accumulator working pressure rating	Minimum acceptable operating pressure	Desired precharge pressure	Maximum acceptable precharge pressure	Minimum acceptable precharge pressure
☐	1500 psi	1500 psi	750 psi	800 psi	700 psi
☐	2000 psi	2000 psi	1000 psi	1100 psi	900 psi
☐	3000 psi	3000 psi	1000 psi	1100 psi	900 psi

☐ **Accumulator will have sufficient capacity to open the hydraulically-controlled choke line valve (if used), close all rams, close the annular preventer, and retain a minimum of 200 psi above the maximum acceptable precharge pressure (see table above) on the closing manifold without the use of the closing pumps. This test will be performed with test pressure recorded and kept on location through the end of the well**

☐ **Accumulator fluid reservoir will be double the usable fluid volume of the accumulator system capacity. Fluid level will be maintained at manufacturer's recommendations. Usable fluid volume will be recorded. Reservior capacity will be recorded. Reservoir fluid level will be recorded along with manufacturer's recommendation. All will be kept on location through the end of the well.**

☐ **Closing unit system will have two independent power sources (not counting accumulator bottles) to close the preventers.**

☐ **Power for the closing unit pumps will be available to the unit at all times so that the pumps will automatically start when the closing valve manifold pressure decreases to the pre-set level. It is recommended to check that air line to accumulator pump is "ON" during each tour change.**

☐ **With accumulator bottles isolated, closing unit will be capable of opening the hydraulically-operated choke line valve (if used) plus close the annular preventer on the smallest size drill pipe within 2 minutes and obtain a minimum of 200 psi above maximum acceptable precharge pressure (see table above) on the closing manifold. Test pressure and closing time will be recorded and kept on location through the end of the well.**

☐ **Master controls for the BOPE system will be located at the accumulator and will be capable of opening and closing all preventer and the choke line valve (if used)**

☐ **Remote controls for the BOPE system will be readily accessible (clear path) to the driller and located on the rig floor (not in the dog house). Remote controls will be capable of closing all preventers.**

☐ **Record accumulator tests in drilling reports and IADC sheet**

BOPE Test Checklist

The following item must be ckecked off prior to beginning test

☐ **BLM will be given at least 4 hour notice prior to beginning BOPE testing**

☐ **Valve on casing head below test plug will be open**

☐ **Test will be performed using clear water.**

The following item must be performed during the BOPE testing and then checked off

☐ **BOPE will be pressure tested when initially installed, whenever any seal subject to test pressure is broken, following related repairs, and at a minimum of 30 days intervals. Test pressure and times will be recorded by a 3rd party on a test chart and kept on location through the end of the well.**

☐ **Test plug will be used**

☐ **Ram type preventer and all related well control equipment will be tested to 250 psi (low) and 5,000 psi (high).**

☐ **Annular type preventer will be tested to 250 psi (low) and 3,500 psi (high).**

☐ **Valves will be tested from the working pressure side with all down stream valves open. The check valve will be held open to test the kill line valve(s)**

☐ **Each pressure test will be held for 10 minutes with no allowable leak off.**

☐ **Master controls and remote controls to the closing unit (accumulator) must be function tested as part of the BOP testing**

☐ **Record BOP tests and pressures in drilling reports and IADC sheet**

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer along with any/all BOP and accumulator test charts and reports from 3rd parties.

Wellname: _____

Representative: _____

Date: _____

BLOWOUT PREVENTOR SCHEMATIC

Minimum Requirements

OPERATION :Intermediate Hole Section

Minimum System Pressure Rating : 5,000 psi

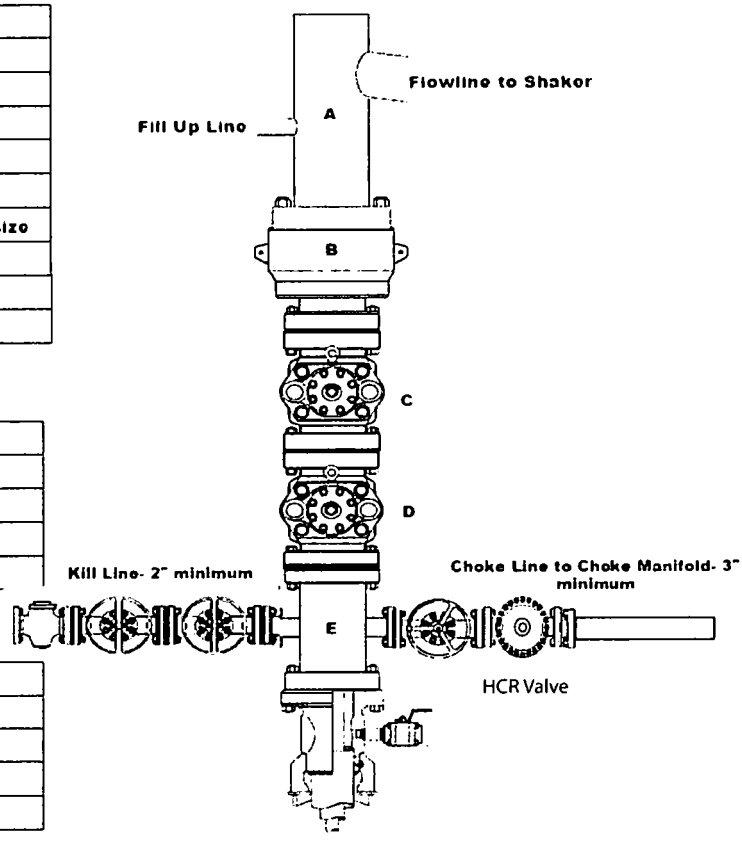
	SIZE	PRESSURE	DESCRIPTION
A		N/A	Bell Nipple
B	13 5/8"	5,000 psi	Annular
C	13 5/8"	5,000 psi	Pipe Ram
D	13 5/8"	5,000 psi	Blind Ram
E	13 5/8"	5,000 psi	Mud Cross
F			
DSA		As required for each hole size	
C-Sec			
B-Sec		13-5/8" 5K x 11" 5K	
A-Sec		13-3/8" SOW x 13-5/8" 5K	

Kill Line

SIZE	PRESSURE	DESCRIPTION
2"	5,000 psi	Gate Valve
2"	5,000 psi	Gate Valve
2"	5,000 psi	Check Valve

Choke Line

SIZE	PRESSURE	DESCRIPTION
3"	5,000 psi	Gate Valve
3"	5,000 psi	HCR Valve



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ **The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.**
- ☐ **All valves on the kill line and choke line will be full opening and will allow straight though flow.**
- ☐ **The kill line and choke line will be straight unless turns use tee blocks or are targeted with running tess, and will be anchored to prevent whip and reduce vibration.**
- ☐ **Manual (hand wheels) or automatic locking devices will be installed on all ram preventers. Hand wheels will also be installed on all manual valves on the choke line and kill line.**
- ☐ **A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve will remain open unless accumulator is inoperative.**
- ☐ **Upper kelly cock valve with handle will be available on rig floor along with safety valve and subs to fit all drill string connections in use.**

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer

Wellname: _____

Representative: _____

Date: _____

CHOKE MANIFOLD SCHEMATIC

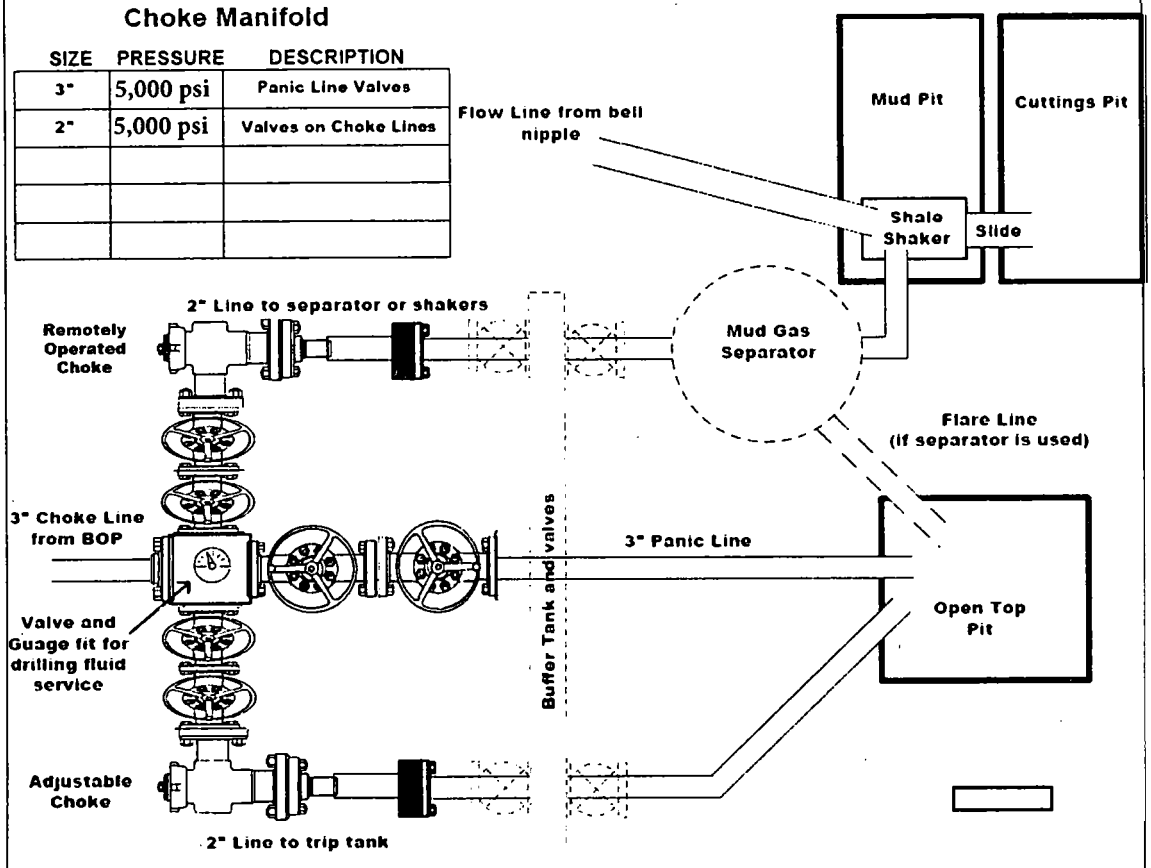
Minimum Requirements

OPERATION : Intermediate Hole Section

Minimum System Pressure Rating : 5,000 psi

Choke Manifold

SIZE	PRESSURE	DESCRIPTION
3"	5,000 psi	Panic Line Valves
2"	5,000 psi	Valves on Choke Lines



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ **The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.**
- ☐ **Adjustable Chokes may be Remotely Operated but will have backup hand pump for hydraulic actuation in case of loss of rig air pressure or power.**
- ☐ **Flare and Panic lines will terminate a minimum of 150' from the wellhead. These lines will terminate at a location as per approved APD.**
- ☐ **The choke line, kill line, and choke manifold lines will be straight unless turns use tee blocks or are targeted with running tess, and will be anchored to prevent whip and reduce vibration. This excludes the line between mud gas separator and shale shaker.**
- ☐ **All valves (except chokes) on choke line, kill line, and choke manifold will be full opening and will allow straight through flow. This excludes any valves between mud gas separator and shale shakers.**
- ☐ **All manual valves will have hand wheels installed.**
- ☐ **If used, flare system will have effective method for ignition**
- ☐ **All connections will be flanged, welded, or clamped (no threaded connections like hammer unions)**
- ☐ **If buffer tank is used, a valve will be used on all lines at any entry or exit point to or from the buffer tank.**

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer

Wellname: _____

Representative: _____

Date: _____

BLOWOUT PREVENTOR SCHEMATIC

Minimum Requirements

OPERATION :Production Hole Section

Minimum System Pressure Rating : 10,000 psi

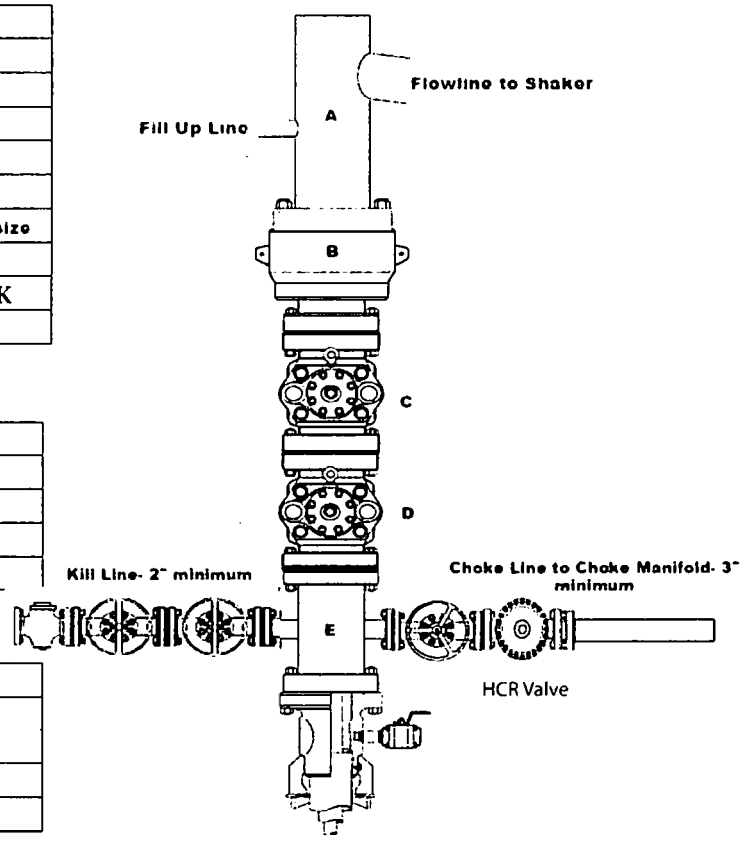
	SIZE	PRESSURE	DESCRIPTION
A		N/A	Bell Nipple
B	13 5/8"	10,000 psi	Annular
C	13 5/8"	10,000 psi	Pipe Ram
D	13 5/8"	10,000 psi	Blind Ram
E	13 5/8"	10,000 psi	Mud Cross
F			
DSA		As required for each hole size	
C-Sec		13-5/8" 10K	
B-Sec		13-5/8" 10K x 13-5/8" 5K	
A-Sec		13-3/8" SOW x 13-5/8" 5K	

Kill Line

SIZE	PRESSURE	DESCRIPTION
2"	10,000 psi	Gate Valve
2"	10,000 psi	Gate Valve
2"	10,000 psi	Check Valve

Choke Line

SIZE	PRESSURE	DESCRIPTION
3"	10,000 psi	Gate Valve
3"	10,000 psi	HCR Valve



Installation Checklist

The following item must be verified and checked off prior to pressure testing of BOP equipment.

- ☐ **The installed BOP equipment meets at least the minimum requirements (rating, type, size, configuration) as shown on this schematic. Components may be substituted for equivalent equipment rated to higher pressures. Additional components may be put into place as long as they meet or exceed the minimum pressure rating of the system.**
- ☐ **All valves on the kill line and choke line will be full opening and will allow straight though flow.**
- ☐ **The kill line and choke line will be straight unless turns use tee blocks or are targeted with running tess, and will be anchored to prevent whip and reduce vibration.**
- ☐ **Manual (hand wheels) or automatic locking devices will be installed on all ram preventers. Hand wheels will also be installed on all manual valves on the choke line and kill line.**
- ☐ **A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve will remain open unless accumulator is inoperative.**
- ☐ **Upper kelly cock valve with handle will be available on rig floor along with safety valve and subs to fit all drill string connections in use.**

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer

Wellname: _____

Representative: _____

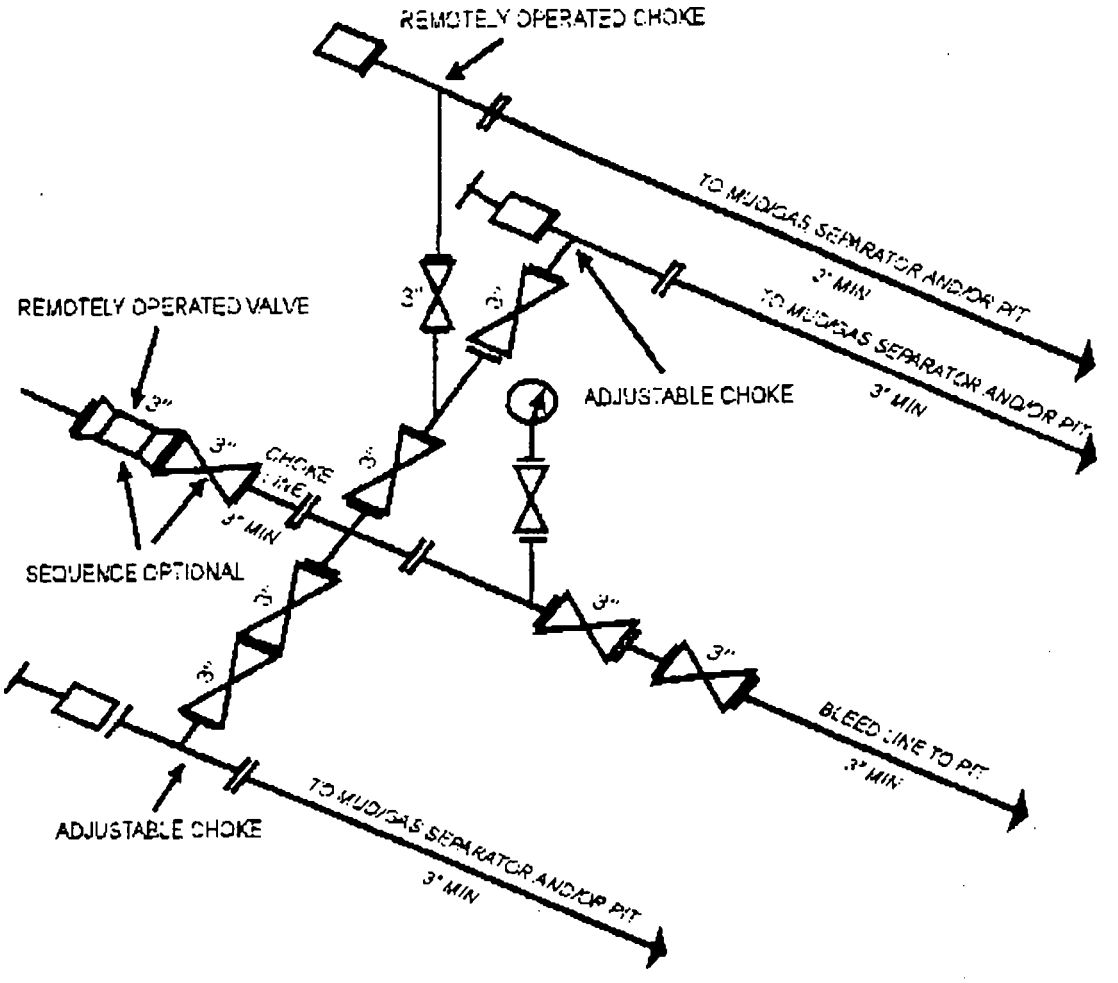
Date: _____

10M Choke Manifold SCHEMATIC

Minimum Requirements

OPERATION: Production Hole Sections

Minimum System Pressure Rating: 10,000 PSI



10M AND 15M CHOKE MANIFOLD EQUIPMENT - CONFIGURATION OF CHOKES MAY VARY

(53 FR 49661, Dec. 9, 1988 and 54 FR 39528, Sept. 27, 1989)

BOPE Testing

Minimum Requirements

Closing Unit and Accumulator Checklist

The following item must be performed, verified, and checked off at least once per well prior to low/high pressure testing of BOP equipment. This must be repeated after 6 months on the same well.

☐ **Precharge pressure for each accumulator bottle must fall within the range below. Bottles may be further charged with nitrogen gas only. Tested precharge pressures must be recorded for each individual bottle and kept on location through the end of the well. Test will be conducted prior to connecting unit to BOP stack.**

Check one that applies	Accumulator working pressure rating	Minimum acceptable operating pressure	Desired precharge pressure	Maximum acceptable precharge pressure	Minimum acceptable precharge pressure
☐	1500 psi	1500 psi	750 psi	800 psi	700 psi
☐	2000 psi	2000 psi	1000 psi	1100 psi	900 psi
☐	3000 psi	3000 psi	1000 psi	1100 psi	900 psi

☐ **Accumulator will have sufficient capacity to open the hydraulically-controlled choke line valve (if used), close all rams, close the annular preventer, and retain a minimum of 200 psi above the maximum acceptable precharge pressure (see table above) on the closing manifold without the use of the closing pumps. This test will be performed with test pressure recorded and kept on location through the end of the well**

☐ **Accumulator fluid reservoir will be double the usable fluid volume of the accumulator system capacity. Fluid level will be maintained at manufacturer's recommendations. Usable fluid volume will be recorded. Reservior capacity will be recorded. Reservoir fluid level will be recorded along with manufacturer's recommendation. All will be kept on location through the end of the well.**

☐ **Closing unit system will have two independent power sources (not counting accumulator bottles) to close the preventers.**

☐ **Power for the closing unit pumps will be available to the unit at all times so that the pumps will automatically start when the closing valve manifold pressure decreases to the pre-set level. It is recommended to check that air line to accumulator pump is "ON" during each tour change.**

☐ **With accumulator bottles isolated, closing unit will be capable of opening the hydraulically-operated choke line valve (if used) plus close the annular preventer on the smallest size drill pipe within 2 minutes and obtain a minimum of 200 psi above maximum acceptable precharge pressure (see table above) on the closing manifold. Test pressure and closing time will be recorded and kept on location through the end of the well.**

☐ **Master controls for the BOPE system will be located at the accumulator and will be capable of opening and closing all preventer and the choke line valve (if used)**

☐ **Remote controls for the BOPE system will be readily accessible (clear path) to the driller and located on the rig floor (not in the dog house). Remote controls will be capable of closing all preventers.**

☐ **Record accumulator tests in drilling reports and IADC sheet**

BOPE Test Checklist

The following item must be ckecked off prior to beginning test

☐ **BLM will be given at least 4 hour notice prior to beginning BOPE testing**

☐ **Valve on casing head below test plug will be open**

☐ **Test will be performed using clear water.**

The following item must be performed during the BOPE testing and then checked off

☐ **BOPE will be pressure tested when initially installed, whenever any seal subject to test pressure is broken, following related repairs, and at a minimum of 30 days intervals. Test pressure and times will be recorded by a 3rd party on a test chart and kept on location through the end of the well.**

☐ **Test plug will be used**

☐ **Ram type preventer and all related well control equipment will be tested to 250 psi (low) and 5,000 psi (high).**

☐ **Annular type preventer will be tested to 250 psi (low) and 3,500 psi (high).**

☐ **Valves will be tested from the working pressure side with all down stream valves open. The check valve will be held open to test the kill line valve(s)**

☐ **Each pressure test will be held for 10 minutes with no allowable leak off.**

☐ **Master controls and remote controls to the closing unit (accumulator) must be function tested as part of the BOP testing**

☐ **Record BOP tests and pressures in drilling reports and IADC sheet**

After Installation Checklist is complete, fill out the information below and email to Superintendent and Drilling Engineer along with any/all BOP and accumulator test charts and reports from 3rd parties.

Wellname: _____

Representative: _____

Date: _____

For the latest performance data, always visit our website: www.tenaris.com

February 08 2017

Tenaris

Size: 9.625 in.
Wall: 0.435 in.
Weight: 43.50 lbs/ft
Grade: L80.1
Min. Wall Thickness: 87.5 %

Connection: TenarisXP® BTC
Casing/Tubing: CAS
Coupling Option: REGULAR

PIPE BODY DATA

GEOMETRY

Nominal OD	**9.625** in.	Nominal Weight	**43.50** lbs/ft	Standard Drift Diameter	**8.599** in.
Nominal ID	**8.755** in.	Wall Thickness	**0.435** in.	Special Drift Diameter	**N/A**
Plain End Weight	**42.73** lbs/ft				

PERFORMANCE

Body Yield Strength	**1005** x 1000 lbs	Internal Yield	**6330** psi	SMYS	**80000** psi
Collapse	**3810** psi				

TENARISXP® BTC CONNECTION DATA

GEOMETRY

Connection OD	**10.625** in.	Coupling Length	**10.825** in.	Connection ID	**8.743** in.
Critical Section Area	**12.559** sq. in.	Threads per in.	**5.00**	Make-Up Loss	**4.891** in.

PERFORMANCE

Tension Efficiency	**100** %	Joint Yield Strength	**1005** x 1000 lbs	Internal Pressure Capacity[1]	**6330** psi
Structural Compression Efficiency	**100** %	Structural Compression Strength	**1005** x 1000 lbs	Structural Bending[2]	**38** °/100 ft
External Pressure Capacity	**3810** psi				

ESTIMATED MAKE-UP TORQUES[3]

Minimum	**20240** ft-lbs	Optimum	**22490** ft-lbs	Maximum	**24740** ft-lbs

OPERATIONAL LIMIT TORQUES

Operating Torque	**ASK**	Yield Torque	**45900** ft-lbs		

BLANKING DIMENSIONS

Blanking Dimensions

(1) Internal Pressure Capacity related to structural resistance only. Internal pressure leak resistance as per section 10.3 API 5C3 / ISO 10400 - 2007.

(2) Structural rating, pure bending to yield (i.e no other loads applied)

(3) Torque values calculated for API Modified thread compounds with Friction Factor=1. For other thread compounds please contact us at licensees@oilfield.tenaris.com. Torque values may be further reviewed.

For additional information, please contact us at contact-tenarishydril@tenaris.com

1. FORMATION TOPS

The estimated tops of important geologic markers are as follows:

FORMATION	SUB-SEA TVD	KBTVD	MD
Rustler		766	
Castile		2,990	
Lamar		4,575	
Bell Canyon		4,626	
Cherry Canyon		5,480	
Brushy Canyon		6,760	
Avalon		8,443	
First Bone Spring		9,380	
Second Bone Spring		10,032	
Third Bone Spring		11,330	
Wolfcamp A		11,769	
Lateral TD (Wolfcamp A2)		12,343	22,380
Wolfcamp B		12,545	
Pilot Hole TD*		12,760	

*Pilot Hole TD to account for 200' logging BHA rathole.

2. ESTIMATED DEPTH OF WATER, OIL, GAS & OTHER MINERAL BEARING FORMATIONS

The estimated depths at which the top and bottom of the anticipated water, oil, gas, or other mineral bearing formations are expected to be encountered are as follows:

Substance	Formation	Depth
Deepest Expected Base of Fresh Water		400
Water	Castile	2,990
Water	Cherry Canyon	5,480
Oil/Gas	Brushy Canyon	6,760
Oil/Gas	Avalon	8,443
Oil/Gas	First Bone Spring	9,380
Oil/Gas	Second Bone Spring	10,032
Oil/Gas	Third Bone Spring	11,330
Oil/Gas	Wolfcamp A	11,769
Oil/Gas	Wolfcamp B	12,545

All shows of fresh water and minerals will be reported and protected.

