

**NM OIL CONSERVATION  
ARTESIA DISTRICT**

**Carlsbad Field Office  
OCD Artesia**

Form 3160-3  
(March 2012)

**AUG 17 2018**

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**RECEIVED**  
**APPLICATION FOR PERMIT TO DRILL OR REENTER**

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

5. Lease Serial No.  
NMNM014785

6. If Indian, Allottee 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. **322241**  
BRUSHY DRAW 30 FEDERAL 102H

2. Name of Operator  
BOPCO LP

9. API Well No.  
**30-015-45186**

3a. Address  
810 Houston Street Fort Worth TX 76102

3b. Phone No. (include area code)  
**260737**  
(817)885-8200

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 SWSW / 330 FSL / 1175 FWL / LAT 32.094511 / LONG -103.925502  
At proposed prod. zone SWNW / 2440 FNL / 990 FWL / LAT 32.05768 / LONG -103.926035

11. Sec., T. R. M. or Blk. and Survey or Area  
SEC 30 / T25S / R30E / NMP

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

12. County or Parish  
EDDY

13. State  
NM

15. Distance from proposed\* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)  
330 feet

16. No. of acres in lease  
401.8

17. Spacing Unit dedicated to this well  
800

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

19. Proposed Depth  
10700 feet / 23802 feet

20. BLM/BIA Bond No. on file  
FED: COB000050

21. Elevations (Show whether DF, KDB, RT, GL, etc.)  
3091 feet

22. Approximate date work will start\*  
05/01/2018

23. Estimated duration  
90 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  
(Electronic Submission)

Name (Printed/Typed)  
Stephanie Rabadue / Ph: (432)620-6714

Date  
12/11/2017

Title  
Regulatory Compliance Analyst

Approved by (Signature)  
(Electronic Submission)

Name (Printed/Typed)  
Cody Layton / Ph: (575)234-5959

Date  
08/04/2018

Title  
Assistant Field Manager Lands & Minerals

Office  
CARLSBAD

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

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

(Continued on page 2)

\*(Instructions on page 2)

**APPROVED WITH CONDITIONS**

Approval Date: 08/04/2018

RUP 8-20-18.

## 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.

## **Additional Operator Remarks**

### **Location of Well**

1. SHL: SWSW / 330 FSL / 1175 FWL / TWSP: 25S / RANGE: 30E / SECTION: 30 / LAT: 32.094511 / LONG: -103.925502 ( TVD: 0 feet, MD: 0 feet )  
PPP: NWNW / 330 FNL / 990 FWL / TWSP: 25S / RANGE: 30E / SECTION: 31 / LAT: 32.092695 / LONG: -103.926093 ( TVD: 10633 feet, MD: 11064 feet )  
BHL: SWNW / 2440 FNL / 990 FWL / TWSP: 26S / RANGE: 30E / SECTION: 7 / LAT: 32.05768 / LONG: -103.926035 ( TVD: 10700 feet, MD: 23802 feet )

## **BLM Point of Contact**

Name: Priscilla Perez

Title: Legal Instruments Examiner

Phone: 5752345934

Email: pperez@blm.gov

## **Review and Appeal Rights**

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

**PECOS DISTRICT  
DRILLING OPERATIONS  
CONDITIONS OF APPROVAL**

<b>OPERATOR'S NAME:</b>	<b>BOPCO, L.P.</b>
<b>LEASE NO.:</b>	<b>NMNM-014785</b>
<b>WELL NAME &amp; NO.:</b>	<b>Brushy Draw 30 Federal 102H</b>
<b>SURFACE HOLE FOOTAGE:</b>	<b>0330' FSL &amp; 1175' FWL</b>
<b>BOTTOM HOLE FOOTAGE:</b>	<b>2440' FNL &amp; 0990' FWL Sec. 07, T. 26 S., R 30 E.</b>
<b>LOCATION:</b>	<b>Section 30, T. 25 S., R 30 E., NMPM</b>
<b>COUNTY:</b>	<b>County, New Mexico</b>

**Operator will need to submit a sundry to add "COM" to the 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. **Operator has stated that Hydrogen Sulfide (H<sub>2</sub>S) monitors shall be installed prior to drilling out the surface shoe. If H<sub>2</sub>S 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 Water Basin:**

**After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.**

**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.**

**Possibility of water flows in the Castile and Salado.**

**Possibility of lost circulation in the Red beds, Rustler, and Delaware.**

**Abnormal pressures may be encountered when penetrating the 3<sup>rd</sup> Bone Spring Formation and all subsequent formations.**

1. The 13-3/8 inch surface casing shall be set at approximately 960 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.**

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

## **VI. CONSTRUCTION**

### **A. NOTIFICATION**

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

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

### **B. TOPSOIL**

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

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

### **C. CLOSED LOOP SYSTEM**

Tanks are required for drilling operations: No Pits.

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

### **D. FEDERAL MINERAL MATERIALS PIT**

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

### **E. WELL PAD SURFACING**

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

### **F. EXCLOSURE FENCING (CELLARS & PITS)**

**Exclosure Fencing**

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

**G. ON LEASE ACCESS ROADS****Road Width**

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

**Surfacing**

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

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

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

**Crowning**

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

**Ditching**

Ditching shall be required on both sides of the road.

**Turnouts**

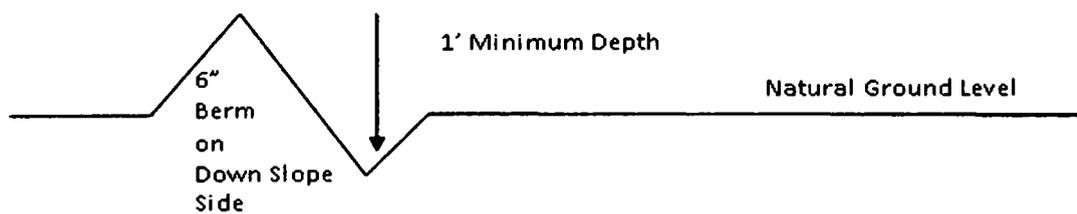
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

**Drainage**

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

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

### Cross Section of a Typical Lead-off Ditch



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

### Formula for Spacing Interval of Lead-off Ditches

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

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

### Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

### Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

### Public Access

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

**Construction Steps**

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

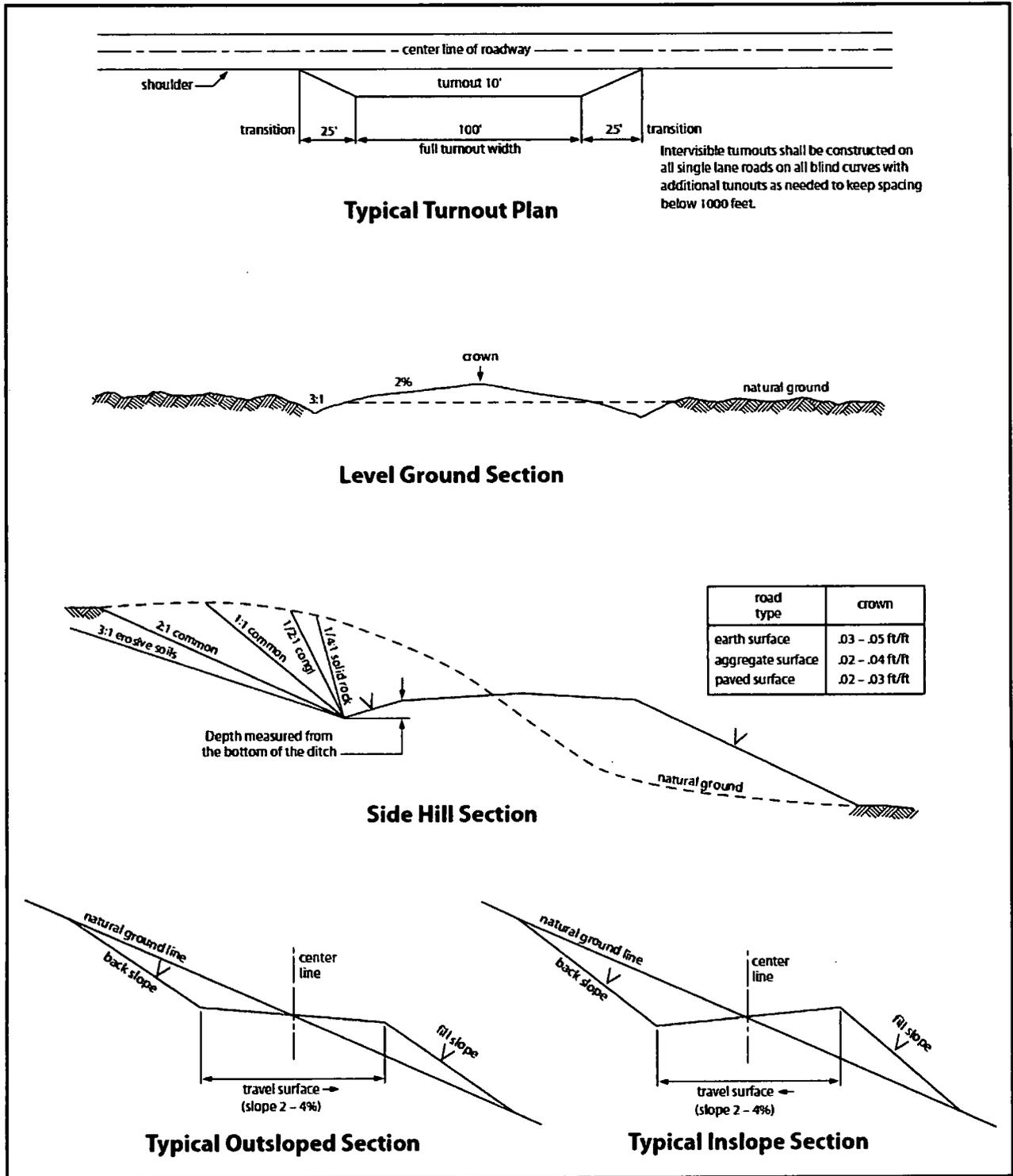


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

## **VII. PRODUCTION (POST DRILLING)**

### **A. WELL STRUCTURES & FACILITIES**

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

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

#### **Exclosure Netting (Open-top Tanks)**

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

#### **Chemical and Fuel Secondary Containment and Exclosure Screening**

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

#### **Open-Vent Exhaust Stack Exclosures**

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

#### **Containment Structures**

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

#### **Painting Requirement**

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

### **B. PIPELINES**

#### **STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES**

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

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

1. Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, Holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC § 2601 *et seq.* (1982) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant (*see* 40 CFR, Part 702-799 and in particular, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193). Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. Holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. § 9601, *et seq.* or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, *et seq.*) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way Holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way Holder on the Right-of-Way. This provision applies without regard to whether a release is caused by Holder, its agent, or unrelated third parties.

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

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

c. Acts of God.

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

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

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

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

7. No blading or clearing of any vegetation shall be allowed unless approved in writing by the Authorized Officer.

8. Holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky or dune 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.

#### 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.

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> seed mixture 1 | <input type="checkbox"/> seed mixture 3          |
| <input type="checkbox"/> seed mixture 2            | <input type="checkbox"/> seed mixture 4          |
| <input type="checkbox"/> seed mixture 2/LPC        | <input type="checkbox"/> 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.

### **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 deterrent 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.

## **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).

**Seed Mixture 1 for Loamy 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 shall be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed 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 shall be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). Holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre shall be doubled. The 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:

<u>Species</u>	<u>lb/acre</u>
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0
Plains bristlegrass (Setaria macrostachya)	2.0

\*Pounds of pure live seed:

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



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

# Operator Certification Data Report

03/06/2018

## 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:** Stephanie Rabadue

**Signed on:** 11/09/2017

**Title:** Regulatory Compliance Analyst

**Street Address:** 500 W. Illinois St, Ste 100

**City:** Midland

**State:** TX

**Zip:** 79701

**Phone:** (432)620-6714

**Email address:** stephanie\_rabadue@xtoenergy.com

## Field Representative

**Representative Name:**

**Street Address:**

**City:**

**State:**

**Zip:**

**Phone:**

**Email address:**



APD ID: 10400024396

Submission Date: 12/11/2017

Operator Name: BOPCO LP

Well Name: BRUSHY DRAW 30 FEDERAL

Well Number: 102H



[Show Final Text](#)

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

**Section 1 - General**

APD ID: 10400024396

Tie to previous NOS?

Submission Date: 12/11/2017

BLM Office: CARLSBAD

User: Stephanie Rabadue

Title: Regulatory Compliance Analyst

Federal/Indian APD: FED

Is the first lease penetrated for production Federal or Indian? FED

Lease number: NMNM014785

Lease Acres: 401.8

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: BOPCO LP

Operator letter of designation:

**Operator Info**

Operator Organization Name: BOPCO LP

Operator Address: 810 Houston Street

Zip: 76102

Operator PO Box:

Operator City: Fort Worth

State: TX

Operator Phone: (817)885-8200

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: BRUSHY DRAW 30 FEDERAL

Well Number: 102H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: PURPLE-SAGE  
WOLFCAMP GAS

Pool Name:

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

Operator Name: BOPCO LP

Well Name: BRUSHY DRAW 30 FEDERAL

Well Number: 102H

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: MULTIPLE WELL

Multiple Well Pad Name:

Number: 2

Well Class: HORIZONTAL

BRUSHY DRAW 30 FED

Number of Legs: 1

Well Work Type: Drill

Well Type: CONVENTIONAL GAS WELL

Describe Well Type:

Well sub-Type: DELINEATION

Describe sub-type:

Distance to town:

Distance to nearest well: 30 FT

Distance to lease line: 330 FT

Reservoir well spacing assigned acres Measurement: 800 Acres

Well plat: BD\_30\_Fed\_102H\_C102\_20171127080324.pdf

Well work start Date: 05/01/2018

Duration: 90 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	330	FSL	117	FWL	25S	30E	30	Aliquot SWS W	32.094511	-103.925502	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 014785	3091	0	0
KOP Leg #1	330	FSL	117	FWL	25S	30E	30	Aliquot SWS W	32.094511	-103.925502	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 102033	1091	2000	2000
PPP Leg #1	330	FNL	990	FWL	25S	30E	31	Aliquot NWN W	32.092695	-103.926093	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 102033	-7542	11064	10633



APD ID: 10400024396

Submission Date: 12/11/2017

Highlighted data  
reflects the most  
recent changes

Operator Name: BOPCO LP

Well Name: BRUSHY DRAW 30 FEDERAL

Well Number: 102H

[Show Final Text](#)

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

### Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	--	3091	0	0	ALLUVIUM, OTHER : Quaternary	NONE	No
2	RUSTLER	2341	750	750	SANDSTONE	USEABLE WATER	No
3	TOP SALT	2098	993	993	SALT	NONE	No
4	BASE OF SALT	-184	3275	3275	SALT	NONE	No
5	DELAWARE	-282	3456	3456	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	No
6	BONE SPRING 1ST	-5107	8198	8198	SANDSTONE	NATURAL GAS, POTASH, OTHER : Produced Water	No
7	BONE SPRING 2ND	-5914	9005	9005	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	No
8	BONE SPRING 3RD	-7015	10106	10106	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	No
9	WOLFCAMP	-7530	10621	10621	SHALE	NATURAL GAS, OIL, OTHER : Produced Water	Yes

### Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M

Rating Depth: 10700

**Equipment:** The blow out preventer equipment (BOP) for this well consists of a 13-5/8" minimum 5M Hydril and a 13-5/8" minimum 5M Double Ram BOP. Max bottom hole pressure should not exceed 3945 psi.

**Requesting Variance?** YES

**Variance request:** A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors.

**Testing Procedure:** All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure. When nipping up on the 13-5/8" 5M bradenhead and flange, the BOP test will be limited to 5000psi. All BOP tests will include a low pressure test as per BLM regulations. The 5M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

**Choke Diagram Attachment:**

BD\_30\_Fed\_102H\_5M\_Choke\_20171211071347.pdf

Operator Name: BOPCO LP

Well Name: BRUSHY DRAW 30 FEDERAL

Well Number: 102H

BD\_30\_Fed\_102H\_5M\_Choke\_20171211071347.pdf

BOP Diagram Attachment:

BD\_30\_Fed\_102H\_5M\_Choke\_20171211071401.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
1	SURFACE	17.5	13.375	NEW	API	N	0	960	0	960			960	H-40	48	STC	1.75	1.69	DRY	6.99	DRY	6.99
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	3300	0	3300			3300	J-55	36	LTC	1.95	1.05	DRY	3.81	DRY	3.81
3	PRODUCTION	8.75	5.5	NEW	API	N	0	23802	0	10700			23802	P-110	17	BUTT	1.31	1.12	DRY	2.08	DRY	2.08

### Casing Attachments

Casing ID: 1 String Type: SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BD\_30\_Fed\_102H\_Csg\_20171211071416.pdf

Operator Name: BOPCO LP

Well Name: BRUSHY DRAW 30 FEDERAL

Well Number: 102H

**Casing Attachments**

Casing ID: 2 String Type: INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BD\_30\_Fed\_102H\_Csg\_20171211071424.pdf

Casing ID: 3 String Type: PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BD\_30\_Fed\_102H\_Csg\_20171211071431.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	960	490	1.87	12.9	916.3	100	EconoCem-HLTRRC	None
SURFACE	Tail				300	1.35	14.8	405	100	HalCem-C	2% CaCl
INTERMEDIATE	Lead		0	3300	930	1.88	12.9	1748.4	100	Halcem-C	2% CaCl
INTERMEDIATE	Tail				230	1.33	14.8	305.9	100	Halcem-C	2% CaCl
PRODUCTION	Lead		0	2380 2	820	2.69	10.5	2205.8	30	NeoCem	None

Operator Name: BOPCO LP

Well Name: BRUSHY DRAW 30 FEDERAL

Well Number: 102H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Tail				2560	1.61	13.2	4121.6	30	VersaCem	none

**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: The necessary mud products for weight addition and fluid loss control will be on location at all times.

Describe the mud monitoring system utilized: A Pason or Totco will be used to detect changes in loss or gain of mud volume.

**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
3300	2380 2	OTHER : FW / Cut Brine / Polymer	8.8	10.5							A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system
0	960	OTHER : FW/Native	8.5	8.8							A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system

**Operator Name:** BOPCO LP

**Well Name:** BRUSHY DRAW 30 FEDERAL

**Well Number:** 102H

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
960	3300	OTHER : Brine/Gel Sweeps	9.8	10.2							A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system

### Section 6 - Test, Logging, Coring

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

Open hole logging to include Density/Neutron/PE/Dual Laterlog/Spectral Gamma from kick-off point to intermediate casing shoe.

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

CBL,CNL,DS,GR,MUDLOG

**Coring operation description for the well:**

No coring will take place on this well.

### Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 5695

**Anticipated Surface Pressure:** 3341

**Anticipated Bottom Hole Temperature(F):** 160

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

**Describe:**

Potential loss of circulation through the Capitan Reef.

**Contingency Plans geohazards description:**

The necessary mud products for weight addition and fluid loss control will be on location at all times. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system. Lost circulation could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid.

**Contingency Plans geohazards attachment:**

**Hydrogen Sulfide drilling operations plan required?** YES

**Operator Name:** BOPCO LP

**Well Name:** BRUSHY DRAW 30 FEDERAL

**Well Number:** 102H

**Hydrogen sulfide drilling operations plan:**

BD\_30\_Fed\_H2S\_Plan\_20171211071559.pdf

BD\_30\_Fed\_Pad\_2\_H2S\_Dia\_20171211071609.pdf

**Section 8 - Other Information**

**Proposed horizontal/directional/multi-lateral plan submission:**

BD\_30\_Fed\_102H\_DD\_20171211071621.pdf

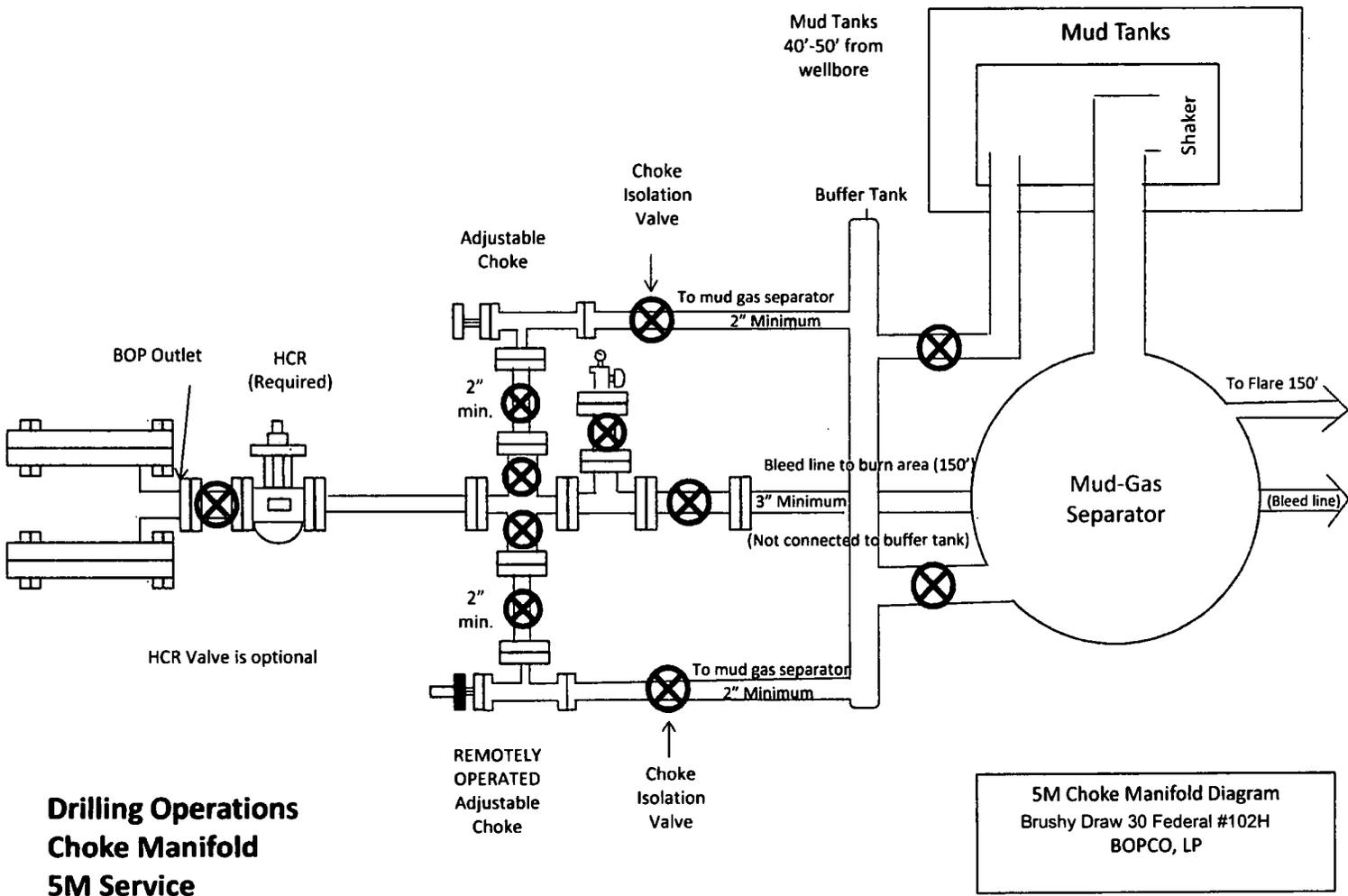
**Other proposed operations facets description:**

**Other proposed operations facets attachment:**

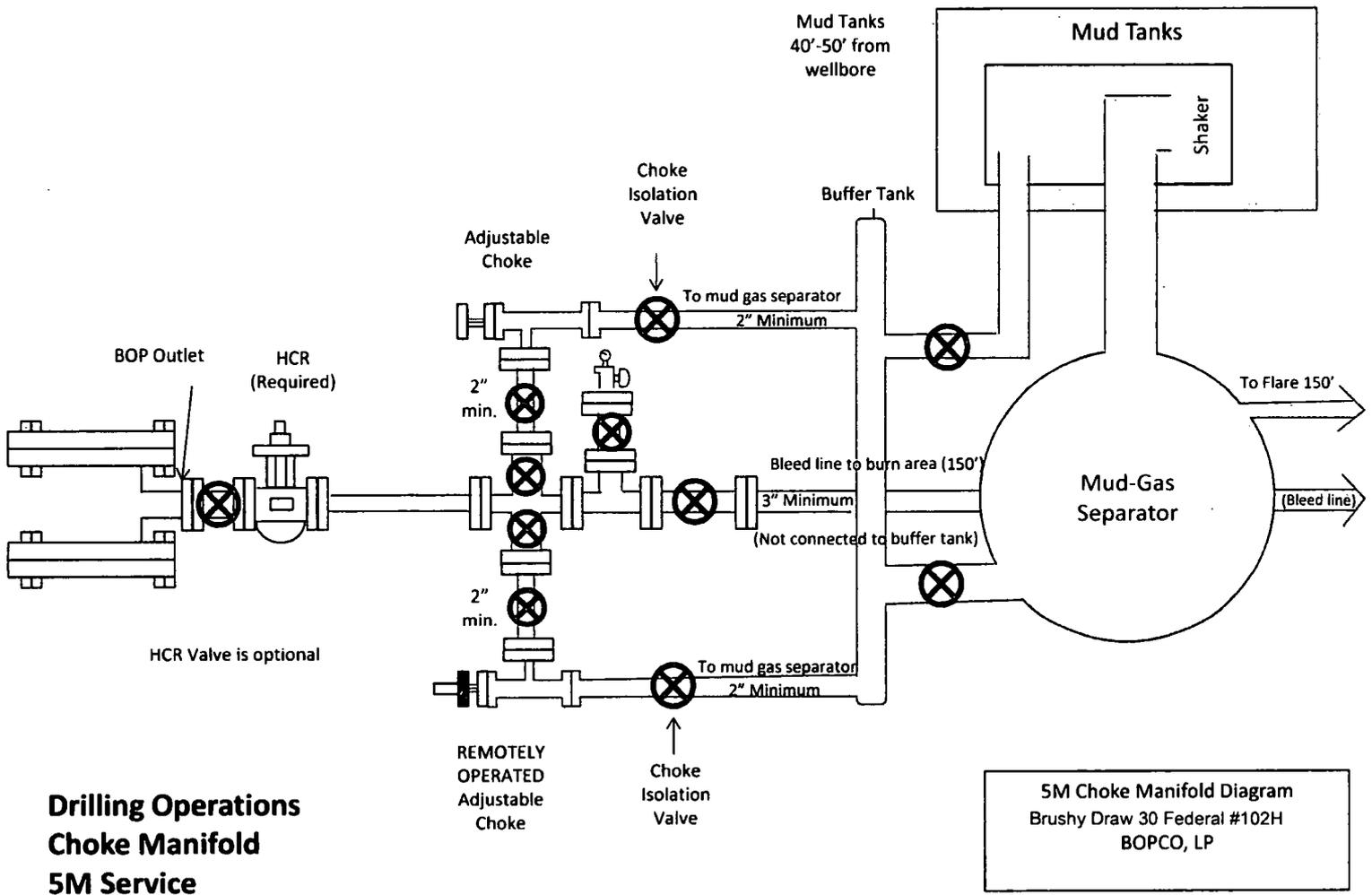
BD\_30\_Fed\_102H\_GCP\_20171211071628.pdf

**Other Variance attachment:**

BD\_30\_Fed\_FH\_20171211071636.pdf



**Drilling Operations  
Choke Manifold  
5M Service**



**Drilling Operations**  
**Choke Manifold**  
**5M Service**

BOPCO, LP  
 Brushy Draw 30 Federal 102H  
 Projected TD: 23802' MD / 10633' TVD  
 SHL: 330' FSL & 1175' FWL , Section 30, T25S, R30E  
 BHL: 2440' FNL & 990' FWL , Section 7, T26S, R30E  
 Eddy County, NM

Casing Worksheet

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' - 960'	13-3/8"	48#	STC	H-40	New	1.69	1.75	6.99
12-1/4"	0' - 3300'	9-5/8"	36#	LTC	J-55	New	1.05	1.95	3.81
8-3/4" x 8-1/2"	0' - 23802'	5-1/2"	17#	BTC	P-110	New	1.12	1.31	2.08

BOPCO, LP  
 Brushy Draw 30 Federal 102H  
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 Eddy County, NM

Casing Worksheet

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12-1/4"	0' - 3300'	9-5/8"	36#	LTC	J-55	New	1.05	1.95	3.81
8-3/4" x 8-1/2"	0' - 23802'	5-1/2"	17#	BTC	P-110	New	1.12	1.31	2.08

**BOPCO, LP**  
**Brushy Draw 30 Federal 102H**  
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8-3/4" x 8-1/2"	0' – 23802'	5-1/2"	17#	BTC	P-110	New	1.12	1.31	2.08

**BOPCO, L.P.**

6401 Holiday Hill Road  
 Midland, Tx 79707  
 (432) 683-2277

**HYDROGEN SULFIDE (H<sub>2</sub>S) CONTINGENCY PLAN**

**Assumed 100 ppm ROE = 3000'**

100 ppm H<sub>2</sub>S concentration shall trigger activation of this plan.

**Emergency Procedures**

In the event of a release of gas containing H<sub>2</sub>S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H<sub>2</sub>S monitors and air packs in order to control the release.
- Use the "buddy system" to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
  - o Detection of H<sub>2</sub>S, and
  - o Measures for protection against the gas,
  - o Equipment used for protection and emergency response.

**Ignition of Gas source**

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever this is an ignition of the gas.

