

# PECOS DISTRICT

## DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	<b>Burnett Oil Co</b>
<b>LEASE NO.:</b>	<b>LC029405A</b>
<b>WELL NAME &amp; NO.:</b>	<b>1H – Partition 24 Fed HE</b>
<b>SURFACE HOLE FOOTAGE:</b>	<b>1486'/N &amp; 229'/W</b>
<b>BOTTOM HOLE FOOTAGE:</b>	<b>1652'/N &amp; 290'/W, sec. 24-T17S-R31E</b>
<b>LOCATION:</b>	<b>Sec. 19, T. 17 S, R. 32 E</b>
<b>COUNTY:</b>	<b>Lea County, New Mexico</b>

COA

H2S	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input checked="" type="radio"/> Low	<input type="radio"/> Medium	<input type="radio"/> High
Variance	<input checked="" type="radio"/> None	<input type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input checked="" type="radio"/> Conventional	<input type="radio"/> Multibowl	<input type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP

### A. Hydrogen Sulfide

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

### B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **720** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength,

whichever is greater.

- d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above.

**Operator has proposed to use a DV Tool in the production casing.**

3. The minimum required fill of cement behind the 7 x 5.5 inch production casing is:
  - Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Additional cement maybe required. Excess calculates to -24%.**

### **C. PRESSURE CONTROL**

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

## **GENERAL REQUIREMENTS**

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

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

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

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

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
  - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after

installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).

- b. When the operator proposes to set surface casing with Spudder Rig
  - Notify the BLM when moving in and removing the Spudder Rig.
  - Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
  - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log (one log per well pad is acceptable) run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

#### A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours.

WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

#### **B. PRESSURE CONTROL**

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
  - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
  - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
  - c. The tests shall be done by an independent service company utilizing a test plug. The results of the test shall be reported to the appropriate BLM office.
  - d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

- e. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes. This test shall be performed prior to the test at full stack pressure.
- g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

#### C. DRILLING MUD

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

#### D. WASTE MATERIAL AND FLUIDS

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

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

#### **Waste Minimization Plan (WMP)**

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

**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.

**ZS 051518**

**PECOS DISTRICT  
SURFACE USE  
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Burnett Oil Co
LEASE NO.:	LC029405A
WELL NAME & NO.:	1H – Partition 24 Fed HE
SURFACE HOLE FOOTAGE:	1486'/N & 229'/W
BOTTOM HOLE FOOTAGE:	1652'/N & 290'/W, sec. 24-T17S-R31E
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COUNTY:	Lea County, New Mexico

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## **I. GENERAL PROVISIONS**

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

## **II. PERMIT EXPIRATION**

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

## **III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES**

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

## **IV. NOXIOUS WEEDS**

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

## **V. SPECIAL REQUIREMENT(S)**

### **Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken:**

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

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

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

## **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**

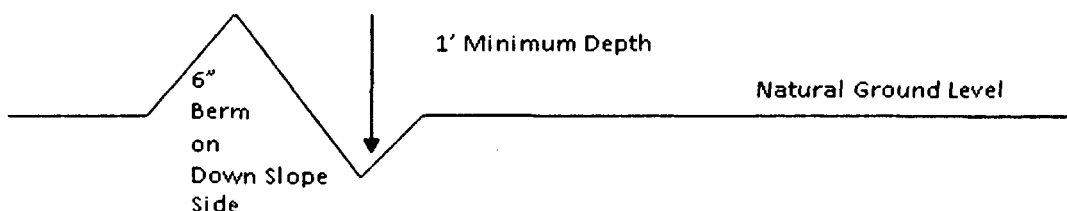
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

**Drainage**

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

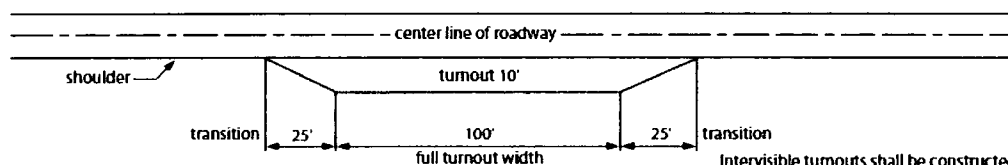
### Public Access

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

## Construction Steps

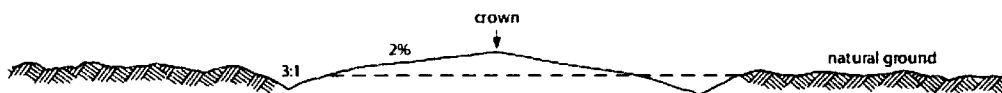
1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

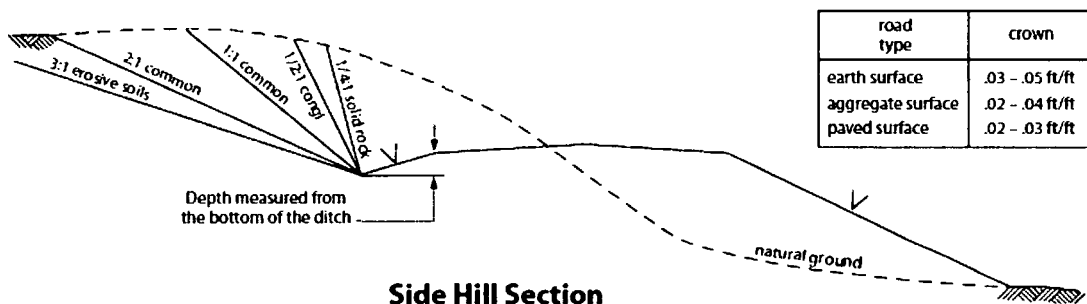


## Typical Turnout Plan

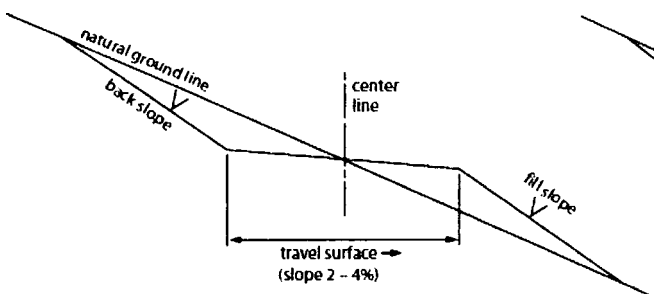
Intervisible turnouts shall be constructed on all single lane roads on all blind curves with additional turnouts as needed to keep spacing below 1000 feet.



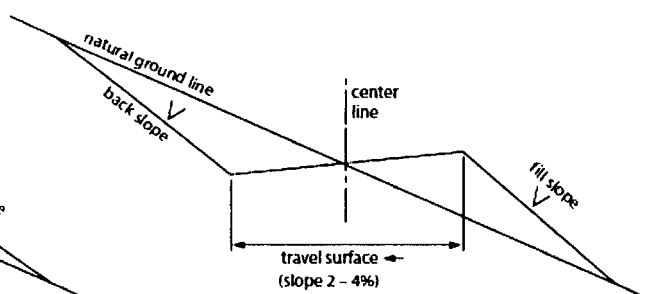
## Level Ground Section



## Side Hill Section



## Typical Outsloped Section



## Typical Inslope Section

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 application (Grant, Sundry Notice, APD) 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 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 agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third



parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The 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 the 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 the holder, regardless of fault. Upon failure of the 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 the holder of any responsibility as provided herein.

6. All construction and maintenance activity will 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 must 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 must be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity will be confined to existing roads or right-of-ways.

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

by the Authorized Officer.

8. The 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 will 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 must be less than or equal to 4 inches and a working pressure below 125 psi.

## **VIII. INTERIM RECLAMATION**

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

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

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

## **IX. FINAL ABANDONMENT & RECLAMATION**

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

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

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

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

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

## Seed Mixture 2, for Sandy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)\* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed\* per acre:

Species	lb/acre
Sand dropseed ( <i>Sporobolus cryptandrus</i> )	1.0
Sand love grass ( <i>Eragrostis trichodes</i> )	1.0
Plains bristlegrass ( <i>Setaria macrostachya</i> )	2.0

\*Pounds of pure live seed:

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





## **HYDROGEN SULFIDE (H<sub>2</sub>S) PLAN & TRAINING**

This plan was developed in accordance with 43 CFR 3162.3-1, section III.C, Onshore Oil and Gas Operations Order No. 6.

Based on our area testing H<sub>2</sub>S at 100 PPM has a radius of 139' and does not get off our well sites. There are no schools, residences, churches, parks, public buildings, recreation area or public within 2+ miles of our area.

### **A. Training**

#### **1. Training of Personnel**

**All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in accordance with 43 CFR 3162.3-1, section III.C.3.a. Training will be given in the following areas prior to commencing drilling operations on each well:**

- a. The hazards and characteristics of Hydrogen Sulfide (H<sub>2</sub>S).
- b. The proper use and maintenance of personal protective equipment and life support systems.
- c. The proper use of H<sub>2</sub>S detectors, alarms, warning systems, briefing areas, evacuation procedures and the prevailing wind.
- d. The proper techniques for first aid and rescue procedures.
- e. **ATTACHED HYDROGEN SULFIDE (H<sub>2</sub>S) CONTINGENCY PLAN DRILLING EXHIBIT N.**
- f. **ATTACHED EMERGENCY CALL LIST FOR ANY ON SITE EMERGENCY DRILLING EXHIBIT O.**

#### **2. Training of Supervisory Personnel**

**In addition to the training above, supervisory personnel will also be trained in the following areas:**

- a. The effects of H<sub>2</sub>S on metal components. If high tensile tubulars are to be used, personnel will be trained in special maintenance requirements.
- b. Corrective action and shut-in procedures when drilling or reworking a well, blowout prevention and well control procedures.
- c. The contents and requirements of the H<sub>2</sub>S Drilling Operations Plan and the Public Protection Plan (if applicable.)