3. BOP EQUIPMENT

Chevron will have a minimum of a 5,000 psi rig stack (see proposed schematic) for drill out below surface casing. Wolfcamp is not exposed until drillout of the intermediate casing, stack will be tested as specified in the attached testing requirements. Chevron will have a minimum of a 10,000 psi rig stack (see proposed schematic) for drill out below intermediate casing. Batch drilling of the surface, intermediate, and production will take place. A full BOP test will be performed unless approval from BLM is received otherwise. Flex choke hose will be used for all wells on the pad (see attached specs). BOP test will be conducted by a third party. Chevron requests a variance to use a FMC Technologies UH-S Multibowl wellhead, which will be run through the rig floor on surface casing. BOPE will be nippled up and tested after cementing surface casing. Subsequent tests will be performed as needed, not to exceed 30 days. The field report from FMC Technologies and BOP test information will be provided in a subsequent report at the end of the well. Please see the attached wellhead schematic. An installation manual has been placed on file with the BLM office and remains unchanged from previous submittal.

4. **CASING PROGRAM**

a. The proposed casing program will be as follows:

Purpose	From	To	Hole Size	Csg Size	Weight	Grade	Thread	Condition
Surface	0'	800'	17-1/2"	13-3/8"	54.5 #	J-55	STC	New
Intermediate	0'	11,010'	12-1/4"	9-5/8"	40.0 #	L-80	LTC	New
Production	0'	22,380'	8-1/2"	5-1/2"	20.0 #	P-110 ICY	TXP BTC	New

Pilot Hole: 8-1/2" Pilot hole down to 12,760' TVD

An alternative casing design with a contingency string is as follows:

Purpose	From	To	Hole Size	Csg Size	Weight	Grade	Thread	Condition
Surface	0'	800'	17-1/2"	13-3/8"	54.5 #	J-55	STC	New
Intermediate Csg	0'	11,010'	12-1/4"	9-5/8"	40.0 #	L-80	LTC	New
Intermediate Liner	10,710'	11,900'	8-1/2"	7-5/8"	29.7 #	P-110	Wedge 513	New
Production	0'	11,750'	6-3/4"	5-1/2"	20.0 #	P-110 ICY	TXP BTC	New
	11,750'	22,380'		5"	18.0 #	P-110 IC	Wedge 521	New

Pilot Hole: 8-1/2" Pilot hole down to 12,760' TVD

b. Casing design subject to revision based on geologic conditions encountered.

c. *****A "Worst Case" casing design for wells in a particular area is used below to calculate the Casing Safety Factors. If for any reason the casing design for a particular well requires setting casing deeper than the following "worst case" design, then the Casing Safety Factors will be recalculated & sent to the BLM prior to drilling.**

d. **Chevron will fill casing at a minimum of every 20 jts (840') while running for intermediate and production casing in order to maintain collapse SF.**

SF Calculations based on the following "Worst Case" casing design:

Casing String	Min SF Burst	Min SF Collapse	Min SF Tension	Min SF Tri-Axial
Surface	1.80	3.12	3.17	2.26
Intermediate	1.23	1.28	1.60	1.50
Production	1.15	1.39	2.19	1.38

For alternate casing design with contingency:

Casing String	Min SF Burst	Min SF Collapse	Min SF Tension	Min SF Tri-Axial
Surface	1.80	3.12	3.17	2.26
Intermediate Csg	1.15	1.28	1.60	1.42
Intermediate Liner	2.00	5.63	2.17	2.41
Production	1.15	1.54	1.70	1.38

The following worst case load cases were considered for calculation of the above Min. Safety Factors:

Burst Design	Surf	Int	Prod
Pressure Test- Surface, Int, Prod Csg P external: Mud weight above TOC, PP below P internal: Test psi + next section heaviest mud in csg	X	X	X
Displace to Gas- Surf Csg P external: Mud weight above TOC, PP below P internal: Dry Gas from Next Csg Point	X		
Gas over mud (60/40) - Int Csg/Liner P external: Mud weight above TOC, PP below P internal: 60% gas over 40% mud from Pilot hole TD PP		X	
Stimulation (Frac) Pressures- Prod Csg P external: Mud weight above TOC, PP below P internal: Max inj pressure w/ heaviest injected fluid			X
Tubing leak- Prod Csg (packer at KOP) P external: Mud weight above TOC, PP below P internal: Leak just below surf, 8.45 ppg packer fluid			X
Collapse Design			
Full Evacuation P external: Mud weight gradient P internal: none	X	X	X
Cementing- Surf, Int, Prod Csg P external: Wet cement P internal: displacement fluid - water	X	X	X
Tension Design			
100k lb overpull	X	X	X

5. **CEMENTING PROGRAM**

Slurry	Type	Top	Bottom	Weight	Yield	%Excess	Sacks	Water	Volume
Surface				(ppg)	(cu ft/sk)	Open Hole		gal/sk	bbls
Tail	Class C	0'	800'	14.8	1.33	125	932	6.37	221
Intermediate Csg - Stage 1									
Lead	50:50 Poz: Class C	4,600'	10,010'	11.9	2.43	35	941	13.65	407
Tail	Class H	10,010'	11,010'	15.6	1.22	35	372	5.37	81
Intermediate Csg - Stage 2 **(DV tool @ 4,600')**									
Lead	50:50 Poz: Class C	0'	4,100'	11.9	2.43	35	693	13.65	300
Tail	Class C	4,100'	4,600'	14.8	1.33	35	160	6.35	38
Production									
Lead	50:50 Poz: Class H	10,000'	21,380'	13.2	1.38	35	2513	6.85	618
Tail	Acid Soluble Cement (Class H)	21,380'	22,380'	15	2.18	35	147	9.56	57
Pilot Hole Cement Plug									
Cement Plug	Class H	11,369'	11,869'	15.6	1.18	35	225	5.20	47
Cement Plug	Class H	12,145'	12,645'	15.6	1.18	35	225	5.20	47

Cementing Program for alternate casing design with contingency string:

*No change to surface and intermediate cement design with implementation of contingency string.

Slurry	Type	Top	Bottom	Weight	Yield	%Excess	Sacks	Water	Volume
				(ppg)	(cu ft/sk)	Open Hole		gal/sk	bbls
Intermediate Liner									
Tail	Class H	10,710'	11,900'	15.6	1.19	35	121	5.24	26
Production									
Lead	50:50 Poz: Class H	10,000'	21,380'	13.2	1.38	35	1252	6.85	308
Tail	Acid Soluble Cement (Class H)	21,380'	22,380'	15	2.18	35	72	9.56	28
Pilot Hole Cement Plug									
Cement Plug	Class H	11,845'	12,645'	15.6	1.18	35	223	5.21	47

1. Final cement volumes will be determined by caliper.
2. Surface casing shall have at least one centralizer installed on each of the bottom three joints starting with the shoe joint.
3. Production casing will have one horizontal type centralizer on every joint for the first 1000' from TD, then every other joint to EOB, and then every third joint to KOP. Bowspring type centralizers will be run from KOP to intermediate casing.
4. Intermediate casing cement job will be a 2 stage job with DV tool set at the base of Lamar.

6. MUD PROGRAM

From	To	Type	Weight	Viscosity	Filtrate
0'	800'	Spud Mud	8.3 - 8.9	28-30	N/C
800'	11,010'	OBM	8.7 - 9.2	10-20	10-12
11,010'	Pilot Hole TD: 12,750	OBM	9.0 - 13	10-15	10-12
11,010'	Well TD: 22,380	OBM	8.8 - 13	10-15	15-25

A closed system will by utilized consisting of above ground steel tanks. All wastes accumulated during drilling operations will be contained in a portable trash cage and removed from location and deposited in an approved sanitary landfill. Sanitary wastes will be contained in a chemical porta-toilet and then hauled to an approved sanitary landfill.

All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conservation Division rules and regulations.

A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

Visual mud monitoring equipment shall be in place to detect volume changes indicating loss or gain of circulating fluid volume. When abnormal pressures are anticipated -- a pit volume totalizer (PVT), stroke counter, and flow sensor will be used to detect volume changes indicating loss or gain of circulating fluid volume.

A weighting agent and lost circulating material (LCM) will be onsite to mitigate pressure or lost circulation as hole conditions dictate.

7. TESTING, LOGGING, AND CORING

The anticipated type and amount of testing, logging, and coring are as follows:

a. Drill stem tests are not planned.
b. The logging program will be as follows:

TYPE	Logs	Interval	Timing
Mudlogs	2 man mudlog	Int Csg to TD	Drillout of Int Csg
LWD	MWD Gamma	Int. and Prod. Hole	While Drilling

Pilot Hole OH Logs:

OH Logs	Triple Combo + dielectric + CMR Sonic Scanner	11,010 - 12,750	After drilling out pilot hole and before kick-off lateral.

c. Hole Core is planned from 11,010' - 12,750' targeting 3rd Bone Spring and Wolfcamp A formations.
d. A Directional Survey will be run.

8. ABNORMAL PRESSURES AND HYDROGEN SULFIDE

a. No abnormal pressure or temperatures are expected. Estimated BHP is: **8142 psi**
b. Hydrogen sulfide gas is not anticipated. An H2S Contingency plan is attached with this APD in the event that H2S is encountered

Continental

ContiTech

Hose Data Sheet

CRI Order No.	538332
Customer	ContiTech Oil & Marine Corp.
Customer Order No	4500412631 CBC544771, CBC544769, CBC544767, CBC544763, CBC544768, CBC544745, CBC544744, CBC544746
Item No.	1
Hose Type	Flexible Hose
Standard	**API SPEC 16 C**
Inside dia in inches	3
Length	45 ft
Type of coupling one end	FLANGE 4.1/16" 10KPSI API SPEC 17D SV SWIVEL FLANGE SOURC/W BX155 ST/ST INLAID R.GR.
Type of coupling other end	FLANGE 4.1/16" 10KPSI API SPEC 17D SV SWIVEL FLANGE SOUR C/W BX155 ST/ST INLAID R.GR.
H2S service NACE MR0175	Yes
Working Pressure	10 000 psi
Design Pressure	10 000 psi
Test Pressure	15 000 psi
Safety Factor	2,25
Marking	USUAL PHOENIX
Cover	NOT FIRE RESISTANT
Outside protection	St.steel outer wrap
Internal stripwound tube	No
Lining	OIL + GAS RESISTANT SOUR
Safety clamp	Yes
Lifting collar	Yes
Element C	Yes
Safety chain	Yes
Safety wire rope	No
Max.design temperature [°C]	100
Min.design temperature [°C]	-20
Min. Bend Radius operating [m]	0,90
Min. Bend Radius storage [m]	0,90
Electrical continuity	The Hose is electrically continuous
Type of packing	WOODEN CRATE ISPM-15

For the latest performance data, always visit our website: www.tenaris.com

January 18 2016

Tenaris

Size: 5.500 in.
Wall: 0.361 in.
Weight: 20.00 lbs/ft
Grade: P110-ICY
Min. Wall Thickness: 87.5 %

Connection: TenarisXP® BTC
Casing/Tubing: CAS
Coupling Option: REGULAR

PIPE BODY DATA

GEOMETRY

Nominal OD	**5.500** in.	Nominal Weight	**20.00** lbs/ft	Standard Drift Diameter	**4.653** in.
Nominal ID	**4.778** in.	Wall Thickness	**0.361** in.	Special Drift Diameter	**N/A**
Plain End Weight	**19.83** lbs/ft				

PERFORMANCE

Body Yield Strength	**729** x 1000 lbs	Internal Yield	**14360** psi	SMYS	**125000** psi
Collapse	**12100** psi				

TENARISXP® BTC CONNECTION DATA

GEOMETRY

Connection OD	**6.100** in.	Coupling Length	**9.450** in.	Connection ID	**4.766** in.
Critical Section Area	**5.828** sq. in.	Threads per in.	**5.00**	Make-Up Loss	**4.204** in.

PERFORMANCE

Tension Efficiency	**100** %	Joint Yield Strength	**729** x 1000 lbs	Internal Pressure Capacity(1)	**14360** psi
Structural Compression Efficiency	**100** %	Structural Compression Strength	**729** x 1000 lbs	Structural Bending(2)	**104** °/100 ft
External Pressure Capacity	**12100** psi				

ESTIMATED MAKE-UP TORQUES(3)

Minimum	**11540** ft-lbs	Optimum	**12820** ft-lbs	Maximum	**14100** ft-lbs

OPERATIONAL LIMIT TORQUES

Operating Torque	**22700** ft-lbs	Yield Torque	**25250** ft-lbs		

BLANKING DIMENSIONS

Blanking Dimensions

(1) Internal Pressure Capacity related to structural resistance only. Internal pressure leak resistance as per section 10.3 API 5C3 / ISO 10400 - 2007.

(2) Structural rating, pure bending to yield (i.e no other loads applied)

(3) Torque values calculated for API Modified thread compounds with Friction Factor=1. For other thread compounds please contact us at licensees@oilfield.tenaris.com. Torque values may be further reviewed.

For additional information, please contact us at contact-tenarishydril@tenaris.com

For the latest performance data, always visit our website: www.tenaris.com

June 17 2015

TenarisHydril

Size: 7.625 in.
Wall: 0.375 in.
Weight: 29.70 lbs/ft
Grade: P110-IC
Min. Wall Thickness: 87.5 %

Connection: Wedge 513™
Casing/Tubing: CAS

PIPE BODY DATA

GEOMETRY

Nominal OD	**7.625** in.	Nominal Weight	**29.70** lbs/ft	Standard Drift Diameter	**6.750** in.
Nominal ID	**6.875** in.	Wall Thickness	**0.375** in.	Special Drift Diameter	**N/A**
Plain End Weight	**29.06** lbs/ft				

PERFORMANCE

Body Yield Strength	**940** x 1000 lbs	Internal Yield	**9470** psi	SMYS	**110000** psi
Collapse	**7150** psi				

WEDGE 513™ CONNECTION DATA

GEOMETRY

Connection OD	**7.625** in.	Connection ID	**6.800** in.	Make-Up Loss	**4.420** in.
Critical Section Area	**5.125** sq. in.	Threads per in.	**3.29**		

PERFORMANCE

Tension Efficiency	**60.0** %	Joint Yield Strength	**564** x 1000 lbs	Internal Pressure Capacity	**9470** psi
Compression Strength	**707** x 1000 lbs	Compression Efficiency	**75.2** %	Bending	**40** °/100 ft
External Pressure Capacity	**7150** psi				

MAKE-UP TORQUES

Minimum	**9000** ft-lbs	Optimum	**10800** ft-lbs	Maximum (*)	**15800** ft-lbs

OPERATIONAL LIMIT TORQUES

Operating Torque	**47000** ft-lbs	Yield Torque	**70000** ft-lbs		

BLANKING DIMENSIONS

Blanking Dimensions

* If you need to use torque values that are higher than the maximum indicated, please contact a local Tenaris technical sales representative.

For the latest performance data, always visit our website: www.tenaris.com

May 12 2015

TenarisHydril

Size: 5.000 in.
Wall: 0.362 in.
Weight: 18.00 lbs/ft
Grade: P110-IC
Min. Wall Thickness: 87.5 %

Connection: Wedge 521™
Casing/Tubing: CAS

PIPE BODY DATA

GEOMETRY

Nominal OD	**5.000** in.	Nominal Weight	**18.00** lbs/ft	Standard Drift Diameter	**4.151** in.
Nominal ID	**4.276** in.	Wall Thickness	**0.362** in.	Special Drift Diameter	**N/A**
Plain End Weight	**17.95** lbs/ft				

PERFORMANCE

Body Yield Strength	**580** x 1000 lbs	Internal Yield	**13940** psi	SMYS	**110000** psi
Collapse	**14840** psi				

WEDGE 521™ CONNECTION DATA

GEOMETRY

Connection OD	**5.359** in.	Connection ID	**4.226** in.	Make-Up Loss	**3.620** in.
Critical Section Area	**3.891** sq. in.	Threads per in.	**3.36**		

PERFORMANCE

Tension Efficiency	**73.8** %	Joint Yield Strength	**428** x 1000 lbs	Internal Pressure Capacity	**13940** psi
Compression Strength	**514** x 1000 lbs	Compression Efficiency	**88.7** %	Bending	**75** °/100 ft
External Pressure Capacity	**14840** psi				

MAKE-UP TORQUES

Minimum	**6100** ft-lbs	Optimum	**7300** ft-lbs	Maximum (*)	**10700** ft-lbs

OPERATIONAL LIMIT TORQUES

Operating Torque	**17300** ft-lbs	Yield Torque	**26000** ft-lbs		

BLANKING DIMENSIONS

Blanking Dimensions

* If you need to use torque values that are higher than the maximum indicated, please contact a local Tenaris technical sales representative.

H_2S Preparedness and Contingency Plan Summary

Jabberwocky 1H

Training

MCBU Drilling and Completions H_2S training requirements are intended to define the minimum level of training required for employees, contractors and visitors to enter or perform work at MCBU Drilling and Completions locations that have known concentrations of H_2S.

Awareness Level

Employees and visitors to MCBU Drilling and Completions locations that have known concentrations of H_2S, who are not required to perform work in H_2S areas, will be provided with an awareness level of H_2S training prior to entering any H_2S areas. At a minimum, awareness level training will include:

1. Physical and chemical properties of H_2S
2. Health hazards of H_2S
3. Personal protective equipment
4. Information regarding potential sources of H_2S
5. Alarms and emergency evacuation procedures

Awareness level training will be developed and conducted by personnel who are qualified either by specific training, educational experience and/or work-related background.

Advanced Level H_2S Training

Employees and contractors required to work in areas that may contain H_2S will be provided with Advanced Level H_2S training prior to initial assignment. In addition to the Awareness Level requirements, Advanced Level H_2S training will include:

1. H_2S safe work practice procedures;
2. Emergency contingency plan procedures;
3. Methods to detect the presence or release of H_2S (e.g., alarms, monitoring equipment), including hands-on training with direct reading and personal monitoring H_2S equipment.
4. Basic overview of respiratory protective equipment suitable for use in H_2S environments. Note: Employees who work at sites that participate in the Chevron Respirator User program will require separate respirator training as required by the MCBU Respiratory Protection Program;
5. Basic overview of emergency rescue techniques, first aid, CPR and medical evaluation procedures. Employees who may be required to perform "standby" duties are required to receive additional first aid and CPR training, which is not covered in the Advanced Level H_2S training;
6. Proficiency examination covering all course material.

Advanced H_2S training courses will be instructed by personnel who have successfully completed an appropriate H_2S train-the-trainer development course (ANSI/ASSE Z390.1-2006) or who possess significant past experience through educational or work-related background.

H_2S Preparedness and Contingency Plan Summary

H_2S Training Certification

All employees and visitors will be issued an H_2S training certification card (or certificate) upon successful completion of the appropriate H_2S training course. Personnel working in an H_2S environment will carry a current H_2S training certification card as proof of having received the proper training on their person at all times.

Briefing Area

A minimum of two briefing areas will be established in locations that at least one area will be up-wind from the well at all times. Upon recognition of an emergency situation, all personnel should assemble at the designated upwind briefing areas for instructions.

H_2S Equipment

Respiratory Protection

a) Six 30 minute SCBAs – 2 at each briefing area and 2 in the Safety Trailer.

b) Eight 5 minute EBAs – 5 in the dog house at the rig floor, 1 at the accumulator, 1 at the shale shakers and 1 at the mud pits.

Visual Warning System

a) One color code sign, displaying all possible conditions, will be placed at the entrance to the location with a flag displaying the current condition.

b) Two windsocks will be on location, one on the dog house and one on the Drill Site Manager's Trailer.

H_2S Detection and Monitoring System

a) H_2S monitoring system (sensor head, warning light and siren) placed throughout rig.

- Drilling Rig Locations: at a minimum, in the area of the Shale shaker, rig floor, and bell nipple.
- Workover Rig Locations: at a minimum, in the area of the Cellar, rig floor and circulating tanks or shale shaker.

Well Control Equipment

a) Flare Line 150' from wellhead with igniter.

b) Choke manifold with a remotely operated choke.

c) Mud / gas separator

Mud Program

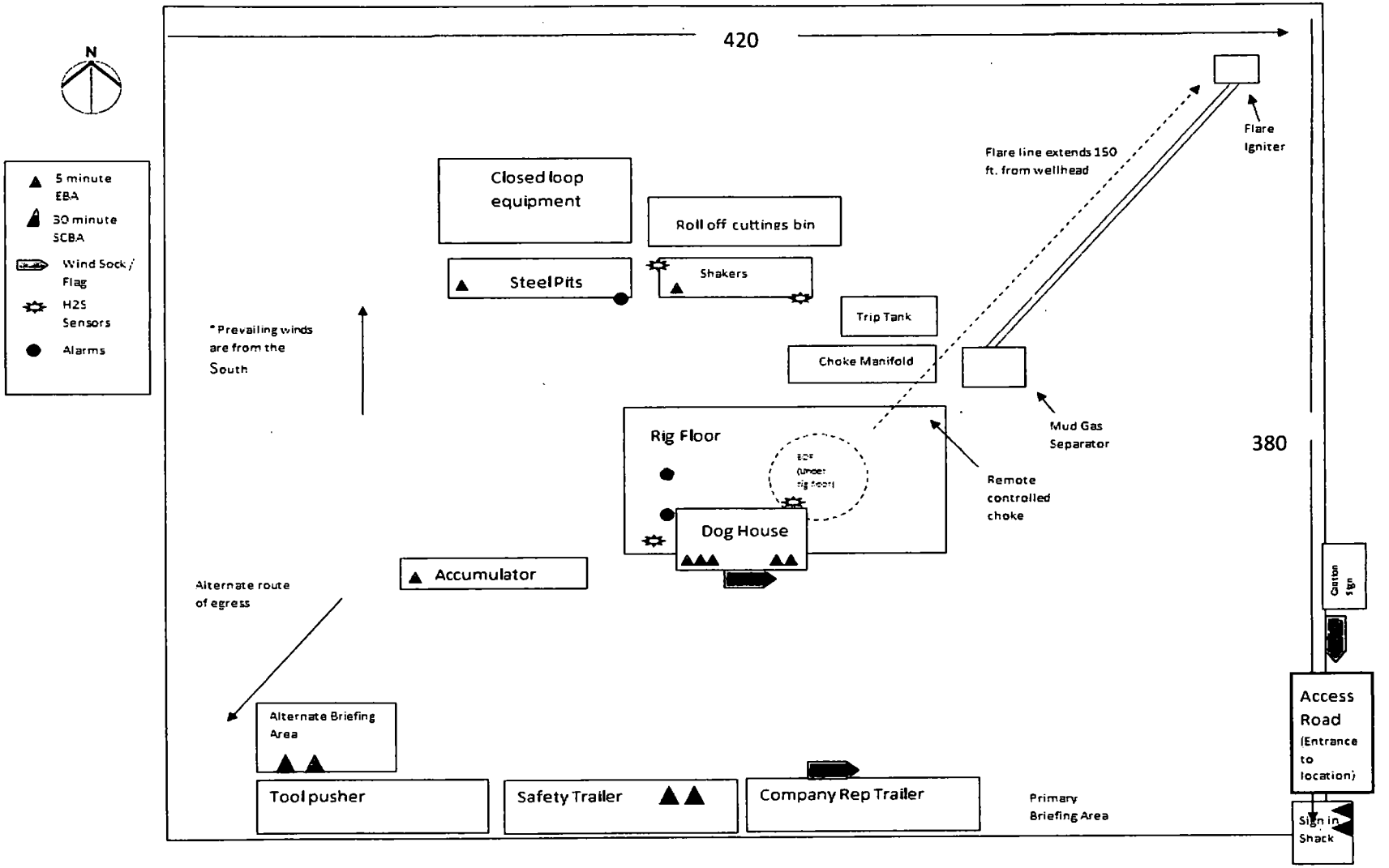
In the event of drilling, completions, workover and well servicing operations involving a hydrogen sulfide concentration of 100 ppm or greater the following shall be considered:

1. Use of a degasser
2. Use of a zinc based mud treatment
3. Increasing mud weight

Public Safety - Emergency Assistance

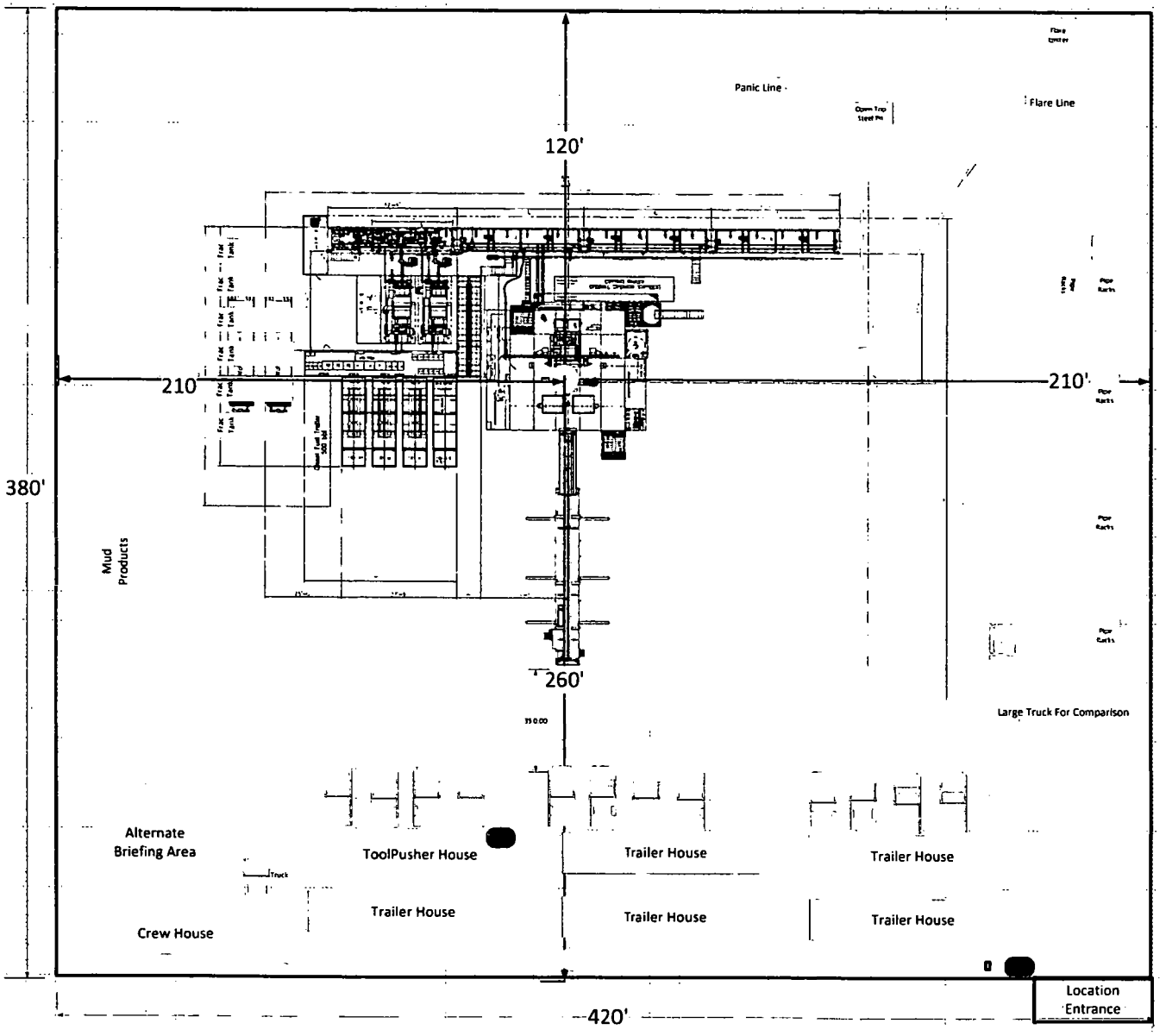
Agency	Telephone Number
Eddy County Sheriff's Department	575-887-7551
Carlsbad Fire Department	575-885-3125
Carlsbad Medical Center	575-887-4100
Eddy County Emergency Management	575-885-3581
Poison Control Center	800-222-1222