**Characteristics of H<sub>2</sub>S and SO<sub>2</sub>**

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H <sub>2</sub> S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO <sub>2</sub>	2.21 Air = 1	2 ppm	N/A	1000 ppm

**Contacting Authorities**

BOPCO, L.P. personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. (Operator Name)'s response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

## CARLSBAD OFFICE – EDDY & LEA COUNTIES

3104 E. Greene St., Carlsbad, NM 88220  
Carlsbad, NM 575-887-7329

### **BOPCO, L.P. PERSONNEL:**

Kendall Decker, Drilling Manager	903-521-6477
Milton Turman, Drilling Superintendent	817-524-5107
Jeff Raines, Construction Foreman	432-557-3159
Toady Sanders, EH & S Manager	903-520-1601
Wes McSpadden, Production Foreman	575-441-1147

### **SHERIFF DEPARTMENTS:**

Eddy County	575-887-7551
Lea County	575-396-3611

**NEW MEXICO STATE POLICE:** 575-392-5588

### **FIRE DEPARTMENTS:**

	911
Carlsbad	575-885-2111
Eunice	575-394-2111
Hobbs	575-397-9308
Jal	575-395-2221
Lovington	575-396-2359

### **HOSPITALS:**

	911
Carlsbad Medical Emergency	575-885-2111
Eunice Medical Emergency	575-394-2112
Hobbs Medical Emergency	575-397-9308
Jal Medical Emergency	575-395-2221
Lovington Medical Emergency	575-396-2359

### **AGENT NOTIFICATIONS:**

#### **For Lea County:**

Bureau of Land Management – Hobbs	575-393-3612
New Mexico Oil Conservation Division – Hobbs	575-393-6161

#### **For Eddy County:**

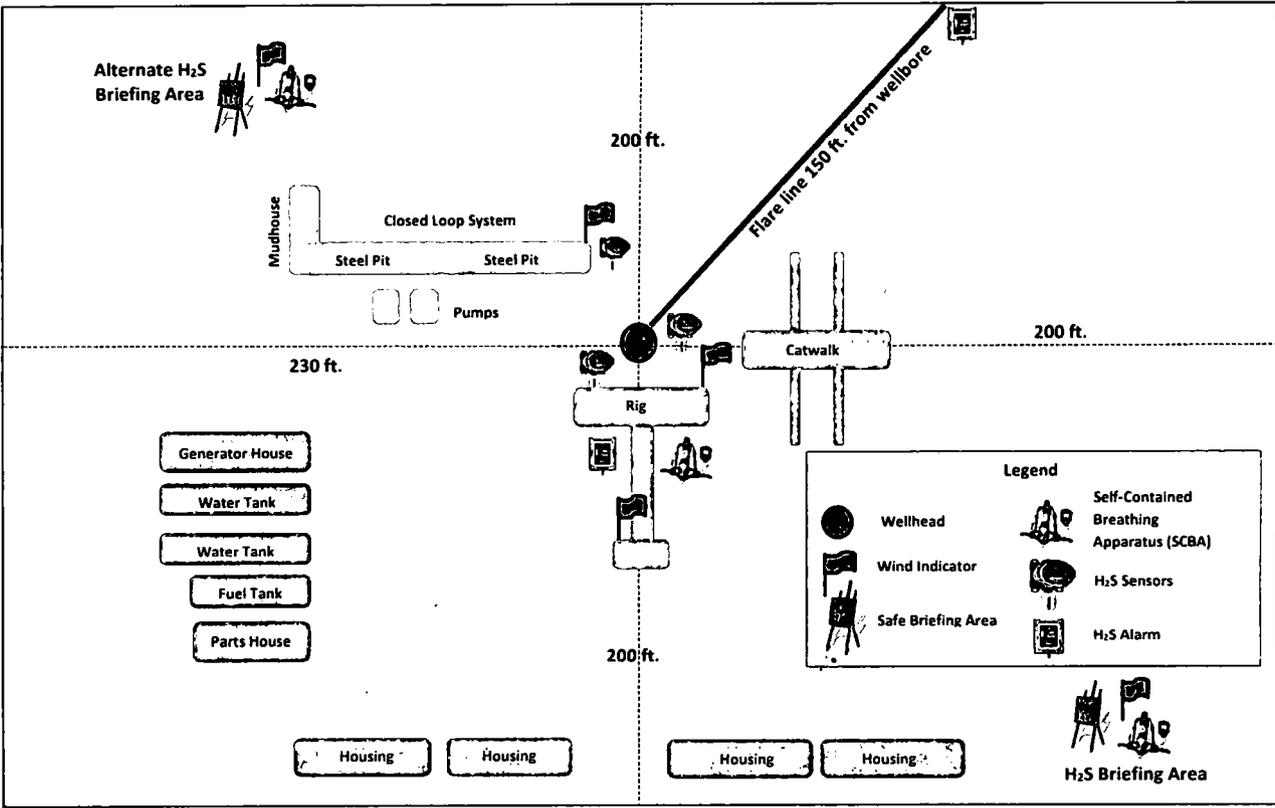
Bureau of Land Management - Carlsbad	575-234-5972
New Mexico Oil Conservation Division - Artesia	575-748-1283

↑  
S  
|

Prevailing Winds  
Direction SW

### H2S Diagram, Alarm Locations & Rig Layout

Secondary  
Egress



Access Road



## **XTO Energy**

**Eddy County, NM (NAD-27)**

**Brushy Draw 30 Federal**

**#1002H**

**OH**

**Plan: Plan #1**

# **Standard Planning Report**

**08 September, 2017**



Project: Eddy County, NM (NAD-27)  
 Site: Brushy Draw 30 Federal  
 Well: #1002H  
 Wellbore: OH  
 Design: Plan #1

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape
Brushy Dw 30 Fed. #1002H SHL (330' FSL/1175' FWL)	0.00	0.00	0.00	398300.80	626446.10	32.094387	-103.925018	Point
Brushy Dw 30 Fed. #1002H LP	10633.00	-561.40	-181.22	397739.40	626294.88	32.082845	-103.925610	Point
Brushy Dw 30 Fed. #1002H FTP	10633.52	-681.40	-180.70	397639.40	626285.40	32.092570	-103.925610	Point
Brushy Dw 30 Fed. #1002H LTP	10696.30	-13268.70	-115.60	385032.10	626330.50	32.057912	-103.925554	Point
Brushy Dw 30 Fed. #1002H PBHL (2440' FNL/990' FWL)	10700.00	-13398.70	-115.10	384902.10	626331.00	32.057555	-103.925554	Point

WELL DETAILS: #1002H

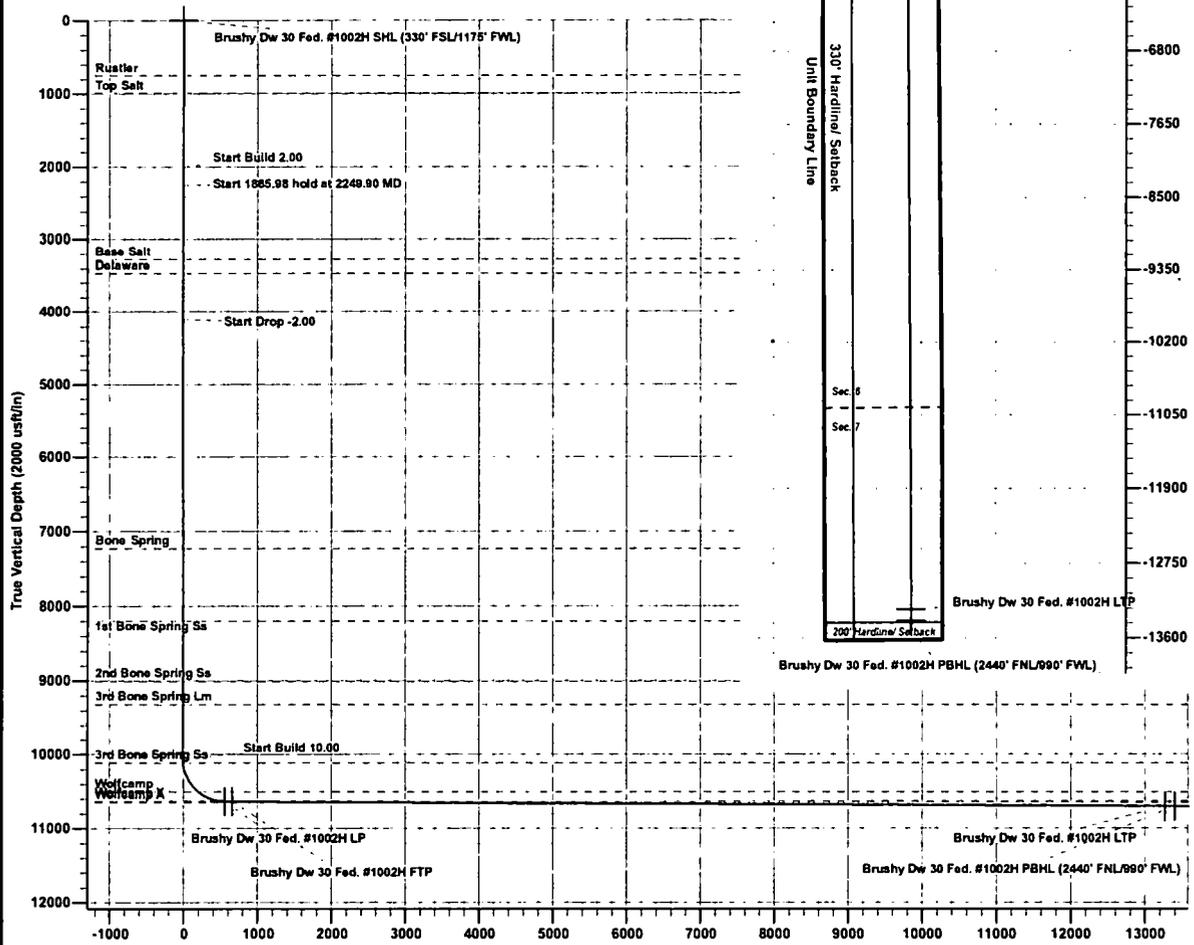
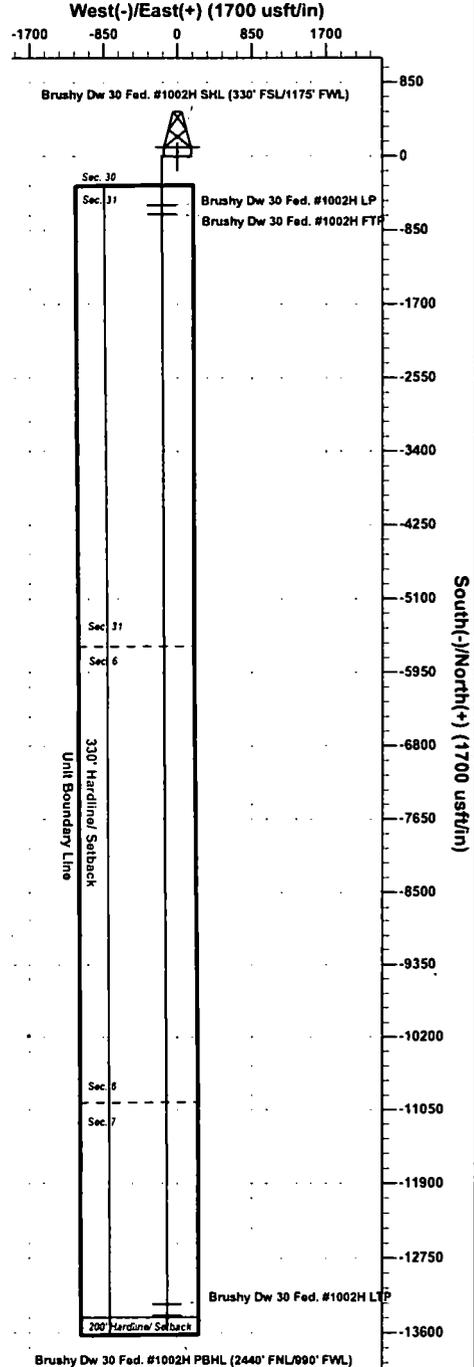
Rig Name: Unknown		RKB= 27' @ 3116.00usft (Unknown)		Ground Level: 3091.00	
+N-S	+E-W	Northing	Easting	Latitude	Longitude
0.00	0.00	398300.80	626446.10	32.094387	-103.925018

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dlog	TFace	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00
3	2249.90	5.00	272.88	2249.58	0.51	-10.88	2.00	272.88	-0.56
4	4115.88	5.00	272.88	4108.47	8.05	-173.27	0.00	0.00	-8.98
5	4365.78	0.00	179.70	4358.05	8.56	-184.15	2.00	180.00	-0.52
6	10087.78	0.00	179.70	10080.05	8.56	-184.15	0.00	0.00	-0.52
7	10694.79	89.70	179.70	10633.00	-561.40	-181.22	10.00	0.00	560.45
8	11064.79	89.70	179.70	10633.52	-681.40	-180.70	0.00	0.00	860.44
9	23802.43	89.70	179.70	10700.00	-13398.70	-115.10	0.00	0.00	13397.91

PROJECT DETAILS: Eddy County, NM (NAD-27)

Geodetic System: US State Plane 1927 (Exact solution)  
 Datum: NAD 1927 (NADCON CONUS)  
 Ellipsoid: Clarke 1866  
 Zone: New Mexico East 3001  
 System Datum: Mean Sea Level



Vertical Section at 179.70° (2000 usft/in)



Database: EDM 5000.1 Single User Db  
Company: XTO Energy  
Project: Eddy County, NM (NAD-27)  
Site: Brushy Draw 30 Federal  
Well: #1002H  
Wellbore: OH  
Design: Plan #1

Local Co-ordinate Reference: Well #1002H  
TVD Reference: RKB= 27' @ 3118.00usft (Unknown)  
MD Reference: RKB= 27' @ 3118.00usft (Unknown)  
North Reference: Grid  
Survey Calculation Method: Minimum Curvature

<b>Project</b>	Eddy County, NM (NAD-27)		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico East 3001		

<b>Site</b>	Brushy Draw 30 Federal				
<b>Site Position:</b>		<b>Northing:</b>	398,300.80 usft	<b>Latitude:</b>	32.094387
<b>From:</b>	Map	<b>Easting:</b>	626,446.10 usft	<b>Longitude:</b>	-103.925019
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.22 °

<b>Well</b>	#1002H					
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b>	398,300.80 usft	<b>Latitude:</b>	32.094387
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b>	626,446.10 usft	<b>Longitude:</b>	-103.925019
<b>Position Uncertainty</b>	0.00 usft	<b>Wellhead Elevation:</b>	0.00 usft	<b>Ground Level:</b>	3,091.00 usft	

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	9/7/2017	7.08	59.88	47,803

<b>Design</b>	Plan #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	179.70

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	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,249.90	5.00	272.66	2,249.58	0.51	-10.88	2.00	2.00	0.00	272.66	
4,115.88	5.00	272.66	4,108.47	8.05	-173.27	0.00	0.00	0.00	0.00	
4,365.78	0.00	179.70	4,358.05	8.56	-184.15	2.00	-2.00	0.00	180.00	
10,067.78	0.00	179.70	10,060.05	8.56	-184.15	0.00	0.00	0.00	0.00	
10,964.79	89.70	179.70	10,633.00	-561.40	-181.22	10.00	10.00	0.00	0.00	
11,064.79	89.70	179.70	10,633.52	-661.40	-180.70	0.00	0.00	0.00	0.00	Brushy Dw 30 Fed.
23,802.43	89.70	179.70	10,700.00	-13,398.70	-115.10	0.00	0.00	0.00	0.00	Brushy Dw 30 Fed.



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 Company: XTO Energy  
 Project: Eddy County, NM (NAD-27)  
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 Well: #1002H  
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Local Co-ordinate Reference: Well #1002H  
 TVD Reference: RKB= 27' @ 3118.00usft (Unknown)  
 MD Reference: RKB= 27' @ 3118.00usft (Unknown)  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature

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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	2.00	272.66	2,099.98	0.08	-1.74	-0.09	2.00	2.00	0.00
2,200.00	4.00	272.66	2,199.84	0.32	-6.97	-0.36	2.00	2.00	0.00
2,249.90	5.00	272.66	2,249.58	0.51	-10.88	-0.56	2.00	2.00	0.00
2,300.00	5.00	272.66	2,299.49	0.71	-15.24	-0.79	0.00	0.00	0.00
2,400.00	5.00	272.66	2,399.11	1.11	-23.94	-1.24	0.00	0.00	0.00
2,500.00	5.00	272.66	2,498.73	1.52	-32.65	-1.69	0.00	0.00	0.00
2,600.00	5.00	272.66	2,598.35	1.92	-41.35	-2.14	0.00	0.00	0.00
2,700.00	5.00	272.66	2,697.97	2.33	-50.05	-2.59	0.00	0.00	0.00
2,800.00	5.00	272.66	2,797.59	2.73	-58.75	-3.04	0.00	0.00	0.00
2,900.00	5.00	272.66	2,897.21	3.13	-67.46	-3.49	0.00	0.00	0.00
3,000.00	5.00	272.66	2,996.83	3.54	-76.16	-3.94	0.00	0.00	0.00
3,100.00	5.00	272.66	3,096.45	3.94	-84.86	-4.39	0.00	0.00	0.00
3,200.00	5.00	272.66	3,196.07	4.35	-93.56	-4.84	0.00	0.00	0.00
3,300.00	5.00	272.66	3,295.69	4.75	-102.27	-5.29	0.00	0.00	0.00
3,400.00	5.00	272.66	3,395.31	5.16	-110.97	-5.74	0.00	0.00	0.00
3,500.00	5.00	272.66	3,494.93	5.56	-119.67	-6.19	0.00	0.00	0.00
3,600.00	5.00	272.66	3,594.55	5.97	-128.37	-6.64	0.00	0.00	0.00
3,700.00	5.00	272.66	3,694.17	6.37	-137.08	-7.09	0.00	0.00	0.00
3,800.00	5.00	272.66	3,793.79	6.77	-145.78	-7.54	0.00	0.00	0.00
3,900.00	5.00	272.66	3,893.41	7.18	-154.48	-7.99	0.00	0.00	0.00
4,000.00	5.00	272.66	3,993.03	7.58	-163.19	-8.44	0.00	0.00	0.00
4,100.00	5.00	272.66	4,092.65	7.99	-171.89	-8.89	0.00	0.00	0.00
4,115.88	5.00	272.66	4,108.47	8.05	-173.27	-8.96	0.00	0.00	0.00
4,200.00	3.32	272.66	4,192.36	8.33	-179.36	-9.27	2.00	-2.00	0.00
4,300.00	1.32	272.66	4,292.28	8.52	-183.40	-9.48	2.00	-2.00	0.00
4,365.78	0.00	179.70	4,358.05	8.56	-184.15	-9.52	2.00	-2.00	0.00
4,400.00	0.00	0.00	4,392.27	8.56	-184.15	-9.52	0.00	0.00	0.00
4,500.00	0.00	0.00	4,492.27	8.56	-184.15	-9.52	0.00	0.00	0.00
4,600.00	0.00	0.00	4,592.27	8.56	-184.15	-9.52	0.00	0.00	0.00
4,700.00	0.00	0.00	4,692.27	8.56	-184.15	-9.52	0.00	0.00	0.00
4,800.00	0.00	0.00	4,792.27	8.56	-184.15	-9.52	0.00	0.00	0.00
4,900.00	0.00	0.00	4,892.27	8.56	-184.15	-9.52	0.00	0.00	0.00
5,000.00	0.00	0.00	4,992.27	8.56	-184.15	-9.52	0.00	0.00	0.00



Database: EDM 5000.1 Single User Db  
 Company: XTO Energy  
 Project: Eddy County, NM (NAD-27)  
 Site: Brushy Draw 30 Federal  
 Well: #1002H  
 Wellbore: OH  
 Design: Plan #1

Local Co-ordinate Reference: Well #1002H  
 TVD Reference: RKB= 27' @ 3118.00usft (Unknown)  
 MD Reference: RKB= 27' @ 3118.00usft (Unknown)  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature

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)
5,100.00	0.00	0.00	5,092.27	8.56	-184.15	-9.52	0.00	0.00	0.00
5,200.00	0.00	0.00	5,192.27	8.56	-184.15	-9.52	0.00	0.00	0.00
5,300.00	0.00	0.00	5,292.27	8.56	-184.15	-9.52	0.00	0.00	0.00
5,400.00	0.00	0.00	5,392.27	8.56	-184.15	-9.52	0.00	0.00	0.00
5,500.00	0.00	0.00	5,492.27	8.56	-184.15	-9.52	0.00	0.00	0.00
5,600.00	0.00	0.00	5,592.27	8.56	-184.15	-9.52	0.00	0.00	0.00
5,700.00	0.00	0.00	5,692.27	8.56	-184.15	-9.52	0.00	0.00	0.00
5,800.00	0.00	0.00	5,792.27	8.56	-184.15	-9.52	0.00	0.00	0.00
5,900.00	0.00	0.00	5,892.27	8.56	-184.15	-9.52	0.00	0.00	0.00
6,000.00	0.00	0.00	5,992.27	8.56	-184.15	-9.52	0.00	0.00	0.00
6,100.00	0.00	0.00	6,092.27	8.56	-184.15	-9.52	0.00	0.00	0.00
6,200.00	0.00	0.00	6,192.27	8.56	-184.15	-9.52	0.00	0.00	0.00
6,300.00	0.00	0.00	6,292.27	8.56	-184.15	-9.52	0.00	0.00	0.00
6,400.00	0.00	0.00	6,392.27	8.56	-184.15	-9.52	0.00	0.00	0.00
6,500.00	0.00	0.00	6,492.27	8.56	-184.15	-9.52	0.00	0.00	0.00
6,600.00	0.00	0.00	6,592.27	8.56	-184.15	-9.52	0.00	0.00	0.00
6,700.00	0.00	0.00	6,692.27	8.56	-184.15	-9.52	0.00	0.00	0.00
6,800.00	0.00	0.00	6,792.27	8.56	-184.15	-9.52	0.00	0.00	0.00
6,900.00	0.00	0.00	6,892.27	8.56	-184.15	-9.52	0.00	0.00	0.00
7,000.00	0.00	0.00	6,992.27	8.56	-184.15	-9.52	0.00	0.00	0.00
7,100.00	0.00	0.00	7,092.27	8.56	-184.15	-9.52	0.00	0.00	0.00
7,200.00	0.00	0.00	7,192.27	8.56	-184.15	-9.52	0.00	0.00	0.00
7,300.00	0.00	0.00	7,292.27	8.56	-184.15	-9.52	0.00	0.00	0.00
7,400.00	0.00	0.00	7,392.27	8.56	-184.15	-9.52	0.00	0.00	0.00
7,500.00	0.00	0.00	7,492.27	8.56	-184.15	-9.52	0.00	0.00	0.00
7,600.00	0.00	0.00	7,592.27	8.56	-184.15	-9.52	0.00	0.00	0.00
7,700.00	0.00	0.00	7,692.27	8.56	-184.15	-9.52	0.00	0.00	0.00
7,800.00	0.00	0.00	7,792.27	8.56	-184.15	-9.52	0.00	0.00	0.00
7,900.00	0.00	0.00	7,892.27	8.56	-184.15	-9.52	0.00	0.00	0.00
8,000.00	0.00	0.00	7,992.27	8.56	-184.15	-9.52	0.00	0.00	0.00
8,100.00	0.00	0.00	8,092.27	8.56	-184.15	-9.52	0.00	0.00	0.00
8,200.00	0.00	0.00	8,192.27	8.56	-184.15	-9.52	0.00	0.00	0.00
8,300.00	0.00	0.00	8,292.27	8.56	-184.15	-9.52	0.00	0.00	0.00
8,400.00	0.00	0.00	8,392.27	8.56	-184.15	-9.52	0.00	0.00	0.00
8,500.00	0.00	0.00	8,492.27	8.56	-184.15	-9.52	0.00	0.00	0.00
8,600.00	0.00	0.00	8,592.27	8.56	-184.15	-9.52	0.00	0.00	0.00
8,700.00	0.00	0.00	8,692.27	8.56	-184.15	-9.52	0.00	0.00	0.00
8,800.00	0.00	0.00	8,792.27	8.56	-184.15	-9.52	0.00	0.00	0.00
8,900.00	0.00	0.00	8,892.27	8.56	-184.15	-9.52	0.00	0.00	0.00
9,000.00	0.00	0.00	8,992.27	8.56	-184.15	-9.52	0.00	0.00	0.00
9,100.00	0.00	0.00	9,092.27	8.56	-184.15	-9.52	0.00	0.00	0.00
9,200.00	0.00	0.00	9,192.27	8.56	-184.15	-9.52	0.00	0.00	0.00
9,300.00	0.00	0.00	9,292.27	8.56	-184.15	-9.52	0.00	0.00	0.00
9,400.00	0.00	0.00	9,392.27	8.56	-184.15	-9.52	0.00	0.00	0.00
9,500.00	0.00	0.00	9,492.27	8.56	-184.15	-9.52	0.00	0.00	0.00
9,600.00	0.00	0.00	9,592.27	8.56	-184.15	-9.52	0.00	0.00	0.00
9,700.00	0.00	0.00	9,692.27	8.56	-184.15	-9.52	0.00	0.00	0.00
9,800.00	0.00	0.00	9,792.27	8.56	-184.15	-9.52	0.00	0.00	0.00
9,900.00	0.00	0.00	9,892.27	8.56	-184.15	-9.52	0.00	0.00	0.00
10,000.00	0.00	0.00	9,992.27	8.56	-184.15	-9.52	0.00	0.00	0.00
10,067.78	0.00	179.70	10,060.05	8.56	-184.15	-9.52	0.00	0.00	0.00
10,100.00	3.22	179.70	10,092.25	7.65	-184.15	-8.62	10.00	10.00	0.00
10,150.00	8.22	179.70	10,141.99	2.67	-184.12	-3.63	10.00	10.00	0.00
10,200.00	13.22	179.70	10,191.10	-6.63	-184.07	5.67	10.00	10.00	0.00



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 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature

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)
10,250.00	18.22	179.70	10,239.22	-20.18	-184.00	19.21	10.00	10.00	0.00
10,300.00	23.22	179.70	10,285.97	-37.86	-183.91	36.90	10.00	10.00	0.00
10,350.00	28.22	179.70	10,331.00	-59.56	-183.80	58.59	10.00	10.00	0.00
10,400.00	33.22	179.70	10,373.97	-85.09	-183.67	84.13	10.00	10.00	0.00
10,450.00	38.22	179.70	10,414.55	-114.27	-183.52	113.31	10.00	10.00	0.00
10,500.00	43.22	179.70	10,452.43	-146.88	-183.35	145.92	10.00	10.00	0.00
10,550.00	48.22	179.70	10,487.32	-182.67	-183.17	181.71	10.00	10.00	0.00
10,600.00	53.22	179.70	10,518.97	-221.36	-182.97	220.40	10.00	10.00	0.00
10,650.00	58.22	179.70	10,547.12	-262.66	-182.75	261.70	10.00	10.00	0.00
10,700.00	63.22	179.70	10,571.56	-306.26	-182.53	305.30	10.00	10.00	0.00
10,750.00	68.22	179.70	10,592.11	-351.83	-182.29	350.87	10.00	10.00	0.00
10,800.00	73.22	179.70	10,608.62	-399.01	-182.05	398.05	10.00	10.00	0.00
10,850.00	78.22	179.70	10,620.94	-447.45	-181.80	446.49	10.00	10.00	0.00
10,900.00	83.22	179.70	10,629.00	-496.78	-181.55	495.82	10.00	10.00	0.00
10,950.00	88.22	179.70	10,632.73	-546.62	-181.29	545.66	10.00	10.00	0.00
10,964.79	89.70	179.70	10,633.00	-561.40	-181.22	560.45	10.00	10.00	0.00
11,000.00	89.70	179.70	10,633.18	-596.62	-181.03	595.66	0.00	0.00	0.00
11,064.79	89.70	179.70	10,633.52	-661.40	-180.70	660.44	0.00	0.00	0.00
11,100.00	89.70	179.70	10,633.70	-696.61	-180.52	695.66	0.00	0.00	0.00
11,200.00	89.70	179.70	10,634.23	-796.61	-180.00	795.66	0.00	0.00	0.00
11,300.00	89.70	179.70	10,634.75	-896.61	-179.49	895.66	0.00	0.00	0.00
11,400.00	89.70	179.70	10,635.27	-996.60	-178.97	995.65	0.00	0.00	0.00
11,500.00	89.70	179.70	10,635.79	-1,096.60	-178.46	1,095.65	0.00	0.00	0.00
11,600.00	89.70	179.70	10,636.31	-1,196.60	-177.94	1,195.65	0.00	0.00	0.00
11,700.00	89.70	179.70	10,636.84	-1,296.60	-177.43	1,295.65	0.00	0.00	0.00
11,800.00	89.70	179.70	10,637.36	-1,396.59	-176.91	1,395.65	0.00	0.00	0.00
11,900.00	89.70	179.70	10,637.88	-1,496.59	-176.40	1,495.65	0.00	0.00	0.00
12,000.00	89.70	179.70	10,638.40	-1,596.59	-175.88	1,595.65	0.00	0.00	0.00
12,100.00	89.70	179.70	10,638.92	-1,696.59	-175.37	1,695.64	0.00	0.00	0.00
12,200.00	89.70	179.70	10,639.45	-1,796.58	-174.85	1,795.64	0.00	0.00	0.00
12,300.00	89.70	179.70	10,639.97	-1,896.58	-174.34	1,895.64	0.00	0.00	0.00
12,400.00	89.70	179.70	10,640.49	-1,996.58	-173.82	1,995.64	0.00	0.00	0.00
12,500.00	89.70	179.70	10,641.01	-2,096.58	-173.31	2,095.64	0.00	0.00	0.00
12,600.00	89.70	179.70	10,641.53	-2,196.57	-172.79	2,195.64	0.00	0.00	0.00
12,700.00	89.70	179.70	10,642.05	-2,296.57	-172.28	2,295.64	0.00	0.00	0.00
12,800.00	89.70	179.70	10,642.58	-2,396.57	-171.76	2,395.64	0.00	0.00	0.00
12,900.00	89.70	179.70	10,643.10	-2,496.56	-171.25	2,495.63	0.00	0.00	0.00
13,000.00	89.70	179.70	10,643.62	-2,596.56	-170.73	2,595.63	0.00	0.00	0.00
13,100.00	89.70	179.70	10,644.14	-2,696.56	-170.22	2,695.63	0.00	0.00	0.00
13,200.00	89.70	179.70	10,644.66	-2,796.56	-169.70	2,795.63	0.00	0.00	0.00
13,300.00	89.70	179.70	10,645.19	-2,896.55	-169.19	2,895.63	0.00	0.00	0.00
13,400.00	89.70	179.70	10,645.71	-2,996.55	-168.67	2,995.63	0.00	0.00	0.00
13,500.00	89.70	179.70	10,646.23	-3,096.55	-168.16	3,095.63	0.00	0.00	0.00
13,600.00	89.70	179.70	10,646.75	-3,196.55	-167.64	3,195.62	0.00	0.00	0.00
13,700.00	89.70	179.70	10,647.27	-3,296.54	-167.13	3,295.62	0.00	0.00	0.00
13,800.00	89.70	179.70	10,647.80	-3,396.54	-166.61	3,395.62	0.00	0.00	0.00
13,900.00	89.70	179.70	10,648.32	-3,496.54	-166.10	3,495.62	0.00	0.00	0.00
14,000.00	89.70	179.70	10,648.84	-3,596.54	-165.58	3,595.62	0.00	0.00	0.00
14,100.00	89.70	179.70	10,649.36	-3,696.53	-165.07	3,695.62	0.00	0.00	0.00
14,200.00	89.70	179.70	10,649.88	-3,796.53	-164.55	3,795.62	0.00	0.00	0.00
14,300.00	89.70	179.70	10,650.41	-3,896.53	-164.04	3,895.61	0.00	0.00	0.00
14,400.00	89.70	179.70	10,650.93	-3,996.52	-163.52	3,995.61	0.00	0.00	0.00
14,500.00	89.70	179.70	10,651.45	-4,096.52	-163.01	4,095.61	0.00	0.00	0.00
14,600.00	89.70	179.70	10,651.97	-4,196.52	-162.49	4,195.61	0.00	0.00	0.00



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North Reference: Grid  
Survey Calculation Method: Minimum Curvature

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)
14,700.00	89.70	179.70	10,652.49	-4,296.52	-161.98	4,295.61	0.00	0.00	0.00
14,800.00	89.70	179.70	10,653.01	-4,396.51	-161.46	4,395.61	0.00	0.00	0.00
14,900.00	89.70	179.70	10,653.54	-4,496.51	-160.95	4,495.61	0.00	0.00	0.00
15,000.00	89.70	179.70	10,654.06	-4,596.51	-160.43	4,595.61	0.00	0.00	0.00
15,100.00	89.70	179.70	10,654.58	-4,696.51	-159.92	4,695.60	0.00	0.00	0.00
15,200.00	89.70	179.70	10,655.10	-4,796.50	-159.40	4,795.60	0.00	0.00	0.00
15,300.00	89.70	179.70	10,655.62	-4,896.50	-158.89	4,895.60	0.00	0.00	0.00
15,400.00	89.70	179.70	10,656.15	-4,996.50	-158.37	4,995.60	0.00	0.00	0.00
15,500.00	89.70	179.70	10,656.67	-5,096.49	-157.86	5,095.60	0.00	0.00	0.00
15,600.00	89.70	179.70	10,657.19	-5,196.49	-157.34	5,195.60	0.00	0.00	0.00
15,700.00	89.70	179.70	10,657.71	-5,296.49	-156.83	5,295.60	0.00	0.00	0.00
15,800.00	89.70	179.70	10,658.23	-5,396.49	-156.31	5,395.59	0.00	0.00	0.00
15,900.00	89.70	179.70	10,658.76	-5,496.48	-155.80	5,495.59	0.00	0.00	0.00
16,000.00	89.70	179.70	10,659.28	-5,596.48	-155.28	5,595.59	0.00	0.00	0.00
16,100.00	89.70	179.70	10,659.80	-5,696.48	-154.77	5,695.59	0.00	0.00	0.00
16,200.00	89.70	179.70	10,660.32	-5,796.48	-154.25	5,795.59	0.00	0.00	0.00
16,300.00	89.70	179.70	10,660.84	-5,896.47	-153.74	5,895.59	0.00	0.00	0.00
16,400.00	89.70	179.70	10,661.37	-5,996.47	-153.22	5,995.59	0.00	0.00	0.00
16,500.00	89.70	179.70	10,661.89	-6,096.47	-152.71	6,095.58	0.00	0.00	0.00
16,600.00	89.70	179.70	10,662.41	-6,196.47	-152.19	6,195.58	0.00	0.00	0.00
16,700.00	89.70	179.70	10,662.93	-6,296.46	-151.68	6,295.58	0.00	0.00	0.00
16,800.00	89.70	179.70	10,663.45	-6,396.46	-151.16	6,395.58	0.00	0.00	0.00
16,900.00	89.70	179.70	10,663.98	-6,496.46	-150.65	6,495.58	0.00	0.00	0.00
17,000.00	89.70	179.70	10,664.50	-6,596.45	-150.13	6,595.58	0.00	0.00	0.00
17,100.00	89.70	179.70	10,665.02	-6,696.45	-149.62	6,695.58	0.00	0.00	0.00
17,200.00	89.70	179.70	10,665.54	-6,796.45	-149.10	6,795.58	0.00	0.00	0.00
17,300.00	89.70	179.70	10,666.06	-6,896.45	-148.59	6,895.57	0.00	0.00	0.00
17,400.00	89.70	179.70	10,666.58	-6,996.44	-148.07	6,995.57	0.00	0.00	0.00
17,500.00	89.70	179.70	10,667.11	-7,096.44	-147.56	7,095.57	0.00	0.00	0.00
17,600.00	89.70	179.70	10,667.63	-7,196.44	-147.04	7,195.57	0.00	0.00	0.00
17,700.00	89.70	179.70	10,668.15	-7,296.44	-146.53	7,295.57	0.00	0.00	0.00
17,800.00	89.70	179.70	10,668.67	-7,396.43	-146.01	7,395.57	0.00	0.00	0.00
17,900.00	89.70	179.70	10,669.19	-7,496.43	-145.50	7,495.57	0.00	0.00	0.00
18,000.00	89.70	179.70	10,669.72	-7,596.43	-144.98	7,595.56	0.00	0.00	0.00
18,100.00	89.70	179.70	10,670.24	-7,696.42	-144.47	7,695.56	0.00	0.00	0.00
18,200.00	89.70	179.70	10,670.76	-7,796.42	-143.95	7,795.56	0.00	0.00	0.00
18,300.00	89.70	179.70	10,671.28	-7,896.42	-143.44	7,895.56	0.00	0.00	0.00
18,400.00	89.70	179.70	10,671.80	-7,996.42	-142.92	7,995.56	0.00	0.00	0.00
18,500.00	89.70	179.70	10,672.33	-8,096.41	-142.41	8,095.56	0.00	0.00	0.00
18,600.00	89.70	179.70	10,672.85	-8,196.41	-141.89	8,195.56	0.00	0.00	0.00
18,700.00	89.70	179.70	10,673.37	-8,296.41	-141.38	8,295.55	0.00	0.00	0.00
18,800.00	89.70	179.70	10,673.89	-8,396.41	-140.86	8,395.55	0.00	0.00	0.00
18,900.00	89.70	179.70	10,674.41	-8,496.40	-140.35	8,495.55	0.00	0.00	0.00
19,000.00	89.70	179.70	10,674.94	-8,596.40	-139.83	8,595.55	0.00	0.00	0.00
19,100.00	89.70	179.70	10,675.46	-8,696.40	-139.32	8,695.55	0.00	0.00	0.00
19,200.00	89.70	179.70	10,675.98	-8,796.40	-138.80	8,795.55	0.00	0.00	0.00
19,300.00	89.70	179.70	10,676.50	-8,896.39	-138.29	8,895.55	0.00	0.00	0.00
19,400.00	89.70	179.70	10,677.02	-8,996.39	-137.77	8,995.55	0.00	0.00	0.00
19,500.00	89.70	179.70	10,677.55	-9,096.39	-137.26	9,095.54	0.00	0.00	0.00
19,600.00	89.70	179.70	10,678.07	-9,196.38	-136.74	9,195.54	0.00	0.00	0.00
19,700.00	89.70	179.70	10,678.59	-9,296.38	-136.23	9,295.54	0.00	0.00	0.00
19,800.00	89.70	179.70	10,679.11	-9,396.38	-135.71	9,395.54	0.00	0.00	0.00
19,900.00	89.70	179.70	10,679.63	-9,496.38	-135.20	9,495.54	0.00	0.00	0.00
20,000.00	89.70	179.70	10,680.15	-9,596.37	-134.68	9,595.54	0.00	0.00	0.00