#### **3. Initial and Ongoing Training**

There will be an initial training session just prior to encountering a known or probable H<sub>2</sub>S zone (within 3 days or 500 feet) and weekly H<sub>2</sub>S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H<sub>2</sub>S Drilling Operations Plan and the Public Protection Plan (if applicable). This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training

### **B. H<sub>2</sub>S Drilling Operations Plan**





1. Well Control Equipment
  - a. Flare line(s) and means of ignition
  - b. Remote control choke
  - c. Flare gun/flares
  - d. Mud-gas separator
2. **Protective equipment for essential personnel:**
  - a. Mark II Surviveair (or equivalent) 30 minute units located in the dog house and at the primary briefing area (to be determined.)
  - b. Means of communication when using protective breathing apparatus.
3. **H2S detection and monitoring equipment:**
  - a. Three (3) portable H2S monitors positioned on location for best coverage and response. These units have warning lights at 10 PPM and warning lights and audible sirens when H2S levels of 15 PPM is reached. A digital display inside the doghouse shows current H2S levels at all three (3) locations.
  - b. An H2S Safety compliance set up is on location during all operations.
  - c. We will monitor and start fans at 1- ppm or less, an increase over 10 ppm results in the shutdown and installation of the mud/gas separator.
  - d. Portable H2S and SO2 monitor(s).
4. **Visual warning systems:**
  - a. Wind direction indicators will be positioned for maximum visibility.
  - b. Caution/Danger signs will be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at reasonable distance from the immediate location. Bilingual signs will be used when appropriate.
5. **Mud program:**
  - a. The mud program has been designed to minimize the volume of H2S circulated to the surface Proper mud weight, safe drilling practices and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.
6. **Metallurgy:**
  - a. All drill strings, casings, tubing, wellheads, Hydril BOPS, drilling spools, kill lines, choke manifold, valves and lines will be suitable for H2S service.
  - b. All elastomers used for packing and seals shall be H2S trim.
7. **Communication:**
  - a. Cellular Telephone and/or 2-way radio will be provided at well site.
  - b. Landline telephone is located in our field office.



BURNETT OIL CO., INC.

## EXHIBIT N - HYDROGEN SULFIDE (H<sub>2</sub>S) CONTINGENCY PLAN

### A. Emergency Procedures

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

1. Isolate the area and prevent entry by other persons into the 100 PPM ROE. Assumed 100PPM ROE = 3000'.
2. Evacuate any public places encompassed by 100 PPM ROE.
3. Be equipped with H<sub>2</sub>S monitors and air packs in order to control release.
4. Use the "buddy system" to ensure no injuries occur during the response.
5. Take precautions to avoid personal injury during this operation.
6. Have received training in the following:
  - a. H<sub>2</sub>S detection
  - b. Measures for protection against this gas
  - c. Equipment used for protection and emergency response.

### B. Ignition of Gas Source

Should control of the well be considered lost and ignition considered, care will be taken to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition will be coordinated with the NMOCD and local officials. Additionally, the New Mexico State Police may become involved. NM State Police shall be the incident command on scene of any major release. Care will be taken to protect downwind whenever there is an ignition of gas.

### C. Characteristics of H<sub>2</sub>S and SO<sub>2</sub>

<u>Common Name</u>	<u>Chemical Formula</u>	<u>Specific Gravity</u>	<u>Threshold Limit</u>	<u>Hazardous Limit</u>	<u>Lethal Concentration</u>
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	NA	1000 ppm

#### **D. Contacting Authorities**

Burnett Oil Co., Inc. personnel will liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD will be notified of the release as soon as possible but no later than four (4) hours after the incident. Agencies will ask for information such as type and volume of release, wind and direction, location of release, etc. Be sure all is written down and ready to give to contact list attached. Burnett's response must be in coordination with the State of New Mexico's Hazardous Materials Emergency Response Plan.

Directions to the site are as follows:

Burnett Office  
87 Square Lake Road (CR #220)  
Loco Hills, NM 88255

Loco Hills, New Mexico (2 miles East of Loco Hills on US Hwy 82 to C #220. Then North on CR #220 approximately one (1) mile to office.



**BURNETT OIL CO., INC.**  
**EMERGENCY NOTIFICATION LIST**

**BURNETT CONTACTS**

**Burnett's New Mexico Office**

**817.332.5108 x202**

87 Square Lake Road (CR #220) Loco Hills, New Mexico 88255

Directions: Loco Hills, NM – 2 miles east of Loco Hills on US Hwy 82 to CR#220. Then North on CR #220 approximately one (1) mile to office.

Tyler Deans – Engineering Manager – Permian Basin / NM

**Cell - 575.553.4699**

**Burnett Oil Home Office**

**817.332.5108**

Burnett Plaza – Suite 1500 | 801 Cherry Street – Unit #9| Fort Worth, Texas 76102

Walter Glasgow

**Office - 817.583.8871**

VP of Operations – Permian Basin/New Mexico

**Cell - 817.343.5567**

Leslie Garvis

**Office – 817.583.8730**

Regulatory & Government Compliance Manager

**Cell – 713.819.4371**

**SHERIFF/POLICE CONTACTS**

Eddy County Sheriff

911 or 575.677.2313

New Mexico State Police

575.746.2701

**FIRE DEPARTMENT**

Loco Hills Fire Department (VOLUNTEER ONLY)

911 or 575.677.2349

For Medical and Fire (Artesia)

575.746.2701

**AIR AMBULANCE**

Flight for Life Air Ambulance (Lubbock)

806.743.9911

Aerocare Air Ambulance (Lubbock)

806.747.8923

Med Flight Air Ambulance (Albuq)

505.842.4433

S B Med Svc Air Ambulance (Albuq)

505.842.4949

**FEDERAL AND STATE**

US Bureau of Land Management (Carlsbad) 575.361.2822

575.234.5972

New Mexico Oil Conservation Division (Artesia)

575.748.1283

New Mexico Emergency Response Commission (24 hour)

575.827.9126

Local Emergency Planning Operation Center (Artesia)

505.842.4949

National Emergency Response Center (Washington, DC)

800.424.8802

**OTHER IMPORTANT NUMBERS**

Boots & Coots IWC

800.256.9688

Cudd Pressure Control

432.570.5300

Halliburton Services

575.746.2757

BJ Service

575.746.2293

**THIS MUST BE POSTED AT THE RIG WHILE ON LOCATION**



# **Burnett Oil Company, INC**

**Lea County, NM**

**Sec 19-T17S-R32E**

**Partition 24 Fed HE #1H**

**Wellbore #1**

**Plan: Plan #2**

## **Standard Planning Report**

**29 September, 2017**





# Integrity Directional Services, LLC

## Planning Report



**Database:** EDM 5000.1 Multi User Db  
**Company:** Burnett Oil Company, INC  
**Project:** Lea County, NM  
**Site:** Sec 19-T17S-R32E  
**Well:** Partition 24 Fed HE #1H  
**Wellbore:** Wellbore #1  
**Design:** Plan #2

**Local Co-ordinate Reference:** Well Partition 24 Fed HE #1H  
**TVD Reference:** KB=18 @ 3947.0usft  
**MD Reference:** KB=18 @ 3947.0usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature

<b>Project</b>	Lea County, NM		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	New Mexico Eastern Zone		

<b>Site</b>	Sec 19-T17S-R32E		
<b>Site Position:</b>		<b>Northing:</b>	664,333.50 usft
<b>From:</b>	Map	<b>Easting:</b>	701,242.80 usft
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	32° 49' 30.712 N
		<b>Longitude:</b>	103° 48' 45.996 W
		<b>Grid Convergence:</b>	0.28 °

<b>Well</b>	Partition 24 Fed HE #1H		
<b>Well Position</b>	<b>+N/-S</b>	-674.3 usft	<b>Northing:</b> 663,659.20 usft
	<b>+E/-W</b>	-293.3 usft	<b>Easting:</b> 700,949.50 usft
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b>	0.0 usft
		<b>Latitude:</b>	32° 49' 24.054 N
		<b>Longitude:</b>	103° 48' 49.472 W
		<b>Ground Level:</b>	3,929.0 usft

<b>Wellbore</b>	Wellbore #1		
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>
	HDGM	9/15/2017	(°)
			7.28
			Dip Angle (°)
			60.78
			Field Strength (nT)
			48,393

<b>Design</b>	Plan #2		
<b>Audit Notes:</b>			
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b> 0.0
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction (°)
			267.79

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,318.0	0.00	0.00	4,318.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,401.3	10.00	216.85	4,400.9	-5.8	-4.4	12.00	12.00	0.00	216.85	
5,121.3	10.00	216.85	5,110.0	-105.9	-79.3	0.00	0.00	0.00	0.00	
5,825.2	90.50	269.60	5,533.0	-169.1	-557.8	12.00	11.44	7.49	53.10	
10,505.5	90.50	269.60	5,492.4	-202.1	-5,237.9	0.00	0.00	0.00	0.00	PBHL Partition 24 Fed