H_2S Preparedness and Contingency Plan Summary



Jabberwocky 1H

Rig Layout



H2S Monitor Locations
- Bop/Cellar
- Rig Floor
- Shaker Skid
- Bell Nipple

Flag Locations
- Sign-in Shack
- Rig Floor
- Dog House

10 Minute Escape Packs
- 1 at Pits
- 1 at Trip Tank
- 1 at Accumulator
- 4 at Rig Floor

45 Minute Escape Packs
- 2 at Briefing Area
- 2 at Alternate Briefing Area

Legend
- H2S Monitor
- Flag

Chevron

Project: Eddy County, NM (NAD27 NME)
Site: Jabberwocky
Well: 1H
Wellbore: ST01
Design: Plan 2 10-31-17
Rig:

PHOENIX TECHNOLOGY SERVICES

Azimuths to Grid North
True North: -0.33°
Magnetic North: 6.54°

Magnetic Field
Strength: 48070.8snT
Dip Angle: 60.00°
Date: 12/26/2017
Model: HDGM

GL + KB @ 3619.00usft
Ground Level: 3587.00

WELL DETAILS

Ground Level: 3587.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	446295.00	688536.00	32° 13' 31.84156 N	103° 43' 25.14127 W

SECTION DETAILS - OH

	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0.00		KOP, Begin 2.00°/100' Build
	1677.39	3.55	174.54	1677.27	-5.47	0.52	2.00	174.54	-5.47		Hold 3.55° Inc at 174.54° Azm
4	5830.80	3.55	174.54	5822.73	-261.31	24.97	0.00	0.00	-261.39		Begin 2.00°/100' Drop
5	6008.19	0.00	0.00	6000.00	-266.78	25.49	2.00	180.00	-266.85		Begin Vertical Hold
6	12758.19	0.00	0.00	12750.00	-266.78	25.49	0.00	0.00	-266.85		TD at 12758.19

SECTION DETAILS - ST01

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
11865.23	0.00	0.00	11857.04	-266.78	25.49	0.00	0.00	-266.86		Tie In, KOP2, Begin 10.00°/100' Build
12765.23	90.00	359.69	12430.00	306.17	22.37	10.00	359.69	306.10		LP, Hold 90.00° Inc at 359.69° Azm
22377.20	90.00	359.69	12430.00	9918.00	-30.00	0.00	0.00	9918.05	BHLv2 - Jabberwocky 1H	TD at 22377.20

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHLv2 - Jabberwocky 1H	12430.00	9918.00	-30.00	456213.00	688508.00	32° 15' 9.98976 N	103° 43' 24.83500 W
FTPv2 - Jabberwocky 1H	12430.00	-37.00	24.00	446258.00	688560.00	32° 13' 31.47407 N	103° 43' 24.86433 W
LTPv2 - Jabberwocky 1H	12430.00	9868.00	-30.00	456163.00	688506.00	32° 15' 9.49497 N	103° 43' 24.83831 W
MPTv2 - Jabberwocky 1H	12430.00	4915.00	-3.00	451210.00	688533.00	32° 14' 20.47963 N	103° 43' 24.85141 W

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001

Local Origin: Well 1H, Grid North

Latitude: 32° 13' 31.84156 N
Longitude: 103° 43' 25.14127 W

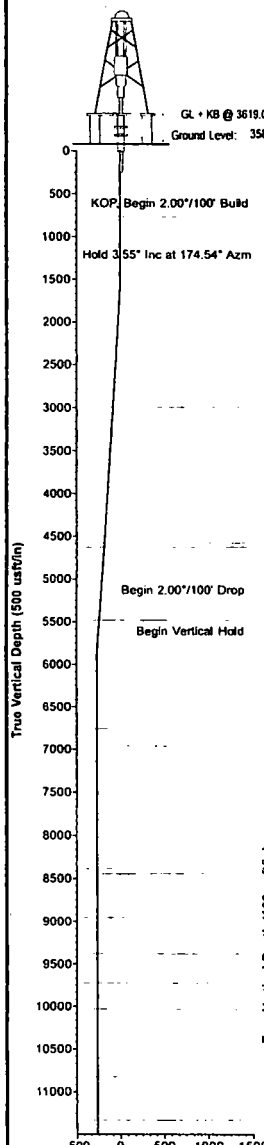
Grid East: 688536.00
Grid North: 446295.00
Scale Factor: 1.000

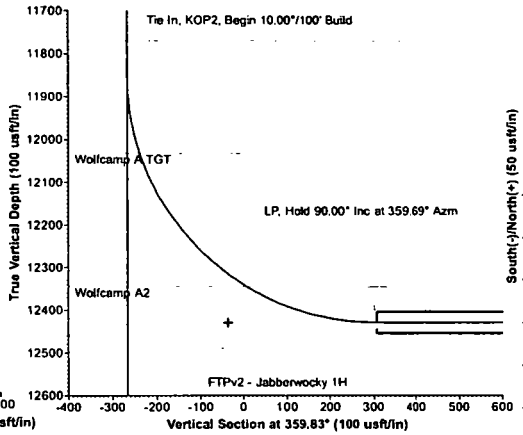
Geomagnetic Model: HDGM
Sample Date: 26-Dec-17
Magnetic Declination: 6.87°
Dip Angle from Horizontal: 60.00°
Magnetic Field Strength: 48071

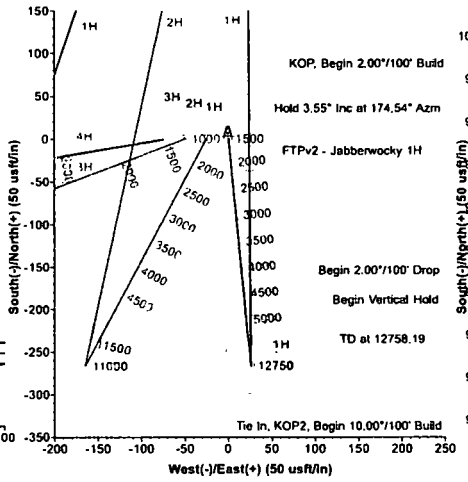
To convert a Magnetic Direction to a Grid Direction, Add 6.54°
To convert a Magnetic Direction to a True Direction, Add 6.87° East
To convert a True Direction to a Grid Direction, Subtract 0.33°

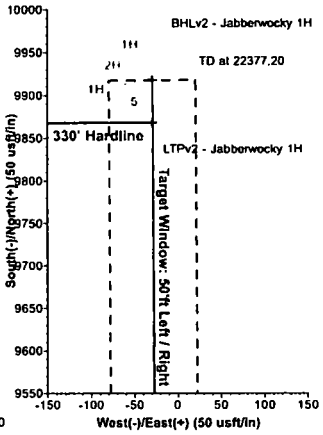
LEGEND

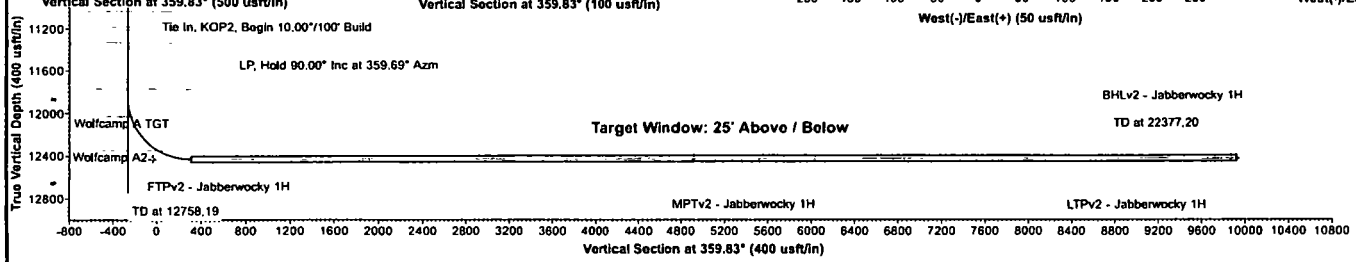
- 3H, OH, Plan 1 10-31-17 V0
- 1H, OH, Plan 2 10-31-17 V0
- 2H, OH, Plan 1 10-30-17 V0
- 4, OH, Surveys V0
- 3, OH, Surveys V0
- 1H, OH, Plan 1 10-30-17 V0
- 4H, OH, Plan 1 10-31-17 V0
- 5, OH, Surveys V0
- 2H, OH, Plan 1 10-31-17 V0
- Plan 2 10-31-17

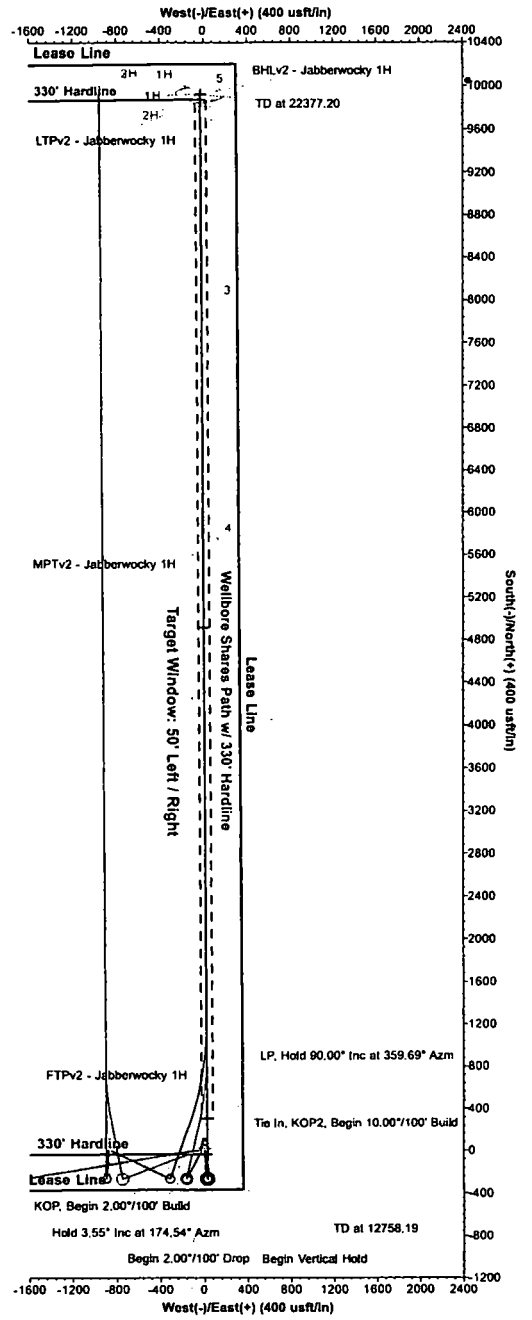












Created By: Tim Tate Date: 14.07, October 31 2017

Chevron

Chevron

Eddy County, NM (NAD27 NME)
Jabberwocky
1H

OH

Plan: Plan 2 10-31-17

Standard Planning Report

31 October, 2017

PHOENIX
TECHNOLOGY SERVICES

Database:	Compass 5000 GCR	**Local Co-ordinate Reference:**	Well 1H
Company:	Chevron	**TVD Reference:**	GL + KB @ 3619.00usft
Project:	Eddy County, NM (NAD27 NME)	**MD Reference:**	GL + KB @ 3619.00usft
Site:	Jabberwocky	**North Reference:**	Grid
Well:	1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 2 10-31-17		

Project	Eddy County, NM (NAD27 NME)		
Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Jabberwocky				
Site Position:		**Northing:**	446,295.00 usft	**Latitude:**	32° 13' 31.84156 N
From:	Map	**Easting:**	688,536.00 usft	**Longitude:**	103° 43' 25.14127 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.33 °

Well	1H					
Well Position	**+N/-S**	0.00 usft	**Northing:**	446,295.00 usft	**Latitude:**	32° 13' 31.84156 N
	+E/-W	0.00 usft	**Easting:**	688,536.00 usft	**Longitude:**	103° 43' 25.14127 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,587.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	12/26/2017	6.87	60.00	48,071

Design Plan 2 10-31-17

Audit Notes:

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

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	359.83

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,677.39	3.55	174.54	1,677.27	-5.47	0.52	2.00	2.00	0.00	174.54	
5,830.80	3.55	174.54	5,822.73	-261.31	24.97	0.00	0.00	0.00	0.00	
6,008.19	0.00	0.00	6,000.00	-266.78	25.49	2.00	-2.00	0.00	180.00	
12,758.19	0.00	0.00	12,750.00	-266.78	25.49	0.00	0.00	0.00	0.00	

Database:	Compass 5000 GCR	**Local Co-ordinate Reference:**	Well 1H
Company:	Chevron	**TVD Reference:**	GL + KB @ 3619.00usft
Project:	Eddy County, NM (NAD27 NME)	**MD Reference:**	GL + KB @ 3619.00usft
Site:	Jabberwocky	**North Reference:**	Grid
Well:	1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 2 10-31-17		

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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
766.00	0.00	0.00	766.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Begin 2.00°/100' Build									
1,600.00	2.00	174.54	1,599.98	-1.74	0.17	-1.74	2.00	2.00	0.00
1,677.39	3.55	174.54	1,677.27	-5.47	0.52	-5.47	2.00	2.00	0.00
Hold 3.55° Inc at 174.54° Azm									
1,700.00	3.55	174.54	1,699.84	-6.86	0.66	-6.86	0.00	0.00	0.00
1,800.00	3.55	174.54	1,799.65	-13.02	1.24	-13.02	0.00	0.00	0.00
1,900.00	3.55	174.54	1,899.46	-19.18	1.83	-19.18	0.00	0.00	0.00
2,000.00	3.55	174.54	1,999.27	-25.34	2.42	-25.35	0.00	0.00	0.00
2,100.00	3.55	174.54	2,099.08	-31.50	3.01	-31.51	0.00	0.00	0.00
2,200.00	3.55	174.54	2,198.89	-37.66	3.60	-37.67	0.00	0.00	0.00
2,300.00	3.55	174.54	2,298.69	-43.82	4.19	-43.83	0.00	0.00	0.00
2,400.00	3.55	174.54	2,398.50	-49.98	4.78	-49.99	0.00	0.00	0.00
2,500.00	3.55	174.54	2,498.31	-56.14	5.36	-56.15	0.00	0.00	0.00
2,600.00	3.55	174.54	2,598.12	-62.30	5.95	-62.32	0.00	0.00	0.00
2,700.00	3.55	174.54	2,697.93	-68.46	6.54	-68.48	0.00	0.00	0.00
2,800.00	3.55	174.54	2,797.74	-74.62	7.13	-74.64	0.00	0.00	0.00
2,900.00	3.55	174.54	2,897.54	-80.78	7.72	-80.80	0.00	0.00	0.00
2,992.53	3.55	174.54	2,989.89	-86.48	8.26	-86.50	0.00	0.00	0.00
Castile									
3,000.00	3.55	174.54	2,997.35	-86.94	8.31	-86.96	0.00	0.00	0.00
3,100.00	3.55	174.54	3,097.16	-93.10	8.90	-93.12	0.00	0.00	0.00
3,200.00	3.55	174.54	3,196.97	-99.26	9.48	-99.29	0.00	0.00	0.00
3,300.00	3.55	174.54	3,296.78	-105.42	10.07	-105.45	0.00	0.00	0.00
3,400.00	3.55	174.54	3,396.59	-111.58	10.66	-111.61	0.00	0.00	0.00
3,500.00	3.55	174.54	3,496.39	-117.74	11.25	-117.77	0.00	0.00	0.00
3,600.00	3.55	174.54	3,596.20	-123.90	11.84	-123.93	0.00	0.00	0.00
3,700.00	3.55	174.54	3,696.01	-130.06	12.43	-130.09	0.00	0.00	0.00
3,800.00	3.55	174.54	3,795.82	-136.22	13.02	-136.26	0.00	0.00	0.00
3,900.00	3.55	174.54	3,895.63	-142.38	13.60	-142.42	0.00	0.00	0.00
4,000.00	3.55	174.54	3,995.44	-148.54	14.19	-148.58	0.00	0.00	0.00
4,100.00	3.55	174.54	4,095.24	-154.70	14.78	-154.74	0.00	0.00	0.00
4,200.00	3.55	174.54	4,195.05	-160.86	15.37	-160.90	0.00	0.00	0.00
4,300.00	3.55	174.54	4,294.86	-167.02	15.96	-167.06	0.00	0.00	0.00
4,400.00	3.55	174.54	4,394.67	-173.18	16.55	-173.23	0.00	0.00	0.00
4,500.00	3.55	174.54	4,494.48	-179.34	17.14	-179.39	0.00	0.00	0.00
4,580.45	3.55	174.54	4,574.77	-184.29	17.61	-184.34	0.00	0.00	0.00
Lamar									
4,600.00	3.55	174.54	4,594.29	-185.50	17.72	-185.55	0.00	0.00	0.00
4,631.55	3.55	174.54	4,625.77	-187.44	17.91	-187.49	0.00	0.00	0.00
Bell Canyon									
4,700.00	3.55	174.54	4,694.09	-191.66	18.31	-191.71	0.00	0.00	0.00
4,800.00	3.55	174.54	4,793.90	-197.82	18.90	-197.87	0.00	0.00	0.00
4,900.00	3.55	174.54	4,893.71	-203.98	19.49	-204.03	0.00	0.00	0.00
5,000.00	3.55	174.54	4,993.52	-210.14	20.08	-210.20	0.00	0.00	0.00
5,100.00	3.55	174.54	5,093.33	-216.30	20.67	-216.36	0.00	0.00	0.00
5,200.00	3.55	174.54	5,193.14	-222.46	21.26	-222.52	0.00	0.00	0.00
5,300.00	3.55	174.54	5,292.94	-228.62	21.84	-228.68	0.00	0.00	0.00
5,400.00	3.55	174.54	5,392.75	-234.78	22.43	-234.84	0.00	0.00	0.00
5,487.12	3.55	174.54	5,479.71	-240.14	22.95	-240.21	0.00	0.00	0.00

Database:	Compass 5000 GCR	**Local Co-ordinate Reference:**	Well 1H
Company:	Chevron	**TVD Reference:**	GL + KB @ 3619.00usft
Project:	Eddy County, NM (NAD27 NME)	**MD Reference:**	GL + KB @ 3619.00usft
Site:	Jabberwocky	**North Reference:**	Grid
Well:	1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 2 10-31-17		

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)
Cherry Canyon									
5,500.00	3.55	174.54	5,492.56	-240.94	23.02	-241.00	0.00	0.00	0.00
5,600.00	3.55	174.54	5,592.37	-247.10	23.61	-247.17	0.00	0.00	0.00
5,700.00	3.55	174.54	5,692.18	-253.26	24.20	-253.33	0.00	0.00	0.00
5,800.00	3.55	174.54	5,791.99	-259.42	24.79	-259.49	0.00	0.00	0.00
5,830.80	3.55	174.54	5,822.73	-261.31	24.97	-261.39	0.00	0.00	0.00
Begin 2.00°/100' Drop									
5,900.00	2.16	174.54	5,891.84	-264.75	25.30	-264.82	2.00	-2.00	0.00
6,000.00	0.16	174.54	5,991.81	-266.77	25.49	-266.84	2.00	-2.00	0.00
6,008.19	0.00	0.00	6,000.00	-266.78	25.49	-266.85	2.00	-2.00	0.00
Begin Vertical Hold									
6,767.86	0.00	0.00	6,759.67	-266.78	25.49	-266.85	0.00	0.00	0.00
Brushy Canyon									
8,392.86	0.00	0.00	8,384.67	-266.78	25.49	-266.85	0.00	0.00	0.00
Top Bone Spring Lime									
8,450.86	0.00	0.00	8,442.67	-266.78	25.49	-266.85	0.00	0.00	0.00
Avalon A									
8,965.86	0.00	0.00	8,957.67	-266.78	25.49	-266.85	0.00	0.00	0.00
Avalon B									
9,387.86	0.00	0.00	9,379.67	-266.78	25.49	-266.85	0.00	0.00	0.00
First Bone Spring									
9,732.86	0.00	0.00	9,724.67	-266.78	25.49	-266.85	0.00	0.00	0.00
First Bone Spring Shale									
10,039.86	0.00	0.00	10,031.67	-266.78	25.49	-266.85	0.00	0.00	0.00
Second Bone Spring									
10,829.86	0.00	0.00	10,821.67	-266.78	25.49	-266.85	0.00	0.00	0.00
Second Bone Spring Shale									
11,007.86	0.00	0.00	10,999.67	-266.78	25.49	-266.85	0.00	0.00	0.00
Alternate Casing Interval									
11,040.86	0.00	0.00	11,032.67	-266.78	25.49	-266.85	0.00	0.00	0.00
Alternate Casing Interval Base									
11,190.86	0.00	0.00	11,182.67	-266.78	25.49	-266.85	0.00	0.00	0.00
Casing Carbonate									
11,215.86	0.00	0.00	11,207.67	-266.78	25.49	-266.85	0.00	0.00	0.00
Casing Carbonate Base									
11,337.86	0.00	0.00	11,329.67	-266.78	25.49	-266.85	0.00	0.00	0.00
Third Bone Spring									
11,776.86	0.00	0.00	11,768.67	-266.78	25.49	-266.85	0.00	0.00	0.00
Wolfcamp									
12,039.86	0.00	0.00	12,031.67	-266.78	25.49	-266.85	0.00	0.00	0.00
Wolfcamp A TGT									
12,352.86	0.00	0.00	12,344.67	-266.78	25.49	-266.85	0.00	0.00	0.00
Wolfcamp A2									
12,758.19	0.00	0.00	12,750.00	-266.78	25.49	-266.85	0.00	0.00	0.00
TD at 12758.19									

Database:	Compass 5000 GCR	**Local Co-ordinate Reference:**	Well 1H
Company:	Chevron	**TVD Reference:**	GL + KB @ 3619.00usft
Project:	Eddy County, NM (NAD27 NME)	**MD Reference:**	GL + KB @ 3619.00usft
Site:	Jabberwocky	**North Reference:**	Grid
Well:	1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 2 10-31-17		

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
FTPv2 - Jabberwocky - plan misses target center by 245.12usft at 12352.86usft MD (12344.67 TVD, -266.78 N, 25.49 E) - Point	0.00	0.00	12,430.00	-37.00	24.00	446,258.00	688,560.00	32° 13' 31.47407 N	03° 43' 24.86433 W
BHLv2 - Jabberwocky - plan misses target center by 10185.29usft at 12352.86usft MD (12344.67 TVD, -266.78 N, 25.49 E) - Point	0.00	0.00	12,430.00	9,918.00	-30.00	456,213.00	688,506.00	32° 15' 9.98976 N	03° 43' 24.83500 W
LTPv2 - Jabberwocky - plan misses target center by 10135.29usft at 12352.86usft MD (12344.67 TVD, -266.78 N, 25.49 E) - Point	0.00	0.01	12,430.00	9,868.00	-30.00	456,163.00	688,506.00	32° 15' 9.49497 N	03° 43' 24.83831 W
MPv2 - Jabberwocky - plan misses target center by 5182.56usft at 12352.86usft MD (12344.67 TVD, -266.78 N, 25.49 E) - Point	0.00	0.00	12,430.00	4,915.00	-3.00	451,210.00	688,533.00	32° 14' 20.47963 N	03° 43' 24.85142 W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
800.00	800.00	13 3/8"	13-3/8	17-1/2
11,018.19	11,010.00	9 5/8"	9-5/8	12-1/4
12,508.19	12,500.00	5 1/2"	5-1/2	6

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
766.00	766.00	Rustler		0.07	359.83
2,992.53	2,989.89	Castile		0.07	359.83
4,580.45	4,574.77	Lamar		0.07	359.83
4,631.55	4,625.77	Bell Canyon		0.07	359.83
5,487.12	5,479.71	Cherry Canyon		0.07	359.83
6,767.86	6,759.67	Brushy Canyon		0.07	359.83
8,392.86	8,384.67	Top Bone Spring Lime		0.07	359.83
8,450.86	8,442.67	Avalon A		0.07	359.83
8,965.86	8,957.67	Avalon B		0.07	359.83
9,387.86	9,379.67	First Bone Spring		0.07	359.83
9,732.86	9,724.67	First Bone Spring Shale		0.07	359.83
10,039.86	10,031.67	Second Bone Spring		0.07	359.83
10,829.86	10,821.67	Second Bone Spring Shale		0.07	359.83
11,007.86	10,999.67	Alternate Casing Interval		0.07	359.83
11,040.86	11,032.67	Alternate Casing Interval Base		0.07	359.83
11,190.86	11,182.67	Casing Carbonate		0.07	359.83
11,215.86	11,207.67	Casing Carbonate Base		0.07	359.83
11,337.86	11,329.67	Third Bone Spring		0.07	359.83
11,776.86	11,768.67	Wolfcamp		0.07	359.83
12,039.86	12,031.67	Wolfcamp A TGT		0.07	359.83
12,352.86	12,344.67	Wolfcamp A2		0.07	359.83

Database:	Compass 5000 GCR	**Local Co-ordinate Reference:**	Well 1H
Company:	Chevron	**TVD Reference:**	GL + KB @ 3619.00usft
Project:	Eddy County, NM (NAD27 NME)	**MD Reference:**	GL + KB @ 3619.00usft
Site:	Jabberwocky	**North Reference:**	Grid
Well:	1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 2 10-31-17		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,500.00	1,500.00	0.00	0.00	KOP, Begin 2.00°/100' Build
1,677.39	1,677.27	-5.47	0.52	Hold 3.55° Inc at 174.54° Azm
5,830.80	5,822.73	-261.31	24.97	Begin 2.00°/100' Drop
6,008.19	6,000.00	-266.78	25.49	Begin Vertical Hold
12,758.19	12,750.00	-266.78	25.49	TD at 12758.19