**Database:** EDM 5000.1 Single User Db  
**Company:** XTO Energy  
**Project:** Eddy County, NM (NAD-27)  
**Site:** Brushy Draw 30 Federal  
**Well:** #1002H  
**Wellbore:** OH  
**Design:** Plan #1

**Local Co-ordinate Reference:** Well #1002H  
**TVD Reference:** RKB= 27' @ 3118.00usft (Unknown)  
**MD Reference:** RKB= 27' @ 3118.00usft (Unknown)  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature

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)
20,100.00	89.70	179.70	10,680.68	-9,696.37	-134.17	9,695.54	0.00	0.00	0.00
20,200.00	89.70	179.70	10,681.20	-9,796.37	-133.65	9,795.53	0.00	0.00	0.00
20,300.00	89.70	179.70	10,681.72	-9,896.37	-133.14	9,895.53	0.00	0.00	0.00
20,400.00	89.70	179.70	10,682.24	-9,996.36	-132.62	9,995.53	0.00	0.00	0.00
20,500.00	89.70	179.70	10,682.76	-10,096.36	-132.11	10,095.53	0.00	0.00	0.00
20,600.00	89.70	179.70	10,683.29	-10,196.36	-131.59	10,195.53	0.00	0.00	0.00
20,700.00	89.70	179.70	10,683.81	-10,296.36	-131.08	10,295.53	0.00	0.00	0.00
20,800.00	89.70	179.70	10,684.33	-10,396.35	-130.56	10,395.53	0.00	0.00	0.00
20,900.00	89.70	179.70	10,684.85	-10,496.35	-130.05	10,495.52	0.00	0.00	0.00
21,000.00	89.70	179.70	10,685.37	-10,596.35	-129.53	10,595.52	0.00	0.00	0.00
21,100.00	89.70	179.70	10,685.90	-10,696.34	-129.02	10,695.52	0.00	0.00	0.00
21,200.00	89.70	179.70	10,686.42	-10,796.34	-128.50	10,795.52	0.00	0.00	0.00
21,300.00	89.70	179.70	10,686.94	-10,896.34	-127.99	10,895.52	0.00	0.00	0.00
21,400.00	89.70	179.70	10,687.46	-10,996.34	-127.47	10,995.52	0.00	0.00	0.00
21,500.00	89.70	179.70	10,687.98	-11,096.33	-126.96	11,095.52	0.00	0.00	0.00
21,600.00	89.70	179.70	10,688.51	-11,196.33	-126.44	11,195.52	0.00	0.00	0.00
21,700.00	89.70	179.70	10,689.03	-11,296.33	-125.93	11,295.51	0.00	0.00	0.00
21,800.00	89.70	179.70	10,689.55	-11,396.33	-125.41	11,395.51	0.00	0.00	0.00
21,900.00	89.70	179.70	10,690.07	-11,496.32	-124.90	11,495.51	0.00	0.00	0.00
22,000.00	89.70	179.70	10,690.59	-11,596.32	-124.38	11,595.51	0.00	0.00	0.00
22,100.00	89.70	179.70	10,691.11	-11,696.32	-123.87	11,695.51	0.00	0.00	0.00
22,200.00	89.70	179.70	10,691.64	-11,796.31	-123.35	11,795.51	0.00	0.00	0.00
22,300.00	89.70	179.70	10,692.16	-11,896.31	-122.84	11,895.51	0.00	0.00	0.00
22,400.00	89.70	179.70	10,692.68	-11,996.31	-122.32	11,995.50	0.00	0.00	0.00
22,500.00	89.70	179.70	10,693.20	-12,096.31	-121.81	12,095.50	0.00	0.00	0.00
22,600.00	89.70	179.70	10,693.72	-12,196.30	-121.29	12,195.50	0.00	0.00	0.00
22,700.00	89.70	179.70	10,694.25	-12,296.30	-120.78	12,295.50	0.00	0.00	0.00
22,800.00	89.70	179.70	10,694.77	-12,396.30	-120.26	12,395.50	0.00	0.00	0.00
22,900.00	89.70	179.70	10,695.29	-12,496.30	-119.75	12,495.50	0.00	0.00	0.00
23,000.00	89.70	179.70	10,695.81	-12,596.29	-119.23	12,595.50	0.00	0.00	0.00
23,100.00	89.70	179.70	10,696.33	-12,696.29	-118.72	12,695.49	0.00	0.00	0.00
23,200.00	89.70	179.70	10,696.86	-12,796.29	-118.20	12,795.49	0.00	0.00	0.00
23,300.00	89.70	179.70	10,697.38	-12,896.29	-117.69	12,895.49	0.00	0.00	0.00
23,400.00	89.70	179.70	10,697.90	-12,996.28	-117.17	12,995.49	0.00	0.00	0.00
23,500.00	89.70	179.70	10,698.42	-13,096.28	-116.66	13,095.49	0.00	0.00	0.00
23,600.00	89.70	179.70	10,698.94	-13,196.28	-116.14	13,195.49	0.00	0.00	0.00
23,700.00	89.70	179.70	10,699.47	-13,296.27	-115.63	13,295.49	0.00	0.00	0.00
23,802.43	89.70	179.70	10,700.00	-13,396.27	-115.10	13,397.91	0.00	0.00	0.00

### **Gathering System and Pipeline Location**

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Enlink and will be connected to Enlink low/high pressure gathering system located in Loving County, Texas. It will require 0' of pipeline to connect the facility to low/high pressure gathering system. BOPCO provides (periodically) to Enlink a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, BOPCO and Enlink have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Enlink Processing Plant located in Block 27, Sec. 4, Loving County, Texas. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

### **Flowback Strategy**

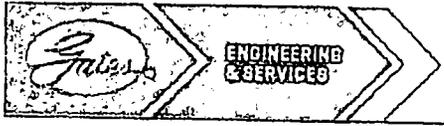
After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Enlink system at that time. Based on current information, it is BOPCO's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

### **Alternatives to Reduce Flaring**

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines



GATES E & S NORTH AMERICA, INC  
 DU-TEX  
 134 44TH STREET  
 CORPUS CHRISTI, TEXAS 78405

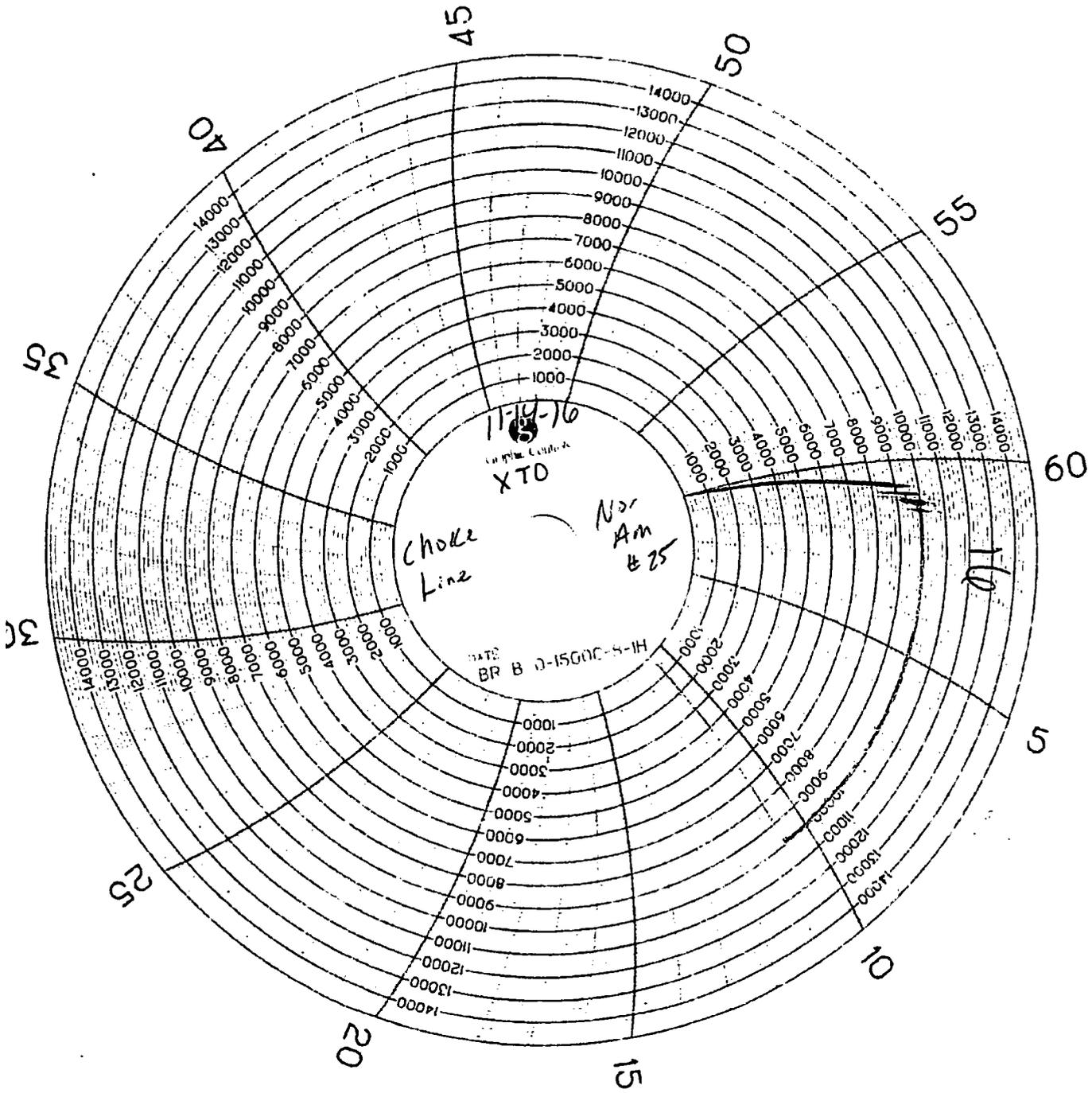
PHONE: 361-887-9807  
 FAX: 361-887-0812  
 EMAIL: crpe&s@gates.com  
 WEB: www.gates.com

### GRADE D PRESSURE TEST CERTIFICATE

Customer :	AUSTIN DISTRIBUTING	Test Date:	6/8/2014
Customer Ref. :	PENDING	Hose Serial No.:	D-06081-1-1
Invoice No. :	201709	Created By:	NORI-A
Product Description:	FD3.042.0R41/16.5KFLGE/E LE		
End Fitting 1 :	4 1/16 in.5K FLG	End Fitting 2 :	4 1/16 in.5K FLG
Gates Part No. :	4774-6001	Assembly Code :	L33090011513D-060814-1
Working Pressure :	5,000 PSI	Test Pressure :	7,500 PSI

Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 7,500 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

Quality:	QUALITY	Technical Supervisor :	PRODUCTION
Date :	6/8/2014	Date :	6/8/2014
Signature :	<i>[Signature]</i>	Signature :	<i>[Signature]</i>



NOON

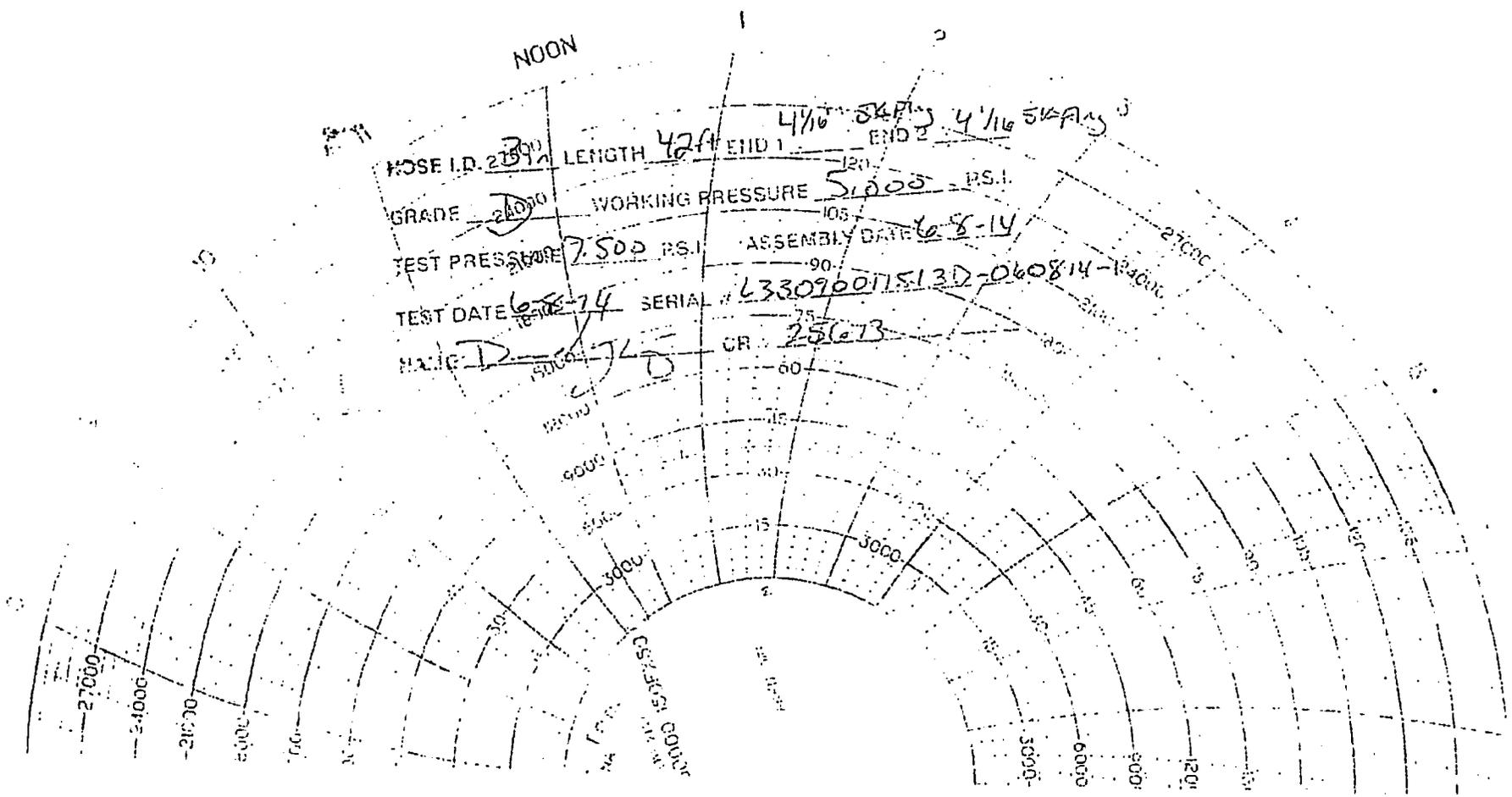
HOSE I.D. 2 3/4 LENGTH 42ft END 1 4 1/16 S&A END 2 4 1/16 S&A

GRADE 24000 WORKING PRESSURE 51000 PS.I.

TEST PRESSURE 75000 PS.I. ASSEMBLY DATE 6-8-14

TEST DATE 6-8-14 SERIAL # L33096017513D-060814-14000

NAME D-2725 CR 25673





APD ID: 10400024396

Submission Date: 12/11/2017

Highlighted data  
reflects the most  
recent changes

Operator Name: BOPCO LP

Well Name: BRUSHY DRAW 30 FEDERAL

Well Number: 102H

Show Final Text

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

### Section 1 - Existing Roads

Will existing roads be used? NO

### Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

BD\_30\_Fed\_Road\_20171127055025.pdf

New road type: RESOURCE

Length: 6238 Feet

Width (ft.): 30

Max slope (%): 2

Max grade (%): 3

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 14

New road access erosion control: The access road will be constructed and maintained as necessary to prevent soil erosion and accommodate all-weather traffic. The road will be crowned and ditched with water turnouts installed as necessary to provide for proper drainage along with access road route.

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: OTHER

Access topsoil source: ONSITE

Access surfacing type description: Surface material will be native caliche

**Operator Name:** BOPCO LP

**Well Name:** BRUSHY DRAW 30 FEDERAL

**Well Number:** 102H

**Access onsite topsoil source depth:** 6

**Offsite topsoil source description:**

**Onsite topsoil removal process:** Approximately 6 inches of topsoil (root zone) will be stripped from the proposed access road prior to any further construction activity. The topsoil that was stripped will be spread along the edge of the road and within the ditch. The topsoil will be seeded with the proper seed mix designated by the BLM.

**Access other construction information:** Construction, reclamation, and/or routine maintenance will not be conducted during periods when the soil conditions for construction could lead to impacts to the surrounding environment, or when watershed damage is likely to occur as a result of these activities.

**Access miscellaneous information:** The Brushy Draw 30 and 31 Federal area is accessed by existing U.S. Hwy 285 and Longhorn Rd. Go Northeast on Longhorn Road (paved). Road bends Southeast and back to Northeast approximately 4.25 miles. Turn left and go Northeast on Pipeline Rd #1 (gravel) approximately 4.50 miles. Turn right on existing gravel road approximately 1 miles. Turn left on existing gravel road approximately .16 miles then right to the Brushy Draw 30 and 31 Federal area. Transportation Plan identifying existing roads that will be used to access the project area is included from Frank's Surveying marked as, 'Vicinity Map.' There are no existing access roads to the proposed Brushy Draw 30 and 31 Federal well locations. All equipment and vehicles will be confined to the routes shown on the Vicinity Map as provided by Frank's Surveying. Maintenance of the access roads will continue until abandonment and reclamation of the well pads is completed. The project is located approximately 12.5 Miles to the town of Malaga, New Mexico.

**Number of access turnouts:** 0

**Access turnout map:**

### Drainage Control

**New road drainage crossing:** OTHER

**Drainage Control comments:** The access road and associated drainage structures will be constructed and maintained in accordance with road guidelines contained in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, The Gold Book, Fourth Edition and/or BLM Manual Section 9113 concerning road construction standards on projects subject to federal jurisdiction.

**Road Drainage Control Structures (DCS) description:** No drainage control structures were identified at onsite. Drainage control structures will be applied for as-needed and be in accordance with road guidelines contained in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, The Gold Book, Fourth Edition and/or BLM Manual Section 9113 concerning road construction standards on projects subject to federal jurisdiction.

**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:**

BD\_30\_Fed\_1\_Mile\_20171127055000.pdf

**Existing Wells description:**

**Operator Name:** BOPCO LP

**Well Name:** BRUSHY DRAW 30 FEDERAL

**Well Number:** 102H

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

**Submit or defer a Proposed Production Facilities plan? SUBMIT**

**Production Facilities description:** One 600' x 600' pad was staked with the BLM for construction and use as a Central Tank Battery (CTB). The facility is located in Section 31-T25S-R30E NMPM, Eddy County, New Mexico. A plat of the proposed facility is attached. Only the area necessary to maintain facilities will be disturbed. A 3160-5 sundry notification will be submitted after construction possessing a site-security diagram and layout of the facility with associated equipment. In the event the wells are found productive, 4" composite flexpipe or steel flowlines with a maximum safety pressure rating of 750psi (operating pressure: 125psi) will be laid on the surface within proposed lease road corridors from the proposed wells to the BD 31 Fed Central Tank Battery where the oil, gas, and water will be metered and appropriately separated. High pressure gas lines will be buried beneath the surface flowlines per well pad within the proposed lease road corridors for gas lift, fuel gas, and water. Oil will be hauled from the location by truck following existing and proposed lease roads. The distance of proposed flowlines per well will be approximately 9399' or less per well based on the location of the well pad in conjunction with the facility location. All flowlines will follow proposed lease road corridors. A plat of the proposed flowline route for the lease is attached. A gas purchaser has been identified. One 110' wide, 792' long corridor is requested to connect with the Poker Lake Unit Row 5 pipeline extending from the BD 31 Fed CTB. BOPCO, L.P. will be installing the line with anticipated risers located on the CTB. The gas purchaser will be responsible for permitting their own gas lines and compressor station, where applicable, through private, state, and federal lands. Produced water will be hauled from location to a commercial disposal facility as needed. Once wells are drilled and completed, a 3160-5 sundry notification will be submitted to BLM in compliance with Onshore Order 7. There will a flare associated with the BD 31 Federal CTB. The flare stack will be 50'x50'. The flare will be sized and rated appropriately based on anticipated reserves and recovering of gas throughout the development area with 150' of distance between all facility equipment, road and well pad locations for safety purposes. All permanent (on site six months or longer) aboveground structures constructed or installed on location and not subject to safety requirements will be painted earth-tone colors such as 'shale green' that reduce the visual impacts of the built environment. Containment berms will be constructed completely around any production facilities designed to hold fluids. The containment berms will be constructed of compacted subsoil, be sufficiently impervious, hold 1 1/2 times the capacity of the largest tank and away from cut or fill areas. All electrical poles and lines will be placed within existing and proposed lease roads corridors. All lines will be primary 12,740 volt to properly run expected production equipment. Approx. 11578' of electrical will be run from the anticipated tie-in point with a request for 30' ROW construction and maintenance buffer. This distance is a max. approximation and may vary based on lease road corridors, varying elevations and terrain in the area. A plat of the proposed electrical is attached.

**Production Facilities map:**

BD\_30\_Fed\_Facility\_20171127075949.pdf

BD\_30\_Fed\_FL\_20171127075956.pdf

BD\_30\_Fed\_GS\_20171127080003.pdf

BD\_30\_Fed\_OHE\_20171127080011.pdf

**Section 5 - Location and Types of Water Supply**

**Water Source Table**

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

**Water source type:** OTHER

**Describe type:** Fresh Water; in Section 6, T25S-R29E

**Source latitude:**

**Source longitude:**

**Source datum:**

**Water source permit type:** PRIVATE CONTRACT,PRIVATE CONTRACT,PRIVATE CONTRACT

**Operator Name:** BOPCO LP

**Well Name:** BRUSHY DRAW 30 FEDERAL

**Well Number:** 102H

**Source land ownership:** FEDERAL

**Water source transport method:** TRUCKING,TRUCKING,TRUCKING

**Source transportation land ownership:** FEDERAL

**Water source volume (barrels):** 335000

**Source volume (acre-feet):** 43.179188

**Source volume (gal):** 14070000

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

**Water source type:** OTHER

**Describe type:** Fresh Water; Section 27, T25S-R30E

**Source latitude:**

**Source longitude:**

**Source datum:**

**Water source permit type:** PRIVATE CONTRACT,PRIVATE  
CONTRACT,PRIVATE CONTRACT,PRIVATE CONTRACT

**Source land ownership:** FEDERAL

**Water source transport method:**

TRUCKING,TRUCKING,TRUCKING,TRUCKING

**Source transportation land ownership:** FEDERAL

**Water source volume (barrels):** 335000

**Source volume (acre-feet):** 43.179188

**Source volume (gal):** 14070000

**Water source and transportation map:**

BD\_30\_Fed\_102H\_Wtr\_20171127080038.pdf

**Water source comments:** The well will be drilled using a combination of water mud systems as outlined in the Drilling Program. The water will be obtained from a 3rd party vendor and hauled to the anticipated pit in Section 7 by transport truck using the existing and proposed roads depicted in the attached exhibits. No water well will be drilled on the location. Water for drilling, completion and dust control will be purchased from the following company: Texas Pacific Water Resources Water for drilling, completion and dust control will be supplied by Texas Pacific Water Resources for sale to BOPCO, L.P. from Section 27, T25S-R30E, Eddy County, New Mexico. In the event that Texas Pacific Water Resources does not have the appropriate water for BOPCO at time of drilling and completion, then BOPCO water will come from Intrepid Potash Company with the location of the water being in Section 6, T25S-R29E, Eddy County, New Mexico. Anticipated water usage for drilling includes an estimated 35,000 barrels of water to drill a horizontal well in a combination of fresh water and brine as detailed in the mud program in the drilling plans. These volumes are calculated for ~1.5bbbls per foot of hole drilled with excess to accommodate any lost circulation or wash out that may occur. Actual water volumes used during operations will depend on the depth of the well, length of horizontal sections, and the losses that may occur during the operation. Temporary water flowlines will be permitted via ROW approval letter and proper grants as-needed based on drilling and completion schedules as needed. Well completion is expected to require approximately 300,000 barrels of water per horizontal well. Actual water volumes used during operations will depend on the depth of the well and length of horizontal sections.

**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:**

**Operator Name:** BOPCO LP

**Well Name:** BRUSHY DRAW 30 FEDERAL

**Well Number:** 102H

**Aquifer documentation:**

**Well depth (ft):**

**Well casing type:**

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

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

**New water well casing?**

**Used casing source:**

**Drilling method:**

**Drill material:**

**Grout material:**

**Grout depth:**

**Casing length (ft.):**

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

**Well Production type:**

**Completion Method:**

**Water well additional information:**

**State appropriation permit:**

**Additional information attachment:**

**Section 6 - Construction Materials**

**Construction Materials description:** Construction, reclamation, and/or routine maintenance will not be conducted during periods when the soil conditions for construction could lead to impacts to the surrounding environment, or when watershed damage is likely to occur as a result of these activities. Any construction material that may be required for surfacing of the drill pad and access road will be from a contractor having a permitted source of materials within the general area. No construction materials will be removed from federal lands without prior approval from the appropriate surface management agency. All roads and well pads will be constructed of 6" rolled and compacted caliche. Anticipated Caliche Locations: Pit 1: Federal Caliche Pit, Section 17-T25S-R30E Pit 2: Federal Caliche Pit, Section 34-T25S-R29E

**Construction Materials source location attachment:**

**Section 7 - Methods for Handling Waste**

**Waste type:** GARBAGE

**Waste content description:** Garbage, junk and non-flammable waste materials

**Amount of waste:** 250 pounds

**Waste disposal frequency :** Weekly

**Safe containment description:** All garbage, junk and non-flammable waste materials will be contained in a self-contained, portable dumpster or trash cage, to prevent scattering and will be removed and deposited in an approve sanitary landfill. Immediately after drilling all debris and other waste materials on and around the well location not contained in the trash cage will be cleaned up and removed from the location. No potentially adverse materials or substances will be left on the location.

**Safe containmant attachment:**

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

**Disposal type description:**

**Disposal location description:** A licensed 3rd party vendor will be contracted to haul and safely dispose of garbage, junk and non-flammable waste materials.

**Operator Name:** BOPCO LP

**Well Name:** BRUSHY DRAW 30 FEDERAL

**Well Number:** 102H

**Waste type:** DRILLING

**Waste content description:** Fluid

**Amount of waste:** 500 barrels

**Waste disposal frequency :** One Time Only

**Safe containment description:** Steel mud pits

**Safe containmant attachment:**

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

**Disposal type description:**

**Disposal location description:** R360 Environmental Solutions 4507 W Carlsbad Hwy, Hobbs, NM 88240 (575) 393-1079

**Waste type:** DRILLING

**Waste content description:** Cuttings

**Amount of waste:** 2100 pounds

**Waste disposal frequency :** One Time Only

**Safe containment description:** The well will be drilled utilizing a closed-loop mud system. Drill cuttings will be held in roll-off style mud boxes.

**Safe containmant attachment:**

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

**Disposal type description:**

**Disposal location description:** R360 Environmental Solutions 4507 W Carlsbad Hwy, Hobbs, NM 88240 (575) 393-1079

**Waste type:** SEWAGE

**Waste content description:** Human Waste

**Amount of waste:** 250 gallons

**Waste disposal frequency :** Weekly

**Safe containment description:** Portable, self-contained toilets will be provided for human waste disposal. Upon completion of drilling and completion activities, or as required, the toilet holding tanks will be pumped and the contents thereof disposed of in an approved sewage disposal facility. All state and local laws and regulations pertaining to the disposal of human and solid waste will be complied with. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.

**Safe containmant attachment:**

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

**Disposal type description:**

**Disposal location description:** A licensed 3rd party contractor will be used to haul and dispose of human waste.

**Reserve Pit**

**Operator Name:** BOPCO LP

**Well Name:** BRUSHY DRAW 30 FEDERAL

**Well Number:** 102H

**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?** YES

**Description of cuttings location** Cuttings. The well will be drilled utilizing a closed-loop mud system. Drill cuttings will be held in roll-off style mud boxes and taken to a New Mexico Oil Conservation Division (NMOCD) approved disposal site. Drilling Fluids. These will be contained in steel mud pits and then taken to a NMOCD approved commercial disposal facility. Produced Fluids. Water produced from the well during completion will be held temporarily in steel tanks and then taken to a NMOCD approved commercial disposal facility. Oil produced during operations will be stored in tanks until sold.

**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:**

BD\_30\_Fed\_102H\_Well\_20171127080104.pdf

**Comments:** This is a multi-well pad.

**Operator Name:** BOPCO LP

**Well Name:** BRUSHY DRAW 30 FEDERAL

**Well Number:** 102H

## Section 10 - Plans for Surface Reclamation

**Type of disturbance:** New Surface Disturbance

**Multiple Well Pad Name:** BRUSHY DRAW 30 FED

**Multiple Well Pad Number:** 2

### Recontouring attachment:

BD\_30\_Fed\_Pad\_1\_Rec\_20171127080123.pdf

BD\_30\_Fed\_Pad\_2\_Rec\_20171127080131.pdf

BD\_30\_Fed\_Pad\_3\_Rec\_20171127080137.pdf

BD\_30\_Fed\_Pad\_4\_Rec\_20171127080144.pdf

BD\_30\_Fed\_Pad\_5\_Rec\_20171127080150.pdf

BD\_30\_Fed\_Pad\_6\_Rec\_20171127080158.pdf

**Drainage/Erosion control construction:** All compacted areas to be seeded will be ripped to a minimum depth of 18 inches with a minimum furrow spacing of 2 feet, followed by recontouring the surface and then evenly spreading the stockpiled topsoil. Prior to seeding, the seedbed will be scarified to a depth of no less than 4-6 inches.

**Drainage/Erosion control reclamation:** Erosion features are equal to or less than surrounding area and erosion control is sufficient so that water naturally infiltrates into the soil and gulying, headcutting, slumping, and deep or excessive rills (greater than 3 inches) are not observed.