# Integrity Directional Services, LLC

## Planning Report



Database: EDM 5000.1 Multi User Db  
Company: Burnett Oil Company, INC  
Project: Lea County, NM  
Site: Sec 19-T17S-R32E  
Well: Partition 24 Fed HE #1H  
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Local Co-ordinate Reference: Well Partition 24 Fed HE #1H  
TVD Reference: KB=18 @ 3947.0usft  
MD Reference: KB=18 @ 3947.0usft  
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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
4,318.0	0.00	0.00	4,318.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP BLD 12°/100'</b>									
4,401.3	10.00	216.85	4,400.9	-5.8	-4.4	4.6	12.00	12.00	0.00
<b>EOB HLD 10° Inc.</b>									
5,121.3	10.00	216.85	5,110.0	-105.9	-79.3	83.4	0.00	0.00	0.00
<b>CONT BLD 12°/100'</b>									
5,824.6	90.43	269.59	5,533.0	-169.1	-557.3	563.4	12.00	11.44	7.50
<b>LP Partition 24 Fed HE #1H</b>									
5,825.2	90.50	269.60	5,533.0	-169.1	-557.8	563.9	12.00	11.88	1.67
<b>EOB HLD 90.5° Inc. - FTP Partition 24 Fed HE #1H</b>									
10,464.5	90.50	269.60	5,492.8	-201.8	-5,196.9	5,200.8	0.00	0.00	0.00
<b>LTP Partition 24 Fed HE #1H</b>									
10,505.5	90.50	269.60	5,492.4	-202.1	-5,237.9	5,241.8	0.00	0.00	0.00
<b>TD at 10505.5 - PBHL Partition 24 Fed HE #1H</b>									

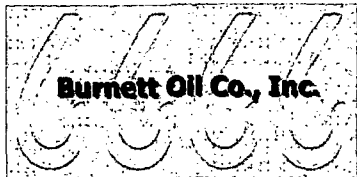
### Design Targets

#### Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL Partition 24 Fed H - plan hits target center - Point	0.00	0.00	5,492.4	-202.1	-5,237.9	663,457.10	695,711.60	32° 49' 22.305 N	103° 49' 50.866 W
LTP Partition 24 Fed HE - plan misses target center by 1.0usft at 10464.5usft MD (5492.8 TVD, -201.8 N, -5196.9 E) - Point	0.00	0.00	5,492.8	-200.8	-5,196.9	663,458.40	695,752.60	32° 49' 22.316 N	103° 49' 50.385 W
FTP Partition 24 Fed HE - plan misses target center by 0.7usft at 5825.4usft MD (5533.0 TVD, -169.1 N, -558.1 E) - Point	0.00	0.00	5,533.0	-168.4	-558.1	663,490.80	700,391.40	32° 49' 22.415 N	103° 48' 56.022 W
LP Partition 24 Fed HE # - plan misses target center by 0.3usft at 5824.5usft MD (5533.0 TVD, -169.1 N, -557.1 E) - Point	0.00	0.00	5,533.0	-169.4	-557.1	663,489.80	700,392.40	32° 49' 22.405 N	103° 48' 56.011 W

### Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,318.0	4,318.0	0.0	0.0	KOP BLD 12°/100'
4,401.3	4,400.9	-5.8	-4.4	EOB HLD 10° Inc.
5,121.3	5,110.0	-105.9	-79.3	CONT BLD 12°/100'
5,825.2	5,533.0	-169.1	-557.8	EOB HLD 90.5° Inc.
10,505.5	5,492.4	-202.1	-5,237.9	TD at 10505.5



Burnett Oil Company, INC  
 Project: Lea County, NM  
 Site: Sec 19-T17S-R32E  
 Well: Partition 24 Fed HE #1H  
 Wellbore: Wellbore #1  
 Plan: Plan #2 (Partition 24 Fed HE #1H/Wellbore #1)



#### WELL DETAILS: Partition 24 Fed HE #1H

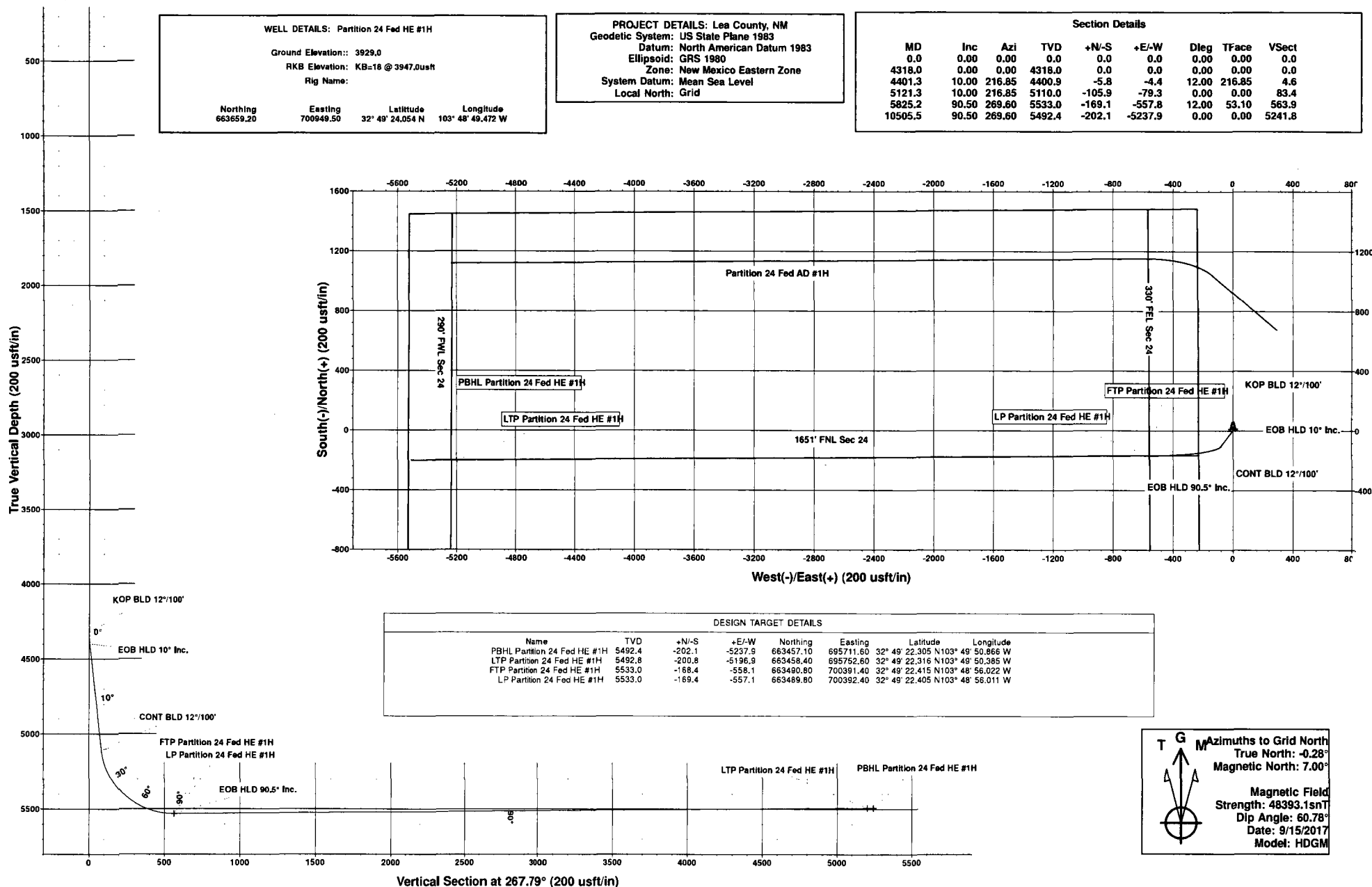
Ground Elevation:: 3929.0  
 RKB Elevation: KB=18 @ 3947.0usth  
 Rig Name:

Northing 663659.20 Easting 700949.50 Latitude 32° 49' 24.054 N Longitude 103° 48' 49.472 W

PROJECT DETAILS: Lea County, NM  
 Geodetic System: US State Plane 1983  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: New Mexico Eastern Zone  
 System Datum: Mean Sea Level  
 Local North: Grid

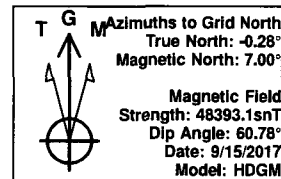
#### Section Details

MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	Vsect
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
4318.0	0.00	0.00	4318.0	0.0	0.0	0.00	0.00	0.0
4401.3	10.00	216.85	4400.9	-5.8	-4.4	12.00	216.85	4.6
5121.3	10.00	216.85	5110.0	-105.9	-79.3	0.00	0.00	83.4
5825.2	90.50	269.60	5533.0	-169.1	-557.8	12.00	53.10	563.9
10505.5	90.50	269.60	5492.4	-202.1	-5237.9	0.00	0.00	5241.8

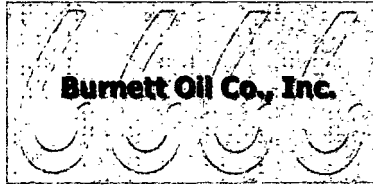


#### DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
PBHL Partition 24 Fed HE #1H	5492.4	-202.1	-5237.9	663457.10	695711.60	32° 49' 22.305 N	103° 49' 50.866 W
LTP Partition 24 Fed HE #1H	5492.8	-200.8	-5196.9	663458.40	695752.60	32° 49' 22.316 N	103° 49' 50.385 W
FTP Partition 24 Fed HE #1H	5533.0	-168.4	-558.1	663480.80	700391.40	32° 49' 22.415 N	103° 48' 56.022 W
LP Partition 24 Fed HE #1H	5533.0	-169.4	-557.1	663489.80	700392.40	32° 49' 22.405 N	103° 48' 56.011 W







# **Burnett Oil Company, INC**

**Lea County, NM**

**Sec 19-T17S-R32E**

**Partition 24 Fed HE #1H**

**Wellbore #1**

**Plan #2**

## **Anticollision Report**

**29 September, 2017**





# Integrity Directional Services, LLC

## Anticollision Report



**Company:** Burnett Oil Company, INC  
**Project:** Lea County, NM  
**Reference Site:** Sec 19-T17S-R32E  
**Site Error:** 0.0 usft  
**Reference Well:** Partition 24 Fed HE #1H  
**Well Error:** 0.0 usft  
**Reference Wellbore:** Wellbore #1  
**Reference Design:** Plan #2

**Local Co-ordinate Reference:** Well Partition 24 Fed HE #1H  
**TVD Reference:** KB=18 @ 3947.0usft  
**MD Reference:** KB=18 @ 3947.0usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Output errors are at:** 2.00 sigma  
**Database:** EDM 5000.1 Multi User Db  
**Offset TVD Reference:** Offset Datum

<b>Reference</b>	Plan #2		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD Interval 100.0usft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 2,142.2 usft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	<b>Date</b> 9/29/2017				
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
0.0	10,505.1	Plan #2 (Wellbore #1)	MWD	MWD - Standard	

<b>Summary</b>							
<b>Site Name</b>	<b>Reference Measured Depth (usft)</b>	<b>Offset Measured Depth (usft)</b>	<b>Distance Between Centres (usft)</b>	<b>Distance Between Ellipses (usft)</b>	<b>Separation Factor</b>	<b>Warning</b>	
Offset Well - Wellbore - Design							
Sec 19-T17S-R32E							
Partition 24 Fed AD #1H - Wellbore #1 - Plan #2	4,300.0	4,306.0	735.3	716.2	38.543	CC, ES	
Partition 24 Fed AD #1H - Wellbore #1 - Plan #2	10,505.5	10,647.7	1,320.3	1,031.4	4.570	SF	

<b>Offset Design</b> Sec 19-T17S-R32E - Partition 24 Fed AD #1H - Wellbore #1 - Plan #2													<b>Offset Site Error:</b> 0.0 usft
<b>Survey Program:</b> 0-MWD													<b>Offset Well Error:</b> 0.0 usft
<b>Reference</b>	<b>Offset</b>	<b>Semi Major Axis</b>		<b>Distance</b>									<b>Warning</b>
<b>Measured Depth (usft)</b>	<b>Vertical Depth (usft)</b>	<b>Measured Depth (usft)</b>	<b>Vertical Depth (usft)</b>	<b>Reference (usft)</b>	<b>Offset (usft)</b>	<b>Highside Toolface (°)</b>	<b>Offset Wellbore Centre +N/-S (usft)</b>	<b>Offset Wellbore Centre +E/-W (usft)</b>	<b>Between Centres (usft)</b>	<b>Between Ellipses (usft)</b>	<b>Minimum Separation (usft)</b>	<b>Separation Factor</b>	
0.0	0.0	6.0	6.0	0.0	0.0	23.51	674.3	293.3	735.3				
100.0	100.0	106.0	106.0	0.1	0.1	23.51	674.3	293.3	735.3	735.1	0.20	3,717.633	
200.0	200.0	206.0	206.0	0.3	0.3	23.51	674.3	293.3	735.3	734.7	0.65	1,135.944	
300.0	300.0	306.0	306.0	0.5	0.6	23.51	674.3	293.3	735.3	734.2	1.10	670.393	
400.0	400.0	406.0	406.0	0.8	0.8	23.51	674.3	293.3	735.3	733.8	1.55	475.512	
500.0	500.0	506.0	506.0	1.0	1.0	23.51	674.3	293.3	735.3	733.3	2.00	368.414	
600.0	600.0	606.0	606.0	1.2	1.2	23.51	674.3	293.3	735.3	732.9	2.45	300.691	
700.0	700.0	706.0	706.0	1.4	1.5	23.51	674.3	293.3	735.3	732.4	2.89	254.000	
800.0	800.0	806.0	806.0	1.7	1.7	23.51	674.3	293.3	735.3	732.0	3.34	219.860	
900.0	900.0	906.0	906.0	1.9	1.9	23.51	674.3	293.3	735.3	731.5	3.79	193.810	
1,000.0	1,000.0	1,006.0	1,006.0	2.1	2.1	23.51	674.3	293.3	735.3	731.1	4.24	173.280	
1,100.0	1,100.0	1,106.0	1,106.0	2.3	2.4	23.51	674.3	293.3	735.3	730.6	4.69	156.682	
1,200.0	1,200.0	1,206.0	1,206.0	2.6	2.6	23.51	674.3	293.3	735.3	730.2	5.14	142.986	
1,300.0	1,300.0	1,306.0	1,306.0	2.8	2.8	23.51	674.3	293.3	735.3	729.7	5.59	131.492	
1,400.0	1,400.0	1,406.0	1,406.0	3.0	3.0	23.51	674.3	293.3	735.3	729.3	6.04	121.708	
1,500.0	1,500.0	1,506.0	1,506.0	3.2	3.3	23.51	674.3	293.3	735.3	728.8	6.49	113.280	
1,600.0	1,600.0	1,606.0	1,606.0	3.5	3.5	23.51	674.3	293.3	735.3	728.4	6.94	105.943	
1,700.0	1,700.0	1,706.0	1,706.0	3.7	3.7	23.51	674.3	293.3	735.3	727.9	7.39	99.499	
1,800.0	1,800.0	1,806.0	1,806.0	3.9	3.9	23.51	674.3	293.3	735.3	727.5	7.84	93.794	
1,900.0	1,900.0	1,906.0	1,906.0	4.1	4.2	23.51	674.3	293.3	735.3	727.0	8.29	88.707	
2,000.0	2,000.0	2,006.0	2,006.0	4.4	4.4	23.51	674.3	293.3	735.3	726.6	8.74	84.144	
2,100.0	2,100.0	2,106.0	2,106.0	4.6	4.6	23.51	674.3	293.3	735.3	726.1	9.19	80.027	
2,200.0	2,200.0	2,206.0	2,206.0	4.8	4.8	23.51	674.3	293.3	735.3	725.7	9.64	76.295	
2,300.0	2,300.0	2,306.0	2,306.0	5.0	5.1	23.51	674.3	293.3	735.3	725.2	10.09	72.895	
2,400.0	2,400.0	2,406.0	2,406.0	5.3	5.3	23.51	674.3	293.3	735.3	724.8	10.54	69.785	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation



# Integrity Directional Services, LLC

## Anticollision Report



**Company:** Burnett Oil Company, INC  
**Project:** Lea County, NM  
**Reference Site:** Sec 19-T17S-R32E  
**Site Error:** 0.0 usft  
**Reference Well:** Partition 24 Fed HE #1H  
**Well Error:** 0.0 usft  
**Reference Wellbore:** Wellbore #1  
**Reference Design:** Plan #2

**Local Co-ordinate Reference:** Well Partition 24 Fed HE #1H  
**TVD Reference:** KB=18 @ 3947.0usft  
**MD Reference:** KB=18 @ 3947.0usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Output errors are at** 2.00 sigma  
**Database:** EDM 5000.1 Multi User Db  
**Offset TVD Reference:** Offset Datum

Offset Design Sec 19-T17S-R32E - Partition 24 Fed AD #1H - Wellbore #1 - Plan #2												Offset Site Error:	0.0 usft
Survey Program: 0-MWD												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
2,500.0	2,500.0	2,506.0	2,506.0	5.5	5.5	23.51	674.3	293.3	735.3	724.3	10.99	66.930	
2,600.0	2,600.0	2,606.0	2,606.0	5.7	5.7	23.51	674.3	293.3	735.3	723.9	11.44	64.299	
2,700.0	2,700.0	2,706.0	2,706.0	5.9	5.9	23.51	674.3	293.3	735.3	723.4	11.89	61.867	
2,800.0	2,800.0	2,806.0	2,806.0	6.2	6.2	23.51	674.3	293.3	735.3	723.0	12.34	59.612	
2,900.0	2,900.0	2,906.0	2,906.0	6.4	6.4	23.51	674.3	293.3	735.3	722.5	12.78	57.516	
3,000.0	3,000.0	3,006.0	3,006.0	6.6	6.6	23.51	674.3	293.3	735.3	722.1	13.23	55.563	
3,100.0	3,100.0	3,106.0	3,106.0	6.8	6.8	23.51	674.3	293.3	735.3	721.6	13.68	53.737	
3,200.0	3,200.0	3,206.0	3,206.0	7.1	7.1	23.51	674.3	293.3	735.3	721.2	14.13	52.028	
3,300.0	3,300.0	3,306.0	3,306.0	7.3	7.3	23.51	674.3	293.3	735.3	720.7	14.58	50.424	
3,400.0	3,400.0	3,406.0	3,406.0	7.5	7.5	23.51	674.3	293.3	735.3	720.3	15.03	48.916	
3,500.0	3,500.0	3,506.0	3,506.0	7.7	7.7	23.51	674.3	293.3	735.3	719.8	15.48	47.496	
3,600.0	3,600.0	3,606.0	3,606.0	8.0	8.0	23.51	674.3	293.3	735.3	719.4	15.93	46.156	
3,700.0	3,700.0	3,706.0	3,706.0	8.2	8.2	23.51	674.3	293.3	735.3	718.9	16.38	44.889	
3,800.0	3,800.0	3,806.0	3,806.0	8.4	8.4	23.51	674.3	293.3	735.3	718.5	16.83	43.690	
3,900.0	3,900.0	3,906.0	3,906.0	8.6	8.6	23.51	674.3	293.3	735.3	718.0	17.28	42.554	
4,000.0	4,000.0	4,006.0	4,006.0	8.9	8.9	23.51	674.3	293.3	735.3	717.6	17.73	41.475	
4,100.0	4,100.0	4,106.0	4,106.0	9.1	9.1	23.51	674.3	293.3	735.3	717.1	18.18	40.449	
4,200.0	4,200.0	4,206.0	4,206.0	9.3	9.3	23.51	674.3	293.3	735.3	716.7	18.63	39.473	
4,300.0	4,300.0	4,306.0	4,306.0	9.5	9.5	23.51	674.3	293.3	735.3	716.2	19.08	38.543 CC, ES	
4,400.0	4,399.6	4,385.5	4,385.4	9.7	9.7	166.37	675.6	291.7	743.0	723.9	19.18	38.741	
4,500.0	4,498.1	4,450.0	4,449.1	9.9	9.9	165.81	682.3	283.9	764.7	745.2	19.49	39.234	
4,600.0	4,596.6	4,513.1	4,509.4	10.1	10.0	164.69	694.2	270.0	790.6	770.8	19.82	39.892	
4,700.0	4,695.0	4,569.2	4,560.7	10.3	10.2	163.26	709.0	252.6	821.4	801.2	20.15	40.759	
4,800.0	4,793.5	4,619.1	4,603.7	10.5	10.3	161.70	725.3	233.4	857.3	836.8	20.50	41.827	
4,900.0	4,892.0	4,682.5	4,655.3	10.7	10.6	159.50	749.2	205.4	898.2	877.3	20.93	42.918	
5,000.0	4,990.5	4,761.7	4,719.4	11.0	11.0	156.88	779.3	170.0	941.6	920.2	21.47	43.856	
5,100.0	5,089.0	4,840.8	4,783.5	11.2	11.4	154.45	809.4	134.7	986.9	964.9	22.06	44.747	
5,200.0	5,186.4	4,922.0	4,849.3	11.5	12.0	121.97	840.2	98.5	1,034.6	1,012.0	22.63	45.718	
5,300.0	5,278.4	5,007.8	4,918.8	11.9	12.6	103.56	872.8	60.2	1,084.2	1,060.8	23.42	46.292	
5,400.0	5,360.8	5,094.5	4,989.1	12.4	13.3	92.97	905.8	21.5	1,132.8	1,108.4	24.40	46.420	
5,500.0	5,430.2	5,178.5	5,057.1	13.1	14.0	86.10	937.7	-16.0	1,178.8	1,153.2	25.56	46.109	
5,600.0	5,483.3	5,256.0	5,119.8	14.1	14.7	81.48	967.2	-50.6	1,221.5	1,194.5	26.97	45.289	
5,700.0	5,517.9	5,323.6	5,174.6	15.6	15.4	78.23	992.9	-80.8	1,260.9	1,232.2	28.67	43.976	
5,800.0	5,532.6	5,378.5	5,219.0	17.3	15.9	75.70	1,013.8	-105.3	1,297.4	1,266.8	30.62	42.372	
5,900.0	5,532.4	5,053.9	5,512.3	19.3	26.9	88.87	1,150.3	-641.8	1,320.3	1,276.2	44.08	29.954	
6,000.0	5,531.5	6,153.9	5,511.5	21.4	29.1	88.87	1,149.6	-741.7	1,320.3	1,271.7	48.59	27.173	
6,100.0	5,530.6	6,253.9	5,510.6	23.7	31.4	88.87	1,148.9	-841.7	1,320.3	1,267.0	53.29	24.773	
6,200.0	5,529.8	6,353.9	5,509.7	26.1	33.7	88.87	1,148.2	-941.7	1,320.3	1,262.1	58.15	22.705	
6,300.0	5,528.9	6,453.9	5,508.9	28.5	36.1	88.87	1,147.5	-1,041.7	1,320.3	1,257.1	63.11	20.918	
6,400.0	5,528.0	6,553.9	5,508.0	31.0	38.5	88.87	1,146.8	-1,141.7	1,320.3	1,252.1	68.17	19.368	
6,500.0	5,527.2	6,653.9	5,507.1	33.6	41.0	88.87	1,146.1	-1,241.7	1,320.3	1,247.0	73.29	18.014	
6,600.0	5,526.3	6,753.9	5,506.3	36.1	43.6	88.87	1,145.4	-1,341.7	1,320.3	1,241.8	78.47	16.826	
6,700.0	5,525.4	6,853.9	5,505.4	38.7	46.1	88.87	1,144.7	-1,441.7	1,320.3	1,236.6	83.69	15.776	
6,800.0	5,524.6	6,953.9	5,504.5	41.3	48.7	88.87	1,144.0	-1,541.7	1,320.2	1,231.3	88.94	14.844	
6,900.0	5,523.7	7,053.9	5,503.7	44.0	51.3	88.87	1,143.3	-1,641.7	1,320.2	1,226.0	94.23	14.011	
7,000.0	5,522.8	7,153.9	5,502.8	46.6	53.9	88.87	1,142.6	-1,741.7	1,320.2	1,220.7	99.54	13.263	
7,100.0	5,521.9	7,253.9	5,501.9	49.3	56.5	88.87	1,141.9	-1,841.7	1,320.2	1,215.4	104.88	12.588	
7,200.0	5,521.1	7,353.9	5,501.0	51.9	59.2	88.87	1,141.1	-1,941.7	1,320.2	1,210.0	110.23	11.977	
7,300.0	5,520.2	7,453.9	5,500.2	54.6	61.8	88.87	1,140.4	-2,041.7	1,320.2	1,204.6	115.60	11.421	
7,400.0	5,519.3	7,553.9	5,499.3	57.3	64.5	88.87	1,139.7	-2,141.7	1,320.2	1,199.3	120.98	10.913	
7,500.0	5,518.5	7,653.9	5,498.4	60.0	67.1	88.87	1,139.0	-2,241.7	1,320.2	1,193.9	126.38	10.447	
7,600.0	5,517.6	7,753.9	5,497.6	62.7	69.8	88.87	1,138.3	-2,341.6	1,320.2	1,188.5	131.78	10.018	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation



# Integrity Directional Services, LLC

## Anticollision Report



**Company:** Burnett Oil Company, INC  
**Project:** Lea County, NM  
**Reference Site:** Sec 19-T17S-R32E  
**Site Error:** 0.0 usft  
**Reference Well:** Partition 24 Fed HE #1H  
**Well Error:** 0.0 usft  
**Reference Wellbore:** Wellbore #1  
**Reference Design:** Plan #2

**Local Co-ordinate Reference:** Well Partition 24 Fed HE #1H  
**TVD Reference:** KB=18 @ 3947.0usft  
**MD Reference:** KB=18 @ 3947.0usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Output errors are at** 2.00 sigma  
**Database:** EDM 5000.1 Multi User Db  
**Offset TVD Reference:** Offset Datum

Offset Design Sec 19-T17S-R32E - Partition 24 Fed AD #1H - Wellbore #1 - Plan #2													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (")	Distance		Minimum Separation (usft)	Separation Factor	Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
7,700.0	5,516.7	7,853.9	5,496.7	65.4	72.5	88.87	1,137.6	-2,441.6	1,320.2	1,183.0	137.20	9.623		
7,800.0	5,515.9	7,953.9	5,495.8	68.1	75.2	88.87	1,136.9	-2,541.6	1,320.2	1,177.6	142.62	9.257		
7,900.0	5,515.0	8,053.9	5,495.0	70.8	77.9	88.87	1,136.2	-2,641.6	1,320.2	1,172.2	148.05	8.918		
8,000.0	5,514.1	8,153.9	5,494.1	73.6	80.6	88.87	1,135.5	-2,741.6	1,320.2	1,166.8	153.48	8.602		
8,100.0	5,513.3	8,253.9	5,493.2	76.3	83.3	88.87	1,134.8	-2,841.6	1,320.2	1,161.3	158.92	8.307		
8,200.0	5,512.4	8,353.9	5,492.3	79.0	86.0	88.87	1,134.1	-2,941.6	1,320.2	1,155.9	164.37	8.032		
8,300.0	5,511.5	8,453.9	5,491.5	81.7	88.7	88.87	1,133.4	-3,041.6	1,320.2	1,150.4	169.82	7.774		
8,400.0	5,510.7	8,553.9	5,490.6	84.5	91.4	88.87	1,132.7	-3,141.6	1,320.2	1,145.0	175.28	7.532		
8,500.0	5,509.8	8,653.9	5,489.7	87.2	94.1	88.87	1,132.0	-3,241.6	1,320.2	1,139.5	180.74	7.305		
8,600.0	5,508.9	8,753.9	5,488.9	89.9	96.8	88.87	1,131.3	-3,341.6	1,320.2	1,134.0	186.20	7.090		
8,700.0	5,508.1	8,853.9	5,488.0	92.6	99.5	88.87	1,130.6	-3,441.6	1,320.2	1,128.6	191.67	6.888		
8,800.0	5,507.2	8,953.9	5,487.1	95.4	102.3	88.87	1,129.9	-3,541.6	1,320.2	1,123.1	197.14	6.697		
8,900.0	5,506.3	9,053.9	5,486.3	98.1	105.0	88.87	1,129.1	-3,641.6	1,320.2	1,117.6	202.61	6.516		
9,000.0	5,505.5	9,153.9	5,485.4	100.9	107.7	88.87	1,128.4	-3,741.6	1,320.2	1,112.1	208.08	6.345		
9,100.0	5,504.6	9,253.9	5,484.5	103.6	110.4	88.87	1,127.7	-3,841.6	1,320.2	1,106.7	213.56	6.182		
9,200.0	5,503.7	9,353.9	5,483.7	106.3	113.2	88.87	1,127.0	-3,941.5	1,320.2	1,101.2	219.04	6.027		
9,300.0	5,502.9	9,453.9	5,482.8	109.1	115.9	88.87	1,126.3	-4,041.5	1,320.2	1,095.7	224.52	5.880		
9,400.0	5,502.0	9,553.9	5,481.9	111.8	118.6	88.87	1,125.6	-4,141.5	1,320.2	1,090.2	230.00	5.740		
9,500.0	5,501.1	9,653.9	5,481.0	114.6	121.4	88.87	1,124.9	-4,241.5	1,320.2	1,084.7	235.49	5.606		
9,600.0	5,500.3	9,753.9	5,480.2	117.3	124.1	88.87	1,124.2	-4,341.5	1,320.2	1,079.2	240.98	5.479		
9,700.0	5,499.4	9,853.9	5,479.3	120.0	126.8	88.87	1,123.5	-4,441.5	1,320.2	1,073.8	246.46	5.357		
9,800.0	5,498.5	9,953.9	5,478.4	122.8	129.6	88.87	1,122.8	-4,541.5	1,320.2	1,068.3	251.95	5.240		
9,900.0	5,497.7	10,053.9	5,477.6	125.5	132.3	88.87	1,122.1	-4,641.5	1,320.2	1,062.8	257.44	5.128		
10,000.0	5,496.8	10,153.9	5,476.7	128.3	135.0	88.87	1,121.4	-4,741.5	1,320.2	1,057.3	262.93	5.021		
10,100.0	5,495.9	10,253.9	5,475.8	131.0	137.8	88.87	1,120.7	-4,841.5	1,320.2	1,051.8	268.43	4.918		
10,200.0	5,495.1	10,353.9	5,475.0	133.8	140.5	88.87	1,120.0	-4,941.5	1,320.2	1,046.3	273.92	4.820		
10,300.0	5,494.2	10,453.9	5,474.1	136.5	143.3	88.87	1,119.3	-5,041.5	1,320.2	1,040.8	279.42	4.725		
10,400.0	5,493.3	10,553.9	5,473.2	139.3	146.0	88.87	1,118.6	-5,141.5	1,320.2	1,035.3	284.91	4.634		
10,469.6	5,492.7	10,623.5	5,472.6	140.5	147.7	88.87	1,118.1	-5,211.1	1,320.2	1,032.4	287.83	4.587		
10,500.0	5,492.4	10,647.7	5,472.4	141.1	148.1	88.87	1,117.9	-5,235.3	1,320.2	1,031.4	288.80	4.571		
10,505.5	5,492.4	10,647.7	5,472.4	141.1	148.1	88.87	1,117.9	-5,235.3	1,320.3	1,031.4	288.90	4.570 SF		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation



**Integrity Directional Services, LLC**  
Anticollision Report



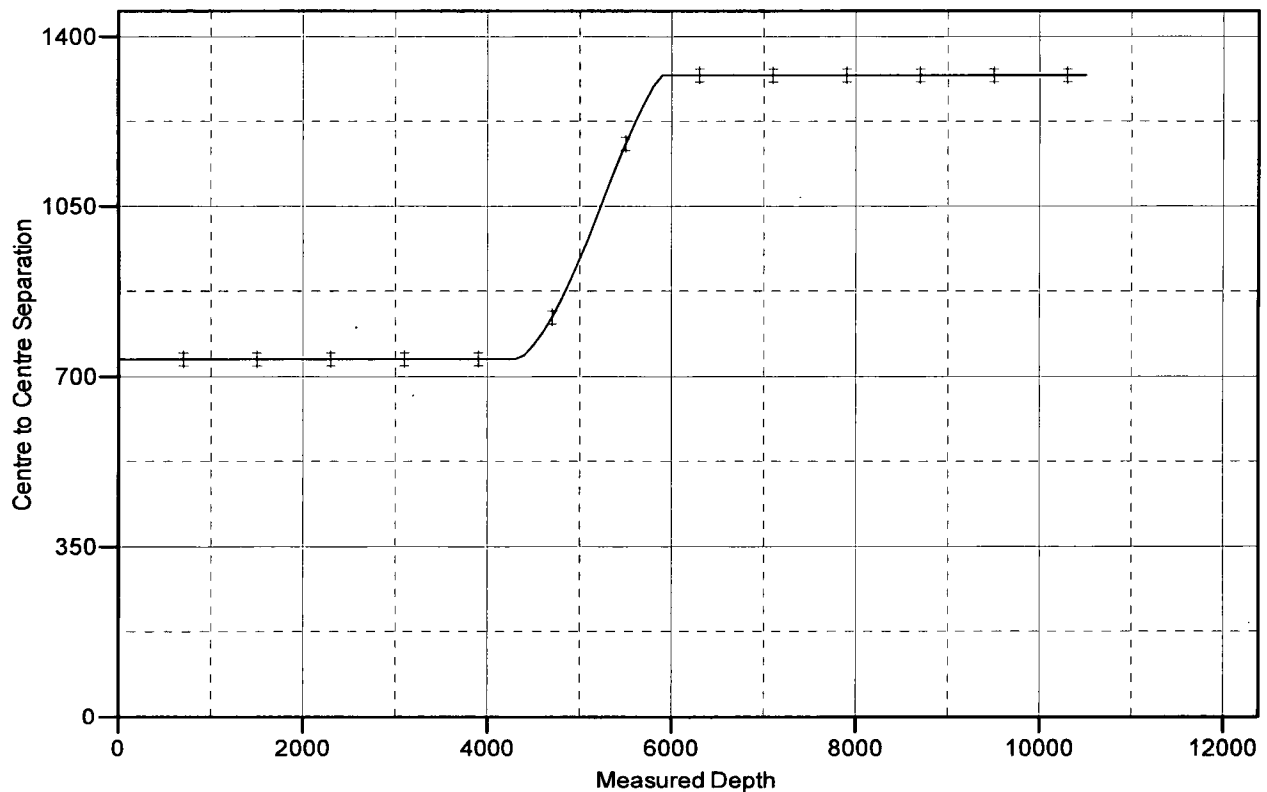
**Company:** Burnett Oil Company, INC  
**Project:** Lea County, NM  
**Reference Site:** Sec 19-T17S-R32E  
**Site Error:** 0.0 usft  
**Reference Well:** Partition 24 Fed HE #1H  
**Well Error:** 0.0 usft  
**Reference Wellbore:** Wellbore #1  
**Reference Design:** Plan #2

**Local Co-ordinate Reference:** Well Partition 24 Fed HE #1H  
**TVD Reference:** KB=18 @ 3947.0usft  
**MD Reference:** KB=18 @ 3947.0usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Output errors are at** 2.00 sigma  
**Database:** EDM 5000.1 Multi User Db  
**Offset TVD Reference:** Offset Datum

Reference Depths are relative to KB=18 @ 3947.0usft  
Offset Depths are relative to Offset Datum  
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: Partition 24 Fed HE #1H  
Coordinate System is US State Plane 1983, New Mexico Eastern Zone  
Grid Convergence at Surface is: 0.28°

### Ladder Plot



### LEGEND

Partition 24 Fed AD #1H, Wellbore #1, Plan #2 V0



**Integrity Directional Services, LLC**  
Anticollision Report



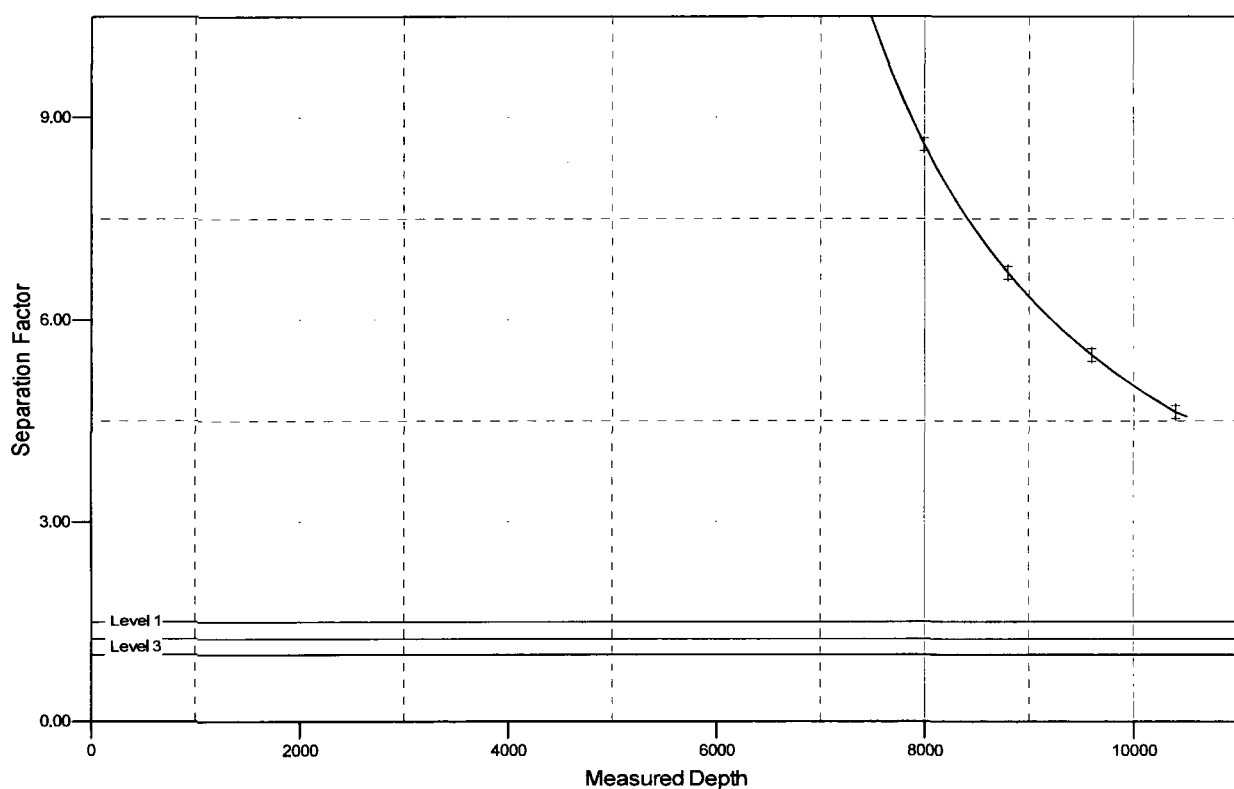
**Company:** Burnett Oil Company, INC  
**Project:** Lea County, NM  
**Reference Site:** Sec 19-T17S-R32E  
**Site Error:** 0.0 usft  
**Reference Well:** Partition 24 Fed HE #1H  
**Well Error:** 0.0 usft  
**Reference Wellbore:** Wellbore #1  
**Reference Design:** Plan #2

**Local Co-ordinate Reference:** Well Partition 24 Fed HE #1H  
**TVD Reference:** KB=18 @ 3947.0usft  
**MD Reference:** KB=18 @ 3947.0usft  
**North Reference:** Grid  
**Survey Calculation Method:** Minimum Curvature  
**Output errors are at** 2.00 sigma  
**Database:** EDM 5000.1 Multi User Db  
**Offset TVD Reference:** Offset Datum

Reference Depths are relative to KB=18 @ 3947.0usft  
Offset Depths are relative to Offset Datum  
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: Partition 24 Fed HE #1H  
Coordinate System is US State Plane 1983, New Mexico Eastern Zone  
Grid Convergence at Surface is: 0.28°

## Separation Factor Plot



## LEGEND

Partition 24 Fed AD #1H, Wellbore #1, Plan #2 V0



## DRILLING PLAN

## Partition 24 Fed HE 1H

## HORIZONTAL FREN GLORIETA YESO WELL

**1. Geological Name of Surface Formation with Estimated Depth:**

<b><u>Geological Name</u></b>	<b><u>Estimate Top</u></b>	<b><u>Anticipated Fresh Water, Oil or Gas</u></b>
Alluvium	Surface	There is no fresh water here
Anhydrite	623'	
Salt	784'	
Base Salt	1815'	
Yates	2003'	
Seven Rivers	2333'	Oil
Queen	2938'	Oil
Grayburg	3314'	Oil
San Andres	3645'	Oil
Glorieta	5218'	Oil
Yeso	5309'	Oil
Total Depth	Refer to APD	

No other formations are expected to yield fresh water, oil or gas in measurable volumes. There is no groundwater in the immediate vicinity where we will be drilling. We will set 13-3/8" casing @ +/-720' in the Anhydrite above the salt and circulate cement to surface.

We will set 9-5/8" intermediate casing at +/-2,000' and circulate cement to surface. All intervals will be isolated by setting 7" x 5-1/2" casing to total depth and circulating cement from +/-4,700' to above the base of the 9-5/8" intermediate casing shoe.

**2. Casing Program: (ALL CASING WILL BE NEW API APPROVED MATERIAL.)**

**(MW = 10 PPG IN DESIGN FACTOR CALCULATIONS.)**

a. **Design Safety Factors:**

Type	Hole Size	Depth Interval	OD CSG	Weight	Collar	Grade	Collapse Design Factor	Burst Design Factor	Tension Design Factor
Conductor	24"	0-90'	20"	Contractor	Discretion	-----	-----	-----	-----
Surface	17-1/2"	0-720'	13-3/8"	48#	ST&C	J-55	1.125	1.00	1.80
Intermediate	12-1/4"	0'-2000'	9-5/8"	36#	ST&C	J-55	1.125	1.00	1.80
Production	8-1/2"	0'-4800'	7"	26#	LT&C	L-80	1.125	1.00	1.80
	8-1/2"	4800'-10506'	5-1/2"	17#	LT&C	L-80	1.125	1.00	1.80

## **DRILLING PLAN**

### **Horizontal Yeso**

#### **b. Surface Casing Info**

The proposed 13-3/8" casing setting depth is +/- 720' based on cross sections which show the estimated top of the rustler and top of salt. Drilling times will be plotted to find the hard section just above the salt. A mud logger will be on location to evaluate drill and cutting samples as long as circulation is maintained. If salt is penetrated, it will be obvious by the sudden increase in water salinity and surface casing will then be set above the top of salt. Our highly experienced drilling personnel have drilled many wells in this area and are able to easily identify the hard streak on the top of the salt.

#### **c. Intermediate casing**

We will run 9-5/8" intermediate casing to +/-2,000' and circulate cement to surface to get the Salt section behind pipe.

#### **d. Production casing**

We will run 7" x 5-1/2" production casing with a DV Tool at the bottom of the 7" (4700' +/-), then a crossover from 7" to 5-1/2" (4800' -TD). There will be no cement in the lateral, only from the stage tool and up hole into the intermediate casing with top of cement reaching approximately 1,500'.

Burnett proposes to run a multiple packer system on the 5-1/2" production casing which will cross over into the 7" casing string (no cement in the lateral). An external isolation packer will be set at or a few feet inside the lease offset limit with an additional external isolation packer set just above the Glorieta. No completion perforations or ports will be placed between the Glorieta isolation packer and the cement stage tool.

### **3. Cementing Program**

**BLM to be notified prior to all cementing and tag operations in order to observe the operation if desired.**

#### **a. 13 3/8" Surface Casing:**

- Cement to surface
- 20 bbls fresh water spacer at 8.4 lbm/gal.
- Lead: 330 sx ExtendaCem – CZ 0.1250 lbm Poly-E-Flake. Fluid weight 13.5 lbm/gal, slurry yield 1.745 ft3/sx, total mixing fluid 9.18 gal/sx.
- Tail: 340 sx HalCem 2% Calcium Chloride – flake, fluid weight 14.8 lbm/gal, slurry yield 1.347 ft3/sx, total mixing fluid 6.39 gal/sx.
- Excess Cement: 100%

**If cement does not circulate to surface, BLM will be notified of same, and advised of the plan to bring the cement to surface so BLM may witness tagging and cementing. If surface pressures when circulating indicate cement is low in the annulus, temperature survey results will be reviewed with BLM representative to determine the remediation needed.**



## **DRILLING PLAN**

### **Horizontal Yeso**

#### **b. 9 5/8" Intermediate Casing:**

- Cement to surface
- Lead: 475 sx ExtendaCem – CZ 0.1250 lbm Poly-E-Flake, Fluid weight 13.5 lbm/gal, slurry yield 1.745 ft<sup>3</sup>/sx, total mixing fluid 9.2 gal/sx.
- Tail: 205 sx HalCem fluid weight 14.8 lbm/gal, slurry yield 1.326 ft<sup>3</sup>/sx, total mixing fluid 6.34 gal/sx.
- Excess Cement: 50%

#### **c. 7" & 5 1/2" Production Casing:**

- Displace mud from lateral with fresh water.
- Open DV Tool and pump the following cement. Lead: 255 sx EconoCem – C, 0.1250 lbm Poly-E-Flake, 0.25 lbm D-Air 5000, fluid weight 11.9 lbm/gal, slurry yield 2.464 ft<sup>3</sup>/sx, total mixing fluid 14.24 gal/sx.
- Tail: 170 sx Halcem, 0.50% LAP-1, 0.25 lbm D-Air 5000, 0.40% CFR-3, 0.10% HR-800, fluid weight 14.8 lbm/gal, slurry yield 1.33 ft<sup>3</sup>/sx, total mixing fluid 6.29 gal/sx.
- Excess Cement: 35%

The above cement volumes may be revised pending the caliper measurement from the open hole logs. **Casing/cementing design is to bring cement inside the intermediate casing to approximately 1,500'.**

#### **4. Pressure Control Equipment:**

The blowout prevention equipment (BOPE) shown in the attached diagram will consist of a 3000 PSI Hydril Unit (annular) with hydraulic closing equipment. The equipment will comply with Onshore Order #2. BOPE will be tested to 3,000 psi and the Annular tested to 1,500 psi and maintained for at least ten (10) minutes. The 13 3/8" x 13 5/8" drilling head will be installed on the surface casing and in use continuously until total depth is reached. An independent testing company will be used for the testing. Other accessory BOP equipment will include a Kelly cock, floor safety valve, choke lines and choke manifold having 3000 PSI WP rating.

#### **5. Auxiliary Well Control and Monitoring Equipment:**

- a. A Kelly cock will be in the drill string at all times.
- b. A full opening drill pipe stabbing valve with the appropriate connections will be on the rig floor at all times.
- c. Hydrogen Sulfide detection and breathing equipment will be installed and in operation at a drilling depth of 1800' (which is more than 500' above top of Grayburg) and will remain until production casing is cemented.
- d. An H2S compliance package will be on all sites while drilling.

## **DRILLING PLAN**

### **Horizontal Yeso**

#### **6. Proposed Mud Circulation System (Closed Loop System)**

<u>Depth</u>	<u>Mud Wt</u>	<u>Vis</u>	<u>Fluid Loss</u>	<u>Type System</u>
0' - 720'	8.4 - 9.5		NC	Fresh Water
720' - 2000' MD	10.0 max		NC	Brine Water
2000' – TD MD	10.0 max		NC	Brine Water

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

**Pason equipment will be used to monitor the mud system.**

#### **7. Logging, Coring and Testing program:**

- a. No cores or DSTs are planned at this time.
- b. A mud logger will be on the well from 200' to TD.
- c. No open hole logs will be run.

#### **8. Potential Hazards:**

No abnormal pressures or temperatures are expected. Lost circulation is expected in the surface hole and not expected in the production hole. Water flows can occur periodically at various depths in the production hole. All personnel will be familiar with the safe operation of the equipment being used to drill this well. The maximum anticipated bottom hole pressure is 2435#. This is based upon the following formula of  $.445 \times \text{BH ft.}$  estimate. The anticipated bottom hole temperature is 105°F. This is based upon logs of drilled wells surrounding this well.

There is known H2S in this area. In the event that it is necessary to follow the H2S plan, a remote choke will be installed as required in Onshore Order 6. Refer to the attached H2S plan for details.

#### **9. Anticipated Start Date and Duration of Operation**

Road and location construction will begin after BLM has approved the APD and has approved the start of the location work. Anticipated spud date will be as soon as the location building work has been completed and the drilling rig is available to move to the location. Move in operations and drilling is expected to take approximately 25 days. If production casing is run, an additional 90 days would be required to complete the well and install the necessary surface equipment (pumping unit, electricity, flowline and storage facility) in order to place the well on production.



## **SURFACE USE PLAN**

### **1. Existing Roads:**

- a. All roads into the location are shown on the Vicinity Map.
- b. Directions to location: On State Hwy 82 go Southeast 0.9 miles on Ripple Road, Then go South on Lease road for approximately .95 miles to proposed lease road.
- c. In preparation for the new well site, water and a road grader is used to smooth nearby roads and patch holes. This is standard procedure used for the maintenance of existing roads. Existing roads will be improved and maintained according to the standards set forth in section 2 below.

### **2. New or Reconstructed Access Roads:**

- a. The well site layout, Form C-102 and road plat shows the existing road which will be utilized. Existing road plats show the existing roads surrounding the location.
- b. Existing roads will be utilized. No new roads will be needed.

### **3. Location of existing wells:**

Please refer to existing well plats for the location of all wells within a one (1) mile radius of the proposed well site.

### **4. Location of existing and/or proposed production facilities:**

- a. See flowline plats for the location of existing Partition Tank Battery facility on this Federal Lease NMLC-029415A SWNE quarter of Section 24. See site security diagram of existing, previously approved tank battery.
- b. There will be two flowlines from this well to the Partition Battery which is located on lease. The required flowlines will be laid above ground and along existing lease roads and right of way from Partition 24 Fed HE 1H to the Partition Battery. The flowline(s) will be 3" poly pipe, 3,341 ft. in length and will transport oil, gas and water. All flowlines will be low pressure 3" SDR7 4710 poly pipe with a typical working pressure of 60 psi. The 3" SDR7 4710 poly pipe has a maximum pressure rating of 335 psi.

### **5. Location and Type of Water Supply:**

All water to be used in drilling, cementing and completion operations will be brine or fresh water from one of the following options:

#### **a. Waterline**

Water will be sourced from the proposed Partition 24 Fed Unit B Frac Pond located in T17S, R31A, Section 24, Unit B adjacent to the Partition 13 Fed NC 5H location. There will be two (2) 10" Poly Lay flat lines utilized. (Sundry submitted 9/18/17 – pending approval).

## **SURFACE USE PLAN**

### **b. Truck Transport**

If transported by truck, will be hauled over existing and/or proposed lease road(s) from one of the following water suppliers:

1. Caprock Water (Maljamar, NM) located in the SE1/4SW1/4 of Section 3 in T17S, R32E, Lea County, NM
2. Caprock Water (Loco Hills, NM) located in the Lot 52 of the NW ¼ SE1/4 of Section 21 in T17S, R30E, Eddy County, NM
3. Ray Westall (Loco Hills, NM) located in the Lots 2 & 3 of the NW ¼ SE1/4 of Section 21 in T17S, R30E, Eddy County, NM

c. Burnett has no plans to drill a water supply well on the proposed well location at this time.

### **6. Construction Materials:**

All construction material for the roadway and drilling pad will be native caliche from the nearest BLM approved pit located at NW ¼ SE ¼ of Section 11 in T17S, R31E, Eddy County, NM, or from existing available deposits found on the location. All will be in accordance with the drilling stipulations for this well. If caliche is flipped on location, the following process will be followed:

- a. A caliche permit will be obtained from BLM for the caliche pit located at NW ¼ SE ¼ of Section 11 in T17S, R31E, Eddy County, NM by the dirt work vendor prior to pushing up any caliche.
- b. The top 6" of top soil will be pushed off and stockpiled on the East side the location. Once the well is drilled the stock piled top soil will be used for interim reclamation and spread along the areas where the caliche is picked up and the location size is reduced. Neither caliche nor top soil will be piled outside the well pad. Top soil will be stockpiled along the edge of the pad as depicted in the attached well diagram (**Exhibit P**).
- c. An area approximately 120'x120' is used within the proposed site to remove caliche.
- d. The top 6" of top soil will be pushed off and stockpiled on the East side the location. Once the well is drilled the stock piled top soil will be used for interim reclamation and spread along the areas where the caliche is picked up and the location size is reduced. Neither caliche nor top soil will be piled outside the well pad. Top soil will be stockpiled along the edge of the pad as depicted in the attached well diagram (**Exhibit P**).
- e. When caliche is found, material will be stock piled within the pad site to build the location and road.

### **7. Methods of Handling Waste Disposal:**

- a. Drill cuttings will be disposed of in a closed loop system using steel haul off tanks. All drilling Fluids will be hauled off location to a contracted off lease disposal location.
- b. Trash, waste paper, garbage and junk will be placed in a portable, screened trash container on location. All trash and debris will be transported to an authorized off-lease disposal station within thirty (30) days following the completion activities.
- c. A properly maintained Porto-john will be provided for the crews during drilling and completion operations. All will be removed after all completion operations have ended.
- d. Oil produced during testing will be put into steel storage tank for later sales.

## SURFACE USE PLAN

- e. Water produced during testing operations will be put in the steel frac tanks pit until well is turned to the lease tank battery. All produced water will be disposed of through one of our approved disposal methods.

### 8. Ancillary Facilities:

There are no planned ancillary facilities for this well.

### 9. Well Site Layout:

- a. Well pad plats show the relative location and dimensions of the drilling pad and related components. The pad size will be 300 ft.x 280 ft. Only minor differences, if any, in length and/or width of the drilling pad are anticipated, depending on which drilling contractor is selected to drill the well. Only minor leveling of the drilling site is anticipated.
- b. The V-Door will be North. Entry will be on the West side of the location from the existing Lease Road. Topsoil stockpile will be on the North side of the location.
- c. On site was approved on May, 8, 2017.
- d. All permanent power for the well site is provided and handled by CVE. Will be tied into existing power in the vicinity.
- e. If temporary power is needed, the lines will follow the road and tie into existing power until permanent power can be installed by CVE. All temporary power lines will be buried. The lines will be buried in a 6" wide by 6" deep trench. The trench will be open approximately 4 hours but not longer than 8 hours.

### 10. Plans for surface Reclamation:

- a. After drilling and successful completion operations are finished, all equipment and other materials not required for normal production operation will be removed. **(Refer to Exhibit P)**
- b. **Burnett Oil respectfully requests two (2) years to downsize the drilling location in order to have room for equipment to fracture stimulate three (3) to four (4) intervals. Each one requires a large volume fracture treatment with several pumps, a large sand mover, several frac tans, a treatment can and various other vehicles and equipment. Burnett will, if all fracs are completed before the two (2) years, contact BLM to downsize the location.**

Refer to attached **Exhibit P** which shows resulting location after downsizing and showing the sides of location where the caliche would be left for use of kill trucks, hot oil trucks, foam units or whatever is needed to service unit, which is what has to happen if the location is reclaimed on all four (4) sides to the safety anchors.

- c. The pad size will be reduced to the amount required for normal operation of the producing well. This reduced portion will be restored to the BLM stipulations. **(See Exhibit P)**
- d. If a well is abandoned, the surface location and unneeded road will be restored according to BLM stipulations within ninety (90) days of final abandon and sit re-seeded with BLM (#2) seed mix.

## **SURFACE USE PLAN**

### **11. Surface ownership:**

All lands are owned by the U.S. Government and administered by the Bureau of Land Management. The surface is multiple use with the primary use of the region for the production of oil and gas and the grazing of livestock.

### **12. Other information:**

- a. The area surrounding the well site is a sandy dunal featured area. The area is relatively flat with small hills and sand dunes. The topsoil is fine, deep sand underlain by caliche. Vegetation cover is generally sparse and consists of mesquite, yucca, shinnery oak and sparse native grasses. Wildlife in the area includes deer, coyotes, rabbits, rodents, reptiles, dove and quail.
- b. No permanent or live water is found in the general proximity of this area.
- c. No dwellings are found within two (2) miles of this location.
- d. There is intermittent cattle grazing and hunting in the area; however, the principal land use is for oil and gas production.

### **13. Bond Coverage:**

Current Bonds are BLM Bond # NMB000197. The Surety Bond is #B000863.

Both the BLM Bond #NMB000197 and the Surety Bond # B000863 are effective May 21, 2004 and remain in place.

The Burnett Oil Co., Inc. representatives responsible for ensuring compliance of the surface use plan are listed below:

#### **Regulatory Representative**

Leslie M. Garvis  
Regulatory Coordinator  
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