Chevron

Chevron

Eddy County, NM (NAD27 NME)
Jabberwocky
1H

ST01

Plan: Plan 2 10-31-17

Standard Planning Report

31 October, 2017

PHOENIX
TECHNOLOGY SERVICES

Database:	Compass 5000 GCR	**Local Co-ordinate Reference:**	Well 1H
Company:	Chevron	**TVD Reference:**	GL + KB @ 3619.00usft
Project:	Eddy County, NM (NAD27 NME)	**MD Reference:**	GL + KB @ 3619.00usft
Site:	Jabberwocky	**North Reference:**	Grid
Well:	1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	ST01		
Design:	Plan 2 10-31-17		

Project	Eddy County, NM (NAD27 NME)		
Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Jabberwocky				
Site Position:		**Northing:**	446,295.00 usft	**Latitude:**	32° 13' 31.84156 N
From:	Map	**Easting:**	688,536.00 usft	**Longitude:**	103° 43' 25.14127 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.33 °

Well	1H					
Well Position	**+N/-S**	0.00 usft	**Northing:**	446,295.00 usft	**Latitude:**	32° 13' 31.84156 N
	+E/-W	0.00 usft	**Easting:**	688,536.00 usft	**Longitude:**	103° 43' 25.14127 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,587.00 usft

Wellbore ST01

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	12/26/2017	6.87	60.00	48,071

Design Plan 2 10-31-17

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	11,865.23
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.00	0.00	0.00	359.83	

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
11,865.23	0.00	0.00	11,857.04	-266.78	25.49	0.00	0.00	0.00	0.00	
12,765.23	90.00	359.69	12,430.00	306.17	22.37	10.00	10.00	-0.03	359.69	
22,377.20	90.00	359.69	12,430.00	9,918.00	-30.00	0.00	0.00	0.00	0.00	BHLv2 - Jabberwoc

Database:	Compass 5000 GCR	**Local Co-ordinate Reference:**	Well 1H
Company:	Chevron	**TVD Reference:**	GL + KB @ 3619.00usft
Project:	Eddy County, NM (NAD27 NME)	**MD Reference:**	GL + KB @ 3619.00usft
Site:	Jabberwocky	**North Reference:**	Grid
Well:	1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	ST01		
Design:	Plan 2 10-31-17		

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)
11,865.23	0.00	0.00	11,857.04	-266.78	25.49	-266.86	0.00	0.00	0.00
Tie In, KOP2, Begin 10.00°/100' Build									
11,900.00	3.48	359.69	11,891.79	-265.73	25.48	-265.80	10.00	10.00	0.00
12,000.00	13.48	359.69	11,990.57	-251.00	25.40	-251.08	10.00	10.00	0.00
12,042.72	17.75	359.69	12,031.71	-239.51	25.34	-239.58	10.00	10.00	0.00
Wolfcamp A TGT									
12,100.00	23.48	359.69	12,085.30	-219.35	25.23	-219.43	10.00	10.00	0.00
12,200.00	33.48	359.69	12,173.09	-171.73	24.97	-171.81	10.00	10.00	0.00
12,300.00	43.48	359.69	12,251.28	-109.59	24.63	-109.67	10.00	10.00	0.00
12,400.00	53.48	359.69	12,317.48	-34.82	24.23	-34.89	10.00	10.00	0.00
12,449.15	58.39	359.69	12,345.01	5.89	24.00	5.81	10.00	10.00	0.00
Wolfcamp A2									
12,500.00	63.48	359.69	12,369.70	50.31	23.76	50.24	10.00	10.00	0.00
12,600.00	73.48	359.69	12,406.34	143.22	23.26	143.15	10.00	10.00	0.00
12,700.00	83.48	359.69	12,426.29	241.08	22.72	241.01	10.00	10.00	0.00
12,765.23	90.00	359.69	12,430.00	306.17	22.37	306.10	10.00	10.00	0.00
LP, Hold 90.00° Inc at 359.69° Azm									
12,800.00	90.00	359.69	12,430.00	340.94	22.18	340.87	0.00	0.00	0.00
12,900.00	90.00	359.69	12,430.00	440.94	21.63	440.87	0.00	0.00	0.00
13,000.00	90.00	359.69	12,430.00	540.94	21.09	540.87	0.00	0.00	0.00
13,100.00	90.00	359.69	12,430.00	640.93	20.54	640.87	0.00	0.00	0.00
13,200.00	90.00	359.69	12,430.00	740.93	20.00	740.87	0.00	0.00	0.00
13,300.00	90.00	359.69	12,430.00	840.93	19.45	840.87	0.00	0.00	0.00
13,400.00	90.00	359.69	12,430.00	940.93	18.91	940.87	0.00	0.00	0.00
13,500.00	90.00	359.69	12,430.00	1,040.93	18.37	1,040.87	0.00	0.00	0.00
13,600.00	90.00	359.69	12,430.00	1,140.93	17.82	1,140.87	0.00	0.00	0.00
13,700.00	90.00	359.69	12,430.00	1,240.93	17.28	1,240.87	0.00	0.00	0.00
13,800.00	90.00	359.69	12,430.00	1,340.92	16.73	1,340.87	0.00	0.00	0.00
13,900.00	90.00	359.69	12,430.00	1,440.92	16.19	1,440.87	0.00	0.00	0.00
14,000.00	90.00	359.69	12,430.00	1,540.92	15.64	1,540.87	0.00	0.00	0.00
14,100.00	90.00	359.69	12,430.00	1,640.92	15.10	1,640.87	0.00	0.00	0.00
14,200.00	90.00	359.69	12,430.00	1,740.92	14.55	1,740.87	0.00	0.00	0.00
14,300.00	90.00	359.69	12,430.00	1,840.92	14.01	1,840.87	0.00	0.00	0.00
14,400.00	90.00	359.69	12,430.00	1,940.92	13.46	1,940.87	0.00	0.00	0.00
14,500.00	90.00	359.69	12,430.00	2,040.91	12.92	2,040.87	0.00	0.00	0.00
14,600.00	90.00	359.69	12,430.00	2,140.91	12.37	2,140.86	0.00	0.00	0.00
14,700.00	90.00	359.69	12,430.00	2,240.91	11.83	2,240.86	0.00	0.00	0.00
14,800.00	90.00	359.69	12,430.00	2,340.91	11.28	2,340.86	0.00	0.00	0.00
14,900.00	90.00	359.69	12,430.00	2,440.91	10.74	2,440.86	0.00	0.00	0.00
15,000.00	90.00	359.69	12,430.00	2,540.91	10.19	2,540.86	0.00	0.00	0.00
15,100.00	90.00	359.69	12,430.00	2,640.90	9.65	2,640.86	0.00	0.00	0.00
15,200.00	90.00	359.69	12,430.00	2,740.90	9.10	2,740.86	0.00	0.00	0.00
15,300.00	90.00	359.69	12,430.00	2,840.90	8.56	2,840.86	0.00	0.00	0.00
15,400.00	90.00	359.69	12,430.00	2,940.90	8.01	2,940.86	0.00	0.00	0.00
15,500.00	90.00	359.69	12,430.00	3,040.90	7.47	3,040.86	0.00	0.00	0.00
15,600.00	90.00	359.69	12,430.00	3,140.90	6.92	3,140.86	0.00	0.00	0.00
15,700.00	90.00	359.69	12,430.00	3,240.90	6.38	3,240.86	0.00	0.00	0.00
15,800.00	90.00	359.69	12,430.00	3,340.89	5.83	3,340.86	0.00	0.00	0.00
15,900.00	90.00	359.69	12,430.00	3,440.89	5.29	3,440.86	0.00	0.00	0.00
16,000.00	90.00	359.69	12,430.00	3,540.89	4.74	3,540.86	0.00	0.00	0.00
16,100.00	90.00	359.69	12,430.00	3,640.89	4.20	3,640.86	0.00	0.00	0.00
16,200.00	90.00	359.69	12,430.00	3,740.89	3.65	3,740.86	0.00	0.00	0.00
16,300.00	90.00	359.69	12,430.00	3,840.89	3.11	3,840.86	0.00	0.00	0.00
16,400.00	90.00	359.69	12,430.00	3,940.89	2.57	3,940.86	0.00	0.00	0.00

Database:	Compass 5000 GCR	**Local Co-ordinate Reference:**	Well 1H
Company:	Chevron	**TVD Reference:**	GL + KB @ 3619.00usft
Project:	Eddy County, NM (NAD27 NME)	**MD Reference:**	GL + KB @ 3619.00usft
Site:	Jabberwocky	**North Reference:**	Grid
Well:	1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	ST01		
Design:	Plan 2 10-31-17		

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)
16,500.00	90.00	359.69	12,430.00	4,040.88	2.02	4,040.86	0.00	0.00	0.00
16,600.00	90.00	359.69	12,430.00	4,140.88	1.48	4,140.86	0.00	0.00	0.00
16,700.00	90.00	359.69	12,430.00	4,240.88	0.93	4,240.86	0.00	0.00	0.00
16,800.00	90.00	359.69	12,430.00	4,340.88	0.39	4,340.86	0.00	0.00	0.00
16,900.00	90.00	359.69	12,430.00	4,440.88	-0.16	4,440.86	0.00	0.00	0.00
17,000.00	90.00	359.69	12,430.00	4,540.88	-0.70	4,540.86	0.00	0.00	0.00
17,100.00	90.00	359.69	12,430.00	4,640.88	-1.25	4,640.86	0.00	0.00	0.00
17,200.00	90.00	359.69	12,430.00	4,740.87	-1.79	4,740.86	0.00	0.00	0.00
17,300.00	90.00	359.69	12,430.00	4,840.87	-2.34	4,840.86	0.00	0.00	0.00
17,400.00	90.00	359.69	12,430.00	4,940.87	-2.88	4,940.86	0.00	0.00	0.00
17,500.00	90.00	359.69	12,430.00	5,040.87	-3.43	5,040.86	0.00	0.00	0.00
17,600.00	90.00	359.69	12,430.00	5,140.87	-3.97	5,140.86	0.00	0.00	0.00
17,700.00	90.00	359.69	12,430.00	5,240.87	-4.52	5,240.86	0.00	0.00	0.00
17,800.00	90.00	359.69	12,430.00	5,340.86	-5.06	5,340.86	0.00	0.00	0.00
17,900.00	90.00	359.69	12,430.00	5,440.86	-5.61	5,440.86	0.00	0.00	0.00
18,000.00	90.00	359.69	12,430.00	5,540.86	-6.15	5,540.85	0.00	0.00	0.00
18,100.00	90.00	359.69	12,430.00	5,640.86	-6.70	5,640.85	0.00	0.00	0.00
18,200.00	90.00	359.69	12,430.00	5,740.86	-7.24	5,740.85	0.00	0.00	0.00
18,300.00	90.00	359.69	12,430.00	5,840.86	-7.79	5,840.85	0.00	0.00	0.00
18,400.00	90.00	359.69	12,430.00	5,940.86	-8.33	5,940.85	0.00	0.00	0.00
18,500.00	90.00	359.69	12,430.00	6,040.85	-8.88	6,040.85	0.00	0.00	0.00
18,600.00	90.00	359.69	12,430.00	6,140.85	-9.42	6,140.85	0.00	0.00	0.00
18,700.00	90.00	359.69	12,430.00	6,240.85	-9.97	6,240.85	0.00	0.00	0.00
18,800.00	90.00	359.69	12,430.00	6,340.85	-10.51	6,340.85	0.00	0.00	0.00
18,900.00	90.00	359.69	12,430.00	6,440.85	-11.06	6,440.85	0.00	0.00	0.00
19,000.00	90.00	359.69	12,430.00	6,540.85	-11.60	6,540.85	0.00	0.00	0.00
19,100.00	90.00	359.69	12,430.00	6,640.85	-12.14	6,640.85	0.00	0.00	0.00
19,200.00	90.00	359.69	12,430.00	6,740.84	-12.69	6,740.85	0.00	0.00	0.00
19,300.00	90.00	359.69	12,430.00	6,840.84	-13.23	6,840.85	0.00	0.00	0.00
19,400.00	90.00	359.69	12,430.00	6,940.84	-13.78	6,940.85	0.00	0.00	0.00
19,500.00	90.00	359.69	12,430.00	7,040.84	-14.32	7,040.85	0.00	0.00	0.00
19,600.00	90.00	359.69	12,430.00	7,140.84	-14.87	7,140.85	0.00	0.00	0.00
19,700.00	90.00	359.69	12,430.00	7,240.84	-15.41	7,240.85	0.00	0.00	0.00
19,800.00	90.00	359.69	12,430.00	7,340.84	-15.96	7,340.85	0.00	0.00	0.00
19,900.00	90.00	359.69	12,430.00	7,440.83	-16.50	7,440.85	0.00	0.00	0.00
20,000.00	90.00	359.69	12,430.00	7,540.83	-17.05	7,540.85	0.00	0.00	0.00
20,100.00	90.00	359.69	12,430.00	7,640.83	-17.59	7,640.85	0.00	0.00	0.00
20,200.00	90.00	359.69	12,430.00	7,740.83	-18.14	7,740.85	0.00	0.00	0.00
20,300.00	90.00	359.69	12,430.00	7,840.83	-18.68	7,840.85	0.00	0.00	0.00
20,400.00	90.00	359.69	12,430.00	7,940.83	-19.23	7,940.85	0.00	0.00	0.00
20,500.00	90.00	359.69	12,430.00	8,040.82	-19.77	8,040.85	0.00	0.00	0.00
20,600.00	90.00	359.69	12,430.00	8,140.82	-20.32	8,140.85	0.00	0.00	0.00
20,700.00	90.00	359.69	12,430.00	8,240.82	-20.86	8,240.85	0.00	0.00	0.00
20,800.00	90.00	359.69	12,430.00	8,340.82	-21.41	8,340.85	0.00	0.00	0.00
20,900.00	90.00	359.69	12,430.00	8,440.82	-21.95	8,440.85	0.00	0.00	0.00
21,000.00	90.00	359.69	12,430.00	8,540.82	-22.50	8,540.85	0.00	0.00	0.00
21,100.00	90.00	359.69	12,430.00	8,640.82	-23.04	8,640.85	0.00	0.00	0.00
21,200.00	90.00	359.69	12,430.00	8,740.81	-23.59	8,740.85	0.00	0.00	0.00
21,300.00	90.00	359.69	12,430.00	8,840.81	-24.13	8,840.85	0.00	0.00	0.00
21,400.00	90.00	359.69	12,430.00	8,940.81	-24.68	8,940.85	0.00	0.00	0.00
21,500.00	90.00	359.69	12,430.00	9,040.81	-25.22	9,040.84	0.00	0.00	0.00
21,600.00	90.00	359.69	12,430.00	9,140.81	-25.77	9,140.84	0.00	0.00	0.00
21,700.00	90.00	359.69	12,430.00	9,240.81	-26.31	9,240.84	0.00	0.00	0.00
21,800.00	90.00	359.69	12,430.00	9,340.81	-26.86	9,340.84	0.00	0.00	0.00

Database:	Compass 5000 GCR	**Local Co-ordinate Reference:**	Well 1H
Company:	Chevron	**TVD Reference:**	GL + KB @ 3619.00usft
Project:	Eddy County, NM (NAD27 NME)	**MD Reference:**	GL + KB @ 3619.00usft
Site:	Jabberwocky	**North Reference:**	Grid
Well:	1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	ST01		
Design:	Plan 2 10-31-17		

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)
21,900.00	90.00	359.69	12,430.00	9,440.80	-27.40	9,440.84	0.00	0.00	0.00
22,000.00	90.00	359.69	12,430.00	9,540.80	-27.94	9,540.84	0.00	0.00	0.00
22,100.00	90.00	359.69	12,430.00	9,640.80	-28.49	9,640.84	0.00	0.00	0.00
22,200.00	90.00	359.69	12,430.00	9,740.80	-29.03	9,740.84	0.00	0.00	0.00
22,300.00	90.00	359.69	12,430.00	9,840.80	-29.58	9,840.84	0.00	0.00	0.00
22,377.20	90.00	359.69	12,430.00	9,918.00	-30.00	9,918.04	0.00	0.00	0.00
TD at 22377.20									

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
FTPv2 - Jabberwocky	0.00	0.00	12,430.00	-37.00	24.00	446,258.00	688,560.00	32° 13' 31.47407 N	03° 43' 24.86433 W
- plan misses target center by 94.97usft at 12452.96usft MD (12346.99 TVD, 9.13 N, 23.99 E)									
- Point									
BHLv2 - Jabberwocky	0.00	359.69	12,430.00	9,918.00	-30.00	456,213.00	688,506.00	32° 15' 9.98976 N	03° 43' 24.83500 W
- plan hits target center									
- Rectangle (sides W100.00 H9,611.00 D50.00)									
LTPv2 - Jabberwocky	0.00	0.01	12,430.00	9,868.00	-30.00	456,163.00	688,506.00	32° 15' 9.49497 N	03° 43' 24.83831 W
- plan misses target center by 27.21usft at 22300.00usft MD (12430.00 TVD, 9840.80 N, -29.58 E)									
- Point									
MPTv2 - Jabberwocky	0.00	0.00	12,430.00	4,915.00	-3.00	451,210.00	688,533.00	32° 14' 20.47963 N	03° 43' 24.85142 W
- plan misses target center by 0.26usft at 17374.13usft MD (12430.00 TVD, 4915.00 N, -2.74 E)									
- Point									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
800.00	800.00	13 3/8"	13-3/8	17-1/2
11,018.19	11,010.00	9 5/8"	9-5/8	12-1/4

Database:	Compass 5000 GCR	**Local Co-ordinate Reference:**	Well 1H
Company:	Chevron	**TVD Reference:**	GL + KB @ 3619.00usft
Project:	Eddy County, NM (NAD27 NME)	**MD Reference:**	GL + KB @ 3619.00usft
Site:	Jabberwocky	**North Reference:**	Grid
Well:	1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	ST01		
Design:	Plan 2 10-31-17		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
766.00	766.00	Rustler		0.07	359.83
2,992.53	2,989.89	Castile		0.07	359.83
4,580.45	4,574.77	Lamar		0.07	359.83
4,631.55	4,625.77	Bell Canyon		0.07	359.83
5,487.12	5,479.71	Cherry Canyon		0.07	359.83
6,767.86	6,759.67	Brushy Canyon		0.07	359.83
8,392.86	8,384.67	Top Bone Spring Lime		0.07	359.83
8,450.86	8,442.67	Avalon A		0.07	359.83
8,965.86	8,957.67	Avalon B		0.07	359.83
9,387.86	9,379.67	First Bone Spring		0.07	359.83
9,732.86	9,724.67	First Bone Spring Shale		0.07	359.83
10,039.86	10,031.67	Second Bone Spring		0.07	359.83
10,829.86	10,821.67	Second Bone Spring Shale		0.07	359.83
11,007.86	10,999.67	Alternate Casing Interval		0.07	359.83
11,040.86	11,032.67	Alternate Casing Interval Base		0.07	359.83
11,190.86	11,182.67	Casing Carbonate		0.07	359.83
11,215.86	11,207.67	Casing Carbonate Base		0.07	359.83
11,337.86	11,329.67	Third Bone Spring		0.07	359.83
11,776.86	11,768.67	Wolfcamp		0.07	359.83
12,042.72	12,031.71	Wolfcamp A TGT		0.07	359.83
12,449.15	12,345.01	Wolfcamp A2		0.07	359.83

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
11,865.23	11,857.04	-266.78	25.49	Tie In, KOP2, Begin 10.00°/100' Build
12,765.23	12,430.00	306.17	22.37	LP, Hold 90.00° Inc at 359.69° Azm
22,377.20	12,430.00	9,918.00	-30.00	TD at 22377.20

APD ID: 10400014560 **Submission Date:** 05/26/2017

Operator Name: CHEVRON USA INCORPORATED

Well Name: JABBERWOCKY **Well Number:** 1H

Well Type: CONVENTIONAL GAS 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:

Jabberwocky_1H_Aerial_Detail_05-25-2017.pdf

Jabberwocky_1H_Roads_05-25-2017.pdf

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

ROW ID(s)

ID:

Do the existing roads need to be improved? YES

Existing Road Improvement Description: The operator will improve or maintain existing roads in a condition the same as or better than before operations begin. The Operator will also repair any pot holes, clear ditches, repair crown; etc. All existing structures on the entire access route such as cattle guards, other range improvement project, culverts, etc. will be properly repaired or replaced if they are damaged or have deteriorated beyond practical use. We will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or wind events. BLM written approval will be acquired before application of surfactants, binding agents, or other dust suppression chemicals on roadways.

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

Jabberwocky_1H_New_Roads_05-25-2017.pdf

Jabberwocky_1H_Well_Plat_05-25-2017.pdf

New road type: LOCAL

Length: 2788 Feet **Width (ft.):** 25

Max slope (%): 2 **Max grade (%):** 3

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 25

New road access erosion control: Erosion/Drainage: Drainage control system shall be constructed on the entire length of road by the use of any of the following: ditching and will be graveled as needed for drilling, side hill out-sloping and in-

sloping, lead-off ditches, culvert installation, or low water crossing, culverts, and water bars where needed: straw waddles will be used on the down-slope side of new roads where undisturbed grades away from the roadway are 5% or greater.
New road access plan or profile prepared? NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

Access surfacing type: NONE

Access topsoil source: ONSITE

Access surfacing type description:

Access onsite topsoil source depth: 0

Offsite topsoil source description:

Onsite topsoil removal process: none needed

Access other construction information:

Access miscellaneous information:

Number of access turnouts: 60 **Access turnout map:**

Drainage Control

New road drainage crossing: CULVERT,OTHER

Drainage Control comments: Sediment traps (hay bales suggested by BLM) we don't use every time but keep handy.

Road Drainage Control Structures (DCS) description: Ditching will be constructed on both sides of road.

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Additional Attachment(s):

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Jabberwocky_1H_Radius_Map_05-25-2017.pdf

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: New production facilities are to be constructed located in the SE quarter of Section 12, T24S-R31E; NMNM 120901 Lease where oil and gas sales will take place. Proposed Facility Pad is 180' X 380'.
Production Facilities map:

Jabberwocky_1H_Aerial_Detail_05-25-2017.pdf
Jabberwocky_1H_Facility_Frac_Pond_05-25-2017.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: INTERMEDIATE/PRODUCTION CASING, SURFACE CASING
Water source type: GW WELL
Describe type:
Source latitude:
Source longitude:
Source datum: NAD83
Water source permit type: PRIVATE CONTRACT
Source land ownership: FEDERAL
Water source transport method: PIPELINE,TRUCKING
Source transportation land ownership: FEDERAL
Water source volume (barrels): 600000
Source volume (acre-feet): 77.33586
Source volume (gal): 25200000

Water source and transportation map:

Jabberwocky_1H_Aerial_Detail_05-25-2017.pdf

Water source comments: New Pond in SE/4SE/4 Section 12, T24S-R31E will be utilized for fresh water. FW will be obtained from a private water source. A temporary 10" expanding pipe transfer line will run west along lease road then south along proposed access road approx. 460' from frac pond to well location in section 12. FW line will run parallel to road and will stay within 10' of access road. A BLM ROW will not be required for the water transfer line.
New water well? NO

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:

Operator Name: CHEVRON USA INCORPORATED

Well Name: JABBERWOCKY **Well Number:** 1H

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: Caliche will be sourced from the nearest federal, state, or private permitted pit in Section 12, T24S-R31E or an alternate private pit in Section 32, T23S-R31E, State Lands.
Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: GARBAGE

Waste content description: Garbage and Trash Human waste and grey water Other waste material such as chemicals, salts, frac sand Drill Cutting
Amount of waste: 200 pounds

Waste disposal frequency : Daily

Safe containment description: Collected in a trash container collected for disposal properly contained The well will be drilled utilizing a closed loop system and properly disposed of into steel tanks. All to be properly disposed at a State approved disposal facility.
Safe containmant attachment:

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

Disposal location description: State approved facility. Carlsbad 6601 Hobbs HWY Carlsbad, NM 575-393-1079

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:

Jabberwocky_1H_Rig_Layout_05-25-2017.pdf

Jabberwocky_1H_Well_Plat_05-25-2017.pdf

Comments: Exterior well pad dimensions are 380' X 420' Interior well pad dimensions from point of entry (well head) of the easternmost well are N-120', S-260, E-210', W-210'.

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:**

Multiple Well Pad Number:

Recontouring attachment:

Jabberwocky_1H_APD_SUPO_05-25-2017.pdf

Jabberwocky_1H_IR_Plat_05-25-2017.pdf

Jabberwocky_1H_Arc_Survey_05-25-2017.pdf

Jabberwocky_1H_Pad_Facility_Cut_Fill_CERT_05-25-2017.pdf

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 well pad, road, and surrounding area will be cleared of material, trash, and equipment. All surfacing material will be removed and returned to the original mineral pit or recycled to repair for build roads and well pads.

Wellpad long term disturbance (acres): 0.92

Wellpad short term disturbance (acres): 2.74

Access road long term disturbance (acres): 1.28

Access road short term disturbance (acres): 1.28

Pipeline long term disturbance (acres): 0.22038567

Pipeline short term disturbance (acres): 0.22038567

Other long term disturbance (acres): 0

Other short term disturbance (acres): 0

Total long term disturbance: 2.4203856

Total short term disturbance: 4.2403855

Disturbance Comments: All disturbed areas, including roads, pipelines, pad, production facilities, and interim reclaimed areas will be re-contoured to the contour existing prior to initial construction or a contour that blends in indistinguishably with the surrounding landscape.

Reconstruction method: The current plan for interim reclamation include reclaiming 2.74 acres from the proposed pad size of 3.66 acres to approximately proposed permanent pad area of .92 acres.

Topsoil redistribution: Refer SUPO attached.

Soil treatment: Refer SUPO attached.

Existing Vegetation at the well pad: mesquite, shrubs, grass

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: mesquite, shrubs, grass

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: mesquite, shrubs, grass

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: mesquite, shrubs, grass

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:**

Total pounds/Acre:

Seed Summary

Seed Type	Pounds/Acre

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: Kevin **Last Name:** Dickerson

Phone: (432)687-7104 **Email:** kevin.dickerson@chevron.com

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: Treat with BLM seed mixture (BLM #2) free of noxious weeds.

Weed treatment plan attachment:

Monitoring plan description: The interim reclamation will be monitored periodically to ensure that vegetation has re-established.

Monitoring plan attachment:

Success standards: As per BLM requirements.