**Well pad proposed disturbance (acres):** 26.38

**Road proposed disturbance (acres):** 4.29

**Powerline proposed disturbance (acres):** 0

**Pipeline proposed disturbance (acres):** 2

**Other proposed disturbance (acres):** 8.26

**Total proposed disturbance:** 40.93

**Well pad interim reclamation (acres):** 9.88

**Road interim reclamation (acres):** 0

**Powerline interim reclamation (acres):** 0

**Pipeline interim reclamation (acres):** 2

**Other interim reclamation (acres):** 0

**Total interim reclamation:** 11.88

**Well pad long term disturbance (acres):** 16.5

**Road long term disturbance (acres):** 4.29

**Powerline long term disturbance (acres):** 0

**Pipeline long term disturbance (acres):** 0

**Other long term disturbance (acres):** 8.26

**Total long term disturbance:** 29.05

### Disturbance Comments:

**Reconstruction method:** The original stock piled topsoil will be spread over the areas being reclaimed and the original landform will be restored for all disturbed areas including well pads, production facilities, roads, pipelines, and utility corridors as close as possible to the original topography. The location will then be ripped and seeded.

**Topsoil redistribution:** The original stock piled topsoil will be spread over the areas being reclaimed and the original landform will be restored for all disturbed areas including well pads, production facilities, roads, pipelines, and utility corridors as close as possible to the original topography. The location will then be ripped and seeded.

**Soil treatment:** A self-sustaining, vigorous, diverse, native (or otherwise approved) plant community will be established on the site with a density sufficient to control erosion and invasion by non-native plants and to re-establish wildlife habitat or forage production. At a minimum, the established plant community will consist of species included in the seed mix and/or desirable species occurring in the surrounding natural vegetation.

**Existing Vegetation at the well pad:** Environmental Setting. Soils are classified as Simona Gravelly Fine Sandy Loam and Simona-Bippus Complex. Simona soils are found on alluvial fans and plans and form in mixed alluvium and/or Aeolian sands. Bippus soils are found on alluvial fans and floodplains and form in mixed alluvium. The Simona-Bippus soils are dominant to the east and the Simona Gravelly Fine Sandy Loams are dominant to the West. Dominant vegetation species include: mesquite, sumac snakeweed, and various forbs and grasses. Ground cover is minimal, offering 90 percent visibility. Traffic. No truck traffic will be operated during periods or in areas of saturated ground when surface rutting could occur. The access road will be constructed and maintained as necessary to prevent soil erosion and accommodate all-weather traffic. The road will be crowned and ditched with water turnouts installed as necessary to provide for proper drainage along the access road route. Water. There is no permanent or live water in the immediate or within the project area.

**Operator Name:** BOPCO LP

**Well Name:** BRUSHY DRAW 30 FEDERAL

**Well Number:** 102H

**Existing Vegetation at the well pad attachment:**

**Existing Vegetation Community at the road:** Environmental Setting. Soils are classified as Simona Gravelly Fine Sandy Loam and Simona-Bippus Complex. Simona soils are found on alluvial fans and plans and form in mixed alluvium and/or Aeolian sands. Bippus soils are found on alluvial fans and floodplains and form in mixed alluvium. The Simona-Bippus soils are dominant to the east and the Simona Gravelly Fine Sandy Loams are dominant to the West. Dominant vegetation species include: mesquite, sumac snakeweed, and various forbs and grasses. Ground cover is minimal, offering 90 percent visibility. Traffic. No truck traffic will be operated during periods or in areas of saturated ground when surface rutting could occur. The access road will be constructed and maintained as necessary to prevent soil erosion and accommodate all-weather traffic. The road will be crowned and ditched with water turnouts installed as necessary to provide for proper drainage along the access road route. Water. There is no permanent or live water in the immediate or within the project area.

**Existing Vegetation Community at the road attachment:**

**Existing Vegetation Community at the pipeline:** Environmental Setting. Soils are classified as Simona Gravelly Fine Sandy Loam and Simona-Bippus Complex. Simona soils are found on alluvial fans and plans and form in mixed alluvium and/or Aeolian sands. Bippus soils are found on alluvial fans and floodplains and form in mixed alluvium. The Simona-Bippus soils are dominant to the east and the Simona Gravelly Fine Sandy Loams are dominant to the West. Dominant vegetation species include: mesquite, sumac snakeweed, and various forbs and grasses. Ground cover is minimal, offering 90 percent visibility. Traffic. No truck traffic will be operated during periods or in areas of saturated ground when surface rutting could occur. The access road will be constructed and maintained as necessary to prevent soil erosion and accommodate all-weather traffic. The road will be crowned and ditched with water turnouts installed as necessary to provide for proper drainage along the access road route. Water. There is no permanent or live water in the immediate or within the project area.

**Existing Vegetation Community at the pipeline attachment:**

**Existing Vegetation Community at other disturbances:** Environmental Setting. Soils are classified as Simona Gravelly Fine Sandy Loam and Simona-Bippus Complex. Simona soils are found on alluvial fans and plans and form in mixed alluvium and/or Aeolian sands. Bippus soils are found on alluvial fans and floodplains and form in mixed alluvium. The Simona-Bippus soils are dominant to the east and the Simona Gravelly Fine Sandy Loams are dominant to the West. Dominant vegetation species include: mesquite, sumac snakeweed, and various forbs and grasses. Ground cover is minimal, offering 90 percent visibility. Traffic. No truck traffic will be operated during periods or in areas of saturated ground when surface rutting could occur. The access road will be constructed and maintained as necessary to prevent soil erosion and accommodate all-weather traffic. The road will be crowned and ditched with water turnouts installed as necessary to provide for proper drainage along the access road route. Water. There is no permanent or live water in the immediate or within the project area.

**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:**

Operator Name: BOPCO LP

Well Name: BRUSHY DRAW 30 FEDERAL

Well Number: 102H

**Seed Management**

**Seed Table**

Seed type:

Seed source:

Seed name:

Source name:

Source address:

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre:

Proposed seeding season:

Seed Summary	
Seed Type	Pounds/Acre

Total pounds/Acre:

Seed reclamation attachment:

**Operator Contact/Responsible Official Contact Info**

First Name: Jeff

Last Name: Raines

Phone: (432)620-4349

Email: jeffrey\_raines@xtoenergy.com

**Seedbed prep:** Initial seedbed preparation will consist of recontouring to the appropriate interim or final reclamation standard. All compacted areas to be seeded will be ripped to a minimum depth of 18 inches with a minimum furrow spacing of 2 feet, followed by recontouring the surface and then evenly spreading the stockpiled topsoil. Prior to seeding, the seedbed will be scarified to a depth of no less than 4-6 inches. If the site is to be broadcast seeded, the surface will be left rough enough to trap seed and snow, control erosion, and increase water infiltration.

**Seed BMP:** If broadcast seeding is to be used and is delayed, final seedbed preparation will consist of contour cultivating to a depth of 4-6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

**Seed method:** Seeding will be conducted no more than two weeks following completion of final seedbed preparation. A certified weed-free seed mix designed by the BLM to meet reclamation standards will be used. If the site is harrowed or dragged, seed will be covered by no more than 0.25 inch of soil.

**Existing invasive species?** NO

**Existing invasive species treatment description:**

**Existing invasive species treatment attachment:**

**Weed treatment plan description:** Weed control for all phases will be through the use of approved pesticides and herbicides according to applicable State, Federal and local laws.

**Weed treatment plan attachment:**

**Monitoring plan description:** Monitoring of invasive and noxious weeds will be visual and as-needed. If it is determined additional methods are required to monitor invasive and noxious weeds, appropriate BLM authorities will be contacted with a plan of action for approval prior to implementation.

**Monitoring plan attachment:**

**Operator Name:** BOPCO LP

**Well Name:** BRUSHY DRAW 30 FEDERAL

**Well Number:** 102H

**Success standards:** 100% compliance with applicable regulations.

**Pit closure description:** There will be no reserve pit as each well will be drilled utilizing a closed loop mud system. The closed loop system will meet the NMOCD requirements 19.15.17.

**Pit closure attachment:**

### Section 11 - Surface Ownership

**Disturbance type:** OTHER

**Describe:** Flowline

**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:**

**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:**

**Operator Name:** BOPCO LP

**Well Name:** BRUSHY DRAW 30 FEDERAL

**Well Number:** 102H

**Military Local Office:**

**USFWS Local Office:**

**Other Local Office:**

**USFS Region:**

**USFS Forest/Grassland:**

**USFS Ranger District:**

**Disturbance type:** PIPELINE

**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:**

**Disturbance type:** TRANSMISSION LINE

**Describe:**

**Surface Owner:** BUREAU OF LAND MANAGEMENT

**Other surface owner description:**

**BIA Local Office:**

**BOR Local Office:**

**COE Local Office:**

**Operator Name:** BOPCO LP

**Well Name:** BRUSHY DRAW 30 FEDERAL

**Well Number:** 102H

**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:**

**Disturbance type:** NEW ACCESS ROAD

**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):** 281001 ROW - ROADS,288100 ROW – O&G Pipeline,288101 ROW – O&G Facility Sites,288103 ROW – Salt Water Disposal Pipeline/Facility,288104 ROW – Salt Water Disposal Apln/Fac-FLPMA,289001 ROW- O&G Well Pad,

**Operator Name:** BOPCO LP

**Well Name:** BRUSHY DRAW 30 FEDERAL

**Well Number:** 102H

FLPMA (Powerline)

**ROW Applications**

**SUPO Additional Information:**

**Use a previously conducted onsite?** NO

**Previous Onsite information:**

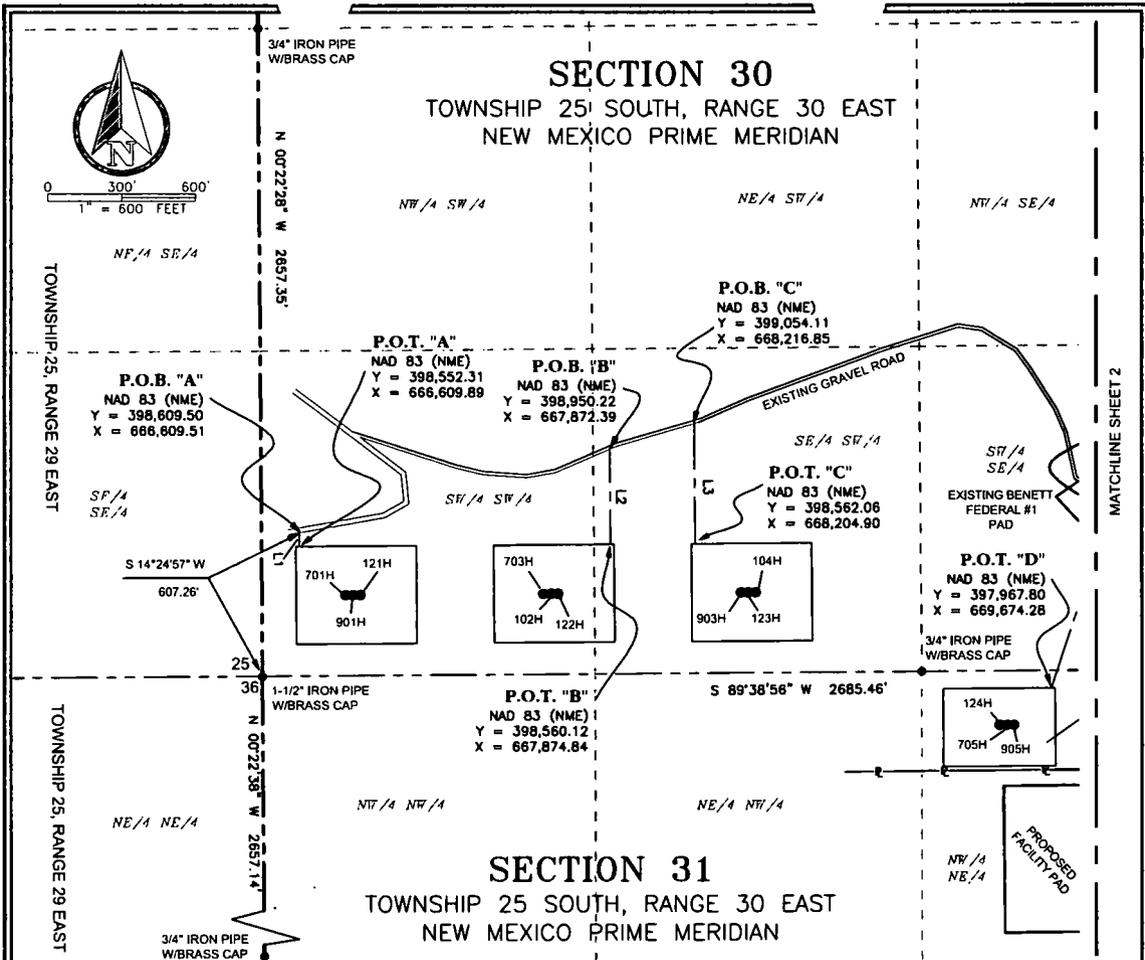
**Other SUPO Attachment**

BD\_30\_Fed\_All\_Pads\_20171127080218.pdf

BD\_30\_Fed\_Lease\_20171127080229.pdf

BD\_30\_Fed\_SUPO\_20171127080241.pdf

BD\_30\_Fed\_Well\_List\_20171127080249.pdf



LINE	BEARING	DISTANCE
L1	S 00°22'43" E	57.19'
L2	S 00°21'33" E	390.11'
L3	S 00°21'41" E	491.97'
L4	S 18°22'05" W	116.39'
L5	S 18°22'05" W	615.08'
L6	N 89°36'53" E	712.76'
L7	S 00°19'12" E	1160.21'
L8	S 89°26'22" W	553.55'
L9	S 89°41'47" W	149.90'
L10	S 00°33'55" E	1517.57'
L11	S 89°31'58" E	472.48'

TOTAL LENGTH = 6,237.30 FEET OR 378.02 RODS

**GENERAL NOTES**

- BEARINGS AND COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.
- LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN DATUM (NAD83).

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

*[Signature]*  
 MARK DILLON HARP  
 REGISTERED PROFESSIONAL LAND SURVEYOR  
 STATE OF NEW MEXICO NO. 23786



**LEGEND**

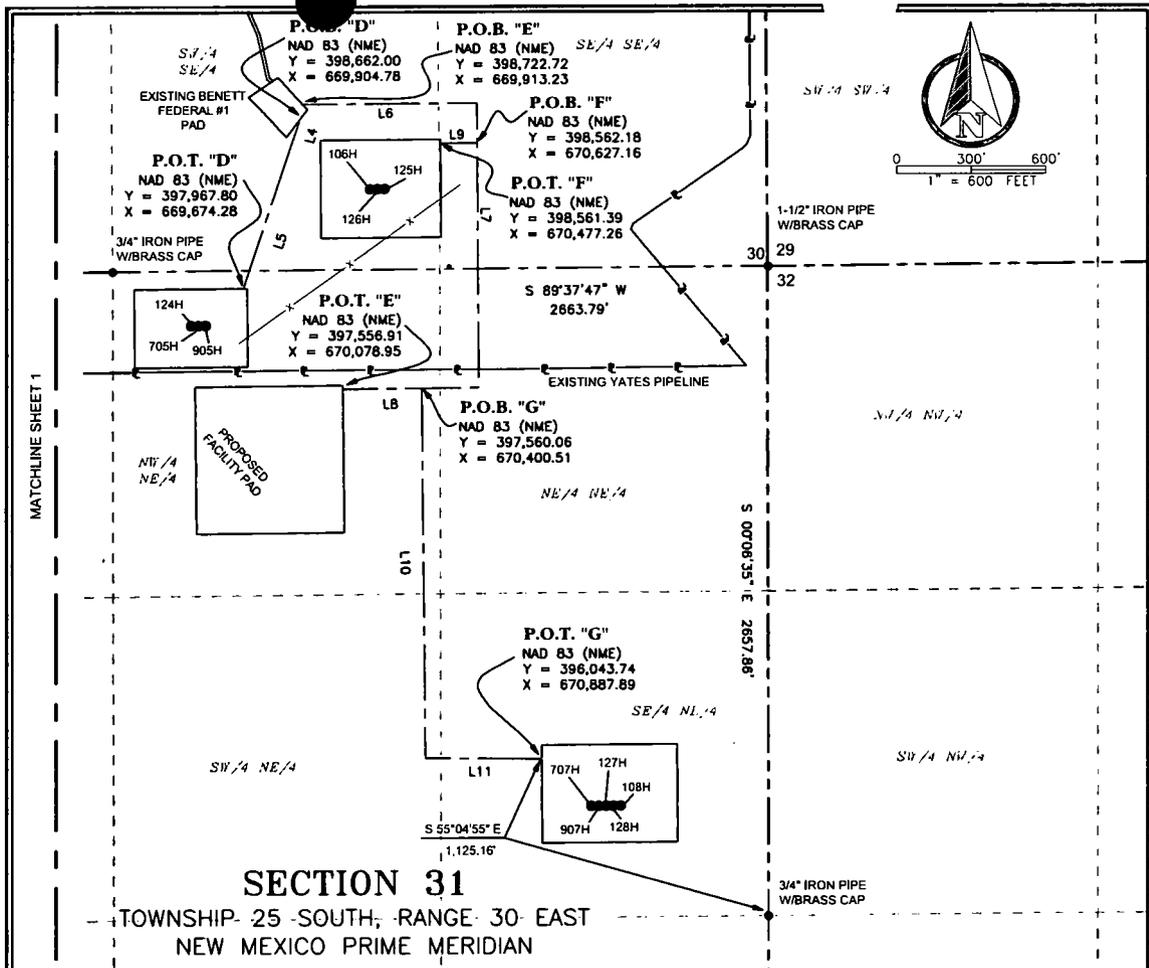
- SECTION LINE
- EXISTING PIPELINE (AS NOTED HEREON)
- EXISTING ROAD
- x-x- EXISTING FENCE
- PROPOSED PAD
- PROPOSED ROAD CENTERLINE
- P.O.B.
- FOUND MONUMENT W/BRASS CAP

**BRUSHY DRAW 30 & 31 FEDERAL ACCESS ROAD DESCRIPTION:**

SURVEY OF A STRIP OF LAND 30.0 FEET WIDE AND 6,237.30 FEET, 378.02 RODS, OR 1.18 MILES IN LENGTH CROSSING SECTIONS 30 & 31 TOWNSHIP 25 RANGE 30 EAST N.M.P.M. EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET RIGHT AND 15.0 FEET LEFT OF THE ABOVE PLATTED CENTERLINE OF ROAD SURVEY, COMPRISING OF 4.27 ACRES AND DIVIDED IN EACH QUARTER QUARTER SECTION AS FOLLOWS:

- SW/4 SW/4 SECTION 30 = 57.19 FEET = 3.47 RODS = 0.04 OF AN ACRE
- SE/4 SW/4 SECTION 30 = 882.08 FEET = 53.46 RODS = 0.61 OF AN ACRE
- SW/4 SE/4 SECTION 30 = 1,210.41 FEET = 73.36 RODS = 0.83 OF AN ACRE
- SE/4 SE/4 SECTION 30 = 986.26 FEET = 59.77 RODS = 0.67 OF AN ACRE
- NE/4 NE/4 SECTION 31 = 637.12 FEET = 38.61 RODS = 0.44 OF AN ACRE
- NW/4 NE/4 SECTION 31 = 1,315.38 FEET = 79.72 RODS = 0.89 OF AN ACRE
- SW/4 NE/4 SECTION 31 = 734.02 FEET = 44.49 RODS = 0.51 OF AN ACRE
- SE/4 NE/4 SECTION 31 = 409.68 FEET = 24.83 RODS = 0.28 OF AN ACRE

PLAT OF:  
 PROPOSED CENTERLINE OF ACCESS ROADS FOR:  
**BOPCO, L.P.**  
 BRUSHY DRAW 30 & 31 FEDERAL  
 SITUATED IN SECTION 30, TOWNSHIP 25 SOUTH, RANGE 30 EAST,  
 AND SECTION 31, TOWNSHIP 25 SOUTH, RANGE 30 EAST NEW  
 MEXICO PRIME MERIDIAN, EDDY COUNTY, NEW MEXICO



**SECTION 31**

TOWNSHIP 25 SOUTH, RANGE 30 EAST  
NEW MEXICO PRIME MERIDIAN

LINE	BEARING	DISTANCE
L1	S 00°22'43" E	57.19'
L2	S 00°21'33" E	390.11'
L3	S 00°21'41" E	491.97'
L4	S 18°22'05" W	116.39'
L5	S 18°22'05" W	615.08'
L6	N 89°36'53" E	712.76'
L7	S 00°19'12" E	1160.21'
L8	S 89°26'22" W	553.55'
L9	S 89°41'47" W	149.90'
L10	S 00°33'55" E	1517.57'
L11	S 89°31'58" E	472.48'

TOTAL LENGTH = 6,237.30 FEET OR 378.02 RODS



**LEGEND**

- SECTION LINE
- EXISTING PIPELINE (AS NOTED HEREON)
- EXISTING ROAD
- x-x- EXISTING FENCE
- PROPOSED PAD
- PROPOSED ROAD CENTERLINE
- P.O.B.
- FOUND MONUMENT W/BRASS CAP

**GENERAL NOTES**

- BEARINGS AND COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM 'NEW MEXICO EAST ZONE' NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.
- LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN DATUM (NAD83).

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

MARK DILLON HARP  
REGISTERED PROFESSIONAL LAND SURVEYOR  
STATE OF NEW MEXICO NO. 23786

**BRUSHY DRAW 30 & 31 FEDERAL ACCESS ROAD DESCRIPTION:**

SURVEY OF A STRIP OF LAND 30.0 FEET WIDE AND 6,237.23 FEET, 378.01 RODS, OR 1.18 MILES IN LENGTH CROSSING SECTIONS 30 & 31 TOWNSHIP 25 RANGE 30 EAST N.M.P.M. EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET RIGHT AND 15.0 FEET LEFT OF THE ABOVE PLATTED CENTERLINE OF ROAD SURVEY, COMPRISING OF 4.27 ACRES AND DIVIDED IN EACH QUARTER QUARTER SECTION AS FOLLOWS:

- SW/4 SW/4 SECTION 30 = 57.19 FEET = 3.47 RODS = 0.04 OF AN ACRE
- SE/4 SW/4 SECTION 30 = 882.08 FEET = 53.46 RODS = 0.61 OF AN ACRE
- SW/4 SE/4 SECTION 30 = 1,210.41 FEET = 73.36 RODS = 0.83 OF AN ACRE
- SE/4 SE/4 SECTION 30 = 986.26 FEET = 59.77 RODS = 0.67 OF AN ACRE
- NE/4 NE/4 SECTION 31 = 637.12 FEET = 38.61 RODS = 0.44 OF AN ACRE
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- SW/4 NE/4 SECTION 31 = 734.02 FEET = 44.49 RODS = 0.51 OF AN ACRE
- SE/4 NE/4 SECTION 31 = 409.68 FEET = 24.83 RODS = 0.28 OF AN ACRE

PLAT OF:  
PROPOSED CENTERLINE OF ACCESS ROADS FOR:  
**BOPCO, L.P.**  
**BRUSHY DRAW 30 & 31 FEDERAL**  
SITUATED IN SECTION 30, TOWNSHIP 25 SOUTH, RANGE 30 EAST,  
AND SECTION 31, TOWNSHIP 25 SOUTH, RANGE 30 EAST NEW  
MEXICO PRIME MERIDIAN, EDDY COUNTY, NEW MEXICO



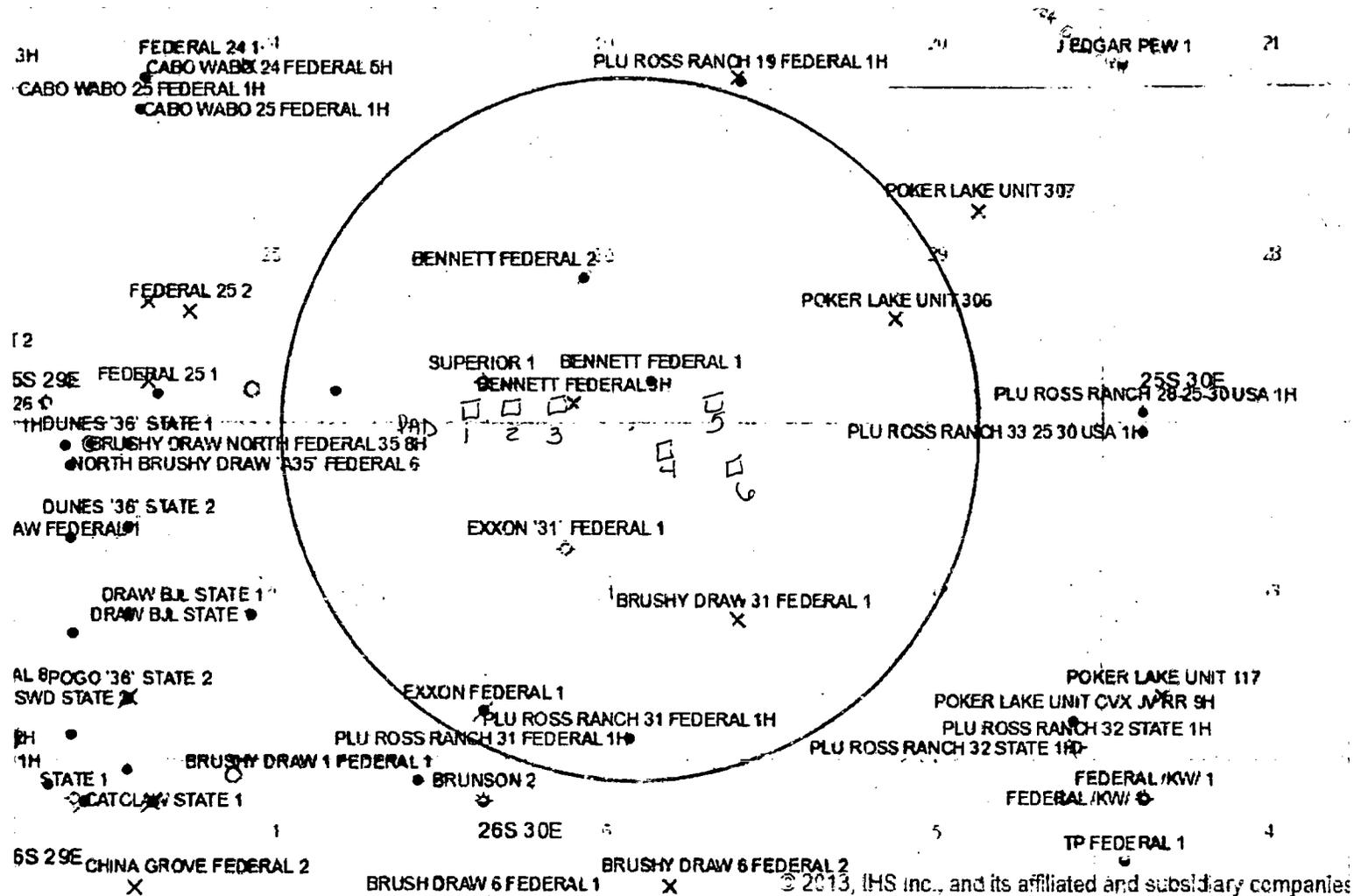
550 Bailey Ave., 205 - Fort Worth, TX 76107  
Ph: 817.349.9800 - Fax: 979.732.5271  
TBPE Firm 17957 | TBPLS Firm 10193887  
www.fbcinc.net  
© COPYRIGHT 2016 - ALL RIGHTS RESERVED

DATE: 10-30-2017 PROJECT NO: 2017060876  
DRAWN BY: AI SCALE: 1" = 600'  
CHECKED BY: DH SHEET: 2 OF 2  
FIELD CREW: RE/PO REVISION: 1



**Brushy Draw 31 Federal Lease**

**1-Mile Radius Map**



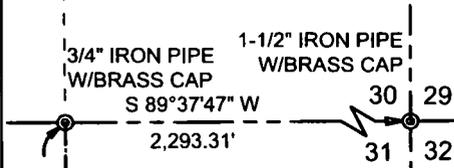
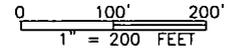
**BRUSHY DRAW-31 FEDERAL FACILITY PAD DESCRIPTION:**

Description of a Facility pad totaling 8.27 acres and being situated in Section 31, Township 25 South, Range 30 East, New Mexico Prime Meridian, Eddy County, New Mexico and being more particularly described as follows:

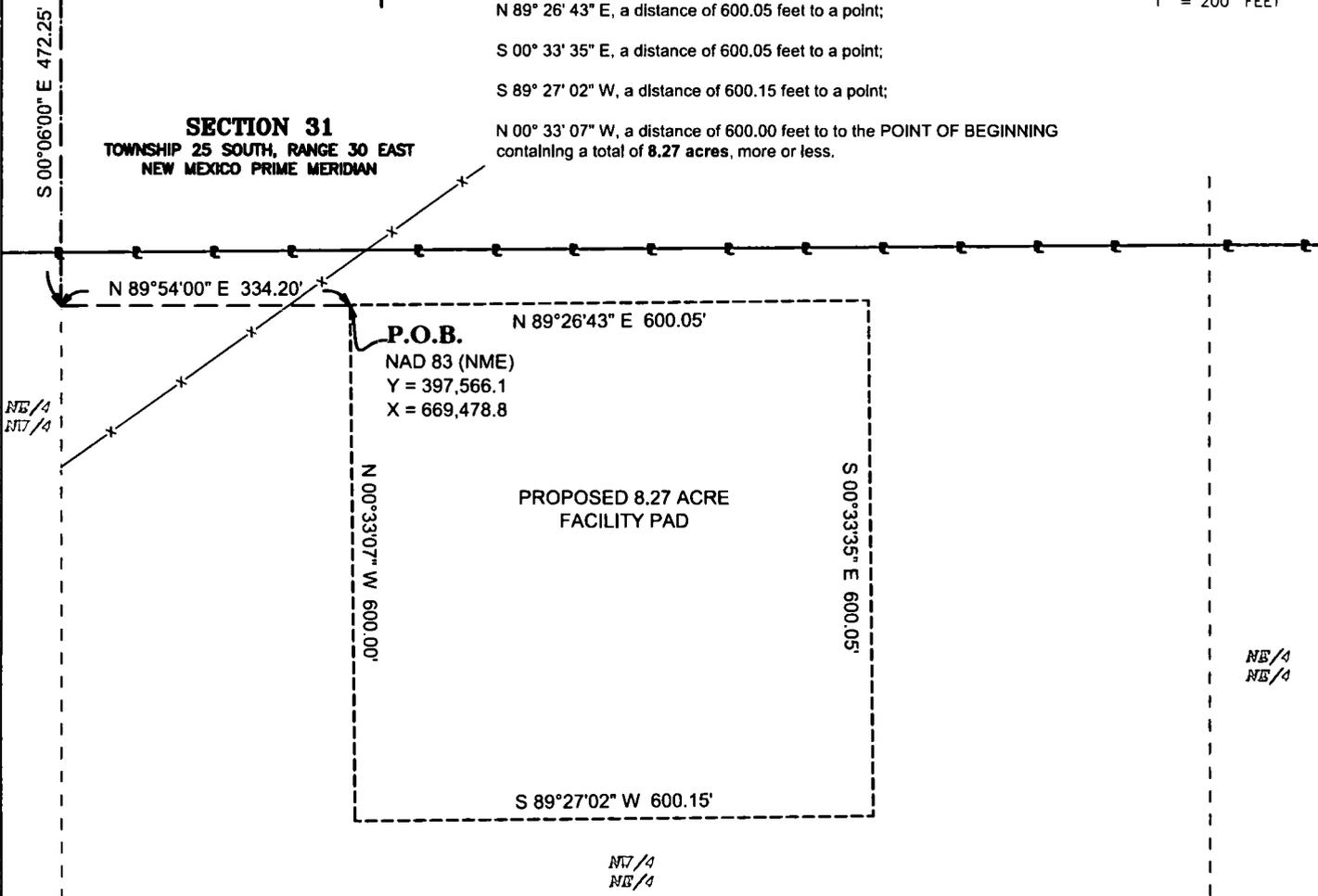
**BEGINNING** at the northwest corner of the facility pad which lies S 00° 06' 00" E 472.25' feet and N 89° 54' 00" E 334.20' feet from the north midpoint w/ 3/4" Iron cap found of said Section 31;

**THENCE** over and across said Section 18, the following courses and distances:

- N 89° 26' 43" E, a distance of 600.05 feet to a point;
- S 00° 33' 35" E, a distance of 600.05 feet to a point;
- S 89° 27' 02" W, a distance of 600.15 feet to a point;
- N 00° 33' 07" W, a distance of 600.00 feet to the POINT OF BEGINNING containing a total of 8.27 acres, more or less.