Pit closure description: NONE

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:

USFS Region:

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

Section 12 - Other Information

Right of Way needed? YES **Use APD as ROW?** YES

ROW Type(s): 287001 ROW – Water Facility,288100 ROW – O&G Pipeline,Other

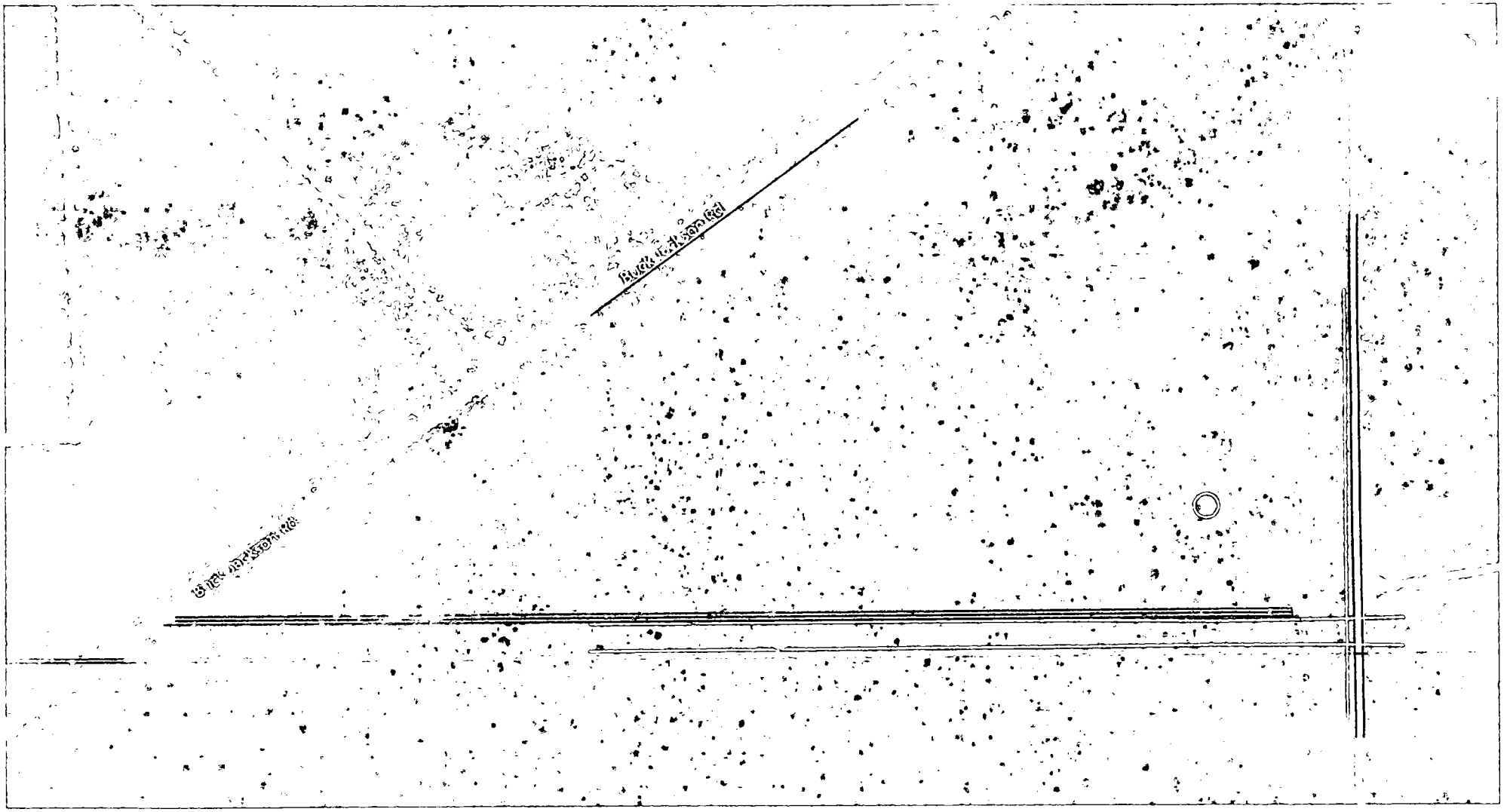
ROW Applications

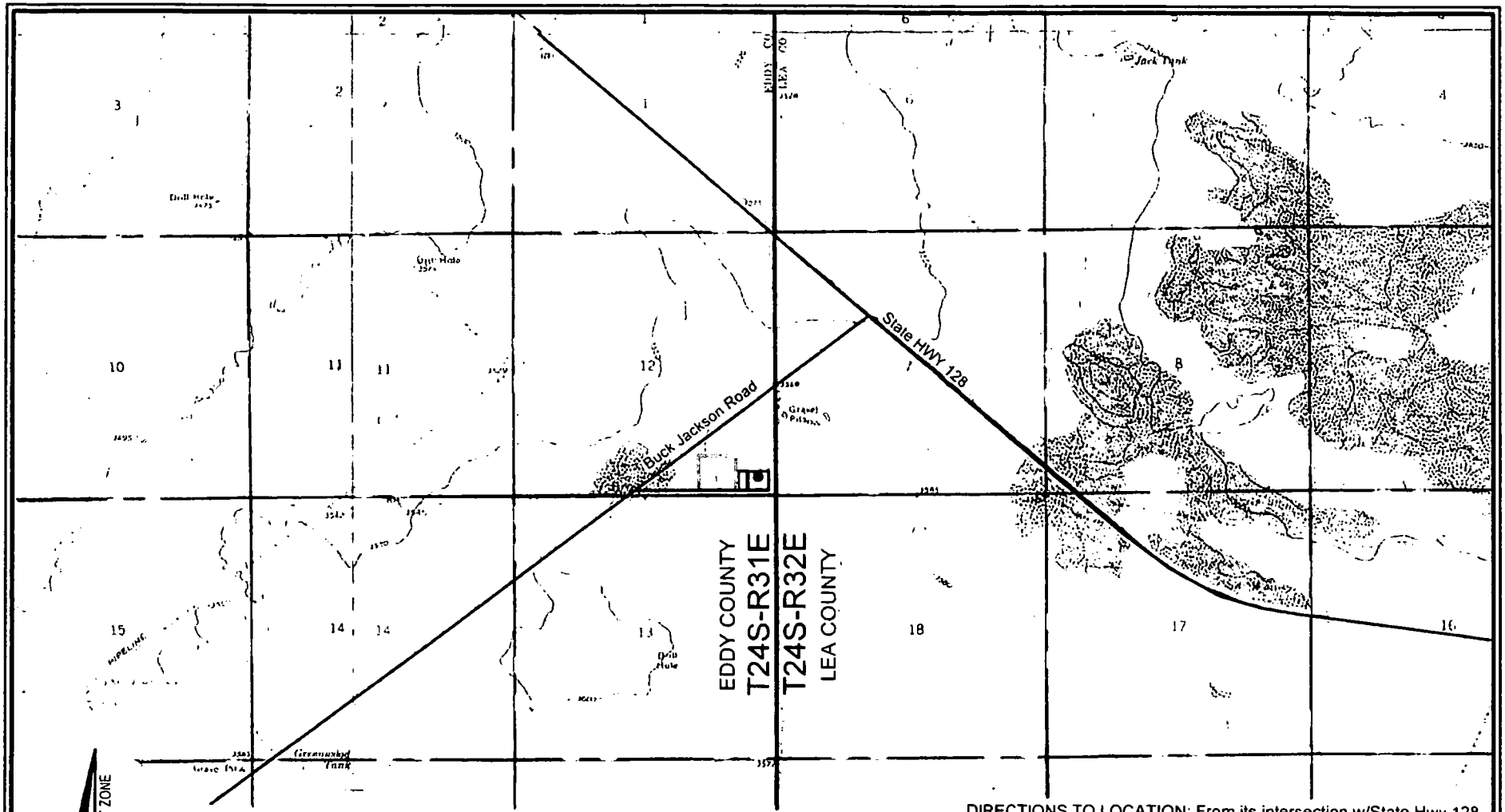
SUPO Additional Information:

Use a previously conducted onsite? YES

Previous Onsite information: On-site performed by BLM NRS: Paul Murphy 03/21/2017.

Other SUPO Attachment





FOR THE EXCLUSIVE USE OF CHEVRON U.S.A. INC.

I, Robert L. Lastrapes, Professional Surveyor, do hereby state this plat is true and correct to the best of my knowledge

ROBERT L. LASTRAPES NEW MEXICO 3-30-2017 23006 PROFESSIONAL SURVEYOR

Robert L. Lastrapes
Registration No. 23006

DIRECTIONS TO LOCATION: From its intersection w/State Hwy 128, head Southwesterly along Buck Jackson Road, approximately 1.13 miles to the access entrance on the South side of the road.

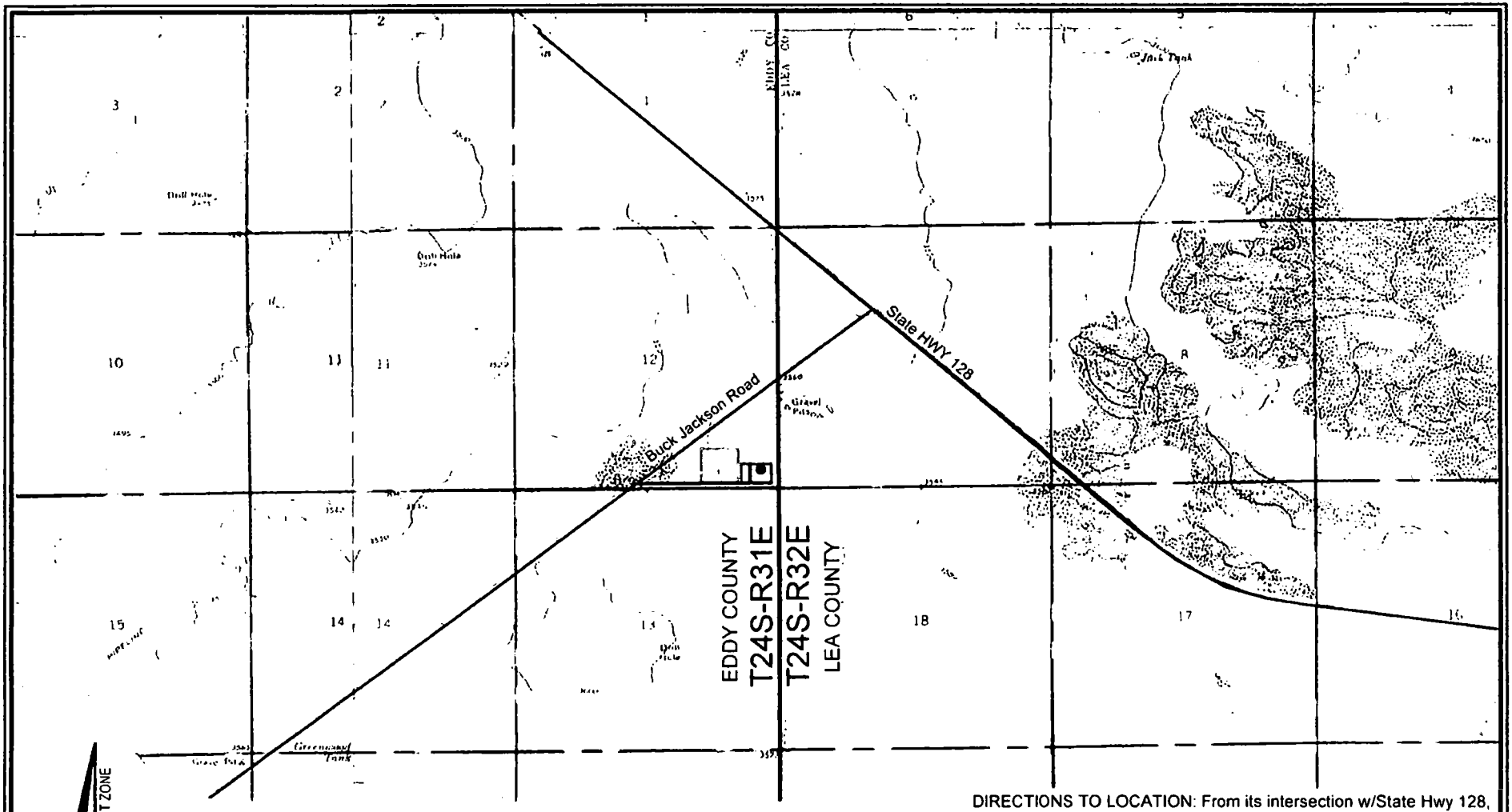
ROAD MAP

CHEVRON U.S.A. INC.

JABBERWOCKY NO. 1H WELL
LOCATED 367' FSL & 354' FEL
SECTION 12, T24S-R31E
EDDY COUNTY, NEW MEXICO

FENSTERMAKER
C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3299
www.fenstermaker.com

DRAWN BY: BOR	REVISIONS		
PROJ. MGR.: VHV	No.	DATE:	REVISED BY:
DATE: 03/08/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175394\DWG\Jabberwocky 1H_Road Plat.dwg			



NAD 27 NEW MEXICO EAST ZONE

LEGEND

- Proposed Well
- Proposed Access Road
- Proposed Drillsite
- Existing Road
- Section Line
- Proposed Frac Pond
- Proposed Facility Pad

Scale: 1" = 3,000'

3,000' 0 1,500' 3,000'

FOR THE EXCLUSIVE USE OF CHEVRON U.S.A. INC.

I, Robert L. Lastrapes, Professional Surveyor, do hereby state this plat is true and correct to the best of my knowledge.

ROBERT L. LASTRAPES NEW MEXICO 23006 PROFESSIONAL SURVEYOR

3-30-2017

Robert L. Lastrapes
Registration No. 23006

DIRECTIONS TO LOCATION: From its intersection w/State Hwy 128, head Southwesterly along Buck Jackson Road, approximately 1.13 miles to the access entrance on the South side of the road.

ROAD MAP

CHEVRON U.S.A. INC.

JABBERWOCKY NO. 1H WELL
LOCATED 367' FSL & 354' FEL
SECTION 12, T24S-R31E
EDDY COUNTY, NEW MEXICO

FENSTERMAKER
C. H. Fenstermaker & Associates, L L C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3299
www.fenstermaker.com

DRAWN BY: BOR	REVISIONS		
PROJ. MGR.: VHV	No.	DATE:	REVISED BY:
DATE: 03/08/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175394\DWG\Jabberwocky 1H_Road Plat.dwg			

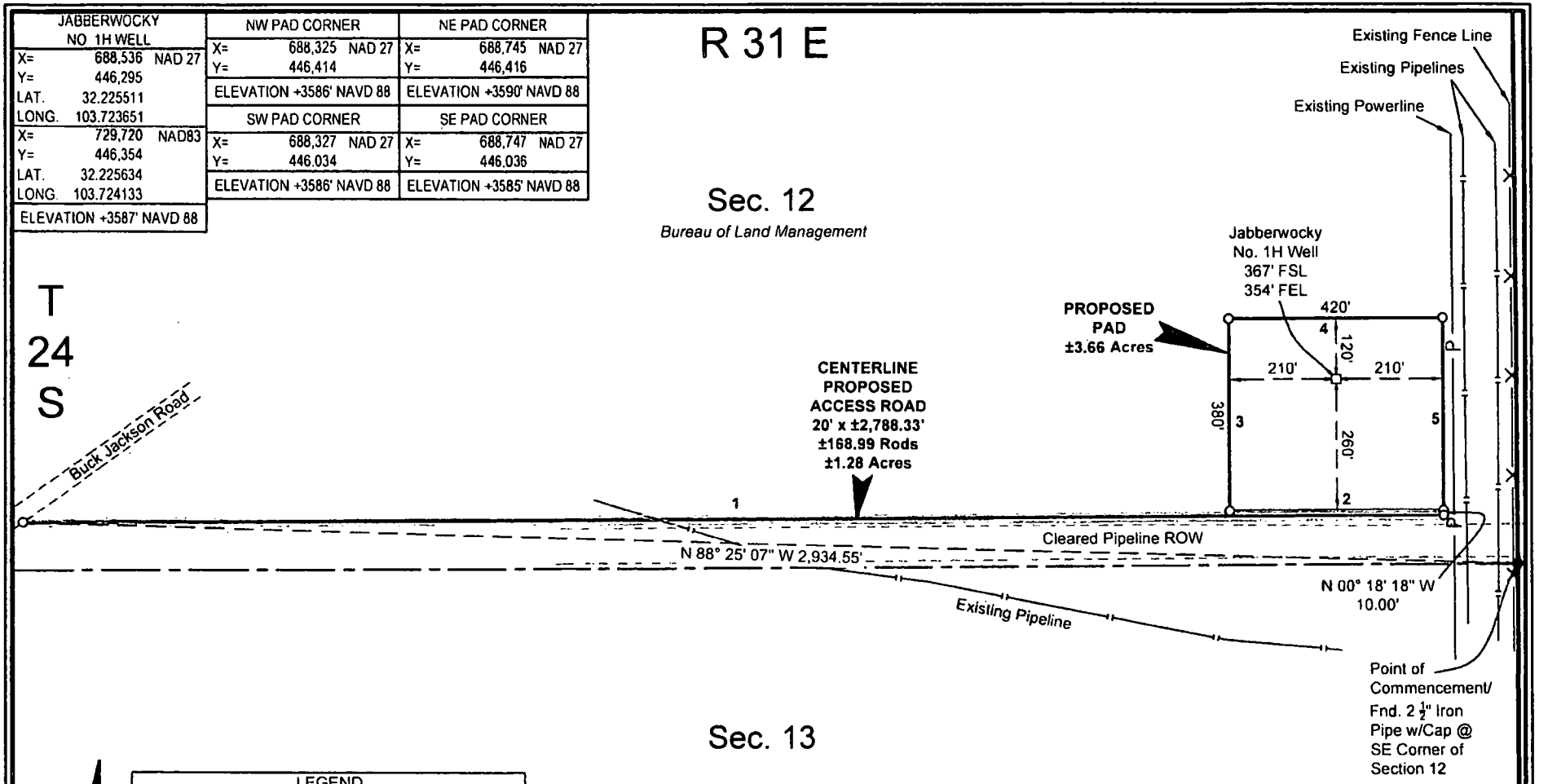
JABBERWOCKY NO. 1H WELL	
X=	688,536 NAD 27
Y=	446,295
LAT.	32.225511
LONG.	103.723651
X=	729,720 NAD83
Y=	446,354
LAT.	32.225634
LONG.	103.724133
ELEVATION +3587' NAVD 88	

NW PAD CORNER	
X=	688,325 NAD 27
Y=	446,414
ELEVATION +3586' NAVD 88	

NE PAD CORNER	
X=	688,745 NAD 27
Y=	446,416
ELEVATION +3590' NAVD 88	

SW PAD CORNER	
X=	688,327 NAD 27
Y=	446,034
ELEVATION +3586' NAVD 88	

SE PAD CORNER	
X=	688,747 NAD 27
Y=	446,036
ELEVATION +3585' NAVD 88	



NAD 27 NEW MEXICO EAST ZONE

LEGEND

- Proposed Pad
- Centerline Access
- Section Line
- Township/Range/County Line
- Existing Road
- Pipeline ROW
- Existing Pipeline
- Existing Powerline
- Existing Fence Line
- Found Monument

Scale: 1" = 300'

300' 0 150' 300'

FOR THE EXCLUSIVE USE OF CHEVRON U.S.A. INC.
I, Robert L. Lastrapes, Professional Surveyor, do hereby state this plat is true and correct to the best of my knowledge.

ROBERT L. LASTRAPES NEW MEXICO 3/30/2017 23006 REGISTERED PROFESSIONAL SURVEYOR

Robert L. Lastrapes
Registration No. 23006

FENSTERMAKER

C. H Fenstermaker & Associates, L L.C
135 Regency Sq Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3299
www.fenstermaker.com

WELL PLAT PAGE 1 OF 2

CHEVRON U.S.A. INC.

PROPOSED PAD & ACCESS ROAD
JABBERWOCKY NO. 1H WELL
SECTION 12, T24S-R31E
EDDY COUNTY, NEW MEXICO

DRAWN BY: BOR	REVISIONS		
PROJ. MGR.: VHV	No.	DATE:	REVISED BY:
DATE: 03/08/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175394\DWG\Jabberwocky 1H_Well Plat.dwg			

DISCLAIMER: At this time, C. H. Fenstermaker & Associates, L.L.C. has not performed nor was asked to perform any type of engineering, hydrological modeling, flood plain, or "No Rise" certification analyses, including but not limited to determining whether the project will impact flood hazards in connection with federal/FEMA, state, and/or local laws, ordinances and regulations. Accordingly, Fenstermaker makes no warranty or representation of any kind as to the foregoing issues, and persons or entities using this information shall do so at their own risk.

NOTE:
Please be advised, that while reasonable efforts are made to locate and verify pipelines and anomalies using our standard pipeline locating equipment, it is impossible to be 100 % effective. As such, we advise using caution when performing work as there is a possibility that pipelines and other hazards, such as fiber optic cables, PVC pipelines, etc may exist undetected on site.

NOTE:
Many states maintain information centers that establish links between those who dig (excavators) and those who own and operate underground facilities (operators). It is advisable and in most states, law, for the contractor to contact the center for assistance in locating and marking underground utilities. For guidance: New Mexico One Call - www.nmonecall.org.

CENTERLINE PROPOSED ACCESS ROAD		
COURSE	BEARING	DISTANCE
1	N 89° 41' 42" E	2788.33'

PROPOSED PAD		
COURSE	BEARING	DISTANCE
2	S 89° 44' 05" W	420.00'
3	N 00° 15' 55" W	380.00'
4	N 89° 44' 05" E	420.00'
5	S 00° 15' 55" E	380.00'

FOR THE EXCLUSIVE USE OF
CHEVRON U.S.A. INC.
I, Robert L. Lastrapes, Professional Surveyor, do hereby state this plat is true and correct to the best of my knowledge.

ROBERT L. LASTRAPES
NEW MEXICO
3-30-17
23006
SURVEYS

Robert L. Lastrapes
Registration No. 23006

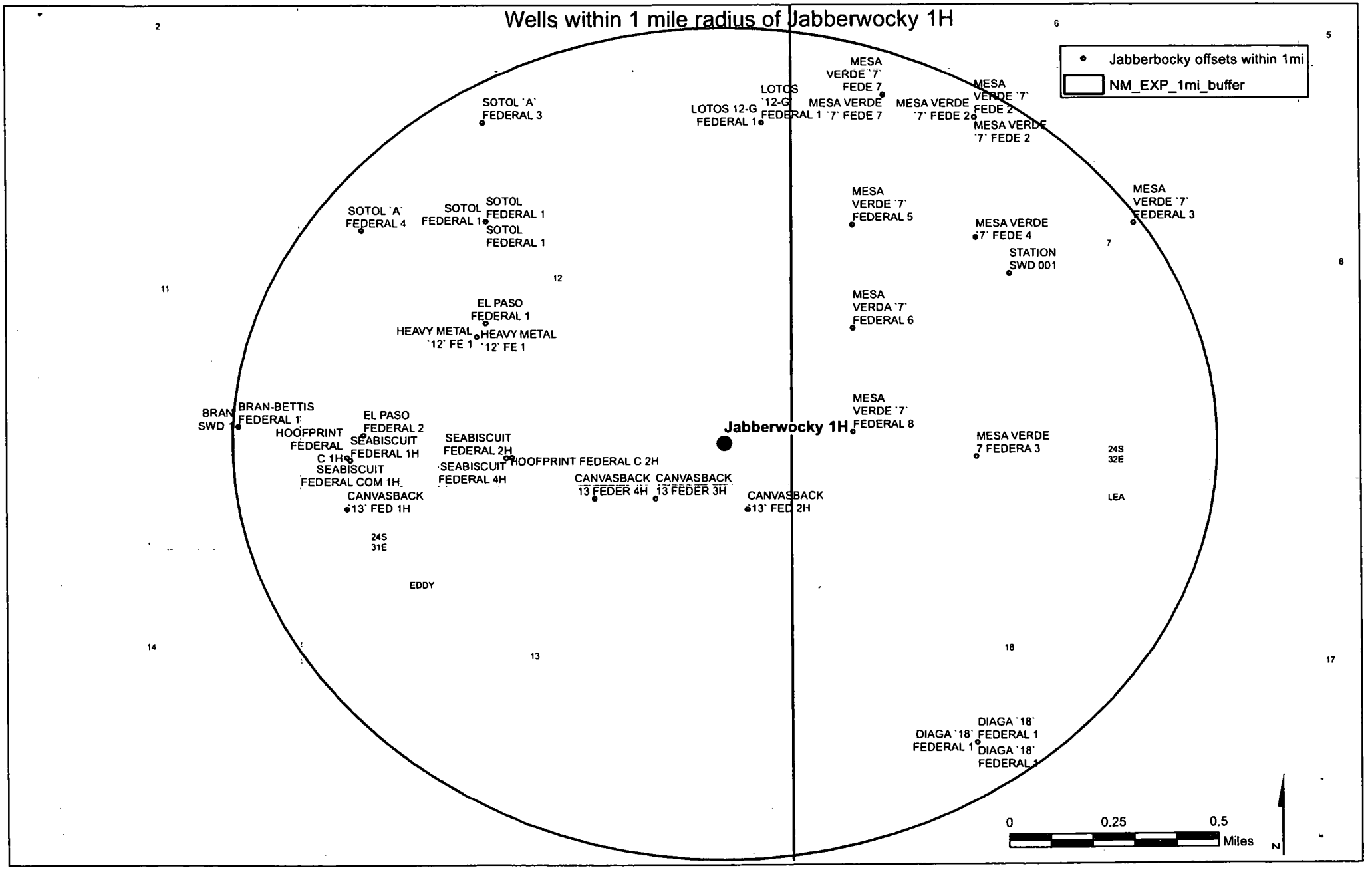
FENSTERMAKER
C. H Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3299
www.fenstermaker.com

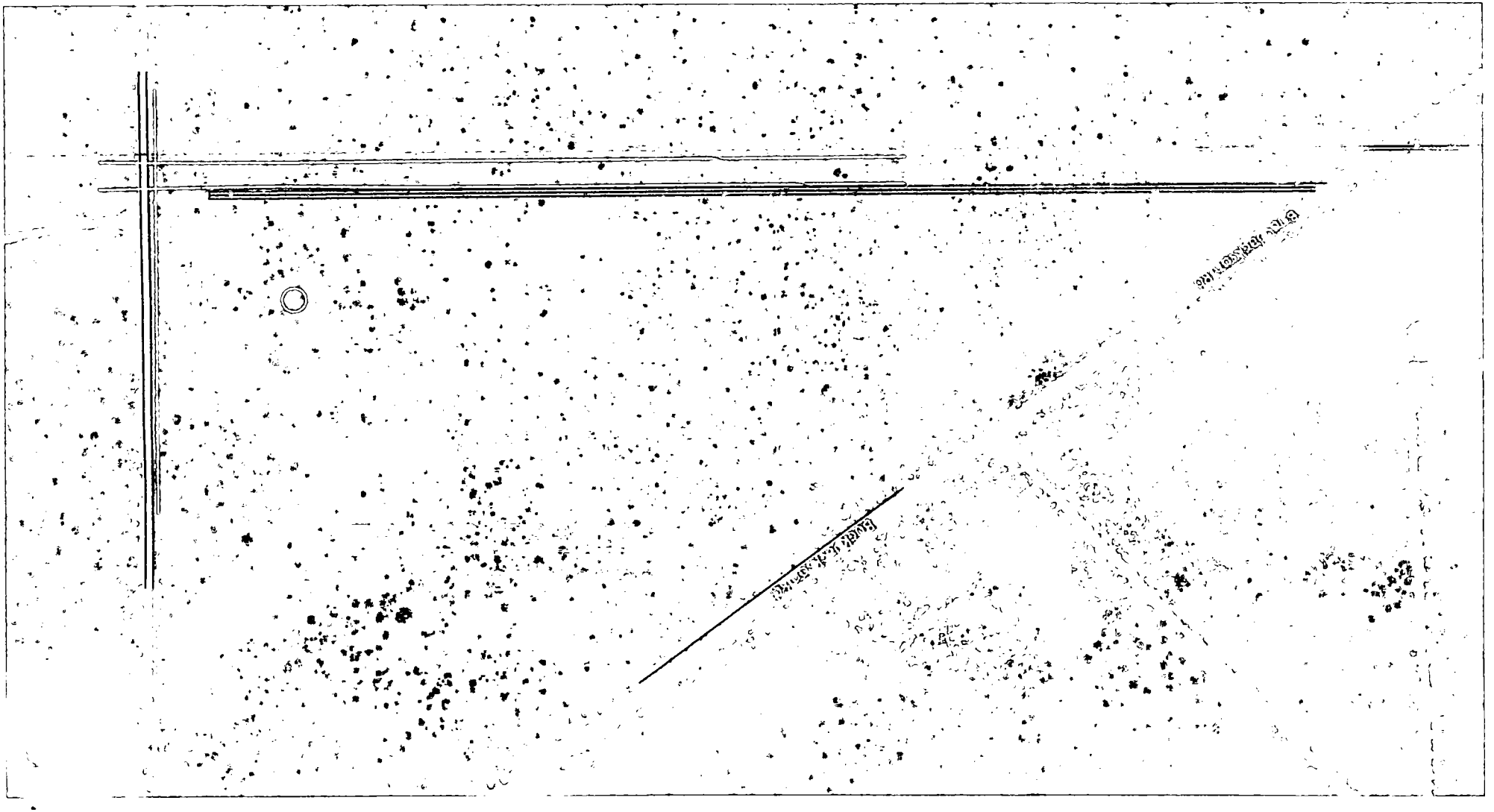
WELL PLAT

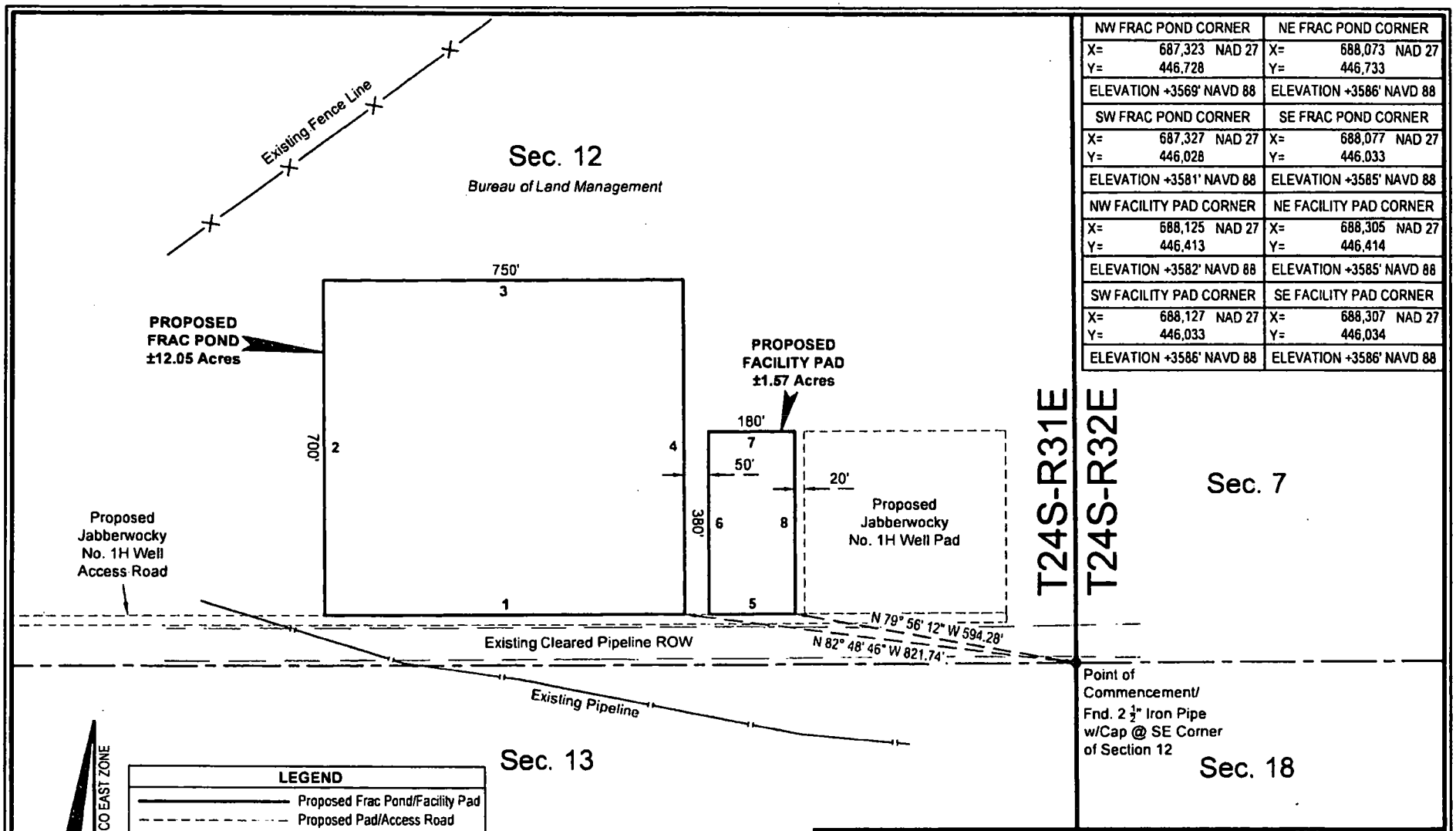
CHEVRON U.S.A. INC.

PROPOSED PAD & ACCESS ROAD
JABBERWOCKY NO. 1H WELL
SECTION 12, T24S-R31E
EDDY COUNTY, NEW MEXICO

DRAWN BY: BOR	REVISIONS		
PROJ. MGR.: VHV	No.	DATE:	REVISED BY:
DATE: 03/08/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175394\DWG\Jabberwocky 1H_Well Plat.dwg			


Wells within 1 mile radius of Jabberwocky 1H
Jabberbocky offsets within 1mi
NM_EXP_1mi_buffer
Jabberwocky 1H
SOTOL 'A' FEDERAL 3
SOTOL 'A' FEDERAL 4
SOTOL FEDERAL 1
SOTOL FEDERAL 1
SOTOL FEDERAL 1
LOTOS 12-G FEDERAL 1
LOTOS '12-G FEDERAL 1
MESA VERDE '7' FEDE 7
MESA VERDE '7' FEDE 7
MESA VERDE '7' FEDE 2
MESA VERDE '7' FEDE 2
MESA VERDE '7' FEDERAL 5
MESA VERDE '7' FEDE 4
MESA VERDE '7' FEDERAL 3
STATION SWD 001
EL PASO FEDERAL 1
HEAVY METAL '12' FE 1
HEAVY METAL '12' FE 1
MESA VERDA '7' FEDERAL 6
BRAN SWD 1
BRAN-BETTIS FEDERAL 1
HOOFPRINT FEDERAL C 1H
EL PASO FEDERAL 2
SEABISCUIT FEDERAL 1H
SEABISCUIT FEDERAL COM 1H
CANVASBACK 13' FED 1H
SEABISCUIT FEDERAL 2H
SEABISCUIT FEDERAL 4H
HOOFPRINT FEDERAL C 2H
CANVASBACK 13 FEDER 4H
CANVASBACK 13 FEDER 3H
CANVASBACK 13' FED 2H
MESA VERDE '7' FEDERAL 8
MESA VERDE 7 FEDERA 3
24S 32E
LEA
24S 31E
EDDY
DIAGA '18' FEDERAL 1
DIAGA '18' FEDERAL 1
DIAGA '18' FEDERAL 1
2
6
5
11
12
7
8
14
13
18
17
0
0.25
0.5
Miles
N





NW FRAC POND CORNER	NE FRAC POND CORNER
X= 687,323 NAD 27 Y= 446,728	X= 688,073 NAD 27 Y= 446,733
ELEVATION +3569' NAVD 88	ELEVATION +3586' NAVD 88
SW FRAC POND CORNER	SE FRAC POND CORNER
X= 687,327 NAD 27 Y= 446,028	X= 688,077 NAD 27 Y= 446,033
ELEVATION +3581' NAVD 88	ELEVATION +3585' NAVD 88
NW FACILITY PAD CORNER	NE FACILITY PAD CORNER
X= 688,125 NAD 27 Y= 446,413	X= 688,305 NAD 27 Y= 446,414
ELEVATION +3582' NAVD 88	ELEVATION +3585' NAVD 88
SW FACILITY PAD CORNER	SE FACILITY PAD CORNER
X= 688,127 NAD 27 Y= 446,033	X= 688,307 NAD 27 Y= 446,034
ELEVATION +3586' NAVD 88	ELEVATION +3586' NAVD 88

FOR THE EXCLUSIVE USE OF
CHEVRON U.S.A. INC.
I, Robert L. Lastrapes, Professional Surveyor, do hereby state this plat is true and correct to the best of my knowledge.

ROBERT L. LASTRAPES
NEW MEXICO
23006
PROFESSIONAL SURVEYOR
3-30-2017

Robert L. Lastrapes
Registration No. 23006

FENSTERMAKER
C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3299
www.fenstermaker.com

FRAC POND & FACILITY PAD PLAT PAGE 1 OF 2

CHEVRON U.S.A. INC.

PROPOSED FRAC POND & FACILITY PAD
JABBERWOCKY NO. 1H
SECTION 12, T24S-R31E
EDDY COUNTY, NEW MEXICO

DRAWN BY: BOR	REVISIONS		
PROJ. MGR.: VHV	No.	DATE:	REVISED BY:
DATE: 03/10/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175394\DWG\Jabberwocky 1H_Facility-Frac Pond.dwg			

PROPOSED FRAC POND			PROPOSED FACILITY PAD		
COURSE	BEARING	DISTANCE	COURSE	BEARING	DISTANCE
1	S 89° 39' 10" W	750.00'	5	S 89° 44' 05" W	180.00'
2	N 00° 20' 50" W	700.00'	6	N 00° 15' 55" W	380.00'
3	N 89° 39' 10" E	750.00'	7	N 89° 44' 05" E	180.00'
4	S 00° 20' 50" E	700.00'	8	S 00° 15' 55" E	380.00'

DISCLAIMER: At this time, C. H. Fenstermaker & Associates, L.L.C. has not performed nor was asked to perform any type of engineering, hydrological modeling, flood plain, or "No Rise" certification analyses, including but not limited to determining whether the project will impact flood hazards in connection with federal/FEMA, state, and/or local laws, ordinances and regulations. Accordingly, Fenstermaker makes no warranty or representation of any kind as to the foregoing issues, and persons or entities using this information shall do so at their own risk.

NOTE:
Please be advised, that while reasonable efforts are made to locate and verify pipelines and anomalies using our standard pipeline locating equipment, it is impossible to be 100 % effective. As such, we advise using caution when performing work as there is a possibility that pipelines and other hazards, such as fiber optic cables, PVC pipelines, etc may exist undetected on site.

NOTE:
Many states maintain information centers that establish links between those who dig (excavators) and those who own and operate underground facilities (operators). It is advisable and in most states, law, for the contractor to contact the center for assistance in locating and marking underground utilities For guidance: New Mexico One Call - www.nmonecall.org

FOR THE EXCLUSIVE USE OF
CHEVRON U.S.A. INC.
I, Robert L. Lastrapes, Professional Surveyor, do hereby state this plat is true and correct to the best of my knowledge.

ROBERT L. LASTRAPES
NEW MEXICO
3-30-2017
23006
PROFESSIONAL SURVEYOR

Robert L. Lastrapes
Registration No. 23006

FENSTERMAKER

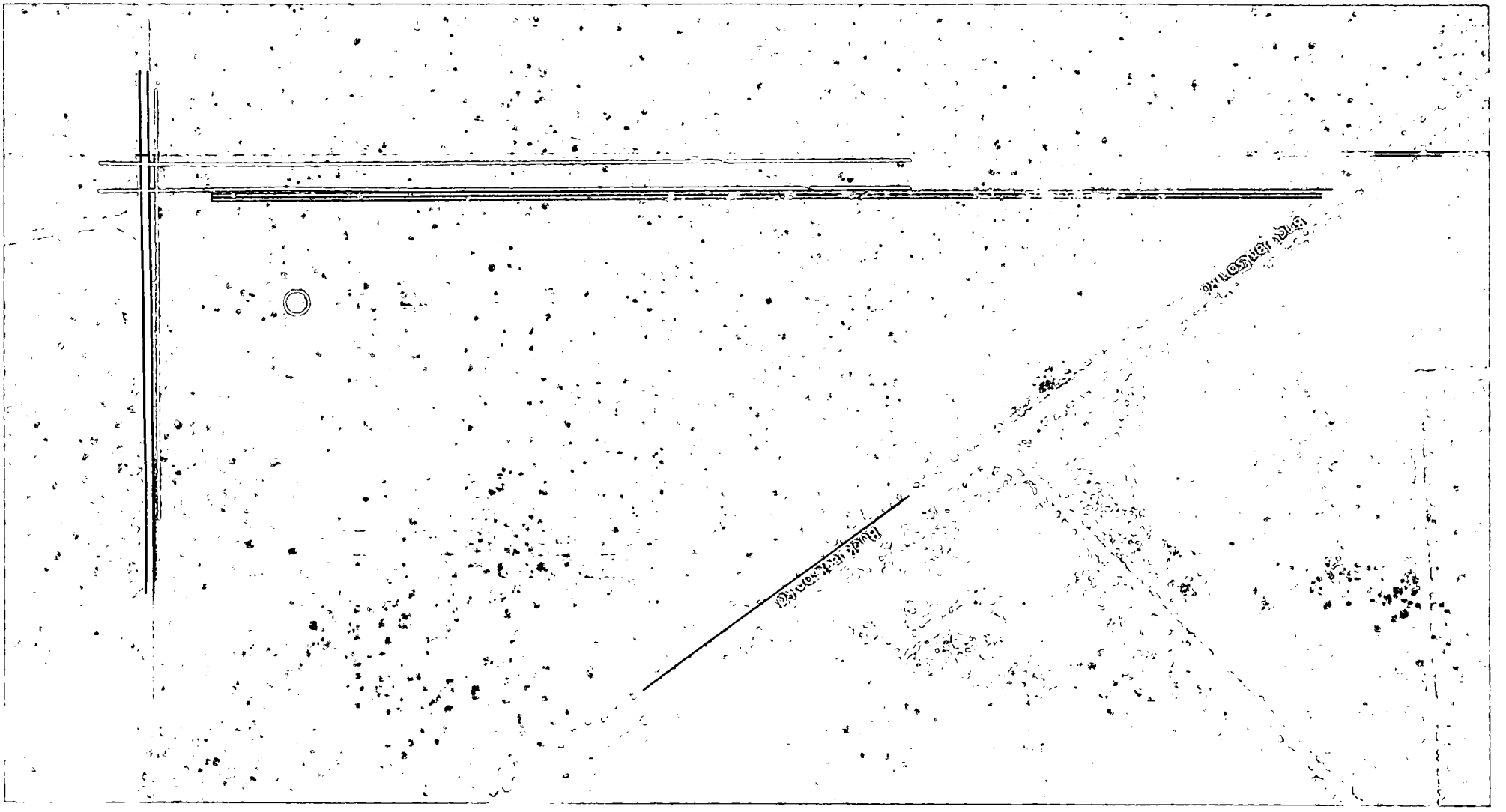
C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3299
www.fenstermaker.com

FRAC POND & FACILITY PAD PLAT PAGE 2 OF 2

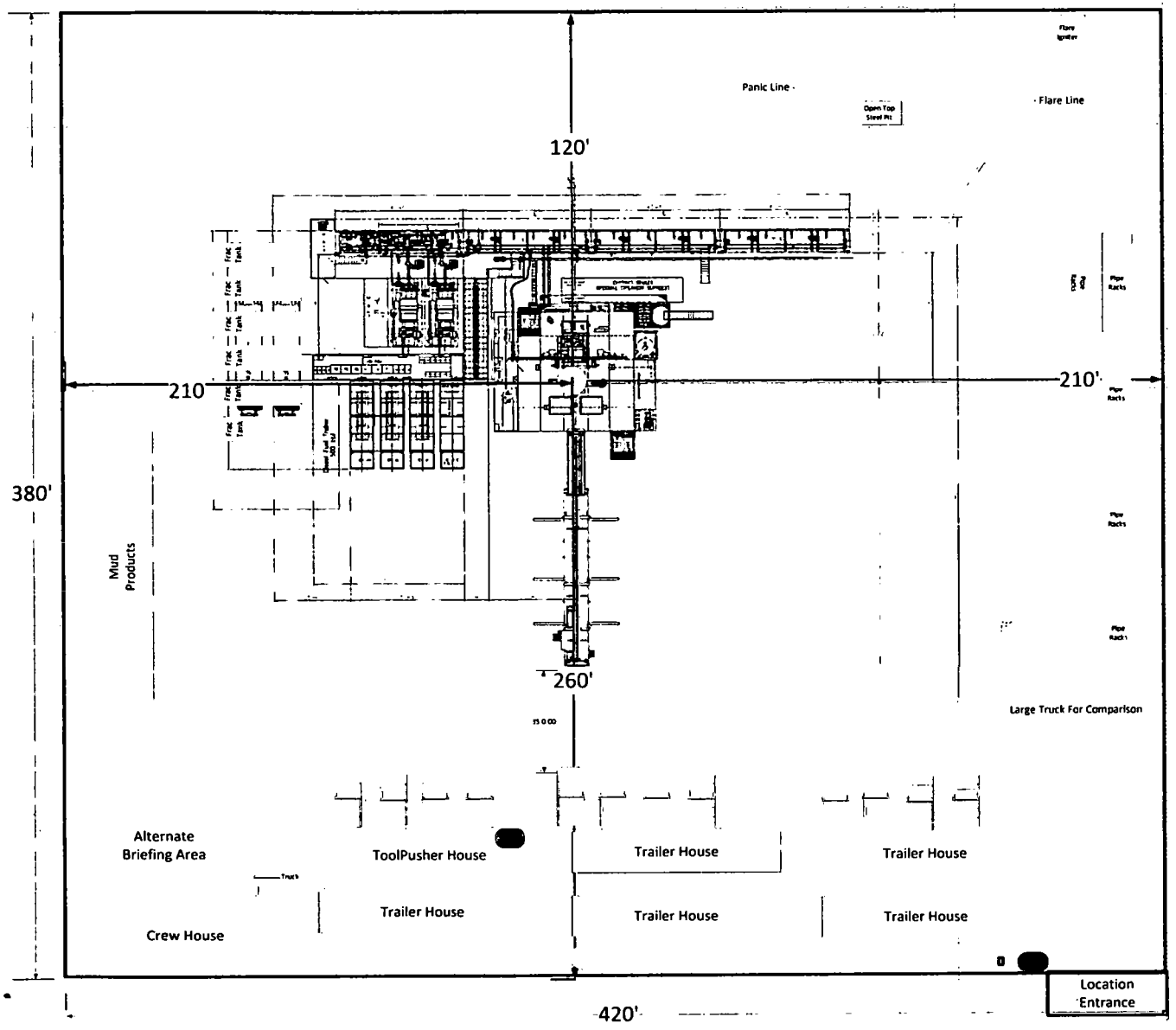
CHEVRON U.S.A. INC.

PROPOSED FRAC POND & FACILITY PAD
JABBERWOCKY NO. 1H
SECTION 12, T24S-R31E
EDDY COUNTY, NEW MEXICO

DRAWN BY: BOR	REVISIONS			
PROJ. MGR.: VHV	No.	DATE:	REVISED BY:	
DATE: 03/10/2017	No.	DATE:	REVISED BY:	
FILENAME: T:\2017\2175394\DWG\Jabberwocky 1H_Facility-Frac Pond.dwg				



Rig Layout



H2S Monitor Locations
- Bop/Cellar
- Rig Floor
- Shaker Skid
- Bell Nipple

Flag Locations
- Sign-in Shack
- Rig Floor
- Dog House

10 Minute Escape Packs
- 1 at Pits
- 1 at Trip Tank
- 1 at Accumulator
- 4 at Rig Floor

45 Minute Escape Packs
- 2 at Briefing Area
- 2 at Alternate Briefing Area

Legend
- H2S Monitor
- Flag

JABBERWOCKY NO. 1H WELL	
X=	688,536 NAD 27
Y=	446,295
LAT.	32.225511
LONG.	103.723651
X=	729,720 NAD83
Y=	446,354
LAT.	32.225634
LONG.	103.724133
ELEVATION +3587' NAVD 88	

NW PAD CORNER	
X=	688,325 NAD 27
Y=	446,414
ELEVATION +3586' NAVD 88	

NE PAD CORNER	
X=	688,745 NAD 27
Y=	446,416
ELEVATION +3590' NAVD 88	

SW PAD CORNER	
X=	688,327 NAD 27
Y=	446,034
ELEVATION +3586' NAVD 88	

SE PAD CORNER	
X=	688,747 NAD 27
Y=	446,036
ELEVATION +3585' NAVD 88	

R 31 E

Existing Fence Line
Existing Pipelines
Existing Powerline

Sec. 12

Bureau of Land Management

T 24 S

Buck Jackson Road

Jabberwocky No. 1H Well
367' FSL
354' FEL

PROPOSED PAD ±3.66 Acres

420'
120'
210'
210'
380'
260'

CENTERLINE PROPOSED ACCESS ROAD
20' x ±2,788.33'
±168.99 Rods
±1.28 Acres

Cleared Pipeline ROW

N 88° 25' 07" W 2,934.55'

N 00° 18' 18" W 10.00'

Existing Pipeline

Point of Commencement/ Fnd. 2 ½" Iron Pipe w/Cap @ SE Corner of Section 12

Sec. 13

NAD 27 NEW MEXICO EAST ZONE

LEGEND
- Proposed Pad
- Centerline Access
- Section Line
- Township/Range/County Line
- Existing Road
- Pipeline ROW
- Existing Pipeline
- Existing Powerline
- Existing Fence Line
- Found Monument

Scale: 1" = 300'

300' 0 150' 300'

FOR THE EXCLUSIVE USE OF CHEVRON U.S.A. INC.
I, Robert L. Lastrapes, Professional Surveyor, do hereby state this plat is true and correct to the best of my knowledge.

ROBERT L. LASTRAPES NEW MEXICO 23006 PROFESSIONAL SURVEYOR

Robert L. Lastrapes
Registration No. 23006

FENSTERMAKER
C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3299
www.fenstermaker.com

WELL PLAT PAGE 1 OF 2

CHEVRON U.S.A. INC.

PROPOSED PAD & ACCESS ROAD
JABBERWOCKY NO. 1H WELL
SECTION 12, T24S-R31E
EDDY COUNTY, NEW MEXICO

DRAWN BY: BOR	REVISIONS		
PROJ. MGR.: VHV	No.	DATE:	REVISED BY:
DATE: 03/08/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175394\DWG\Jabberwocky 1H_Well Plat.dwg			

DISCLAIMER: At this time, C. H. Fenstermaker & Associates, L.L.C. has not performed nor was asked to perform any type of engineering, hydrological modeling, flood plain, or "No Rise" certification analyses, including but not limited to determining whether the project will impact flood hazards in connection with federal/FEMA, state, and/or local laws, ordinances and regulations. Accordingly, Fenstermaker makes no warranty or representation of any kind as to the foregoing issues, and persons or entities using this information shall do so at their own risk.

NOTE:
Please be advised, that while reasonable efforts are made to locate and verify pipelines and anomalies using our standard pipeline locating equipment, it is impossible to be 100 % effective. As such, we advise using caution when performing work as there is a possibility that pipelines and other hazards, such as fiber optic cables, PVC pipelines, etc. may exist undetected on site.

NOTE:
Many states maintain information centers that establish links between those who dig (excavators) and those who own and operate underground facilities (operators). It is advisable and in most states, law, for the contractor to contact the center for assistance in locating and marking underground utilities. For guidance: New Mexico One Call - www.nmonecall.org.

CENTERLINE PROPOSED ACCESS ROAD		
COURSE	BEARING	DISTANCE
1	N 89° 41' 42" E	2788.33'

PROPOSED PAD		
COURSE	BEARING	DISTANCE
2	S 89° 44' 05" W	420.00'
3	N 00° 15' 55" W	380.00'
4	N 89° 44' 05" E	420.00'
5	S 00° 15' 55" E	380.00'

FOR THE EXCLUSIVE USE OF
CHEVRON U.S.A. INC.
I, Robert L. Lastrapes, Professional Surveyor, do hereby state this plat is true and correct to the best of my knowledge.

ROBERT L. LASTRAPES
NEW MEXICO
3-30-17
23006
SURVEYS

Robert L. Lastrapes
Registration No. 23006

FENSTERMAKER
C. H Fenstermaker & Associates, L.L.C
135 Regency Sq Lafayette, LA 70508
Ph. 337-237-2200 Fax 337-232-3299
www.fenstermaker.com

WELL PLAT

CHEVRON U.S.A. INC.

PROPOSED PAD & ACCESS ROAD
JABBERWOCKY NO. 1H WELL
SECTION 12, T24S-R31E
EDDY COUNTY, NEW MEXICO

DRAWN BY: BOR	REVISIONS		
PROJ. MGR.: VHV	No.	DATE:	REVISED BY:
DATE: 03/08/2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175394\DWG\Jabberwocky-1H_Well Plat.dwg			

CHEVRON U.S.A. Inc
JABBERWOCKY 1H
NMNM 120901 & NMNM 69369
SECTION 12, T24S-R31E
SHL 260' FSL & 210' FEL

SECTION 1, T24S, R31E
BHL 330' FNL & 330' FEL

APD Surface Use Plan of Operations

Existing Roads

- The operator will improve or maintain existing roads in a condition the same as or better than before operations begin. The operator will repair pot holes, clear ditches, repair the crown, etc. All existing structures on 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. We will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or wind events. BLM written approval will be acquired before application of surfactants, binding agents, or other dust suppression chemicals on roadways.
- Driving Directions – From Jal, New Mexico. The location is approximately 33 miles from the nearest town, which is Jal, New Mexico. From Jal, proceed west on Highway 128 approximately 32 miles and turn left (Southwest) onto Buck Jackson Rd. and go approximately .42 miles on Buck Jackson until the road reaches the first intersection. Veer left (South) on to first lease road and travel .52 miles. Turn right (West) and go across cattle guard, and then take an immediate right (North). Go North approximately .1 miles and location will be to the West about 210 feet.