**SECTION 31**  
TOWNSHIP 25 SOUTH, RANGE 30 EAST  
NEW MEXICO PRIME MERIDIAN



**P.O.B.**  
NAD 83 (NME)  
Y = 397,566.1  
X = 669,478.8

PROPOSED 8.27 ACRE  
FACILITY PAD

GENERAL NOTES

1. BEARINGS AND COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.
2. LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN DATUM (NAD83).

I, MARK DILLON HARP, DO HEREBY STATE THAT THE ABOVE AND FOREGOING SURVEY PLAT WAS PREPARED FROM A SURVEY MADE ON THE GROUND, UNDER MY DIRECTION AND SUPERVISION DURING THE MONTH OF JUNE, 2017.

MARK DILLON HARP  
PROFESSIONAL LAND SURVEYOR  
STATE OF NEW MEXICO NO. 23786



LEGEND

- — — — — SECTION LINE
- - - - - PROPOSED PAD
- x - x - FENCE LINE
- e - e - EXISTING PIPELINE
- P.O.B. POINT OF BEGINNING
- ⊙ FOUND BRASS CAP MONUMENT

*BOPCO, L.P.*

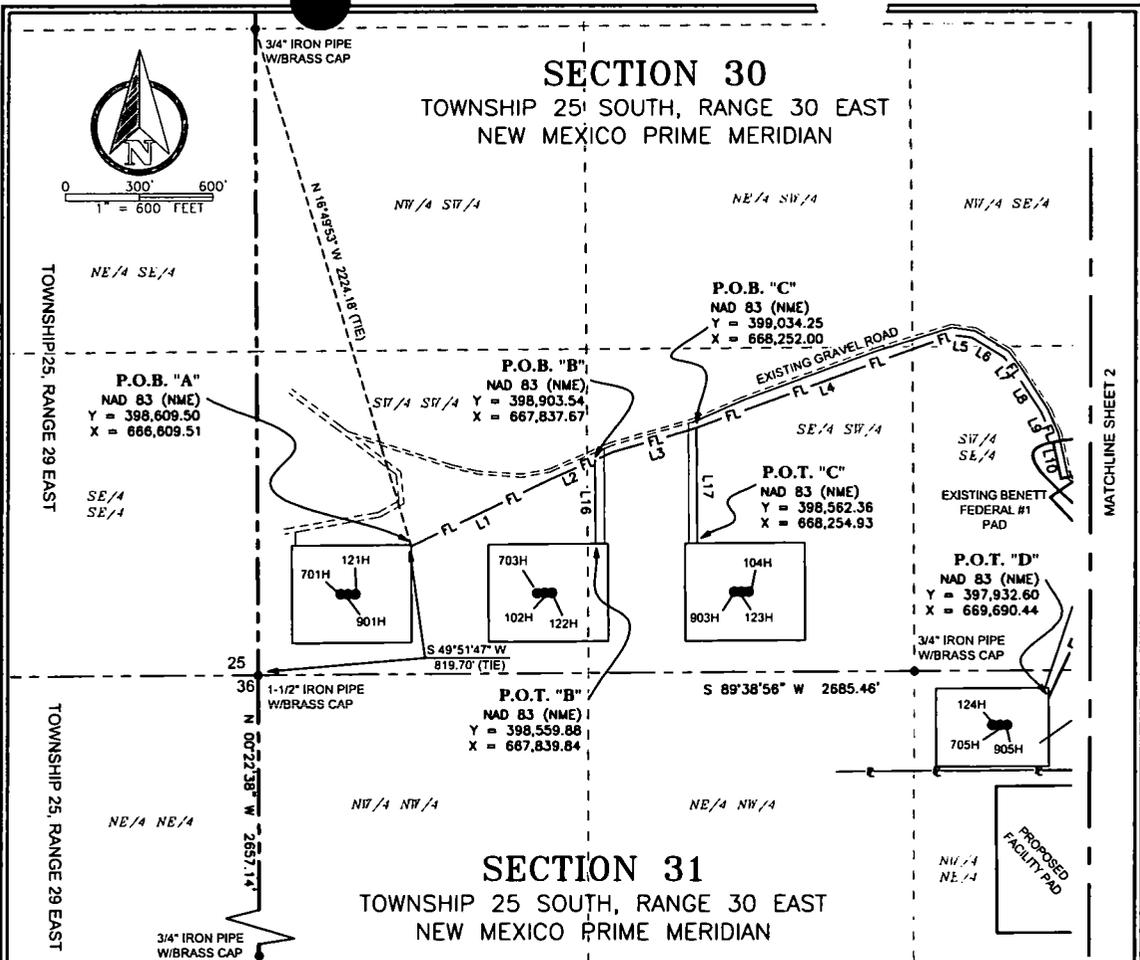
SURVEY FOR A FACILITY PAD SITUATED  
IN THE NW/4 NE/4 OF SECTION 31,  
TOWNSHIP 25 SOUTH, RANGE 30 EAST,  
N.M.P.M. EDDY COUNTY, NEW MEXICO



550 Bailey Ave., 205 - Fort Worth, TX 76107  
Ph: 817.349.9800 - Fax: 979.732.5271  
TBPE Firm 17957 | TBPLS Firm 10193887  
www.fscinc.net

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DATE:	9-7-2017	PROJECT NO:	2017060876
DRAWN BY:	JAR	SCALE:	1" = 200'
CHECKED BY:	DH	SHEET:	SHT 1 OF 1
FIELD CREW:	RE/RR	REVISION:	0



- LEGEND**
- SECTION LINE
  - EXISTING PIPELINE (AS NOTED HEREON)
  - EXISTING ROAD
  - x-x- EXISTING FENCE
  - FL --- PROPOSED PAD
  - FL --- PROPOSED BURIED & SURFACE FLOW LINE
  - PROPOSED ROAD
  - P.O.B. POINT OF BEGINNING
  - FOUND MONUMENT W/BRASS CAP



**BRUSHY DRAW 30 & 31 FEDERAL BURIED AND SURFACE FLOW LINE DESCRIPTION:**

SURVEY OF A STRIP OF LAND 30.0 FEET WIDE AND 9,398.29 FEET, 569.59 RODS, OR 1.78 MILES IN LENGTH CROSSING SECTIONS 30 & 31 TOWNSHIP 25 RANGE 30 EAST N.M.P.M. EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET RIGHT AND 15.0 FEET LEFT OF THE ABOVE PLATTED CENTERLINE OF ROAD SURVEY, COMPRISING OF 6.431 ACRES AND IS DIVIDED EACH QUARTER QUARTER SECTION AS FOLLOWS:

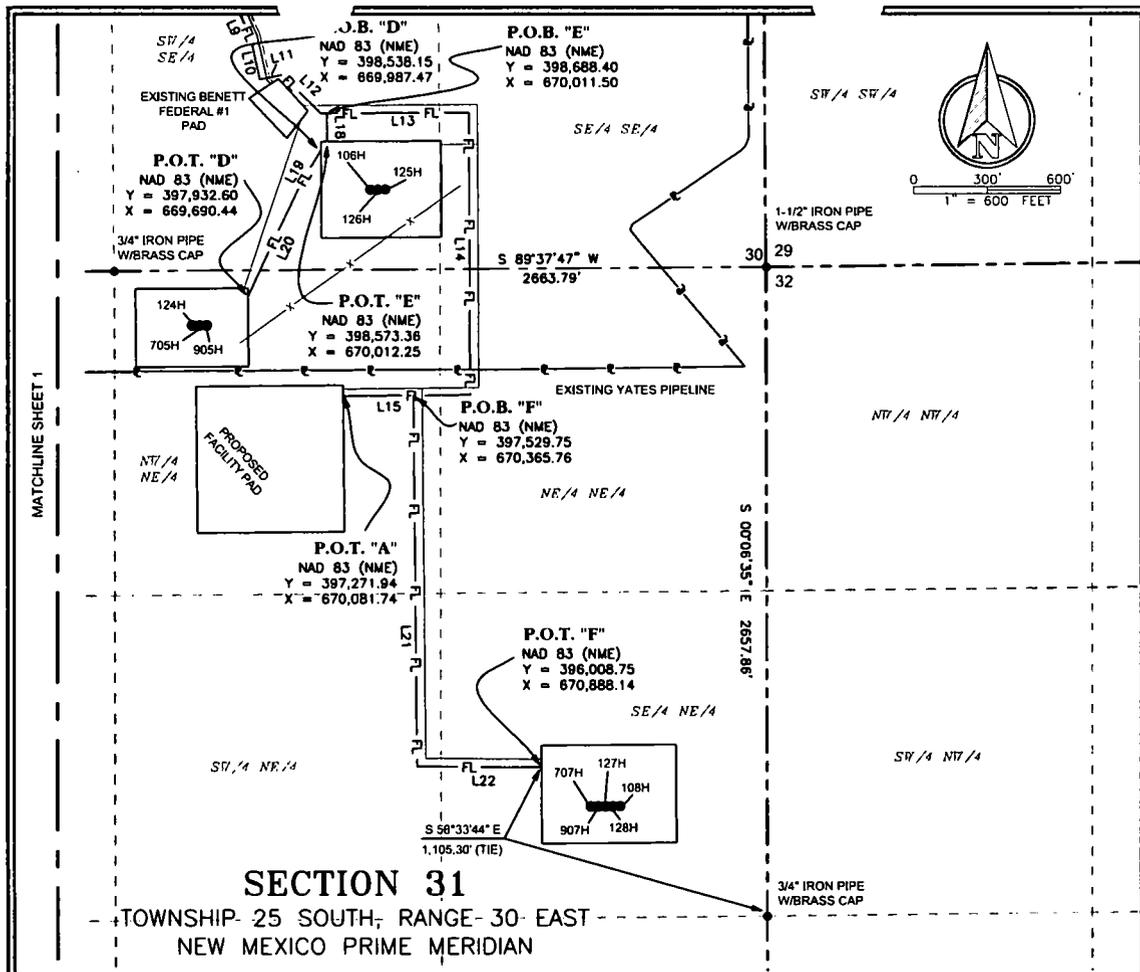
- SW/4 SW/4 SECTION 30 = 795.23 FEET = 48.20 RODS = 0.55 OF AN ACRE
- SE/4 SW/4 SECTION 30 = 2,225.42 FEET = 134.87 RODS = 1.51 ACRES
- NE/4 SW/4 SECTION 30 = (EASEMENT ONLY) 0.001 OF AN ACRE
- NW/4 SE/4 SECTION 30 = 293.31 FEET = 17.78 RODS = 0.20 OF AN ACRE
- SW/4 SE/4 SECTION 30 = 2,139.13 FEET = 129.64 RODS = 1.47 ACRES
- SE/4 SE/4 SECTION 30 = 766.38 FEET = 46.45 RODS = 0.53 OF AN ACRE
- NE/4 NE/4 SECTION 31 = 637.25 FEET = 38.62 RODS = 0.44 OF AN ACRE
- NW/4 NE/4 SECTION 31 = 1,327.70 FEET = 80.47 RODS = 0.90 OF AN ACRE
- SW/4 NE/4 SECTION 31 = 804.01 FEET = 48.73 RODS = 0.55 OF AN ACRE
- SE/4 NE/4 SECTION 31 = 409.86 FEET = 24.83 RODS = 0.28 OF AN ACRE

- GENERAL NOTES**
1. BEARINGS AND COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.
  2. LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN DATUM (NAD83).

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

MARK DILLON HARP  
REGISTERED PROFESSIONAL LAND SURVEYOR  
STATE OF NEW MEXICO NO. 23786

**PLAT OF:**  
PROPOSED CENTERLINE OF BURIED AND SURFACE FLOW LINE EASEMENT FOR:  
**BOPCO, L.P.**  
**BRUSHY DRAW 30 & 31 FEDERAL**  
SITUATED IN SECTION 30, TOWNSHIP 25 SOUTH, RANGE 30 EAST, AND SECTION 31, TOWNSHIP 25 SOUTH, RANGE 30 EAST NEW MEXICO PRIME MERIDIAN, EDDY COUNTY, NEW MEXICO



**SECTION 31**

TOWNSHIP 25 SOUTH, RANGE 30 EAST  
NEW MEXICO PRIME MERIDIAN

- LEGEND**
- SECTION LINE
  - EXISTING PIPELINE (AS NOTED HEREON)
  - EXISTING ROAD
  - x-x-x- EXISTING FENCE
  - FL --- PROPOSED PAD
  - FL --- PROPOSED BURIED & SURFACE FLOW LINE
  - PROPOSED ROAD
  - P.O.B.
  - POINT OF BEGINNING
  - FOUND MONUMENT W/BRASS CAP

MAIN BURIED AND SURFACE FLOW LINE

LINE	BEARING	DISTANCE
L1	N 64°16'43" E	637.85'
L2	N 66°36'08" E	274.18'
L3	N 73°49'49" E	354.76'
L4	N 69°54'59" E	1,112.03'
L5	S 81°44'15" E	82.82'
L6	S 58°13'34" E	148.73'
L7	S 36°18'45" E	84.85'
L8	S 32°45'41" E	181.67'
L9	S 23°43'36" E	105.52'
L10	S 12°09'18" E	175.39'
L11	N 77°55'05" E	91.58'
L12	S 44°55'48" E	224.88'
L13	N 89°37'29" E	604.81'
L14	S 00°18'28" E	1,160.20'
L15	S 89°26'22" W	518.35'

WELL CONNECT LINE "C"

LINE	BEARING	DISTANCE
L17	S 00°21'24" E	471.89'

WELL CONNECT LINE "D"

LINE	BEARING	DISTANCE
L18	S 00°22'31" E	115.04'

WELL CONNECT LINE "E"

LINE	BEARING	DISTANCE
L19	S 29°45'19" W	180.32'
L20	S 24°48'25" W	494.65'

WELL CONNECT LINE "B"

LINE	BEARING	DISTANCE
L16	S 00°21'41" E	343.86'

WELL CONNECT LINE "F"

LINE	BEARING	DISTANCE
L21	S 00°32'29" E	1,517.06'
L22	S 89°32'53" E	508.05'

**GENERAL NOTES**

- BEARINGS AND COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.
- LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN DATUM (NAD83).

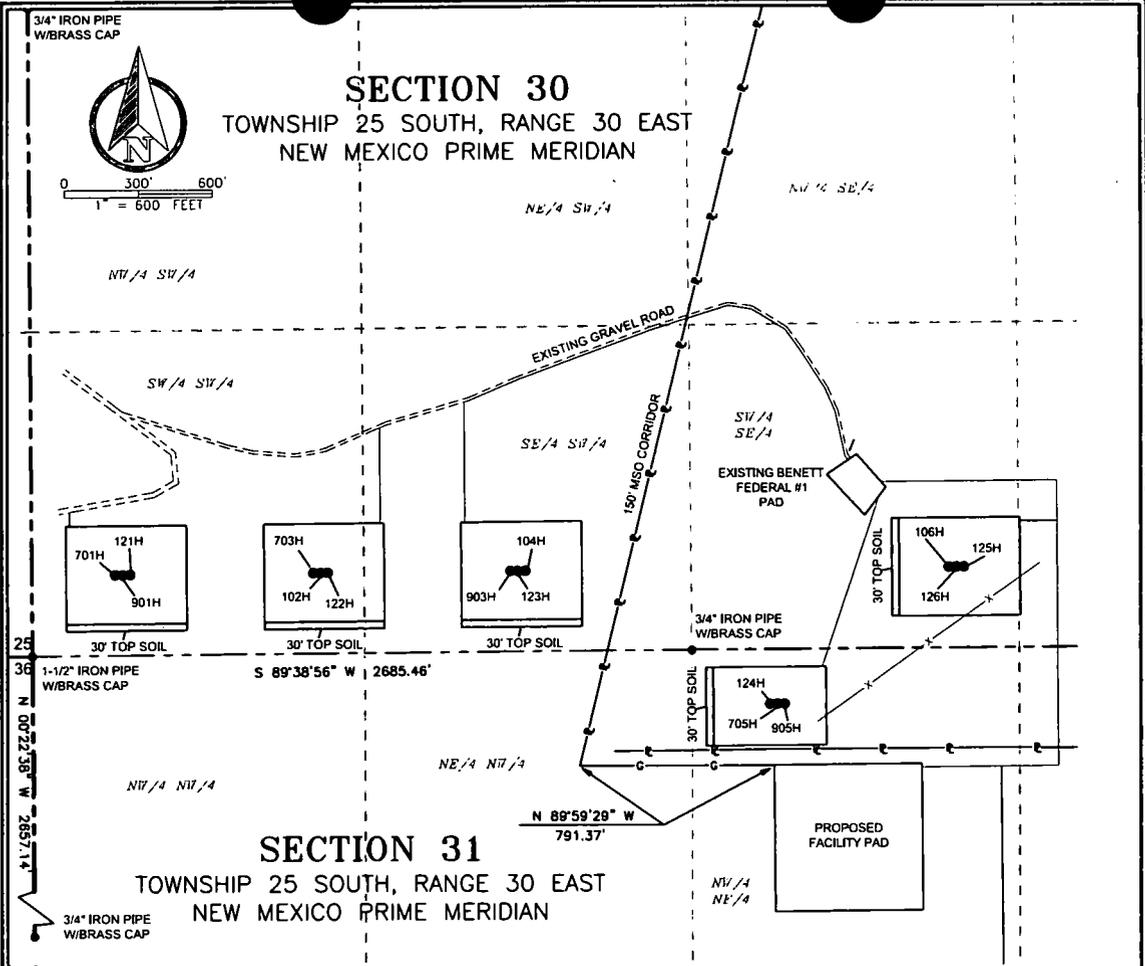


TOTAL LENGTH = 9,398.29 FEET OR 569.59 RODS

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

*[Signature]*  
MARK DILLON HARP  
REGISTERED PROFESSIONAL LAND SURVEYOR  
STATE OF NEW MEXICO NO. 23786

PLAT OF:  
PROPOSED CENTERLINE OF BURIED AND  
SURFACE FLOW LINE EASEMENT FOR:  
**BOPCO, L.P.**  
**BRUSHY DRAW 30 & 31 FEDERAL**  
SITUATED IN SECTION 30, TOWNSHIP 25 SOUTH, RANGE 30 EAST,  
AND SECTION 31, TOWNSHIP 25 SOUTH, RANGE 30 EAST NEW  
MEXICO PRIME MERIDIAN, EDDY COUNTY, NEW MEXICO



TOTAL LENGTH = 791.37 FEET, 47.96 RODS, OR 0.15 MILES

**LEGEND**

- SECTION LINE
- EXISTING PIPELINE (AS NOTED HEREON)
- - - EXISTING ROAD
- x - x - EXISTING FENCE
- PROPOSED PAD
- G — G — CENTERLINE PROPOSED GAS SALES LINE (110' WIDE)
- PROPOSED ROAD
- P.O.B. POINT OF BEGINNING
- FOUND MONUMENT W/BRASS CAP

**GENERAL NOTES**

1. BEARINGS AND COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.
2. LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN DATUM (NAD83).

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

*[Signature]*  
 MARK DILLON HARP  
 REGISTERED PROFESSIONAL LAND SURVEYOR  
 STATE OF NEW MEXICO NO. 23786

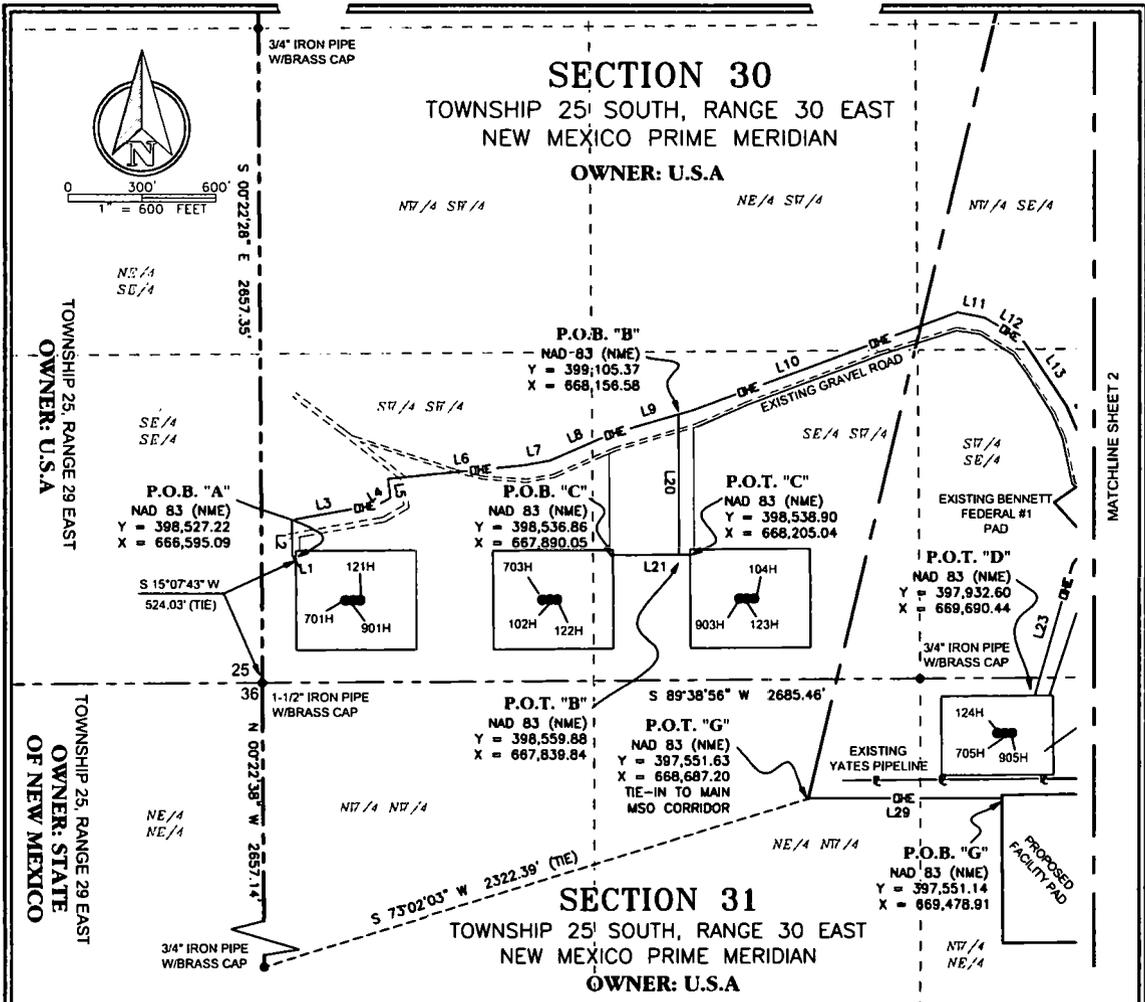


**PLAT OF:**  
 PROPOSED CENTERLINE OF GAS  
 SALES LINE FOR:  
**BOPCO, L.P.**  
**BRUSHY DRAW 30 & 31 FEDERAL**  
 SITUATED IN SECTION 30, TOWNSHIP 25 SOUTH, RANGE 30 EAST,  
 NEW MEXICO PRIME MERIDIAN, EDDY COUNTY, NEW MEXICO



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 Ph: 817.349.9800 - Fax: 979.732.5271  
 TBPE Firm 17957 | TBPLS Firm 10193887  
 www.fscinc.net

DATE: 10-27-2017 PROJECT NO: 2017060876  
 DRAWN BY: AI SCALE: 1" = 600'  
 CHECKED BY: DH SHEET: 1 OF 1  
 FIELD CREW: N/A REVISION: NO



TOWNSHIP 25, RANGE 29 EAST  
OWNER: U.S.A.

TOWNSHIP 25, RANGE 29 EAST  
OWNER: STATE  
OF NEW MEXICO

**SECTION 30**  
TOWNSHIP 25 SOUTH, RANGE 30 EAST  
NEW MEXICO PRIME MERIDIAN

OWNER: U.S.A

**SECTION 31**  
TOWNSHIP 25 SOUTH, RANGE 30 EAST  
NEW MEXICO PRIME MERIDIAN

OWNER: U.S.A

**LEGEND**

- SECTION LINE
- EXISTING PIPELINE (AS NOTED HEREON)
- EXISTING ROAD
- x-x- EXISTING FENCE
- PROPOSED PAD
- PROPOSED OVERHEAD ELECTRIC
- PROPOSED ROAD
- PROPOSED MSO CORRIDOR
- P.O.B.
- FOUND MONUMENT W/BRASS CAP

**GENERAL NOTES**

1. BEARINGS AND COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.
2. LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN DATUM (NAD83).

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

*[Signature]*  
MARK DILLON HARP  
REGISTERED PROFESSIONAL LAND SURVEYOR  
STATE OF NEW MEXICO NO. 23786

**BRUSHY DRAW 30 & 31 FEDERAL OVERHEAD ELECTRIC DESCRIPTION:**

SURVEY OF A STRIP OF LAND 30.0 FEET WIDE AND 11,576.41 FEET, 701.60 RODS, OR 2.19 MILES IN LENGTH CROSSING SECTIONS 30 & 31, TOWNSHIP 25 RANGE 30 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET RIGHT AND 15.0 FEET LEFT OF THE ABOVE PLATTED CENTERLINE OF ROAD SURVEY, COMPRISING OF 7.89 ACRES AND IS DIVIDED IN EACH QUARTER SECTION AS FOLLOWS:

- SW/4 SW/4 SECTION 30 = 1,508.03 FEET = 91.40 RODS = 1.04 ACRES
- SE/4 SW/4 SECTION 30 = 2,022.44 FEET = 122.57 RODS = 1.38 ACRES
- NE/4 SW/4 SECTION 30 = 268.39 FEET = 16.27 RODS = 0.18 OF AN ACRE
- NW/4 SE/4 SECTION 30 = 511.38 FEET = 30.99 RODS = 0.35 OF AN ACRE
- SW/4 SE/4 SECTION 30 = 2,122.76 FEET = 128.65 RODS = 1.45 ACRES
- SE/4 SE/4 SECTION 30 = 1,172.88 FEET = 71.08 RODS = 0.80 OF AN ACRE
- NE/4 NE/4 SECTION 31 = 578.60 FEET = 35.07 RODS = 0.47 OF AN ACRE
- NW/4 NE/4 SECTION 31 = 1,881.44 FEET = 114.03 RODS = 1.22 ACRES
- NE/4 NW/4 SECTION 31 = 457.39 FEET = 27.72 RODS = 0.27 OF AN ACRE
- SW/4 NE/4 SECTION 31 = 614.32 FEET = 37.23 RODS = 0.30 OF AN ACRE
- SE/4 NE/4 SECTION 31 = 438.78 FEET = 26.59 RODS = 0.43 OF AN ACRE

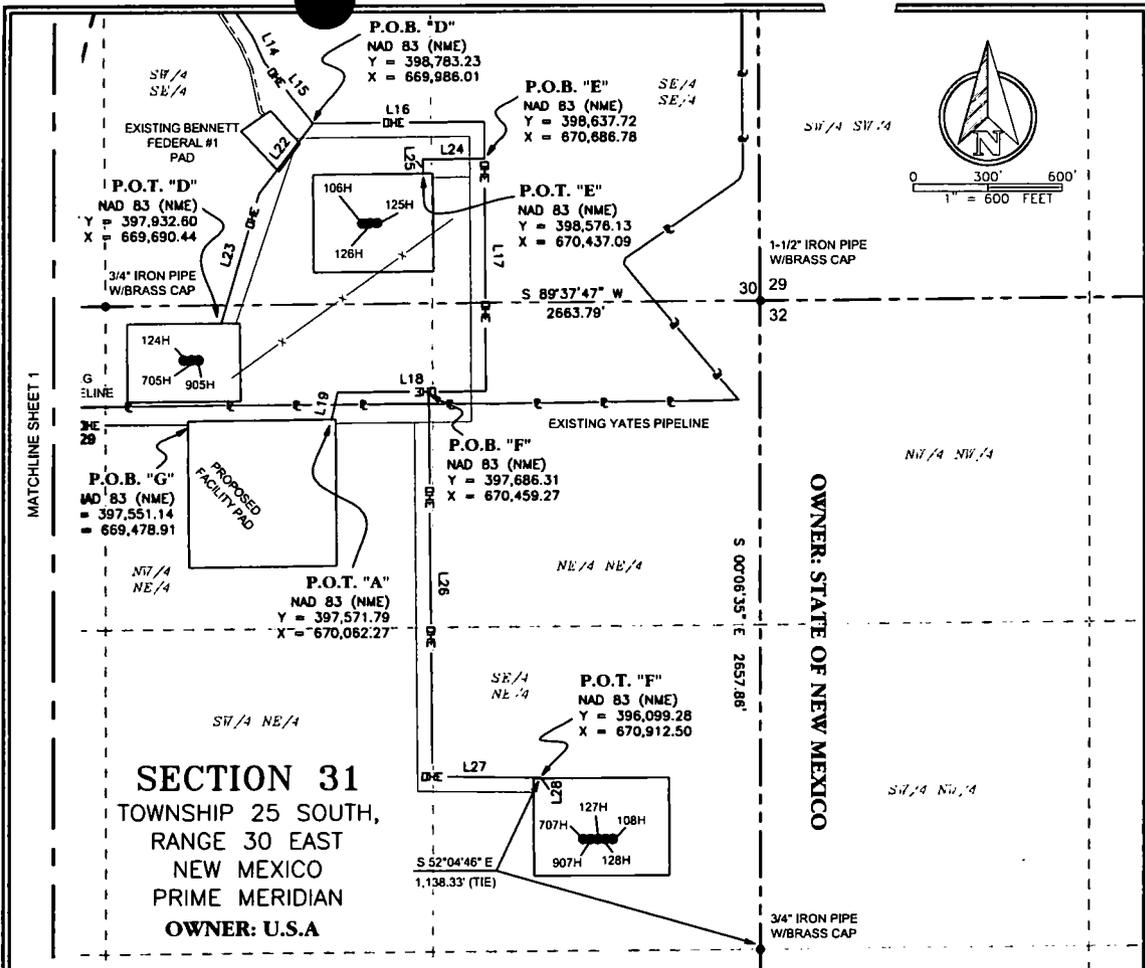


PLAT OF:  
PROPOSED ELECTRIC LINE EASEMENTS FOR:  
**BOPCO, L.P.**  
**BRUSHY DRAW 30 & 31 FEDERAL**  
SITUATED IN SECTION 30, TOWNSHIP 25 SOUTH, RANGE 30 EAST,  
AND SECTION 31, TOWNSHIP 25 SOUTH, RANGE 30 EAST NEW  
MEXICO PRIME MERIDIAN, EDDY COUNTY, NEW MEXICO



550 Bailey Ave., 205 - Fort Worth, TX 76107  
Ph: 817.349.9800 - Fax: 979.732.5271  
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DATE: 10-30-2017 PROJECT NO: 2017060876  
DRAWN BY: AI SCALE: 1" = 600'  
CHECKED BY: DH SHEET: 1 OF 2  
FIELD CREW: RE/PD REVISION: 1



**SECTION 31**  
 TOWNSHIP 25 SOUTH,  
 RANGE 30 EAST  
 NEW MEXICO  
 PRIME MERIDIAN  
 OWNER: U.S.A

OWNER: STATE OF NEW MEXICO

**LEGEND**

- SECTION LINE
- EXISTING PIPELINE (AS NOTED HEREON)
- EXISTING ROAD
- EXISTING FENCE
- PROPOSED PAD
- PROPOSED OVERHEAD ELECTRIC
- PROPOSED ROAD
- PROPOSED MSO CORRIDOR
- P.O.B. POINT OF BEGINNING
- FOUND MONUMENT W/BRASS CAP

**MAIN OVERHEAD ELECTRIC LINE**

LINE	BEARING	DISTANCE
L1	S 89°34'38" W	15.05'
L2	N 00°25'22" E	147.95'
L3	N 79°57'07" E	358.62'
L4	N 60°28'18" E	54.91'
L5	N 05°38'10" W	80.55'
L6	N 84°25'17" E	553.69'
L7	N 79°48'44" E	110.80'
L8	N 66°37'25" E	269.06'
L9	N 73°51'28" E	354.46'
L10	N 68°55'14" E	1146.48'
L11	S 79°16'57" E	117.33'
L12	S 58°13'57" E	186.86'
L13	S 33°59'03" E	308.29'
L14	S 23°41'20" E	112.95'
L15	S 37°50'17" E	322.52'
L16	N 89°37'35" E	699.76'
L17	S 00°20'44" E	1101.42'
L18	S 89°51'34" W	604.58'
L19	S 12°43'25" W	115.97'

**WELL CONNECT LINE "B"**

L20	S 00°20'50" E	566.77'
-----	---------------	---------

**WELL CONNECT LINE "C"**

L21	N 89°37'43" E	314.89'
-----	---------------	---------

**WELL CONNECT LINE "D"**

L22	S 37°21'36" W	357.93'
L23	S 16°07'59" W	553.08'

**WELL CONNECT LINE "E"**

L24	S 89°43'03" W	250.07'
L25	S 00°21'20" E	60.37'

**WELL CONNECT LINE "F"**

L26	S 00°34'01" E	1578.23'
L27	S 89°24'33" E	437.65'
L28	S 00°00'00" W	4.36'

**WELL CONNECT LINE "G"**

L29	N 89°57'50" W	791.71'
-----	---------------	---------

TOTAL LENGTH = 11,576.41 FEET OR 701.60 RODS

**GENERAL NOTES**

- BEARINGS AND COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.
- LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN DATUM (NAD83).