New or Reconstructed Access Roads – Survey plat

- There will be 2,788' of new road construction for the well pad and facilities.
- Road Width: The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed 14'. The maximum width of surface disturbance shall not exceed 25'.
- Maximum Grade: 3%
- Crown Design: Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2%. The road shall conform to cross section and plans for typical road construction found in the BLM Gold Book.
- Turnouts: 50-60'
- Ditch Design: Ditching will be constructed on both sides of road.
- Cattle guards: Suggested
- Major Cuts and Fills: 2:1 during drilling and completions. Cuts and fills taken back to 3:1 at interim.

CHEVRON U.S.A. Inc
JABBERWOCKY 1H
NMNM 120901 & NMNM 69369
SECTION 12, T24S-R31E SECTION 1, T24S, R31E
SHL 260' FSL & 210' FEL BHL 330' FNL & 330' FEL

- Type of Surfacing Material: Caliche

Location of Existing Wells

- 1-Mile radius map is attached

Location of Existing and/or Proposed Production Facilities

- Facilities: New production facilities are to be constructed located in the SE quarter of Sec. 12, T24S-R31E where oil and gas sales will take place.
    - Proposed Facility Pad is 180' x 380'
    - The facility is proposed in Sec. 12, T24S-R31E; NMNM 120901 lease.
    - Gas purchaser pipeline will be brought to the tank battery.
    - Open top tanks or open containments will be netted.
    - Open vent exhaust stacks will be modified to prevent birds or bats from entering, discourage perching, roosting, and nesting.
    - Facilities will have a secondary containment 1.5 times the holding capacity of largest storage tank.
    - All above ground structures will be painted non-reflective shale green for blending with surrounding environment.
    - The tank battery will be connected to the existing water gathering system in the field for permanent water disposal. The system design will be determined and approved prior to construction of any water transfer pipeline. Until permanent water takeaway is available, produced water will be hauled off location in trucks.
- Pipelines: One 4" buried pipeline, approximately 320', will be laid from well running west to facility pad in Section 12.
    - No ROW will be required from the BLM.
    - All construction activity will be confined to the approved BLM Standards.
    - Pipeline will run straight to facility from well pad location.
- Pipelines: One 4" buried gas lift pipeline, approximately 320', will be laid from well running east to compressor on facility pad in Section 12.
    - All construction activity will be confined to the approved ROW.
    - No ROW will be required from BLM.
- Power lines: A powerline, approximately 750', will be installed from the existing powerline in Section 12 and will be routed to the proposed well (450') and to the proposed tank battery (300') and compressor station (1423') in Section 12.
    - A ROW will be applied for through the BLM.
    - All construction activity will be confined to the approved ROW.
    - Power line will run parallel to the road and will stay within approved ROW.

CHEVRON U.S.A. Inc
JABBERWOCKY 1H
NMNM 120901 & NMNM 69369
SECTION 12, T24S-R31E SECTION 1, T24S, R31E
SHL 260' FSL & 210' FEL BHL 330' FNL & 330' FEL

Location and Types of Water Supply

- New pond in SE/4SE/4 Section 12, T24S-R31E will be utilized for fresh water.
- Fresh water will be obtained from a private water source.
- A temporary 10" expanding pipe transfer line will run west along lease road then south along proposed access road approx. 460'from frac pond to well location in section 12.
    - Fresh water line will run parallel to road and will stay within 10' of access road.
    - A BLM ROW will not be required for the water transfer line.

Construction Material

- Caliche will be used to construct well pad and roads. Material will be purchased from the nearest federal, state, or private permitted pit.
    - Primary: Use caliche on existing location.
    - Secondary: Section 32, 23S, 31E, State Lands.
- The proposed source of construction material will be located and purchased by construction contractor.
    - Payment shall be made by contractor prior to any removal of federal minerals material by contacting agent at (575) 234-5972.
    - Notification shall be given to BLM at (575) 234-5909 at least 3 working days prior to commencing construction of access road and/or well pad.

Methods for Handling Waste

- Drilling fluids and produced oil and water from the well during drilling and completion 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 at a state approved disposal facility. All trash on and around the well site will be collected for disposal.
- Human waste and grey water will be properly contained and disposed of properly at a state approved disposal facility.
- 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.
- The well will be drilled utilizing a closed loop system. Drill cutting will be properly disposed of into steel tanks and taken to an NMOCD approved disposal facility.

CHEVRON U.S.A. Inc
JABBERWOCKY 1H
NMNM 120901 & NMNM 69369
SECTION 12, T24S-R31E SECTION 1, T24S, R31E
SHL 260' FSL & 210' FEL BHL 330' FNL & 330' FEL

Ancillary Facilities

There will be no compressor station for this location.

Well Site Layout

- Surveyor Plat (Exhibit 6a)
  - Exterior well pad dimensions are 380' x 420'.
  - Interior well pad dimensions from point of entry (well head) of the easternmost well are N-120', S-260', E-210', W-210'.
  - Topsoil placement is on the North where interim reclamation is planned to be completed upon completion of well and evaluation of best management practices.
  - Cut and fill: will be minimal. Diagram attached.
- Rig Layout

Plans for Surface Reclamation

Reclamation Objectives

- The objective of interim reclamation is to restore vegetative cover and a portion of the landform sufficient to maintain healthy, biologically active topsoil; control erosion; and minimize habitat and forage loss, visual impact, and weed infestation, during the life of the well or facilities.
- The long-term objective of final reclamation is to return the land to a condition similar to what existed prior to disturbance. This includes restoration of the landform and natural vegetative community, hydrologic systems, visual resources, and wildlife habitats. To ensure that the long-term objective will be reached through human and natural processes, actions will be taken to ensure standards are met for site stability, visual quality, hydrological functioning, and vegetative productivity.
- The BLM will be notified at least 3 days prior to commencement of any reclamation procedures.
- If circumstances allow, interim reclamation and/or final reclamation actions will be completed no later than 6 months from when the final well on the location has been completed or plugged. We will gain written permission from the BLM if more time is needed.
- Reclamation will be performed by using the following procedures:

Interim Reclamation Procedures

- Within 6 months, Chevron will contact BLM Surface Management Specialists to devise the best strategies to reduce the size of the location. The current plan for interim reclamation include reclaiming 2.74 acres from the proposed pad size of 3.66 acres to approximately .92 acres. Within 30 days of well completion, the well location and surrounding areas will be cleared of, and maintained free of, all

materials, trash, and equipment not required for production. A plan will be submitted showing where interim reclamation will be completed in order to allow for safe operations, protection of the environment outside of drilled well, and following best management practices found in the BLM "Gold Book".

- 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.
- The areas planned for interim reclamation will then 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 will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including cuts & fills. To seed the area, the proper BLM seed mixture (BLM #2), free of noxious weeds, will be used.
- Proper erosion control methods will be used on the area to control erosion, runoff and siltation of the surrounding area.
- The interim reclamation will be monitored periodically to ensure that vegetation has reestablished

Final Reclamation (well pad, buried pipelines, and power lines, etc.)

- Prior to final reclamation procedures, the well pad, road, and surrounding area will be cleared of material, trash, and equipment.
- All surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads.
- All disturbed areas, including roads, pipelines, pads, production facilities, and interim reclaimed areas will be recontoured to the contour existing prior to initial construction or a contour that blends in distinguishably 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.
- After all the disturbed areas have been properly prepared; the areas will be seeded with the proper BLM seed mixture (BLM #2), free of noxious weeds.
- Proper erosion control methods will be used on the entire area to control erosion, runoff and siltation of the surrounding area.
- Plat attached.

Surface Ownership

- BLM Surface

CHEVRON U.S.A. Inc
JABBERWOCKY 1H
NMNM 120901 & NMNM 69369
SECTION 12, T24S-R31E SECTION 1, T24S, R31E
SHL 260' FSL & 210' FEL BHL 330' FNL & 330' FEL

- Surface Tenant – Richardson Cattle Company

- **Nearest Post Office:** Jal Post Office; 50 Miles East

Other Information

- On-site performed by BLM NRS: Paul Murphy 3/21/2016
- Cultural report attached: **Yes** Participating Agreement attached: N/A

Chevron Representatives

Primary point of contact:
Kevin Dickerson
Kevin.Dickerson@chevron.com
C- 432-250-4489

CHEVRON U.S.A. Inc
JABBERWOCKY 1H
NMNM 120901 & NMNM 69369
SECTION 12, T24S-R31E SECTION 1, T24S, R31E
SHL 260' FSL & 210' FEL BHL 330' FNL & 330' FEL

Chevron Functional Contacts

Project Manager Name: Katie Essary Address: 1400 Smith Street Houston, TX 77002 Phone: (713) 372-1281 Email: katieessary@chevron.com	**Drilling Engineer** Name: Ashwin Sunthankar Address: 1400 Smith Street Houston, TX 77002 Phone: (713) 372-9945 Email: Ashwin.Sunthankar@chevron.com
Surface Land Representative Name: Kevin Dickerson Address: 6301 Deauville Blvd. Midland, TX 79706 Phone: (432) 687-7104 Email: Kevin.Dickerson@chevron.com	**Facility Lead** Name: Sara Lindsay Address: Hobbs Chesapeake Energy Office Phone: (575) 390-9316 Email: sara.lindsay@chevron.com
Geologist Name: Kelsey McArthur Address: 1400 Smith Street Houston, TX 77002 Phone: (713) 372-5202 Email: Kelsey.McArthur@chevron.com	**Regulatory Specialist** Name: Dorian Fuentes Address: 6301 Deauville Blvd. Midland, TX 79706 Office: (432) 687-7631 Email: dorian.k.fuentes@chevron.com

CHEVRON U.S.A. Inc
JABBERWOCKY 1H
NMNM 120901 & NMNM 69369
SECTION 12, T24S-R31E
SHL 260' FSL & 210' FEL

SECTION 1, T24S, R31E
BHL 330' FNL & 330' FEL

JABBERWOCKY NO. 1H WELL	
X=	688,536 NAD 27
Y=	446,295
LAT.	32.225511
LONG.	103.723651
X=	729,720 NAD83
Y=	446,354
LAT.	32.225634
LONG.	103.724133
ELEVATION +3587' NAVD 88	

NW PAD CORNER	
X=	688,325 NAD 27
Y=	446,414
ELEVATION +3586' NAVD 88	

NE PAD CORNER	
X=	688,745 NAD 27
Y=	446,416
ELEVATION +3590' NAVD 88	

SW PAD CORNER	
X=	688,327 NAD 27
Y=	446,034
ELEVATION +3586' NAVD 88	

SE PAD CORNER	
X=	688,747 NAD 27
Y=	446,036
ELEVATION +3585' NAVD 88	

R 31 E

Sec. 12

Bureau of Land Management

T 24 S

Buck Jackson Road

Existing Fence Line

Existing Pipelines

Existing Powerline

Jabberwocky No. 1H Well 367' FSL 354' FEL

PROPOSED PERMANENT PAD AREA ±0.92 Acres

420'

200'

200'

380'

PROPOSED TEMPORARY PAD AREA ±2.74 Acres

CENTERLINE PROPOSED ACCESS ROAD 20' x ±2,788.33' ±168.99 Rods ±1.28 Acres

Cleared Pipeline ROW

N 88° 25' 07" W 2,934.55'

N 00° 18' 18" W 10.00'

Existing Pipeline

Point of Commencement/ Fnd. 2 ½" Iron Pipe w/Cap @ SE Corner of Section 12

Sec. 13

NAD 27 NEW MEXICO EAST ZONE

LEGEND

- Proposed Pad
- Centerline Access
- Section Line
- Township/Range/County Line
- Existing Road
- Pipeline ROW
- Existing Pipeline
- P — Existing Powerline
- X — Existing Fence Line
- ● Found Monument

Scale: 1" = 300'

300' 0 150' 300'

FOR THE EXCLUSIVE USE OF CHEVRON U.S.A. INC.

I, Robert L. Lastrapes, Professional Surveyor, do hereby state this plat is true and correct to the best of my knowledge.

ROBERT L. LASTRAPES NEW MEXICO 23006 PROFESSIONAL SURVEYOR

4-13-2017

Robert L. Lastrapes
Registration No. 23006

FENSTERMAKER

C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3299
www.fenstermaker.com

WELL PLAT PAGE 1 OF 2

CHEVRON U.S.A. INC.

INTERIM RECLAMATION
JABBERWOCKY NO. 1H WELL
SECTION 12, T24S-R31E
EDDY COUNTY, NEW MEXICO

DRAWN BY: AMT	REVISIONS		
PROJ. MGR.: VHV	No.	DATE:	REVISED BY:
DATE: APRIL 07, 2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175394\DWG\Jabberwocky 1H_IR.dwg			

DISCLAIMER: At this time, C. H. Fenstermaker & Associates, L.L.C. has not performed nor was asked to perform any type of engineering, hydrological modeling, flood plain, or "No Rise" certification analyses, including but not limited to determining whether the project will impact flood hazards in connection with federal/FEMA, state, and/or local laws, ordinances and regulations. Accordingly, Fenstermaker makes no warranty or representation of any kind as to the foregoing issues, and persons or entities using this information shall do so at their own risk.

NOTE:
Please be advised, that while reasonable efforts are made to locate and verify pipelines and anomalies using our standard pipeline locating equipment, it is impossible to be 100 % effective. As such, we advise using caution when performing work as there is a possibility that pipelines and other hazards, such as fiber optic cables, PVC pipelines, etc. may exist undetected on site.

NOTE:
Many states maintain information centers that establish links between those who dig (excavators) and those who own and operate underground facilities (operators). It is advisable and in most states, law, for the contractor to contact the center for assistance in locating and marking underground utilities. For guidance: New Mexico One Call - www.nmonecall.org.

FOR THE EXCLUSIVE USE OF
CHEVRON U.S.A. INC.
I, Robert L. Lastrapes, Professional Surveyor, do hereby state this plat is true and correct to the best of my knowledge.

ROBERT L. LASTRAPES
NEW MEXICO
23006
4-13-2017
PROFESSIONAL SURVEYOR

Robert L. Lastrapes
Registration No. 23006

FENSTERMAKER
C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax 337-232-3299
www.fenstermaker.com

WELL PLAT PAGE 2 OF 2

CHEVRON U.S.A. INC.

INTERIM RECLAMATION
JABBERWOCKY NO. 1H WELL
SECTION 12, T24S-R31E
EDDY COUNTY, NEW MEXICO

DRAWN BY: AMT	REVISIONS		
PROJ. MGR.: VHV	No.	DATE:	REVISED BY:
DATE: APRIL 07, 2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175394\DWG\Jabberwocky 1H_IR.dwg			

NMCRIS INVESTIGATION ABSTRACT FORM (NIAF)

1. NMCRIS Activity No.:	2a. Lead (Sponsoring) Agency:	2b. Other Permitting Agency(ies):	3. Lead Agency Report No.:
138055	BLM/CFO		

4. Title of Report: Class III Cultural Resource Survey for the COG Production, LLC, Proposed Jabberwocky 1H Well Pad, Facility Pad, and Frac Pond, Eddy County, New Mexico

Author(s) Scott Walley

5. Type of Report
☒ **Negative** ☐ **Positive**

6. Investigation Type
☐ Research Design ☒ Survey/Inventory ☐ Test Excavation ☐ Excavation ☐ Collections/Non-Field Study
☐ Overview/Lit Review ☐ Monitoring ☐ Ethnographic study ☐ Site specific visit ☐ Other

7. Description of Undertaking (what does the project entail?): Chevron USA, Inc., proposes to construct the Jabberwocky 1H well pad and adjacent facility pad, frac pond, and access road in Township 24 South (T24S), Range 31 East (R31E) Section 12 S 1/2 S 1/2, Eddy County, New Mexico.

The proposed well pad measures 380 ft north-south by 420 ft east-west (3.66 ac). The proposed facility pad is situated 20 ft west of the well pad and measures 380 ft north-south by 180 ft east-west (1.57 ac). The proposed frac pond is located 50 ft west of the facility pad and measures 700 ft north-south by 750 ft east-west (12.05 ac). The proposed road begins near the southeast corner of the proposed pad and extends west, along the south margins of the facility pad and frac pond, a total of 2,788.33 ft to intersect Buck Jackson Road. A 30-ft easement with 10 ft of temporary workspace to either side comprise 3.20 ac.

The total area of direct effect is therefore 20.48 ac, all on lands managed by the Bureau of Land Management, Carlsbad Field Office (BLM/CFO) in Section 12.

After consultation with BLM archaeologist Stephanie Bergman on March 3 2017, a Class III archaeological survey was undertaken. Because the proposed road follows a previously surveyed corridor, it was excluded from the required survey.

Buffers were added to the Area of Potential Effect (APE) around each of the other project components to accommodate indirect and inadvertent effects. Typically a standard well pad buffer measures 600 ft on a side, centered on the surface hole location. However, in this case the well pad is oversized in the east-west dimension. In addition, the surface hole is not centered on the pad but is near the north edge. Consequently, the standard buffer had to be enlarged in both the north-south and east-west dimensions to provide the minimum 100 ft of clearance around each pad edge. Ultimately, the pad buffer measured 660 ft north-south by 620 ft east-west.

Buffers around the facility pad and frac pond would normally extend 100 ft from the edge of the proposed disturbance, measuring 580 ft by 380 ft and 900 ft by 950 ft respectively; however, all three buffers overlap each other to a large extent. Consequently, the surveyed space ultimately measured 29.59 ac, all on BLM/CFO land.

The APE includes the 29.59-ac surveyed space, plus a 150-ft wide buffer for the unsurveyed road that extends 1,163.30 ft beyond the surveyed space, following a previously surveyed pipeline corridor west, and comprising 4.01 ac. (Total 33.60 ac.)

8. Dates of Investigation: (from: 5/14/2017 **to:** 5/15/2017)

9. Report Date: 5/15/2017

7. Description of Undertaking (cont'd.): No archaeological sites were observed or have been previously recorded within the project area. Two isolated manifestations were observed in the project area. Isolated manifestations are not eligible for nomination to the National Register of Historic Places (NRHP). No further treatment is recommended.

If additional cultural material more than 50 years old is observed during construction, work in the vicinity should cease and archaeologists with the BLM/CFO should be consulted for guidance.

10. Performing Agency/Consultant: Boone Archaeological Resource Consultants (BARC)
Principal Investigator: Stacy K. Galassini
Field Supervisor: Scott Walley
Field Personnel Names: Scott Walley

11. Performing Agency/Consultant Report No.: BARC 04-17-51

12. Applicable Cultural Resource Permit No(s):
BLM: 190-2920-16-V

13. Client/Customer (project proponent): Chevron USA, Inc. Contact: Stephen Shaw Address: Phone: (432) 687-7628	14. Client/Customer Project No.:

15. Land Ownership Status ***(Must be indicated on project map):***

Land Owner	Acres Surveyed	Acres in APE
BLM-CFO	29.59	33.60
TOTALS	29.59	33.60

16 Records Search(es):

Date(s) of ARMS File Review 5/9/2017	**Name of Reviewer(s)** S. Walley	
Date(s) of NR/SR File Review 5/9/2017	**Name of Reviewer(s)** S. Walley	
Date(s) of Other Agency File Review	**Name of Reviewer(s)**	**Agency**

17. Survey Data:

a. Source Graphics ☐ **NAD 27** ☒ **NAD 83**
☒ **USGS 7.5' (1:24,000) topo map** ☐ **Other topo map, Scale:**
☒ **GPS Unit** **Accuracy** ☒**<1.0m** ☐ **1-10m** ☐ **10-100m** ☐ **>100m**

b. USGS 7.5' Topographic Map Name | **USGS Quad Code**

Paduca Breaks 1973	32103-B6

c. County(ies): Eddy

17. Survey Data (continued):

d. Nearest City or Town: Malaga

e. Legal Description:

Township (N/S)	Range (E/W)	Section	¼ ¼ ¼
24 S	31 E	12	, S 1/2, SE.
			, , ,
			, , ,
			, , ,
			, , ,

Projected legal description? Yes ☐ **, No** ☒ **Unplatted** ☐

f. Other Description (e.g. well pad footages, mile markers, plats, land grant name, etc.): The well pad center hole is located 367 ft from the south line (FSL) and 354 ft from the east line (FEL) of Section 12. The project area is located along the east border of Eddy County.

18. Survey Field Methods:

Intensity: ☒ 100% coverage ☐ <100% coverage

Configuration: ☒ block survey units ☐ linear survey units (l x w): ☐ other survey units (specify):

Scope: ☒ non-selective (all sites recorded) ☐ selective/thematic (selected sites recorded)

Coverage Method: ☒ systematic pedestrian coverage ☐ other method (describe)

Survey Interval (m): 15 **Crew Size:** 1 **Fieldwork Dates:** 5/14/2017

Survey Person Hours: 6 **Recording Person Hours:** 0 **Total Hours:** 6

Additional Narrative: The proposed project lies within 1 km of one previously recorded archaeological site: LA 102213.

The project area was surveyed in 15-m (50-ft) transects. When cultural material was observed, the surrounding area was examined in 7.5-m intervals for additional cultural material. Cultural materials within 20 m of one another were grouped together as either archaeological sites or isolated manifestations based on BLM manual H-8100-1, as amended by the CFO January 2012. No sites

were found. Isolated manifestations were mapped utilizing an Ashtech MobileMapper 100 GPS unit with submeter accuracy. No artifacts were collected or analyzed, as the isolated manifestations consisted solely of burned caliche. No subsurface tests were conducted.

19. Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.): Eddy County, New Mexico, is in southeastern New Mexico in the northern part of the Chihuahuan Desert. The Guadalupe Mountains form the western escarpment and the Caprock (Llano Estacado) the eastern escarpment enclosing the desert. Located in between are the Pecos River Valley and the Mescalero Plain land formations. According to maps presented by Hogan (2006:2-2), the project area falls within the Mescalero Plain formation, a "pediment surface sloping westward from the base of the Mescalero Ridge to the Pecos River" (Hogan 2006:2-3). Elevation is approximately 3,590 ft above mean sea level (AMSL).

The soils are categorized as Berino Loamy Fine Sand (0 to 3 percent slope) and Pajarito Loamy Fine Sand (0 to 3 percent slope, eroded) (USDA/NRCS 2012). Berino soils are found on fan piedmonts and plains and form in mixed alluvium and/or aeolian sands. Pajarito soils are found in dune fields and plains and form in mixed alluvium and/or aeolian sands. The project area varies from rolling sand sheet to coppice dune field. Dunes are more prevalent in the north, and the northern edge of the survey area is located at the southern edge of a low dunal rise. An open pipeline trench just southwest of the surveyed space revealed a thin layer of sandy soil (ca. 20 to 30 cm) over caliche, with an abrupt horizon. Surface gravel is sparse in the project area and, where present, consists primarily of small pieces of caliche.

Vegetation consists of mesquite, shinnery oak, four-wing saltbush, snakeweed, scattered catclaw acacia and yucca, and various forbs and grasses. Shinnery oak and mesquite tend to dominate in alternating patches, suggesting that the area may occupy a transitional zone.

Hogan, Patrick
2006 Development of Southeastern New Mexico Regional Research Design and Cultural Resource Management Strategy. USDI Bureau of Land Management, New Mexico State Office, Santa Fe.

United States Department of Agriculture, Natural Resources Conservation Service
2012 Web Soil Survey. http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm. Electronic document accessed 5/15/2017.

20. a. Percent Ground Visibility: 70 **b. Condition of Survey Area (grazed, bladed, undisturbed, etc.):** Most of the survey area is relatively undisturbed by construction, however, there are disturbed pipeline corridors along the east and south edges of the surveyed space. The pipeline to the south is under construction. An overgrown bladed road passes through the south ends of the well pad, facility pad, and frac pond areas. No road is shown here on the USGS 1973 Paduca Breaks topographic quadrangle. Wind erosion is the dominant natural disturbance, as evidenced by shallow blowouts in the dunal parts of the project area.

21. CULTURAL RESOURCE FINDINGS ☐ **Yes, See Page 3** ☒ **No, Discuss Why:** Low density area.

22. Required Attachments (check all appropriate boxes):
- ☒ **USGS 7.5 Topographic Map with sites, isolates, and survey area clearly drawn**
- ☒ **Copy of NMCRIS Mapserver Map Check**
- ☐ **LA Site Forms - new sites (*with sketch map & topographic map*)**
- ☐ **LA Site Forms (update) - previously recorded & un-relocated sites (*first 2 pages minimum*)**
- ☐ **Historic Cultural Property Inventory Forms**
- ☐ **List and Description of isolates, if applicable**
- ☐ **List and Description of Collections, if applicable**

23. Other Attachments:
- ☐ **Photographs and Log**
- ☒ **Other Attachments**

***(Describe)*:** BLM Map, Pre-field Form, Plat Maps

24. I certify the information provided above is correct and accurate and meets all applicable agency standards.

Principal Investigator/Responsible Archaeologist: Stacy K. Galassini

Signature Stacy K. Galassini **Date** 5/16/17 **Title (if not PI):**

25. Reviewing Agency:

Reviewer's Name/Date

Accepted ( ) Rejected ( )

Tribal Consultation (if applicable): ☐ **Yes** ☐ **No**

26. SHPO
Reviewer's Name/Date:

HPD Log #:

SHPO File Location:

Date sent to ARMS:

CULTURAL RESOURCE FINDINGS

[fill in appropriate section(s)]

1. NMCRIS Activity No.:	2. Lead (Sponsoring) Agency:	3. Lead Agency Report No.:
138055	BLM/CFO	

SURVEY RESULTS:

Sites discovered and registered: 0
Sites discovered and NOT registered: 0
Previously recorded sites revisited (*site update form required*): 0
Previously recorded sites not relocated ***(site update form required):*** 0
TOTAL SITES VISITED: 0
Total isolates recorded: 2 **Non-selective isolate recording?** ☒
Total structures recorded (*new and previously recorded, including acequias*): 0

MANAGEMENT SUMMARY: Chevron USA, Inc., proposes to construct the Jabberwocky 1H well pad and adjacent facility pad, frac pond, and access road. After consultation with BLM archaeologist Stephanie Bergman on March 3, 2017, a Class III archaeological survey was undertaken. Because the proposed road follows a previously surveyed corridor, it was excluded from the required survey. The survey buffers for the well pad, facility pad, and frac pond overlapped to a large extent. Ultimately, the surveyed space measured 29.59 ac, all on BLM/CFO land. The APE includes an additiona 4.01 ac for the unsurveyed road, totalling 33.60 ac.

No archaeological sites were observed or have been previously recorded within the project area. Two isolated manifestations were observed in the project area. Isolated manifestations are not eligible for nomination to the National Register of Historic Places (NRHP). No further treatment is recommended.

If additional cultural material more than 50 years old is observed during construction, work in the vicinity should cease and archaeologists with the BLM/CFO should be consulted for guidance.

Table 1: Isolated Manifestations

IM#	Easting	Northing	Description
1	619834	3566309	One large piece of burned caliche.
2	620059	3566296	One piece of burned caliche.

IF REPORT IS NEGATIVE YOU ARE DONE AT THIS POINT.