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

  
 MARK DILLON HARP  
 REGISTERED PROFESSIONAL LAND SURVEYOR  
 STATE OF NEW MEXICO NO. 23786



PLAT OF:  
 PROPOSED ELECTRIC LINE EASEMENTS FOR:

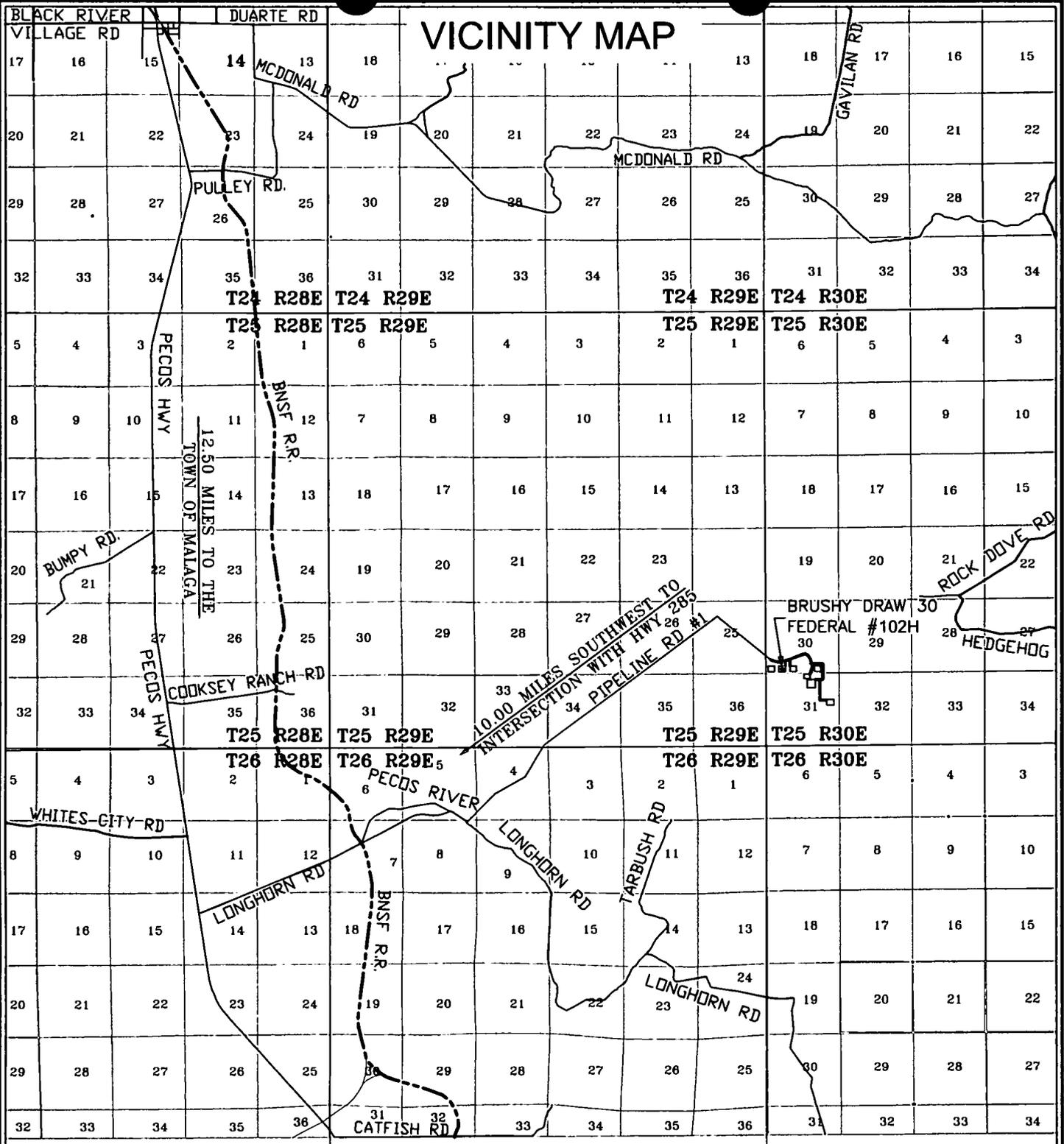
**BOPCO, L.P.**  
**BRUSHY DRAW 30 & 31 FEDERAL**  
 SITUATED IN SECTION 30, TOWNSHIP 25 SOUTH, RANGE 30 EAST,  
 AND SECTION 31, TOWNSHIP 25 SOUTH, RANGE 30 EAST NEW  
 MEXICO PRIME MERIDIAN, EDDY COUNTY, NEW MEXICO



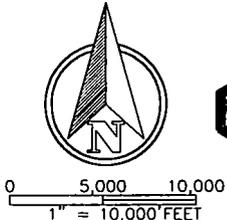
550 Bailey Ave., 205 - Fort Worth, TX 76107  
 Ph: 817.349.9800 - Fax: 979.732.5271  
 TBPE Firm 17957 | TBPLS Firm 10195887  
 www.fbcinc.net

DATE: 10-30-2017 PROJECT NO: 2017060876  
 DRAWN BY: AJ SCALE: 1" = 600'  
 CHECKED BY: DH SHEET: 2 OF 2  
 FIELD CREW: RE/PD REVISION: 1

# VICINITY MAP



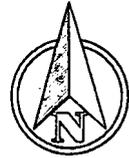
BRUSHY DRAW 30 FEDERAL #102H  
 LOCATED 1175 FEET FROM THE WEST LINE  
 AND 330 FEET FROM THE SOUTH LINE OF  
 SECTION 30, TOWNSHIP 25 SOUTH, RANGE 30  
 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO



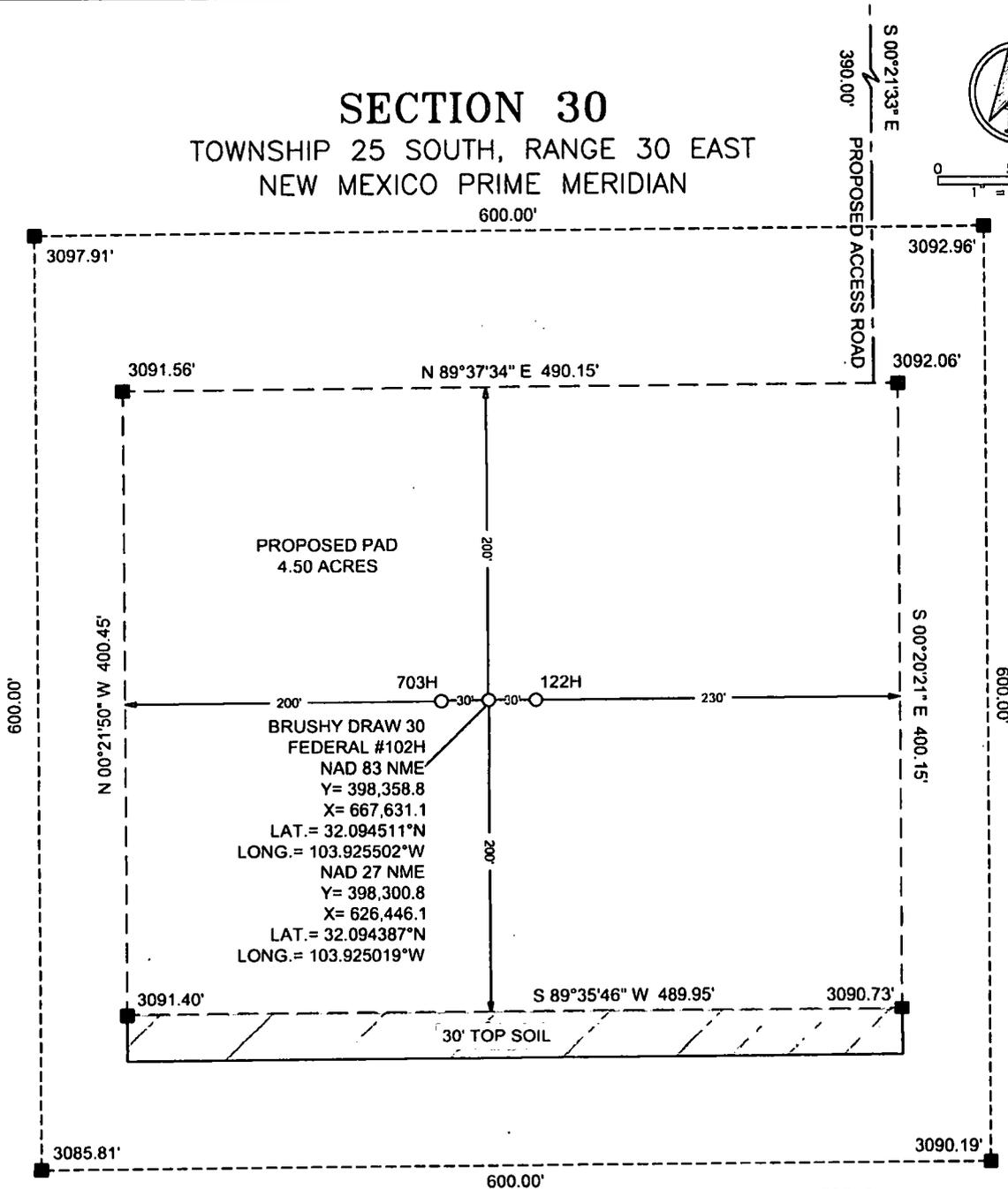
**FSC INC**  
 SURVEYORS+ENGINEERS  
 550 Bailey Ave., 205 - Fort Worth, TX 76107  
 Ph: 817.349.9800 - Fax: 979.732.5271  
 TBPE Firm 17957 | TBPLS Firm 10193887  
 www.fscinc.net

DATE: 08/14/2017  
 DRAWN BY: JAR  
 CHECKED BY: DH  
 FIELD CREW: RE/RR  
 PROJECT NO: 2017060881  
 SCALE: 1"= 10,000  
 SHEET: SHT 1 OF 1  
 REVISION: 0

**SECTION 30**  
 TOWNSHIP 25 SOUTH, RANGE 30 EAST  
 NEW MEXICO PRIME MERIDIAN



0 50' 100'  
 1" = 100 FEET



**LEGEND**

- PROPOSED ACCESS RD.
- - - - - PROPOSED PAD

**NOTE:**

1). SEE "TOPOGRAPHICAL AND ACCESS ROAD MAP" FOR PROPOSED ROAD LOCATION

**DIRECTIONS TO THIS LOCATION:**

FROM THE INTERSECTION OF HWY 285 AND LONGHORN RD. GO NORTHEAST ON LONGHORN ROAD (PAVED). ROAD BEND SOUTHEAST AND BACK TO NORTHEAST APPROX. 4.25 MILES. TURN LEFT AND GO NORTHEAST ON PIPELINE ROAD #1 (GRAVEL) APPROX. 4.50 MILES. TURN RIGHT ON EXISTING GRAVEL RD. APPROX. 1.00 MILES. KEEP LEFT ON EXISTING GRAVEL RD. APPROX. 0.21 MILES TO A PROPOSED ROAD AND LOCATION IS TO THE SOUTHWEST.

**BOPCO, L.P.**

**WELL SITE PLAN**

BRUSHY DRAW 30 FEDERAL #102H  
 LOCATED 1,175 FEET FROM THE WEST LINE  
 AND 330 FEET FROM THE SOUTH LINE OF  
 SECTION 30, TOWNSHIP 25 SOUTH, RANGE 30  
 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

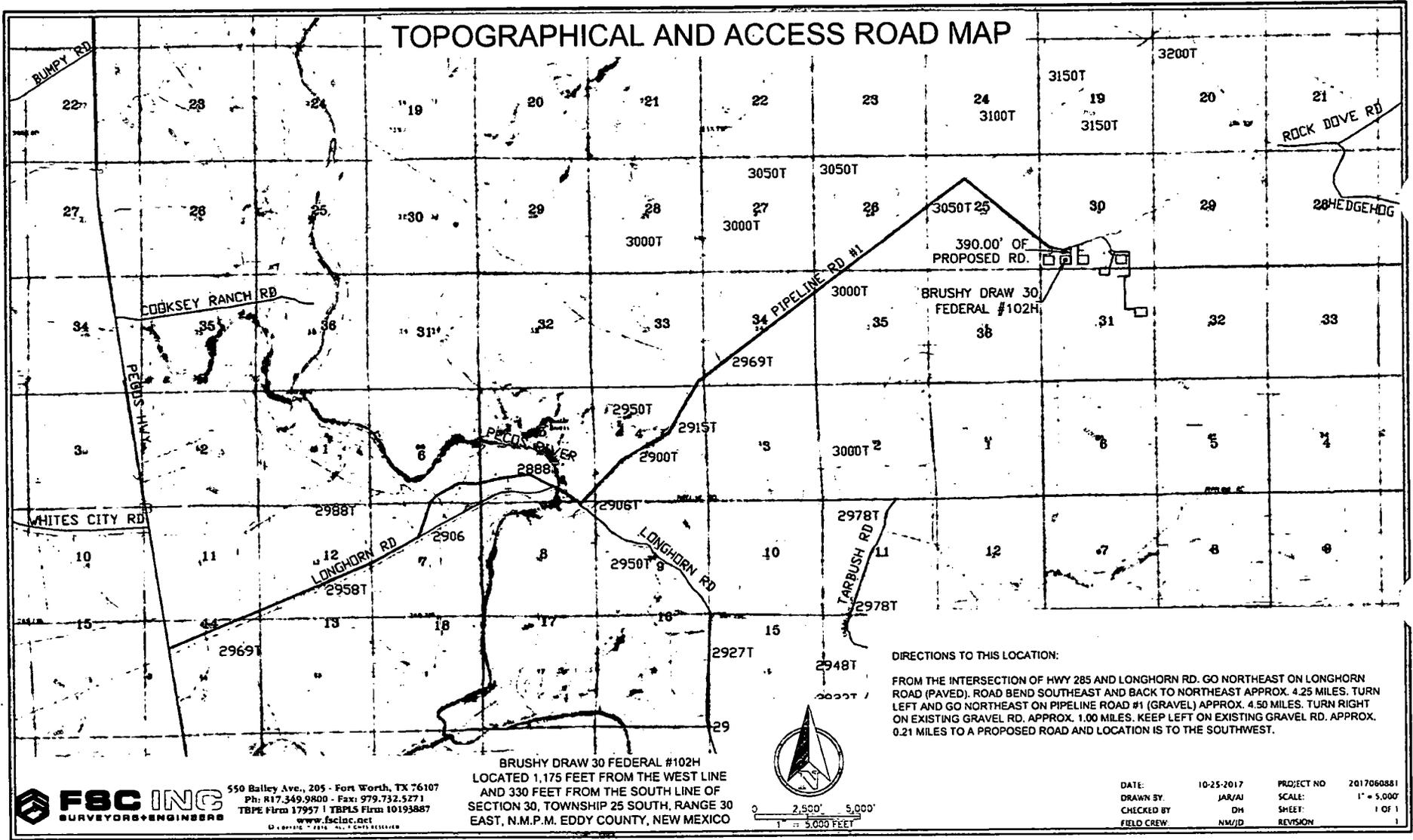
DATE:	10-25-2017	PROJECT NO:	2017060881
DRAWN BY:	JAR/AI	SCALE:	1" = 100'
CHECKED BY:	DH	SHEET:	1 OF 1
FIELD CREW:	RE/RR	REVISION:	1



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 Ph: 817.349.9800 - Fax: 979.732.5271  
 THPE Firm 17957 | THPLS Firm 10193887  
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# TOPOGRAPHICAL AND ACCESS ROAD MAP



**DIRECTIONS TO THIS LOCATION:**

FROM THE INTERSECTION OF HWY 285 AND LONGHORN RD. GO NORTHEAST ON LONGHORN ROAD (PAVED). ROAD BEND SOUTHEAST AND BACK TO NORTHEAST APPROX. 4.25 MILES. TURN LEFT AND GO NORTHEAST ON PIPELINE ROAD #1 (GRAVEL) APPROX. 4.50 MILES. TURN RIGHT ON EXISTING GRAVEL RD. APPROX. 1.00 MILES. KEEP LEFT ON EXISTING GRAVEL RD. APPROX. 0.21 MILES TO A PROPOSED ROAD AND LOCATION IS TO THE SOUTHWEST.

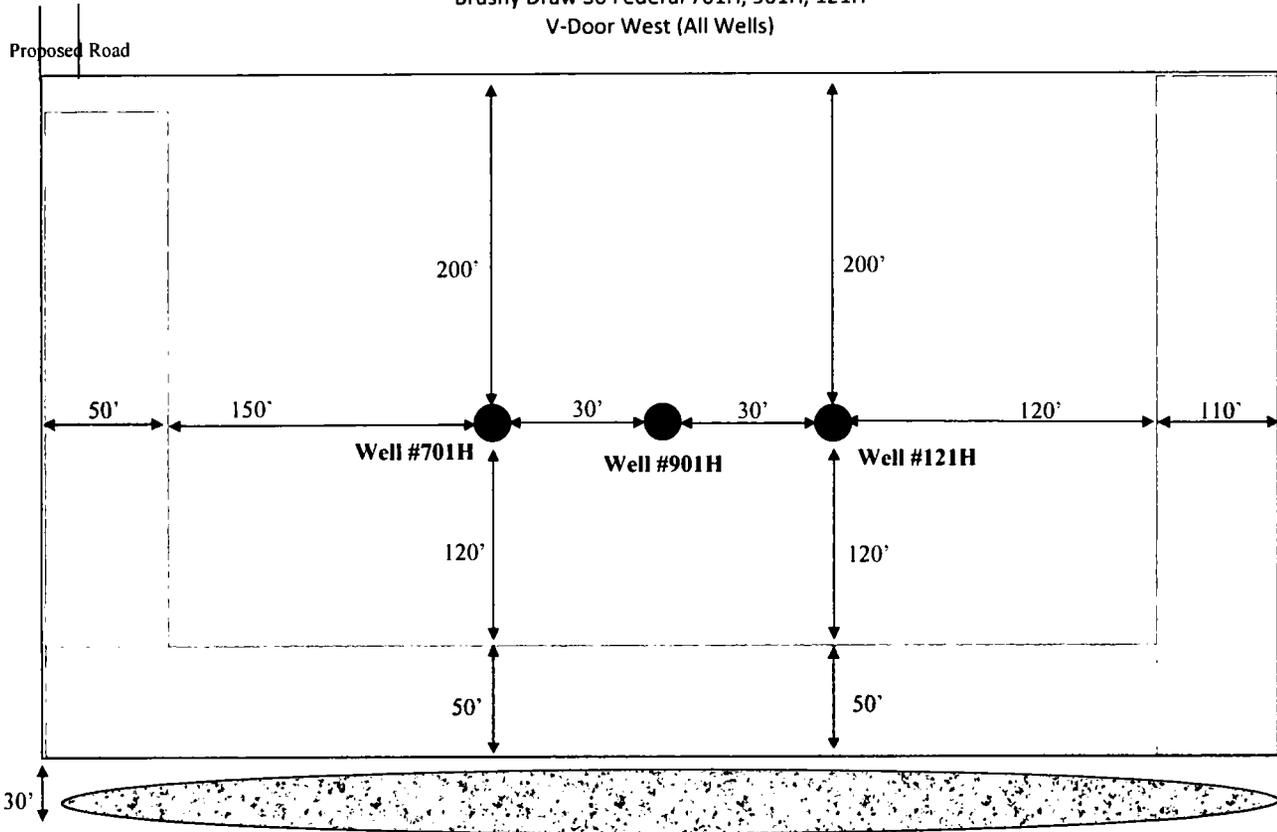
BRUSHY DRAW 30 FEDERAL #102H  
 LOCATED 1,175 FEET FROM THE WEST LINE  
 AND 330 FEET FROM THE SOUTH LINE OF  
 SECTION 30, TOWNSHIP 25 SOUTH, RANGE 30  
 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO



550 Bailey Ave., 205 - Fort Worth, TX 76107  
 Ph: 817.349.9800 - Fax: 979.732.5271  
 TDEP Firm 17997 | TBPLS Firm 10193887  
 www.fbcinc.net

DATE:	10-25-2017	PROJECT NO:	2017060881
DRAWN BY:	JAR/AJ	SCALE:	1" = 5,000'
CHECKED BY:	DH	SHEET:	1 OF 1
FIELD CREW:	NMJ/D	REVISION:	1

**Interim Reclamation Diagram**  
 Brushy Draw 30 Federal 701H, 901H, 121H  
 V-Door West (All Wells)



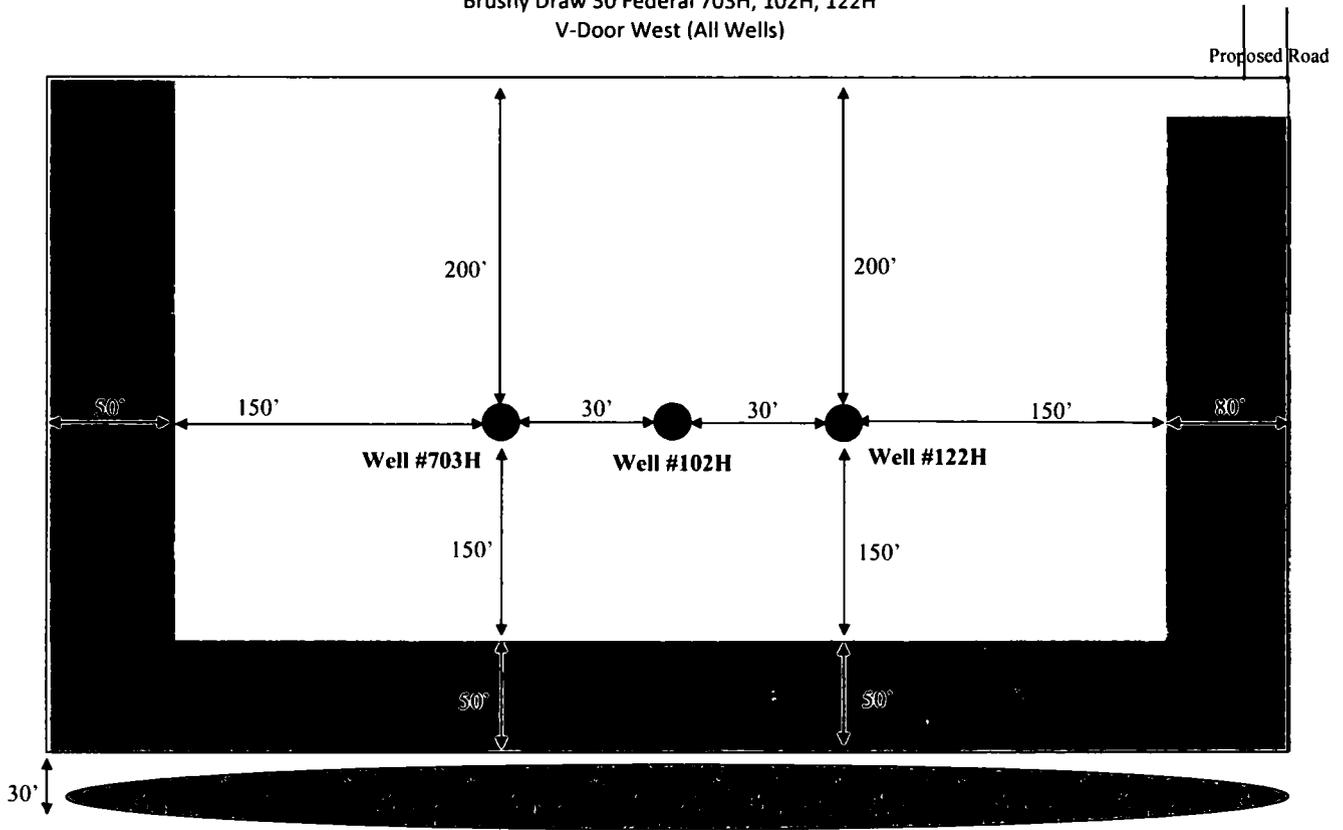
**LEGEND**



-  Wellbore
-  Interim Reclamation

-  Ditch & Berm
-  Topsoil

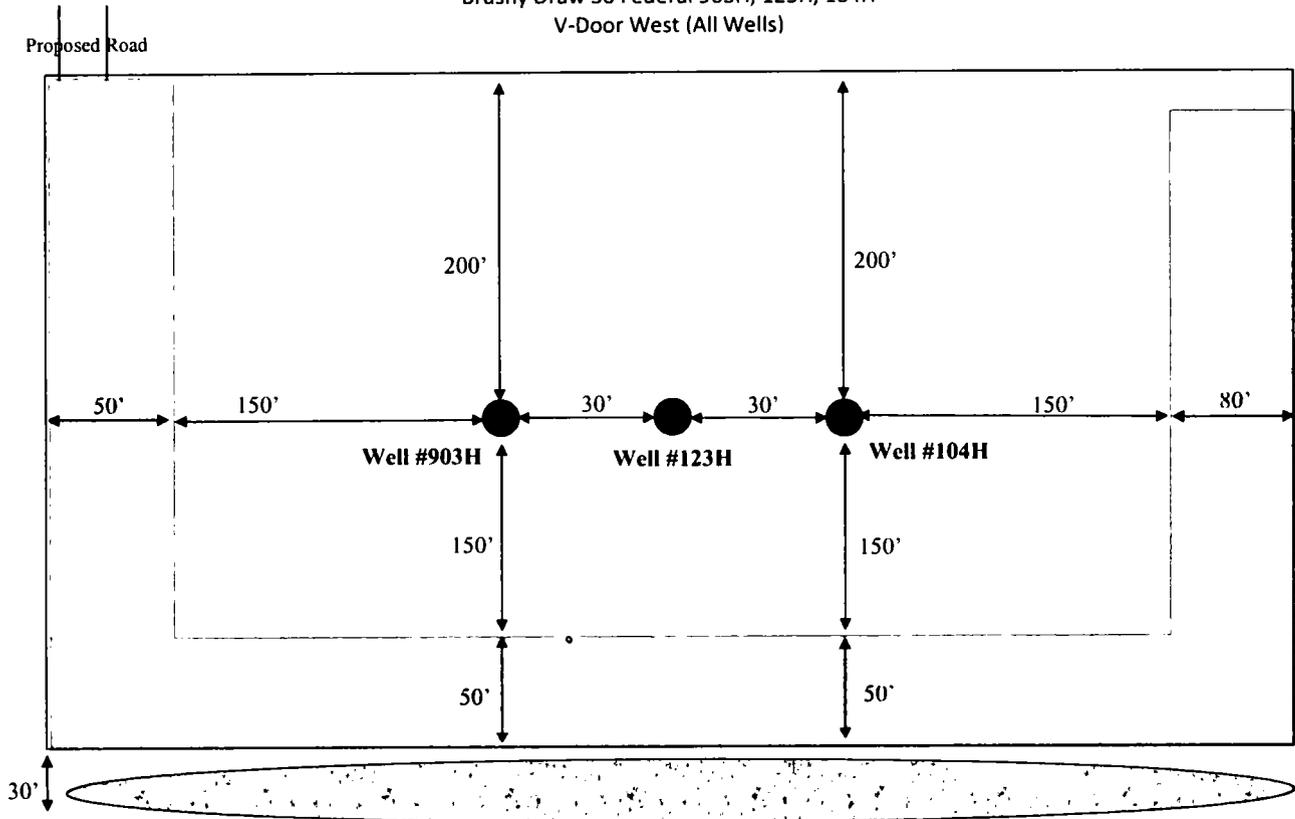
**Interim Reclamation Diagram**  
 Brushy Draw 30 Federal 703H, 102H, 122H  
 V-Door West (All Wells)



**LEGEND**

- |   |                     |   |              |
|---|---------------------|---|--------------|
|  | Wellbore            |  | Ditch & Berm |
|  | Interim Reclamation |  | Topsoil      |

**Interim Reclamation Diagram**  
 Brushy Draw 30 Federal 903H, 123H, 104H  
 V-Door West (All Wells)



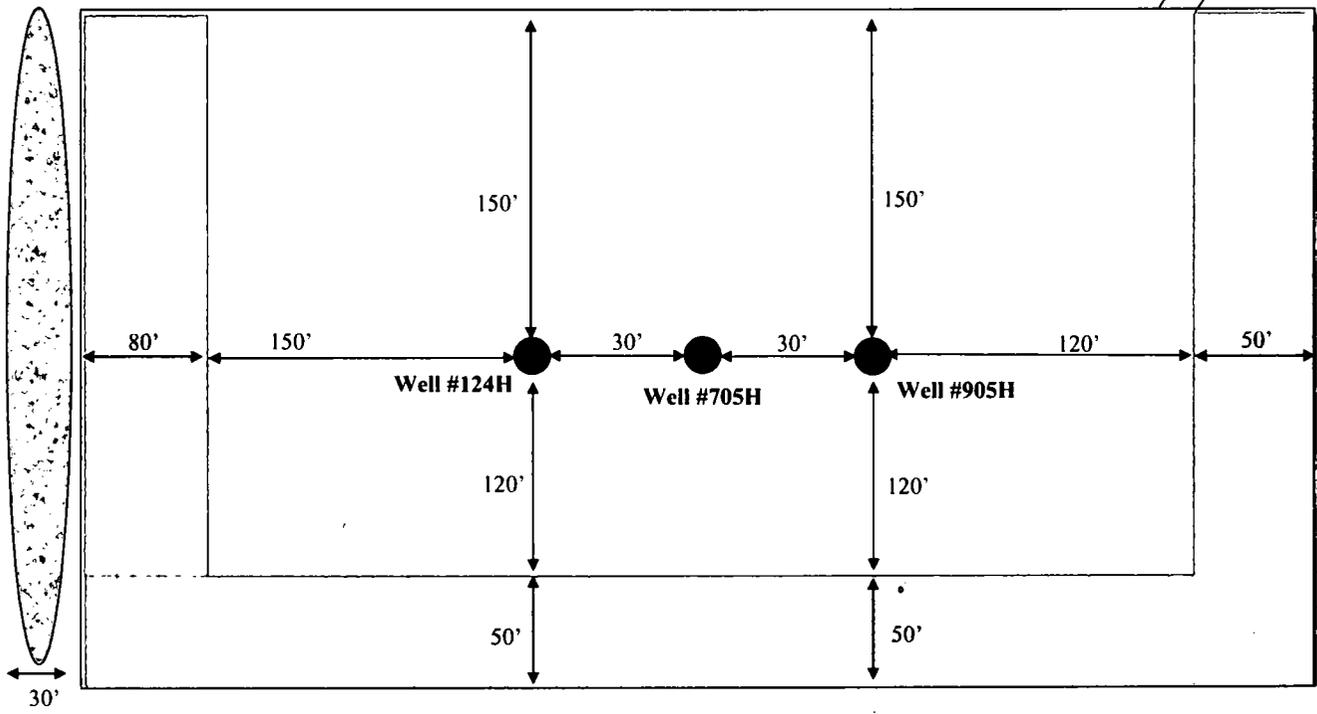
**LEGEND**

-  Wellbore
-  Interim Reclamation

-  Ditch & Berm
-  Topsoil

**Interim Reclamation Diagram**  
 Brushy Draw 31 Federal 124H, 705H, 905H  
 V-Door West (All Wells)

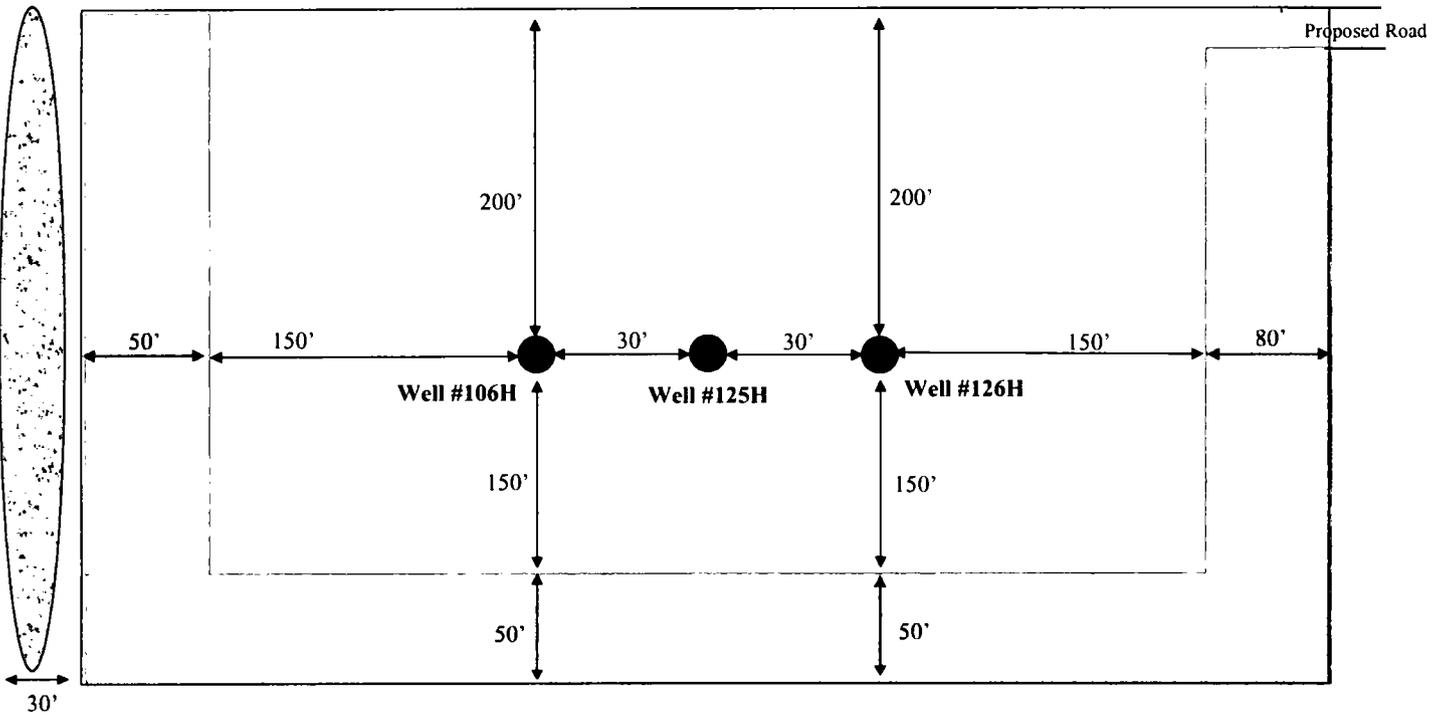
Proposed Road



**LEGEND**

-  Wellbore
-  Interim Reclamation
-  Ditch & Berm
-  Topsoil

**Interim Reclamation Diagram**  
 Brushy Draw 30 Federal 106H, 125H, 126H  
 V-Door West (All Wells)

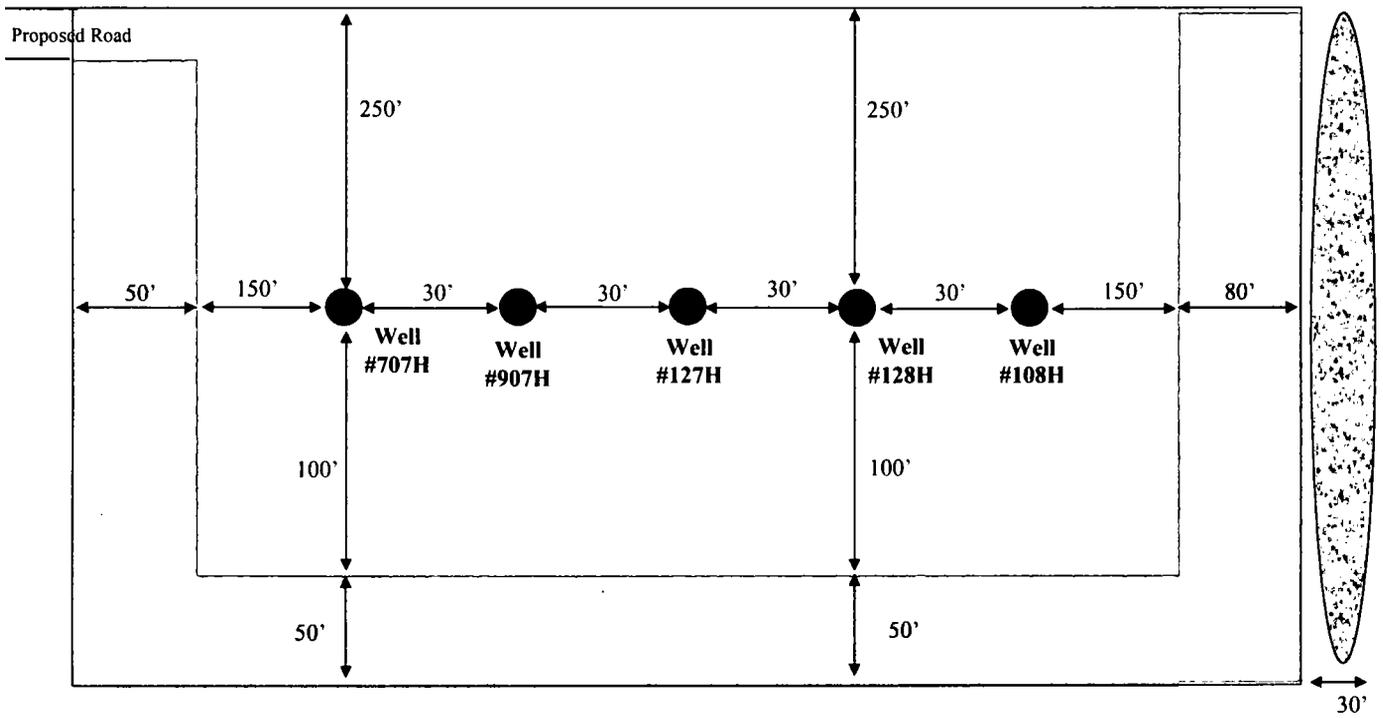


**LEGEND**

-  Wellbore
-  Interim Reclamation

-  Ditch & Berm
-  Topsoil

**Interim Reclamation Diagram**  
 Brushy Draw 31 Federal 707H, 907H, 127H, 128H, 108H  
 V-Door West (All Wells)



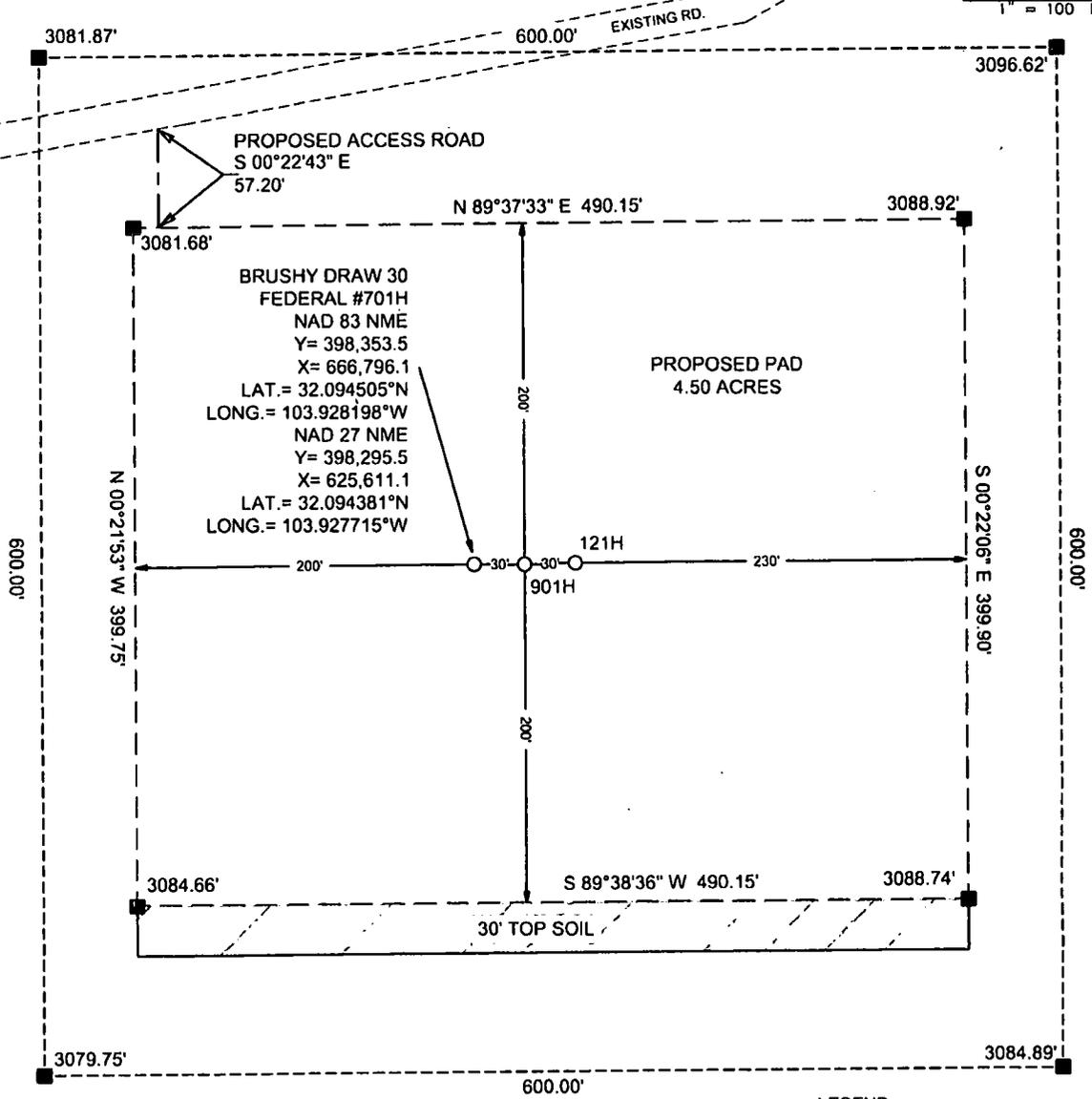
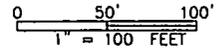
**LEGEND**



-  Wellbore
-  Interim Reclamation

-  Ditch & Berm
-  Topsoil

**SECTION 30**  
 TOWNSHIP 25 SOUTH, RANGE 30 EAST  
 NEW MEXICO PRIME MERIDIAN



BRUSHY DRAW 30  
 FEDERAL #701H  
 NAD 83 NME  
 Y= 398,353.5  
 X= 666,796.1  
 LAT.= 32.094505°N  
 LONG.= 103.928198°W  
 NAD 27 NME  
 Y= 398,295.5  
 X= 625,611.1  
 LAT.= 32.094381°N  
 LONG.= 103.927715°W

PROPOSED PAD  
 4.50 ACRES

30' TOP SOIL

**LEGEND**

- PROPOSED ACCESS RD.
- PROPOSED PAD
- - - - - EXISTING ROAD

**NOTE:**

1). SEE "TOPOGRAPHICAL AND ACCESS ROAD MAP"  
 FOR PROPOSED ROAD LOCATION

**DIRECTIONS TO THIS LOCATION:**

FROM THE INTERSECTION OF HWY 285 AND LONGHORN RD. GO NORTHEAST ON LONGHORN ROAD (PAVED). ROAD BEND SOUTHEAST AND BACK TO NORTHEAST APPROX. 4.25 MILES. TURN LEFT AND GO NORTHEAST ON PIPELINE ROAD #1 (GRAVEL) APPROX. 4.50 MILES. TURN RIGHT ON EXISTING GRAVEL RD. APPROX. 1.00 MILES. TURN LEFT ON EXISTING GRAVEL RD. APPROX. 0.16 MILES TO A PROPOSED ROAD AND LOCATION IS TO THE SOUTHEAST.

**BOPCO, L.P.**

**WELL SITE PLAN**

BRUSHY DRAW 30 FEDERAL #701H  
 LOCATED 340 FEET FROM THE WEST LINE  
 AND 330 FEET FROM THE SOUTH LINE OF  
 SECTION 30, TOWNSHIP 25 SOUTH, RANGE 30  
 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

DATE:	10-24-2017	PROJECT NO:	2017060878
DRAWN BY:	JAR/AI	SCALE:	1" = 100'
CHECKED BY:	DH	SHEET:	1 OF 1
FIELD CREW:	RE/RR	REVISION:	1

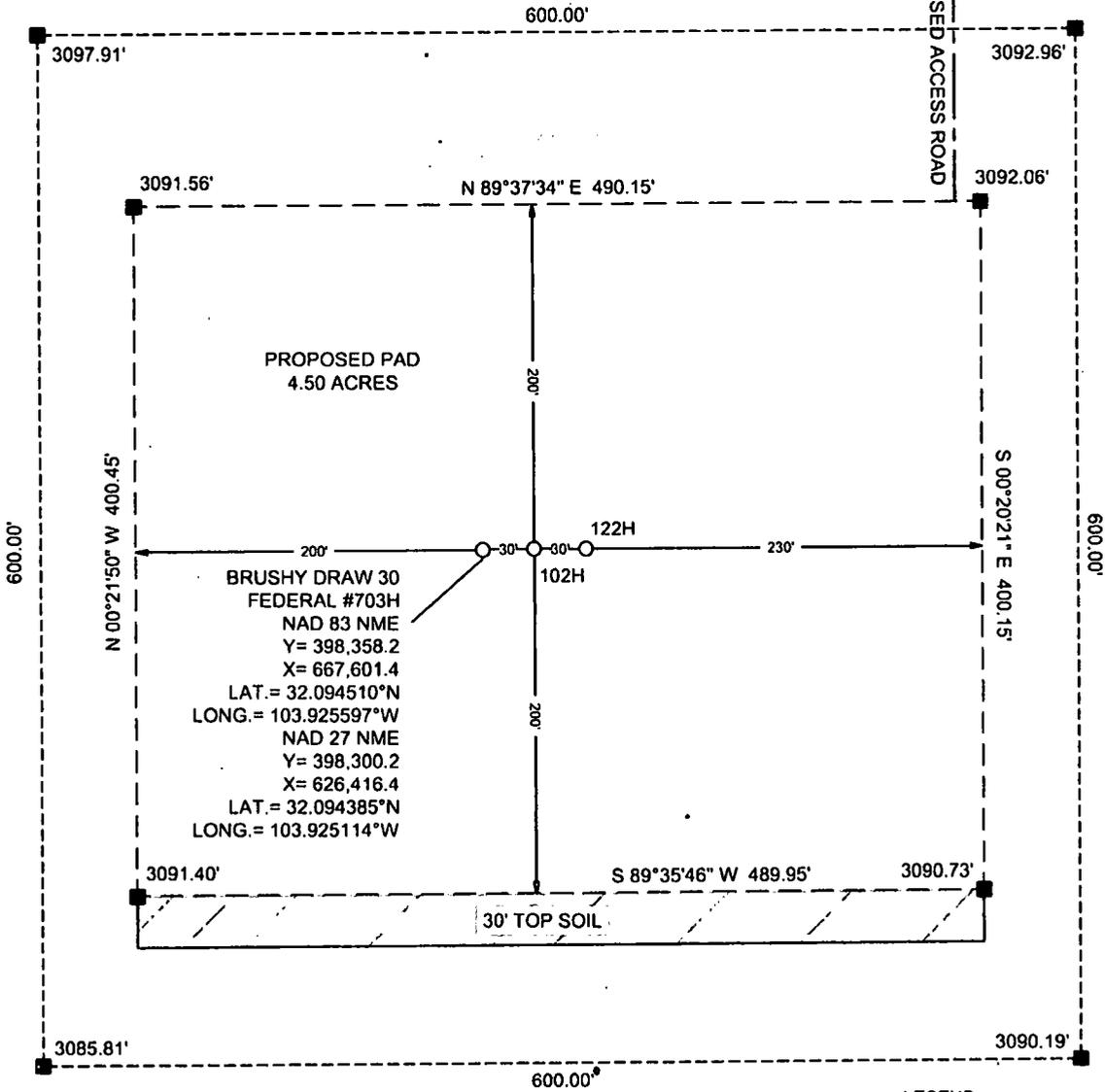
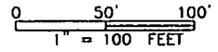


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# SECTION 30

TOWNSHIP 25 SOUTH, RANGE 30 EAST  
NEW MEXICO PRIME MERIDIAN



BRUSHY DRAW 30  
FEDERAL #703H  
NAD 83 NME  
Y= 398,358.2  
X= 667,601.4  
LAT.= 32.094510°N  
LONG.= 103.925597°W  
NAD 27 NME  
Y= 398,300.2  
X= 626,416.4  
LAT.= 32.094385°N  
LONG.= 103.925114°W

30' TOP SOIL

**LEGEND**

- PROPOSED ACCESS RD.
- - - - - PROPOSED PAD

**NOTE:**

- 1). SEE "TOPOGRAPHICAL AND ACCESS ROAD MAP" FOR PROPOSED ROAD LOCATION

**DIRECTIONS TO THIS LOCATION:**

FROM THE INTERSECTION OF HWY 285 AND LONGHORN RD. GO NORTHEAST ON LONGHORN ROAD (PAVED). ROAD BEND SOUTHEAST AND BACK TO NORTHEAST APPROX. 4.25 MILES. TURN LEFT AND GO NORTHEAST ON PIPELINE ROAD #1 (GRAVEL) APPROX. 4.50 MILES. TURN RIGHT ON EXISTING GRAVEL RD. APPROX. 1.00 MILES. KEEP LEFT ON EXISTING GRAVEL RD. APPROX. 0.21 MILES TO A PROPOSED ROAD AND LOCATION IS TO THE SOUTHWEST.

**BOPCO, L.P.**

**WELL SITE PLAN**

BRUSHY DRAW 30 FEDERAL #703H  
LOCATED 1,145 FEET FROM THE WEST LINE  
AND 330 FEET FROM THE SOUTH LINE OF  
SECTION 30, TOWNSHIP 25 SOUTH; RANGE 30  
EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

DATE:	10-25-2017	PROJECT NO:	2017060880
DRAWN BY:	JAR/AI	SCALE:	1" = 100'
CHECKED BY:	DH	SHEET:	1 OF 1
FIELD CREW:	RE/RR	REVISION:	1



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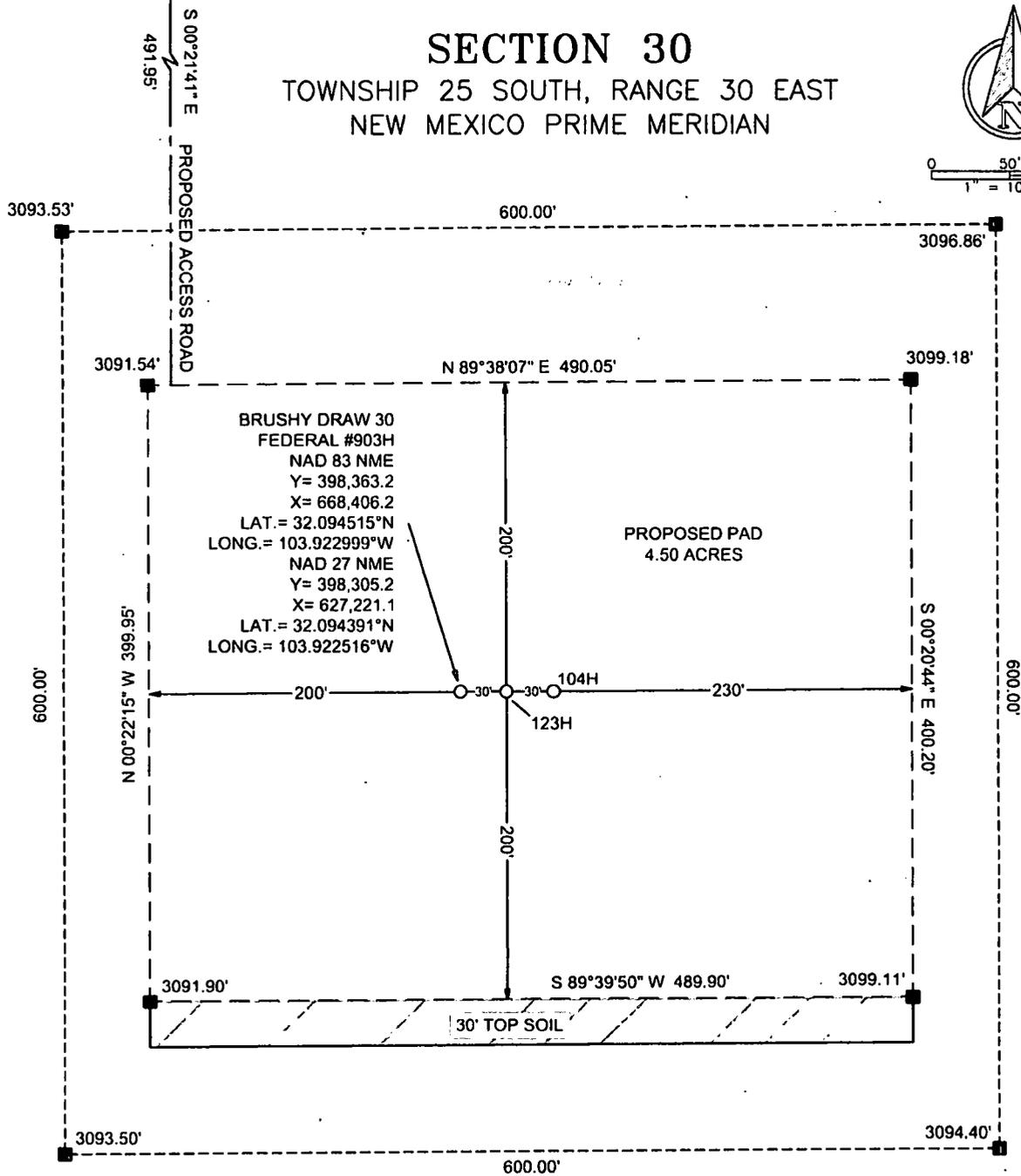
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# SECTION 30

TOWNSHIP 25 SOUTH, RANGE 30 EAST  
NEW MEXICO PRIME MERIDIAN



0 50' 100'  
1" = 100 FEET



BRUSHY DRAW 30  
FEDERAL #903H  
NAD 83 NME  
Y= 398,363.2  
X= 668,406.2  
LAT. = 32.094515°N  
LONG. = 103.922999°W  
NAD 27 NME  
Y= 398,305.2  
X= 627,221.1  
LAT. = 32.094391°N  
LONG. = 103.922516°W

PROPOSED PAD  
4.50 ACRES

30' TOP SOIL

SECTION LINE

### LEGEND

- PROPOSED ACCESS RD.
- PROPOSED PAD

### NOTE:

1). SEE "TOPOGRAPHICAL AND ACCESS ROAD MAP" FOR PROPOSED ROAD LOCATION

### DIRECTIONS TO THIS LOCATION:

FROM THE INTERSECTION OF HWY 285 AND LONGHORN RD. GO NORTHEAST ON LONGHORN ROAD (PAVED). ROAD BEND SOUTHEAST AND BACK TO NORTHEAST APPROX. 4.25 MILES. TURN LEFT AND GO NORTHEAST ON PIPELINE ROAD #1 (GRAVEL) APPROX. 4.50 MILES. TURN RIGHT ON EXISTING GRAVEL RD. APPROX. 1.00 MILES. KEEP LEFT ON EXISTING GRAVEL RD. APPROX. 0.28 MILES TO A PROPOSED ROAD AND LOCATION IS TO THE SOUTHEAST.

**BOPCO, L.P.**

### WELL SITE PLAN

BRUSHY DRAW 30 FEDERAL #903H  
LOCATED 1,950 FEET FROM THE WEST LINE  
AND 330 FEET FROM THE SOUTH LINE OF  
SECTION 30, TOWNSHIP 25 SOUTH, RANGE 30  
EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

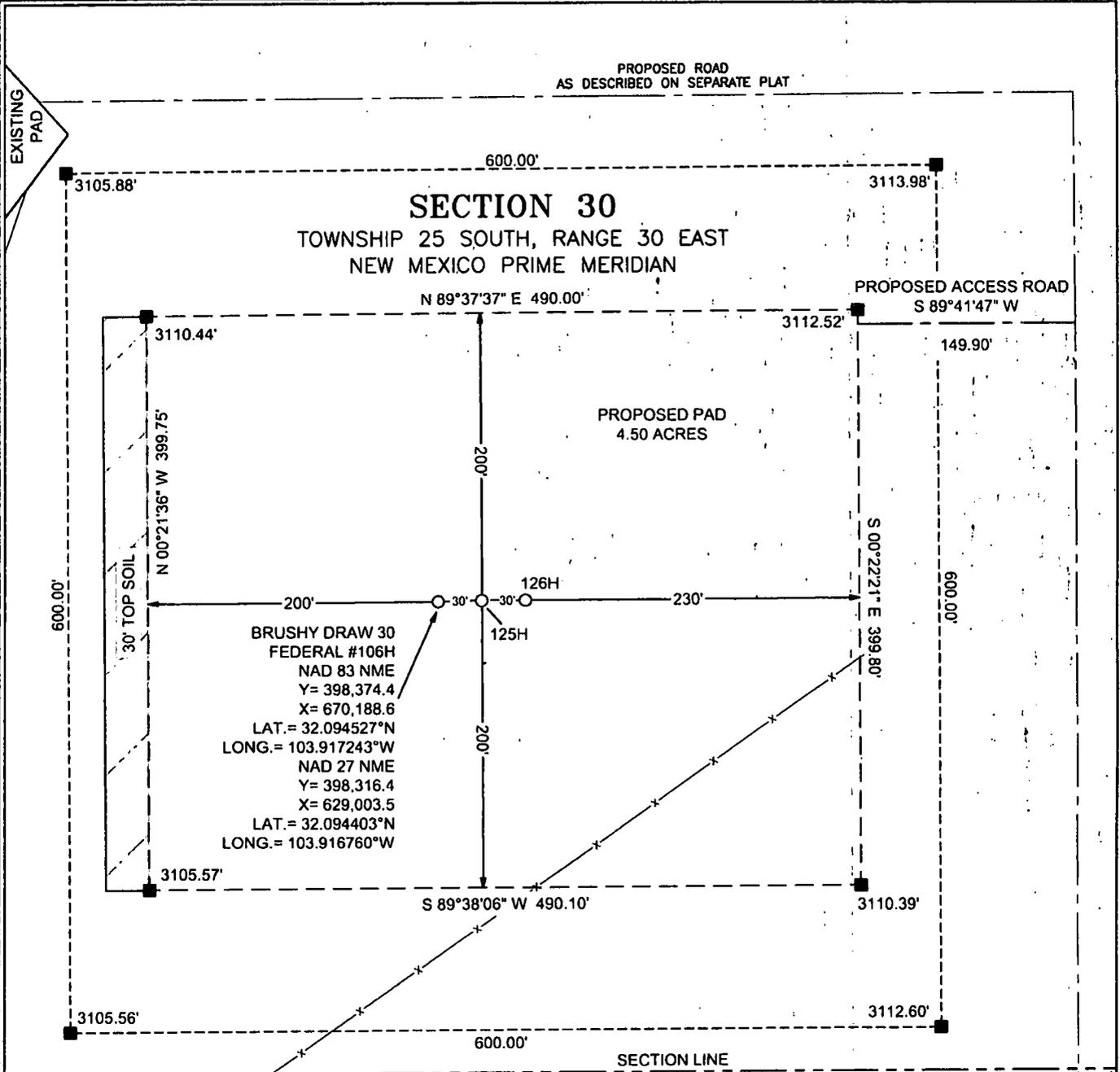
DATE:	11-01-2017	PROJECT NO:	2017060883
DRAWN BY:	JAR/AI	SCALE:	1" = 100'
CHECKED BY:	DH	SHEET:	1 OF 1
FIELD CREW:	RE/RR	REVISION:	1



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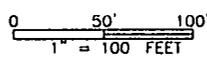
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**SECTION 31**  
TOWNSHIP 25 SOUTH, RANGE 30 EAST  
NEW MEXICO PRIME MERIDIAN

- LEGEND**
- — — — — PROPOSED ACCESS RD.
  - - - - - PROPOSED PAD
  - x-x-x-x- EXISTING FENCE



NOTE:  
1). SEE "TOPOGRAPHICAL AND ACCESS ROAD MAP"  
FOR PROPOSED ROAD LOCATION

DIRECTIONS TO THIS LOCATION:  
FROM THE INTERSECTION OF HWY 285 AND LONGHORN RD. GO NORTHEAST ON LONGHORN ROAD (PAVED). ROAD BEND SOUTHEAST AND BACK TO NORTHEAST APPROX. 4.25 MILES. TURN LEFT AND GO NORTHEAST ON PIPELINE ROAD #1 (GRAVEL) APPROX. 4.50 MILES. TURN RIGHT ON EXISTING GRAVEL RD. APPROX. 1.00 MILES. KEEP LEFT ON SAID GRAVEL RD. FOR A TOTAL OF 1.65 MILES, ROAD CURVES EAST AND THEN SOUTH TO A PAD AND LOCATION IS TO THE SOUTHEAST.

***BOPCO, L.P.***

**WELL SITE PLAN**  
BRUSHY DRAW 30 FEDERAL #106H  
LOCATED 330 FEET FROM THE SOUTH LINE  
AND 1,615 FEET FROM THE EAST LINE OF  
SECTION 30, TOWNSHIP 25 SOUTH, RANGE 30  
EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

DATE:	11-01-2017	PROJECT NO:	2017060889
DRAWN BY:	JAR/AI	SCALE:	1" = 100'
CHECKED BY:	DH	SHEET:	1 OF 1
FIELD CREW:	RE/RR	REVISION:	2

**FSC INC**  
SURVEYORS + ENGINEERS

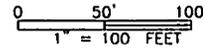
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# SECTION 31

TOWNSHIP 25 SOUTH, RANGE 30 EAST  
NEW MEXICO PRIME MERIDIAN

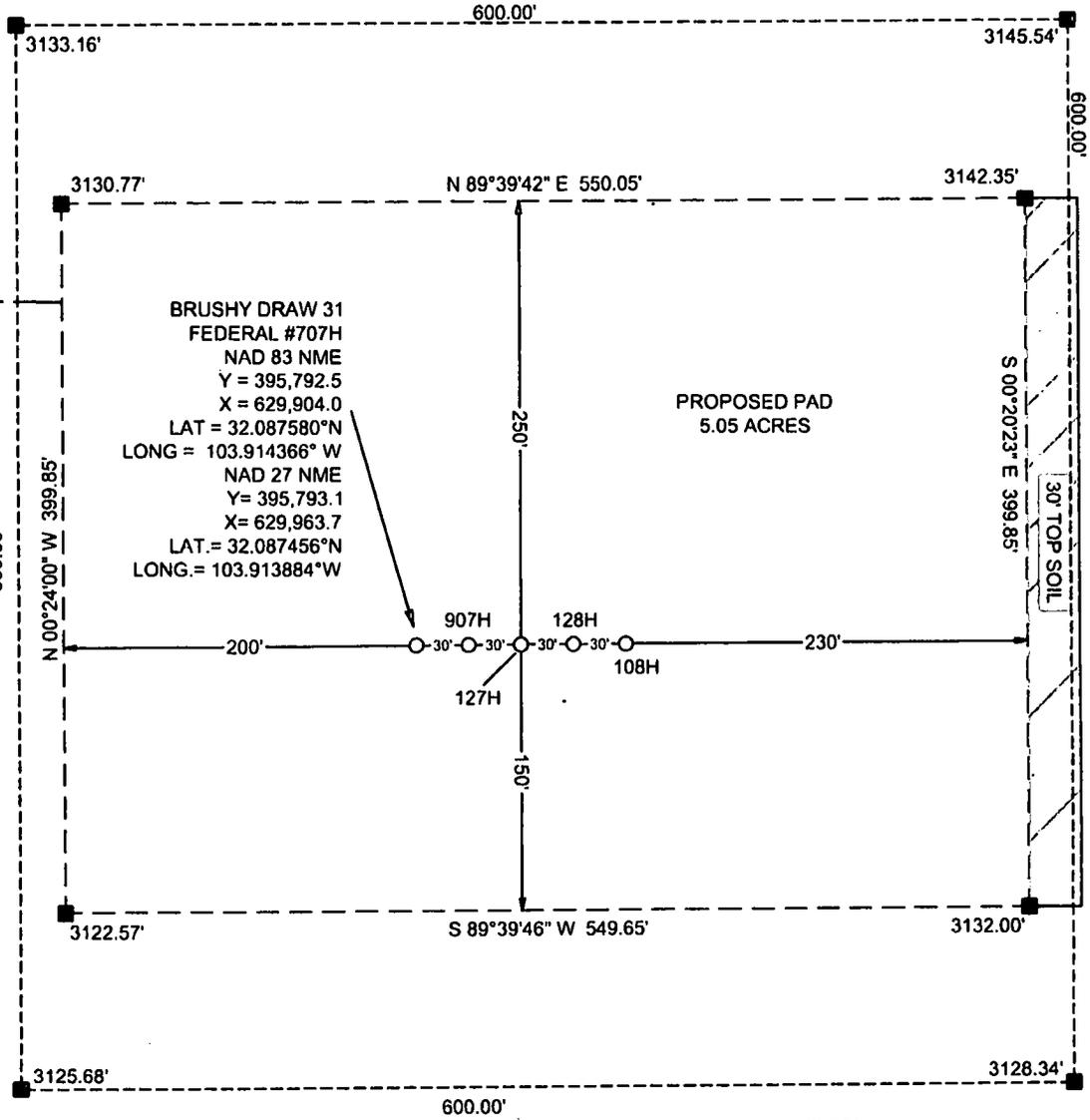
S 1/4 N 1/4



PROPOSED ACCESS ROAD  
S 00°33'55" E 1,497.57'

PROPOSED ACCESS ROAD  
S 89°31'58" E

472.48'



BRUSHY DRAW 31  
FEDERAL #707H  
NAD 83 NME  
Y = 395,792.5  
X = 629,904.0  
LAT = 32.087580°N  
LONG = 103.914366°W  
NAD 27 NME  
Y = 395,793.1  
X = 629,963.7  
LAT = 32.087456°N  
LONG = 103.913884°W

PROPOSED PAD  
5.05 ACRES

30' TOP SOIL

**LEGEND**

- PROPOSED ACCESS RD.
- PROPOSED PAD

**NOTE:**

- 1). SEE "TOPOGRAPHICAL AND ACCESS ROAD MAP" FOR PROPOSED ROAD LOCATION

**DIRECTIONS TO THIS LOCATION:**

FROM THE INTERSECTION OF HWY 285 AND LONGHORN RD. GO NORTHEAST ON LONGHORN ROAD (PAVED). ROAD BEND SOUTHEAST AND BACK TO NORTHEAST APPROX. 4.25 MILES. TURN LEFT AND GO NORTHEAST ON PIPELINE ROAD #1 (GRAVEL) APPROX. 4.50 MILES. TURN RIGHT ON EXISTING GRAVEL RD. APPROX. 1.00 MILES. KEEP LEFT ON SAID GRAVEL RD. FOR A TOTAL OF 1.65 MILES. ROAD CURVES EAST AND THEN SOUTH TO A PAD AND LOCATION IS TO THE SOUTHEAST.

**BOPCO, L.P.**

**WELL SITE PLAN**

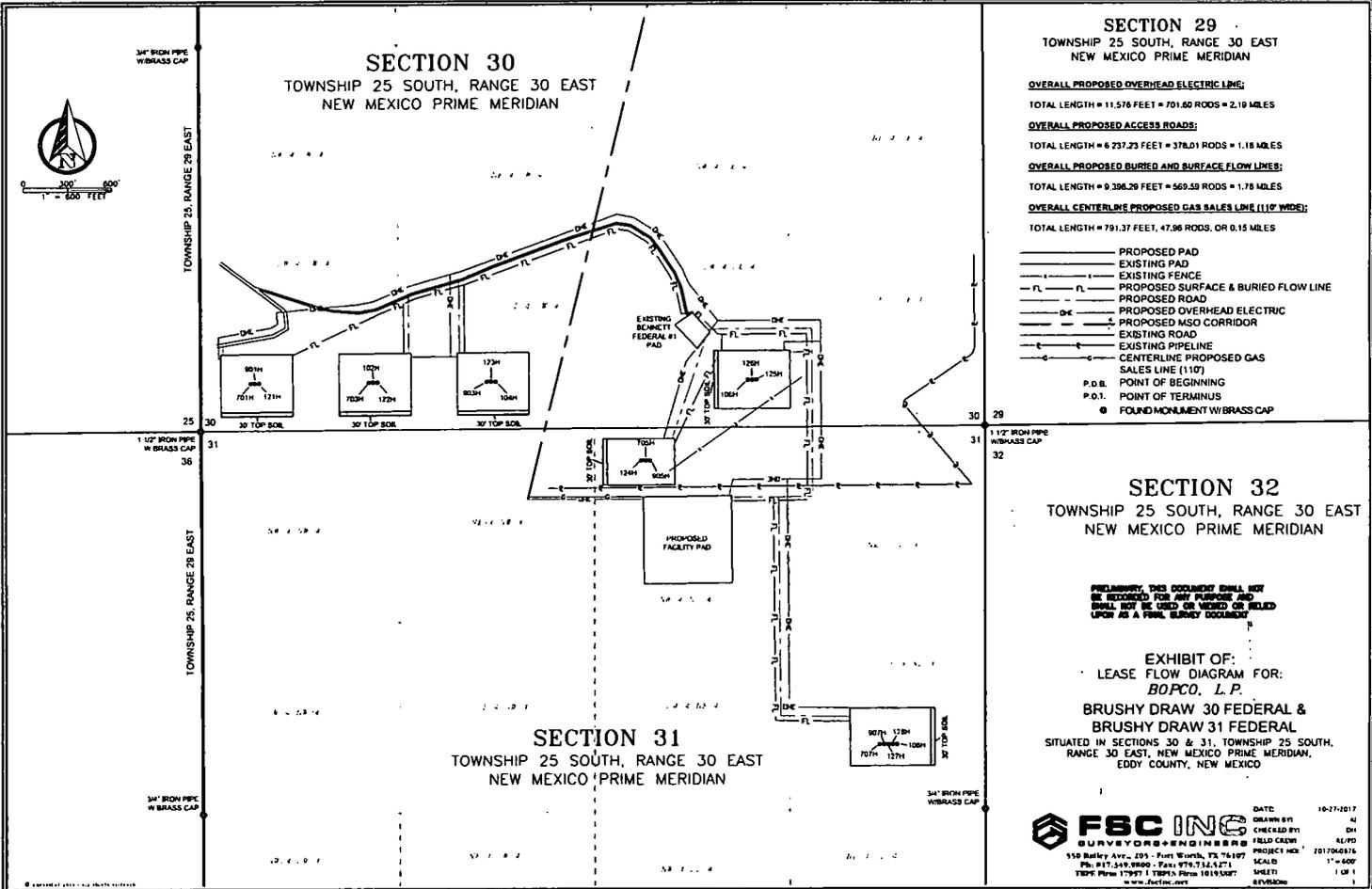
BRUSHY DRAW 31 FEDERAL #707H  
LOCATED 2,200 FEET FROM THE NORTH LINE  
AND 720 FEET FROM THE EAST LINE OF SECTION  
31, TOWNSHIP 25 SOUTH, RANGE 30 EAST,  
N.M.P.M. EDDY COUNTY, NEW MEXICO



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DATE:	11-02-2017	PROJECT NO:	2017060895
DRAWN BY:	JAR/AI	SCALE:	1" = 100'
CHECKED BY:	DH	SHEET:	1 OF 1
FIELD CREW:	RE/RR	REVISION:	1



**SECTION 30**  
TOWNSHIP 25 SOUTH, RANGE 30 EAST  
NEW MEXICO PRIME MERIDIAN

**SECTION 29**  
TOWNSHIP 25 SOUTH, RANGE 30 EAST  
NEW MEXICO PRIME MERIDIAN

**OVERALL PROPOSED OVERHEAD ELECTRIC LINE:**  
TOTAL LENGTH = 11,576 FEET = 701.60 RODS = 2.18 MILES

**OVERALL PROPOSED ACCESS ROADS:**  
TOTAL LENGTH = 6,237.23 FEET = 378.01 RODS = 1.18 MILES

**OVERALL PROPOSED BURIED AND SURFACE FLOW LINES:**  
TOTAL LENGTH = 9,398.29 FEET = 569.59 RODS = 1.78 MILES

**OVERALL CENTERLINE PROPOSED GAS SALES LINE (110' WIDE):**  
TOTAL LENGTH = 791.37 FEET, 47.96 RODS, OR 0.15 MILES

- PROPOSED PAD
- EXISTING PAD
- EXISTING FENCE
- FL — FL — PROPOSED SURFACE & BURIED FLOW LINE
- PROPOSED ROAD
- DE — DE — PROPOSED OVERHEAD ELECTRIC
- PROPOSED MSD CORRIDOR
- EXISTING ROAD
- EXISTING PIPELINE
- CENTERLINE PROPOSED GAS SALES LINE (110')
- P.O.B. POINT OF BEGINNING
- P.O.T. POINT OF TERMINUS
- FOUND MONUMENT W/ BRASS CAP

**SECTION 32**  
TOWNSHIP 25 SOUTH, RANGE 30 EAST  
NEW MEXICO PRIME MERIDIAN

PRELIMINARY. THIS DOCUMENT SHALL NOT BE REPRODUCED FOR ANY PURPOSE AND SHALL NOT BE USED OR REFERRED OR RELIED UPON AS A FINAL ENGINEERING DOCUMENT.

EXHIBIT OF:  
LEASE FLOW DIAGRAM FOR:  
**BOPCO, L.P.**  
BRUSHY DRAW 30 FEDERAL &  
BRUSHY DRAW 31 FEDERAL  
SITUATED IN SECTIONS 30 & 31, TOWNSHIP 25 SOUTH,  
RANGE 30 EAST, NEW MEXICO PRIME MERIDIAN,  
EDDY COUNTY, NEW MEXICO

**FSC INC**

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TDD: 817.549.9901 - TDD: 817.732.5271  
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DATE:	10-27-2017
DRAWN BY:	AL
CHECKED BY:	DH
FIELD CADD:	RE/PO
PROJECT NO.:	2017060376
SCALE:	1" = 600'
SHEET:	1 OF 1
REVISION:	

## Well Site Locations

---

The results of the Brushy Draw 30 and 31 Federal Development Program will develop economic quantities of oil and gas in the 'Brushy Draw 30 and 31 Federal' area with multiple primary formations targeted. Well locations are determined based on cross-section variations and details. Locations will be selected to minimize the likelihood of encountering faults and/or drilling hazards while still targeting suitably productive zones.

If drilling results in an unproductive well, the well will be plugged and abandoned as soon as practical after the conclusion of production testing. Productive wells may be shut-in temporarily for BLM authorization for production activities and facilities.

## Surface Use Plan

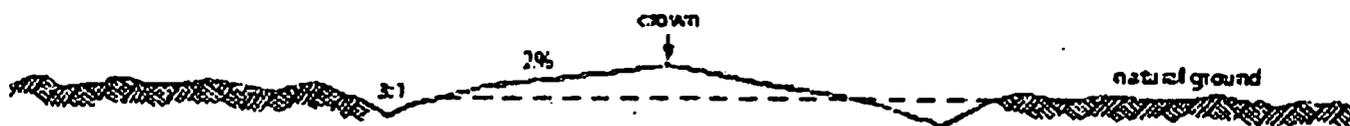
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### 1. Existing Roads

- A. The Brushy Draw 30 and 31 Federal area is accessed by existing U.S. Hwy 285 and Longhorn Rd. Go Northeast on Longhorn Road (paved). Road bends Southeast and back to Northeast approximately 4.25 miles. Turn left and go Northeast on Pipeline Rd #1 (gravel) approximately 4.50 miles. Turn right on existing gravel road approximately 1 miles. Turn left on existing gravel road approximately .16 miles then right to the Brushy Draw 30 and 31 Federal area. Transportation Plan identifying existing roads that will be used to access the project area is included from Frank's Surveying marked as, 'Vicinity Map.'
- B. There are no existing access roads to the proposed Brushy Draw 30 and 31 Federal well locations. All equipment and vehicles will be confined to the routes shown on the Vicinity Map as provided by Frank's Surveying. Maintenance of the access roads will continue until abandonment and reclamation of the well pads is completed.
- C. The project is located approximately 12.5 Miles to the town of Malaga, New Mexico.

### 2. New or Upgraded Access Roads

- A. **New Roads.** There is a total of approximately 6238' or 1.18 miles of proposed and staked access roads in the Brushy Draw 30 and 31 Federal lease area.
- B. **Well Pads.** The well pads selected for development will determine which existing roads will be upgraded and which new roads will be built. The lease flow diagram shows the location of proposed roads that will need to be constructed to access the well pads.
- C. **Anticipated Traffic.** After well completion, travel to each well site will include one lease operator truck and two oil trucks per day until the Central Tank Battery is completed. Upon completion of the Central Tank Battery, one lease operator truck will continue to travel to each well site to monitor the working order of the wells and to check well equipment for proper operation. Two oil trucks will continue to travel to the Central Tank Battery only for oil hauling. Additional traffic will include one maintenance truck periodically throughout the year for pad upkeep and weed removal. Well service trips will include only the traffic necessary to work on the wells or provide chemical treatments periodically and as needed throughout the year.
- D. **Routing.** All equipment and vehicles will be confined to the travel routes laid out in the vicinity map provided by Frank's Surveying unless otherwise approved by the BLM and applied for by BOPCO, L.P.
- E. **Road Dimensions.** The maximum width of the driving surface of new roads will be 14 feet. The roads will be crowned and ditched with a 2% slope from the tip of the crown to the edge of the driving surface. The ditches will be 1 foot deep with 3:1 slopes. The driving surface will be made of 6" rolled and compacted caliche.



## Level Ground Section

- F. **Surface Material.** Surface material will be native caliche. The average grade of all roads will be approximately 3%.
- G. **Fence Cuts:** No.
- H. **Fences:** No.
- I. **Cattle Guards:** No.
- J. **Turnouts:** No.
- K. **Culverts:** No.
- L. **Cuts and Fills:** Not significant.
- M. **Topsoil.** Approximately 6 inches of topsoil (root zone) will be stripped from the proposed access road prior to any further construction activity. The topsoil that was stripped will be spread along the edge of the road and within the ditch. The topsoil will be seeded with the proper seed mix designated by the BLM.
- N. **Maintenance.** The access road will be constructed and maintained as necessary to prevent soil erosion and accommodate all-weather traffic. The road will be crowned and ditched with water turnouts installed as necessary to provide for proper drainage along with access road route.
- O. **Drainage.** The access road and associated drainage structures will be constructed and maintained in accordance with road guidelines contained in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, The Gold Book, Fourth Edition and/or BLM Manual Section 9113 concerning road construction standards on projects subject to federal jurisdiction.

### 3. Location of Existing Wells

- A. See attached 1-mile radius well map.

### 4. Ancillary Facilities

- A. **Ancillary Facilities.** No off-pad ancillary facilities are planned during the exploration phase including, but not limited to: campsites, airstrips or staging areas.

### 5. Location of Proposed Production Facilities

- A. **Production Facilities.** One 600' x 600' pad was staked with the BLM for construction and use as a Central Tank Battery (CTB). The facility is located in Section 31-T25S-R30E NMPM, Eddy County, New Mexico. A plat of the proposed facility is attached. Only the area necessary to maintain facilities will be disturbed. A 3160-5 sundry notification will be submitted after construction possessing a site-security diagram and layout of the facility with associated equipment.
- B. **Flowlines.** In the event the wells are found productive, 4" composite flexpipe or steel flowlines with a maximum safety pressure rating of 750psi (operating pressure: 125psi) will be laid on the surface within proposed lease road corridors from the proposed wells to the BD 31 Fed Central Tank Battery where the oil, gas, and water will be metered and appropriately separated. High pressure gas lines will be buried beneath the surface flowlines per well pad within the proposed lease road corridors for gas lift, fuel gas, and water. Oil will be hauled from the location by truck following existing and proposed lease roads. The distance of proposed flowlines per well will be approximately 9399' or less per well based on the location of the well pad in conjunction with the facility location. All flowlines

will follow proposed lease road corridors. A plat of the proposed flowline route for the lease is attached.

- C. **Gas Pipeline.** A gas purchaser has been identified. One 110' wide, 792' long corridor is requested to connect with the Poker Lake Unit Row 5 pipeline extending from the BD 31 Fed CTB. BOPCO, L.P. will be installing the line with anticipated risers located on the CTB. The gas purchaser will be responsible for permitting their own gas lines and compressor station, where applicable, through private, state, and federal lands.
- D. **Disposal Facilities.** Produced water will be hauled from location to a commercial disposal facility as needed. Once wells are drilled and completed, a 3160-5 sundry notification will be submitted to BLM in compliance with Onshore Order 7.
- E. **Flare.** There will a flare associated with the BD 31 Federal CTB. The flare stack will be 50'x50'. The flare will be sized and rated appropriately based on anticipated reserves and recovering of gas throughout the development area with 150' of distance between all facility equipment, road and well pad locations for safety purposes.
- F. **Aboveground Structures.** All permanent (on site six months or longer) aboveground structures constructed or installed on location and not subject to safety requirements will be painted earth-tone colors such as 'shale green' that reduce the visual impacts of the built environment.
- G. **Containment Berms.** Containment berms will be constructed completely around any production facilities designed to hold fluids. The containment berms will be constructed of compacted subsoil, be sufficiently impervious, hold 1 ½ times the capacity of the largest tank and away from cut or fill areas.
- H. **Electrical.** All electrical poles and lines will be placed within existing and proposed lease roads corridors. All lines will be primary 12,740 volt to properly run expected production equipment. Approx. 11578' of electrical will be run from the anticipated tie-in point with a request for 30' ROW construction and maintenance buffer. This distance is a max. approximation and may vary based on lease road corridors, varying elevations and terrain in the area. A plat of the proposed electrical is attached.

## 6. Location and Types of Water Supply

The well will be drilled using a combination of water mud systems as outlined in the Drilling Program. The water will be obtained from a 3<sup>rd</sup> party vendor and hauled to the anticipated pit in Section 7 by transport truck using the existing and proposed roads depicted in the attached exhibits. No water well will be drilled on the location.

Water for drilling, completion and dust control will be purchased from the following company:  
Texas Pacific Water Resources

Water for drilling, completion and dust control will be supplied by Texas Pacific Water Resources for sale to BOPCO, L.P. from Section 27, T25S-R30E, Eddy County, New Mexico. In the event that Texas Pacific Water Resources does not have the appropriate water for BOPCO at time of drilling and completion, then BOPCO water will come from Intrepid Potash Company with the location of the water being in Section 6, T25S-R29E, Eddy County, New Mexico.

Anticipated water usage for drilling includes an estimated 35,000 barrels of water to drill a horizontal well in a combination of fresh water and brine as detailed in the mud program in the drilling plans. These volumes are calculated for ~1.5bbls per foot of hole drilled with excess to accommodate any lost circulation or wash out that may occur. Actual water volumes used during operations will depend on the depth of the well, length of horizontal sections, and the losses that may occur during the operation.

Temporary water flowlines will be permitted via ROW approval letter and proper grants as-needed based on drilling and completion schedules as needed. Well completion is expected to require approximately 300,000

barrels of water per horizontal well. Actual water volumes used during operations will depend on the depth of the well and length of horizontal sections.

## 7. Construction Activities

- A. Construction, reclamation, and/or routine maintenance will not be conducted during periods when the soil conditions for construction could lead to impacts to the surrounding environment, or when watershed damage is likely to occur as a result of these activities.
- B. Any construction material that may be required for surfacing of the drill pad and access road will be from a contractor having a permitted source of materials within the general area. No construction materials will be removed from federal lands without prior approval from the appropriate surface management agency. All roads and well pads will be constructed of 6" rolled and compacted caliche.
- C. Anticipated Caliche Locations:
  - a. Pit 1: Federal Caliche Pit, Section 17-T25S-R30E
  - b. Pit 2: Federal Caliche Pit, Section 34-T25S-R29E

## 8. Methods for Handling Waste

- **Cuttings.** The well will be drilled utilizing a closed-loop mud system. Drill cuttings will be held in roll-off style mud boxes and taken to a New Mexico Oil Conservation Division (NMOCD) approved disposal site.
- **Drilling Fluids.** These will be contained in steel mud pits and then taken to a NMOCD approved commercial disposal facility.
- **Produced Fluids.** Water produced from the well during completion will be held temporarily in steel tanks and then taken to a NMOCD approved commercial disposal facility. Oil produced during operations will be stored in tanks until sold.
- **Sewage.** Portable, self-contained toilets will be provided for human waste disposal. Upon completion of drilling and completion activities, or as required, the toilet holding tanks will be pumped and the contents thereof disposed of in an approved sewage disposal facility. All state and local laws and regulations pertaining to the disposal of human and solid waste will be complied with. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
- **Garbage and Other Waste Materials.** All garbage, junk and non-flammable waste materials will be contained in a self-contained, portable dumpster or trash cage, to prevent scattering and will be removed and deposited in an approved sanitary landfill. Immediately after drilling all debris and other waste materials on and around the well location not contained in the trash cage will be cleaned up and removed from the location. No potentially adverse materials or substances will be left on the location.
- **Debris.** Immediately after removal of the drilling rig, all debris and other waste materials not contained in the trash cage will be cleaned and removed from the well location. No potential adverse materials or substances will be left on location.
- **Hazardous Materials.**
  - i. All drilling wastes identified as hazardous substances by the Comprehensive Environmental Response Compensation Liability Act (CERCLA) removed from the location and not reused at another drilling location will be disposed of at a hazardous waste facility approved by the U.S. Environmental Protection Agency (EPA).
  - ii. BOPCO, L.P. and its contractors will comply with all applicable Federal, State and local laws and regulations, existing or hereafter enacted promulgated, with regard to any hazardous material, as defined in this paragraph, that will be used, produced, transported or stored on the oil and gas lease. "Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the CERCLA of 1980, as amended, 42 U.S.C 9601 et seq., and its regulation. The definition of hazardous substances under CERCLA includes any "hazardous waste" as defined in the RCRA of 1976, as amended, 42 U.S.C. 6901 et seq., and its regulations. The term hazardous material also includes any nuclear or nuclear by-product material as defined by the Atomic Energy Act of 1954, as amended, 42 U.C.S. 2011 et seq. The term does not include petroleum, including

crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101 (14) U.S.C. 9601 (14) nor does the term include natural gas.

- iii. No hazardous substances or wastes will be stored on the location after completion of the well.
- iv. Chemicals brought to location will be on the Toxic Substance Control Act (TSCA) approved inventory list.
- v. All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in Notice to Lessees (NTL) 3A will be reported to the BLM Carlsbad Field Office. Major events will be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days.

## 9. Well Site Layout

A. **Rig Plat Diagrams:** There are 6 multi-well pads in the Brushy Draw 30 and 31 Federal area lease anticipated. This will allow enough space for cuts and fills, topsoil storage, and storm water control. Interim reclamation of these pads is anticipated after the drilling and completion of all wells on the pad. Well site layouts for all pads are attached. See proposed well list and changes to notices of staking attached. From West to East:

1. Pad 1 is a 3-well pad expected to be 490'x400'.
2. Pad 2 is a 3-well pad expected to be 490'x400'.
3. Pad 3 is a 3-well pad expected to be 490'x400'.
4. Pad 4 is a 3-well pad expected to be 460'x320'.
5. Pad 5 is a 3-well pad expected to be 490'x400'.
6. Pad 6 is a 5-well pad expected to be 550'x400'.

**Closed-Loop System:** There will be no reserve pit as each well will be drilled utilizing a closed loop mud system. The closed loop system will meet the NMOCD requirements 19.15.17.

B. **V-Door Orientation:** These wells were staked with multiple v-door orientations. The following list is from West to East in accordance to the staked section and as agreed upon with Fernando Banos, BLM Natural Resource Specialist, present at on-site inspection. See proposed well list and changes to notices of staking attached.

1. Pad 1 has a V-Door Orientation of West
2. Pad 2 has a V-Door Orientation of West.
3. Pad 3 has a V-Door Orientation of West.
4. Pad 4 has a V-Door Orientation of West.
5. Pad 5 has a V-Door Orientation of West.
6. Pad 6 has a V-Door Orientation of West.

C. A 600' x 600' area has been staked and flagged around each well pad. A plat for the well has been attached.

D. All equipment and vehicles will be confined to the approved disturbed areas of this APD (i.e., access road, well pad and topsoil storage areas).

## 10. Plans for Surface Reclamation:

BOPCO, L.P. requests a variance from interim reclamation until all drilling and completion activities have been finished on the pads as these are multi-well pads where drilling and completion will be consecutive with the other wells on the pad. Once activities are completed, BOPCO, L.P. will coordinate interim reclamation with the appropriate BLM personnel or use the following plan:

*Non-Commercial Well (Not Productive), Interim & Final Reclamation:*

*Definition:* Reclamation includes disturbed areas where the original landform and a natural vegetative community will be restored and it is anticipated the site will not be disturbed for future development.

*Reclamation Standards:*

The portions of the pad not essential to production facilities or space required for workover operations will be reclaimed and seeded as per BLM requirements for interim reclamation. (See Interim Reclamation plats attached).

All equipment and trash will be removed, and the surfacing material will be removed from the well pad and road and transported to the original caliche pit or used to maintain other roads. The location will then be ripped and seeded.

The original stock piled topsoil will be spread over the areas being reclaimed and the original landform will be restored for all disturbed areas including well pads, production facilities, roads, pipelines, and utility corridors as close as possible to the original topography. The location will then be ripped and seeded

A self-sustaining, vigorous, diverse, native (or otherwise approved) plant community will be established on the site with a density sufficient to control erosion and invasion by non-native plants and to re-establish wildlife habitat or forage production. At a minimum, the established plant community will consist of species included in the seed mix and/or desirable species occurring in the surrounding natural vegetation.

Erosion features are equal to or less than surrounding area and erosion control is sufficient so that water naturally infiltrates into the soil and gulying, headcutting, slumping, and deep or excessive rills (greater than 3 inches) are not observed.

The site will be free of State-or County-listed noxious weeds, oil field debris and equipment, and contaminated soil. Invasive and non-native weeds will be controlled.

#### Seeding:

- **Seedbed Preparation:** Initial seedbed preparation will consist of recontouring to the appropriate interim or final reclamation standard. All compacted areas to be seeded will be ripped to a minimum depth of 18 inches with a minimum furrow spacing of 2 feet, followed by recontouring the surface and then evenly spreading the stockpiled topsoil. Prior to seeding, the seedbed will be scarified to a depth of no less than 4-6 inches. If the site is to be broadcast seeded, the surface will be left rough enough to trap seed and snow, control erosion, and increase water infiltration.
- If broadcast seeding is to be used and is delayed, final seedbed preparation will consist of contour cultivating to a depth of 4-6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.
- **Seed Application.** Seeding will be conducted no more than two weeks following completion of final seedbed preparation. A certified weed-free seed mix designed by the BLM to meet reclamation standards will be used.
- If the site is harrowed or dragged, seed will be covered by no more than 0.25 inch of soil.

#### 11. Surface Ownership

- A. Within the Brushy Draw 30 and 31 Federal project area: 100% of the surface is under the administrative jurisdiction of the Bureau of Land Management.
- B. The surface is multiple-use with the primary uses of the region for grazing and for the production of oil and gas.

#### 12. Other Information

##### Changes from Notice of Staking / Onsite

- **Well Numbers.** The 1000 and 1200 series well numbers have changed from 4-digit to 3-digit due to NMOCD requirements from the original Notice of Staking. This was done by dropping the 3<sup>rd</sup> '0' out of the well number. The 700 and 900 wells, being originally 3-digits, remain unchanged. See proposed well list and changes to notices of staking attached

- **Well Names.** The Brushy Draw 30 705H pad and associated wells (124H and 905H) was moved into Section 31. To keep well naming contiguous, the well names have been changed to Brushy Draw 31 to reflect the proper section.

#### Surveying

- **Well Sites.** Well pad locations have been staked. Surveys of the proposed access roads and well pad locations have been completed by Frank Surveying, a registered professional land surveyor. Center stake surveys with access roads have been completed on State and Federal lands with Fernando Banos, Bureau of Land Management Natural Resource Specialist in attendance.
- **Cultural Resources – Archaeology:** A Class III Cultural Resources Examination has been completed on all wells by Boone Archaeological Services and the results will be forwarded to the BLM Office. A copy of the report is also included as an attachment to this APD.
- **Dwellings and Structures.** There are no dwellings or structures within 2 miles of this location.

#### Soils and Vegetation

- **Environmental Setting.** Soils are classified as Simona Gravelly Fine Sandy Loam and Simona-Bippus Complex. Simona soils are found on alluvial fans and plains and form in mixed alluvium and/or Aeolian sands. Bippus soils are found on alluvial fans and floodplains and form in mixed alluvium. The Simona-Bippus soils are dominant to the east and the Simona Gravelly Fine Sandy Loams are dominant to the West. Dominant vegetation species include: mesquite, sumac snakeweed, and various forbs and grasses. Ground cover is minimal, offering 90 percent visibility.
- **Traffic.** No truck traffic will be operated during periods or in areas of saturated ground when surface rutting could occur. The access road will be constructed and maintained as necessary to prevent soil erosion and accommodate all-weather traffic. The road will be crowned and ditched with water turnouts installed as necessary to provide for proper drainage along the access road route.
- **Water.** There is no permanent or live water in the immediate or within the project area.

### **13. Bond Coverage**

Bond Coverage is Nationwide. Bond Number: COB000050

**Operator's Representatives:**

The BOPCO, L.P. representatives for ensuring compliance of the surface use plan are listed below:

**Surface:**

Jimie Scott  
Contract Construction Lead  
XTO Energy, Incorporated  
500 W. Illinois St., Suite 100  
Midland, Texas 79701  
432-488-9955  
james\_scott@xtoenergy.com

Jeff Raines  
Construction Superintendent  
XTO Energy, Incorporated  
500 W. Illinois St., Suite 100  
Midland, Texas 79701  
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**Brushy Draw 30 & 31 Federal List**

List of Proposed Wells; Changes from Notice of Staking  
BOPCO, L.P.

<u>Pad Number</u>	<u>New Well Name &amp; Number</u>	<u>Original Well Name &amp; Number</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>Surface Owner</u>
1	Brushy Draw 30 Federal 701H		30	25S	30E	Bureau of Land Mgmt
	Brushy Draw 30 Federal 901H		30	25S	30E	Bureau of Land Mgmt
2	Brushy Draw 30 Federal 121H	Brushy Draw 30 Federal 1201H	30	25S	30E	Bureau of Land Mgmt
	Brushy Draw 30 Federal 703H		30	25S	30E	Bureau of Land Mgmt
	Brushy Draw 30 Federal 102H	Brushy Draw 30 Federal 1002H	30	25S	30E	Bureau of Land Mgmt
	Brushy Draw 30 Federal 122H	Brushy Draw 30 Federal 1202H	30	25S	30E	Bureau of Land Mgmt
3	Brushy Draw 30 Federal 903H		30	25S	30E	Bureau of Land Mgmt
	Brushy Draw 30 Federal 123H	Brushy Draw 30 Federal 1203H	30	25S	30E	Bureau of Land Mgmt
	Brushy Draw 30 Federal 104H	Brushy Draw 30 Federal 1004H	30	25S	30E	Bureau of Land Mgmt
4	Brushy Draw 31 Federal 124H	Brushy Draw <b>30</b> Federal <b>1204H</b>	31	25S	30E	Bureau of Land Mgmt
	Brushy Draw 31 Federal 705H	Brushy Draw <b>30</b> Federal 705H	31	25S	30E	Bureau of Land Mgmt
	Brushy Draw 31 Federal 905H	Brushy Draw <b>30</b> Federal 905H	31	25S	30E	Bureau of Land Mgmt
5	Brushy Draw 30 Federal 106H	Brushy Draw 30 Federal 1006H	30	25S	30E	Bureau of Land Mgmt
	Brushy Draw 30 Federal 126H	Brushy Draw 30 Federal 1206H	30	25S	30E	Bureau of Land Mgmt
	Brushy Draw 30 Federal 125H	Brushy Draw 30 Federal 1205H	30	25S	30E	Bureau of Land Mgmt
6	Brushy Draw 31 Federal 707H		31	25S	30E	Bureau of Land Mgmt
	Brushy Draw 31 Federal 907H		31	25S	30E	Bureau of Land Mgmt
	Brushy Draw 31 Federal 127H	Brushy Draw 31 Federal 1207H	31	25S	30E	Bureau of Land Mgmt
	Brushy Draw 31 Federal 128H	Brushy Draw 31 Federal 1208H	31	25S	30E	Bureau of Land Mgmt
	Brushy Draw 31 Federal 108H	Brushy Draw 31 Federal 1008H	31	25S	30E	Bureau of Land Mgmt

\* Bold Indicates Portion Changed





**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:

Describe 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:

Describe 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:**

**Assigned injection well API number?**

**Injection well new surface disturbance (acres):**

**Minerals protection information:**

**Mineral protection attachment:**

**Underground Injection Control (UIC) Permit?**

**UIC Permit attachment:**

**Injection well name:**

**Injection well API number:**

### **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:**



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

**Bond Information**

**Federal/Indian APD: FED**

**BLM Bond number: COB000050**

**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:**