SURVEY LA NUMBER LOG

Sites Discovered:

LA No.	Field/Agency No.	Eligible? (Y/N, applicable criteria)

Previously recorded revisited sites:

LA No.	Field/Agency No.	Eligible? (Y/N, applicable criteria)

Class III Cultural Resource Survey for the COG Production, LLC, Proposed Jabberwocky 1H Well Pad, Facility Pad, and Frac Pond, Eddy County, New Mexico

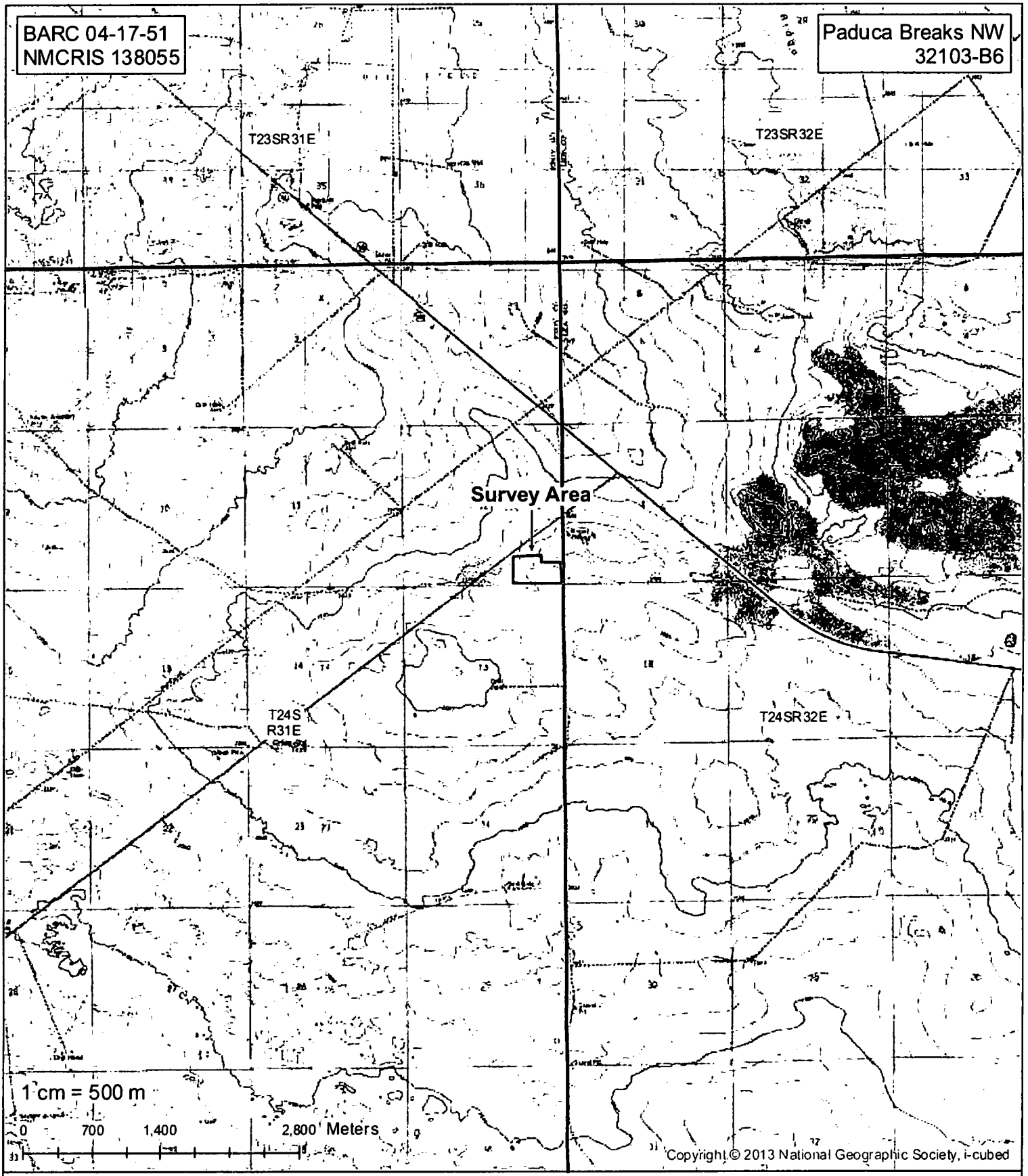


Figure 1. Project Area

Survey Area BLM Private NM State Trust Land

N
W E
S

Class III Cultural Resource Survey for the COG Production, LLC, Proposed Jabberwocky 1H Well Pad, Facility Pad, and Frac Pond, Eddy County, New Mexico

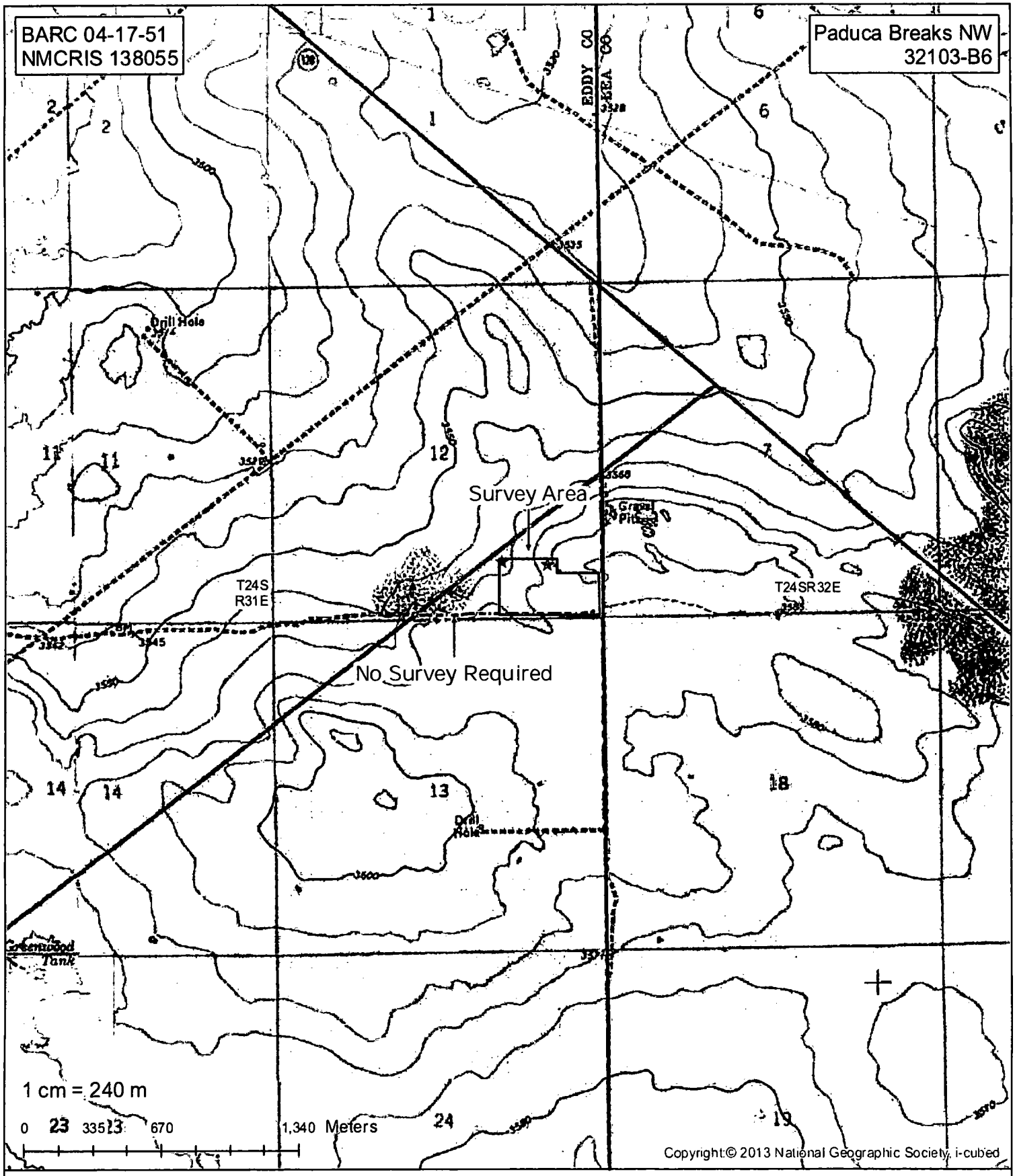


Figure 2. Current & Previous Survey Results

Survey Area --- Access Road ☆ Isolated Manifestation BLM Private NM State Trust Land

N W E S

Class III Cultural Resource Survey for the COG Production, LLC, Proposed Jabberwocky 1H Well Pad, Facility Pad, and Frac Pond, Eddy County, New Mexico

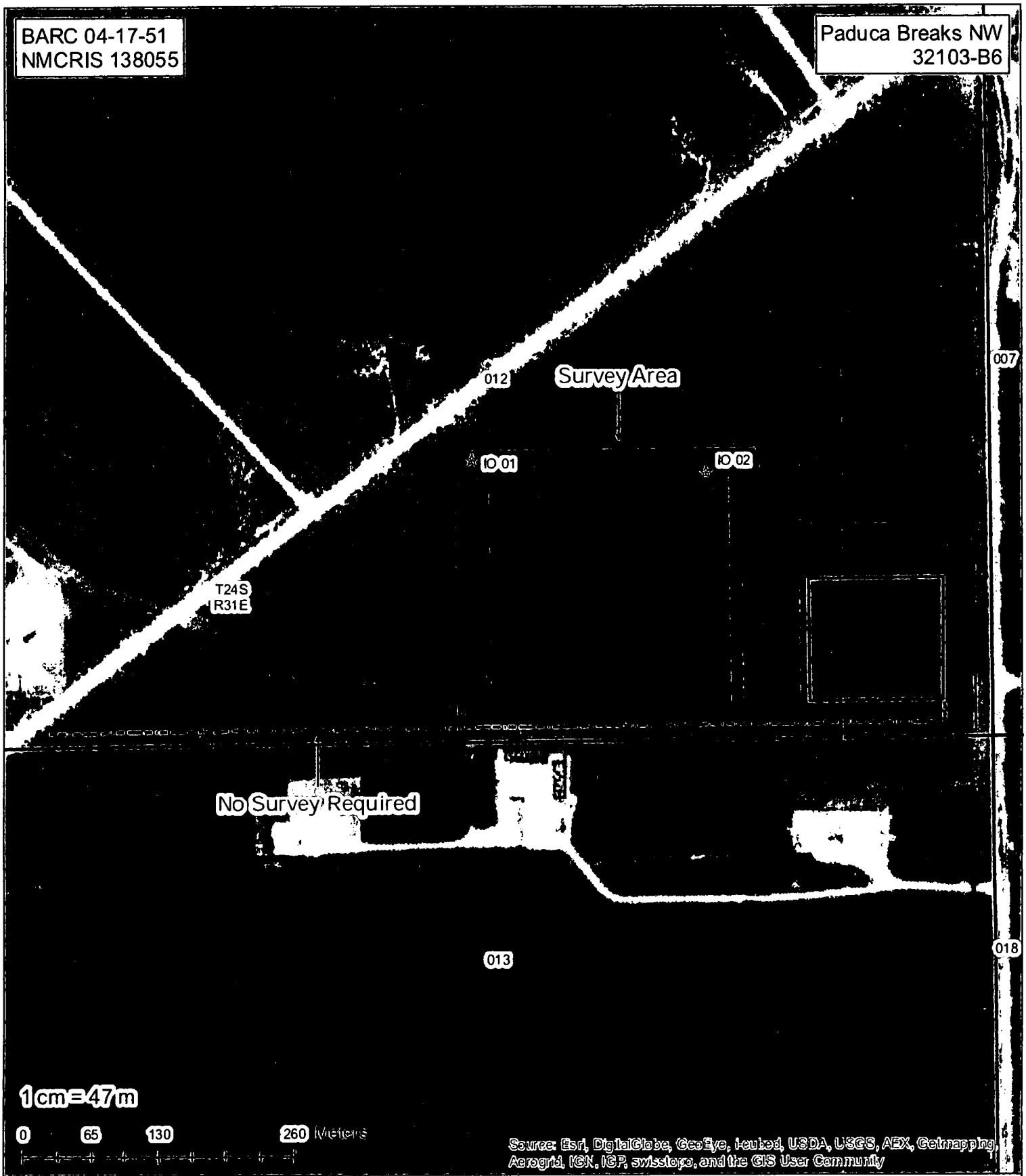


Figure 3. Isolated Manifestations

Survey Area | Facility Pad | Access Road | Archaeological Site | Private
Well Pad | Frac Pond | Isolated Manifestation | BLM | NM State Trust Land

N
W E
S

Form 8151-3

Authorization # (BLM Use):

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FIELDWORK AUTHORIZATION REQUEST

To Conduct Specific Cultural Resource Work Under the Authority of a Cultural Resource Use Permit Issued by the Bureau of Land Management Pursuant to Sec 302(b) of P L 94-579, October 21, 1976, 43 U S C 1732 and Sec 4 of P.L. 96-95, October 31, 1979, 16 U.S.C. 470cc

1. Name of Permittee and Company

   Stacy K. Galassini - Boone Archaeological Resource Consultants, LLC

2. Date Permit Issued

   7-27-16

3. Contact Telephone Number

   575-885-1352

4. Project Name and Client Name

   Chevron - Jabberwocky 1H Proposed Well Pad, Facility Pad, Frac Pond & Access Road
   BARC 04-17-51

5. Location of Work or Legal Description (Include map)
   a. Description of Public Lands Involved

   T24S R31E S12

6. Nature of Cultural Resource Work (Survey, APE, etc.)
   a. Identification of Previous Surveys and Sites (if applicable)

   Survey All

7. Name of Individual(s) Responsible for Planning & Supervising Field Work, & Approving Reports, Evaluations, & Recommendations

   Stacy K. Galassini

8. Signature of Individual Conducting Pre-Field Consultation

   Jennifer Ashbaugh

9. Date

   5/3/17

- The individual named in item 7 above shall be present during the conduct of field work authorized herein, or shall notify the authorized officer of the need for any extended absence, and shall make provision that the work will be carried out under supervision of equal quality, by an individual approved by the authorized officer.
- All terms and conditions of the permit continue to apply; any special conditions attached hereto have the same force and effect as conditions of the permit.
- Permittee shall immediately notify the authorized officer of any change in items 3 through 7 above.

Fieldwork Authorization Request approved by:

Stephanie Bergman

(Signature of BLM Authorized Officer)

Date:

5/3/17

PAD DESIGN TABLE

PT	NATURAL GROUND ELEV.	DESIGN ELEV	CUT / FILL
A	3582.52	3586 16	3 64
B	3586.73	3586.16	-0.57
C	3589.96	3586.16	-3.80
D	3586.07	3586 16	0.09
E	3585.23	3586.16	0.93
F	3585.92	3586 16	0.24
G	3585.93	3586.16	0.23
H	3586.86	3586.16	0.30
I	3586.74	3586.16	-0.58

FILL AREA

CUT AREA

T 24 S

Sec. 12

Bureau of Land Management

R 31 E

FILL AREA

CUT AREA

Jabberwocky No. 1H Well

PROPOSED FACILITY PAD

PROPOSED WELL PAD

CUT AREA

FILL AREA

180'

420'

380'

380'

Proposed Access Road

Existing Powerline

Existing Pipeline

Existing Pipeline

Existing Cleared Pipeline ROW

NAD 27 NEW MEXICO EAST ZONE

CUT VOLUME = 4,111 24 Cu Yd
FILL VOLUME = 4,111 20 Cu Yd
NET VOLUME = 0.04 Cu Yd Cut

Scale: 1" = 100'

100' 0 50' 100'

FOR THE EXCLUSIVE USE OF CHEVRON U.S.A. INC.
I, Robert L. Lastrapes, Professional Surveyor, do hereby state this plat is true and correct to the best of my knowledge.

ROBERT L. LASTRAPES NEW MEXICO 23006 PROFESSIONAL SURVEYOR

4-27-2017

Robert L. Lastrapes
Registration No. 23006

FENSTERMAKER

C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax. 337-232-3299
www.fenstermaker.com

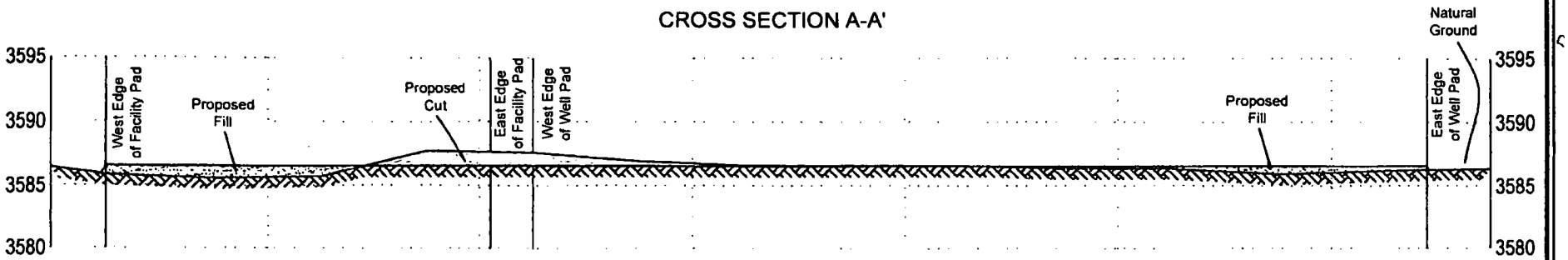
CUT & FILL PLAT

CHEVRON U.S.A. INC.

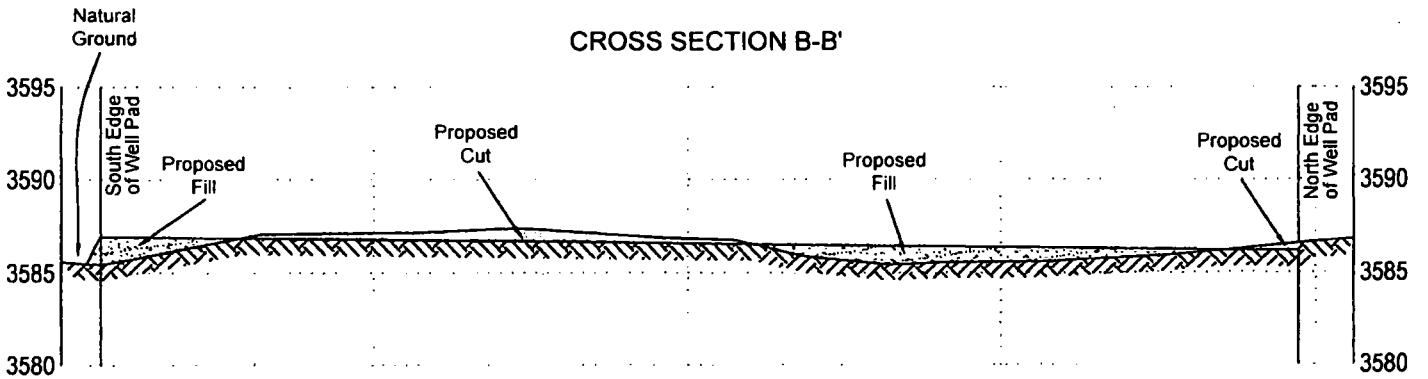
PROPOSED WELL PAD, FACILITY PAD & ACCESS ROAD
JABBERWOCKY NO. 1H WELL
SECTION 12, T24S-R31E
EDDY COUNTY, NEW MEXICO

DRAWN BY: BOR	REVISIONS		
PROJ. MGR.: VHV	No.	DATE:	REVISED BY:
DATE: APRIL 18, 2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175394\DWG\Jabberwocky 1H_Pad-Facility_Cut-Fill.dwg			

CROSS SECTION A-A'



CROSS SECTION B-B'



FOR THE EXCLUSIVE USE OF
CHEVRON U.S.A. INC.
I, Robert L. Lastrapes, Professional Surveyor, do hereby state this plat is true and correct to the best of my knowledge.

ROBERT L. LASTRAPES
NEW MEXICO
23006
PROFESSIONAL SURVEYOR
4-27-2017

Robert L. Lastrapes
Registration No. 23006

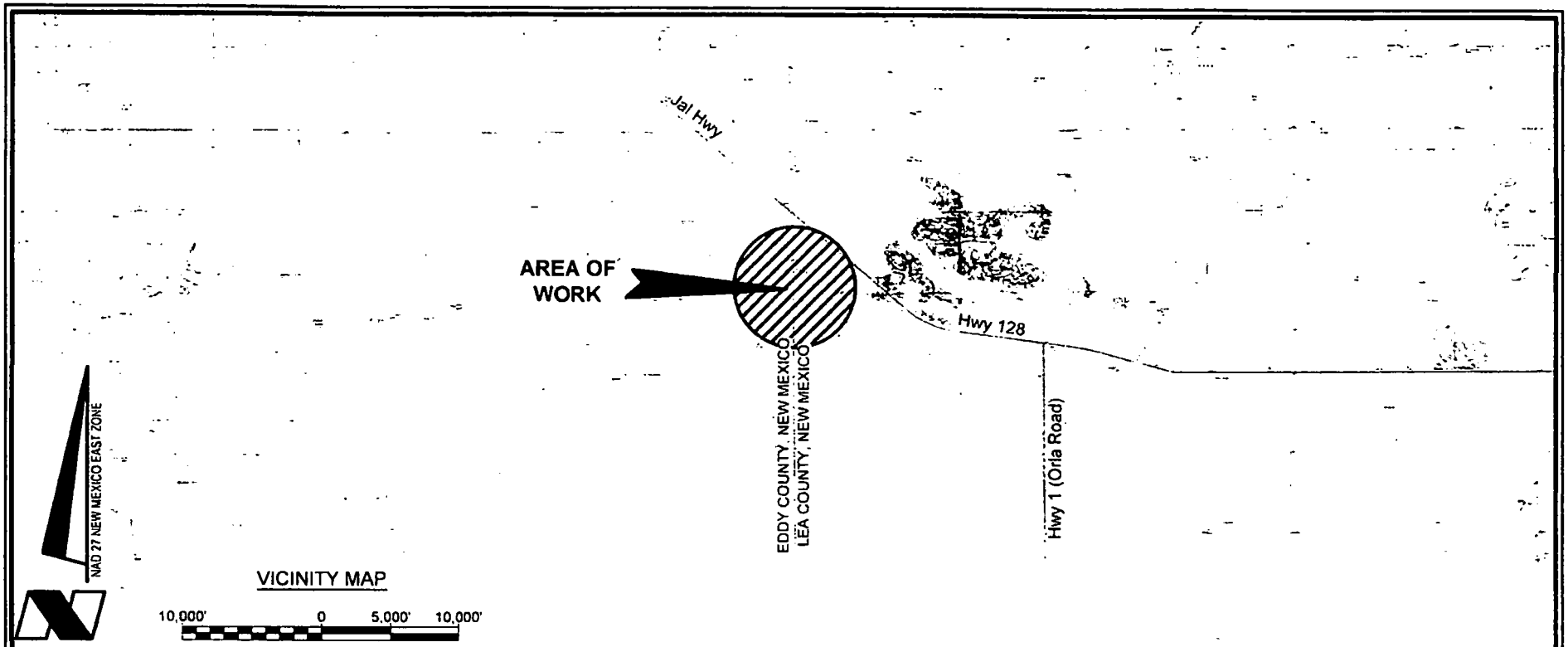
FENSTERMAKER
C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax 337-232-3299
www.fenstermaker.com

CUT & FILL PLAT

CHEVRON U.S.A. INC.

PROPOSED WELL PAD, FACILITY PAD & ACCESS ROAD
JABBERWOCKY NO. 1H WELL
SECTION 12, T24S-R31E
EDDY COUNTY, NEW MEXICO

DRAWN BY: BOR	REVISIONS		
PROJ. MGR.: VHV	No.	DATE:	REVISED BY:
DATE: APRIL 18, 2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175394\DWG\Jabberwocky 1H_Pad-Facility_Cut-Fill.dwg			



VICINITY MAP

10,000' 0 5,000' 10,000'

Scale: 1"=10,000'

NOTE:

1. Many states maintain information centers that establish links between those who dig (excavators) and those who own and operate underground facilities (operators) It is advisable and in most states, law, for the contractor to contact the center for assistance in locating and marking underground utilities. For guidance: New Mexico One Call www.nmonecall.org.

2. The design pad elevation recommendation is based solely on a cut and fill (1:1 ratio) balance of the pad and does not include material required for the access roads. A detailed soil test and slope stability analysis shall be performed prior to construction to ensure proper compaction and working performance of the pad under the anticipated loadings. This material balance sheet does not constitute a foundation design and C. H. Fenstermaker & Associates, L.L.C. makes no warranty to the structural integrity of the site layout as shown. Fenstermaker also makes no recommendation or warranty about the layout relative to flood hazards, erosion control, or soil stability issues. Elevations refer to the North American Vertical Datum of 1988.

3 Please be advised, that while reasonable efforts are made to locate and verify pipelines and anomalies using our standard pipeline locating equipment, it is impossible to be 100 % effective As such, we advise using caution when performing work as there is a possibility that pipelines and other hazards, such as fiber optic cables, PVC pipelines, etc. may exist undetected on site

DISCLAIMER: At this time, C. H. Fenstermaker & Associates, L.L.C. has not performed nor was asked to perform any type of engineering, hydrological modeling, flood plain, or "No Rise" certification analyses, including but not limited to determining whether the project will impact flood hazards in connection with federal/FEMA, state, and/or local laws, ordinances and regulations Accordingly, Fenstermaker makes no warranty or representation of any kind as to the foregoing issues, and persons or entities using this information shall do so at their own risk.

FOR THE EXCLUSIVE USE OF CHEVRON U.S.A. INC.

I, Robert L. Lastrapes, Professional Surveyor, do hereby state this plat is true and correct to the best of my knowledge.

ROBERT L. LASTRAPES NEW MEXICO 23006 PROFESSIONAL SURVEYOR 4-27-2017

Robert L. Lastrapes
Registration No. 23006

FENSTERMAKER
C. H. Fenstermaker & Associates, L.L.C.
135 Regency Sq. Lafayette, LA 70508
Ph. 337-237-2200 Fax 337-232-3299
www.fenstermaker.com

CUT & FILL PLAT PAGE 3 OF 3

CHEVRON U.S.A. INC.

PROPOSED WELL PAD, FACILITY PAD & ACCESS ROAD
JABBERWOCKY NO. 1H WELL
SECTION 12, T24S-R31E
EDDY COUNTY, NEW MEXICO

DRAWN BY: BOR	REVISIONS		
PROJ. MGR.: VHV	No.	DATE:	REVISED BY:
DATE: APRIL 18, 2017	No.	DATE:	REVISED BY:
FILENAME: T:\2017\2175394\DWG\Jabberwocky 1H_Pad-Facility_Cut-Fill.dwg			

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

08/07/2018

Bond Information

Federal/Indian APD: FED

BLM Bond number: CA0329

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: