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JAN 22 2019

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT DISTRICT II-ARTESIA O.C.D.

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMNM125635
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: ☐ Hydraulic Fracturing ☒ Single Zone ☐ Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator DEVON ENERGY PRODUCTION COMPANY LP		8. Lease Name and Well No. LUSITANO 27-34 FED COM 523H 319562
3a. Address 333 West Sheridan Avenue Oklahoma City OK 73102		9. API Well No. 30-015-45655
3b. Phone No. (include area code) (800)583-3866		10. Field and Pool, or Exploratory JENNINGS, WEST / BONE SPRING 97860
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NENW / 385 FNL / 1762 FWL / LAT 32.1074929 / LONG -103.768797 At proposed prod. zone SESW / 20 FSL / 2090 FWL / LAT 32.0794943 / LONG -103.7678583		11. Sec., T. R. M. or Blk. and Survey or Area SEC 27 / T25S / R31E / NMP
14. Distance in miles and direction from nearest town or post office*		12. County or Parish EDDY
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 385 feet		13. State NM
16. No of acres in lease 720		17. Spacing Unit dedicated to this well 320
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1240 feet		20. BLM/BIA Bond No. in file FED: CO1104
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3332 feet		22. Approximate date work will start* 02/12/2020
23. Estimated duration 30 days		24. Attachments

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

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

25. Signature (Electronic Submission)	Name (Printed/Typed) Linda Good / Ph: (405)552-6558	Date 10/16/2018
Title Regulatory Compliance Professional		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 01/17/2019
Title Assistant Field Manager Lands & Minerals Office CARLSBAD		

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

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

APPROVED WITH CONDITIONS
RW 1-25-19
Approval Date: 01/17/2019

INSTRUCTIONS

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

ITEM 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

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

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

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

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

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

NOTICES

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

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

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

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

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

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

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

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

Additional Operator Remarks

Location of Well

1. SHL: NENW / 385 FNL / 1762 FWL / TWSP: 25S / RANGE: 31E / SECTION: 27 / LAT: 32.1074929 / LONG: -103.768797 (TVD: 0 feet, MD: 0 feet)
PPP: NENW / 285 FNL / 2090 FWL / TWSP: 25S / RANGE: 31E / SECTION: 27 / LAT: 32.107763 / LONG: -103.767733 (TVD: 8197 feet, MD: 8211 feet)
BHL: SESW / 20 FSL / 2090 FWL / TWSP: 25S / RANGE: 31E / SECTION: 34 / LAT: 32.0794943 / LONG: -103.7678583 (TVD: 8770 feet, MD: 18822 feet)

BLM Point of Contact

Name: Tenille Ortiz

Title: Legal Instruments Examiner

Phone: 5752342224

Email: tortiz@blm.gov

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Review and Appeal Rights

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

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PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	DEVON ENERGY PRODUCTION COMPANY LP
LEASE NO.:	NMNM125635
WELL NAME & NO.:	LUSITANO 27-34 FED COM 523H
SURFACE HOLE FOOTAGE:	385'/N & 1762'/W
BOTTOM HOLE FOOTAGE:	20'/S & 2090'/W
LOCATION:	SECTION 27, T25S, R31E, NMPM
COUNTY:	EDDY

COA

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

A. Hydrogen Sulfide

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

B. CASING

1. The 13-3/8 inch surface casing shall be set at approximately **924** 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.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing shall be set at approximately **4240** feet is:

Option 1 (Single Stage):

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

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

- b. Second stage above DV tool:

Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

❖ **In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings , the cement on the 3rd casing string must come to surface.**

3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
 - Cement should tie-back at least **200** feet into previous casing string. Operator shall provide method of verification. **(Production Cement shall require and additional 153 sacks of 1.6 ft³/sx cement)**

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
- 2.

Option 1:

- i. 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.
- ii. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** intermediate casing shoe shall be **3000 (3M)** psi.

Option 2:

- i. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3M (3M)** psi.
 - 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.

D. SPECIAL REQUIREMENT

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.

GENERAL REQUIREMENTS

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

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

☒ Chaves and Roosevelt Counties

Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.

During office hours call (575) 627-0272.

After office hours call (575)

☒ Eddy County

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

☒ Lea County

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.

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

A. CASING

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

PECOS DISTRICT SURFACE USE CONDITIONS OF APPROVAL

OPERATOR'S NAME:	DEVON ENERGY PRODUCTION COMPANY LP
LEASE NO.:	NMNM125635
WELL NAME & NO.:	LUSITANO 27-34 FED COM 523H
SURFACE HOLE FOOTAGE:	385'/N & 1762'/W
BOTTOM HOLE FOOTAGE:	20'/S & 2090'/W
LOCATION:	SECTION 27, T25S, R31E, NMPM
COUNTY:	EDDY

TABLE OF CONTENTS

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

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Lesser Prairie-Chicken Timing Stipulations
 - Below Ground-level Abandoned Well Marker
 - Cave/Karst
 - Range
 - Watershed
- ☐ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

IV. NOXIOUS WEEDS

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

V. SPECIAL REQUIREMENT(S)

Build as you go no grading all pad just build the subpad.

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

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

Below ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at below 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.

Temporary Fence Crossing Requirement

Where entry is granted across a fence line, the fence must be braced and tied off on both sides of the passageway with H-braces prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Cattle Guard Requirement

Where entry is granted across a fence line for an access road, the fence must be braced and tied off on both sides of the passageway with H-braces prior to cutting. Once the work is completed, the fence will be restored to its prior condition with an appropriately sized cattle guard sufficient to carry out the project. Any new or existing cattle guards on the access 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. Once the road is abandoned, the fence would be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Livestock Watering Requirement

The operator must contact the allotment holder prior to construction to identify the location of the water pipelines. The operator must take measures to protect the pipelines from compression or other damages. If the water pipelines are damaged or compromised in any way near the

proposed project as a result of oil and gas activity, the operator is responsible for repairing the water pipelines immediately. The operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

During construction, the proponent shall minimize disturbance to existing fences, water lines, troughs, windmills, and other improvements on public lands. The proponent 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 grazing permittee/allottee prior to disturbing any range improvement projects. 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.

As stated above, the applicant through the CCA program contributes funds that are used for habitat restoration projects identified by USFWS and BLM. Although the CCA program may not fully mitigate for impacts to habitat at the project site, it complies with the BLM mitigation rule.

In May 2008, the Pecos District Special Status Species Resource Management Plan Amendment (RMPA) was approved and is being implemented. In addition to the standard practices that minimize impacts, as listed above, the following COA will apply:

- Chapter 2 Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken, to minimize noise associated impacts which could disrupt breeding and nesting activities.
- Chapter 3 Upon abandonment, a low profile abandoned well marker will be installed to prevent raptor perching.

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

The presence of short-eared owls is a surprising and scientifically interesting incident. The preparation and construction of CDU 34-34 pad and CTB #1 and CDU 27-27 pad and CTB #1 should be delayed until after September to allow confirmation and documentation of the nesting status.

○ **Construction Mitigation**

In order to mitigate the impacts from construction activities on cave and karst resources, the following Conditions of Approval will apply to this APD:

- In the event that any underground voids are encountered during construction activities, construction activities will be halted and the BLM will be notified immediately.
- No Blasting to prevent geologic structure instabilities.
- Pad Berming to minimize effects of any spilled contaminants.

○ **Drilling Mitigation**

Federal regulations and standard Conditions of Approval applied to all APDs require that adequate measures are taken to prevent contamination to the environment. Due to the extreme

sensitivity of the cave and karst resources in this project area, the following additional Conditions of Approval will be added to this APD.

To prevent cave and karst resource contamination the following will be required.

Closed Mud System Using Steel Tanks with All Fluids and Cuttings Hauled Off.
Rotary drilling with fresh water where cave or karst features are expected to prevent contamination of freshwater aquifers.
Directional Drilling allowed after at least 100 feet below the cave occurrence zone to prevent additional impacts resulting from directional drilling.
Lost Circulation zones logged and reported in the drilling report so BLM can assess the situation and work with the operator on corrective actions.
Additional drilling, casing, and cementing procedures to protect cave zones and fresh water aquifers. See Drilling COAs.

○ **Production Mitigation**

In order to mitigate the impacts from production activities and due to the nature of karst terrain, the following Conditions of Approval will apply to this APD:

Tank battery liners and berms to minimize the impact resulting from leaks.
Leak detection system to provide an early alert to operators when a leak has occurred.
Automatic shut off, check valves, or similar systems will be installed for pipelines and tanks to minimize the effects of line failures used in production or drilling.

○ **Residual and Cumulative Mitigation**

Annual pressure monitoring will be performed by the operator. If the test results indicate a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

○ **Plugging and Abandonment Mitigation**

Abandonment Cementing: Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

The entire well pads and CTB pads will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad and CTB pad. Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pads shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and CTB and after interim reclamation has been completed.

Any water erosion that may occur due to the construction of the well pads and CTB pads during the life of the wells and CTB's will be corrected within two weeks and proper measures will be taken to prevent future erosion.

CONSTRUCTION

Chapter 4NOTIFICATION

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.

Chapter 5TOPSOIL

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.

Chapter 6CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

Chapter 7FEDERAL 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.

Chapter 8WELL 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.

Chapter 9EXCLOSURE 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.)

Chapter 10 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

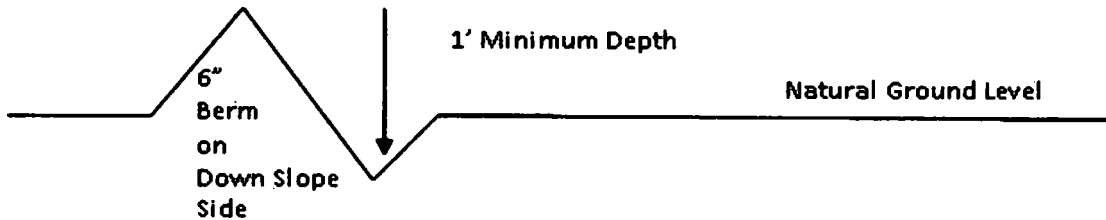
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Cattle guards

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

Fence Requirement

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

Public Access

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

Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

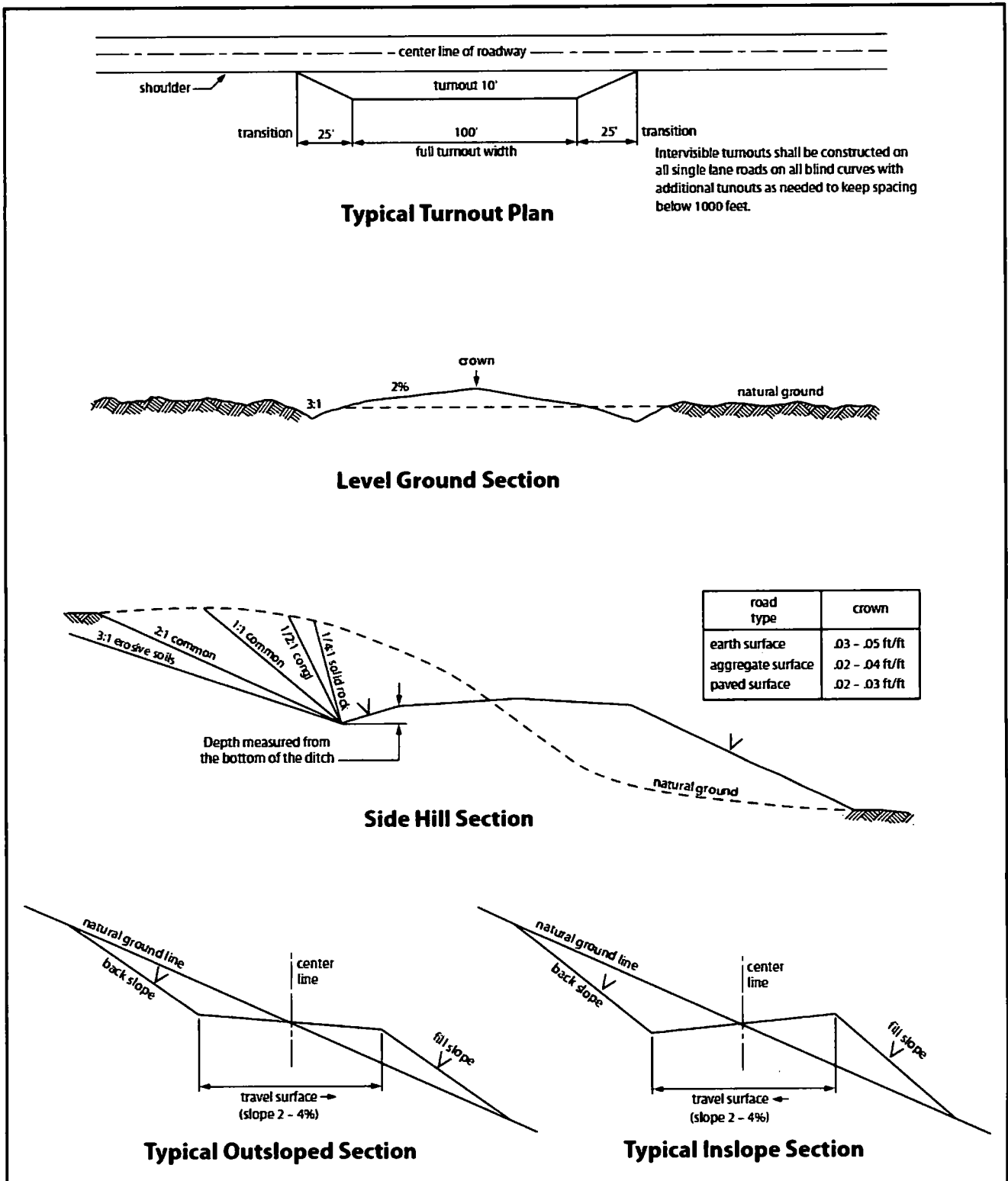


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VI. PRODUCTION (POST DRILLING)

• 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).

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

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

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

Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.
6. The pipeline will be buried with a minimum cover of 36 inches between the top of the pipe and ground level.
7. The maximum allowable disturbance for construction in this right-of-way will be 30 feet:

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

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

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

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.
9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.
10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to

match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

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

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

- | | |
|--|--|
| ☐ seed mixture 1 | ☐ seed mixture 3 |
| ☐ seed mixture 2 | ☐ seed mixture 4 |
| ☒ seed mixture 2/LPC | ☐ Aplomado Falcon Mixture |

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

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

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

17. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment

of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

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

Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.

For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

19. Special Stipulations:

Lesser Prairie-Chicken

Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

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.

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the

Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.
4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.
5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

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

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.
7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.
8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.
9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.
10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

Special Stipulations:

For reclamation remove poles, lines, transformer, etc. and dispose of properly.

Fill in any holes from the poles removed.

Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken:

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



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

Application Data Report

01/18/2019

APD ID: 10400035085

Submission Date: 10/16/2018

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM

Well Number: 523H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

Section 1 - General

APD ID: 10400035085

Tie to previous NOS?

Submission Date: 10/16/2018

BLM Office: CARLSBAD

User: Linda Good

Title: Regulatory Compliance
Professional

Federal/Indian APD: FED

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

Lease number: NMNM125635

Lease Acres: 720

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? NO

Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO

APD Operator: DEVON ENERGY PRODUCTION COMPANY LP

Operator letter of designation:

Operator Info

Operator Organization Name: DEVON ENERGY PRODUCTION COMPANY LP

Operator Address: 333 West Sheridan Avenue

Zip: 73102

Operator PO Box:

Operator City: Oklahoma City State: OK

Operator Phone: (800)583-3866

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? EXISTING

Master Development Plan name: Cotton Draw 1 MDP

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: LUSITANO 27-34 FED COM

Well Number: 523H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: JENNINGS, WEST Pool Name: BONE SPRING

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

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM

Well Number: 523H

Describe other minerals:

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

New surface disturbance?

Type of Well Pad: MULTIPLE WELL

Multiple Well Pad Name:

Number: 3

Well Class: HORIZONTAL

LUSITANO 27 WELLPAD

Number of Legs: 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town:

Distance to nearest well: 1240 FT

Distance to lease line: 385 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: Lusitano_27_34_Fed_Com_523H_C_102_signed_20181015085525.pdf

Lusitano_27_34_Fed_Com_523H_Additional_points_20181015085537.pdf

Well work start Date: 02/12/2020

Duration: 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number: 6425A

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	385	FNL	176 2	FWL	25S	31E	27	Aliquot NENW	32.10749 29	- 103.7687 97	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 125635	333 2	0	0
KOP Leg #1	285	FNL	209 0	FWL	25S	31E	27	Aliquot NENW	32.10776 3	- 103.7677 33	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 125635	- 486 5	821 1	819 7
PPP Leg #1	285	FNL	209 0	FWL	25S	31E	27	Aliquot NENW	32.10776 3	- 103.7677 33	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 125635	- 486 5	821 1	819 7

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM

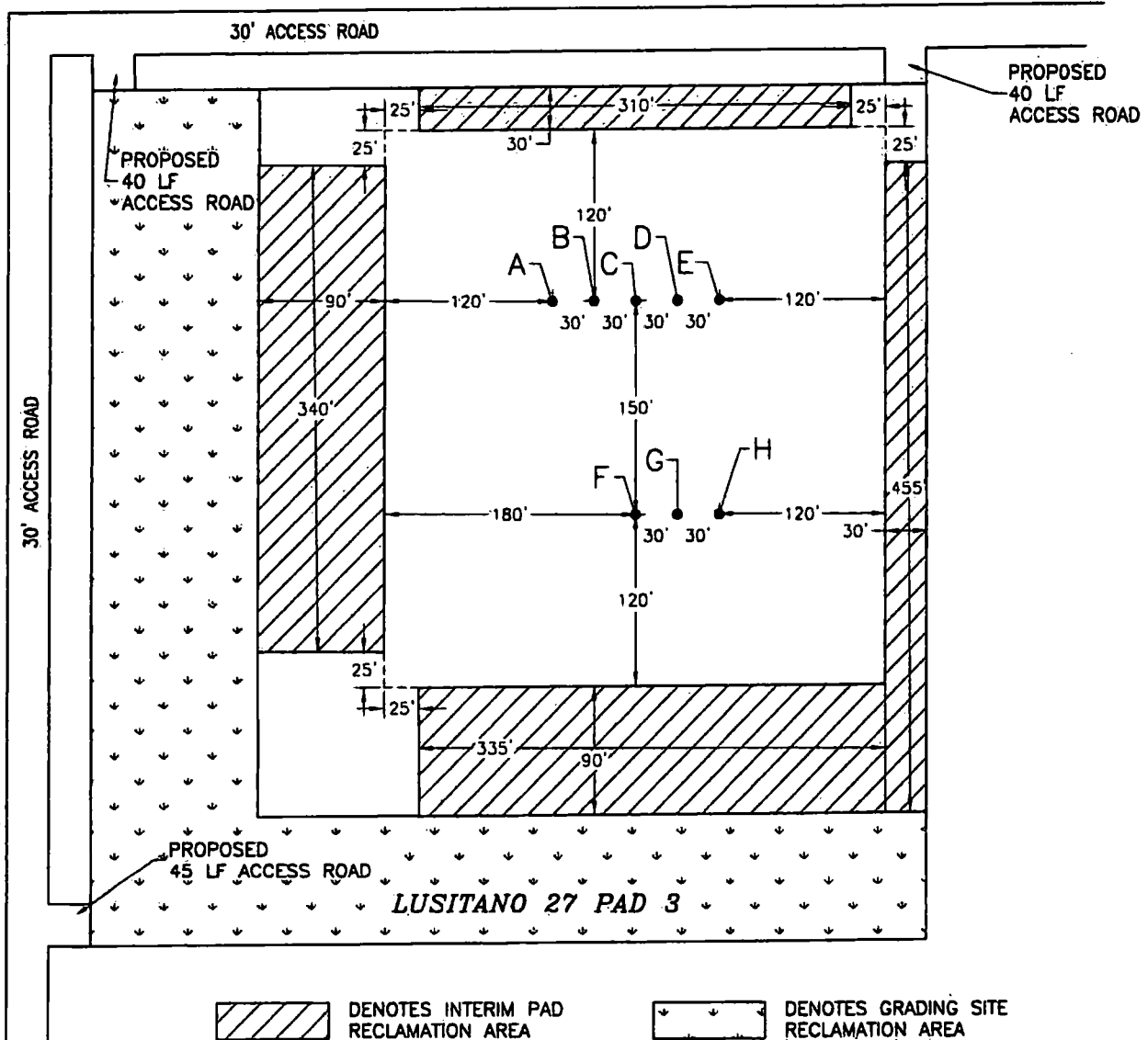
Well Number: 523H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
EXIT Leg #1	20	FSL	209 0	FWL	25S	31E	34	Aliquot SESW	32.07949 43	- 103.7678 583	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC0 061672 A	- 543 8	188 22	877 0
BHL Leg #1	20	FSL	209 0	FWL	25S	31E	34	Aliquot SESW	32.07949 43	- 103.7678 583	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC0 061672 A	- 543 8	188 22	877 0

SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
INTERIM SITE BUILD PLAN

A - LUSITANO 27-22 FED COM 232H	F - LUSITANO 27-34 FED COM 233H
B - LUSITANO 27-34 FED COM 733H	G - LUSITANO 27-34 FED COM 533H
C - LUSITANO 27-34 FED COM 622H	H - LUSITANO 27-34 FED COM 523H
D - LUSITANO 27-34 FED COM 333H	
E - LUSITANO 27-34 FED COM 713H	

SEC. 22
SEC. 27



0 12 60 120 240
SCALE 1" = 120'

1.921± ACRES INTERIM PAD RECLAMATION AREA
2.646± ACRES GRADING SITE RECLAMATION AREA
3.699± ACRES NON-RECLAIMED AREA
8.266± ACRES LUSITANO 27 PAD 3

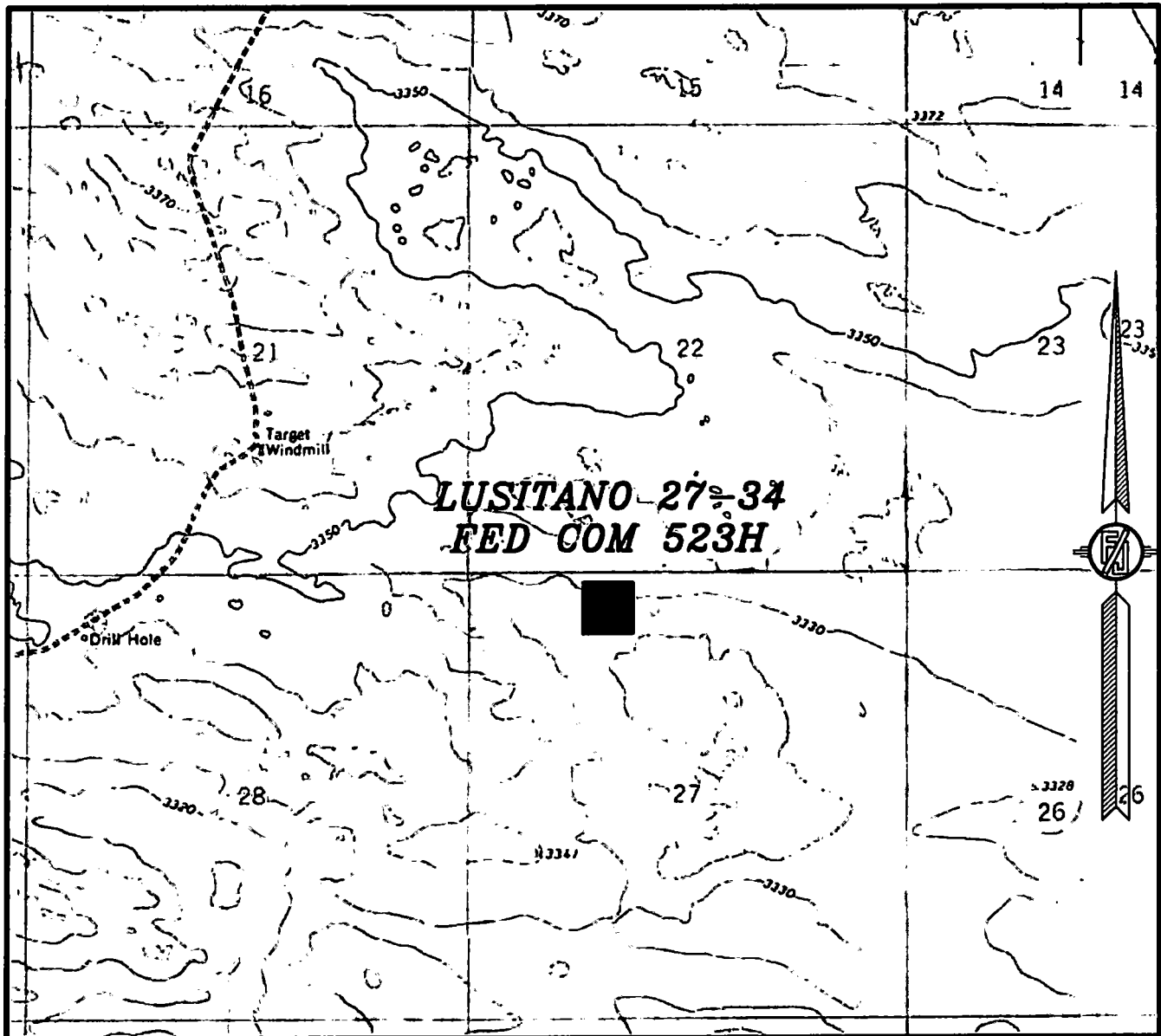
DEVON ENERGY PRODUCTION COMPANY, L.P.
LUSITANO 27-34 FED COM 523H
LOCATED 385 FT. FROM THE NORTH LINE
AND 1762 FT. FROM THE WEST LINE OF
SECTION 27, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

SEPTEMBER 27, 2018

SURVEY NO. 6425A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LOCATION VERIFICATION MAP



USGS QUAD MAP:
PHANTOM BANKS

NOT TO SCALE

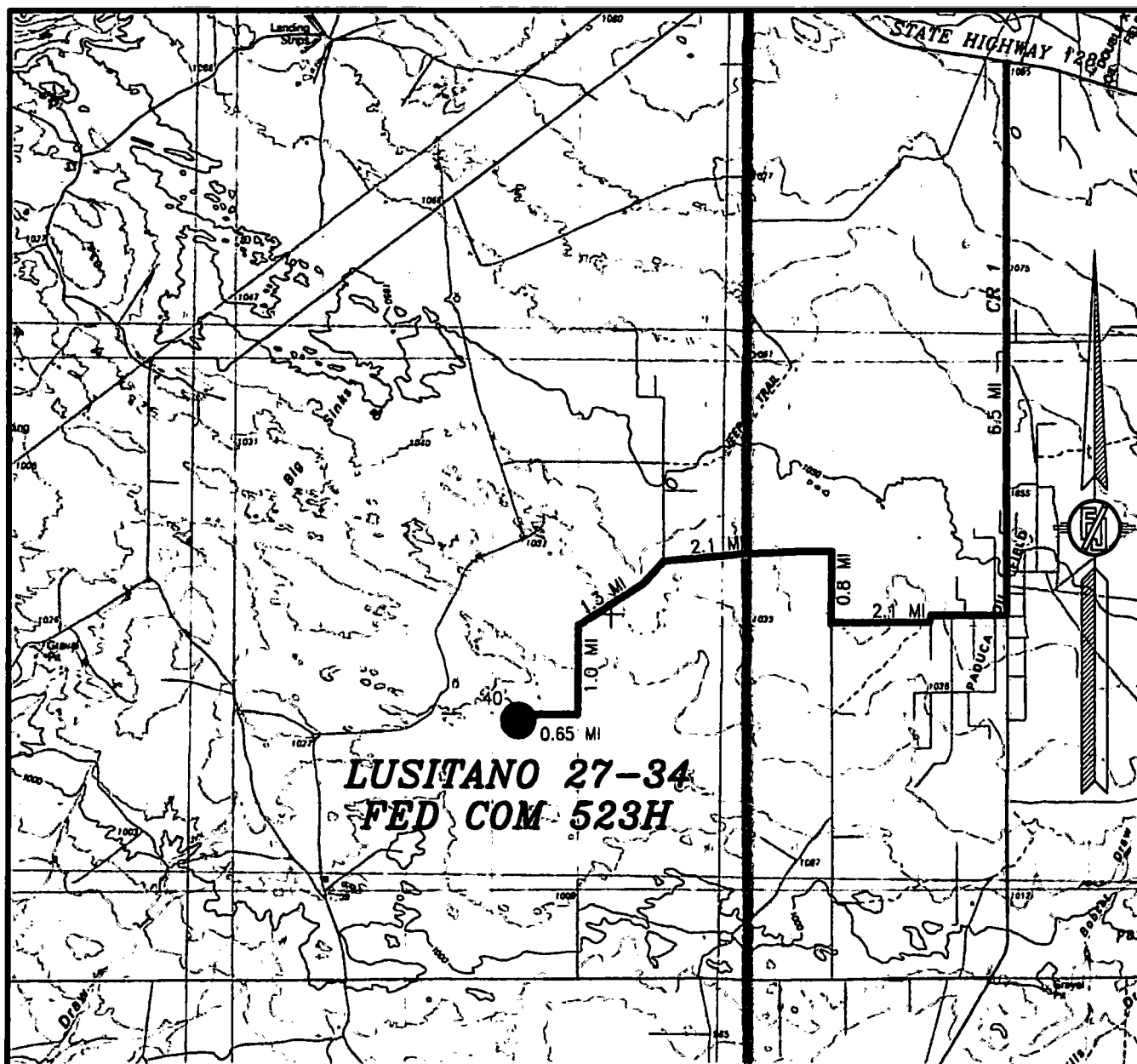
DEVON ENERGY PRODUCTION COMPANY, L.P.
LUSITANO 27-34 FED COM 523H
LOCATED 385 FT. FROM THE NORTH LINE
AND 1762 FT. FROM THE WEST LINE OF
SECTION 27, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

SEPTEMBER 27, 2018

SURVEY NO. 6425A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

LUSITANO 27-34 FED COM 523H

LOCATED 385 FT. FROM THE NORTH LINE

AND 1762 FT. FROM THE WEST LINE OF

SECTION 27, TOWNSHIP 25 SOUTH,

RANGE 31 EAST, N.M.P.M.

EDDY COUNTY, STATE OF NEW MEXICO

LAND STATUS: BLM

DIRECTIONS TO LOCATION

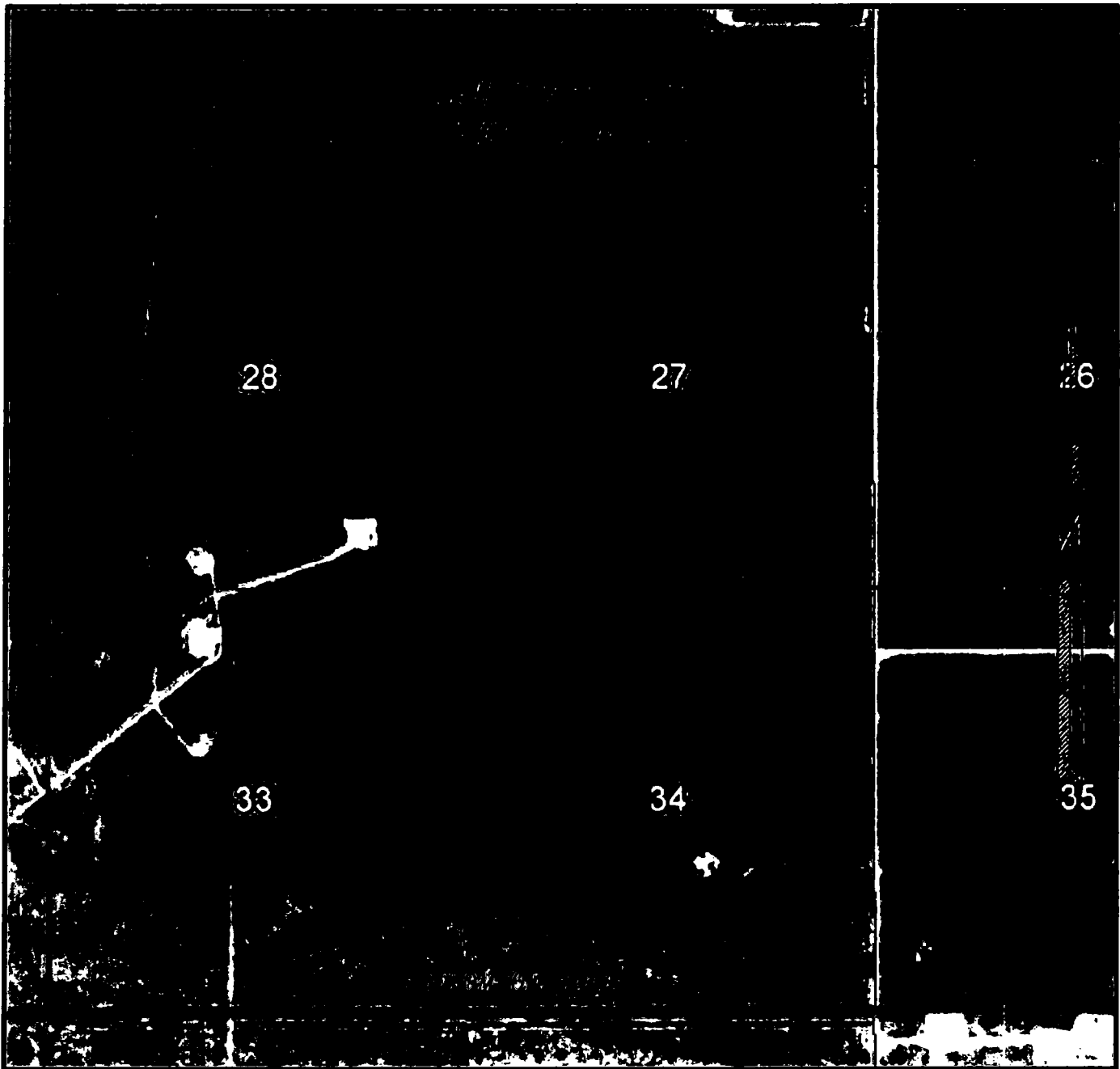
FROM STATE HIGHWAY 128 AND CR 1 (ORLA HIGHWAY) GO SOUTH ON CR 1 6.5 MILES TO MONSANTO ROAD, TURN RIGHT GO WEST 2.1 MILES, TURN RIGHT GO NORTH 0.8 OF A MILE, TURN LEFT GO WEST 2.1 MILES, BEND LEFT GO SOUTHWEST 1.3 MILES, TURN LEFT GO SOUTH 1.0 MILE TO BEGIN ROAD SURVEY, GO WEST 3437' (0.65 MILE), THEN SOUTH 40' TO THE NORTHEAST PAD CORNER FOR THIS LOCATION.

SEPTEMBER 27, 2018

SURVEY NO. 6425A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
NOVEMBER 2017

DEVON ENERGY PRODUCTION COMPANY, L.P.
LUSITANO 27-34 FED COM 523H
LOCATED 385 FT. FROM THE NORTH LINE
AND 1762 FT. FROM THE WEST LINE OF
SECTION 27, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

SEPTEMBER 27, 2018

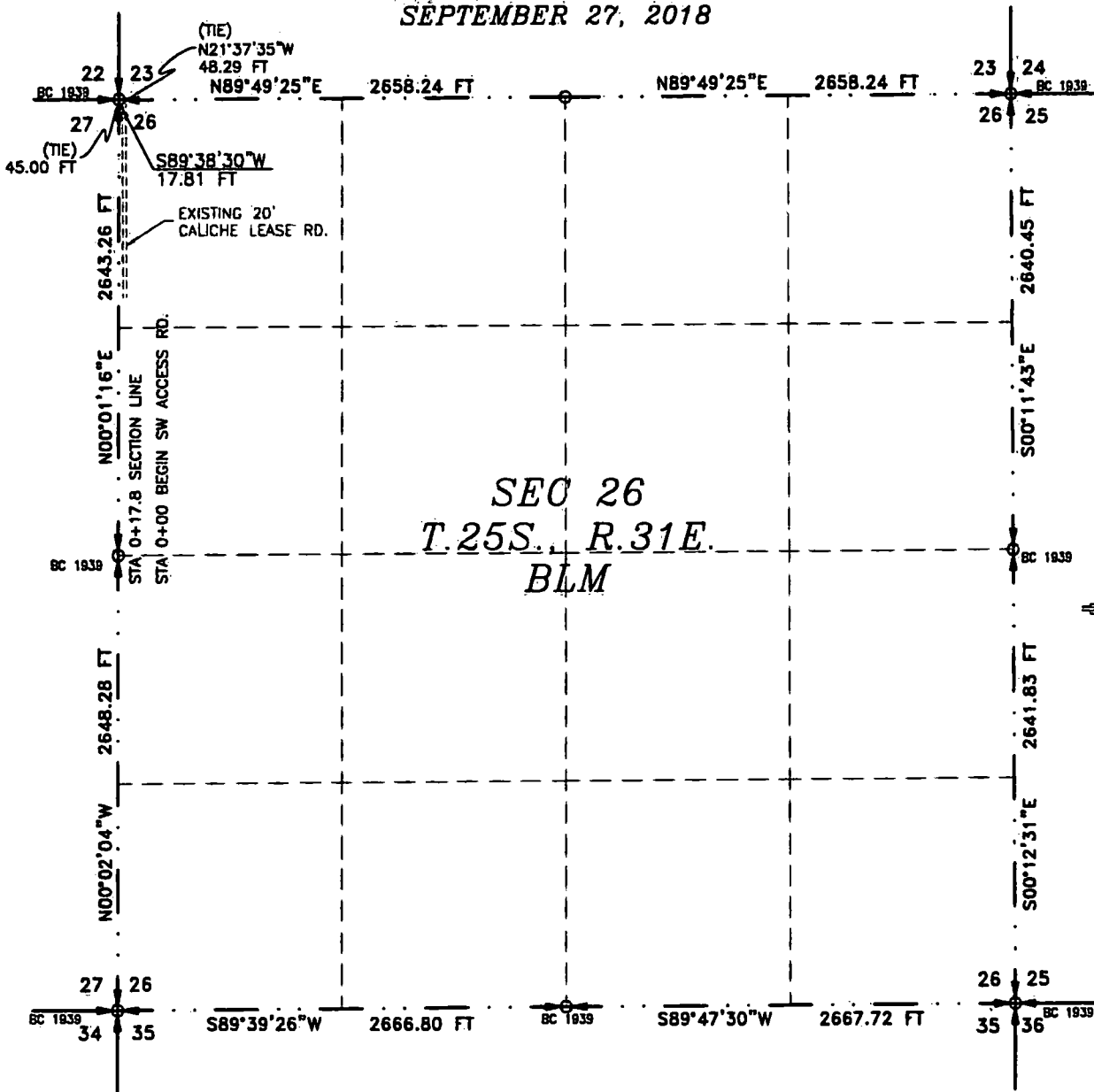
SURVEY NO. 6425A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

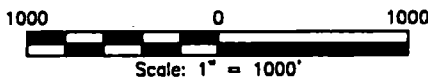
ACCESS ROAD PLAT

ACCESS ROAD TO THE LUSITANO 27 PAD 3 (LUSITANO 27-22 FED COM 232H, LUSITANO 27-34 FED COM 733H, 622H, 333H, 713H, 233H, 533H, 523H)

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SEPTEMBER 27, 2018



SEE NEXT SHEET (2-4) FOR DESCRIPTION



GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 1-4

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO: 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 27 DAY OF SEPTEMBER 2018

FILMON F. JARAMILLO, SLS 12797

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO. 6425A

ACCESS ROAD PLAT

ACCESS ROAD TO THE LUSITANO 27 PAD 3 (LUSITANO 27-22 FED COM 232H, LUSITANO 27-34 FED COM 733H, 622H, 333H, 713H, 233H, 533H, 523H)

**DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SEPTEMBER 27, 2018**

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

SOUTHWEST ACCESS ROAD

BEGINNING AT A POINT WITHIN THE NW/4 NW/4 OF SAID SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTHWEST CORNER OF SAID SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N21°37'35"W, A DISTANCE OF 48.29 FEET;

THENCE S89°38'30"W A DISTANCE OF 17.81 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N00°01'16"E, A DISTANCE OF 45.00 FEET;

SAID STRIP OF LAND BEING 17.81 FEET OR 1.08 RODS IN LENGTH, CONTAINING 0.012 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NW/4 NW/4 17.81 L.F. 1.08 RODS 0.012 ACRES

GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES, NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 2-4

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
(575) 234-3341

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 29 DAY OF SEPTEMBER 2018

[Signature]
FILMON F. JARAMILLO, P.S. 12797

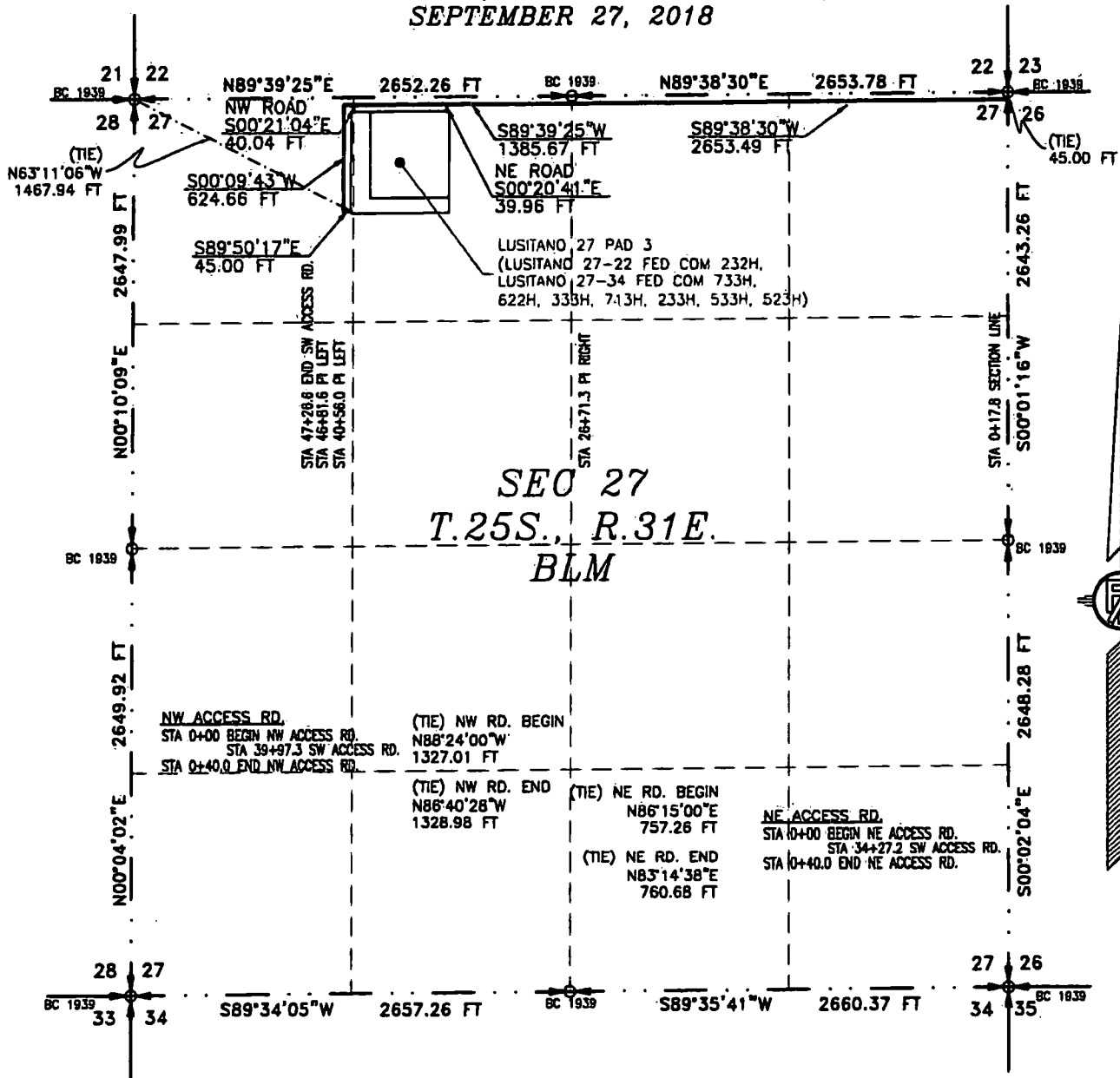
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO. 6425A

ACCESS ROAD PLAT

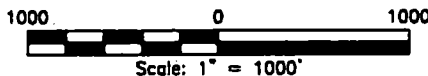
ACCESS ROAD TO THE LUSITANO 27 PAD 3 (LUSITANO 27-22 FED COM 232H, LUSITANO 27-34 FED COM 733H, 622H, 333H, 713H, 233H, 533H, 523H)

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SEPTEMBER 27, 2018



SEC 27
T.25S., R.31E.
BLM

SEE NEXT SHEET (4-4) FOR DESCRIPTION



SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 27th DAY OF SEPTEMBER, 2018

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO. 6425A
MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
(575) 234-3341

GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 3-4

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
(575) 234-3341

ACCESS ROAD PLAT

ACCESS ROAD TO THE LUSITANO 27 PAD 3 (LUSITANO 27-22 FED COM 232H, LUSITANO 27-34 FED COM 733H, 622H, 333H, 713H, 233H, 533H, 523H)

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SEPTEMBER 27, 2018

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

SOUTHWEST ACCESS ROAD

BEGINNING AT A POINT WITHIN THE NE/4 NE/4 OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTHEAST CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N00°01'16"E, A DISTANCE OF 45.00 FEET;

THENCE S89°38'30"W A DISTANCE OF 2653.49 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S89°39'25"W A DISTANCE OF 1385.67 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S00°08'43"W A DISTANCE OF 624.66 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S89°50'17"E A DISTANCE OF 45.00 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N63°11'06"W, A DISTANCE OF 1467.94 FEET;

SAID STRIP OF LAND BEING 4708.82 FEET OR 285.38 RODS IN LENGTH, CONTAINING 3.243 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NE/4 1326.91 L.F. 80.42 RODS 0.914 ACRES

NW/4 NE/4 1326.91 L.F. 80.42 RODS 0.914 ACRES

NE/4 NW/4 1326.17 L.F. 80.37 RODS 0.913 ACRES

NW/4 NW/4 728.83 L.F. 44.17 RODS 0.502 ACRES

NORTHEAST ACCESS ROAD

BEGINNING AT A POINT WITHIN THE NE/4 NW/4 OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N86°15'00"E, A DISTANCE OF 757.26 FEET;

THENCE S00°20'41"E A DISTANCE OF 39.96 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N83°14'38"E, A DISTANCE OF 760.68 FEET;

SAID STRIP OF LAND BEING 39.96 FEET OR 2.42 RODS IN LENGTH, CONTAINING 0.028 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NW/4 39.96 L.F. 2.42 RODS 0.028 ACRES

NORTHWEST ACCESS ROAD

BEGINNING AT A POINT WITHIN THE NE/4 NW/4 OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTHWEST CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N88°24'00"W, A DISTANCE OF 1327.01 FEET;

THENCE S00°21'04"E A DISTANCE OF 40.04 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N86°40'28"W, A DISTANCE OF 1328.98 FEET;

SAID STRIP OF LAND BEING 40.04 FEET OR 2.43 RODS IN LENGTH, CONTAINING 0.028 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NW/4 40.04 L.F. 2.43 RODS 0.028 ACRES

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

NEW MEXICO, THIS 27 DAY OF SEPTEMBER 2018

[Signature]
FILMON F. JARAMILLO, PLS. 12797
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 4-4

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SURVEY NO. 6425A

30' ACCESS ROAD

PROPOSED 40 LF ACCESS ROAD

3335

LIMITS OF EARTHWORK 3:1 SLOPE (TYP.)

300'

DRILLING PAD

PAD CENTER POINT

510'

300'

300'

3335

B/W FENCE

PROPOSED 45 LF ACCESS ROAD

BERM

3330

480'

3333.0'

LUSITANO 27 PAD 3 PROPOSED PAD

LIMITS OF EARTHWORK 3:1 SLOPE (TYP.)

600'

A	-	LUSITANO	27-22	FED COM	232H
B	-	LUSITANO	27-34	FED COM	733H
C	-	LUSITANO	27-34	FED COM	622H
D	-	LUSITANO	27-34	FED COM	333H
E	-	LUSITANO	27-34	FED COM	713H
F	-	LUSITANO	27-34	FED COM	233H
G	-	LUSITANO	27-34	FED COM	533H
H	-	LUSITANO	27-34	FED COM	523H

600'

CUT	FILL	NET
14475 CU. YD	14269 CU. YD	207 CU. YD (CUT)

MADRON SURVEYING, INC. 301 SOUTH CANAL
(575) 234-3341 **CARLSBAD, NEW MEXICO**

SHEET 1-2
SURVEY NO. 6425A ☒



APD ID: 10400035085

Submission Date: 10/16/2018

Highlighted data
reflects the most
recent changes

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM

Well Number: 523H

Show Final Text

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	UNKNOWN	3404	0	0	ALLUVIUM	NONE	No
2	RUSTLER	2518	886	886	LIMESTONE	NONE	No
3	BASE OF SALT	-837	4241	4241	SALT	NONE	No
4	DELAWARE	-877	4281	4281	SANDSTONE	NATURAL GAS,OIL	No
5	BONE SPRING	-5321	8725	8725	LIMESTONE	NATURAL GAS,OIL	Yes

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M

Rating Depth: 4381

Equipment: BOP/BOPE will be installed per Onshore Oil & Gas Order #2 requirements prior to drilling below 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 3M will be installed on the wellhead system. BOP/BOPE will be tested by an independent service company per Onshore Oil & Gas Order #2 requirements and MASP (Maximum Anticipated Surface Pressure) calculations. If the system is upgraded, all the components installed will be functional and tested.

Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP stack to the choke manifold. See attached for specs for hydrostatic test chart.

Testing Procedure: A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

Choke Diagram Attachment:

Lusitano_27_34_Fed_Com_523H_3M_BOPE_CK_20181015091352.pdf

BOP Diagram Attachment:

Lusitano_27_34_Fed_Com_523H_3M_BOPE_CK_20181015091401.pdf

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM

Well Number: 523H

Pressure Rating (PSI): 3M

Rating Depth: 8770

Equipment: BOP/BOPE will be installed per Onshore Oil & Gas Order #2 requirements prior to drilling below 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 3M will be installed on the wellhead system. BOP/BOPE will be tested by an independent service company per Onshore Oil & Gas Order #2 requirements and MASP (Maximum Anticipated Surface Pressure) calculations. If the system is upgraded, all the components installed will be functional and tested.

Requesting Variance? YES

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Choke Diagram Attachment:

Lusitano_27_34_Fed_Com_523H_3M_BOPE_CK_20181015091428.pdf

BOP Diagram Attachment:

Lusitano_27_34_Fed_Com_523H_3M_BOPE_CK_20181015091436.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	911	0	911	-6993	-7781	911	H-40	48	STC	1.125	1	BUOY	1.6	BUOY	1.6
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4381	0	4381	-6993	-11343	4381	J-55	40	LTC	1.125	1	BUOY	1.6	BUOY	1.6
3	PRODUCTION	8.75	5.5	NEW	API	N	0	18822	0	8770	-6993	-17388	18822	P-110	17	OTHER - BTC	1.125	1	BUOY	1.6	BUOY	1.6

Casing Attachments

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM

Well Number: 523H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Lusitano_27_34_Fed_Com_523H_SurfCsg_Ass_20181015091545.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Lusitano_27_34_Fed_Com_523H_Int_Csg_Ass_20181015091647.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Lusitano_27_34_Fed_Com_523H_ProdCasing_Ass_20181015091749.pdf

Section 4 - Cement

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM

Well Number: 523H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	911	951	1.33	13.2	1265	100	C	Class C + adds

INTERMEDIATE	Lead		0	3881	681	1.94	9	1322	50	C	Class C + adds
INTERMEDIATE	Tail		3881	4381	196	1.33	13.2	261	50	C	Class C + adds
PRODUCTION	Lead		3881	8211	338	3.27	9	1207	10	TUNED	Class C + adds
PRODUCTION	Tail		8211	18822	1847	1.2	13.2	2697	10	H	(50:50) Clas H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

Describe the mud monitoring system utilized: PVT/Pason/Visual Monitoring

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
911	8770	SALT SATURATED	10	10.5							

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM

Well Number: 523H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	911	WATER-BASED MUD	8.5	9							
4381	8770	WATER-BASED MUD	8.5	9							

Section 6 - Test, Logging, Coring

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

Will run GRMWD from TD to from KOP. Cement bond logs will be run in vertical to determine top of cement. Stated logs run will be in the Completion Report and submitted to the BLM.

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

CALIPER,CBL,DS,GR,MUDLOG

Coring operation description for the well:

N/A

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4104

Anticipated Surface Pressure: 2174.6

Anticipated Bottom Hole Temperature(F): 140

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

Describe:

Contingency Plans geohazards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Lusitano_27_34_Fed_Com_523H_H2S_Plan_20181010114941.pdf

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM

Well Number: 523H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Lusitano_27_34_Fed_Com_523H_Dir_Plan_20181015092821.pdf

Lusitano_27_34_Fed_Com_523H_Survey_20181015092838.pdf

Lusitano_27_34_Fed_Com_523H_Anticollision_20181015093013.pdf

Other proposed operations facets description:

CLOSED LOOP DESIGN

GAS CAPTURE PLAN

MB VERB

MB WELLHD

DRILLING PLAN

Other proposed operations facets attachment:

Lusitano_27_34_Fed_Com_523H_Clsd_Loop_20181015093046.pdf

Lusitano_27_34_Fed_Com_523H_Gas_Capture_Plan_20181015093221.pdf

Lusitano_27_34_Fed_Com_523H_MB_Verb_20181015094950.pdf

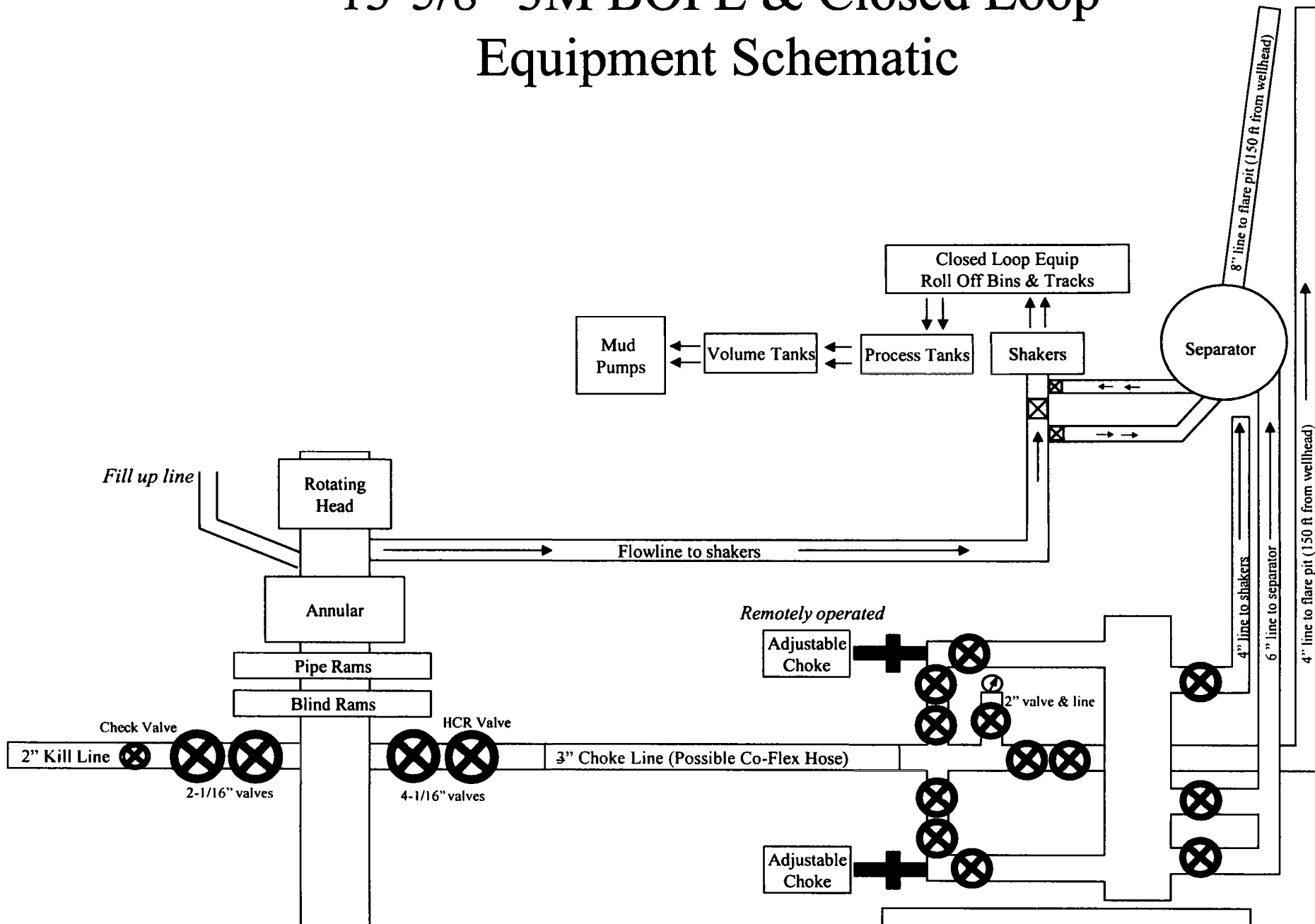
Lusitano_27_34_Fed_Com_523H_MB_Wellhd_20181015095002.pdf

Lusitano_27_34_Fed_Com_523H_Drilling_Plan_20181015095013.pdf

Other Variance attachment:

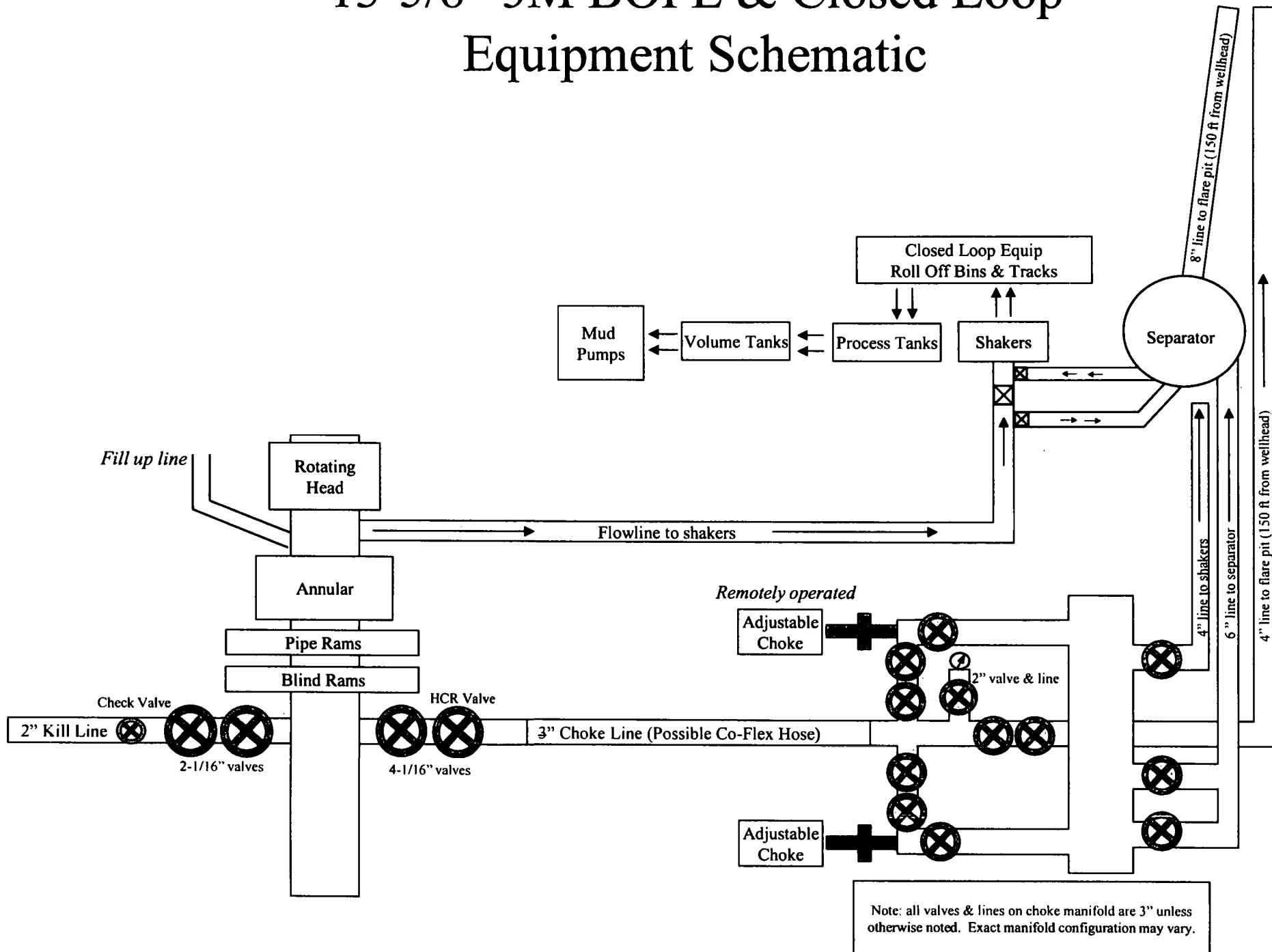
Lusitano_27_34_Fed_Com_523H_Co_flex_20181010115010.pdf

13-5/8" 3M BOPE & Closed Loop Equipment Schematic

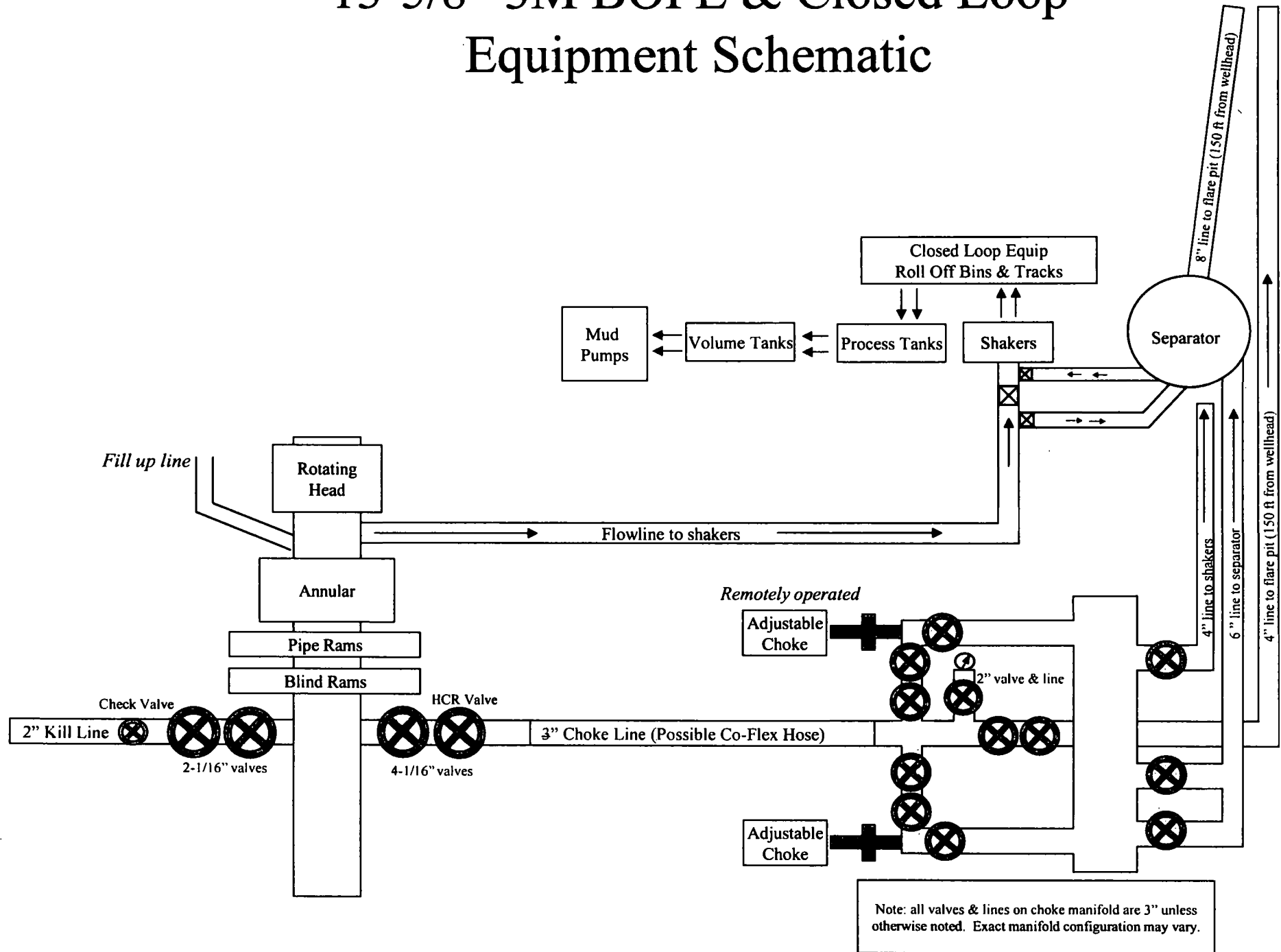


Note: all valves & lines on choke manifold are 3" unless otherwise noted. Exact manifold configuration may vary.

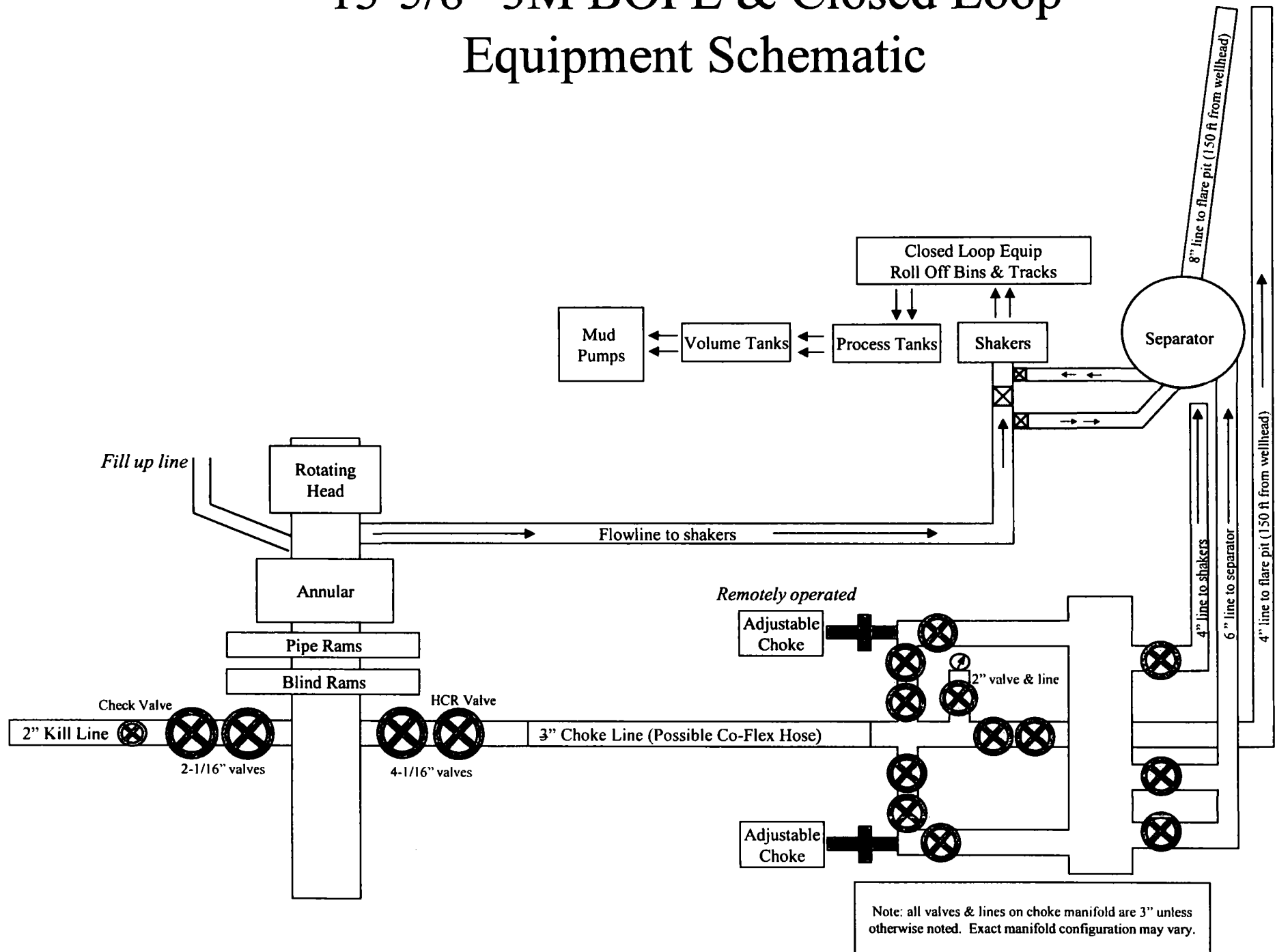
13-5/8" 3M BOPE & Closed Loop Equipment Schematic



13-5/8" 3M BOPE & Closed Loop Equipment Schematic



13-5/8" 3M BOPE & Closed Loop Equipment Schematic



Casing Assumptions and Load Cases

Surface

All casing design assumptions were ran in Stress Check to determine safety factor which meet or exceed both Devon Energy and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the pipe.

Surface Casing Burst Design		
Load Case	External Pressure	Internal Pressure
Pressure Test	Formation Pore Pressure	Max mud weight of next hole-section plus Test psi
Drill Ahead	Formation Pore Pressure	Max mud weight of next hole section
Displace to Gas	Formation Pore Pressure	Dry gas from next casing point

Surface Casing Collapse Design		
Load Case	External Pressure	Internal Pressure
Full Evacuation	Water gradient in cement, mud above TOC	None
Cementing	Wet cement weight	Water (8.33ppg)

Surface Casing Tension Design	
Load Case	Assumptions
Overpull	100kips
Runing in hole	3 ft/s
Service Loads	N/A

Casing Assumptions and Load Cases

Intermediate

All casing design assumptions were ran in Stress Check to determine safety factor which meet or exceed both Devon Energy and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the pipe.

Intermediate Casing Burst Design		
Load Case	External Pressure	Internal Pressure
Pressure Test	Formation Pore Pressure	Max mud weight of next hole-section plus Test psi
Drill Ahead	Formation Pore Pressure	Max mud weight of next hole section
Fracture @ Shoe	Formation Pore Pressure	Dry gas

Intermediate Casing Collapse Design		
Load Case	External Pressure	Internal Pressure
Full Evacuation	Water gradient in cement, mud above TOC	None
Cementing	Wet cement weight	Water (8.33ppg)

Intermediate Casing Tension Design	
Load Case	Assumptions
Overpull	100kips
Runing in hole	2 ft/s
Service Loads	N/A

All casing design assumptions were ran in Stress Check to determine safety factor which meet or exceed both Devon Energy and BLM minimum requirements. All casing strings will be filled while running in hole in order to not exceed collapse rating of the pipe.

Production Casing Burst Design		
Load Case	External Pressure	Internal Pressure
Pressure Test	Formation Pore Pressure	Fluid in hole (water or produced water) + test psi
Tubing Leak	Formation Pore Pressure	Packer @ KOP, leak below surface 8.6 ppg packer fluid
Stimulation	Formation Pore Pressure	Max frac pressure with heaviest frac fluid

Production Casing Collapse Design		
Load Case	External Pressure	Internal Pressure
Full Evacuation	Water gradient in cement, mud above TOC.	None
Cementing	Wet cement weight	Water (8.33ppg)

Production Casing Tension Design	
Load Case	Assumptions
Overpull	100kips
Runing in hole	2 ft/s
Service Loads	N/A



**Devon Energy Center
333 West Sheridan Avenue
Oklahoma City, Oklahoma 73102-5015**

Hydrogen Sulfide (H₂S) Contingency Plan

For

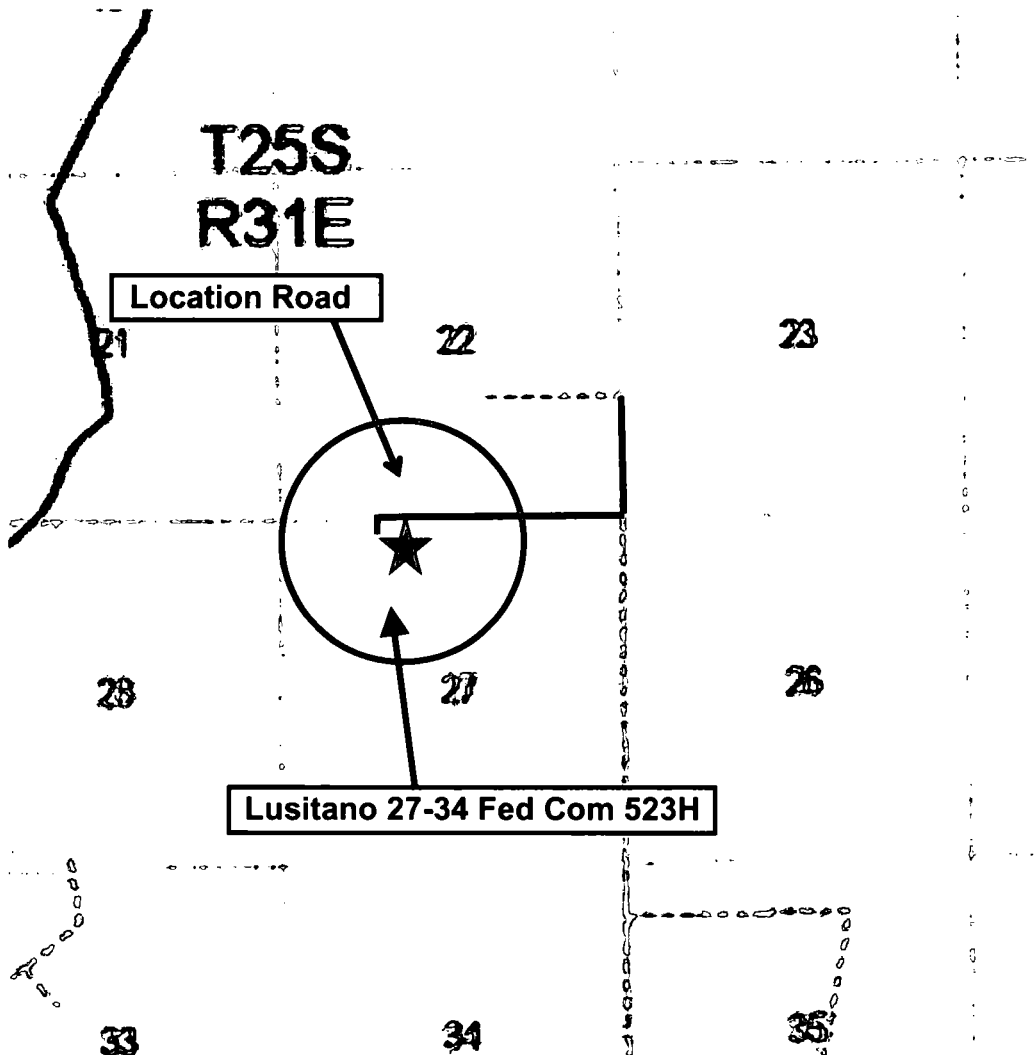
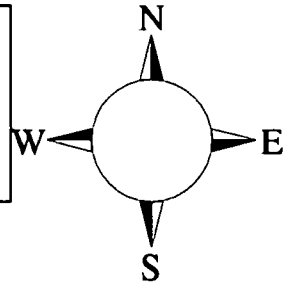
Lusitano 27-34 Fed Com 523H

**Sec-27 T-25S R-31E
385' FNL & 1762' FWL
LAT. = 32.1074929' N (NAD83)
LONG = 103.7687971' W**

Eddy County NM

Lusitano 27-34 Fed Com 523H

This is an open drilling site. H₂S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H₂S, including warning signs, wind indicators and H₂S monitor.



Assumed 100 ppm ROE = 3000' (Radius of Exposure)
100 ppm H₂S concentration shall trigger activation of this plan.

Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated from the location entrance road. Crews should then block the entrance to the location from the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE. There are no homes or buildings in or near the ROE.

Assumed 100 ppm ROE = 3000'

100 ppm H₂S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H₂S, the first responder(s) must

- **Isolate the area and prevent entry by other persons into the 100 ppm ROE.**
- **Evacuate any public places encompassed by the 100 ppm ROE.**
- **Be equipped with H₂S monitors and air packs in order to control the release.**
- **Use the “buddy system” to ensure no injuries occur during the response**
- **Take precautions to avoid personal injury during this operation.**
- **Contact operator and/or local officials to aid in operation. See list of phone numbers attached.**
- **Have received training in the**
 - **Detection of H₂S, and**
 - **Measures for protection against the gas,**
 - **Equipment used for protection and emergency response.**

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO₂). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

Characteristics of H₂S and SO₂

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H₂S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO₂	2.21 Air = 1	2 ppm	N/A	1000 ppm

Contacting Authorities

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

Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE (H₂S) TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H₂S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H₂S metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H₂S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan.

II. HYDROGEN SULFIDE TRAINING

Note: All H₂S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H₂S.

1. Well Control Equipment

- A. Flare line
- B. Choke manifold – Remotely Operated
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
- D. Auxiliary equipment may include if applicable: annular preventer and rotating head.
- E. Mud/Gas Separator

2. Protective equipment for essential personnel:

30-minute SCBA units located at briefing areas, as indicated on well site diagram, with escape units available in the top doghouse. As it may be difficult to communicate audibly while wearing these units, hand signals shall be utilized.

3. H₂S detection and monitoring equipment:

Portable H₂S monitors positioned on location for best coverage and response. These units have warning lights which activate when H₂S levels reach 10 ppm and audible sirens which activate at 15 ppm. Sensor locations:

- Bell nipple
- Possum Belly/Shale shaker
- Rig floor
- Choke manifold
- Cellar

Visual warning systems:

- A. Wind direction indicators as shown on well site diagram
- B. Caution/ Danger signs shall be posted on roads providing direct access to locations. Signs will be painted a high visibility yellow with black lettering of sufficient size to be reasonable distance from the immediate location. Bilingual signs will be used when appropriate.

4. Mud program:

The mud program has been designed to minimize the volume of H₂S circulated to surface. Proper mud weight, safe drilling practices and the use of H₂S scavengers will minimize hazards when penetrating H₂S bearing zones.

5. Metallurgy:

- A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold lines, and valves shall be H₂S trim.
- B. All elastomers used for packing and seals shall be H₂S trim.

6. Communication:

- A. Company personnel have/use cellular telephones in the field.
- B. Land line (telephone) communications at Office

7. Well testing:

- A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safety and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H₂S environment will use the closed chamber method of testing.
- B. There will be no drill stem testing.

Devon Energy Corp. Company Call List		
Drilling Supervisor – Basin – Mark Kramer		405-823-4796
EHS Professional – Laura Wright		405-439-8129
Agency Call List		
<u>Lea County (575)</u>	Hobbs	
	Lea County Communication Authority	393-3981
	State Police	392-5588
	City Police	397-9265
	Sheriff's Office	393-2515
	Ambulance	911
	Fire Department	397-9308
	LEPC (Local Emergency Planning Committee)	393-2870
	NMOCD	393-6161
	US Bureau of Land Management	393-3612
<u>Eddy County (575)</u>	Carlsbad	
	State Police	885-3137
	City Police	885-2111
	Sheriff's Office	887-7551
	Ambulance	911
	Fire Department	885-3125
	LEPC (Local Emergency Planning Committee)	887-3798
	US Bureau of Land Management	887-6544
	NM Emergency Response Commission (Santa Fe)	(505) 476-9600
	24 HR	(505) 827-9126
	National Emergency Response Center	(800) 424-8802
	National Pollution Control Center: Direct	(703) 872-6000
	For Oil Spills	(800) 280-7118
	Emergency Services	
	Wild Well Control	(281) 784-4700
	Cudd Pressure Control	(915) 699-0139 (915) 563-3356
	Halliburton	(575) 746-2757
	B. J. Services	(575) 746-3569
<u>Give GPS position:</u>	Native Air – Emergency Helicopter – Hobbs	(575) 392-6429
	Flight For Life - Lubbock, TX	(806) 743-9911
	Aerocare - Lubbock, TX	(806) 747-8923
	Med Flight Air Amb - Albuquerque, NM	(575) 842-4433
	Lifeguard Air Med Svc. Albuquerque, NM	(800) 222-1222
	Poison Control (24/7)	(575) 272-3115
	Oil & Gas Pipeline 24 Hour Service	(800) 364-4366
	NOAA – Website - www.nhc.noaa.gov	

Prepared in conjunction with
Dave Small



Devon Energy

Project: Eddy County, NM (NAD-83)
 Site: Lusitano
 Well: Lusitano 27-34 Fed Com 523H
 Wellbore: OH
 Design: Plan #1



Azimuths to Grid North
 True North: -0.30°
 Magnetic North: 6.47°
 Magnetic Field
 Strength: 47866.9nT
 Dip Angle: 59.77°
 Date: 10/10/2018
 Model: HDGM

PROJECT DETAILS: Eddy County, NM (NAD-83)

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone
 Datum: 3332.6' GE + 23.5' KB @ 3356.10usft

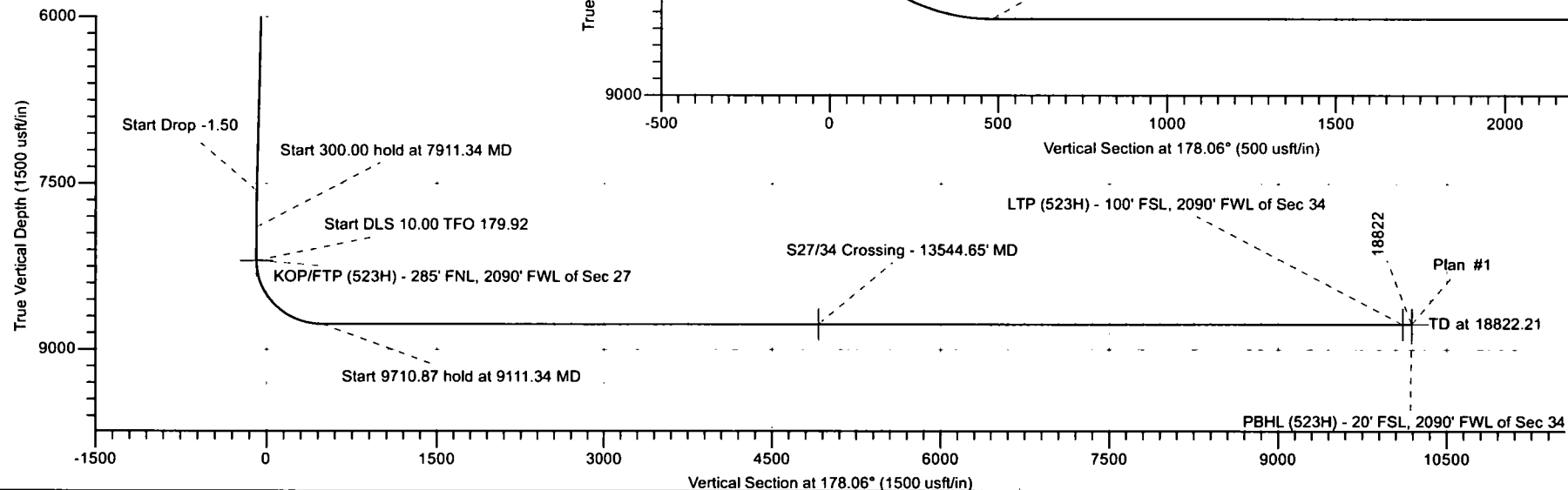
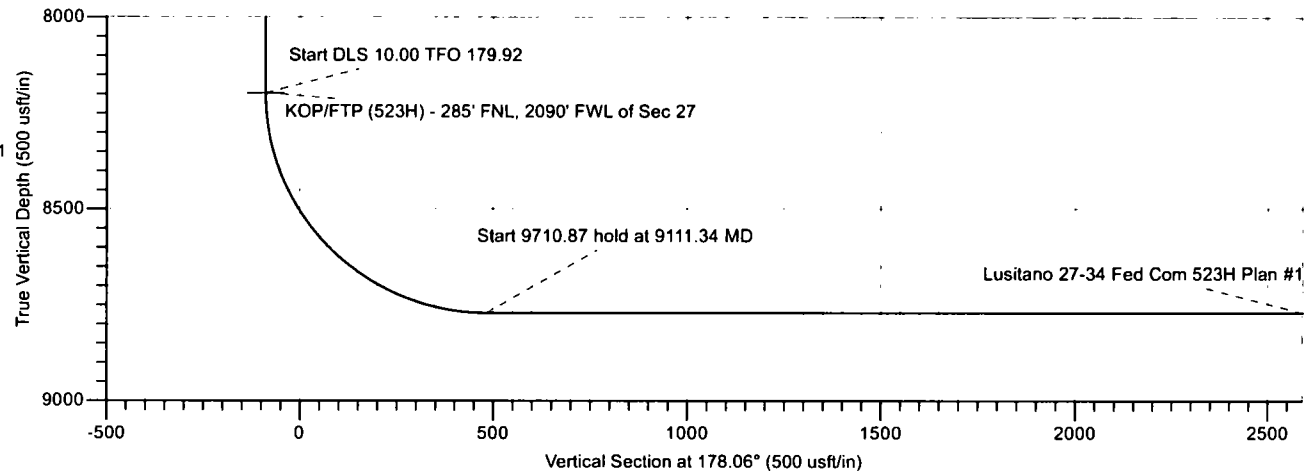
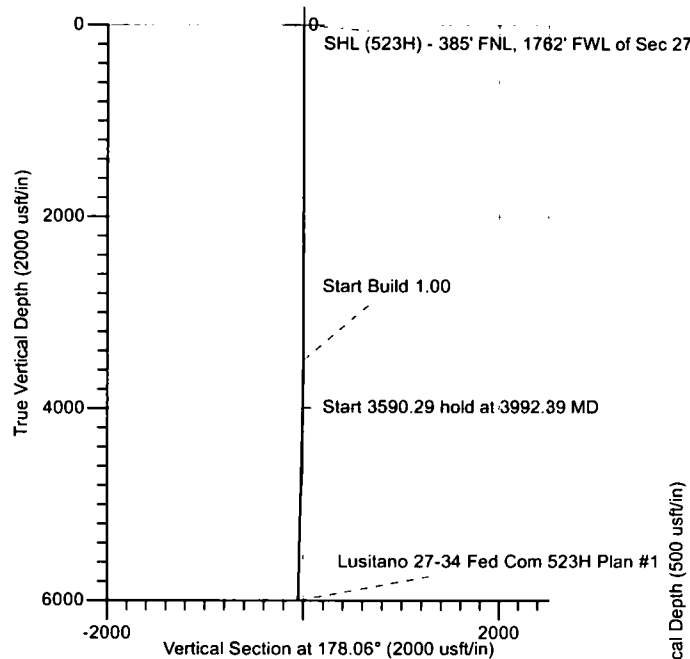


SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3499.40	0.00	0.00	3499.40	0.00	0.00	0.00	0.00	0.00
3992.39	4.93	73.09	3991.78	6.16	20.28	1.00	73.09	-5.48
7582.68	4.93	73.09	7568.79	95.89	315.48	0.00	0.00	-85.18
7911.34	0.00	0.00	7897.04	100.00	329.00	1.50	180.00	-88.83
8211.34	0.00	0.00	8197.04	100.00	329.00	0.00	0.00	-88.83
9111.34	90.00	179.92	8770.00	-472.96	329.84	10.00	179.92	483.83
18822.21	90.00	179.92	8770.00	-10183.82	344.09	0.00	0.00	10189.63

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
KOP/FTP (523H)	8197.04	100.00	329.00	403400.04	716462.76	32.10776299	-103.76773289
LTP (523H)	8770.00	-10103.82	344.09	393196.22	716477.85	32.07971421	-103.76785696
PBHL (523H)	8770.00	-10183.82	344.09	393116.22	716477.85	32.07949431	-103.76785831
S27/34 Crossing	8770.00	-4906.27	336.35	398393.77	716470.11	32.09400152	-103.76779396
SHL (523H)	0.00	0.00	0.00	403300.04	716133.76	32.10749285	-103.76879710



LEAM DRILLING SERVICES
 2010 East Davis, Conroe, Texas 77301
 Phone: 936/756-7618, Fax: 936/756-7595

Plan: Plan #1 (Lusitano 27-34 Fed Com 523H/OH)
 Lusitano
 Created By: Dustin Ault
 Date: 15:02, October 10 2018
 Approved: _____
 Date: _____

Project: Eddy County, NM (NAD-83)
Site: Lusitano
Well: Lusitano 27-34 Fed Com 523H
Wellbore: OH
Design: Plan #1

PROJECT DETAILS: Eddy County, NM (NAD-83)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level



Azimuths to Grid North
True North: -0.30°
Magnetic North: 6.47°

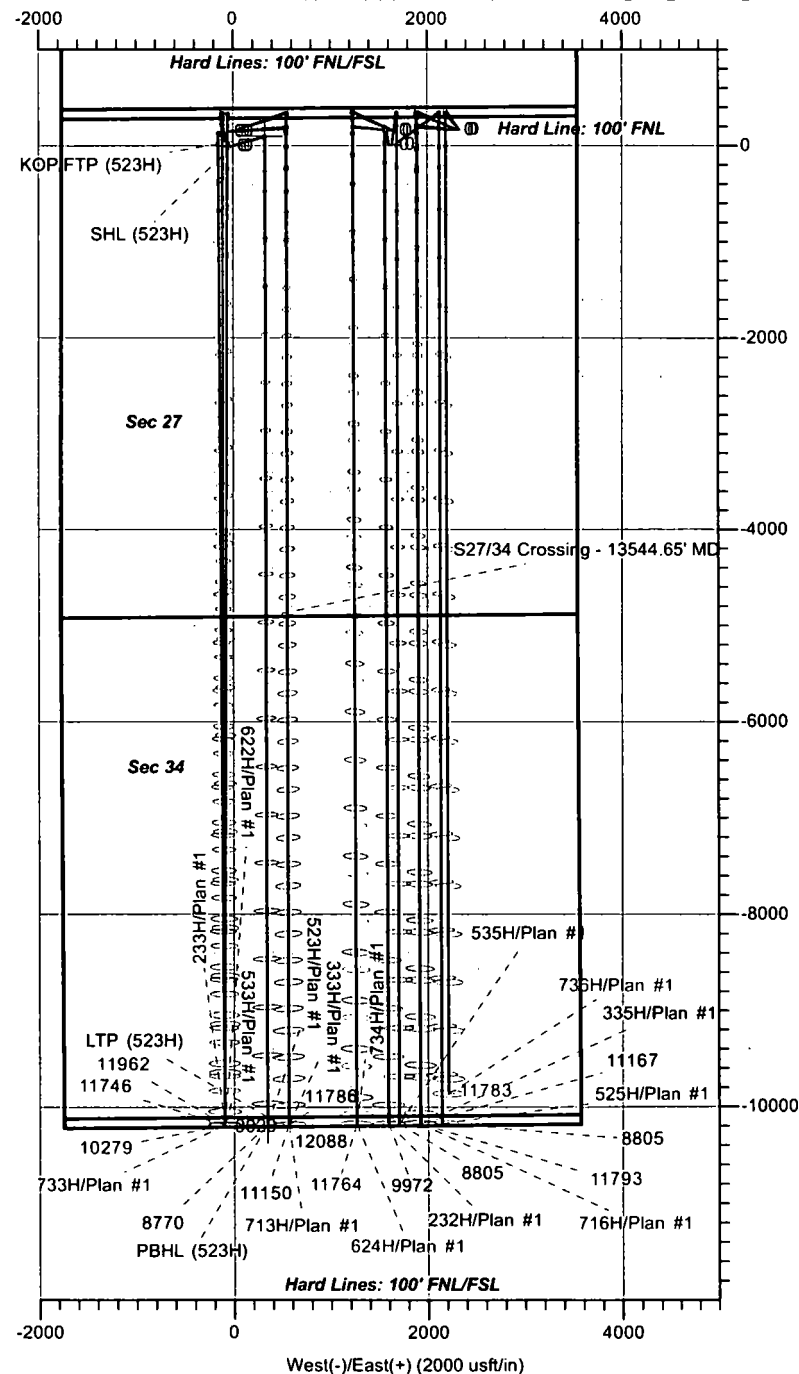
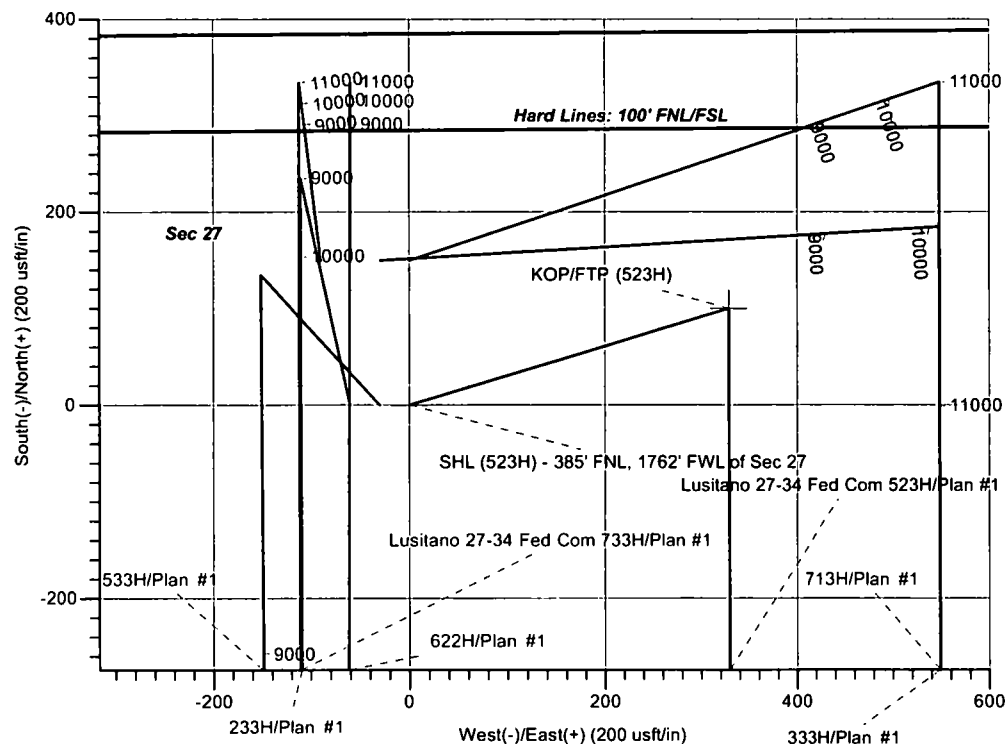
**Magnetic Field
Strength: 47866.9snT
Dip Angle: 59.77°
Date: 10/10/2018
Model: HDGM**

West(-)/East(+) (2000 usft/in)

devon

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
KOP/FTP (523H)	8197.04	100.00	329.00	403400.04	716462.76	32.10776299	-103.76773289
LTP (523H)	8770.00	-10103.82	344.09	393196.22	716477.85	32.07971421	-103.76785696
PBHL (523H)	8770.00	-10183.82	344.09	393116.22	716477.85	32.07949431	-103.76785831
S27/34 Crossing	8770.00	-4906.27	336.35	398393.77	716470.11	32.09400152	-103.76779396
SHL (523H)	0.00	0.00	0.00	403300.04	716133.76	32.10749285	-103.76879710

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3499.40	0.00	0.00	3499.40	0.00	0.00	0.00	0.00	0.00
3992.39	4.93	73.09	3991.78	6.16	20.28	1.00	73.09	-5.48
7582.68	4.93	73.09	7568.79	95.89	315.48	0.00	0.00	-85.18
7911.34	0.00	0.00	7897.04	100.00	329.00	1.50	180.00	-88.83
8211.34	0.00	0.00	8197.04	100.00	329.00	0.00	0.00	-88.83
9111.34	90.00	179.92	8770.00	-472.96	329.84	10.00	179.92	483.83
18822.21	90.00	179.92	8770.00	-10183.82	344.09	0.00	0.00	10189.63



LEAM DRILLING SYSTEMS LLC
2010 East Davis, Conroe, Texas 77301
Phone: 936/756-7618, Fax: 936/756-7595

Plan: Plan #1 (Lusitano 27-34 Fed Com 523H/OH)
Lusitano

Created By: Dustin Ault Date: 15:03, October 10 2018
Date: _____
Approved: _____ Date: _____

Devon Energy

Eddy County, NM (NAD-83)

Lusitano

Lusitano 27-34 Fed Com 523H

OH

Plan: Plan #1

Standard Planning Report - Geographic

10 October, 2018

LEAM Drilling Services

Planning Report - Geographic

Database:	EDM 5000.1 Multi User Db	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Company:	Devon Energy	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site:	Lusitano	North Reference:	Grid
Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project	Eddy County, NM (NAD-83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Lusitano			
Site Position:		Northing:	403,470.13 usft	Latitude:	32.10791318
From:	Map	Easting:	719,383.01 usft	Longitude:	-103.75830058
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.31 °

Well	Lusitano 27-34 Fed Com 523H					
Well Position	+N/-S	0.00 usft	Northing:	403,300.04 usft	Latitude:	32.10749284
	+E/-W	0.00 usft	Easting:	716,133.76 usft	Longitude:	-103.76879711
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,332.60 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM	10/10/2018	6.77	59.77	47,867

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	178.06

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)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,499.40	0.00	0.01	3,499.40	0.00	0.00	0.00	0.00	0.00	0.01	
3,992.39	4.93	73.09	3,991.78	6.16	20.28	1.00	1.00	0.00	73.09	
7,582.68	4.93	73.09	7,568.79	95.89	315.48	0.00	0.00	0.00	0.00	
7,911.34	0.00	0.01	7,897.04	100.00	329.00	1.50	-1.50	0.00	180.00	
8,211.34	0.00	0.01	8,197.04	100.00	329.00	0.00	0.00	0.00	0.01	
9,111.34	90.00	179.92	8,770.00	-472.96	329.84	10.00	10.00	19.99	179.92	
18,822.21	90.00	179.92	8,770.00	-10,183.82	344.09	0.00	0.00	0.00	0.00	PBHL (523H) - 20' FS

LEAM Drilling Services

Planning Report - Geographic

Database:	EDM 5000.1 Multi User Db	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Company:	Devon Energy	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site:	Lusitano	North Reference:	Grid
Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
SHL (523H) - 385' FNL, 1762' FWL of Sec 27									
100.00	0.00	0.00	100.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
200.00	0.00	0.00	200.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
300.00	0.00	0.00	300.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
400.00	0.00	0.00	400.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
500.00	0.00	0.00	500.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
600.00	0.00	0.00	600.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
700.00	0.00	0.00	700.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
800.00	0.00	0.00	800.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
900.00	0.00	0.00	900.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
1,000.00	0.00	0.00	1,000.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
1,100.00	0.00	0.00	1,100.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
1,200.00	0.00	0.00	1,200.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
1,300.00	0.00	0.00	1,300.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
1,400.00	0.00	0.00	1,400.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
1,500.00	0.00	0.00	1,500.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
1,600.00	0.00	0.00	1,600.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
1,700.00	0.00	0.00	1,700.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
1,800.00	0.00	0.00	1,800.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
1,900.00	0.00	0.00	1,900.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
2,000.00	0.00	0.00	2,000.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
2,100.00	0.00	0.00	2,100.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
2,200.00	0.00	0.00	2,200.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
2,300.00	0.00	0.00	2,300.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
2,400.00	0.00	0.00	2,400.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
2,500.00	0.00	0.00	2,500.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
2,600.00	0.00	0.00	2,600.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
2,700.00	0.00	0.00	2,700.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
2,800.00	0.00	0.00	2,800.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
2,900.00	0.00	0.00	2,900.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
3,000.00	0.00	0.00	3,000.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
3,100.00	0.00	0.00	3,100.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
3,200.00	0.00	0.00	3,200.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
3,300.00	0.00	0.00	3,300.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
3,400.00	0.00	0.00	3,400.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
3,499.40	0.00	0.01	3,499.40	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
3,600.00	1.01	73.09	3,599.99	0.26	0.84	403,300.30	716,134.60	32.10749354	-103.76879437
3,700.00	2.01	73.09	3,699.96	1.02	3.36	403,301.06	716,137.12	32.10749560	-103.76878624
3,800.00	3.01	73.09	3,799.86	2.29	7.54	403,302.33	716,141.30	32.10749904	-103.76877271
3,900.00	4.01	73.09	3,899.67	4.07	13.39	403,304.11	716,147.15	32.10750384	-103.76875378
3,992.39	4.93	73.09	3,991.78	6.16	20.28	403,306.20	716,154.04	32.10750950	-103.76873151
4,000.00	4.93	73.09	3,999.36	6.35	20.91	403,306.39	716,154.66	32.10751001	-103.76872948
4,100.00	4.93	73.09	4,098.99	8.85	29.13	403,308.89	716,162.88	32.10751676	-103.76870289
4,200.00	4.93	73.09	4,198.62	11.35	37.35	403,311.39	716,171.11	32.10752351	-103.76867629
4,300.00	4.93	73.09	4,298.25	13.85	45.57	403,313.89	716,179.33	32.10753026	-103.76864969
4,400.00	4.93	73.09	4,397.88	16.35	53.79	403,316.39	716,187.55	32.10753702	-103.76862310
4,500.00	4.93	73.09	4,497.51	18.85	62.02	403,318.89	716,195.77	32.10754377	-103.76859650
4,600.00	4.93	73.09	4,597.14	21.35	70.24	403,321.39	716,203.99	32.10755052	-103.76856990
4,700.00	4.93	73.09	4,696.77	23.85	78.46	403,323.89	716,212.22	32.10755727	-103.76854331
4,800.00	4.93	73.09	4,796.40	26.35	86.68	403,326.39	716,220.44	32.10756402	-103.76851671
4,900.00	4.93	73.09	4,896.03	28.85	94.91	403,328.89	716,228.66	32.10757077	-103.76849012
5,000.00	4.93	73.09	4,995.66	31.35	103.13	403,331.38	716,236.88	32.10757752	-103.76846352
5,100.00	4.93	73.09	5,095.29	33.84	111.35	403,333.88	716,245.11	32.10758427	-103.76843692

LEAM Drilling Services

Planning Report - Geographic

Database:	EDM 5000.1 Multi User Db	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Company:	Devon Energy	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site:	Lusitano	North Reference:	Grid
Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,200.00	4.93	73.09	5,194.92	36.34	119.57	403,336.38	716,253.33	32.10759103	-103.76841033
5,300.00	4.93	73.09	5,294.55	38.84	127.79	403,338.88	716,261.55	32.10759778	-103.76838373
5,400.00	4.93	73.09	5,394.18	41.34	136.02	403,341.38	716,269.77	32.10760453	-103.76835713
5,500.00	4.93	73.09	5,493.81	43.84	144.24	403,343.88	716,277.99	32.10761128	-103.76833054
5,600.00	4.93	73.09	5,593.44	46.34	152.46	403,346.38	716,286.22	32.10761803	-103.76830394
5,700.00	4.93	73.09	5,693.08	48.84	160.68	403,348.88	716,294.44	32.10762478	-103.76827735
5,800.00	4.93	73.09	5,792.71	51.34	168.91	403,351.38	716,302.66	32.10763153	-103.76825075
5,900.00	4.93	73.09	5,892.34	53.84	177.13	403,353.88	716,310.88	32.10763828	-103.76822415
6,000.00	4.93	73.09	5,991.97	56.34	185.35	403,356.38	716,319.11	32.10764504	-103.76819756
6,100.00	4.93	73.09	6,091.60	58.84	193.57	403,358.88	716,327.33	32.10765179	-103.76817096
6,200.00	4.93	73.09	6,191.23	61.34	201.79	403,361.37	716,335.55	32.10765854	-103.76814436
6,300.00	4.93	73.09	6,290.86	63.83	210.02	403,363.87	716,343.77	32.10766529	-103.76811777
6,400.00	4.93	73.09	6,390.49	66.33	218.24	403,366.37	716,351.99	32.10767204	-103.76809117
6,500.00	4.93	73.09	6,490.12	68.83	226.46	403,368.87	716,360.22	32.10767879	-103.76806457
6,600.00	4.93	73.09	6,589.75	71.33	234.68	403,371.37	716,368.44	32.10768554	-103.76803798
6,700.00	4.93	73.09	6,689.38	73.83	242.90	403,373.87	716,376.66	32.10769229	-103.76801138
6,800.00	4.93	73.09	6,789.01	76.33	251.13	403,376.37	716,384.88	32.10769905	-103.76798479
6,900.00	4.93	73.09	6,888.64	78.83	259.35	403,378.87	716,393.11	32.10770580	-103.76795819
7,000.00	4.93	73.09	6,988.27	81.33	267.57	403,381.37	716,401.33	32.10771255	-103.76793159
7,100.00	4.93	73.09	7,087.90	83.83	275.79	403,383.87	716,409.55	32.10771930	-103.76790500
7,200.00	4.93	73.09	7,187.53	86.33	284.02	403,386.37	716,417.77	32.10772605	-103.76787840
7,300.00	4.93	73.09	7,287.16	88.83	292.24	403,388.87	716,425.99	32.10773280	-103.76785180
7,400.00	4.93	73.09	7,386.79	91.33	300.46	403,391.36	716,434.22	32.10773955	-103.76782521
7,500.00	4.93	73.09	7,486.42	93.82	308.68	403,393.86	716,442.44	32.10774630	-103.76779861
7,582.68	4.93	73.09	7,568.79	95.89	315.48	403,395.93	716,449.24	32.10775189	-103.76777662
7,600.00	4.67	73.09	7,586.05	96.31	316.87	403,396.35	716,450.62	32.10775302	-103.76777214
7,700.00	3.17	73.09	7,685.81	98.30	323.41	403,398.34	716,457.16	32.10775839	-103.76775098
7,800.00	1.67	73.09	7,785.72	99.53	327.45	403,399.57	716,461.20	32.10776171	-103.76773791
7,900.00	0.17	73.09	7,885.70	100.00	328.98	403,400.03	716,462.74	32.10776297	-103.76773294
7,911.34	0.00	0.01	7,897.04	100.00	329.00	403,400.04	716,462.76	32.10776299	-103.76773289
8,000.00	0.00	0.00	7,985.70	100.00	329.00	403,400.04	716,462.76	32.10776299	-103.76773289
8,100.00	0.00	0.00	8,085.70	100.00	329.00	403,400.04	716,462.76	32.10776299	-103.76773289
8,200.00	0.00	0.00	8,185.70	100.00	329.00	403,400.04	716,462.76	32.10776299	-103.76773289
8,211.34	0.00	0.01	8,197.04	100.00	329.00	403,400.04	716,462.76	32.10776299	-103.76773289
KOP/FTP (523H) - 285' FNL, 2090' FWL of Sec 27									
8,250.00	3.87	179.92	8,235.68	98.70	329.00	403,398.73	716,462.76	32.10775940	-103.76773291
8,300.00	8.87	179.92	8,285.35	93.15	329.01	403,393.19	716,462.77	32.10774417	-103.76773297
8,350.00	13.87	179.92	8,334.36	83.30	329.02	403,383.34	716,462.78	32.10771709	-103.76773309
8,400.00	18.87	179.92	8,382.31	69.22	329.05	403,369.26	716,462.80	32.10767837	-103.76773327
8,450.00	23.87	179.92	8,428.86	51.01	329.07	403,351.05	716,462.83	32.10762831	-103.76773349
8,500.00	28.87	179.92	8,473.65	28.81	329.10	403,328.85	716,462.86	32.10756729	-103.76773376
8,550.00	33.87	179.92	8,516.33	2.79	329.14	403,302.83	716,462.90	32.10749577	-103.76773408
8,600.00	38.87	179.92	8,556.58	-26.85	329.19	403,273.19	716,462.94	32.10741430	-103.76773444
8,650.00	43.87	179.92	8,594.09	-59.88	329.23	403,240.16	716,462.99	32.10732350	-103.76773484
8,700.00	48.87	179.92	8,628.58	-96.06	329.29	403,203.98	716,463.04	32.10722406	-103.76773528
8,750.00	53.87	179.92	8,659.79	-135.10	329.34	403,164.94	716,463.10	32.10711673	-103.76773576
8,800.00	58.87	179.92	8,687.47	-176.72	329.41	403,123.32	716,463.16	32.10700233	-103.76773627
8,850.00	63.87	179.92	8,711.42	-220.59	329.47	403,079.45	716,463.23	32.10688173	-103.76773680
8,900.00	68.87	179.92	8,731.46	-266.38	329.54	403,033.66	716,463.29	32.10675586	-103.76773736
8,950.00	73.87	179.92	8,747.43	-313.75	329.61	402,986.29	716,463.36	32.10662566	-103.76773794
9,000.00	78.87	179.92	8,759.21	-362.32	329.68	402,937.72	716,463.43	32.10649214	-103.76773853
9,050.00	83.87	179.92	8,766.72	-411.74	329.75	402,888.30	716,463.51	32.10635629	-103.76773914
9,100.00	88.87	179.92	8,769.89	-461.62	329.82	402,838.42	716,463.58	32.10621917	-103.76773974
9,111.34	90.00	179.92	8,770.00	-472.96	329.84	402,827.08	716,463.60	32.10618802	-103.76773988

LEAM Drilling Services

Planning Report - Geographic

Database:	EDM 5000.1 Multi User Db	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Company:	Devon Energy	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site:	Lusitano	North Reference:	Grid
Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,200.00	90.00	179.92	8,770.00	-561.62	329.97	402,738.42	716,463.73	32.10594429	-103.76774097
9,300.00	90.00	179.92	8,770.00	-661.62	330.12	402,638.42	716,463.87	32.10566941	-103.76774219
9,400.00	90.00	179.92	8,770.00	-761.62	330.26	402,538.42	716,464.02	32.10539452	-103.76774341
9,500.00	90.00	179.92	8,770.00	-861.62	330.41	402,438.42	716,464.17	32.10511964	-103.76774463
9,600.00	90.00	179.92	8,770.00	-961.62	330.56	402,338.42	716,464.31	32.10484475	-103.76774585
9,700.00	90.00	179.92	8,770.00	-1,061.62	330.70	402,238.42	716,464.46	32.10456987	-103.76774707
9,800.00	90.00	179.92	8,770.00	-1,161.62	330.85	402,138.42	716,464.61	32.10429498	-103.76774829
9,900.00	90.00	179.92	8,770.00	-1,261.62	331.00	402,038.42	716,464.75	32.10402010	-103.76774951
10,000.00	90.00	179.92	8,770.00	-1,361.62	331.14	401,938.42	716,464.90	32.10374522	-103.76775073
10,100.00	90.00	179.92	8,770.00	-1,461.62	331.29	401,838.42	716,465.05	32.10347033	-103.76775195
10,200.00	90.00	179.92	8,770.00	-1,561.62	331.44	401,738.42	716,465.19	32.10319545	-103.76775317
10,300.00	90.00	179.92	8,770.00	-1,661.62	331.58	401,638.42	716,465.34	32.10292056	-103.76775439
10,400.00	90.00	179.92	8,770.00	-1,761.62	331.73	401,538.42	716,465.49	32.10264568	-103.76775561
10,500.00	90.00	179.92	8,770.00	-1,861.62	331.88	401,438.42	716,465.63	32.10237079	-103.76775683
10,600.00	90.00	179.92	8,770.00	-1,961.62	332.03	401,338.42	716,465.78	32.10209591	-103.76775805
10,700.00	90.00	179.92	8,770.00	-2,061.62	332.17	401,238.42	716,465.93	32.10182103	-103.76775927
10,800.00	90.00	179.92	8,770.00	-2,161.62	332.32	401,138.42	716,466.07	32.10154614	-103.76776049
10,900.00	90.00	179.92	8,770.00	-2,261.62	332.47	401,038.42	716,466.22	32.10127126	-103.76776171
11,000.00	90.00	179.92	8,770.00	-2,361.62	332.61	400,938.42	716,466.37	32.10099637	-103.76776293
11,100.00	90.00	179.92	8,770.00	-2,461.62	332.76	400,838.42	716,466.51	32.10072149	-103.76776415
11,200.00	90.00	179.92	8,770.00	-2,561.62	332.91	400,738.42	716,466.66	32.10044660	-103.76776537
11,300.00	90.00	179.92	8,770.00	-2,661.62	333.05	400,638.42	716,466.81	32.10017172	-103.76776659
11,400.00	90.00	179.92	8,770.00	-2,761.62	333.20	400,538.42	716,466.96	32.09989683	-103.76776781
11,500.00	90.00	179.92	8,770.00	-2,861.62	333.35	400,438.42	716,467.10	32.09962195	-103.76776903
11,600.00	90.00	179.92	8,770.00	-2,961.62	333.49	400,338.42	716,467.25	32.09934707	-103.76777025
11,700.00	90.00	179.92	8,770.00	-3,061.62	333.64	400,238.42	716,467.40	32.09907218	-103.76777147
11,800.00	90.00	179.92	8,770.00	-3,161.62	333.79	400,138.42	716,467.54	32.09879730	-103.76777269
11,900.00	90.00	179.92	8,770.00	-3,261.62	333.93	400,038.42	716,467.69	32.09852241	-103.76777391
12,000.00	90.00	179.92	8,770.00	-3,361.62	334.08	399,938.42	716,467.84	32.09824753	-103.76777513
12,100.00	90.00	179.92	8,770.00	-3,461.62	334.23	399,838.42	716,467.98	32.09797264	-103.76777635
12,200.00	90.00	179.92	8,770.00	-3,561.62	334.37	399,738.42	716,468.13	32.09769776	-103.76777757
12,300.00	90.00	179.92	8,770.00	-3,661.62	334.52	399,638.42	716,468.28	32.09742287	-103.76777879
12,400.00	90.00	179.92	8,770.00	-3,761.62	334.67	399,538.42	716,468.42	32.09714799	-103.76778001
12,500.00	90.00	179.92	8,770.00	-3,861.62	334.81	399,438.42	716,468.57	32.09687310	-103.76778123
12,600.00	90.00	179.92	8,770.00	-3,961.62	334.96	399,338.42	716,468.72	32.09659822	-103.76778245
12,700.00	90.00	179.92	8,770.00	-4,061.62	335.11	399,238.42	716,468.86	32.09632334	-103.76778367
12,800.00	90.00	179.92	8,770.00	-4,161.62	335.25	399,138.42	716,469.01	32.09604845	-103.76778489
12,900.00	90.00	179.92	8,770.00	-4,261.62	335.40	399,038.42	716,469.16	32.09577357	-103.76778611
13,000.00	90.00	179.92	8,770.00	-4,361.62	335.55	398,938.42	716,469.30	32.09549868	-103.76778733
13,100.00	90.00	179.92	8,770.00	-4,461.62	335.69	398,838.42	716,469.45	32.09522380	-103.76778855
13,200.00	90.00	179.92	8,770.00	-4,561.62	335.84	398,738.42	716,469.60	32.09494891	-103.76778977
13,300.00	90.00	179.92	8,770.00	-4,661.62	335.99	398,638.42	716,469.74	32.09467403	-103.76779099
13,400.00	90.00	179.92	8,770.00	-4,761.62	336.13	398,538.42	716,469.89	32.09439914	-103.76779221
13,500.00	90.00	179.92	8,770.00	-4,861.62	336.28	398,438.42	716,470.04	32.09412426	-103.76779343
13,544.65	90.00	179.92	8,770.00	-4,906.27	336.35	398,393.77	716,470.10	32.09400151	-103.76779397
S27/34 Crossing - 13544.65' MD									
13,600.00	90.00	179.92	8,770.00	-4,961.62	336.43	398,338.42	716,470.18	32.09384937	-103.76779465
13,700.00	90.00	179.92	8,770.00	-5,061.62	336.57	398,238.42	716,470.33	32.09357449	-103.76779587
13,800.00	90.00	179.92	8,770.00	-5,161.62	336.72	398,138.42	716,470.48	32.09329960	-103.76779709
13,900.00	90.00	179.92	8,770.00	-5,261.62	336.87	398,038.42	716,470.62	32.09302472	-103.76779831
14,000.00	90.00	179.92	8,770.00	-5,361.62	337.01	397,938.42	716,470.77	32.09274983	-103.76779953
14,100.00	90.00	179.92	8,770.00	-5,461.62	337.16	397,838.42	716,470.92	32.09247495	-103.76780075
14,200.00	90.00	179.92	8,770.00	-5,561.62	337.31	397,738.42	716,471.06	32.09220006	-103.76780197
14,300.00	90.00	179.92	8,770.00	-5,661.62	337.45	397,638.42	716,471.21	32.09192518	-103.76780319

LEAM Drilling Services

Planning Report - Geographic

Database:	EDM 5000.1 Multi User Db	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Company:	Devon Energy	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site:	Lusitano	North Reference:	Grid
Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
14,400.00	90.00	179.92	8,770.00	-5,761.62	337.60	397,538.42	716,471.36	32.09165030	-103.76780441
14,500.00	90.00	179.92	8,770.00	-5,861.62	337.75	397,438.42	716,471.50	32.09137541	-103.76780563
14,600.00	90.00	179.92	8,770.00	-5,961.62	337.89	397,338.42	716,471.65	32.09110053	-103.76780685
14,700.00	90.00	179.92	8,770.00	-6,061.62	338.04	397,238.42	716,471.80	32.09082564	-103.76780806
14,800.00	90.00	179.92	8,770.00	-6,161.62	338.19	397,138.42	716,471.94	32.09055076	-103.76780928
14,900.00	90.00	179.92	8,770.00	-6,261.62	338.33	397,038.42	716,472.09	32.09027587	-103.76781050
15,000.00	90.00	179.92	8,770.00	-6,361.62	338.48	396,938.42	716,472.24	32.09000099	-103.76781172
15,100.00	90.00	179.92	8,770.00	-6,461.62	338.63	396,838.42	716,472.38	32.08972610	-103.76781294
15,200.00	90.00	179.92	8,770.00	-6,561.62	338.77	396,738.42	716,472.53	32.08945122	-103.76781416
15,300.00	90.00	179.92	8,770.00	-6,661.62	338.92	396,638.42	716,472.68	32.08917633	-103.76781538
15,400.00	90.00	179.92	8,770.00	-6,761.62	339.07	396,538.42	716,472.82	32.08890145	-103.76781660
15,500.00	90.00	179.92	8,770.00	-6,861.62	339.22	396,438.42	716,472.97	32.08862656	-103.76781782
15,600.00	90.00	179.92	8,770.00	-6,961.62	339.36	396,338.42	716,473.12	32.08835168	-103.76781904
15,700.00	90.00	179.92	8,770.00	-7,061.62	339.51	396,238.42	716,473.26	32.08807679	-103.76782026
15,800.00	90.00	179.92	8,770.00	-7,161.61	339.66	396,138.42	716,473.41	32.08780191	-103.76782148
15,900.00	90.00	179.92	8,770.00	-7,261.61	339.80	396,038.42	716,473.56	32.08752702	-103.76782270
16,000.00	90.00	179.92	8,770.00	-7,361.61	339.95	395,938.42	716,473.70	32.08725214	-103.76782392
16,100.00	90.00	179.92	8,770.00	-7,461.61	340.10	395,838.42	716,473.85	32.08697725	-103.76782513
16,200.00	90.00	179.92	8,770.00	-7,561.61	340.24	395,738.42	716,474.00	32.08670237	-103.76782635
16,300.00	90.00	179.92	8,770.00	-7,661.61	340.39	395,638.42	716,474.15	32.08642748	-103.76782757
16,400.00	90.00	179.92	8,770.00	-7,761.61	340.54	395,538.42	716,474.29	32.08615260	-103.76782879
16,500.00	90.00	179.92	8,770.00	-7,861.61	340.68	395,438.42	716,474.44	32.08587771	-103.76783001
16,600.00	90.00	179.92	8,770.00	-7,961.61	340.83	395,338.42	716,474.59	32.08560284	-103.76783123
16,700.00	90.00	179.92	8,770.00	-8,061.61	340.98	395,238.43	716,474.73	32.08532795	-103.76783245
16,800.00	90.00	179.92	8,770.00	-8,161.61	341.12	395,138.43	716,474.88	32.08505307	-103.76783367
16,900.00	90.00	179.92	8,770.00	-8,261.61	341.27	395,038.43	716,475.03	32.08477818	-103.76783489
17,000.00	90.00	179.92	8,770.00	-8,361.61	341.42	394,938.43	716,475.17	32.08450330	-103.76783611
17,100.00	90.00	179.92	8,770.00	-8,461.61	341.56	394,838.43	716,475.32	32.08422841	-103.76783732
17,200.00	90.00	179.92	8,770.00	-8,561.61	341.71	394,738.43	716,475.47	32.08395352	-103.76783854
17,300.00	90.00	179.92	8,770.00	-8,661.61	341.86	394,638.43	716,475.61	32.08367864	-103.76783976
17,400.00	90.00	179.92	8,770.00	-8,761.61	342.00	394,538.43	716,475.76	32.08340375	-103.76784098
17,500.00	90.00	179.92	8,770.00	-8,861.61	342.15	394,438.43	716,475.91	32.08312887	-103.76784220
17,600.00	90.00	179.92	8,770.00	-8,961.61	342.30	394,338.43	716,476.05	32.08285398	-103.76784342
17,700.00	90.00	179.92	8,770.00	-9,061.61	342.44	394,238.43	716,476.20	32.08257910	-103.76784464
17,800.00	90.00	179.92	8,770.00	-9,161.61	342.59	394,138.43	716,476.35	32.08230421	-103.76784586
17,900.00	90.00	179.92	8,770.00	-9,261.61	342.74	394,038.43	716,476.49	32.08202933	-103.76784708
18,000.00	90.00	179.92	8,770.00	-9,361.61	342.88	393,938.43	716,476.64	32.08175444	-103.76784829
18,100.00	90.00	179.92	8,770.00	-9,461.61	343.03	393,838.43	716,476.79	32.08147956	-103.76784951
18,200.00	90.00	179.92	8,770.00	-9,561.61	343.18	393,738.43	716,476.93	32.08120467	-103.76785073
18,300.00	90.00	179.92	8,770.00	-9,661.61	343.32	393,638.43	716,477.08	32.08092979	-103.76785195
18,400.00	90.00	179.92	8,770.00	-9,761.61	343.47	393,538.43	716,477.23	32.08065490	-103.76785317
18,500.00	90.00	179.92	8,770.00	-9,861.61	343.62	393,438.43	716,477.37	32.08038002	-103.76785439
18,600.00	90.00	179.92	8,770.00	-9,961.61	343.76	393,338.43	716,477.52	32.08010513	-103.76785561
18,700.00	90.00	179.92	8,770.00	-10,061.61	343.91	393,238.43	716,477.67	32.07983025	-103.76785683
18,742.21	90.00	179.92	8,770.00	-10,103.82	343.97	393,196.22	716,477.73	32.07971422	-103.76785734
LTP (523H) - 100' FSL, 2090' FWL of Sec 34									
18,800.00	90.00	179.92	8,770.00	-10,161.61	344.06	393,138.43	716,477.81	32.07955536	-103.76785804
18,822.21	90.00	179.92	8,770.00	-10,183.82	344.09	393,116.22	716,477.85	32.07949431	-103.76785831
PBHL (523H) - 20' FSL, 2090' FWL of Sec 34									

LEAM Drilling Services
Planning Report - Geographic

Database:	EDM 5000.1 Multi User Db	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Company:	Devon Energy	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site:	Lusitano	North Reference:	Grid
Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
SHL (523H) - 385' FNL, - plan hits target center - Point	0.00	0.01	0.00	0.00	0.00	403,300.04	716,133.76	32.10749284	-103.76879711
KOP/FTP (523H) - 285' I - plan hits target center - Point	0.00	0.00	8,197.04	100.00	329.00	403,400.04	716,462.76	32.10776299	-103.76773289
S27/34 Crossing - 1354' - plan hits target center - Point	0.00	0.00	8,770.00	-4,906.27	336.35	398,393.77	716,470.11	32.09400151	-103.76779396
PBHL (523H) - 20' FSL, - plan hits target center - Point	0.00	0.01	8,770.00	-10,183.82	344.09	393,116.22	716,477.85	32.07949431	-103.76785831
LTP (523H) - 100' FSL, 1 - plan misses target center by 0.12usft at 18742.21usft MD (8770.00 TVD, -10103.82 N, 343.97 E) - Point	0.00	0.00	8,770.00	-10,103.82	344.09	393,196.22	716,477.85	32.07971422	-103.76785696

[illegible][illegible]

Devon Energy

Eddy County, NM (NAD-83)

Lusitano

Lusitano 27-34 Fed Com 523H

OH

Plan #1

Anticollision Report

10 October, 2018

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	MD Interval 100.00usft
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 2,174.65 usft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic
Casing Method:	Not applied

Survey Tool Program	Date	10/10/2018
From (usft)	To (usft)	Survey (Wellbore)
0.00	18,821.21	Plan #1 (OH)
		Tool Name
		LEAM MWD+HDGM
		Description
		MWD+HDGM

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Lusitano						
Lusitano 27-34 Fed Com 232H - OH - Plan #1	8,300.00	8,297.85	1,244.55	1,207.91	33.968	CC, ES
Lusitano 27-34 Fed Com 232H - OH - Plan #1	18,822.21	20,099.26	1,733.36	1,470.43	6.593	SF
Lusitano 27-34 Fed Com 233H - OH - Plan #1	2,916.26	2,917.46	59.94	47.11	4.670	CC
Lusitano 27-34 Fed Com 233H - OH - Plan #1	3,100.00	3,100.98	60.13	46.47	4.402	ES
Lusitano 27-34 Fed Com 233H - OH - Plan #1	3,400.00	3,400.31	63.62	48.62	4.242	SF
Lusitano 27-34 Fed Com 333H - OH - Plan #1	8,046.97	8,054.13	71.38	34.75	1.949	CC, ES
Lusitano 27-34 Fed Com 333H - OH - Plan #1	8,100.00	8,106.84	71.61	34.76	1.943	SF
Lusitano 27-34 Fed Com 335H - OH - Plan #1	8,502.99	8,580.02	1,664.82	1,627.79	44.956	CC, ES
Lusitano 27-34 Fed Com 335H - OH - Plan #1	9,000.00	8,860.57	1,731.92	1,692.44	43.869	SF
Lusitano 27-34 Fed Com 525H - OH - Plan #1	2,416.57	2,416.87	1,670.49	1,659.90	157.797	CC
Lusitano 27-34 Fed Com 525H - OH - Plan #1	18,822.21	19,104.88	1,798.74	1,462.85	5.355	ES, SF
Lusitano 27-34 Fed Com 533H - OH - Plan #1	3,400.00	3,400.60	29.95	14.94	1.996	CC
Lusitano 27-34 Fed Com 533H - OH - Plan #1	3,500.00	3,500.60	29.95	14.49	1.938	ES
Lusitano 27-34 Fed Com 533H - OH - Plan #1	18,822.21	19,110.77	510.70	211.39	1.706	SF
Lusitano 27-34 Fed Com 535H - OH - Plan #1	18,813.14	19,092.58	1,358.93	1,023.07	4.046	CC
Lusitano 27-34 Fed Com 535H - OH - Plan #1	18,822.21	19,092.58	1,358.96	1,022.96	4.045	ES, SF
Lusitano 27-34 Fed Com 622H - OH - Plan #1	2,915.88	2,918.18	161.02	148.18	12.545	CC
Lusitano 27-34 Fed Com 622H - OH - Plan #1	3,000.00	3,002.24	161.02	147.81	12.186	ES
Lusitano 27-34 Fed Com 622H - OH - Plan #1	4,400.00	4,396.64	200.06	180.67	10.318	SF
Lusitano 27-34 Fed Com 624H - OH - Plan #1	8,435.03	8,484.65	946.61	909.79	25.711	CC, ES
Lusitano 27-34 Fed Com 624H - OH - Plan #1	8,600.00	8,625.40	953.99	916.52	25.459	SF
Lusitano 27-34 Fed Com 713H - OH - Plan #1	2,415.85	2,418.25	150.00	139.41	14.167	CC
Lusitano 27-34 Fed Com 713H - OH - Plan #1	7,700.00	7,695.94	166.97	131.75	4.740	ES
Lusitano 27-34 Fed Com 713H - OH - Plan #1	7,800.00	7,795.89	168.30	132.66	4.722	SF
Lusitano 27-34 Fed Com 716H - OH - Plan #1	8,446.34	8,541.66	1,725.97	1,688.88	46.534	CC, ES
Lusitano 27-34 Fed Com 716H - OH - Plan #1	8,900.00	8,837.99	1,781.10	1,741.90	45.435	SF
Lusitano 27-34 Fed Com 733H - OH - Plan #1	2,415.92	2,418.12	174.19	163.61	16.452	CC
Lusitano 27-34 Fed Com 733H - OH - Plan #1	2,500.00	2,502.14	174.19	163.23	15.886	ES
Lusitano 27-34 Fed Com 733H - OH - Plan #1	4,400.00	4,396.34	227.97	208.59	11.761	SF
Lusitano 27-34 Fed Com 734H - OH - Plan #1	8,373.75	8,426.69	1,081.50	1,044.78	29.451	CC, ES
Lusitano 27-34 Fed Com 734H - OH - Plan #1	8,600.00	8,622.80	1,095.27	1,057.63	29.093	SF
Lusitano 27-34 Fed Com 736H - OH - Plan #1	8,315.64	8,343.16	1,926.45	1,889.84	52.622	CC, ES
Lusitano 27-34 Fed Com 736H - OH - Plan #1	9,000.00	8,788.86	2,016.59	1,976.87	50.778	SF

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 232H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: O-LEAM MWD+HDGM												Offset Well Error:	0.00 usft
Reference				Offset			Semi Major Axis		Distance				Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.00	0.00	0.60	0.60	0.00	0.00	89.65	9.82	1,610.50	1,610.53				
100.00	100.00	100.60	100.60	0.09	0.09	89.65	9.82	1,610.50	1,610.53	1,610.36	0.17	9,293.583	
200.00	200.00	200.60	200.60	0.31	0.31	89.65	9.82	1,610.50	1,610.53	1,609.91	0.62	2,585.839	
300.00	300.00	300.60	300.60	0.54	0.54	89.65	9.82	1,610.50	1,610.53	1,609.46	1.07	1,501.857	
400.00	400.00	400.60	400.60	0.76	0.76	89.65	9.82	1,610.50	1,610.53	1,609.01	1.52	1,058.243	
500.00	500.00	500.60	500.60	0.99	0.99	89.65	9.82	1,610.50	1,610.53	1,608.56	1.97	816.938	
600.00	600.00	600.60	600.60	1.21	1.21	89.65	9.82	1,610.50	1,610.53	1,608.11	2.42	665.246	
700.00	700.00	700.60	700.60	1.43	1.44	89.65	9.82	1,610.50	1,610.53	1,607.66	2.87	561.065	
800.00	800.00	800.60	800.60	1.66	1.66	89.65	9.82	1,610.50	1,610.53	1,607.21	3.32	485.097	
900.00	900.00	900.60	900.60	1.88	1.89	89.65	9.82	1,610.50	1,610.53	1,606.76	3.77	427.247	
1,000.00	1,000.00	1,000.60	1,000.60	2.11	2.11	89.65	9.82	1,610.50	1,610.53	1,606.31	4.22	381.725	
1,100.00	1,100.00	1,100.60	1,100.60	2.33	2.33	89.65	9.82	1,610.50	1,610.53	1,605.86	4.67	344.970	
1,200.00	1,200.00	1,200.60	1,200.60	2.56	2.56	89.65	9.82	1,610.50	1,610.53	1,605.41	5.12	314.670	
1,300.00	1,300.00	1,300.60	1,300.60	2.78	2.78	89.65	9.82	1,610.50	1,610.53	1,604.96	5.57	289.264	
1,400.00	1,400.00	1,400.60	1,400.60	3.01	3.01	89.65	9.82	1,610.50	1,610.53	1,604.51	6.02	267.654	
1,500.00	1,500.00	1,500.60	1,500.60	3.23	3.23	89.65	9.82	1,610.50	1,610.53	1,604.06	6.47	249.048	
1,600.00	1,600.00	1,600.60	1,600.60	3.46	3.46	89.65	9.82	1,610.50	1,610.53	1,603.61	6.92	232.861	
1,700.00	1,700.00	1,700.60	1,700.60	3.68	3.68	89.65	9.82	1,610.50	1,610.53	1,603.16	7.37	218.649	
1,800.00	1,800.00	1,800.60	1,800.60	3.91	3.91	89.65	9.82	1,610.50	1,610.53	1,602.71	7.82	206.073	
1,900.00	1,900.00	1,900.60	1,900.60	4.13	4.13	89.65	9.82	1,610.50	1,610.53	1,602.27	8.26	194.864	
2,000.00	2,000.00	2,000.60	2,000.60	4.36	4.36	89.65	9.82	1,610.50	1,610.53	1,601.82	8.71	184.812	
2,100.00	2,100.00	2,100.60	2,100.60	4.58	4.58	89.65	9.82	1,610.50	1,610.53	1,601.37	9.16	175.747	
2,200.00	2,200.00	2,200.60	2,200.60	4.81	4.81	89.65	9.82	1,610.50	1,610.53	1,600.92	9.61	167.529	
2,300.00	2,300.00	2,300.60	2,300.60	5.03	5.03	89.65	9.82	1,610.50	1,610.53	1,600.47	10.06	160.045	
2,400.00	2,400.00	2,400.60	2,400.60	5.26	5.26	89.65	9.82	1,610.50	1,610.53	1,600.02	10.51	153.201	
2,500.00	2,500.00	2,500.60	2,500.60	5.48	5.48	89.65	9.82	1,610.50	1,610.53	1,599.57	10.96	146.918	
2,600.00	2,600.00	2,600.60	2,600.60	5.71	5.71	89.65	9.82	1,610.50	1,610.53	1,599.12	11.41	141.131	
2,700.00	2,700.00	2,700.60	2,700.60	5.93	5.93	89.65	9.82	1,610.50	1,610.53	1,598.67	11.86	135.782	
2,800.00	2,800.00	2,800.60	2,800.60	6.15	6.16	89.65	9.82	1,610.50	1,610.53	1,598.22	12.31	130.824	
2,900.00	2,900.00	2,900.60	2,900.60	6.38	6.38	89.65	9.82	1,610.50	1,610.53	1,597.77	12.76	126.215	
3,000.00	3,000.00	3,000.60	3,000.60	6.60	6.61	89.65	9.82	1,610.50	1,610.53	1,597.32	13.21	121.920	
3,100.00	3,100.00	3,100.60	3,100.60	6.83	6.83	89.65	9.82	1,610.50	1,610.53	1,596.87	13.66	117.908	
3,200.00	3,200.00	3,200.60	3,200.60	7.05	7.06	89.65	9.82	1,610.50	1,610.53	1,596.42	14.11	114.151	
3,300.00	3,300.00	3,300.60	3,300.60	7.28	7.28	89.65	9.82	1,610.50	1,610.53	1,595.97	14.56	110.626	
3,400.00	3,400.00	3,400.60	3,400.60	7.50	7.50	89.65	9.82	1,610.50	1,610.53	1,595.52	15.01	107.312	
3,500.00	3,500.00	3,500.60	3,500.60	7.73	7.73	16.56	9.82	1,610.50	1,610.53	1,595.07	15.46	104.192	
3,600.00	3,599.99	3,600.59	3,600.59	7.94	7.95	16.57	9.82	1,610.50	1,609.68	1,593.79	15.90	101.261	
3,700.00	3,699.96	3,700.56	3,700.56	8.15	8.18	16.60	9.82	1,610.50	1,607.16	1,590.84	16.33	98.442	
3,800.00	3,799.86	3,800.46	3,800.46	8.36	8.40	16.66	9.82	1,610.50	1,602.97	1,586.22	16.76	95.663	
3,900.00	3,899.67	3,900.27	3,900.27	8.57	8.63	16.74	9.82	1,610.50	1,597.12	1,579.93	17.19	92.923	
4,000.00	3,999.36	3,999.96	3,999.96	8.78	8.85	16.84	9.82	1,610.50	1,589.60	1,571.98	17.62	90.216	
4,100.00	4,098.99	4,108.59	4,108.58	9.00	9.10	16.89	11.07	1,610.19	1,581.09	1,563.02	18.07	87.494	
4,200.00	4,198.82	4,213.82	4,213.75	9.22	9.33	16.86	14.51	1,609.33	1,572.05	1,553.54	18.51	84.913	
4,300.00	4,298.25	4,313.39	4,313.25	9.44	9.55	16.82	18.24	1,608.41	1,562.91	1,543.96	18.95	82.493	
4,400.00	4,397.88	4,412.97	4,412.75	9.66	9.78	16.77	21.97	1,607.48	1,553.76	1,534.38	19.38	80.175	
4,500.00	4,497.51	4,512.54	4,512.25	9.89	10.00	16.72	25.70	1,606.55	1,544.62	1,524.80	19.81	77.953	
4,600.00	4,597.14	4,612.11	4,611.74	10.12	10.22	16.68	29.43	1,605.63	1,535.47	1,515.22	20.25	75.823	
4,700.00	4,696.77	4,711.69	4,711.24	10.34	10.45	16.63	33.15	1,604.70	1,526.33	1,505.64	20.69	73.777	
4,800.00	4,796.40	4,811.26	4,810.74	10.57	10.67	16.58	36.88	1,603.77	1,517.19	1,496.06	21.13	71.813	
4,900.00	4,896.03	4,910.83	4,910.24	10.81	10.90	16.53	40.61	1,602.84	1,508.05	1,486.48	21.57	69.925	
5,000.00	4,995.66	5,010.40	5,009.74	11.04	11.12	16.48	44.34	1,601.92	1,498.91	1,476.90	22.01	68.110	
5,100.00	5,095.29	5,109.98	5,109.24	11.27	11.34	16.43	48.06	1,600.99	1,489.77	1,467.32	22.45	66.363	

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

LEAM Drilling Services

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Lusitano
Site Error: 0.00 usft
Reference Well: Lusitano 27-34 Fed Com 523H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well Lusitano 27-34 Fed Com 523H
TVD Reference: 3332.6' GE + 23.5' KB @ 3356.10usft
MD Reference: 3332.6' GE + 23.5' KB @ 3356.10usft
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 Lusitano - Lusitano 27-34 Fed Com 232H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
5,200.00	5,194.92	5,209.55	5,208.74	11.51	11.57	16.38	51.79	1,600.06	1,480.63	1,457.74	22.89	64.681	
5,300.00	5,294.55	5,309.12	5,308.24	11.75	11.79	16.33	55.52	1,599.14	1,471.50	1,448.16	23.33	63.061	
5,400.00	5,394.18	5,408.70	5,407.74	11.99	12.02	16.27	59.25	1,598.21	1,462.36	1,438.58	23.78	61.499	
5,500.00	5,493.81	5,508.27	5,507.23	12.22	12.24	16.22	62.98	1,597.28	1,453.23	1,429.00	24.22	59.993	
5,600.00	5,593.44	5,607.84	5,606.73	12.46	12.47	16.17	66.70	1,596.36	1,444.09	1,419.43	24.67	58.539	
5,700.00	5,693.08	5,707.41	5,706.23	12.71	12.70	16.11	70.43	1,595.43	1,434.96	1,409.85	25.11	57.136	
5,800.00	5,792.71	5,806.99	5,805.73	12.95	12.92	16.06	74.16	1,594.50	1,425.83	1,400.27	25.56	55.780	
5,900.00	5,892.34	5,906.56	5,905.23	13.19	13.15	16.00	77.89	1,593.58	1,416.71	1,390.70	26.01	54.470	
6,000.00	5,991.97	6,006.13	6,004.73	13.43	13.37	15.95	81.61	1,592.65	1,407.58	1,381.12	26.46	53.202	
6,100.00	6,091.60	6,105.71	6,104.23	13.68	13.60	15.89	85.34	1,591.72	1,398.45	1,371.55	26.91	51.977	
6,200.00	6,191.23	6,205.28	6,203.73	13.92	13.83	15.83	89.07	1,590.79	1,389.33	1,361.97	27.35	50.790	
6,300.00	6,290.86	6,304.85	6,303.22	14.17	14.05	15.77	92.80	1,589.87	1,380.21	1,352.40	27.80	49.641	
6,400.00	6,390.49	6,404.43	6,402.72	14.41	14.28	15.71	96.53	1,588.94	1,371.08	1,342.83	28.25	48.528	
6,500.00	6,490.12	6,504.00	6,502.22	14.66	14.51	15.65	100.25	1,588.01	1,361.96	1,333.26	28.70	47.449	
6,600.00	6,589.75	6,603.57	6,601.72	14.91	14.73	15.59	103.98	1,587.09	1,352.85	1,323.69	29.15	46.402	
6,700.00	6,689.38	6,703.14	6,701.22	15.16	14.96	15.53	107.71	1,586.16	1,343.73	1,314.12	29.61	45.387	
6,800.00	6,789.01	6,802.72	6,800.72	15.40	15.19	15.46	111.44	1,585.23	1,334.61	1,304.56	30.06	44.402	
6,900.00	6,888.64	6,902.29	6,900.22	15.65	15.41	15.40	115.16	1,584.31	1,325.50	1,294.99	30.51	43.446	
7,000.00	6,988.27	7,001.86	6,999.72	15.90	15.64	15.34	118.89	1,583.38	1,316.39	1,285.43	30.96	42.517	
7,100.00	7,087.90	7,101.44	7,099.22	16.15	15.87	15.27	122.62	1,582.45	1,307.28	1,275.86	31.41	41.614	
7,200.00	7,187.53	7,201.01	7,198.71	16.40	16.10	15.20	126.35	1,581.53	1,298.17	1,266.30	31.87	40.737	
7,300.00	7,287.16	7,300.58	7,298.21	16.65	16.32	15.14	130.08	1,580.60	1,289.06	1,256.74	32.32	39.884	
7,400.00	7,386.79	7,400.15	7,397.71	16.90	16.55	15.07	133.80	1,579.67	1,279.96	1,247.18	32.77	39.055	
7,500.00	7,486.42	7,499.73	7,497.21	17.15	16.78	15.00	137.53	1,578.74	1,270.86	1,237.63	33.23	38.247	
7,600.00	7,586.05	7,599.30	7,596.71	17.40	17.01	14.92	141.26	1,577.82	1,261.79	1,228.11	33.68	37.467	
7,700.00	7,685.68	7,698.91	7,696.34	17.65	17.23	14.85	144.99	1,576.89	1,252.69	1,220.30	34.09	36.794	
7,800.00	7,785.31	7,798.54	7,795.97	17.90	17.48	14.78	148.73	1,575.96	1,243.52	1,215.01	34.51	36.212	
7,900.00	7,884.94	7,898.17	7,895.60	18.15	17.73	14.71	152.47	1,575.03	1,241.19	1,212.27	34.92	35.720	
8,000.00	7,984.57	7,997.80	7,995.23	18.40	17.92	14.64	156.21	1,574.10	1,241.06	1,211.06	35.34	35.268	
8,100.00	8,084.20	8,097.43	8,094.86	18.65	18.15	14.57	159.95	1,573.17	1,245.65	1,209.86	35.79	34.809	
8,200.00	8,183.83	8,197.06	8,194.49	18.90	18.38	14.50	163.69	1,572.24	1,244.90	1,208.67	36.23	34.361	
8,285.26	8,270.72	8,283.28	8,280.18	18.73	18.57	-93.28	166.86	1,571.45	1,244.59	1,208.01	36.58	34.024	
8,300.00	8,285.35	8,297.85	8,294.74	18.75	18.61	-93.36	167.41	1,571.32	1,244.55	1,207.91	36.64	33.968 CC, ES	
8,400.00	8,382.31	8,393.85	8,390.66	18.91	18.83	-94.47	171.00	1,570.42	1,245.57	1,208.55	37.01	33.653	
8,500.00	8,473.65	8,483.60	8,480.35	19.06	19.03	-95.93	174.36	1,569.59	1,249.01	1,211.63	37.37	33.420	
8,600.00	8,564.58	8,564.38	8,561.07	19.20	19.22	-97.35	177.39	1,568.83	1,256.37	1,218.62	37.75	33.282	
8,700.00	8,658.58	8,633.74	8,630.38	19.36	19.38	-98.32	179.99	1,568.19	1,269.28	1,231.11	38.17	33.251	
8,800.00	8,687.47	8,689.57	8,686.16	19.57	19.50	-98.40	182.08	1,567.67	1,289.20	1,250.53	38.66	33.343	
8,900.00	8,731.46	8,730.17	8,726.73	19.86	19.60	-97.21	183.60	1,567.29	1,317.02	1,277.79	39.23	33.571	
9,000.00	8,759.21	8,754.31	8,750.86	20.28	19.65	-94.45	184.50	1,567.07	1,352.86	1,313.01	39.85	33.948	
9,100.00	8,769.89	8,761.25	8,757.79	20.82	19.67	-90.00	184.76	1,567.00	1,395.92	1,355.43	40.49	34.478	
9,200.00	8,770.00	8,757.62	8,754.16	21.47	19.66	-89.24	184.62	1,567.04	1,444.81	1,403.69	41.12	35.137	
9,300.00	8,770.00	8,753.87	8,750.42	22.21	19.65	-89.07	184.48	1,567.07	1,498.78	1,457.03	41.76	35.892	
9,400.00	8,770.00	8,750.13	8,746.68	23.05	19.64	-88.89	184.34	1,567.11	1,557.30	1,514.92	42.38	36.745	
9,500.00	8,770.00	8,746.38	8,742.94	23.98	19.63	-88.72	184.20	1,567.14	1,619.88	1,576.90	42.98	37.692	
9,600.00	8,770.00	8,742.64	8,739.19	24.97	19.63	-88.55	184.06	1,567.17	1,686.06	1,642.52	43.54	38.726	
9,700.00	8,770.00	10,983.82	9,973.00	26.03	28.09	-134.18	-1,058.27	1,567.89	1,725.23	1,682.89	42.34	40.749	
9,800.00	8,770.00	11,083.82	9,973.00	27.15	29.14	-134.18	-1,158.27	1,568.16	1,725.32	1,681.30	44.01	39.200	
9,900.00	8,770.00	11,183.82	9,973.00	28.32	30.25	-134.18	-1,258.27	1,568.43	1,725.40	1,679.63	45.77	37.697	
10,000.00	8,770.00	11,283.82	9,973.00	29.53	31.41	-134.17	-1,358.27	1,568.70	1,725.49	1,677.89	47.60	36.249	
10,100.00	8,770.00	11,383.82	9,973.00	30.78	32.60	-134.17	-1,458.27	1,568.97	1,725.58	1,676.09	49.50	34.863	
10,200.00	8,770.00	11,483.82	9,973.00	32.07	33.84	-134.17	-1,558.27	1,569.24	1,725.67	1,674.22	51.45	33.542	

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

LEAM Drilling Services

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Lusitano
Site Error: 0.00 usft
Reference Well: Lusitano 27-34 Fed Com 523H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well Lusitano 27-34 Fed Com 523H
TVD Reference: 3332.6' GE + 23.5' KB @ 3356.10usft
MD Reference: 3332.6' GE + 23.5' KB @ 3356.10usft
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 Lusitano - Lusitano 27-34 Fed Com 232H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,500.00	8,770.00	16,783.81	9,973.00	113.86	114.65	-134.02	-6,858.25	1,583.59	1,730.39	1,551.74	178.65	9.686	
15,600.00	8,770.00	16,883.81	9,973.00	115.47	116.25	-134.01	-6,958.25	1,583.86	1,730.48	1,549.30	181.17	9.552	
15,700.00	8,770.00	16,983.81	9,973.00	117.08	117.86	-134.01	-7,058.25	1,584.13	1,730.57	1,546.87	183.70	9.421	
15,800.00	8,770.00	17,083.81	9,973.00	118.69	119.47	-134.01	-7,158.25	1,584.40	1,730.65	1,544.43	186.23	9.293	
15,900.00	8,770.00	17,183.81	9,973.00	120.31	121.08	-134.01	-7,258.25	1,584.67	1,730.74	1,541.99	188.76	9.169	
16,000.00	8,770.00	17,283.81	9,973.00	121.92	122.69	-134.00	-7,358.25	1,584.94	1,730.83	1,539.55	191.29	9.048	
16,100.00	8,770.00	17,383.81	9,973.00	123.53	124.30	-134.00	-7,458.24	1,585.21	1,730.92	1,537.10	193.82	8.931	
16,200.00	8,770.00	17,483.81	9,973.00	125.15	125.91	-134.00	-7,558.24	1,585.48	1,731.01	1,534.66	196.35	8.816	
16,300.00	8,770.00	17,583.81	9,973.00	126.77	127.52	-133.99	-7,658.24	1,585.75	1,731.10	1,532.21	198.89	8.704	
16,400.00	8,770.00	17,683.81	9,973.00	128.38	129.13	-133.99	-7,758.24	1,586.02	1,731.19	1,529.77	201.42	8.595	
16,500.00	8,770.00	17,783.81	9,973.00	130.00	130.74	-133.99	-7,858.24	1,586.29	1,731.28	1,527.32	203.96	8.488	
16,600.00	8,770.00	17,883.81	9,973.00	131.62	132.36	-133.99	-7,958.24	1,586.56	1,731.37	1,524.87	206.49	8.385	
16,700.00	8,770.00	17,983.81	9,973.00	133.23	133.97	-133.98	-8,058.24	1,586.84	1,731.46	1,522.42	209.03	8.283	
16,800.00	8,770.00	18,083.81	9,973.00	134.85	135.58	-133.98	-8,158.24	1,587.11	1,731.55	1,519.97	211.57	8.184	
16,900.00	8,770.00	18,183.81	9,973.00	136.47	137.20	-133.98	-8,258.24	1,587.38	1,731.63	1,517.52	214.11	8.088	
17,000.00	8,770.00	18,283.81	9,973.00	138.09	138.81	-133.97	-8,358.24	1,587.65	1,731.72	1,515.07	216.65	7.993	
17,100.00	8,770.00	18,383.81	9,973.00	139.71	140.43	-133.97	-8,458.24	1,587.92	1,731.81	1,512.62	219.19	7.901	
17,200.00	8,770.00	18,483.81	9,973.00	141.33	142.05	-133.97	-8,558.24	1,588.19	1,731.90	1,510.17	221.74	7.811	
17,300.00	8,770.00	18,583.81	9,973.00	142.95	143.66	-133.97	-8,658.24	1,588.46	1,731.99	1,507.71	224.28	7.722	
17,400.00	8,770.00	18,683.81	9,973.00	144.57	145.28	-133.96	-8,758.24	1,588.73	1,732.08	1,505.26	226.82	7.636	
17,500.00	8,770.00	18,783.81	9,973.00	146.19	146.90	-133.96	-8,858.24	1,589.00	1,732.17	1,502.80	229.37	7.552	
17,600.00	8,770.00	18,883.81	9,973.00	147.81	148.51	-133.96	-8,958.24	1,589.27	1,732.26	1,500.34	231.92	7.469	
17,700.00	8,770.00	18,983.81	9,973.00	149.43	150.13	-133.95	-9,058.24	1,589.54	1,732.35	1,497.89	234.46	7.389	
17,800.00	8,770.00	19,083.81	9,973.00	151.05	151.75	-133.95	-9,158.24	1,589.81	1,732.44	1,495.43	237.01	7.310	
17,900.00	8,770.00	19,183.81	9,973.00	152.67	153.37	-133.95	-9,258.24	1,590.08	1,732.53	1,492.97	239.56	7.232	
18,000.00	8,770.00	19,283.81	9,973.00	154.30	154.99	-133.95	-9,358.24	1,590.35	1,732.62	1,490.51	242.10	7.156	
18,100.00	8,770.00	19,383.81	9,973.00	155.92	156.61	-133.94	-9,458.24	1,590.62	1,732.71	1,488.05	244.65	7.082	
18,200.00	8,770.00	19,483.81	9,973.00	157.54	158.23	-133.94	-9,558.24	1,590.89	1,732.79	1,485.59	247.20	7.010	
18,300.00	8,770.00	19,583.81	9,973.00	159.16	159.85	-133.94	-9,658.24	1,591.17	1,732.88	1,483.13	249.75	6.938	
18,400.00	8,770.00	19,683.81	9,973.00	160.79	161.47	-133.93	-9,758.23	1,591.44	1,732.97	1,480.67	252.31	6.869	
18,500.00	8,770.00	19,783.81	9,973.00	162.41	163.09	-133.93	-9,858.23	1,591.71	1,733.06	1,478.21	254.86	6.800	
18,600.00	8,770.00	19,883.81	9,973.00	164.03	164.71	-133.93	-9,958.23	1,591.98	1,733.15	1,475.74	257.41	6.733	
18,700.00	8,770.00	19,983.81	9,973.00	165.66	166.33	-133.93	-10,058.23	1,592.25	1,733.24	1,473.28	259.96	6.667	
18,800.00	8,770.00	20,083.81	9,973.00	167.28	167.96	-133.92	-10,158.23	1,592.52	1,733.33	1,470.81	262.52	6.603	
18,822.21	8,770.00	20,099.26	9,973.00	167.56	168.21	-133.92	-10,173.68	1,592.56	1,733.36	1,470.43	262.93	6.593 SF	

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 233H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (")	Distance							
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)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	1.20	1.20	0.00	0.00	-90.37	-0.39	-59.94	59.94					
100.00	100.00	101.20	101.20	0.09	0.09	-90.37	-0.39	-59.94	59.94	59.77	0.17	343.221		
200.00	200.00	201.20	201.20	0.31	0.31	-90.37	-0.39	-59.94	59.94	59.32	0.62	96.033		
300.00	300.00	301.20	301.20	0.54	0.54	-90.37	-0.39	-59.94	59.94	58.87	1.07	55.826		
400.00	400.00	401.20	401.20	0.76	0.76	-90.37	-0.39	-59.94	59.94	58.42	1.52	39.351		
500.00	500.00	501.20	501.20	0.99	0.99	-90.37	-0.39	-59.94	59.94	57.97	1.97	30.384		
600.00	600.00	601.20	601.20	1.21	1.21	-90.37	-0.39	-59.94	59.94	57.52	2.42	24.746		
700.00	700.00	701.20	701.20	1.43	1.44	-90.37	-0.39	-59.94	59.94	57.07	2.87	20.872		
800.00	800.00	801.20	801.20	1.66	1.66	-90.37	-0.39	-59.94	59.94	56.62	3.32	18.047		
900.00	900.00	901.20	901.20	1.88	1.89	-90.37	-0.39	-59.94	59.94	56.17	3.77	15.896		
1,000.00	1,000.00	1,001.20	1,001.20	2.11	2.11	-90.37	-0.39	-59.94	59.94	55.72	4.22	14.203		
1,100.00	1,100.00	1,101.20	1,101.20	2.33	2.34	-90.37	-0.39	-59.94	59.94	55.27	4.67	12.835		
1,200.00	1,200.00	1,201.20	1,201.20	2.56	2.56	-90.37	-0.39	-59.94	59.94	54.82	5.12	11.708		
1,300.00	1,300.00	1,301.20	1,301.20	2.78	2.79	-90.37	-0.39	-59.94	59.94	54.37	5.57	10.763		
1,400.00	1,400.00	1,401.20	1,401.20	3.01	3.01	-90.37	-0.39	-59.94	59.94	53.92	6.02	9.959		
1,500.00	1,500.00	1,501.20	1,501.20	3.23	3.24	-90.37	-0.39	-59.94	59.94	53.47	6.47	9.267		
1,600.00	1,600.00	1,601.20	1,601.20	3.46	3.46	-90.37	-0.39	-59.94	59.94	53.02	6.92	8.665		
1,700.00	1,700.00	1,701.20	1,701.20	3.68	3.68	-90.37	-0.39	-59.94	59.94	52.57	7.37	8.136		
1,800.00	1,800.00	1,801.20	1,801.20	3.91	3.91	-90.37	-0.39	-59.94	59.94	52.12	7.82	7.668		
1,900.00	1,900.00	1,901.20	1,901.20	4.13	4.13	-90.37	-0.39	-59.94	59.94	51.68	8.27	7.251		
2,000.00	2,000.00	2,001.20	2,001.20	4.36	4.36	-90.37	-0.39	-59.94	59.94	51.23	8.72	6.877		
2,100.00	2,100.00	2,101.20	2,101.20	4.58	4.58	-90.37	-0.39	-59.94	59.94	50.78	9.17	6.540		
2,200.00	2,200.00	2,201.20	2,201.20	4.81	4.81	-90.37	-0.39	-59.94	59.94	50.33	9.61	6.234		
2,300.00	2,300.00	2,301.20	2,301.20	5.03	5.03	-90.37	-0.39	-59.94	59.94	49.88	10.06	5.956		
2,400.00	2,400.00	2,401.20	2,401.20	5.26	5.26	-90.37	-0.39	-59.94	59.94	49.43	10.51	5.701		
2,500.00	2,500.00	2,501.20	2,501.20	5.48	5.48	-90.37	-0.39	-59.94	59.94	48.98	10.96	5.467		
2,600.00	2,600.00	2,601.20	2,601.20	5.71	5.71	-90.37	-0.39	-59.94	59.94	48.53	11.41	5.252		
2,700.00	2,700.00	2,701.20	2,701.20	5.93	5.93	-90.37	-0.39	-59.94	59.94	48.08	11.86	5.053		
2,800.00	2,800.00	2,801.20	2,801.20	6.15	6.16	-90.37	-0.39	-59.94	59.94	47.63	12.31	4.869		
2,900.00	2,900.00	2,901.20	2,901.20	6.38	6.38	-90.37	-0.39	-59.94	59.94	47.18	12.76	4.697		
2,916.26	2,916.26	2,917.46	2,917.46	6.42	6.42	-90.37	-0.39	-59.94	59.94	47.11	12.83	4.670 CC		
3,000.00	3,000.00	3,001.20	3,001.20	6.60	6.61	-90.37	-0.39	-59.94	59.94	46.73	13.21	4.537		
3,100.00	3,100.00	3,100.98	3,100.97	6.83	6.83	-89.54	0.48	-60.13	60.13	46.47	13.66	4.402 ES		
3,200.00	3,200.00	3,200.69	3,200.65	7.05	7.05	-87.12	3.05	-60.67	60.75	46.64	14.11	4.307		
3,300.00	3,300.00	3,300.41	3,300.28	7.28	7.28	-83.32	7.21	-61.56	61.98	47.43	14.55	4.259		
3,400.00	3,400.00	3,400.31	3,400.07	7.50	7.50	-79.38	11.73	-62.52	63.62	48.62	15.00	4.242 SF		
3,500.00	3,500.00	3,500.20	3,499.85	7.73	7.73	-148.74	16.25	-63.48	65.54	50.09	15.45	4.243		
3,600.00	3,599.99	3,600.09	3,599.64	7.94	7.95	-145.63	20.77	-64.44	68.45	52.57	15.88	4.309		
3,700.00	3,699.96	3,699.96	3,699.40	8.15	8.18	-143.61	25.29	-65.40	72.94	56.63	16.31	4.471		
3,800.00	3,799.86	3,799.77	3,799.10	8.36	8.40	-142.59	29.81	-66.37	78.89	62.15	16.74	4.711		
3,900.00	3,899.67	3,899.50	3,898.72	8.57	8.63	-142.42	34.32	-67.33	86.23	69.05	17.18	5.020		
4,000.00	3,999.36	3,999.11	3,998.23	8.78	8.85	-142.91	38.83	-68.29	94.95	77.34	17.61	5.392		
4,100.00	4,098.99	4,098.67	4,097.68	9.00	9.08	-143.60	43.34	-69.24	104.27	86.23	18.04	5.778		
4,200.00	4,198.62	4,198.23	4,197.13	9.22	9.31	-144.18	47.85	-70.20	113.61	95.13	18.48	6.147		
4,300.00	4,298.25	4,297.78	4,296.58	9.44	9.53	-144.67	52.35	-71.16	122.95	104.03	18.92	6.499		
4,400.00	4,397.88	4,397.34	4,396.03	9.66	9.76	-145.09	56.86	-72.12	132.31	112.95	19.36	6.834		
4,500.00	4,497.51	4,496.90	4,495.49	9.89	9.99	-145.46	61.37	-73.08	141.67	121.87	19.80	7.155		
4,600.00	4,597.14	4,596.46	4,594.94	10.12	10.21	-145.78	65.87	-74.04	151.03	130.79	20.24	7.461		
4,700.00	4,696.77	4,696.01	4,694.39	10.34	10.44	-146.07	70.38	-75.00	160.40	139.71	20.69	7.754		
4,800.00	4,796.40	4,795.57	4,793.84	10.57	10.67	-146.32	74.89	-75.96	169.77	148.64	21.13	8.034		
4,900.00	4,896.03	4,895.13	4,893.29	10.81	10.90	-146.54	79.39	-76.92	179.14	157.57	21.58	8.303		
5,000.00	4,995.66	4,994.69	4,992.74	11.04	11.13	-146.75	83.90	-77.87	188.52	166.50	22.02	8.560		

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

LEAM Drilling Services

Anticollision Report

Company: Devon Energy
 Project: Eddy County, NM (NAD-83)
 Reference Site: Lusitano
 Site Error: 0.00 usft
 Reference Well: Lusitano 27-34 Fed Com 523H
 Well Error: 0.00 usft
 Reference Wellbore: OH
 Reference Design: Plan #1

Local Co-ordinate Reference: Well Lusitano 27-34 Fed Com 523H
 TVD Reference: 3332.6' GE + 23.5' KB @ 3356.10usft
 MD Reference: 3332.6' GE + 23.5' KB @ 3356.10usft
 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 Lusitano - Lusitano 27-34 Fed Com 233H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,300.00	8,770.00	11,936.39	10,280.00	33.38	35.62	163.78	-1,662.22	-107.37	1,571.36	1,532.92	38.43	40.886	
10,400.00	8,770.00	12,036.39	10,280.00	34.73	36.90	163.78	-1,762.22	-107.23	1,571.36	1,531.63	39.73	39.553	
10,500.00	8,770.00	12,136.39	10,280.00	36.09	38.21	163.78	-1,862.22	-107.10	1,571.36	1,530.31	41.05	38.278	
10,600.00	8,770.00	12,236.39	10,280.00	37.48	39.55	163.78	-1,962.22	-106.96	1,571.36	1,528.96	42.40	37.061	
10,700.00	8,770.00	12,336.39	10,280.00	38.89	40.90	163.78	-2,062.22	-106.83	1,571.37	1,527.60	43.77	35.900	
10,800.00	8,770.00	12,436.39	10,280.00	40.32	42.27	163.78	-2,162.22	-106.69	1,571.37	1,526.21	45.16	34.793	
10,900.00	8,770.00	12,536.39	10,280.00	41.76	43.67	163.78	-2,262.21	-106.55	1,571.37	1,524.80	46.57	33.740	
11,000.00	8,770.00	12,636.39	10,280.00	43.21	45.08	163.78	-2,362.21	-106.42	1,571.38	1,523.38	48.00	32.736	
11,100.00	8,770.00	12,736.39	10,280.00	44.68	46.50	163.78	-2,462.21	-106.28	1,571.38	1,521.94	49.44	31.780	
11,200.00	8,770.00	12,836.39	10,280.00	46.15	47.94	163.78	-2,562.21	-106.15	1,571.38	1,520.48	50.90	30.870	
11,300.00	8,770.00	12,936.39	10,280.00	47.64	49.39	163.77	-2,662.21	-106.01	1,571.39	1,519.01	52.37	30.003	
11,400.00	8,770.00	13,036.39	10,280.00	49.14	50.85	163.77	-2,762.21	-105.88	1,571.39	1,517.53	53.86	29.177	
11,500.00	8,770.00	13,136.39	10,280.00	50.65	52.32	163.77	-2,862.21	-105.74	1,571.39	1,516.04	55.35	28.389	
11,600.00	8,770.00	13,236.39	10,280.00	52.16	53.80	163.77	-2,962.21	-105.61	1,571.40	1,514.54	56.86	27.638	
11,700.00	8,770.00	13,336.39	10,280.00	53.68	55.29	163.77	-3,062.21	-105.47	1,571.40	1,513.03	58.37	26.921	
11,800.00	8,770.00	13,436.39	10,280.00	55.21	56.79	163.77	-3,162.21	-105.33	1,571.40	1,511.51	59.89	26.237	
11,900.00	8,770.00	13,536.39	10,280.00	56.74	58.29	163.77	-3,262.21	-105.20	1,571.41	1,509.98	61.42	25.583	
12,000.00	8,770.00	13,636.39	10,280.00	58.28	59.80	163.77	-3,362.21	-105.06	1,571.41	1,508.45	62.96	24.957	
12,100.00	8,770.00	13,736.39	10,280.00	59.83	61.32	163.77	-3,462.21	-104.93	1,571.41	1,506.90	64.51	24.360	
12,200.00	8,770.00	13,836.39	10,280.00	61.38	62.84	163.77	-3,562.21	-104.79	1,571.41	1,505.35	66.06	23.787	
12,300.00	8,770.00	13,936.39	10,280.00	62.93	64.37	163.77	-3,662.21	-104.66	1,571.42	1,503.80	67.62	23.239	
12,400.00	8,770.00	14,036.39	10,280.00	64.49	65.91	163.77	-3,762.21	-104.52	1,571.42	1,502.24	69.18	22.714	
12,500.00	8,770.00	14,136.39	10,280.00	66.05	67.45	163.77	-3,862.21	-104.39	1,571.42	1,500.67	70.75	22.210	
12,600.00	8,770.00	14,236.39	10,280.00	67.61	68.99	163.77	-3,962.21	-104.25	1,571.43	1,499.10	72.33	21.727	
12,700.00	8,770.00	14,336.39	10,280.00	69.18	70.54	163.77	-4,062.21	-104.11	1,571.43	1,497.52	73.91	21.262	
12,800.00	8,770.00	14,436.39	10,280.00	70.75	72.09	163.77	-4,162.21	-103.98	1,571.43	1,495.94	75.49	20.816	
12,900.00	8,770.00	14,536.39	10,280.00	72.33	73.64	163.77	-4,262.21	-103.84	1,571.44	1,494.36	77.08	20.388	
13,000.00	8,770.00	14,636.39	10,280.00	73.90	75.20	163.77	-4,362.21	-103.71	1,571.44	1,492.77	78.67	19.975	
13,100.00	8,770.00	14,736.39	10,280.00	75.48	76.76	163.77	-4,462.21	-103.57	1,571.44	1,491.18	80.26	19.578	
13,200.00	8,770.00	14,836.39	10,280.00	77.06	78.33	163.77	-4,562.21	-103.44	1,571.45	1,489.58	81.86	19.196	
13,300.00	8,770.00	14,936.39	10,280.00	78.65	79.90	163.77	-4,662.21	-103.30	1,571.45	1,487.99	83.46	18.828	
13,400.00	8,770.00	15,036.39	10,280.00	80.23	81.47	163.77	-4,762.21	-103.17	1,571.45	1,486.38	85.07	18.473	
13,500.00	8,770.00	15,136.39	10,280.00	81.82	83.04	163.77	-4,862.21	-103.03	1,571.46	1,484.78	86.68	18.130	
13,600.00	8,770.00	15,236.39	10,280.00	83.41	84.62	163.77	-4,962.21	-102.89	1,571.46	1,483.17	88.29	17.800	
13,700.00	8,770.00	15,336.39	10,280.00	85.00	86.19	163.77	-5,062.21	-102.76	1,571.46	1,481.56	89.90	17.480	
13,800.00	8,770.00	15,436.39	10,280.00	86.59	87.77	163.77	-5,162.21	-102.62	1,571.46	1,479.95	91.51	17.172	
13,900.00	8,770.00	15,536.39	10,280.00	88.19	89.35	163.76	-5,262.21	-102.49	1,571.47	1,478.34	93.13	16.874	
14,000.00	8,770.00	15,636.39	10,280.00	89.78	90.94	163.76	-5,362.21	-102.35	1,571.47	1,476.72	94.75	16.585	
14,100.00	8,770.00	15,736.39	10,280.00	91.38	92.52	163.76	-5,462.21	-102.22	1,571.47	1,475.10	96.37	16.306	
14,200.00	8,770.00	15,836.39	10,280.00	92.98	94.11	163.76	-5,562.21	-102.08	1,571.48	1,473.48	98.00	16.036	
14,300.00	8,770.00	15,936.39	10,280.00	94.58	95.70	163.76	-5,662.21	-101.95	1,571.48	1,471.86	99.62	15.774	
14,400.00	8,770.00	16,036.39	10,280.00	96.18	97.29	163.76	-5,762.21	-101.81	1,571.48	1,470.23	101.25	15.521	
14,500.00	8,770.00	16,136.39	10,280.00	97.78	98.88	163.76	-5,862.21	-101.67	1,571.49	1,468.61	102.88	15.275	
14,600.00	8,770.00	16,236.39	10,280.00	99.38	100.47	163.76	-5,962.21	-101.54	1,571.49	1,466.98	104.51	15.037	
14,700.00	8,770.00	16,336.39	10,280.00	100.99	102.07	163.76	-6,062.21	-101.40	1,571.49	1,465.35	106.14	14.805	
14,800.00	8,770.00	16,436.39	10,280.00	102.59	103.66	163.76	-6,162.21	-101.27	1,571.50	1,463.72	107.78	14.581	
14,900.00	8,770.00	16,536.39	10,280.00	104.20	105.26	163.76	-6,262.21	-101.13	1,571.50	1,462.09	109.41	14.363	
15,000.00	8,770.00	16,636.39	10,280.00	105.81	106.86	163.76	-6,362.21	-101.00	1,571.50	1,460.45	111.05	14.151	
15,100.00	8,770.00	16,736.39	10,280.00	107.42	108.46	163.76	-6,462.21	-100.86	1,571.51	1,458.82	112.69	13.946	
15,200.00	8,770.00	16,836.39	10,280.00	109.02	110.06	163.76	-6,562.21	-100.72	1,571.51	1,457.18	114.33	13.746	
15,300.00	8,770.00	16,936.39	10,280.00	110.63	111.66	163.76	-6,662.21	-100.59	1,571.51	1,455.54	115.97	13.551	
15,400.00	8,770.00	17,036.39	10,280.00	112.24	113.26	163.76	-6,762.21	-100.45	1,571.51	1,453.91	117.61	13.362	

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 233H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: O-LEAM MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,500.00	8,770.00	17,136.39	10,280.00	113.86	114.86	163.76	-6,862.21	-100.32	1,571.52	1,452.27	119.25	13.178	
15,600.00	8,770.00	17,236.39	10,280.00	115.47	116.47	163.76	-6,962.21	-100.18	1,571.52	1,450.63	120.90	12.999	
15,700.00	8,770.00	17,336.39	10,280.00	117.08	118.07	163.76	-7,062.21	-100.05	1,571.52	1,448.98	122.54	12.825	
15,800.00	8,770.00	17,436.39	10,280.00	118.69	119.68	163.76	-7,162.21	-99.91	1,571.53	1,447.34	124.19	12.655	
15,900.00	8,770.00	17,536.39	10,280.00	120.31	121.28	163.76	-7,262.21	-99.78	1,571.53	1,445.70	125.83	12.489	
16,000.00	8,770.00	17,636.39	10,280.00	121.92	122.89	163.76	-7,362.21	-99.64	1,571.53	1,444.05	127.48	12.328	
16,100.00	8,770.00	17,736.39	10,280.00	123.53	124.50	163.76	-7,462.21	-99.50	1,571.54	1,442.41	129.13	12.170	
16,200.00	8,770.00	17,836.39	10,280.00	125.15	126.11	163.76	-7,562.21	-99.37	1,571.54	1,440.76	130.78	12.017	
16,300.00	8,770.00	17,936.39	10,280.00	126.77	127.72	163.76	-7,662.21	-99.23	1,571.54	1,439.11	132.43	11.867	
16,400.00	8,770.00	18,036.39	10,280.00	128.38	129.33	163.75	-7,762.21	-99.10	1,571.55	1,437.47	134.08	11.721	
16,500.00	8,770.00	18,136.39	10,280.00	130.00	130.94	163.75	-7,862.21	-98.96	1,571.55	1,435.82	135.73	11.578	
16,600.00	8,770.00	18,236.39	10,280.00	131.62	132.55	163.75	-7,962.21	-98.83	1,571.55	1,434.17	137.38	11.439	
16,700.00	8,770.00	18,336.39	10,280.00	133.23	134.16	163.75	-8,062.21	-98.69	1,571.55	1,432.52	139.04	11.303	
16,800.00	8,770.00	18,436.39	10,280.00	134.85	135.77	163.75	-8,162.21	-98.56	1,571.56	1,430.87	140.69	11.170	
16,900.00	8,770.00	18,536.39	10,280.00	136.47	137.39	163.75	-8,262.21	-98.42	1,571.56	1,429.22	142.35	11.041	
17,000.00	8,770.00	18,636.39	10,280.00	138.09	139.00	163.75	-8,362.21	-98.28	1,571.56	1,427.56	144.00	10.914	
17,100.00	8,770.00	18,736.39	10,280.00	139.71	140.61	163.75	-8,462.21	-98.15	1,571.57	1,425.91	145.66	10.790	
17,200.00	8,770.00	18,836.39	10,280.00	141.33	142.23	163.75	-8,562.21	-98.01	1,571.57	1,424.26	147.31	10.668	
17,300.00	8,770.00	18,936.39	10,280.00	142.95	143.84	163.75	-8,662.21	-97.88	1,571.57	1,422.60	148.97	10.550	
17,400.00	8,770.00	19,036.39	10,280.00	144.57	145.46	163.75	-8,762.21	-97.74	1,571.58	1,420.95	150.63	10.434	
17,500.00	8,770.00	19,136.39	10,280.00	146.19	147.07	163.75	-8,862.21	-97.61	1,571.58	1,419.30	152.28	10.320	
17,600.00	8,770.00	19,236.39	10,280.00	147.81	148.69	163.75	-8,962.21	-97.47	1,571.58	1,417.64	153.94	10.209	
17,700.00	8,770.00	19,336.39	10,280.00	149.43	150.31	163.75	-9,062.21	-97.34	1,571.59	1,415.98	155.60	10.100	
17,800.00	8,770.00	19,436.39	10,280.00	151.05	151.92	163.75	-9,162.21	-97.20	1,571.59	1,414.33	157.26	9.993	
17,900.00	8,770.00	19,536.39	10,280.00	152.67	153.54	163.75	-9,262.21	-97.06	1,571.59	1,412.67	158.92	9.889	
18,000.00	8,770.00	19,636.39	10,280.00	154.30	155.16	163.75	-9,362.21	-96.93	1,571.60	1,411.01	160.58	9.787	
18,100.00	8,770.00	19,736.39	10,280.00	155.92	156.78	163.75	-9,462.21	-96.79	1,571.60	1,409.36	162.24	9.687	
18,200.00	8,770.00	19,836.39	10,280.00	157.54	158.40	163.75	-9,562.21	-96.66	1,571.60	1,407.70	163.90	9.589	
18,300.00	8,770.00	19,936.39	10,280.00	159.16	160.02	163.75	-9,662.21	-96.52	1,571.60	1,406.04	165.57	9.492	
18,400.00	8,770.00	20,036.39	10,280.00	160.79	161.63	163.75	-9,762.21	-96.39	1,571.61	1,404.38	167.23	9.398	
18,500.00	8,770.00	20,136.39	10,280.00	162.41	163.25	163.75	-9,862.21	-96.25	1,571.61	1,402.72	168.89	9.305	
18,600.00	8,770.00	20,236.39	10,280.00	164.03	164.87	163.75	-9,962.21	-96.12	1,571.61	1,401.06	170.55	9.215	
18,700.00	8,770.00	20,336.39	10,280.00	165.66	166.49	163.75	-10,062.21	-95.98	1,571.62	1,399.40	172.22	9.126	
18,800.00	8,770.00	20,436.39	10,280.00	167.28	168.11	163.75	-10,162.21	-95.84	1,571.62	1,397.74	173.88	9.039	
18,822.21	8,770.00	20,458.60	10,280.00	167.56	168.47	163.75	-10,184.42	-95.81	1,571.62	1,397.45	174.17	9.023	

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 333H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	2.60	2.60	0.00	0.00	-11.14	149.80	-29.51	152.68					
100.00	100.00	102.60	102.60	0.09	0.09	-11.14	149.80	-29.51	152.68	152.50	0.18	858.760		
200.00	200.00	202.60	202.60	0.31	0.32	-11.14	149.80	-29.51	152.68	152.05	0.63	243.382		
300.00	300.00	302.60	302.60	0.54	0.54	-11.14	149.80	-29.51	152.68	151.60	1.08	141.782		
400.00	400.00	402.60	402.60	0.76	0.77	-11.14	149.80	-29.51	152.68	151.15	1.53	100.026		
500.00	500.00	502.60	502.60	0.99	0.99	-11.14	149.80	-29.51	152.68	150.70	1.98	77.270		
600.00	600.00	602.60	602.60	1.21	1.22	-11.14	149.80	-29.51	152.68	150.25	2.43	62.949		
700.00	700.00	702.60	702.60	1.43	1.44	-11.14	149.80	-29.51	152.68	149.80	2.87	53.106		
800.00	800.00	802.60	802.60	1.66	1.67	-11.14	149.80	-29.51	152.68	149.35	3.32	45.925		
900.00	900.00	902.60	902.60	1.88	1.89	-11.14	149.80	-29.51	152.68	148.90	3.77	40.455		
1,000.00	1,000.00	1,002.60	1,002.60	2.11	2.11	-11.14	149.80	-29.51	152.68	148.46	4.22	36.149		
1,100.00	1,100.00	1,102.60	1,102.60	2.33	2.34	-11.14	149.80	-29.51	152.68	148.01	4.67	32.672		
1,200.00	1,200.00	1,202.60	1,202.60	2.56	2.56	-11.14	149.80	-29.51	152.68	147.56	5.12	29.805		
1,300.00	1,300.00	1,302.60	1,302.60	2.78	2.79	-11.14	149.80	-29.51	152.68	147.11	5.57	27.400		
1,400.00	1,400.00	1,402.60	1,402.60	3.01	3.01	-11.14	149.80	-29.51	152.68	146.66	6.02	25.355		
1,500.00	1,500.00	1,502.60	1,502.60	3.23	3.24	-11.14	149.80	-29.51	152.68	146.21	6.47	23.593		
1,600.00	1,600.00	1,602.60	1,602.60	3.46	3.46	-11.14	149.80	-29.51	152.68	145.76	6.92	22.061		
1,700.00	1,700.00	1,702.60	1,702.60	3.68	3.69	-11.14	149.80	-29.51	152.68	145.31	7.37	20.715		
1,800.00	1,800.00	1,802.60	1,802.60	3.91	3.91	-11.14	149.80	-29.51	152.68	144.86	7.82	19.525		
1,900.00	1,900.00	1,902.60	1,902.60	4.13	4.14	-11.14	149.80	-29.51	152.68	144.41	8.27	18.463		
2,000.00	2,000.00	2,002.60	2,002.60	4.36	4.36	-11.14	149.80	-29.51	152.68	143.96	8.72	17.511		
2,100.00	2,100.00	2,102.60	2,102.60	4.58	4.59	-11.14	149.80	-29.51	152.68	143.51	9.17	16.653		
2,200.00	2,200.00	2,202.60	2,202.60	4.81	4.81	-11.14	149.80	-29.51	152.68	143.06	9.62	15.874		
2,300.00	2,300.00	2,302.60	2,302.60	5.03	5.04	-11.14	149.80	-29.51	152.68	142.61	10.07	15.166		
2,400.00	2,400.00	2,402.60	2,402.60	5.26	5.26	-11.14	149.80	-29.51	152.68	142.16	10.52	14.517		
2,500.00	2,500.00	2,502.60	2,502.60	5.48	5.49	-11.14	149.80	-29.51	152.68	141.71	10.97	13.922		
2,600.00	2,600.00	2,602.60	2,602.60	5.71	5.71	-11.14	149.80	-29.51	152.68	141.26	11.42	13.374		
2,700.00	2,700.00	2,702.60	2,702.60	5.93	5.94	-11.14	149.80	-29.51	152.68	140.81	11.87	12.867		
2,800.00	2,800.00	2,802.60	2,802.60	6.15	6.16	-11.14	149.80	-29.51	152.68	140.36	12.32	12.398		
2,900.00	2,900.00	2,902.60	2,902.60	6.38	6.39	-11.14	149.80	-29.51	152.68	139.91	12.76	11.961		
3,000.00	3,000.00	3,002.60	3,002.60	6.60	6.61	-11.14	149.80	-29.51	152.68	139.46	13.21	11.554		
3,100.00	3,100.00	3,102.60	3,102.60	6.83	6.83	-11.14	149.80	-29.51	152.68	139.02	13.66	11.174		
3,200.00	3,200.00	3,202.60	3,202.60	7.05	7.06	-11.14	149.80	-29.51	152.68	138.57	14.11	10.818		
3,300.00	3,300.00	3,302.60	3,302.60	7.28	7.28	-11.14	149.80	-29.51	152.68	138.12	14.56	10.484		
3,400.00	3,400.00	3,402.60	3,402.60	7.50	7.51	-11.14	149.80	-29.51	152.68	137.67	15.01	10.170		
3,500.00	3,500.00	3,502.60	3,502.60	7.73	7.73	-84.24	149.80	-29.51	152.68	137.22	15.46	9.875		
3,600.00	3,599.99	3,602.59	3,602.59	7.94	7.96	-84.57	149.80	-29.51	152.59	136.89	15.90	9.596		
3,700.00	3,699.96	3,702.56	3,702.56	8.15	8.18	-85.55	149.80	-29.51	152.37	136.03	16.33	9.329		
3,800.00	3,799.86	3,802.46	3,802.46	8.36	8.41	-87.20	149.80	-29.51	152.09	135.33	16.76	9.072		
3,900.00	3,899.67	3,902.27	3,902.27	8.57	8.63	-89.50	149.80	-29.51	151.91	134.71	17.20	8.833		
3,918.65	3,918.27	3,920.87	3,920.87	8.61	8.67	-90.00	149.80	-29.51	151.91	134.63	17.28	8.791		
4,000.00	3,999.36	4,001.96	4,001.96	8.78	8.86	-92.45	149.80	-29.51	152.05	134.41	17.64	8.621		
4,100.00	4,098.99	4,101.59	4,101.59	9.00	9.08	-95.66	149.80	-29.51	152.66	134.58	18.08	8.445		
4,200.00	4,198.62	4,201.22	4,201.22	9.22	9.30	-98.84	149.80	-29.51	153.75	135.23	18.52	8.303		
4,300.00	4,298.25	4,300.85	4,300.85	9.44	9.53	-101.96	149.80	-29.51	155.30	136.34	18.96	8.191		
4,400.00	4,397.88	4,400.48	4,400.48	9.66	9.75	-105.01	149.80	-29.51	157.32	137.91	19.40	8.107		
4,500.00	4,497.51	4,500.12	4,500.12	9.89	9.98	-107.98	149.80	-29.51	159.77	139.92	19.85	8.049		
4,600.00	4,597.14	4,601.36	4,601.35	10.12	10.19	-110.64	149.85	-28.62	162.14	141.85	20.28	7.993		
4,700.00	4,696.77	4,702.84	4,702.79	10.34	10.39	-112.72	150.02	-25.93	163.79	143.08	20.71	7.910		
4,800.00	4,796.40	4,804.49	4,804.35	10.57	10.60	-114.26	150.29	-21.44	164.56	143.43	21.13	7.789		
4,900.00	4,896.03	4,906.25	4,905.91	10.81	10.81	-115.30	150.67	-15.14	164.33	142.78	21.55	7.625		
5,000.00	4,995.66	5,008.06	5,007.40	11.04	11.02	-115.86	151.16	-7.04	163.02	141.05	21.98	7.418		

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 333H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.00	5,095.29	5,109.85	5,108.70	11.27	11.23	-115.93	151.76	2.86	160.60	138.20	22.40	7.169	
5,200.00	5,194.92	5,210.14	5,208.39	11.51	11.45	-115.66	152.42	13.79	157.42	134.58	22.84	6.892	
5,300.00	5,294.55	5,310.08	5,307.73	11.75	11.67	-115.38	153.08	24.71	154.23	130.95	23.29	6.623	
5,400.00	5,394.18	5,410.03	5,407.08	11.99	11.89	-115.08	153.75	35.64	151.05	127.31	23.74	6.364	
5,500.00	5,493.81	5,509.97	5,506.42	12.22	12.11	-114.77	154.41	46.57	147.87	123.68	24.19	6.113	
5,600.00	5,593.44	5,609.92	5,605.77	12.46	12.34	-114.45	155.07	57.49	144.69	120.05	24.65	5.871	
5,700.00	5,693.08	5,709.87	5,705.11	12.71	12.57	-114.12	155.73	68.42	141.52	116.41	25.10	5.637	
5,800.00	5,792.71	5,809.81	5,804.46	12.95	12.80	-113.76	156.39	79.34	138.35	112.79	25.57	5.412	
5,900.00	5,892.34	5,909.76	5,903.80	13.19	13.03	-113.40	157.05	90.27	135.19	109.16	26.03	5.193	
6,000.00	5,991.97	6,009.71	6,003.15	13.43	13.27	-113.01	157.71	101.19	132.03	105.53	26.50	4.983	
6,100.00	6,091.60	6,109.65	6,102.49	13.68	13.50	-112.60	158.38	112.12	128.88	101.91	26.97	4.779	
6,200.00	6,191.23	6,209.60	6,201.84	13.92	13.74	-112.18	159.04	123.05	125.74	98.30	27.44	4.582	
6,300.00	6,290.86	6,309.54	6,301.18	14.17	13.98	-111.73	159.70	133.97	122.61	94.69	27.92	4.391	
6,400.00	6,390.49	6,409.49	6,400.53	14.41	14.23	-111.26	160.36	144.90	119.48	91.08	28.40	4.207	
6,500.00	6,490.12	6,509.44	6,499.87	14.66	14.47	-110.77	161.02	155.82	116.36	87.48	28.88	4.029	
6,600.00	6,589.75	6,609.38	6,599.22	14.91	14.72	-110.24	161.68	166.75	113.25	83.88	29.37	3.856	
6,700.00	6,689.38	6,709.33	6,698.56	15.16	14.96	-109.69	162.35	177.68	110.15	80.29	29.86	3.689	
6,800.00	6,789.01	6,809.27	6,797.90	15.40	15.21	-109.11	163.01	188.60	107.06	76.71	30.35	3.528	
6,900.00	6,888.64	6,909.22	6,897.25	15.65	15.46	-108.49	163.67	199.53	103.98	73.14	30.84	3.371	
7,000.00	6,988.27	7,009.17	6,996.59	15.90	15.71	-107.83	164.33	210.45	100.92	69.58	31.34	3.220	
7,100.00	7,087.90	7,109.11	7,095.94	16.15	15.96	-107.14	164.99	221.38	97.87	66.03	31.84	3.074	
7,200.00	7,187.53	7,209.06	7,195.28	16.40	16.22	-106.39	165.65	232.31	94.83	62.49	32.34	2.932	
7,300.00	7,287.16	7,309.01	7,294.63	16.65	16.47	-105.60	166.32	243.23	91.82	58.97	32.85	2.795	
7,400.00	7,386.79	7,408.95	7,393.97	16.90	16.73	-104.76	166.98	254.16	88.82	55.46	33.36	2.663	
7,500.00	7,486.42	7,508.90	7,493.32	17.15	16.98	-103.85	167.64	265.08	85.84	51.97	33.87	2.534	
7,600.00	7,586.05	7,608.84	7,592.66	17.40	17.24	-102.85	168.30	276.01	82.87	48.49	34.38	2.410	
7,700.00	7,685.68	7,708.73	7,691.95	17.60	17.50	-100.52	168.96	286.93	79.60	44.73	34.87	2.283	
7,800.00	7,785.31	7,808.49	7,791.11	17.78	17.76	-96.06	169.62	297.83	76.14	40.76	35.39	2.152	
7,900.00	7,884.94	7,908.04	7,890.07	17.96	18.01	-89.18	170.28	308.72	73.17	37.26	35.91	2.038	
8,000.00	7,984.57	8,007.45	7,988.87	18.15	18.27	-7.56	170.94	319.58	71.56	35.16	36.40	1.966	
8,046.97	8,032.67	8,054.13	8,035.27	18.25	18.40	-3.47	171.25	324.69	71.38	34.75	36.63	1.949 CC, ES	
8,100.00	8,084.20	8,106.84	8,087.67	18.36	18.53	1.16	171.60	330.45	71.61	34.76	36.86	1.943 SF	
8,200.00	8,183.83	8,206.24	8,186.47	18.57	18.79	9.67	172.25	341.31	73.32	36.08	37.24	1.969	
8,300.00	8,283.46	8,305.25	8,284.88	18.75	19.05	-163.47	172.91	352.14	83.10	45.52	37.58	2.211	
8,400.00	8,383.09	8,401.47	8,380.52	18.91	19.31	-160.85	173.55	362.66	109.70	71.71	37.99	2.888	
8,500.00	8,482.72	8,491.99	8,470.50	19.06	19.55	-160.67	174.15	372.55	151.80	113.36	38.44	3.949	
8,600.00	8,582.35	8,574.06	8,552.08	19.20	19.76	-160.95	174.69	381.52	208.34	169.47	38.88	5.359	
8,700.00	8,681.98	8,645.19	8,622.77	19.36	19.95	-160.65	175.16	389.30	277.90	238.64	39.26	7.078	
8,800.00	8,781.61	8,703.20	8,680.44	19.57	20.10	-158.99	175.54	395.64	358.57	318.99	39.58	9.059	
8,900.00	8,881.24	8,746.35	8,723.33	19.86	20.22	-154.43	175.83	400.36	447.98	408.15	39.82	11.250	
9,000.00	8,980.87	8,773.32	8,750.13	20.28	20.29	-141.17	176.01	403.31	543.47	503.49	39.98	13.593	
9,100.00	9,080.50	8,783.28	8,760.04	20.82	20.32	-90.13	176.07	404.39	642.16	602.10	40.06	16.029	
9,200.00	9,180.13	8,782.75	8,759.51	21.47	20.32	-80.16	176.07	404.34	741.55	701.45	40.09	18.495	
9,300.00	9,279.76	8,782.10	8,758.86	22.21	20.31	-79.67	176.07	404.27	841.08	800.96	40.12	20.964	
9,400.00	9,379.39	8,781.46	8,758.22	23.05	20.31	-79.19	176.06	404.20	940.70	900.56	40.14	23.434	
9,500.00	9,479.02	8,780.81	8,757.58	23.98	20.31	-78.71	176.06	404.12	1,040.40	1,000.24	40.16	25.904	
9,600.00	9,578.65	8,780.16	8,756.94	24.97	20.31	-78.23	176.05	404.05	1,140.15	1,099.97	40.19	28.372	
9,700.00	9,678.28	8,779.52	8,756.30	26.03	20.31	-77.75	176.05	403.98	1,239.95	1,199.74	40.21	30.838	
9,800.00	9,777.91	8,778.87	8,755.65	27.15	20.31	-77.27	176.05	403.91	1,339.77	1,299.54	40.23	33.302	
9,900.00	9,877.54	8,778.23	8,755.01	28.32	20.30	-76.80	176.04	403.84	1,439.61	1,399.36	40.25	35.764	
10,000.00	9,977.17	8,777.58	8,754.37	29.53	20.30	-76.32	176.04	403.77	1,539.48	1,499.20	40.28	38.222	
10,100.00	10,076.80	8,776.93	8,753.73	30.78	20.30	-75.84	176.03	403.70	1,639.36	1,599.06	40.30	40.677	

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 333H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,200.00	8,770.00	8,776.29	8,753.09	32.07	20.30	-75.37	176.03	403.63	1,739.26	1,698.93	40.33	43.129		
10,300.00	8,770.00	8,775.64	8,752.44	33.38	20.30	-74.90	176.02	403.56	1,839.16	1,798.81	40.35	45.576		
10,400.00	8,770.00	8,775.00	8,751.80	34.73	20.30	-74.42	176.02	403.49	1,939.08	1,898.70	40.38	48.018		
10,500.00	8,770.00	8,774.35	8,751.16	36.09	20.29	-73.95	176.02	403.42	2,039.00	1,998.59	40.41	50.456		
10,600.00	8,770.00	8,773.70	8,750.52	37.48	20.29	-73.48	176.01	403.35	2,138.94	2,098.49	40.44	52.889		

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 335H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: O-LEAM MWD+HDM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,300.00	4,298.25	4,423.79	4,421.95	9.44	9.64	12.88	170.28	2,211.06	2,174.34	2,155.41	18.93	114.869	
4,400.00	4,397.88	4,522.83	4,520.85	9.66	9.86	12.91	170.77	2,205.64	2,160.56	2,141.21	19.35	111.652	
4,500.00	4,497.51	4,621.87	4,619.74	9.89	10.08	12.94	171.26	2,200.21	2,146.79	2,127.01	19.77	108.564	
4,600.00	4,597.14	4,720.92	4,718.63	10.12	10.30	12.96	171.75	2,194.79	2,133.01	2,112.81	20.20	105.597	
4,700.00	4,696.77	4,819.96	4,817.52	10.34	10.52	12.99	172.25	2,189.37	2,119.24	2,098.61	20.63	102.745	
4,800.00	4,796.40	4,919.00	4,916.41	10.57	10.75	13.02	172.74	2,183.94	2,105.47	2,084.41	21.05	100.003	
4,900.00	4,896.03	5,018.04	5,015.30	10.81	10.97	13.05	173.23	2,178.52	2,091.69	2,070.21	21.48	97.364	
5,000.00	4,995.66	5,117.08	5,114.20	11.04	11.19	13.08	173.72	2,173.09	2,077.92	2,056.01	21.91	94.824	
5,100.00	5,095.29	5,216.12	5,213.09	11.27	11.42	13.11	174.21	2,167.67	2,064.15	2,041.80	22.34	92.377	
5,200.00	5,194.92	5,315.16	5,311.98	11.51	11.65	13.14	174.70	2,162.24	2,050.38	2,027.60	22.78	90.018	
5,300.00	5,294.55	5,414.21	5,410.87	11.75	11.87	13.17	175.20	2,156.82	2,036.61	2,013.40	23.21	87.743	
5,400.00	5,394.18	5,513.25	5,509.76	11.99	12.10	13.20	175.69	2,151.40	2,022.84	1,999.19	23.65	85.549	
5,500.00	5,493.81	5,612.29	5,608.65	12.22	12.33	13.23	176.18	2,145.97	2,009.07	1,984.99	24.08	83.430	
5,600.00	5,593.44	5,711.33	5,707.54	12.46	12.55	13.26	176.67	2,140.55	1,995.30	1,970.78	24.52	81.384	
5,700.00	5,693.08	5,810.37	5,806.44	12.71	12.78	13.30	177.16	2,135.12	1,981.53	1,956.58	24.95	79.407	
5,800.00	5,792.71	5,909.41	5,905.33	12.95	13.01	13.33	177.66	2,129.70	1,967.76	1,942.37	25.39	77.495	
5,900.00	5,892.34	6,008.45	6,004.22	13.19	13.24	13.36	178.15	2,124.27	1,954.00	1,928.17	25.83	75.647	
6,000.00	5,991.97	6,107.50	6,103.11	13.43	13.47	13.40	178.64	2,118.85	1,940.23	1,913.96	26.27	73.858	
6,100.00	6,091.60	6,206.54	6,202.00	13.68	13.70	13.43	179.13	2,113.43	1,926.47	1,899.76	26.71	72.126	
6,200.00	6,191.23	6,305.58	6,300.89	13.92	13.93	13.47	179.62	2,108.00	1,912.70	1,885.55	27.15	70.448	
6,300.00	6,290.86	6,404.62	6,399.79	14.17	14.16	13.50	180.11	2,102.58	1,898.94	1,871.35	27.59	68.823	
6,400.00	6,390.49	6,503.66	6,498.68	14.41	14.39	13.54	180.61	2,097.15	1,885.17	1,857.14	28.03	67.248	
6,500.00	6,490.12	6,602.70	6,597.57	14.66	14.62	13.57	181.10	2,091.73	1,871.41	1,842.94	28.48	65.720	
6,600.00	6,589.75	6,701.74	6,696.46	14.91	14.85	13.61	181.59	2,086.30	1,857.65	1,828.73	28.92	64.237	
6,700.00	6,689.38	6,800.79	6,795.35	15.16	15.08	13.65	182.08	2,080.88	1,843.89	1,814.53	29.36	62.799	
6,800.00	6,789.01	6,899.83	6,894.24	15.40	15.32	13.69	182.57	2,075.46	1,830.13	1,800.32	29.81	61.402	
6,900.00	6,888.64	6,998.87	6,993.13	15.65	15.55	13.72	183.07	2,070.03	1,816.37	1,786.12	30.25	60.045	
7,000.00	6,988.27	7,097.91	7,092.03	15.90	15.78	13.76	183.56	2,064.61	1,802.61	1,771.92	30.70	58.726	
7,100.00	7,087.90	7,196.95	7,190.92	16.15	16.01	13.80	184.05	2,059.18	1,788.85	1,757.71	31.14	57.445	
7,200.00	7,187.53	7,295.99	7,289.81	16.40	16.25	13.84	184.54	2,053.76	1,775.10	1,743.51	31.59	56.199	
7,300.00	7,287.16	7,395.03	7,388.70	16.65	16.48	13.88	185.03	2,048.33	1,761.34	1,729.31	32.03	54.987	
7,400.00	7,386.79	7,494.07	7,487.59	16.90	16.71	13.93	185.52	2,042.91	1,747.58	1,715.11	32.48	53.807	
7,500.00	7,486.42	7,593.12	7,586.48	17.15	16.94	13.97	186.02	2,037.49	1,733.83	1,700.90	32.93	52.659	
7,600.00	7,586.05	7,692.16	7,685.38	17.40	17.18	14.00	186.51	2,032.06	1,720.11	1,686.74	33.37	51.548	
7,700.00	7,685.68	7,791.20	7,784.49	17.65	17.41	13.99	187.00	2,026.62	1,706.06	1,674.28	33.78	50.567	
7,800.00	7,785.31	7,890.24	7,883.89	17.90	17.65	13.96	187.50	2,021.17	1,691.53	1,664.34	34.18	49.687	
7,900.00	7,884.94	7,989.28	7,983.49	18.15	17.88	13.92	188.00	2,015.71	1,677.00	1,650.94	34.59	48.902	
8,000.00	7,984.57	8,088.32	8,082.81	18.40	18.12	13.88	188.50	2,010.24	1,662.47	1,637.51	35.01	48.159	
8,100.00	8,084.20	8,187.36	8,182.88	18.65	18.35	13.84	189.00	2,004.77	1,648.00	1,624.04	35.42	47.408	
8,200.00	8,183.83	8,286.40	8,282.58	18.90	18.59	13.80	189.50	1,999.30	1,633.53	1,610.57	35.83	46.675	
8,300.00	8,283.46	8,385.44	8,381.89	19.15	18.83	-93.69	190.00	1,993.83	1,619.06	1,597.10	36.24	46.014	
8,400.00	8,383.09	8,484.48	8,478.44	19.40	19.05	-94.88	190.50	1,988.36	1,604.59	1,582.63	36.65	45.449	
8,500.00	8,482.72	8,583.52	8,579.29	19.65	19.27	-96.32	191.00	1,982.89	1,590.12	1,568.16	37.06	44.970	
8,600.00	8,582.35	8,682.56	8,678.89	19.90	19.48	-97.73	191.50	1,977.42	1,575.65	1,554.69	37.47	44.556 CC, ES	
8,700.00	8,681.98	8,781.60	8,777.51	20.15	19.64	-99.16	192.00	1,971.95	1,561.18	1,540.22	37.88	44.266	
8,800.00	8,781.61	8,880.64	8,876.13	20.40	19.88	-99.54	192.50	1,966.48	1,546.71	1,525.75	38.29	44.039	
8,900.00	8,881.24	8,979.68	8,975.29	20.65	19.94	-99.68	193.00	1,961.01	1,532.24	1,511.28	38.70	43.901	
9,000.00	8,980.87	9,078.72	9,074.44	20.90	19.97	-99.73	193.50	1,955.54	1,517.77	1,496.81	39.11	43.869 SF	
9,100.00	9,080.50	9,177.76	9,173.44	21.15	19.96	-99.73	194.00	1,950.07	1,503.30	1,482.34	39.52	43.960	
9,200.00	9,180.13	9,276.80	9,272.44	21.40	19.96	-99.73	194.50	1,944.60	1,488.83	1,467.88	40.00	44.152	
9,300.00	9,279.76	9,375.84	9,371.44	21.65	19.96	-99.73	195.00	1,939.13	1,474.36	1,453.41	40.41	44.406	

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
Lusitano - Lusitano 27-34 Fed Com 335H - OH - Plan #1												Offset Well Error:	0.00 usft
Survey Program: O-LEAM MWD+HDGM													
Reference		Offset		Semi Major Axis				Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,400.00	8,770.00	8,869.33	8,860.76	23.05	19.96	-92.97	192.35	1,967.59	1,896.88	1,854.48	42.40	44.735	
9,500.00	8,770.00	8,868.82	8,860.26	23.98	19.96	-92.95	192.35	1,967.62	1,948.96	1,905.79	43.17	45.146	
9,600.00	8,770.00	8,868.32	8,859.75	24.97	19.96	-92.94	192.35	1,967.65	2,004.69	1,960.76	43.92	45.642	
9,700.00	8,770.00	8,867.81	8,859.25	26.03	19.96	-92.92	192.35	1,967.67	2,063.75	2,019.11	44.65	46.221	
9,800.00	8,770.00	8,867.31	8,858.75	27.15	19.96	-92.90	192.34	1,967.70	2,125.89	2,080.54	45.35	46.882	

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 525H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.30	0.30	0.00	0.00	89.65	10.22	1,670.46	1,670.49				
100.00	100.00	100.30	100.30	0.09	0.09	89.65	10.22	1,670.46	1,670.49	1,670.32	0.17	9,677.245	
200.00	200.00	200.30	200.30	0.31	0.31	89.65	10.22	1,670.46	1,670.49	1,669.87	0.62	2,685.019	
300.00	300.00	300.30	300.30	0.54	0.54	89.65	10.22	1,670.46	1,670.49	1,669.42	1.07	1,558.753	
400.00	400.00	400.30	400.30	0.76	0.76	89.65	10.22	1,670.46	1,670.49	1,668.97	1.52	1,098.128	
500.00	500.00	500.30	500.30	0.99	0.99	89.65	10.22	1,670.46	1,670.49	1,668.52	1.97	847.643	
600.00	600.00	600.30	600.30	1.21	1.21	89.65	10.22	1,670.46	1,670.49	1,668.07	2.42	690.206	
700.00	700.00	700.30	700.30	1.43	1.44	89.65	10.22	1,670.46	1,670.49	1,667.62	2.87	582.091	
800.00	800.00	800.30	800.30	1.66	1.66	89.65	10.22	1,670.46	1,670.49	1,667.17	3.32	503.259	
900.00	900.00	900.30	900.30	1.88	1.88	89.65	10.22	1,670.46	1,670.49	1,666.72	3.77	443.233	
1,000.00	1,000.00	1,000.30	1,000.30	2.11	2.11	89.65	10.22	1,670.46	1,670.49	1,666.27	4.22	396.000	
1,100.00	1,100.00	1,100.30	1,100.30	2.33	2.33	89.65	10.22	1,670.46	1,670.49	1,665.82	4.67	357.865	
1,200.00	1,200.00	1,200.30	1,200.30	2.56	2.56	89.65	10.22	1,670.46	1,670.49	1,665.37	5.12	326.429	
1,300.00	1,300.00	1,300.30	1,300.30	2.78	2.78	89.65	10.22	1,670.46	1,670.49	1,664.92	5.57	300.070	
1,400.00	1,400.00	1,400.30	1,400.30	3.01	3.01	89.65	10.22	1,670.46	1,670.49	1,664.47	6.02	277.650	
1,500.00	1,500.00	1,500.30	1,500.30	3.23	3.23	89.65	10.22	1,670.46	1,670.49	1,664.03	6.47	258.347	
1,600.00	1,600.00	1,600.30	1,600.30	3.46	3.46	89.65	10.22	1,670.46	1,670.49	1,663.58	6.92	241.554	
1,700.00	1,700.00	1,700.30	1,700.30	3.68	3.68	89.65	10.22	1,670.46	1,670.49	1,663.13	7.37	226.811	
1,800.00	1,800.00	1,800.30	1,800.30	3.91	3.91	89.65	10.22	1,670.46	1,670.49	1,662.68	7.81	213.764	
1,900.00	1,900.00	1,900.30	1,900.30	4.13	4.13	89.65	10.22	1,670.46	1,670.49	1,662.23	8.26	202.136	
2,000.00	2,000.00	2,000.30	2,000.30	4.36	4.36	89.65	10.22	1,670.46	1,670.49	1,661.78	8.71	191.708	
2,100.00	2,100.00	2,100.30	2,100.30	4.58	4.58	89.65	10.22	1,670.46	1,670.49	1,661.33	9.16	182.303	
2,200.00	2,200.00	2,200.30	2,200.30	4.81	4.81	89.65	10.22	1,670.46	1,670.49	1,660.88	9.61	173.778	
2,300.00	2,300.00	2,300.30	2,300.30	5.03	5.03	89.65	10.22	1,670.46	1,670.49	1,660.43	10.06	166.014	
2,400.00	2,400.00	2,400.30	2,400.30	5.26	5.26	89.65	10.22	1,670.46	1,670.49	1,659.98	10.51	158.915	
2,416.57	2,416.57	2,416.87	2,416.87	5.29	5.29	89.65	10.22	1,670.46	1,670.49	1,659.90	10.59	157.797 CC	
2,500.00	2,500.00	2,500.00	2,500.00	5.48	5.48	89.65	10.22	1,670.46	1,670.49	1,659.53	10.96	152.407	
2,600.00	2,600.00	2,581.13	2,581.13	5.71	5.66	89.64	10.56	1,670.92	1,671.07	1,659.70	11.36	147.072	
2,700.00	2,700.00	2,661.99	2,661.96	5.93	5.83	89.60	11.57	1,672.31	1,672.79	1,661.03	11.76	142.264	
2,800.00	2,800.00	2,742.78	2,742.70	6.15	6.01	89.55	13.26	1,674.61	1,675.65	1,663.50	12.15	137.892	
2,900.00	2,900.00	2,823.47	2,823.30	6.38	6.18	89.47	15.62	1,677.82	1,679.66	1,667.12	12.54	133.901	
3,000.00	3,000.00	2,900.00	2,899.68	6.60	6.35	89.37	18.47	1,681.72	1,684.83	1,671.90	12.92	130.361	
3,100.00	3,100.00	2,984.45	2,983.87	6.83	6.54	89.24	22.32	1,686.97	1,691.13	1,677.80	13.32	126.924	
3,200.00	3,200.00	3,064.66	3,063.75	7.05	6.72	89.10	26.66	1,692.88	1,698.59	1,684.88	13.71	123.877	
3,300.00	3,300.00	3,144.66	3,143.30	7.28	6.90	88.93	31.64	1,699.68	1,707.21	1,693.11	14.10	121.095	
3,400.00	3,400.00	3,239.66	3,237.67	7.50	7.12	88.72	38.10	1,708.50	1,716.64	1,702.11	14.53	118.158	
3,500.00	3,500.00	3,338.99	3,336.34	7.73	7.35	15.41	44.88	1,717.74	1,726.13	1,711.15	14.97	115.280	
3,600.00	3,599.99	3,438.42	3,435.10	7.94	7.59	15.18	51.66	1,726.99	1,734.79	1,719.38	15.41	112.578	
3,700.00	3,699.96	3,538.00	3,534.02	8.15	7.83	14.97	58.45	1,736.25	1,741.79	1,725.96	15.84	109.973	
3,800.00	3,799.86	3,637.71	3,633.06	8.36	8.08	14.78	65.25	1,745.53	1,747.13	1,730.86	16.27	107.381	
3,900.00	3,899.67	3,737.52	3,732.21	8.57	8.33	14.61	72.05	1,754.81	1,750.80	1,734.10	16.71	104.804	
4,000.00	3,999.36	3,837.40	3,831.42	8.78	8.58	14.46	78.87	1,764.10	1,752.80	1,735.66	17.14	102.245	
4,100.00	4,098.99	3,937.30	3,930.65	9.00	8.83	14.32	85.68	1,773.40	1,754.09	1,736.50	17.58	99.757	
4,200.00	4,198.62	4,037.20	4,029.89	9.22	9.09	14.18	92.49	1,782.69	1,755.39	1,737.36	18.03	97.378	
4,300.00	4,298.25	4,137.10	4,129.12	9.44	9.35	14.04	99.30	1,791.99	1,756.69	1,738.22	18.47	95.104	
4,400.00	4,397.88	4,237.00	4,228.35	9.66	9.61	13.90	106.12	1,801.28	1,758.01	1,739.10	18.92	92.928	
4,500.00	4,497.51	4,336.90	4,327.59	9.89	9.87	13.76	112.93	1,810.58	1,759.34	1,739.98	19.37	90.844	
4,600.00	4,597.14	4,436.80	4,426.82	10.12	10.13	13.62	119.74	1,819.87	1,760.68	1,740.87	19.82	88.849	
4,700.00	4,696.77	4,536.70	4,526.05	10.34	10.40	13.49	126.56	1,829.16	1,762.03	1,741.76	20.27	86.935	
4,800.00	4,796.40	4,636.60	4,625.29	10.57	10.66	13.35	133.37	1,838.46	1,763.39	1,742.67	20.72	85.100	
4,900.00	4,896.03	4,736.50	4,724.52	10.81	10.93	13.21	140.18	1,847.75	1,764.76	1,743.59	21.18	83.339	
5,000.00	4,995.66	4,836.40	4,823.76	11.04	11.20	13.07	146.99	1,857.05	1,766.14	1,744.51	21.63	81.648	

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 525H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	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)						
15,400.00	8,770.00	15,694.92	8,805.00	112.24	113.37	-91.11	-6,759.05	2,137.58	1,798.84	1,573.56	225.28	7.985		
15,500.00	8,770.00	15,794.92	8,805.00	113.86	114.98	-91.11	-6,859.05	2,137.72	1,798.84	1,570.33	228.51	7.872		
15,600.00	8,770.00	15,894.92	8,805.00	115.47	116.59	-91.11	-6,959.05	2,137.86	1,798.83	1,567.10	231.73	7.763		
15,700.00	8,770.00	15,994.92	8,805.00	117.08	118.21	-91.11	-7,059.05	2,138.00	1,798.83	1,563.87	234.96	7.656		
15,800.00	8,770.00	16,094.92	8,805.00	118.69	119.82	-91.11	-7,159.05	2,138.14	1,798.83	1,560.64	238.18	7.552		
15,900.00	8,770.00	16,194.92	8,805.00	120.31	121.43	-91.11	-7,259.05	2,138.29	1,798.82	1,557.41	241.41	7.451		
16,000.00	8,770.00	16,294.92	8,805.00	121.92	123.04	-91.11	-7,359.05	2,138.43	1,798.82	1,554.18	244.64	7.353		
16,100.00	8,770.00	16,394.92	8,805.00	123.53	124.66	-91.11	-7,459.05	2,138.57	1,798.81	1,550.94	247.87	7.257		
16,200.00	8,770.00	16,494.92	8,805.00	125.15	126.27	-91.11	-7,559.05	2,138.71	1,798.81	1,547.70	251.10	7.164		
16,300.00	8,770.00	16,594.92	8,805.00	126.77	127.88	-91.11	-7,659.05	2,138.86	1,798.80	1,544.47	254.34	7.073		
16,400.00	8,770.00	16,694.92	8,805.00	128.38	129.50	-91.11	-7,759.05	2,139.00	1,798.80	1,541.23	257.57	6.984		
16,500.00	8,770.00	16,794.92	8,805.00	130.00	131.11	-91.11	-7,859.05	2,139.14	1,798.80	1,537.99	260.80	6.897		
16,600.00	8,770.00	16,894.92	8,805.00	131.62	132.73	-91.11	-7,959.05	2,139.28	1,798.79	1,534.75	264.04	6.813		
16,700.00	8,770.00	16,994.92	8,805.00	133.23	134.35	-91.11	-8,059.05	2,139.43	1,798.79	1,531.51	267.28	6.730		
16,800.00	8,770.00	17,094.92	8,805.00	134.85	135.96	-91.11	-8,159.05	2,139.57	1,798.78	1,528.27	270.51	6.650		
16,900.00	8,770.00	17,194.92	8,805.00	136.47	137.58	-91.11	-8,259.05	2,139.71	1,798.78	1,525.03	273.75	6.571		
17,000.00	8,770.00	17,294.92	8,805.00	138.09	139.20	-91.11	-8,359.05	2,139.85	1,798.77	1,521.79	276.99	6.494		
17,100.00	8,770.00	17,394.92	8,805.00	139.71	140.82	-91.11	-8,459.05	2,140.00	1,798.77	1,518.54	280.23	6.419		
17,200.00	8,770.00	17,494.92	8,805.00	141.33	142.44	-91.11	-8,559.05	2,140.14	1,798.76	1,515.30	283.47	6.346		
17,300.00	8,770.00	17,594.92	8,805.00	142.95	144.05	-91.11	-8,659.05	2,140.28	1,798.76	1,512.05	286.71	6.274		
17,400.00	8,770.00	17,694.92	8,805.00	144.57	145.67	-91.11	-8,759.05	2,140.42	1,798.76	1,508.81	289.95	6.204		
17,500.00	8,770.00	17,794.92	8,805.00	146.19	147.29	-91.11	-8,859.05	2,140.56	1,798.75	1,505.56	293.19	6.135		
17,600.00	8,770.00	17,894.92	8,805.00	147.81	148.91	-91.11	-8,959.05	2,140.71	1,798.75	1,502.31	296.43	6.068		
17,700.00	8,770.00	17,994.92	8,805.00	149.43	150.53	-91.11	-9,059.05	2,140.85	1,798.74	1,499.07	299.68	6.002		
17,800.00	8,770.00	18,094.92	8,805.00	151.05	152.15	-91.11	-9,159.05	2,140.99	1,798.74	1,495.82	302.92	5.938		
17,900.00	8,770.00	18,194.92	8,805.00	152.67	153.77	-91.11	-9,259.05	2,141.13	1,798.73	1,492.57	306.16	5.875		
18,000.00	8,770.00	18,294.92	8,805.00	154.30	155.40	-91.11	-9,359.05	2,141.28	1,798.73	1,489.32	309.41	5.813		
18,100.00	8,770.00	18,394.92	8,805.00	155.92	157.02	-91.11	-9,459.05	2,141.42	1,798.73	1,486.07	312.66	5.753		
18,200.00	8,770.00	18,494.92	8,805.00	157.54	158.64	-91.11	-9,559.05	2,141.56	1,798.72	1,482.82	315.90	5.694		
18,300.00	8,770.00	18,594.92	8,805.00	159.16	160.26	-91.11	-9,659.05	2,141.70	1,798.72	1,479.57	319.15	5.636		
18,400.00	8,770.00	18,694.92	8,805.00	160.79	161.88	-91.11	-9,759.05	2,141.85	1,798.71	1,476.32	322.39	5.579		
18,500.00	8,770.00	18,794.92	8,805.00	162.41	163.51	-91.11	-9,859.05	2,141.99	1,798.71	1,473.07	325.64	5.524		
18,600.00	8,770.00	18,894.92	8,805.00	164.03	165.13	-91.11	-9,959.05	2,142.13	1,798.70	1,469.81	328.89	5.469		
18,700.00	8,770.00	18,994.92	8,805.00	165.66	166.75	-91.11	-10,059.05	2,142.27	1,798.70	1,466.56	332.14	5.416		
18,800.00	8,770.00	19,094.92	8,805.00	167.28	168.38	-91.11	-10,159.05	2,142.42	1,798.70	1,463.31	335.39	5.363		
18,810.04	8,770.00	19,104.88	8,805.00	167.41	168.54	-91.11	-10,169.01	2,142.43	1,798.69	1,463.02	335.67	5.358		
18,822.21	8,770.00	19,104.88	8,805.00	167.56	168.54	-91.11	-10,169.01	2,142.43	1,798.74	1,462.85	335.89	5.355 ES, SF		

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 523H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.60	0.60	0.00	0.00	-90.34	-0.18	-29.95	29.95				
100.00	100.00	100.60	100.60	0.09	0.09	-90.34	-0.18	-29.95	29.95	29.78	0.17	172.830	
200.00	200.00	200.60	200.60	0.31	0.31	-90.34	-0.18	-29.95	29.95	29.33	0.62	48.088	
300.00	300.00	300.60	300.60	0.54	0.54	-90.34	-0.18	-29.95	29.95	28.88	1.07	27.930	
400.00	400.00	400.60	400.60	0.76	0.76	-90.34	-0.18	-29.95	29.95	28.43	1.52	19.680	
500.00	500.00	500.60	500.60	0.99	0.99	-90.34	-0.18	-29.95	29.95	27.98	1.97	15.192	
600.00	600.00	600.60	600.60	1.21	1.21	-90.34	-0.18	-29.95	29.95	27.53	2.42	12.371	
700.00	700.00	700.60	700.60	1.43	1.44	-90.34	-0.18	-29.95	29.95	27.08	2.87	10.434	
800.00	800.00	800.60	800.60	1.66	1.66	-90.34	-0.18	-29.95	29.95	26.63	3.32	9.021	
900.00	900.00	900.60	900.60	1.88	1.89	-90.34	-0.18	-29.95	29.95	26.18	3.77	7.945	
1,000.00	1,000.00	1,000.60	1,000.60	2.11	2.11	-90.34	-0.18	-29.95	29.95	25.73	4.22	7.099	
1,100.00	1,100.00	1,100.60	1,100.60	2.33	2.33	-90.34	-0.18	-29.95	29.95	25.28	4.67	6.415	
1,200.00	1,200.00	1,200.60	1,200.60	2.56	2.56	-90.34	-0.18	-29.95	29.95	24.83	5.12	5.852	
1,300.00	1,300.00	1,300.60	1,300.60	2.78	2.78	-90.34	-0.18	-29.95	29.95	24.38	5.57	5.379	
1,400.00	1,400.00	1,400.60	1,400.60	3.01	3.01	-90.34	-0.18	-29.95	29.95	23.93	6.02	4.977	
1,500.00	1,500.00	1,500.60	1,500.60	3.23	3.23	-90.34	-0.18	-29.95	29.95	23.48	6.47	4.631	
1,600.00	1,600.00	1,600.60	1,600.60	3.46	3.46	-90.34	-0.18	-29.95	29.95	23.03	6.92	4.330	
1,700.00	1,700.00	1,700.60	1,700.60	3.68	3.68	-90.34	-0.18	-29.95	29.95	22.58	7.37	4.066	
1,800.00	1,800.00	1,800.60	1,800.60	3.91	3.91	-90.34	-0.18	-29.95	29.95	22.14	7.82	3.832	
1,900.00	1,900.00	1,900.60	1,900.60	4.13	4.13	-90.34	-0.18	-29.95	29.95	21.69	8.26	3.624	
2,000.00	2,000.00	2,000.60	2,000.60	4.36	4.36	-90.34	-0.18	-29.95	29.95	21.24	8.71	3.437	
2,100.00	2,100.00	2,100.60	2,100.60	4.58	4.58	-90.34	-0.18	-29.95	29.95	20.79	9.16	3.268	
2,200.00	2,200.00	2,200.60	2,200.60	4.81	4.81	-90.34	-0.18	-29.95	29.95	20.34	9.61	3.115	
2,300.00	2,300.00	2,300.60	2,300.60	5.03	5.03	-90.34	-0.18	-29.95	29.95	19.89	10.06	2.976	
2,400.00	2,400.00	2,400.60	2,400.60	5.26	5.26	-90.34	-0.18	-29.95	29.95	19.44	10.51	2.849	
2,500.00	2,500.00	2,500.60	2,500.60	5.48	5.48	-90.34	-0.18	-29.95	29.95	18.99	10.96	2.732	
2,600.00	2,600.00	2,600.60	2,600.60	5.71	5.71	-90.34	-0.18	-29.95	29.95	18.54	11.41	2.625	
2,700.00	2,700.00	2,700.60	2,700.60	5.93	5.93	-90.34	-0.18	-29.95	29.95	18.09	11.86	2.525	
2,800.00	2,800.00	2,800.60	2,800.60	6.15	6.16	-90.34	-0.18	-29.95	29.95	17.64	12.31	2.433	
2,900.00	2,900.00	2,900.60	2,900.60	6.38	6.38	-90.34	-0.18	-29.95	29.95	17.19	12.76	2.347	
3,000.00	3,000.00	3,000.60	3,000.60	6.60	6.61	-90.34	-0.18	-29.95	29.95	16.74	13.21	2.267	
3,100.00	3,100.00	3,100.60	3,100.60	6.83	6.83	-90.34	-0.18	-29.95	29.95	16.29	13.66	2.193	
3,200.00	3,200.00	3,200.60	3,200.60	7.05	7.06	-90.34	-0.18	-29.95	29.95	15.84	14.11	2.123	
3,300.00	3,300.00	3,300.60	3,300.60	7.28	7.28	-90.34	-0.18	-29.95	29.95	15.39	14.56	2.057	
3,400.00	3,400.00	3,400.60	3,400.60	7.50	7.50	-90.34	-0.18	-29.95	29.95	14.94	15.01	1.996 CC	
3,466.47	3,466.47	3,467.07	3,467.07	7.65	7.65	-90.35	-0.18	-29.95	29.95	14.65	15.31	1.957	
3,500.00	3,500.00	3,500.60	3,500.60	7.73	7.73	-163.44	-0.18	-29.95	29.95	14.49	15.46	1.938 ES	
3,600.00	3,599.99	3,600.59	3,600.59	7.94	7.95	-163.90	-0.18	-29.95	30.80	14.90	15.90	1.937	
3,700.00	3,699.96	3,700.56	3,700.56	8.15	8.18	-165.15	-0.18	-29.95	33.33	17.01	16.33	2.042	
3,800.00	3,799.86	3,800.46	3,800.46	8.36	8.40	-166.85	-0.18	-29.95	37.57	20.82	16.76	2.242	
3,900.00	3,899.67	3,900.27	3,900.27	8.57	8.63	-168.67	-0.18	-29.95	43.55	26.36	17.19	2.534	
4,000.00	3,999.36	3,999.96	3,999.96	8.78	8.85	-170.38	-0.18	-29.95	51.27	33.65	17.62	2.910	
4,100.00	4,098.99	4,099.02	4,099.01	9.00	9.07	-171.07	0.46	-30.52	60.24	42.19	18.05	3.338	
4,200.00	4,198.62	4,197.89	4,197.85	9.22	9.29	-170.40	2.36	-32.23	70.17	51.71	18.47	3.800	
4,300.00	4,298.25	4,296.52	4,296.39	9.44	9.50	-168.91	5.53	-35.07	81.11	62.22	18.89	4.295	
4,400.00	4,397.88	4,395.16	4,394.86	9.66	9.72	-166.98	9.90	-38.98	93.07	73.77	19.31	4.821	
4,500.00	4,497.51	4,494.36	4,493.86	9.89	9.94	-165.31	14.58	-43.18	105.37	85.64	19.73	5.340	
4,600.00	4,597.14	4,593.56	4,592.86	10.12	10.16	-164.00	19.26	-47.38	117.74	97.57	20.16	5.840	
4,700.00	4,696.77	4,692.76	4,691.86	10.34	10.38	-162.93	23.95	-51.57	130.15	109.56	20.59	6.320	
4,800.00	4,796.40	4,791.96	4,790.86	10.57	10.60	-162.05	28.63	-55.77	142.61	121.58	21.03	6.782	
4,900.00	4,896.03	4,891.16	4,889.86	10.81	10.83	-161.31	33.31	-59.97	155.09	133.63	21.46	7.227	
5,000.00	4,995.66	4,990.36	4,988.86	11.04	11.05	-160.68	38.00	-64.17	167.59	145.69	21.90	7.654	

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

LEAM Drilling Services

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Lusitano
Site Error: 0.00 usft
Reference Well: Lusitano 27-34 Fed Com 523H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well Lusitano 27-34 Fed Com 523H
TVD Reference: 3332.6' GE + 23.5' KB @ 3356.10usft
MD Reference: 3332.6' GE + 23.5' KB @ 3356.10usft
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 Lusitano - Lusitano 27-34 Fed Com 533H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,095.29	5,089.56	5,087.86	11.27	11.28	-160.14	42.68	-68.36	180.11	157.78	22.33	8.064		
5,200.00	5,194.92	5,188.76	5,186.86	11.51	11.50	-159.67	47.36	-72.56	192.64	169.87	22.77	8.459		
5,300.00	5,294.55	5,287.96	5,285.86	11.75	11.73	-159.25	52.04	-76.76	205.19	181.98	23.21	8.839		
5,400.00	5,394.18	5,387.16	5,384.86	11.99	11.95	-158.89	56.73	-80.96	217.74	194.09	23.65	9.205		
5,500.00	5,493.81	5,486.36	5,483.86	12.22	12.18	-158.56	61.41	-85.15	230.30	206.21	24.10	9.558		
5,600.00	5,593.44	5,585.56	5,582.86	12.46	12.41	-158.27	66.09	-89.35	242.87	218.33	24.54	9.897		
5,700.00	5,693.08	5,684.76	5,681.86	12.71	12.64	-158.00	70.77	-93.55	255.45	230.46	24.98	10.224		
5,800.00	5,792.71	5,783.96	5,780.86	12.95	12.87	-157.76	75.46	-97.74	268.03	242.60	25.43	10.540		
5,900.00	5,892.34	5,883.16	5,879.86	13.19	13.10	-157.55	80.14	-101.94	280.61	254.73	25.88	10.845		
6,000.00	5,991.97	5,982.36	5,978.86	13.43	13.33	-157.35	84.82	-106.14	293.20	266.87	26.32	11.139		
6,100.00	6,091.60	6,081.56	6,077.86	13.68	13.56	-157.17	89.51	-110.34	305.79	279.02	26.77	11.423		
6,200.00	6,191.23	6,180.76	6,176.86	13.92	13.79	-157.00	94.19	-114.53	318.38	291.16	27.22	11.697		
6,300.00	6,290.86	6,279.96	6,275.86	14.17	14.02	-156.84	98.87	-118.73	330.98	303.31	27.67	11.962		
6,400.00	6,390.49	6,379.16	6,374.86	14.41	14.25	-156.70	103.55	-122.93	343.57	315.45	28.12	12.219		
6,500.00	6,490.12	6,478.36	6,473.86	14.66	14.48	-156.56	108.24	-127.12	356.17	327.60	28.57	12.467		
6,600.00	6,589.75	6,577.56	6,572.86	14.91	14.72	-156.44	112.92	-131.32	368.77	339.75	29.02	12.708		
6,700.00	6,689.38	6,676.76	6,671.86	15.16	14.95	-156.32	117.60	-135.52	381.38	351.91	29.47	12.941		
6,800.00	6,789.01	6,775.96	6,770.86	15.40	15.18	-156.21	122.29	-139.72	393.98	364.06	29.92	13.166		
6,900.00	6,888.64	6,875.16	6,869.86	15.65	15.42	-156.11	126.97	-143.91	406.59	376.21	30.38	13.385		
7,000.00	6,988.27	6,979.22	6,973.74	15.90	15.64	-156.05	131.54	-148.01	418.88	388.04	30.84	13.582		
7,100.00	7,087.90	7,087.73	7,082.18	16.15	15.84	-156.24	134.27	-150.46	429.28	397.99	31.28	13.722		
7,200.00	7,187.53	7,193.67	7,188.13	16.40	16.03	-156.65	134.82	-150.95	437.66	405.95	31.71	13.803		
7,300.00	7,287.16	7,293.30	7,287.76	16.65	16.25	-157.09	134.82	-150.95	445.57	413.42	32.15	13.858		
7,400.00	7,386.79	7,392.93	7,387.39	16.90	16.47	-157.51	134.82	-150.95	453.50	420.90	32.60	13.911		
7,500.00	7,486.42	7,492.57	7,487.02	17.15	16.69	-157.92	134.82	-150.95	461.46	428.41	33.05	13.963		
7,600.00	7,586.05	7,592.20	7,586.65	17.40	16.91	-158.32	134.82	-150.95	469.40	435.91	33.49	14.015		
7,700.00	7,685.81	7,691.96	7,686.41	17.60	17.13	-158.66	134.82	-150.95	475.76	441.86	33.90	14.034		
7,800.00	7,785.72	7,791.87	7,786.32	17.78	17.35	-158.87	134.82	-150.95	479.70	445.39	34.31	13.983		
7,900.00	7,885.70	7,891.85	7,886.30	17.96	17.57	-158.94	134.82	-150.95	481.20	446.48	34.71	13.863		
8,000.00	7,985.70	7,991.85	7,986.30	18.15	17.79	-85.85	134.82	-150.95	481.21	446.08	35.13	13.698		
8,100.00	8,085.70	8,091.85	8,086.30	18.36	18.01	-85.85	134.82	-150.95	481.21	445.64	35.57	13.530		
8,200.00	8,185.70	8,191.85	8,186.30	18.57	18.23	-85.85	134.82	-150.95	481.21	445.21	36.01	13.365		
8,300.00	8,285.35	8,291.50	8,285.95	18.75	18.45	94.99	134.82	-150.95	481.77	445.36	36.41	13.232		
8,400.00	8,382.31	8,388.46	8,382.91	18.91	18.67	97.45	134.82	-150.95	484.46	447.68	36.78	13.173		
8,500.00	8,473.65	8,483.81	8,478.26	19.06	18.87	101.20	134.43	-150.95	491.55	454.43	37.12	13.243		
8,600.00	8,556.58	8,600.25	8,593.38	19.20	19.06	105.86	118.36	-150.86	502.83	465.47	37.36	13.457		
8,700.00	8,628.58	8,731.44	8,716.14	19.36	19.23	110.26	72.89	-150.62	516.15	478.80	37.36	13.817		
8,800.00	8,687.47	8,880.08	8,838.56	19.57	19.41	114.16	-10.67	-150.17	529.35	492.34	37.01	14.302		
8,900.00	8,731.46	9,046.59	8,945.04	19.86	19.64	117.12	-137.91	-149.49	539.76	503.20	36.55	14.766		
9,000.00	8,759.21	9,226.58	9,013.93	20.28	20.24	118.61	-303.39	-148.61	544.80	508.10	36.70	14.846		
9,100.00	8,769.89	9,388.63	9,030.00	20.82	21.07	118.51	-464.17	-147.75	543.53	505.62	37.92	14.335		
9,200.00	8,770.00	9,488.63	9,030.00	21.47	21.72	118.53	-564.17	-147.22	543.14	504.03	39.11	13.887		
9,300.00	8,770.00	9,588.63	9,030.00	22.21	22.47	118.55	-664.17	-146.68	542.80	502.32	40.48	13.409		
9,400.00	8,770.00	9,688.63	9,030.00	23.05	23.30	118.57	-764.17	-146.15	542.46	500.45	42.01	12.912		
9,500.00	8,770.00	9,788.63	9,030.00	23.98	24.22	118.59	-864.16	-145.61	542.12	498.43	43.69	12.409		
9,600.00	8,770.00	9,888.63	9,030.00	24.97	25.21	118.61	-964.16	-145.08	541.78	496.28	45.50	11.908		
9,700.00	8,770.00	9,988.63	9,030.00	26.03	26.27	118.63	-1,064.16	-144.55	541.44	494.02	47.42	11.418		
9,800.00	8,770.00	10,088.63	9,030.00	27.15	27.38	118.65	-1,164.16	-144.01	541.10	491.66	49.44	10.944		
9,900.00	8,770.00	10,188.63	9,030.00	28.32	28.55	118.67	-1,264.16	-143.48	540.76	489.20	51.56	10.489		
10,000.00	8,770.00	10,288.63	9,030.00	29.53	29.76	118.69	-1,364.15	-142.94	540.42	486.67	53.75	10.055		
10,100.00	8,770.00	10,388.63	9,030.00	30.78	31.00	118.71	-1,464.15	-142.41	540.08	484.07	56.01	9.643		
10,200.00	8,770.00	10,488.62	9,030.00	32.07	32.28	118.72	-1,564.15	-141.87	539.74	481.41	58.33	9.253		

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 533H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: O-LEAM MWD+HDM													Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,300.00	8,770.00	10,588.62	9,030.00	33.38	33.60	118.74		-1,684.15	-141.34	539.40	478.70	60.71	8.886	
10,400.00	8,770.00	10,688.62	9,030.00	34.73	34.94	118.76		-1,764.14	-140.81	539.06	475.93	63.13	8.539	
10,500.00	8,770.00	10,788.62	9,030.00	36.09	36.30	118.78		-1,864.14	-140.27	538.72	473.13	65.59	8.213	
10,600.00	8,770.00	10,888.62	9,030.00	37.48	37.69	118.80		-1,964.14	-139.74	538.38	470.29	68.10	7.906	
10,700.00	8,770.00	10,988.62	9,030.00	38.89	39.09	118.82		-2,064.14	-139.20	538.04	467.41	70.63	7.617	
10,800.00	8,770.00	11,088.62	9,030.00	40.32	40.52	118.84		-2,164.14	-138.67	537.70	464.50	73.20	7.346	
10,900.00	8,770.00	11,188.62	9,030.00	41.76	41.96	118.86		-2,264.13	-138.13	537.36	461.57	75.79	7.090	
11,000.00	8,770.00	11,288.62	9,030.00	43.21	43.41	118.88		-2,364.13	-137.60	537.02	458.62	78.41	6.849	
11,100.00	8,770.00	11,388.62	9,030.00	44.68	44.87	118.90		-2,464.13	-137.07	536.68	455.64	81.05	6.622	
11,200.00	8,770.00	11,488.62	9,030.00	46.15	46.35	118.92		-2,564.13	-136.53	536.35	452.64	83.70	6.408	
11,300.00	8,770.00	11,588.62	9,030.00	47.64	47.84	118.94		-2,664.13	-136.00	536.01	449.63	86.38	6.205	
11,400.00	8,770.00	11,688.62	9,030.00	49.14	49.33	118.96		-2,764.12	-135.46	535.67	446.60	89.07	6.014	
11,500.00	8,770.00	11,788.61	9,030.00	50.65	50.84	118.98		-2,864.12	-134.93	535.33	443.55	91.78	5.833	
11,600.00	8,770.00	11,888.61	9,030.00	52.16	52.35	119.00		-2,964.12	-134.40	534.99	440.49	94.50	5.662	
11,700.00	8,770.00	11,988.61	9,030.00	53.68	53.87	119.02		-3,064.12	-133.86	534.65	437.42	97.23	5.499	
11,800.00	8,770.00	12,088.61	9,030.00	55.21	55.40	119.04		-3,164.11	-133.33	534.31	434.34	99.97	5.345	
11,900.00	8,770.00	12,188.61	9,030.00	56.74	56.93	119.06		-3,264.11	-132.79	533.97	431.25	102.72	5.198	
12,000.00	8,770.00	12,288.61	9,030.00	58.28	58.47	119.08		-3,364.11	-132.26	533.63	428.16	105.48	5.059	
12,100.00	8,770.00	12,388.61	9,030.00	59.83	60.01	119.11		-3,464.11	-131.72	533.30	425.05	108.25	4.927	
12,200.00	8,770.00	12,488.61	9,030.00	61.38	61.56	119.13		-3,564.11	-131.19	532.96	421.93	111.02	4.800	
12,300.00	8,770.00	12,588.61	9,030.00	62.93	63.12	119.15		-3,664.10	-130.66	532.62	418.81	113.81	4.680	
12,400.00	8,770.00	12,688.61	9,030.00	64.49	64.67	119.17		-3,764.10	-130.12	532.28	415.68	116.60	4.565	
12,500.00	8,770.00	12,788.61	9,030.00	66.05	66.23	119.19		-3,864.10	-129.59	531.94	412.55	119.39	4.455	
12,600.00	8,770.00	12,888.61	9,030.00	67.61	67.80	119.21		-3,964.10	-129.05	531.60	409.41	122.19	4.351	
12,700.00	8,770.00	12,988.61	9,030.00	69.18	69.37	119.23		-4,064.09	-128.52	531.27	406.27	125.00	4.250	
12,800.00	8,770.00	13,088.61	9,030.00	70.75	70.94	119.25		-4,164.09	-127.99	530.93	403.12	127.81	4.154	
12,900.00	8,770.00	13,188.60	9,030.00	72.33	72.51	119.27		-4,264.09	-127.45	530.59	399.97	130.62	4.062	
13,000.00	8,770.00	13,288.60	9,030.00	73.90	74.09	119.29		-4,364.09	-126.92	530.25	396.81	133.44	3.974	
13,100.00	8,770.00	13,388.60	9,030.00	75.48	75.67	119.31		-4,464.09	-126.38	529.91	393.65	136.26	3.889	
13,200.00	8,770.00	13,488.60	9,030.00	77.06	77.25	119.33		-4,564.08	-125.85	529.58	390.49	139.09	3.807	
13,300.00	8,770.00	13,588.60	9,030.00	78.65	78.83	119.35		-4,664.08	-125.31	529.24	387.32	141.92	3.729	
13,400.00	8,770.00	13,688.60	9,030.00	80.23	80.42	119.37		-4,764.08	-124.78	528.90	384.15	144.75	3.654	
13,500.00	8,770.00	13,788.60	9,030.00	81.82	82.01	119.39		-4,864.08	-124.25	528.56	380.98	147.58	3.581	
13,600.00	8,770.00	13,888.60	9,030.00	83.41	83.60	119.41		-4,964.08	-123.71	528.23	377.81	150.42	3.512	
13,700.00	8,770.00	13,988.60	9,030.00	85.00	85.19	119.43		-5,064.07	-123.18	527.89	374.63	153.26	3.444	
13,800.00	8,770.00	14,088.60	9,030.00	86.59	86.78	119.45		-5,164.07	-122.64	527.55	371.45	156.10	3.380	
13,900.00	8,770.00	14,188.60	9,030.00	88.19	88.38	119.47		-5,264.07	-122.11	527.21	368.27	158.94	3.317	
14,000.00	8,770.00	14,288.60	9,030.00	89.78	89.97	119.49		-5,364.07	-121.57	526.88	365.09	161.78	3.257	
14,100.00	8,770.00	14,388.60	9,030.00	91.38	91.57	119.52		-5,464.06	-121.04	526.54	361.91	164.63	3.198	
14,200.00	8,770.00	14,488.59	9,030.00	92.98	93.17	119.54		-5,564.06	-120.51	526.20	358.72	167.48	3.142	
14,300.00	8,770.00	14,588.59	9,030.00	94.58	94.77	119.56		-5,664.06	-119.97	525.86	355.54	170.33	3.087	
14,400.00	8,770.00	14,688.59	9,030.00	96.18	96.37	119.58		-5,764.06	-119.44	525.53	352.35	173.17	3.035	
14,500.00	8,770.00	14,788.59	9,030.00	97.78	97.97	119.60		-5,864.06	-118.90	525.19	349.17	176.03	2.984	
14,600.00	8,770.00	14,888.59	9,030.00	99.38	99.58	119.62		-5,964.05	-118.37	524.85	345.98	178.88	2.934	
14,700.00	8,770.00	14,988.59	9,030.00	100.99	101.18	119.64		-6,064.05	-117.84	524.52	342.79	181.73	2.886	
14,800.00	8,770.00	15,088.59	9,030.00	102.59	102.79	119.66		-6,164.05	-117.30	524.18	339.60	184.58	2.840	
14,900.00	8,770.00	15,188.59	9,030.00	104.20	104.40	119.68		-6,264.05	-116.77	523.84	336.41	187.44	2.795	
15,000.00	8,770.00	15,288.59	9,030.00	105.81	106.00	119.70		-6,364.04	-116.23	523.51	333.22	190.29	2.751	
15,100.00	8,770.00	15,388.59	9,030.00	107.42	107.61	119.72		-6,464.04	-115.70	523.17	330.02	193.15	2.709	
15,200.00	8,770.00	15,488.59	9,030.00	109.02	109.22	119.75		-6,564.04	-115.16	522.83	326.83	196.00	2.667	
15,300.00	8,770.00	15,588.59	9,030.00	110.63	110.83	119.77		-6,664.04	-114.63	522.50	323.64	198.86	2.627	
15,400.00	8,770.00	15,688.59	9,030.00	112.24	112.44	119.79		-6,764.04	-114.10	522.16	320.45	201.71	2.589	

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 533H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: O-LEAM MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance		Warning						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
15,500.00	8,770.00	15,788.58	9,030.00	113.86	114.05	119.81	-8,864.03	-113.56	521.83	317.25	204.57	2.551		
15,600.00	8,770.00	15,888.58	9,030.00	115.47	115.67	119.83	-8,964.03	-113.03	521.49	314.06	207.43	2.514		
15,700.00	8,770.00	15,988.58	9,030.00	117.08	117.28	119.85	-7,064.03	-112.49	521.15	310.87	210.29	2.478		
15,800.00	8,770.00	16,088.58	9,030.00	118.69	118.89	119.87	-7,164.03	-111.96	520.82	307.67	213.14	2.444		
15,900.00	8,770.00	16,188.58	9,030.00	120.31	120.51	119.89	-7,264.03	-111.43	520.48	304.48	216.00	2.410		
16,000.00	8,770.00	16,288.58	9,030.00	121.92	122.12	119.91	-7,364.02	-110.89	520.15	301.29	218.86	2.377		
16,100.00	8,770.00	16,388.58	9,030.00	123.53	123.74	119.94	-7,464.02	-110.36	519.81	298.09	221.72	2.344		
16,200.00	8,770.00	16,488.58	9,030.00	125.15	125.35	119.96	-7,564.02	-109.82	519.47	294.90	224.57	2.313		
16,300.00	8,770.00	16,588.58	9,030.00	126.77	126.97	119.98	-7,664.02	-109.29	519.14	291.71	227.43	2.283		
16,400.00	8,770.00	16,688.58	9,030.00	128.38	128.59	120.00	-7,764.01	-108.75	518.80	288.52	230.29	2.253		
16,500.00	8,770.00	16,788.58	9,030.00	130.00	130.21	120.02	-7,864.01	-108.22	518.47	285.32	233.14	2.224		
16,600.00	8,770.00	16,888.58	9,030.00	131.62	131.82	120.04	-7,964.01	-107.69	518.13	282.13	236.00	2.195		
16,700.00	8,770.00	16,988.58	9,030.00	133.23	133.44	120.06	-8,064.01	-107.15	517.80	278.94	238.86	2.168		
16,800.00	8,770.00	17,088.58	9,030.00	134.85	135.06	120.09	-8,164.01	-106.62	517.46	275.75	241.71	2.141		
16,900.00	8,770.00	17,188.57	9,030.00	136.47	136.68	120.11	-8,264.00	-106.08	517.13	272.55	244.57	2.114		
17,000.00	8,770.00	17,288.57	9,030.00	138.09	138.30	120.13	-8,364.00	-105.55	516.79	269.36	247.43	2.089		
17,100.00	8,770.00	17,388.57	9,030.00	139.71	139.92	120.15	-8,464.00	-105.02	516.46	266.17	250.28	2.063		
17,200.00	8,770.00	17,488.57	9,030.00	141.33	141.54	120.17	-8,564.00	-104.48	516.12	262.98	253.14	2.039		
17,300.00	8,770.00	17,588.57	9,030.00	142.95	143.16	120.19	-8,663.99	-103.95	515.79	259.79	255.99	2.015		
17,400.00	8,770.00	17,688.57	9,030.00	144.57	144.78	120.22	-8,763.99	-103.41	515.45	256.60	258.85	1.991		
17,500.00	8,770.00	17,788.57	9,030.00	146.19	146.40	120.24	-8,863.99	-102.88	515.12	253.42	261.70	1.968		
17,600.00	8,770.00	17,888.57	9,030.00	147.81	148.03	120.26	-8,963.99	-102.34	514.78	250.23	264.55	1.946		
17,700.00	8,770.00	17,988.57	9,030.00	149.43	149.65	120.28	-9,063.99	-101.81	514.45	247.04	267.41	1.924		
17,800.00	8,770.00	18,088.57	9,030.00	151.05	151.27	120.30	-9,163.98	-101.28	514.11	243.85	270.26	1.902		
17,900.00	8,770.00	18,188.57	9,030.00	152.67	152.89	120.32	-9,263.98	-100.74	513.78	240.67	273.11	1.881		
18,000.00	8,770.00	18,288.57	9,030.00	154.30	154.52	120.35	-9,363.98	-100.21	513.44	237.48	275.96	1.861		
18,100.00	8,770.00	18,388.57	9,030.00	155.92	156.14	120.37	-9,463.98	-99.67	513.11	234.30	278.81	1.840		
18,200.00	8,770.00	18,488.56	9,030.00	157.54	157.76	120.39	-9,563.98	-99.14	512.77	231.11	281.66	1.821		
18,300.00	8,770.00	18,588.56	9,030.00	159.16	159.39	120.41	-9,663.97	-98.60	512.44	227.93	284.51	1.801		
18,400.00	8,770.00	18,688.56	9,030.00	160.79	161.01	120.43	-9,763.97	-98.07	512.11	224.74	287.36	1.782		
18,500.00	8,770.00	18,788.56	9,030.00	162.41	162.64	120.46	-9,863.97	-97.54	511.77	221.56	290.21	1.763		
18,600.00	8,770.00	18,888.56	9,030.00	164.03	164.26	120.48	-9,963.97	-97.00	511.44	218.38	293.06	1.745		
18,700.00	8,770.00	18,988.56	9,030.00	165.66	165.89	120.50	-10,063.96	-96.47	511.10	215.20	295.91	1.727		
18,800.00	8,770.00	19,088.56	9,030.00	167.28	167.51	120.52	-10,163.96	-95.93	510.77	212.02	298.75	1.710		
18,822.21	8,770.00	19,110.77	9,030.00	167.56	167.87	120.53	-10,186.17	-95.82	510.70	211.39	299.30	1.706 SF		

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 535H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: O-LEAM MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Tooface (")	Distance		Between Centres (usft)	Between Ellipses (usft)	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)						
5,200.00	5,194.92	5,171.33	5,167.55	11.51	11.52	14.71	95.84	1,652.78	1,534.60	1,511.76	22.85	67.174		
5,300.00	5,294.55	5,270.85	5,266.59	11.75	11.75	14.44	105.41	1,654.15	1,528.06	1,504.76	23.30	65.585		
5,400.00	5,394.18	5,370.36	5,365.63	11.99	11.99	14.16	114.98	1,655.52	1,521.55	1,497.80	23.75	64.054		
5,500.00	5,493.81	5,469.87	5,464.68	12.22	12.23	13.88	124.55	1,656.90	1,515.08	1,490.87	24.21	62.577		
5,600.00	5,593.44	5,569.38	5,563.72	12.46	12.47	13.60	134.12	1,658.27	1,508.65	1,483.98	24.67	61.152		
5,700.00	5,693.08	5,668.89	5,662.76	12.71	12.71	13.31	143.69	1,659.64	1,502.25	1,477.12	25.13	59.778		
5,800.00	5,792.71	5,768.41	5,761.80	12.95	12.95	13.02	153.26	1,661.01	1,495.89	1,470.30	25.59	58.451		
5,900.00	5,892.34	5,867.92	5,860.84	13.19	13.19	12.73	162.82	1,662.38	1,489.57	1,463.52	26.06	57.170		
6,000.00	5,991.97	5,967.43	5,959.88	13.43	13.44	12.44	172.39	1,663.75	1,483.29	1,456.77	26.52	55.932		
6,100.00	6,091.60	6,066.94	6,058.93	13.68	13.68	12.14	181.96	1,665.12	1,477.05	1,450.06	26.98	54.736		
6,200.00	6,191.23	6,166.46	6,157.97	13.92	13.93	11.85	191.53	1,666.49	1,470.84	1,443.39	27.45	53.580		
6,300.00	6,290.86	6,265.97	6,257.01	14.17	14.17	11.55	201.10	1,667.86	1,464.68	1,436.76	27.92	52.462		
6,400.00	6,390.49	6,365.48	6,356.05	14.41	14.42	11.24	210.67	1,669.24	1,458.56	1,430.17	28.39	51.381		
6,500.00	6,490.12	6,464.99	6,455.09	14.66	14.67	10.94	220.24	1,670.61	1,452.48	1,423.62	28.86	50.335		
6,600.00	6,589.75	6,564.51	6,554.13	14.91	14.91	10.63	229.81	1,671.98	1,446.44	1,417.11	29.33	49.322		
6,700.00	6,689.38	6,664.02	6,653.18	15.16	15.16	10.32	239.38	1,673.35	1,440.44	1,410.64	29.80	48.341		
6,800.00	6,789.01	6,763.53	6,752.22	15.40	15.41	10.01	248.95	1,674.72	1,434.48	1,404.21	30.27	47.392		
6,900.00	6,888.64	6,863.04	6,851.26	15.65	15.66	9.69	258.52	1,676.09	1,428.57	1,397.83	30.74	46.471		
7,000.00	6,988.27	6,962.56	6,950.30	15.90	15.92	9.37	268.09	1,677.46	1,422.70	1,391.49	31.21	45.579		
7,100.00	7,087.90	7,062.07	7,049.34	16.15	16.17	9.05	277.66	1,678.83	1,416.88	1,385.19	31.69	44.715		
7,200.00	7,187.53	7,161.58	7,148.38	16.40	16.42	8.73	287.23	1,680.21	1,411.10	1,378.94	32.16	43.876		
7,300.00	7,287.16	7,261.09	7,247.43	16.65	16.67	8.40	296.80	1,681.58	1,405.37	1,372.73	32.64	43.062		
7,400.00	7,386.79	7,360.61	7,346.47	16.90	16.92	8.08	306.37	1,682.95	1,399.68	1,366.57	33.11	42.273		
7,500.00	7,486.42	7,460.12	7,445.51	17.15	17.18	7.74	315.94	1,684.32	1,394.04	1,360.46	33.59	41.506		
7,600.00	7,586.05	7,559.63	7,544.55	17.40	17.43	7.41	325.51	1,685.69	1,388.49	1,354.43	34.06	40.767		
7,700.00	7,685.68	7,659.72	7,654.22	17.60	17.66	7.06	334.97	1,687.05	1,384.37	1,349.90	34.47	40.159		
7,800.00	7,785.72	7,762.26	7,766.57	17.78	17.87	6.83	344.43	1,687.97	1,381.99	1,347.13	34.86	39.641		
7,891.62	7,877.32	7,885.58	7,889.84	17.95	18.06	6.71	344.48	1,688.41	1,381.29	1,346.08	35.21	39.233		
7,900.00	7,885.70	7,895.04	7,879.30	17.96	18.07	6.71	344.62	1,688.43	1,381.29	1,346.05	35.24	39.198		
8,000.00	7,985.70	8,001.05	7,985.30	18.15	18.26	79.78	344.98	1,688.48	1,381.38	1,345.75	35.62	38.776		
8,100.00	8,085.70	8,101.05	8,085.30	18.36	18.48	79.78	344.98	1,688.48	1,381.38	1,345.32	36.06	38.312		
8,200.00	8,185.70	8,201.05	8,185.30	18.57	18.69	79.78	344.98	1,688.48	1,381.38	1,344.89	36.49	37.858		
8,300.00	8,285.35	8,340.83	8,324.68	18.75	18.92	-100.23	337.44	1,688.49	1,381.83	1,344.95	36.87	37.477		
8,400.00	8,382.31	8,514.00	8,488.78	18.91	19.02	-99.85	284.24	1,688.56	1,380.56	1,343.52	37.04	37.272		
8,500.00	8,473.65	8,677.85	8,622.84	19.06	19.03	-98.88	191.01	1,688.69	1,377.37	1,340.25	37.12	37.104		
8,600.00	8,566.58	8,827.27	8,717.66	19.20	19.09	-97.54	76.08	1,688.84	1,373.07	1,335.75	37.33	36.786		
8,700.00	8,628.58	8,961.23	8,774.90	19.36	19.28	-96.00	-44.71	1,689.00	1,368.57	1,330.81	37.76	36.249		
8,800.00	8,687.47	9,081.25	8,801.14	19.57	19.61	-94.39	-161.60	1,689.16	1,364.61	1,326.20	38.41	35.524		
8,900.00	8,731.46	9,184.37	8,805.00	19.86	20.01	-92.90	-264.56	1,689.29	1,361.77	1,322.53	39.24	34.703		
9,000.00	8,759.21	9,280.31	8,805.00	20.28	20.50	-91.91	-360.50	1,689.42	1,360.53	1,320.30	40.23	33.816		
9,100.00	8,769.89	9,379.61	8,805.00	20.82	21.11	-91.50	-459.81	1,689.56	1,360.20	1,318.78	41.42	32.840		
9,200.00	8,770.00	9,479.61	8,805.00	21.47	21.84	-91.49	-559.80	1,689.69	1,360.18	1,317.38	42.80	31.781		
9,300.00	8,770.00	9,579.61	8,805.00	22.21	22.65	-91.49	-659.80	1,689.82	1,360.17	1,315.79	44.38	30.651		
9,400.00	8,770.00	9,679.61	8,805.00	23.05	23.56	-91.49	-759.80	1,689.96	1,360.15	1,314.02	46.13	29.485		
9,500.00	8,770.00	9,779.61	8,805.00	23.98	24.53	-91.49	-859.80	1,690.09	1,360.14	1,312.10	48.05	28.309		
9,600.00	8,770.00	9,879.61	8,805.00	24.97	25.58	-91.49	-959.80	1,690.22	1,360.13	1,310.03	50.10	27.148		
9,700.00	8,770.00	9,979.61	8,805.00	26.03	26.68	-91.49	-1,059.80	1,690.36	1,360.12	1,307.84	52.28	26.016		
9,800.00	8,770.00	10,079.61	8,805.00	27.15	27.84	-91.49	-1,159.80	1,690.49	1,360.10	1,305.54	54.57	24.925		
9,900.00	8,770.00	10,179.61	8,805.00	28.32	29.04	-91.49	-1,259.80	1,690.63	1,360.09	1,303.14	56.95	23.882		
10,000.00	8,770.00	10,279.61	8,805.00	29.53	30.29	-91.49	-1,359.80	1,690.76	1,360.08	1,300.66	59.42	22.889		
10,100.00	8,770.00	10,379.61	8,805.00	30.78	31.57	-91.49	-1,459.80	1,690.89	1,360.06	1,298.10	61.96	21.950		
10,200.00	8,770.00	10,479.61	8,805.00	32.07	32.88	-91.49	-1,559.80	1,691.03	1,360.05	1,295.48	64.57	21.063		

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

LEAM Drilling Services

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Lusitano
Site Error: 0.00 usft
Reference Well: Lusitano 27-34 Fed Com 523H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well Lusitano 27-34 Fed Com 523H
TVD Reference: 3332.6' GE + 23.5' KB @ 3356.10usft
MD Reference: 3332.6' GE + 23.5' KB @ 3356.10usft
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 Lusitano - Lusitano 27-34 Fed Com 535H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
10,300.00	8,770.00	10,579.61	8,805.00	33.38	34.22	-91.49	-1,659.80	1,691.16	1,360.04	1,292.80	67.24	20.228	
10,400.00	8,770.00	10,679.61	8,805.00	34.73	35.58	-91.49	-1,759.80	1,691.29	1,360.02	1,290.07	69.95	19.442	
10,500.00	8,770.00	10,779.61	8,805.00	36.09	36.96	-91.49	-1,859.80	1,691.43	1,360.01	1,287.29	72.72	18.703	
10,600.00	8,770.00	10,879.61	8,805.00	37.48	38.37	-91.49	-1,959.80	1,691.56	1,360.00	1,284.48	75.52	18.008	
10,700.00	8,770.00	10,979.61	8,805.00	38.89	39.79	-91.49	-2,059.80	1,691.69	1,359.98	1,281.62	78.36	17.356	
10,800.00	8,770.00	11,079.61	8,805.00	40.32	41.23	-91.49	-2,159.80	1,691.83	1,359.97	1,278.74	81.23	16.742	
10,900.00	8,770.00	11,179.61	8,805.00	41.76	42.68	-91.49	-2,259.80	1,691.96	1,359.96	1,275.83	84.13	16.164	
11,000.00	8,770.00	11,279.61	8,805.00	43.21	44.15	-91.49	-2,359.80	1,692.10	1,359.95	1,272.88	87.06	15.621	
11,100.00	8,770.00	11,379.61	8,805.00	44.68	45.63	-91.49	-2,459.80	1,692.23	1,359.93	1,269.92	90.01	15.108	
11,200.00	8,770.00	11,479.61	8,805.00	46.15	47.12	-91.49	-2,559.80	1,692.36	1,359.92	1,266.94	92.98	14.625	
11,300.00	8,770.00	11,579.61	8,805.00	47.64	48.61	-91.49	-2,659.80	1,692.50	1,359.91	1,263.93	95.98	14.169	
11,400.00	8,770.00	11,679.61	8,805.00	49.14	50.12	-91.49	-2,759.80	1,692.63	1,359.89	1,260.91	98.98	13.738	
11,500.00	8,770.00	11,779.61	8,805.00	50.65	51.63	-91.49	-2,859.80	1,692.76	1,359.88	1,257.87	102.01	13.331	
11,600.00	8,770.00	11,879.61	8,805.00	52.16	53.15	-91.49	-2,959.80	1,692.90	1,359.87	1,254.82	105.05	12.945	
11,700.00	8,770.00	11,979.61	8,805.00	53.68	54.68	-91.49	-3,059.80	1,693.03	1,359.85	1,251.75	108.10	12.579	
11,800.00	8,770.00	12,079.61	8,805.00	55.21	56.21	-91.49	-3,159.80	1,693.17	1,359.84	1,248.67	111.17	12.232	
11,900.00	8,770.00	12,179.61	8,805.00	56.74	57.75	-91.49	-3,259.80	1,693.30	1,359.83	1,245.58	114.25	11.903	
12,000.00	8,770.00	12,279.61	8,805.00	58.28	59.30	-91.49	-3,359.80	1,693.43	1,359.82	1,242.48	117.33	11.589	
12,100.00	8,770.00	12,379.61	8,805.00	59.83	60.85	-91.49	-3,459.80	1,693.57	1,359.80	1,239.37	120.43	11.291	
12,200.00	8,770.00	12,479.61	8,805.00	61.38	62.40	-91.49	-3,559.80	1,693.70	1,359.79	1,236.25	123.54	11.007	
12,300.00	8,770.00	12,579.61	8,805.00	62.93	63.96	-91.49	-3,659.80	1,693.83	1,359.78	1,233.13	126.65	10.737	
12,400.00	8,770.00	12,679.61	8,805.00	64.49	65.52	-91.49	-3,759.80	1,693.97	1,359.76	1,229.99	129.77	10.478	
12,500.00	8,770.00	12,779.61	8,805.00	66.05	67.08	-91.49	-3,859.80	1,694.10	1,359.75	1,226.85	132.90	10.231	
12,600.00	8,770.00	12,879.61	8,805.00	67.61	68.65	-91.49	-3,959.80	1,694.23	1,359.74	1,223.70	136.04	9.995	
12,700.00	8,770.00	12,979.61	8,805.00	69.18	70.22	-91.49	-4,059.80	1,694.37	1,359.72	1,220.55	139.18	9.770	
12,800.00	8,770.00	13,079.61	8,805.00	70.75	71.80	-91.49	-4,159.80	1,694.50	1,359.71	1,217.39	142.33	9.554	
12,900.00	8,770.00	13,179.61	8,805.00	72.33	73.37	-91.49	-4,259.80	1,694.64	1,359.70	1,214.22	145.48	9.346	
13,000.00	8,770.00	13,279.61	8,805.00	73.90	74.95	-91.49	-4,359.80	1,694.77	1,359.68	1,211.05	148.64	9.148	
13,100.00	8,770.00	13,379.61	8,805.00	75.48	76.53	-91.49	-4,459.80	1,694.90	1,359.67	1,207.87	151.80	8.957	
13,200.00	8,770.00	13,479.61	8,805.00	77.06	78.12	-91.49	-4,559.80	1,695.04	1,359.66	1,204.69	154.97	8.774	
13,300.00	8,770.00	13,579.61	8,805.00	78.65	79.70	-91.49	-4,659.80	1,695.17	1,359.65	1,201.51	158.14	8.598	
13,400.00	8,770.00	13,679.61	8,805.00	80.23	81.29	-91.49	-4,759.80	1,695.30	1,359.63	1,198.32	161.31	8.429	
13,500.00	8,770.00	13,779.61	8,805.00	81.82	82.88	-91.49	-4,859.80	1,695.44	1,359.62	1,195.13	164.49	8.266	
13,600.00	8,770.00	13,879.61	8,805.00	83.41	84.47	-91.49	-4,959.80	1,695.57	1,359.61	1,191.93	167.67	8.109	
13,700.00	8,770.00	13,979.61	8,805.00	85.00	86.07	-91.49	-5,059.80	1,695.71	1,359.59	1,188.73	170.86	7.957	
13,800.00	8,770.00	14,079.61	8,805.00	86.59	87.66	-91.49	-5,159.80	1,695.84	1,359.58	1,185.53	174.05	7.812	
13,900.00	8,770.00	14,179.61	8,805.00	88.19	89.26	-91.49	-5,259.80	1,695.97	1,359.57	1,182.33	177.24	7.671	
14,000.00	8,770.00	14,279.61	8,805.00	89.78	90.85	-91.49	-5,359.80	1,696.11	1,359.55	1,179.12	180.43	7.535	
14,100.00	8,770.00	14,379.61	8,805.00	91.38	92.45	-91.49	-5,459.80	1,696.24	1,359.54	1,175.91	183.63	7.404	
14,200.00	8,770.00	14,479.61	8,805.00	92.98	94.05	-91.49	-5,559.80	1,696.37	1,359.53	1,172.70	186.83	7.277	
14,300.00	8,770.00	14,579.61	8,805.00	94.58	95.65	-91.49	-5,659.80	1,696.51	1,359.52	1,169.48	190.03	7.154	
14,400.00	8,770.00	14,679.61	8,805.00	96.18	97.26	-91.49	-5,759.80	1,696.64	1,359.50	1,166.26	193.24	7.035	
14,500.00	8,770.00	14,779.61	8,805.00	97.78	98.86	-91.49	-5,859.80	1,696.77	1,359.49	1,163.04	196.44	6.920	
14,600.00	8,770.00	14,879.61	8,805.00	99.38	100.46	-91.49	-5,959.80	1,696.91	1,359.48	1,159.82	199.65	6.809	
14,700.00	8,770.00	14,979.61	8,805.00	100.99	102.07	-91.49	-6,059.80	1,697.04	1,359.46	1,156.60	202.86	6.701	
14,800.00	8,770.00	15,079.61	8,805.00	102.59	103.68	-91.49	-6,159.80	1,697.18	1,359.45	1,153.37	206.08	6.597	
14,900.00	8,770.00	15,179.61	8,805.00	104.20	105.28	-91.49	-6,259.80	1,697.31	1,359.44	1,150.15	209.29	6.495	
15,000.00	8,770.00	15,279.61	8,805.00	105.81	106.89	-91.49	-6,359.80	1,697.44	1,359.42	1,146.92	212.51	6.397	
15,100.00	8,770.00	15,379.61	8,805.00	107.42	108.50	-91.49	-6,459.80	1,697.58	1,359.41	1,143.69	215.72	6.302	
15,200.00	8,770.00	15,479.61	8,805.00	109.02	110.11	-91.49	-6,559.80	1,697.71	1,359.40	1,140.46	218.94	6.209	
15,300.00	8,770.00	15,579.61	8,805.00	110.63	111.72	-91.49	-6,659.80	1,697.84	1,359.38	1,137.22	222.16	6.119	
15,400.00	8,770.00	15,679.61	8,805.00	112.24	113.33	-91.49	-6,759.80	1,697.98	1,359.37	1,133.99	225.38	6.031	

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 535H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
15,500.00	8,770.00	15,779.61	8,805.00	113.86	114.94	-91.49	-6,859.80	1,698.11	1,359.36	1,130.75	228.61	5.946		
15,600.00	8,770.00	15,879.61	8,805.00	115.47	116.56	-91.49	-6,959.80	1,698.24	1,359.35	1,127.51	231.83	5.863		
15,700.00	8,770.00	15,979.61	8,805.00	117.08	118.17	-91.49	-7,059.80	1,698.38	1,359.33	1,124.27	235.06	5.783		
15,800.00	8,770.00	16,079.61	8,805.00	118.69	119.78	-91.49	-7,159.80	1,698.51	1,359.32	1,121.03	238.29	5.705		
15,900.00	8,770.00	16,179.61	8,805.00	120.31	121.40	-91.49	-7,259.80	1,698.65	1,359.31	1,117.79	241.51	5.628		
16,000.00	8,770.00	16,279.61	8,805.00	121.92	123.01	-91.49	-7,359.80	1,698.78	1,359.29	1,114.55	244.74	5.554		
16,100.00	8,770.00	16,379.61	8,805.00	123.53	124.63	-91.49	-7,459.80	1,698.91	1,359.28	1,111.31	247.97	5.482		
16,200.00	8,770.00	16,479.61	8,805.00	125.15	126.24	-91.49	-7,559.80	1,699.05	1,359.27	1,108.06	251.20	5.411		
16,300.00	8,770.00	16,579.61	8,805.00	126.77	127.86	-91.49	-7,659.80	1,699.18	1,359.25	1,104.82	254.44	5.342		
16,400.00	8,770.00	16,679.61	8,805.00	128.38	129.48	-91.49	-7,759.80	1,699.31	1,359.24	1,101.57	257.67	5.275		
16,500.00	8,770.00	16,779.61	8,805.00	130.00	131.10	-91.49	-7,859.80	1,699.45	1,359.23	1,098.32	260.90	5.210		
16,600.00	8,770.00	16,879.61	8,805.00	131.62	132.71	-91.49	-7,959.80	1,699.58	1,359.21	1,095.08	264.14	5.146		
16,700.00	8,770.00	16,979.61	8,805.00	133.23	134.33	-91.49	-8,059.80	1,699.72	1,359.20	1,091.83	267.38	5.083		
16,800.00	8,770.00	17,079.61	8,805.00	134.85	135.95	-91.49	-8,159.80	1,699.85	1,359.19	1,088.58	270.61	5.023		
16,900.00	8,770.00	17,179.61	8,805.00	136.47	137.57	-91.49	-8,259.80	1,699.98	1,359.18	1,085.33	273.85	4.963		
17,000.00	8,770.00	17,279.61	8,805.00	138.09	139.19	-91.49	-8,359.80	1,700.12	1,359.16	1,082.07	277.09	4.905		
17,100.00	8,770.00	17,379.61	8,805.00	139.71	140.81	-91.49	-8,459.80	1,700.25	1,359.15	1,078.82	280.33	4.848		
17,200.00	8,770.00	17,479.61	8,805.00	141.33	142.43	-91.49	-8,559.80	1,700.38	1,359.14	1,075.57	283.57	4.793		
17,300.00	8,770.00	17,579.61	8,805.00	142.95	144.05	-91.49	-8,659.80	1,700.52	1,359.12	1,072.32	286.81	4.739		
17,400.00	8,770.00	17,679.61	8,805.00	144.57	145.67	-91.49	-8,759.80	1,700.65	1,359.11	1,069.06	290.05	4.686		
17,500.00	8,770.00	17,779.61	8,805.00	146.19	147.29	-91.49	-8,859.80	1,700.78	1,359.10	1,065.81	293.29	4.634		
17,600.00	8,770.00	17,879.61	8,805.00	147.81	148.91	-91.49	-8,959.80	1,700.92	1,359.08	1,062.55	296.53	4.583		
17,700.00	8,770.00	17,979.61	8,805.00	149.43	150.53	-91.49	-9,059.80	1,701.05	1,359.07	1,059.30	299.77	4.534		
17,800.00	8,770.00	18,079.61	8,805.00	151.05	152.16	-91.49	-9,159.80	1,701.19	1,359.06	1,056.04	303.02	4.485		
17,900.00	8,770.00	18,179.61	8,805.00	152.67	153.78	-91.49	-9,259.80	1,701.32	1,359.05	1,052.78	306.26	4.438		
18,000.00	8,770.00	18,279.61	8,805.00	154.30	155.40	-91.49	-9,359.80	1,701.45	1,359.03	1,049.53	309.51	4.391		
18,100.00	8,770.00	18,379.61	8,805.00	155.92	157.02	-91.49	-9,459.80	1,701.59	1,359.02	1,046.27	312.75	4.345		
18,200.00	8,770.00	18,479.61	8,805.00	157.54	158.65	-91.49	-9,559.80	1,701.72	1,359.01	1,043.01	316.00	4.301		
18,300.00	8,770.00	18,579.61	8,805.00	159.16	160.27	-91.49	-9,659.80	1,701.85	1,358.99	1,039.75	319.24	4.257		
18,400.00	8,770.00	18,679.61	8,805.00	160.79	161.89	-91.49	-9,759.80	1,701.99	1,358.98	1,036.49	322.49	4.214		
18,500.00	8,770.00	18,779.61	8,805.00	162.41	163.52	-91.49	-9,859.80	1,702.12	1,358.97	1,033.23	325.74	4.172		
18,600.00	8,770.00	18,879.61	8,805.00	164.03	165.14	-91.49	-9,959.80	1,702.26	1,358.95	1,029.97	328.98	4.131		
18,700.00	8,770.00	18,979.61	8,805.00	165.66	166.77	-91.49	-10,059.80	1,702.39	1,358.94	1,026.71	332.23	4.090		
18,800.00	8,770.00	19,079.61	8,805.00	167.28	168.39	-91.49	-10,159.80	1,702.52	1,358.93	1,023.45	335.48	4.051		
18,813.14	8,770.00	19,092.58	8,805.00	167.45	168.60	-91.49	-10,172.76	1,702.54	1,358.93	1,023.07	335.86	4.046 CC		
18,822.21	8,770.00	19,092.58	8,805.00	167.56	168.60	-91.49	-10,172.76	1,702.54	1,358.96	1,022.96	336.00	4.045 ES, SF		

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 622H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: O-LEAM MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	2.30	2.30	0.00	0.00	-21.70	149.61	-59.53	161.02				
100.00	100.00	102.30	102.30	0.09	0.09	-21.70	149.61	-59.53	161.02	160.84	0.18	909.114	
200.00	200.00	202.30	202.30	0.31	0.32	-21.70	149.61	-59.53	161.02	160.39	0.63	256.952	
300.00	300.00	302.30	302.30	0.54	0.54	-21.70	149.61	-59.53	161.02	159.94	1.08	149.620	
400.00	400.00	402.30	402.30	0.76	0.77	-21.70	149.61	-59.53	161.02	159.49	1.53	105.537	
500.00	500.00	502.30	502.30	0.99	0.99	-21.70	149.61	-59.53	161.02	159.04	1.98	81.518	
600.00	600.00	602.30	602.30	1.21	1.21	-21.70	149.61	-59.53	161.02	158.59	2.42	66.406	
700.00	700.00	702.30	702.30	1.43	1.44	-21.70	149.61	-59.53	161.02	158.14	2.87	56.020	
800.00	800.00	802.30	802.30	1.66	1.66	-21.70	149.61	-59.53	161.02	157.69	3.32	48.444	
900.00	900.00	902.30	902.30	1.88	1.89	-21.70	149.61	-59.53	161.02	157.25	3.77	42.672	
1,000.00	1,000.00	1,002.30	1,002.30	2.11	2.11	-21.70	149.61	-59.53	161.02	156.80	4.22	38.130	
1,100.00	1,100.00	1,102.30	1,102.30	2.33	2.34	-21.70	149.61	-59.53	161.02	156.35	4.67	34.461	
1,200.00	1,200.00	1,202.30	1,202.30	2.56	2.56	-21.70	149.61	-59.53	161.02	155.90	5.12	31.437	
1,300.00	1,300.00	1,302.30	1,302.30	2.78	2.79	-21.70	149.61	-59.53	161.02	155.45	5.57	28.900	
1,400.00	1,400.00	1,402.30	1,402.30	3.01	3.01	-21.70	149.61	-59.53	161.02	155.00	6.02	26.743	
1,500.00	1,500.00	1,502.30	1,502.30	3.23	3.24	-21.70	149.61	-59.53	161.02	154.55	6.47	24.885	
1,600.00	1,600.00	1,602.30	1,602.30	3.46	3.46	-21.70	149.61	-59.53	161.02	154.10	6.92	23.268	
1,700.00	1,700.00	1,702.30	1,702.30	3.68	3.69	-21.70	149.61	-59.53	161.02	153.65	7.37	21.849	
1,800.00	1,800.00	1,802.30	1,802.30	3.91	3.91	-21.70	149.61	-59.53	161.02	153.20	7.82	20.593	
1,900.00	1,900.00	1,902.30	1,902.30	4.13	4.14	-21.70	149.61	-59.53	161.02	152.75	8.27	19.473	
2,000.00	2,000.00	2,002.30	2,002.30	4.36	4.36	-21.70	149.61	-59.53	161.02	152.30	8.72	18.469	
2,100.00	2,100.00	2,102.30	2,102.30	4.58	4.59	-21.70	149.61	-59.53	161.02	151.85	9.17	17.564	
2,200.00	2,200.00	2,202.30	2,202.30	4.81	4.81	-21.70	149.61	-59.53	161.02	151.40	9.62	16.743	
2,300.00	2,300.00	2,302.30	2,302.30	5.03	5.04	-21.70	149.61	-59.53	161.02	150.95	10.07	15.995	
2,400.00	2,400.00	2,402.30	2,402.30	5.26	5.26	-21.70	149.61	-59.53	161.02	150.50	10.52	15.311	
2,500.00	2,500.00	2,502.30	2,502.30	5.48	5.49	-21.70	149.61	-59.53	161.02	150.05	10.97	14.684	
2,600.00	2,600.00	2,602.30	2,602.30	5.71	5.71	-21.70	149.61	-59.53	161.02	149.60	11.42	14.105	
2,700.00	2,700.00	2,702.30	2,702.30	5.93	5.94	-21.70	149.61	-59.53	161.02	149.15	11.86	13.571	
2,800.00	2,800.00	2,802.30	2,802.30	6.15	6.16	-21.70	149.61	-59.53	161.02	148.70	12.31	13.076	
2,900.00	2,900.00	2,902.30	2,902.30	6.38	6.38	-21.70	149.61	-59.53	161.02	148.25	12.76	12.615	
2,915.88	2,915.88	2,918.18	2,918.18	6.42	6.42	-21.70	149.61	-59.53	161.02	148.18	12.84	12.545 CC	
3,000.00	3,000.00	3,002.24	3,002.24	6.60	6.61	-21.70	149.61	-59.53	161.02	147.81	13.21	12.186 ES	
3,100.00	3,100.00	3,100.00	3,099.99	6.83	6.83	-21.58	150.48	-59.53	161.85	148.19	13.66	11.851	
3,200.00	3,200.00	3,198.70	3,198.67	7.05	7.05	-21.30	152.71	-59.53	163.95	149.85	14.10	11.626	
3,300.00	3,300.00	3,298.67	3,298.61	7.28	7.28	-21.00	155.09	-59.53	166.16	151.61	14.55	11.420	
3,400.00	3,400.00	3,398.64	3,398.56	7.50	7.50	-20.71	157.46	-59.53	168.38	153.38	15.00	11.226	
3,500.00	3,500.00	3,498.62	3,498.50	7.73	7.73	-93.52	159.84	-59.53	170.61	155.16	15.45	11.043	
3,600.00	3,599.99	3,598.59	3,598.45	7.94	7.95	-93.51	162.21	-59.53	172.89	157.00	15.89	10.881	
3,700.00	3,699.96	3,698.54	3,698.37	8.15	8.17	-94.08	164.59	-59.53	175.28	158.97	16.32	10.741	
3,800.00	3,799.86	3,798.45	3,798.25	8.36	8.40	-95.18	166.96	-59.53	177.85	161.10	16.75	10.617	
3,900.00	3,899.67	3,898.27	3,898.05	8.57	8.62	-96.80	169.33	-59.53	180.68	163.49	17.19	10.513	
4,000.00	3,999.36	3,997.99	3,997.73	8.78	8.85	-98.90	171.70	-59.53	183.92	166.30	17.62	10.436	
4,100.00	4,098.99	4,097.65	4,097.37	9.00	9.07	-101.17	174.07	-59.53	187.54	169.48	18.06	10.383	
4,200.00	4,198.62	4,197.31	4,197.00	9.22	9.30	-103.35	176.44	-59.53	191.45	172.95	18.50	10.347	
4,300.00	4,298.25	4,296.97	4,296.63	9.44	9.52	-105.45	178.81	-59.53	195.63	176.69	18.95	10.326	
4,400.00	4,397.88	4,396.64	4,396.27	9.66	9.74	-107.45	181.18	-59.53	200.06	180.67	19.39	10.318 SF	
4,500.00	4,497.51	4,496.30	4,495.90	9.89	9.97	-109.37	183.54	-59.53	204.73	184.89	19.84	10.321	
4,600.00	4,597.14	4,595.96	4,595.53	10.12	10.19	-111.19	185.91	-59.53	209.61	189.33	20.28	10.335	
4,700.00	4,696.77	4,695.62	4,695.17	10.34	10.42	-112.94	188.28	-59.53	214.70	193.97	20.73	10.357	
4,800.00	4,796.40	4,795.28	4,794.80	10.57	10.64	-114.60	190.65	-59.53	219.97	198.79	21.18	10.387	
4,900.00	4,896.03	4,894.94	4,894.43	10.81	10.87	-116.18	193.01	-59.53	225.43	203.80	21.63	10.424	
5,000.00	4,995.66	4,994.60	4,994.07	11.04	11.09	-117.69	195.38	-59.53	231.04	208.97	22.08	10.466	

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

LEAM Drilling Services

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Lusitano
Site Error: 0.00 usft
Reference Well: Lusitano 27-34 Fed Com 523H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well Lusitano 27-34 Fed Com 523H
TVD Reference: 3332.6' GE + 23.5' KB @ 3356.10usft
MD Reference: 3332.6' GE + 23.5' KB @ 3356.10usft
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 Lusitano - Lusitano 27-34 Fed Com 622H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: O-LEAM MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
5,100.00	5,095.29	5,094.26	5,093.70	11.27	11.32	-119.13	197.75	-59.53	236.81	214.29	22.53	10.513	
5,200.00	5,194.92	5,193.93	5,193.33	11.51	11.54	-120.49	200.12	-59.53	242.72	219.75	22.98	10.564	
5,300.00	5,294.55	5,293.59	5,292.97	11.75	11.76	-121.79	202.49	-59.53	248.77	225.34	23.43	10.619	
5,400.00	5,394.18	5,393.25	5,392.60	11.99	11.99	-123.03	204.85	-59.53	254.93	231.05	23.88	10.677	
5,500.00	5,493.81	5,492.91	5,492.23	12.22	12.21	-124.21	207.22	-59.53	261.21	236.88	24.33	10.737	
5,600.00	5,593.44	5,592.57	5,591.87	12.46	12.44	-125.34	209.59	-59.53	267.59	242.81	24.78	10.799	
5,700.00	5,693.08	5,692.23	5,691.50	12.71	12.66	-126.41	211.96	-59.53	274.07	248.84	25.23	10.862	
5,800.00	5,792.71	5,791.89	5,791.13	12.95	12.89	-127.43	214.33	-59.53	280.65	254.96	25.68	10.927	
5,900.00	5,892.34	5,891.56	5,890.76	13.19	13.11	-128.40	216.69	-59.53	287.30	261.17	26.14	10.992	
6,000.00	5,991.97	5,991.22	5,990.40	13.43	13.34	-129.33	219.06	-59.53	294.04	267.45	26.59	11.059	
6,100.00	6,091.60	6,090.88	6,090.03	13.68	13.56	-130.22	221.43	-59.53	300.85	273.81	27.04	11.126	
6,200.00	6,191.23	6,190.54	6,189.66	13.92	13.79	-131.07	223.80	-59.53	307.73	280.24	27.49	11.193	
6,300.00	6,290.86	6,290.20	6,289.30	14.17	14.01	-131.88	226.16	-59.53	314.68	286.73	27.95	11.260	
6,400.00	6,390.49	6,389.86	6,388.93	14.41	14.24	-132.66	228.53	-59.53	321.68	293.28	28.40	11.327	
6,500.00	6,490.12	6,489.52	6,488.56	14.66	14.46	-133.41	230.90	-59.53	328.74	299.89	28.85	11.393	
6,600.00	6,589.75	6,589.18	6,588.20	14.91	14.69	-134.12	233.27	-59.53	335.86	306.55	29.31	11.460	
6,700.00	6,689.38	6,688.85	6,687.83	15.16	14.92	-134.80	235.64	-59.53	343.02	313.26	29.76	11.526	
6,800.00	6,789.01	6,788.51	6,787.46	15.40	15.14	-135.46	238.00	-59.53	350.23	320.02	30.21	11.591	
6,900.00	6,888.64	6,888.17	6,887.10	15.65	15.37	-136.08	240.37	-59.53	357.48	326.82	30.67	11.656	
7,000.00	6,988.27	6,987.83	6,986.73	15.90	15.59	-136.69	242.74	-59.53	364.78	333.66	31.12	11.721	
7,100.00	7,087.90	7,087.49	7,086.36	16.15	15.82	-137.27	245.11	-59.53	372.11	340.54	31.58	11.784	
7,200.00	7,187.53	7,187.15	7,186.00	16.40	16.04	-137.82	247.48	-59.53	379.48	347.45	32.03	11.847	
7,300.00	7,287.16	7,286.81	7,285.63	16.65	16.27	-138.36	249.84	-59.53	386.89	354.40	32.49	11.910	
7,400.00	7,386.79	7,386.48	7,385.26	16.90	16.49	-138.88	252.21	-59.53	394.32	361.38	32.94	11.971	
7,500.00	7,486.42	7,486.14	7,484.90	17.15	16.72	-139.37	254.58	-59.53	401.79	368.40	33.39	12.032	
7,600.00	7,586.05	7,585.80	7,584.53	17.40	16.94	-139.86	256.95	-59.53	409.26	375.41	33.85	12.092	
7,700.00	7,685.81	7,685.58	7,684.29	17.60	17.17	-140.23	259.32	-59.53	415.43	381.17	34.26	12.126	
7,800.00	7,785.72	7,785.49	7,784.17	17.78	17.40	-140.34	261.69	-59.53	419.60	384.93	34.67	12.102	
7,900.00	7,885.70	7,885.46	7,884.11	17.96	17.62	-140.20	264.07	-59.53	421.76	386.67	35.08	12.021	
8,000.00	7,985.70	7,985.43	7,984.05	18.15	17.85	-66.81	266.44	-59.53	422.70	387.19	35.51	11.904	
8,100.00	8,085.70	8,085.40	8,083.99	18.36	18.07	-66.51	268.82	-59.53	423.64	387.69	35.95	11.784	
8,200.00	8,185.70	8,185.37	8,183.94	18.57	18.30	-66.22	271.19	-59.53	424.59	388.20	36.39	11.666	
8,300.00	8,285.35	8,284.83	8,283.36	18.75	18.53	114.65	273.55	-59.53	428.40	391.59	36.81	11.639	
8,400.00	8,382.31	8,381.20	8,379.70	18.91	18.74	116.61	275.84	-59.53	440.12	402.94	37.18	11.837	
8,500.00	8,473.65	8,471.54	8,470.03	19.06	18.95	119.07	277.99	-59.53	461.70	424.17	37.53	12.303	
8,600.00	8,556.58	8,553.13	8,551.58	19.20	19.13	121.16	279.93	-59.53	495.24	457.41	37.84	13.089	
8,700.00	8,628.58	8,623.47	8,621.90	19.36	19.29	121.94	281.60	-59.53	542.11	504.01	38.11	14.226	
8,800.00	8,687.47	8,680.43	8,678.85	19.57	19.42	120.49	282.95	-59.53	602.24	563.91	38.33	15.713	
8,900.00	8,731.46	8,722.27	8,720.68	19.86	19.52	115.65	283.95	-59.53	674.10	635.61	38.49	17.514	
9,000.00	8,759.21	8,747.74	8,746.14	20.28	19.57	105.81	284.55	-59.53	755.09	716.51	38.59	19.568	
9,100.00	8,769.89	8,756.05	8,754.45	20.82	19.59	89.56	284.75	-59.53	842.01	803.39	38.62	21.802	
9,200.00	8,770.00	8,753.78	8,752.18	21.47	19.59	87.03	284.70	-59.53	931.86	893.24	38.62	24.130	
9,300.00	8,770.00	8,751.41	8,749.81	22.21	19.58	86.69	284.64	-59.53	1,023.59	984.97	38.62	26.503	
9,400.00	8,770.00	8,749.03	8,747.43	23.05	19.58	86.34	284.58	-59.53	1,116.74	1,078.11	38.63	28.911	
9,500.00	8,770.00	8,746.66	8,745.06	23.98	19.57	85.99	284.53	-59.53	1,210.97	1,172.34	38.64	31.343	
9,600.00	8,770.00	8,744.28	8,742.68	24.97	19.57	85.64	284.47	-59.53	1,306.06	1,267.41	38.65	33.795	
9,700.00	8,770.00	8,741.90	8,740.31	26.03	19.56	85.29	284.41	-59.53	1,401.83	1,363.17	38.66	36.260	
9,800.00	8,770.00	8,739.53	8,737.93	27.15	19.56	84.94	284.36	-59.53	1,498.14	1,459.47	38.68	38.736	
9,900.00	8,770.00	8,737.15	8,735.56	28.32	19.55	84.59	284.30	-59.53	1,594.91	1,556.22	38.69	41.219	
10,000.00	8,770.00	8,734.78	8,733.18	29.53	19.54	84.25	284.25	-59.53	1,692.05	1,653.34	38.71	43.709	
10,100.00	8,770.00	8,732.40	8,730.81	30.78	19.54	83.90	284.19	-59.53	1,789.50	1,750.77	38.73	46.201	
10,200.00	8,770.00	8,730.02	8,728.43	32.07	19.53	83.55	284.13	-59.53	1,887.22	1,848.46	38.75	48.696	

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
Lusitano - Lusitano 27-34 Fed Com 622H - OH - Plan #1												Offset Well Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,300.00	8,770.00	8,727.65	8,726.06	33.38	19.53	83.21	284.08	-59.53	1,985.16	1,946.38	38.78	51.192	
10,400.00	8,770.00	8,725.27	8,723.68	34.73	19.52	82.86	284.02	-59.53	2,083.29	2,044.49	38.80	53.688	

LEAM Drilling Services

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Lusitano
Site Error: 0.00 usft
Reference Well: Lusitano 27-34 Fed Com 523H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well Lusitano 27-34 Fed Com 523H
TVD Reference: 3332.6' GE + 23.5' KB @ 3356.10usft
MD Reference: 3332.6' GE + 23.5' KB @ 3356.10usft
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 Lusitano - Lusitano 27-34 Fed Com 624H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	4.20	4.20	0.00	0.00	84.33	159.78	1,610.53	1,618.44					
100.00	100.00	104.20	104.20	0.09	0.10	84.33	159.78	1,610.53	1,618.44	1,618.26	0.18	8,922.589		
200.00	200.00	204.20	204.20	0.31	0.32	84.33	159.78	1,610.53	1,618.44	1,617.81	0.63	2,565.207		
300.00	300.00	304.20	304.20	0.54	0.54	84.33	159.78	1,610.53	1,618.44	1,617.36	1.08	1,497.927		
400.00	400.00	404.20	404.20	0.76	0.77	84.33	159.78	1,610.53	1,618.44	1,616.91	1.53	1,057.814		
500.00	500.00	504.20	504.20	0.99	0.99	84.33	159.78	1,610.53	1,618.44	1,616.46	1.98	817.593		
600.00	600.00	604.20	604.20	1.21	1.22	84.33	159.78	1,610.53	1,618.44	1,616.01	2.43	666.285		
700.00	700.00	704.20	704.20	1.43	1.44	84.33	159.78	1,610.53	1,618.44	1,615.56	2.88	562.235		
800.00	800.00	804.20	804.20	1.66	1.67	84.33	159.78	1,610.53	1,618.44	1,615.11	3.33	486.293		
900.00	900.00	904.20	904.20	1.88	1.89	84.33	159.78	1,610.53	1,618.44	1,614.66	3.78	428.425		
1,000.00	1,000.00	1,004.20	1,004.20	2.11	2.12	84.33	159.78	1,610.53	1,618.44	1,614.21	4.23	382.865		
1,100.00	1,100.00	1,104.20	1,104.20	2.33	2.34	84.33	159.78	1,610.53	1,618.44	1,613.76	4.68	346.063		
1,200.00	1,200.00	1,204.20	1,204.20	2.56	2.57	84.33	159.78	1,610.53	1,618.44	1,613.31	5.13	315.716		
1,300.00	1,300.00	1,304.20	1,304.20	2.78	2.79	84.33	159.78	1,610.53	1,618.44	1,612.86	5.58	290.262		
1,400.00	1,400.00	1,404.20	1,404.20	3.01	3.02	84.33	159.78	1,610.53	1,618.44	1,612.41	6.03	268.607		
1,500.00	1,500.00	1,504.20	1,504.20	3.23	3.24	84.33	159.78	1,610.53	1,618.44	1,611.96	6.47	249.958		
1,600.00	1,600.00	1,604.20	1,604.20	3.46	3.47	84.33	159.78	1,610.53	1,618.44	1,611.51	6.92	233.731		
1,700.00	1,700.00	1,704.20	1,704.20	3.68	3.69	84.33	159.78	1,610.53	1,618.44	1,611.06	7.37	219.482		
1,800.00	1,800.00	1,804.20	1,804.20	3.91	3.92	84.33	159.78	1,610.53	1,618.44	1,610.61	7.82	206.870		
1,900.00	1,900.00	1,904.20	1,904.20	4.13	4.14	84.33	159.78	1,610.53	1,618.44	1,610.16	8.27	195.630		
2,000.00	2,000.00	2,004.20	2,004.20	4.36	4.37	84.33	159.78	1,610.53	1,618.44	1,609.71	8.72	185.547		
2,100.00	2,100.00	2,104.20	2,104.20	4.58	4.59	84.33	159.78	1,610.53	1,618.44	1,609.26	9.17	176.454		
2,200.00	2,200.00	2,204.20	2,204.20	4.81	4.82	84.33	159.78	1,610.53	1,618.44	1,608.81	9.62	168.209		
2,300.00	2,300.00	2,304.20	2,304.20	5.03	5.04	84.33	159.78	1,610.53	1,618.44	1,608.37	10.07	160.701		
2,400.00	2,400.00	2,404.20	2,404.20	5.26	5.27	84.33	159.78	1,610.53	1,618.44	1,607.92	10.52	153.835		
2,500.00	2,500.00	2,505.81	2,505.81	5.48	5.49	84.33	159.78	1,610.53	1,618.43	1,607.46	10.97	147.492		
2,600.00	2,600.00	2,644.15	2,644.14	5.71	5.78	84.32	159.95	1,608.72	1,617.15	1,605.67	11.48	140.838		
2,700.00	2,700.00	2,782.32	2,782.21	5.93	6.06	84.29	160.42	1,603.61	1,613.50	1,601.52	11.98	134.732		
2,800.00	2,800.00	2,898.88	2,898.57	6.15	6.30	84.24	161.04	1,596.98	1,607.85	1,595.42	12.43	129.345		
2,900.00	2,900.00	2,998.70	2,998.22	6.38	6.51	84.20	161.59	1,591.04	1,601.99	1,589.13	12.86	124.574		
3,000.00	3,000.00	3,098.52	3,097.86	6.60	6.73	84.16	162.15	1,585.09	1,596.12	1,582.83	13.29	120.098		
3,100.00	3,100.00	3,198.34	3,197.50	6.83	6.94	84.12	162.70	1,579.15	1,590.25	1,576.53	13.72	115.890		
3,200.00	3,200.00	3,298.16	3,297.14	7.05	7.16	84.08	163.25	1,573.21	1,584.38	1,570.23	14.16	111.929		
3,300.00	3,300.00	3,397.98	3,396.79	7.28	7.38	84.03	163.81	1,567.26	1,578.52	1,563.93	14.59	108.194		
3,400.00	3,400.00	3,497.80	3,496.43	7.50	7.59	83.99	164.36	1,561.32	1,572.65	1,557.63	15.03	104.668		
3,500.00	3,500.00	3,597.63	3,596.07	7.73	7.82	10.85	164.91	1,555.37	1,566.79	1,551.33	15.46	101.335		
3,600.00	3,599.99	3,697.39	3,695.66	7.94	8.04	10.83	165.47	1,549.43	1,560.06	1,544.17	15.89	98.187		
3,700.00	3,699.96	3,797.03	3,795.12	8.15	8.26	10.82	166.02	1,543.50	1,551.62	1,535.31	16.31	95.151		
3,800.00	3,799.86	3,896.51	3,894.42	8.36	8.49	10.83	166.57	1,537.58	1,541.48	1,524.75	16.73	92.158		
3,900.00	3,899.67	3,995.81	3,993.54	8.57	8.71	10.85	167.12	1,531.66	1,529.63	1,512.48	17.15	89.206		
4,000.00	3,999.36	4,094.89	4,092.44	8.78	8.94	10.88	167.67	1,525.76	1,516.09	1,498.52	17.57	86.292		
4,100.00	4,098.99	4,193.86	4,191.24	9.00	9.16	10.90	168.22	1,519.87	1,501.82	1,483.83	17.99	83.478		
4,200.00	4,198.62	4,292.84	4,290.04	9.22	9.39	10.92	168.77	1,513.98	1,487.55	1,469.14	18.41	80.784		
4,300.00	4,298.25	4,391.81	4,388.84	9.44	9.62	10.93	169.32	1,508.08	1,473.28	1,454.44	18.84	78.205		
4,400.00	4,397.88	4,490.79	4,487.64	9.66	9.84	10.95	169.87	1,502.19	1,459.02	1,439.75	19.27	75.734		
4,500.00	4,497.51	4,589.77	4,586.43	9.89	10.07	10.97	170.41	1,496.29	1,444.75	1,425.06	19.69	73.364		
4,600.00	4,597.14	4,688.74	4,685.23	10.12	10.30	10.99	170.96	1,490.40	1,430.48	1,410.36	20.12	71.090		
4,700.00	4,696.77	4,787.72	4,784.03	10.34	10.53	11.01	171.51	1,484.51	1,416.22	1,395.66	20.55	68.907		
4,800.00	4,796.40	4,886.69	4,882.83	10.57	10.76	11.03	172.06	1,478.61	1,401.95	1,380.96	20.98	66.810		
4,900.00	4,896.03	4,985.67	4,981.63	10.81	10.99	11.05	172.61	1,472.72	1,387.68	1,366.26	21.42	64.794		
5,000.00	4,995.66	5,084.65	5,080.43	11.04	11.22	11.07	173.16	1,466.82	1,373.42	1,351.56	21.85	62.855		
5,100.00	5,095.29	5,183.62	5,179.23	11.27	11.46	11.09	173.71	1,460.93	1,359.15	1,336.86	22.29	60.988		

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 624H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,300.00	8,770.00	8,829.24	8,818.32	33.38	20.17	-92.76	193.91	1,243.84	2,068.13	2,023.14	44.99	45.972		
10,400.00	8,770.00	8,828.67	8,817.75	34.73	20.16	-92.73	193.91	1,243.87	2,158.24	2,113.07	45.17	47.777		

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 713H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: O-LEAM MWD+HDGM												Offset Well Error:	0.00 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)					
0.00	0.00	2.40	2.40	0.00	0.00	0.17	150.00	0.45	150.00				
100.00	100.00	102.40	102.40	0.09	0.09	0.17	150.00	0.45	150.00	149.82	0.18	845.834	
200.00	200.00	202.40	202.40	0.31	0.32	0.17	150.00	0.45	150.00	149.37	0.63	239.284	
300.00	300.00	302.40	302.40	0.54	0.54	0.17	150.00	0.45	150.00	148.92	1.08	139.353	
400.00	400.00	402.40	402.40	0.76	0.77	0.17	150.00	0.45	150.00	148.47	1.53	98.301	
500.00	500.00	502.40	502.40	0.99	0.99	0.17	150.00	0.45	150.00	148.03	1.98	75.932	
600.00	600.00	602.40	602.40	1.21	1.22	0.17	150.00	0.45	150.00	147.58	2.43	61.856	
700.00	700.00	702.40	702.40	1.43	1.44	0.17	150.00	0.45	150.00	147.13	2.87	52.183	
800.00	800.00	802.40	802.40	1.66	1.66	0.17	150.00	0.45	150.00	146.68	3.32	45.126	
900.00	900.00	902.40	902.40	1.88	1.89	0.17	150.00	0.45	150.00	146.23	3.77	39.750	
1,000.00	1,000.00	1,002.40	1,002.40	2.11	2.11	0.17	150.00	0.45	150.00	145.78	4.22	35.519	
1,100.00	1,100.00	1,102.40	1,102.40	2.33	2.34	0.17	150.00	0.45	150.00	145.33	4.67	32.102	
1,200.00	1,200.00	1,202.40	1,202.40	2.56	2.56	0.17	150.00	0.45	150.00	144.88	5.12	29.284	
1,300.00	1,300.00	1,302.40	1,302.40	2.78	2.79	0.17	150.00	0.45	150.00	144.43	5.57	26.922	
1,400.00	1,400.00	1,402.40	1,402.40	3.01	3.01	0.17	150.00	0.45	150.00	143.98	6.02	24.912	
1,500.00	1,500.00	1,502.40	1,502.40	3.23	3.24	0.17	150.00	0.45	150.00	143.53	6.47	23.181	
1,600.00	1,600.00	1,602.40	1,602.40	3.46	3.46	0.17	150.00	0.45	150.00	143.08	6.92	21.675	
1,700.00	1,700.00	1,702.40	1,702.40	3.68	3.69	0.17	150.00	0.45	150.00	142.63	7.37	20.353	
1,800.00	1,800.00	1,802.40	1,802.40	3.91	3.91	0.17	150.00	0.45	150.00	142.18	7.82	19.183	
1,900.00	1,900.00	1,902.40	1,902.40	4.13	4.14	0.17	150.00	0.45	150.00	141.73	8.27	18.140	
2,000.00	2,000.00	2,002.40	2,002.40	4.36	4.36	0.17	150.00	0.45	150.00	141.28	8.72	17.205	
2,100.00	2,100.00	2,102.40	2,102.40	4.58	4.59	0.17	150.00	0.45	150.00	140.83	9.17	16.361	
2,200.00	2,200.00	2,202.40	2,202.40	4.81	4.81	0.17	150.00	0.45	150.00	140.38	9.62	15.597	
2,300.00	2,300.00	2,302.40	2,302.40	5.03	5.04	0.17	150.00	0.45	150.00	139.93	10.07	14.900	
2,400.00	2,400.00	2,402.40	2,402.40	5.26	5.26	0.17	150.00	0.45	150.00	139.48	10.52	14.263	
2,415.85	2,415.85	2,418.25	2,418.25	5.29	5.30	0.17	150.00	0.45	150.00	139.41	10.59	14.167 CC	
2,500.00	2,500.00	2,502.37	2,502.37	5.48	5.49	0.17	150.00	0.45	150.00	139.04	10.97	13.679	
2,600.00	2,600.00	2,601.31	2,601.31	5.71	5.70	0.58	150.36	1.51	150.37	138.97	11.40	13.186	
2,700.00	2,700.00	2,700.00	2,699.94	5.93	5.90	1.73	151.40	4.58	151.48	139.65	11.83	12.803	
2,800.00	2,800.00	2,798.82	2,798.60	6.15	6.11	3.62	153.11	9.68	153.47	141.20	12.26	12.515	
2,900.00	2,900.00	2,898.22	2,897.76	6.38	6.32	5.99	155.35	16.29	156.27	143.57	12.70	12.306	
3,000.00	3,000.00	2,997.96	2,997.25	6.60	6.54	8.31	157.62	23.01	159.37	146.23	13.14	12.130	
3,100.00	3,100.00	3,097.71	3,096.75	6.83	6.76	10.53	159.88	29.73	162.72	149.14	13.58	11.983	
3,200.00	3,200.00	3,197.46	3,196.24	7.05	6.98	12.67	162.15	36.45	166.31	152.29	14.02	11.861	
3,300.00	3,300.00	3,297.20	3,295.74	7.28	7.20	14.71	164.42	43.16	170.12	155.66	14.47	11.760	
3,400.00	3,400.00	3,396.95	3,395.23	7.50	7.43	16.66	166.69	49.88	174.14	159.23	14.91	11.679	
3,500.00	3,500.00	3,496.70	3,494.73	7.73	7.65	-54.57	168.96	56.60	178.35	162.99	15.36	11.614	
3,600.00	3,599.99	3,596.50	3,594.28	7.94	7.88	-52.99	171.23	63.32	182.21	166.41	15.79	11.537	
3,700.00	3,699.96	3,696.40	3,693.92	8.15	8.11	-51.90	173.50	70.05	185.11	168.89	16.22	11.411	
3,800.00	3,799.86	3,796.36	3,793.63	8.36	8.34	-51.26	175.77	76.78	186.98	170.33	16.66	11.227	
3,900.00	3,899.67	3,896.36	3,893.37	8.57	8.57	-51.06	178.04	83.52	187.77	170.68	17.09	10.986	
4,000.00	3,999.36	3,996.35	3,993.12	8.78	8.80	-51.29	180.32	90.25	187.47	169.94	17.53	10.692	
4,100.00	4,098.99	4,096.34	4,092.85	9.00	9.04	-51.68	182.59	96.99	186.71	168.73	17.98	10.384	
4,200.00	4,198.62	4,196.33	4,192.59	9.22	9.27	-52.09	184.86	103.72	185.96	167.53	18.43	10.091	
4,300.00	4,298.25	4,296.32	4,292.32	9.44	9.51	-52.49	187.14	110.46	185.22	166.34	18.88	9.810	
4,400.00	4,397.88	4,396.31	4,392.06	9.66	9.74	-52.90	189.41	117.19	184.49	165.15	19.34	9.541	
4,500.00	4,497.51	4,496.29	4,491.79	9.89	9.98	-53.31	191.68	123.92	183.77	163.97	19.79	9.285	
4,600.00	4,497.14	4,496.28	4,491.53	10.12	10.22	-53.73	193.96	130.66	183.05	162.80	20.25	9.039	
4,700.00	4,496.77	4,496.27	4,491.27	10.34	10.46	-54.15	196.23	137.39	182.35	161.64	20.71	8.803	
4,800.00	4,496.40	4,496.26	4,491.00	10.57	10.70	-54.57	198.50	144.13	181.65	160.48	21.18	8.578	
4,900.00	4,496.03	4,496.25	4,490.74	10.81	10.94	-54.99	200.78	150.86	180.97	159.33	21.64	8.362	
5,000.00	4,495.66	4,496.24	4,490.47	11.04	11.18	-55.42	203.05	157.60	180.30	158.19	22.11	8.154	

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 713H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.00	5,095.29	5,096.23	5,090.21	11.27	11.42	-55.85	205.32	164.33	179.63	157.05	22.58	7.955	
5,200.00	5,194.92	5,196.21	5,189.94	11.51	11.66	-56.29	207.60	171.06	178.98	155.93	23.05	7.764	
5,300.00	5,294.55	5,296.20	5,289.68	11.75	11.90	-56.72	209.87	177.80	178.34	154.81	23.53	7.580	
5,400.00	5,394.18	5,396.19	5,389.42	11.99	12.14	-57.17	212.14	184.53	177.70	153.70	24.00	7.404	
5,500.00	5,493.81	5,496.18	5,489.15	12.22	12.38	-57.61	214.42	191.27	177.08	152.60	24.48	7.234	
5,600.00	5,593.44	5,596.17	5,588.89	12.46	12.63	-58.06	216.69	198.00	176.47	151.51	24.96	7.071	
5,700.00	5,693.08	5,696.16	5,688.62	12.71	12.87	-58.51	218.96	204.74	175.87	150.43	25.44	6.914	
5,800.00	5,792.71	5,796.15	5,788.36	12.95	13.11	-58.96	221.24	211.47	175.28	149.36	25.92	6.763	
5,900.00	5,892.34	5,896.14	5,888.09	13.19	13.35	-59.42	223.51	218.20	174.70	148.30	26.40	6.617	
6,000.00	5,991.97	5,996.12	5,987.83	13.43	13.60	-59.87	225.79	224.94	174.13	147.25	26.89	6.477	
6,100.00	6,091.60	6,096.11	6,087.57	13.68	13.84	-60.34	228.06	231.67	173.58	146.21	27.37	6.341	
6,200.00	6,191.23	6,196.10	6,187.30	13.92	14.09	-60.80	230.33	238.41	173.03	145.17	27.86	6.211	
6,300.00	6,290.86	6,296.09	6,287.04	14.17	14.33	-61.27	232.61	245.14	172.50	144.15	28.35	6.085	
6,400.00	6,390.49	6,396.08	6,386.77	14.41	14.58	-61.74	234.88	251.87	171.98	143.14	28.84	5.964	
6,500.00	6,490.12	6,496.07	6,486.51	14.66	14.82	-62.21	237.15	258.61	171.47	142.14	29.33	5.847	
6,600.00	6,589.75	6,596.06	6,586.24	14.91	15.06	-62.69	239.43	265.34	170.97	141.15	29.82	5.733	
6,700.00	6,689.38	6,696.04	6,685.98	15.16	15.31	-63.17	241.70	272.08	170.48	140.17	30.31	5.624	
6,800.00	6,789.01	6,796.03	6,785.72	15.40	15.56	-63.65	243.97	278.81	170.01	139.20	30.81	5.519	
6,900.00	6,888.64	6,896.02	6,885.45	15.65	15.80	-64.14	246.25	285.55	169.55	138.24	31.30	5.417	
7,000.00	6,988.27	6,996.01	6,985.19	15.90	16.05	-64.62	248.52	292.28	169.10	137.30	31.80	5.318	
7,100.00	7,087.90	7,096.00	7,084.92	16.15	16.29	-65.11	250.79	299.01	168.66	136.36	32.29	5.223	
7,200.00	7,187.53	7,195.99	7,184.66	16.40	16.54	-65.61	253.07	305.75	168.23	135.44	32.79	5.130	
7,300.00	7,287.16	7,295.98	7,284.39	16.65	16.79	-66.10	255.34	312.48	167.82	134.53	33.29	5.041	
7,400.00	7,386.79	7,395.96	7,384.13	16.90	17.03	-66.60	257.61	319.22	167.42	133.63	33.79	4.955	
7,500.00	7,486.42	7,495.95	7,483.86	17.15	17.28	-67.10	259.89	325.95	167.03	132.74	34.29	4.871	
7,600.00	7,586.05	7,595.94	7,583.60	17.40	17.52	-67.59	262.16	332.69	166.67	131.88	34.79	4.791	
7,619.58	7,605.57	7,615.52	7,603.13	17.44	17.57	-67.64	262.61	334.00	166.65	131.78	34.87	4.779	
7,700.00	7,685.81	7,695.94	7,683.34	17.60	17.77	-67.53	264.43	339.42	166.97	131.75	35.22	4.740 ES	
7,800.00	7,785.72	7,795.89	7,783.05	17.78	18.02	-66.67	266.71	346.15	168.30	132.66	35.64	4.722 SF	
7,900.00	7,885.70	7,895.74	7,882.64	17.96	18.27	-65.04	268.98	352.88	170.75	134.72	36.03	4.739	
8,000.00	7,985.70	7,995.49	7,982.14	18.15	18.51	10.13	271.24	359.60	174.06	137.63	36.43	4.778	
8,100.00	8,085.70	8,095.23	8,081.63	18.36	18.76	12.14	273.51	366.31	177.60	140.76	36.84	4.821	
8,200.00	8,185.70	8,194.98	8,181.13	18.57	19.01	14.06	275.78	373.03	181.35	144.09	37.25	4.868	
8,300.00	8,285.35	8,294.22	8,280.11	18.75	19.25	-164.31	278.04	379.72	191.86	154.20	37.66	5.095	
8,400.00	8,382.31	8,390.40	8,376.05	18.91	19.49	-163.72	280.22	386.19	218.78	180.70	38.08	5.745	
8,500.00	8,473.65	8,480.58	8,466.00	19.06	19.71	-163.68	282.27	392.27	261.41	222.89	38.52	6.787	
8,600.00	8,566.58	8,562.04	8,547.26	19.20	19.91	-163.61	284.13	397.75	318.66	279.73	38.93	8.186	
8,700.00	8,628.58	8,632.30	8,617.33	19.36	20.09	-162.97	285.72	402.48	388.97	349.69	39.29	9.901	
8,800.00	8,687.47	8,689.22	8,674.11	19.57	20.23	-161.07	287.02	406.32	470.34	430.75	39.59	11.881	
8,900.00	8,731.46	8,731.06	8,715.85	19.86	20.33	-156.28	287.97	409.14	560.33	520.51	39.82	14.072	
9,000.00	8,759.21	8,756.57	8,741.30	20.28	20.40	-142.16	288.55	410.85	656.23	616.26	39.97	16.417	
9,100.00	8,769.89	8,764.97	8,749.67	20.82	20.42	-84.63	288.74	411.42	755.12	715.07	40.05	18.854	
9,200.00	8,770.00	8,762.82	8,747.53	21.47	20.41	-73.23	288.69	411.28	854.55	814.47	40.08	21.319	
9,300.00	8,770.00	8,760.56	8,745.27	22.21	20.41	-71.78	288.64	411.12	954.09	913.98	40.11	23.785	
9,400.00	8,770.00	8,758.29	8,743.01	23.05	20.40	-70.34	288.59	410.97	1,053.72	1,013.58	40.14	26.252	
9,500.00	8,770.00	8,756.03	8,740.75	23.98	20.39	-68.92	288.54	410.82	1,153.40	1,113.24	40.16	28.719	
9,600.00	8,770.00	8,753.76	8,738.49	24.97	20.39	-67.52	288.49	410.67	1,253.13	1,212.94	40.18	31.184	
9,700.00	8,770.00	8,751.50	8,736.24	26.03	20.38	-66.15	288.43	410.51	1,352.90	1,312.69	40.21	33.648	
9,800.00	8,770.00	8,749.24	8,733.98	27.15	20.38	-64.80	288.38	410.36	1,452.69	1,412.46	40.23	36.111	
9,900.00	8,770.00	8,746.97	8,731.72	28.32	20.37	-63.47	288.33	410.21	1,552.51	1,512.26	40.25	38.570	
10,000.00	8,770.00	8,744.71	8,729.46	29.53	20.37	-62.17	288.28	410.06	1,652.34	1,612.07	40.27	41.027	
10,100.00	8,770.00	8,742.44	8,727.20	30.78	20.36	-60.89	288.23	409.90	1,752.20	1,711.90	40.30	43.481	

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 713H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,200.00	8,770.00	8,740.18	8,724.95	32.07	20.36	-59.65	288.18	409.75	1,852.06	1,811.74	40.32	45.931		
10,300.00	8,770.00	8,737.92	8,722.69	33.38	20.35	-58.42	288.12	409.60	1,951.94	1,911.59	40.35	48.377		
10,400.00	8,770.00	8,735.65	8,720.43	34.73	20.34	-57.23	288.07	409.45	2,051.83	2,011.45	40.37	50.820		
10,500.00	8,770.00	8,733.39	8,718.17	36.09	20.34	-56.06	288.02	409.29	2,151.72	2,111.32	40.40	53.258		

LEAM Drilling Services

Anticollision Report

Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Lusitano
Site Error: 0.00 usft
Reference Well: Lusitano 27-34 Fed Com 523H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well Lusitano 27-34 Fed Com 523H
TVD Reference: 3332.6' GE + 23.5' KB @ 3356.10usft
MD Reference: 3332.6' GE + 23.5' KB @ 3356.10usft
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 Lusitano - Lusitano 27-34 Fed Com 716H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: O-LEAM MWD+HDDM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
4,900.00	4,896.03	5,034.44	5,032.50	10.81	11.10	12.79	188.55	2,255.51	2,170.45	2,148.77	21.68	100.113	
5,000.00	4,995.66	5,133.39	5,131.22	11.04	11.32	12.76	191.30	2,249.32	2,156.07	2,133.96	22.11	97.520	
5,100.00	5,095.29	5,232.34	5,229.94	11.27	11.54	12.72	194.06	2,243.13	2,141.69	2,119.15	22.54	95.021	
5,200.00	5,194.92	5,331.29	5,328.66	11.51	11.76	12.68	196.81	2,236.94	2,127.31	2,104.34	22.97	92.610	
5,300.00	5,294.55	5,430.25	5,427.38	11.75	11.99	12.65	199.56	2,230.76	2,112.94	2,089.53	23.40	90.283	
5,400.00	5,394.18	5,529.20	5,526.10	11.99	12.21	12.61	202.31	2,224.57	2,098.56	2,074.72	23.84	88.037	
5,500.00	5,493.81	5,628.15	5,624.82	12.22	12.44	12.57	205.06	2,218.38	2,084.18	2,059.91	24.27	85.867	
5,600.00	5,593.44	5,727.10	5,723.54	12.46	12.67	12.53	207.81	2,212.19	2,069.81	2,045.10	24.71	83.770	
5,700.00	5,693.08	5,826.05	5,822.26	12.71	12.89	12.49	210.57	2,206.01	2,055.43	2,030.29	25.15	81.743	
5,800.00	5,792.71	5,925.01	5,920.98	12.95	13.12	12.46	213.32	2,199.82	2,041.06	2,015.48	25.58	79.782	
5,900.00	5,892.34	6,023.96	6,019.70	13.19	13.35	12.42	216.07	2,193.63	2,026.69	2,000.67	26.02	77.884	
6,000.00	5,991.97	6,122.91	6,118.42	13.43	13.58	12.37	218.82	2,187.44	2,012.32	1,985.85	26.46	76.047	
6,100.00	6,091.60	6,221.86	6,217.14	13.68	13.81	12.33	221.57	2,181.26	1,997.95	1,971.04	26.90	74.268	
6,200.00	6,191.23	6,320.81	6,315.86	13.92	14.04	12.29	224.32	2,175.07	1,983.58	1,956.23	27.34	72.544	
6,300.00	6,290.86	6,419.76	6,414.58	14.17	14.27	12.25	227.08	2,168.88	1,969.21	1,941.42	27.79	70.873	
6,400.00	6,390.49	6,518.72	6,513.30	14.41	14.50	12.21	229.83	2,162.69	1,954.84	1,926.61	28.23	69.252	
6,500.00	6,490.12	6,617.67	6,612.02	14.66	14.74	12.16	232.58	2,156.51	1,940.48	1,911.80	28.67	67.680	
6,600.00	6,589.75	6,716.62	6,710.74	14.91	14.97	12.12	235.33	2,150.32	1,926.11	1,897.00	29.12	66.155	
6,700.00	6,689.38	6,815.57	6,809.46	15.16	15.20	12.07	238.08	2,144.13	1,911.75	1,882.19	29.56	64.674	
6,800.00	6,789.01	6,914.52	6,908.18	15.40	15.44	12.03	240.83	2,137.94	1,897.38	1,867.38	30.00	63.236	
6,900.00	6,888.64	7,013.48	7,006.90	15.65	15.67	11.98	243.59	2,131.76	1,883.02	1,852.57	30.45	61.838	
7,000.00	6,988.27	7,112.43	7,105.62	15.90	15.90	11.94	246.34	2,125.57	1,868.66	1,837.76	30.90	60.480	
7,100.00	7,087.90	7,211.38	7,204.34	16.15	16.14	11.89	249.09	2,119.38	1,854.30	1,822.96	31.34	59.160	
7,200.00	7,187.53	7,310.33	7,303.06	16.40	16.38	11.84	251.84	2,113.19	1,839.95	1,808.15	31.79	57.876	
7,300.00	7,287.16	7,409.28	7,401.78	16.65	16.61	11.79	254.59	2,107.01	1,825.59	1,793.35	32.24	56.626	
7,400.00	7,386.79	7,508.23	7,500.50	16.90	16.85	11.74	257.34	2,100.82	1,811.23	1,778.55	32.69	55.410	
7,500.00	7,486.42	7,607.19	7,599.22	17.15	17.08	11.69	260.10	2,094.63	1,796.88	1,763.74	33.14	54.227	
7,600.00	7,586.05	7,706.14	7,697.95	17.40	17.32	11.63	262.85	2,088.44	1,782.57	1,748.98	33.58	53.080	
7,700.00	7,685.68	7,805.32	7,796.89	17.60	17.56	11.53	265.61	2,082.24	1,769.93	1,735.93	33.99	52.068	
7,800.00	7,785.72	7,904.77	7,896.11	17.78	17.79	11.42	268.37	2,076.02	1,759.84	1,725.44	34.40	51.155	
7,900.00	7,885.70	8,004.44	7,995.54	17.96	18.03	11.29	271.14	2,069.79	1,752.31	1,717.50	34.81	50.338	
8,000.00	7,985.70	8,104.21	8,095.07	18.15	18.27	84.27	273.92	2,063.55	1,746.34	1,711.11	35.23	49.564	
8,100.00	8,085.70	8,203.97	8,194.61	18.36	18.51	84.16	276.69	2,057.31	1,740.40	1,704.72	35.68	48.781	
8,200.00	8,185.70	8,303.74	8,294.14	18.57	18.75	84.05	279.47	2,051.08	1,734.46	1,698.34	36.12	48.018	
8,300.00	8,285.35	8,402.96	8,393.13	18.75	18.99	-96.65	282.22	2,044.87	1,729.27	1,692.74	36.53	47.334	
8,400.00	8,382.31	8,499.03	8,488.97	18.91	19.22	-97.81	284.90	2,038.87	1,726.34	1,689.42	36.92	46.765	
8,446.34	8,425.51	8,541.66	8,531.50	18.97	19.33	-98.40	286.08	2,036.20	1,725.97	1,688.88	37.09	46.534 CC, ES	
8,500.00	8,473.65	8,589.02	8,578.75	19.06	19.44	-99.08	287.40	2,033.24	1,726.52	1,689.23	37.29	46.300	
8,600.00	8,556.58	8,670.20	8,659.74	19.20	19.64	-100.20	289.66	2,028.16	1,730.96	1,693.28	37.68	45.937	
8,700.00	8,628.58	8,740.10	8,729.48	19.36	19.81	-100.86	291.60	2,023.79	1,740.90	1,702.78	38.12	45.672	
8,800.00	8,687.47	8,796.61	8,785.85	19.57	19.94	-100.75	293.17	2,020.26	1,757.38	1,718.76	38.62	45.503	
8,900.00	8,731.46	8,837.99	8,827.14	19.86	20.04	-99.59	294.32	2,017.67	1,781.10	1,741.90	39.20	45.435 SF	
9,000.00	8,759.21	8,863.00	8,852.09	20.28	20.10	-97.17	295.02	2,016.11	1,812.12	1,772.27	39.84	45.480	
9,100.00	8,769.89	8,870.88	8,859.95	20.82	20.12	-93.37	295.24	2,015.61	1,849.83	1,809.31	40.52	45.650	
9,200.00	8,770.00	8,868.20	8,857.28	21.47	20.11	-92.78	295.16	2,015.78	1,892.81	1,851.59	41.22	45.917	
9,300.00	8,770.00	8,865.41	8,854.50	22.21	20.11	-92.68	295.08	2,015.95	1,939.99	1,898.04	41.95	46.241	
9,400.00	8,770.00	8,862.62	8,851.71	23.05	20.10	-92.59	295.01	2,016.13	1,991.08	1,948.38	42.70	46.630	
9,500.00	8,770.00	8,859.83	8,848.93	23.98	20.09	-92.49	294.93	2,016.30	2,045.78	2,002.34	43.44	47.094	
9,600.00	8,770.00	8,857.04	8,846.15	24.97	20.09	-92.40	294.85	2,016.48	2,103.82	2,059.65	44.17	47.633	
9,700.00	8,770.00	8,854.25	8,843.36	26.03	20.08	-92.30	294.77	2,016.65	2,164.91	2,120.04	44.87	48.249	

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 733H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM												Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	2.20	2.20	0.00	0.00	-30.92	149.43	-89.52	174.19				
100.00	100.00	102.20	102.20	0.09	0.09	-30.92	149.43	-89.52	174.19	174.02	0.18	984.746	
200.00	200.00	202.20	202.20	0.31	0.32	-30.92	149.43	-89.52	174.19	173.57	0.63	278.075	
300.00	300.00	302.20	302.20	0.54	0.54	-30.92	149.43	-89.52	174.19	173.12	1.08	161.896	
400.00	400.00	402.20	402.20	0.76	0.77	-30.92	149.43	-89.52	174.19	172.67	1.53	114.188	
500.00	500.00	502.20	502.20	0.99	0.99	-30.92	149.43	-89.52	174.19	172.22	1.98	88.198	
600.00	600.00	602.20	602.20	1.21	1.21	-30.92	149.43	-89.52	174.19	171.77	2.42	71.845	
700.00	700.00	702.20	702.20	1.43	1.44	-30.92	149.43	-89.52	174.19	171.32	2.87	60.608	
800.00	800.00	802.20	802.20	1.66	1.66	-30.92	149.43	-89.52	174.19	170.87	3.32	52.411	
900.00	900.00	902.20	902.20	1.88	1.89	-30.92	149.43	-89.52	174.19	170.42	3.77	46.166	
1,000.00	1,000.00	1,002.20	1,002.20	2.11	2.11	-30.92	149.43	-89.52	174.19	169.97	4.22	41.252	
1,100.00	1,100.00	1,102.20	1,102.20	2.33	2.34	-30.92	149.43	-89.52	174.19	169.52	4.67	37.283	
1,200.00	1,200.00	1,202.20	1,202.20	2.56	2.56	-30.92	149.43	-89.52	174.19	169.07	5.12	34.010	
1,300.00	1,300.00	1,302.20	1,302.20	2.78	2.79	-30.92	149.43	-89.52	174.19	168.62	5.57	31.266	
1,400.00	1,400.00	1,402.20	1,402.20	3.01	3.01	-30.92	149.43	-89.52	174.19	168.17	6.02	28.932	
1,500.00	1,500.00	1,502.20	1,502.20	3.23	3.24	-30.92	149.43	-89.52	174.19	167.72	6.47	26.922	
1,600.00	1,600.00	1,602.20	1,602.20	3.46	3.46	-30.92	149.43	-89.52	174.19	167.27	6.92	25.173	
1,700.00	1,700.00	1,702.20	1,702.20	3.68	3.69	-30.92	149.43	-89.52	174.19	166.82	7.37	23.637	
1,800.00	1,800.00	1,802.20	1,802.20	3.91	3.91	-30.92	149.43	-89.52	174.19	166.37	7.82	22.278	
1,900.00	1,900.00	1,902.20	1,902.20	4.13	4.14	-30.92	149.43	-89.52	174.19	165.92	8.27	21.067	
2,000.00	2,000.00	2,002.20	2,002.20	4.36	4.36	-30.92	149.43	-89.52	174.19	165.47	8.72	19.981	
2,100.00	2,100.00	2,102.20	2,102.20	4.58	4.59	-30.92	149.43	-89.52	174.19	165.03	9.17	19.001	
2,200.00	2,200.00	2,202.20	2,202.20	4.81	4.81	-30.92	149.43	-89.52	174.19	164.58	9.62	18.113	
2,300.00	2,300.00	2,302.20	2,302.20	5.03	5.04	-30.92	149.43	-89.52	174.19	164.13	10.07	17.304	
2,400.00	2,400.00	2,402.20	2,402.20	5.26	5.26	-30.92	149.43	-89.52	174.19	163.68	10.52	16.564	
2,415.92	2,415.92	2,418.12	2,418.12	5.29	5.30	-30.92	149.43	-89.52	174.19	163.61	10.59	16.452 CC	
2,500.00	2,500.00	2,502.14	2,502.14	5.48	5.49	-30.92	149.43	-89.52	174.19	163.23	10.97	15.886 ES	
2,600.00	2,600.00	2,600.00	2,599.99	5.71	5.71	-30.81	150.30	-89.62	175.00	163.59	11.41	15.339	
2,700.00	2,700.00	2,698.65	2,698.62	5.93	5.93	-30.53	152.40	-89.87	176.96	165.11	11.85	14.928	
2,800.00	2,800.00	2,798.63	2,798.57	6.15	6.15	-30.24	154.59	-90.13	178.98	166.68	12.30	14.548	
2,900.00	2,900.00	2,898.60	2,898.53	6.38	6.38	-29.97	156.78	-90.39	181.01	168.26	12.75	14.195	
3,000.00	3,000.00	2,998.58	2,998.48	6.60	6.60	-29.69	158.97	-90.66	183.04	169.84	13.20	13.866	
3,100.00	3,100.00	3,098.55	3,098.43	6.83	6.83	-29.43	161.17	-90.92	185.08	171.43	13.65	13.559	
3,200.00	3,200.00	3,198.53	3,198.38	7.05	7.05	-29.17	163.36	-91.18	187.12	173.02	14.10	13.271	
3,300.00	3,300.00	3,298.51	3,298.33	7.28	7.27	-28.91	165.55	-91.44	189.16	174.61	14.55	13.002	
3,400.00	3,400.00	3,398.48	3,398.28	7.50	7.50	-28.66	167.74	-91.70	191.21	176.21	15.00	12.749	
3,500.00	3,500.00	3,498.46	3,498.23	7.73	7.72	-101.51	169.93	-91.96	193.26	177.81	15.45	12.511	
3,600.00	3,599.99	3,598.43	3,598.18	7.94	7.95	-101.51	172.13	-92.22	195.49	179.60	15.89	12.305	
3,700.00	3,699.96	3,698.38	3,698.11	8.15	8.17	-101.99	174.32	-92.48	198.07	181.76	16.32	12.139	
3,800.00	3,799.86	3,798.28	3,797.98	8.36	8.40	-102.94	176.51	-92.74	201.06	184.31	16.75	12.004	
3,900.00	3,899.67	3,898.09	3,897.77	8.57	8.62	-104.33	178.70	-93.00	204.53	187.34	17.18	11.902	
4,000.00	3,999.36	3,997.78	3,997.44	8.78	8.85	-106.13	180.88	-93.26	208.59	190.97	17.62	11.838	
4,100.00	4,098.99	4,097.42	4,097.05	9.00	9.07	-108.09	183.07	-93.52	213.10	195.04	18.06	11.800	
4,200.00	4,198.62	4,197.06	4,196.67	9.22	9.30	-109.95	185.25	-93.78	217.84	199.34	18.50	11.776	
4,300.00	4,298.25	4,296.70	4,296.28	9.44	9.52	-111.74	187.44	-94.04	222.80	203.86	18.94	11.763	
4,400.00	4,397.88	4,396.34	4,395.90	9.66	9.75	-113.45	189.62	-94.30	227.97	208.59	19.38	11.761 SF	
4,500.00	4,497.51	4,495.98	4,495.51	9.89	9.97	-115.09	191.81	-94.56	233.34	213.51	19.83	11.768	
4,600.00	4,597.14	4,595.62	4,595.13	10.12	10.19	-116.64	193.99	-94.82	238.89	218.61	20.27	11.783	
4,700.00	4,696.77	4,695.26	4,694.74	10.34	10.42	-118.13	196.18	-95.08	244.60	223.88	20.72	11.806	
4,800.00	4,796.40	4,794.90	4,794.36	10.57	10.64	-119.55	198.36	-95.34	250.48	229.31	21.17	11.834	
4,900.00	4,896.03	4,894.54	4,893.97	10.81	10.87	-120.90	200.54	-95.60	256.50	234.88	21.61	11.867	
5,000.00	4,995.66	4,994.17	4,993.59	11.04	11.09	-122.19	202.73	-95.86	262.65	240.59	22.06	11.905	

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 733H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDCM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.00	5,095.29	5,093.81	5,093.20	11.27	11.32	-123.42	204.91	-96.12	268.93	246.42	22.51	11.947	
5,200.00	5,194.92	5,193.45	5,192.82	11.51	11.54	-124.60	207.10	-96.38	275.34	252.38	22.96	11.992	
5,300.00	5,294.55	5,293.09	5,292.43	11.75	11.77	-125.72	209.28	-96.64	281.85	258.44	23.41	12.039	
5,400.00	5,394.18	5,392.73	5,392.05	11.99	11.99	-126.79	211.47	-96.90	288.46	264.60	23.86	12.089	
5,500.00	5,493.81	5,492.37	5,491.66	12.22	12.22	-127.81	213.65	-97.16	295.17	270.86	24.31	12.141	
5,600.00	5,593.44	5,592.01	5,591.28	12.46	12.44	-128.78	215.84	-97.42	301.97	277.21	24.76	12.195	
5,700.00	5,693.08	5,691.65	5,690.89	12.71	12.67	-129.72	218.02	-97.68	308.86	283.64	25.21	12.250	
5,800.00	5,792.71	5,791.29	5,790.51	12.95	12.89	-130.61	220.21	-97.94	315.82	290.15	25.66	12.305	
5,900.00	5,892.34	5,890.93	5,890.12	13.19	13.12	-131.46	222.39	-98.20	322.85	296.73	26.12	12.362	
6,000.00	5,991.97	5,990.57	5,989.74	13.43	13.34	-132.28	224.58	-98.46	329.95	303.39	26.57	12.419	
6,100.00	6,091.60	6,090.20	6,089.35	13.68	13.57	-133.06	226.76	-98.72	337.12	310.10	27.02	12.477	
6,200.00	6,191.23	6,189.84	6,188.97	13.92	13.79	-133.81	228.95	-98.98	344.35	316.88	27.47	12.534	
6,300.00	6,290.86	6,289.48	6,288.58	14.17	14.02	-134.53	231.13	-99.24	351.63	323.71	27.93	12.592	
6,400.00	6,390.49	6,389.12	6,388.19	14.41	14.24	-135.22	233.31	-99.50	358.97	330.59	28.38	12.650	
6,500.00	6,490.12	6,488.76	6,487.81	14.66	14.47	-135.88	235.50	-99.76	366.35	337.52	28.83	12.707	
6,600.00	6,589.75	6,588.40	6,587.42	14.91	14.69	-136.52	237.68	-100.02	373.79	344.50	29.28	12.764	
6,700.00	6,689.38	6,688.04	6,687.04	15.16	14.92	-137.13	239.87	-100.27	381.26	351.53	29.74	12.821	
6,800.00	6,789.01	6,787.68	6,786.65	15.40	15.14	-137.72	242.05	-100.53	388.78	358.59	30.19	12.878	
6,900.00	6,888.64	6,887.32	6,886.27	15.65	15.37	-138.28	244.24	-100.79	396.34	365.70	30.64	12.934	
7,000.00	6,988.27	6,986.96	6,985.88	15.90	15.59	-138.83	246.42	-101.05	403.93	372.84	31.10	12.990	
7,100.00	7,087.90	7,086.60	7,085.50	16.15	15.82	-139.35	248.61	-101.31	411.56	380.01	31.55	13.045	
7,200.00	7,187.53	7,186.24	7,185.11	16.40	16.05	-139.85	250.79	-101.57	419.22	387.22	32.00	13.099	
7,300.00	7,287.16	7,285.87	7,284.73	16.65	16.27	-140.34	252.98	-101.83	426.92	394.46	32.46	13.153	
7,400.00	7,386.79	7,385.51	7,384.34	16.90	16.50	-140.81	255.16	-102.09	434.64	401.73	32.91	13.206	
7,500.00	7,486.42	7,485.15	7,483.96	17.15	16.72	-141.26	257.35	-102.35	442.39	409.03	33.37	13.259	
7,600.00	7,586.05	7,584.80	7,583.58	17.40	16.95	-141.71	259.53	-102.61	450.14	416.32	33.82	13.311	
7,700.00	7,685.81	7,684.56	7,683.32	17.60	17.17	-142.06	261.72	-102.87	456.56	422.32	34.23	13.337	
7,800.00	7,785.72	7,784.46	7,783.19	17.78	17.40	-142.18	263.91	-103.13	460.92	426.27	34.64	13.304	
7,900.00	7,885.70	7,884.43	7,883.13	17.96	17.62	-142.08	266.10	-103.39	463.21	428.16	35.05	13.214	
8,000.00	7,985.70	7,984.40	7,983.09	18.15	17.85	-142.75	268.29	-103.65	464.26	428.78	35.48	13.086	
8,100.00	8,085.70	8,084.38	8,083.04	18.36	18.08	-143.51	270.48	-103.92	465.30	429.38	35.92	12.954	
8,200.00	8,185.70	8,184.35	8,182.99	18.57	18.30	-144.27	272.68	-104.18	466.35	429.99	36.36	12.825	
8,300.00	8,285.35	8,283.83	8,282.44	18.75	18.53	-144.99	274.86	-104.44	470.02	433.25	36.77	12.782	
8,400.00	8,382.31	8,380.24	8,378.83	18.91	18.75	-145.66	276.97	-104.69	480.95	443.81	37.14	12.948	
8,500.00	8,473.65	8,470.66	8,469.23	19.06	18.95	-146.28	278.95	-104.92	501.00	463.51	37.49	13.365	
8,600.00	8,556.58	8,552.35	8,550.90	19.20	19.13	-146.85	280.74	-105.14	532.27	494.47	37.79	14.083	
8,700.00	8,628.58	8,622.82	8,621.35	19.36	19.29	-147.38	282.29	-105.32	576.30	538.23	38.06	15.140	
8,800.00	8,687.47	8,679.93	8,678.44	19.57	19.42	-147.78	283.54	-105.47	633.31	595.02	38.29	16.540	
8,900.00	8,731.46	8,721.94	8,720.45	19.86	19.52	-148.04	284.46	-105.58	702.09	663.63	38.46	18.256	
9,000.00	8,759.21	8,747.59	8,746.08	20.28	19.58	-148.22	285.03	-105.64	780.26	741.69	38.56	20.233	
9,100.00	8,769.89	8,756.08	8,754.57	20.82	19.60	-148.64	285.21	-105.67	864.71	826.10	38.61	22.399	
9,200.00	8,770.00	8,754.00	8,752.49	21.47	19.59	-148.40	285.17	-105.66	952.48	913.87	38.61	24.669	
9,300.00	8,770.00	8,751.80	8,750.30	22.21	19.59	-148.11	285.12	-105.66	1,042.45	1,003.83	38.62	26.993	
9,400.00	8,770.00	8,749.61	8,748.11	23.05	19.58	-147.78	285.07	-105.65	1,134.09	1,095.46	38.63	29.357	
9,500.00	8,770.00	8,747.42	8,745.91	23.98	19.58	-147.40	285.02	-105.64	1,227.04	1,188.39	38.64	31.752	
9,600.00	8,770.00	8,745.22	8,743.72	24.97	19.57	-146.88	284.97	-105.64	1,321.01	1,282.35	38.66	34.169	
9,700.00	8,770.00	8,743.03	8,741.53	26.03	19.57	-146.23	284.93	-105.63	1,415.81	1,377.13	38.68	36.604	
9,800.00	8,770.00	8,740.84	8,739.34	27.15	19.56	-145.47	284.88	-105.63	1,511.27	1,472.58	38.70	39.053	
9,900.00	8,770.00	8,738.64	8,737.14	28.32	19.56	-144.61	284.83	-105.62	1,607.29	1,568.57	38.72	41.511	
10,000.00	8,770.00	8,736.45	8,734.95	29.53	19.55	-143.66	284.78	-105.62	1,703.76	1,665.02	38.74	43.977	
10,100.00	8,770.00	8,734.26	8,732.76	30.78	19.55	-142.62	284.73	-105.61	1,800.61	1,761.84	38.77	46.449	
10,200.00	8,770.00	8,732.07	8,730.57	32.07	19.54	-141.50	284.68	-105.60	1,897.78	1,858.99	38.79	48.924	

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
Lusitano - Lusitano 27-34 Fed Com 733H - OH - Plan #1												Offset Well Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM													
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,300.00	8,770.00	8,729.87	8,728.37	33.38	19.54	84.24	284.64	-105.60	1,995.24	1,956.42	38.82	51.402	
10,400.00	8,770.00	8,727.68	8,726.18	34.73	19.53	83.95	284.59	-105.59	2,092.93	2,054.08	38.84	53.880	

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 734H - OH - Plan #1												Offset Site Error: 0.00 usft	
Survey Program: O-LEAM MWD+HDGM												Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	3.90	3.90	0.00	0.00	84.43	160.00	1,640.52	1,648.30				
100.00	100.00	103.90	103.90	0.09	0.09	84.43	160.00	1,640.52	1,648.30	1,648.12	0.18	9,121.159	
200.00	200.00	203.90	203.90	0.31	0.32	84.43	160.00	1,640.52	1,648.30	1,647.67	0.63	2,615.342	
300.00	300.00	303.90	303.90	0.54	0.54	84.43	160.00	1,640.52	1,648.30	1,647.22	1.08	1,526.524	
400.00	400.00	403.90	403.90	0.76	0.77	84.43	160.00	1,640.52	1,648.30	1,646.77	1.53	1,077.810	
500.00	500.00	503.90	503.90	0.99	0.99	84.43	160.00	1,640.52	1,648.30	1,646.33	1.98	832.965	
600.00	600.00	603.90	603.90	1.21	1.22	84.43	160.00	1,640.52	1,648.30	1,645.88	2.43	678.769	
700.00	700.00	703.90	703.90	1.43	1.44	84.43	160.00	1,640.52	1,648.30	1,645.43	2.88	572.744	
800.00	800.00	803.90	803.90	1.66	1.67	84.43	160.00	1,640.52	1,648.30	1,644.98	3.33	495.367	
900.00	900.00	903.90	903.90	1.88	1.89	84.43	160.00	1,640.52	1,648.30	1,644.53	3.78	436.409	
1,000.00	1,000.00	1,003.90	1,003.90	2.11	2.12	84.43	160.00	1,640.52	1,648.30	1,644.08	4.23	389.993	
1,100.00	1,100.00	1,103.90	1,103.90	2.33	2.34	84.43	160.00	1,640.52	1,648.30	1,643.63	4.68	352.501	
1,200.00	1,200.00	1,203.90	1,203.90	2.56	2.57	84.43	160.00	1,640.52	1,648.30	1,643.18	5.13	321.585	
1,300.00	1,300.00	1,303.90	1,303.90	2.78	2.79	84.43	160.00	1,640.52	1,648.30	1,642.73	5.58	295.655	
1,400.00	1,400.00	1,403.90	1,403.90	3.01	3.02	84.43	160.00	1,640.52	1,648.30	1,642.28	6.02	273.594	
1,500.00	1,500.00	1,503.90	1,503.90	3.23	3.24	84.43	160.00	1,640.52	1,648.30	1,641.83	6.47	254.597	
1,600.00	1,600.00	1,603.90	1,603.90	3.46	3.47	84.43	160.00	1,640.52	1,648.30	1,641.38	6.92	238.067	
1,700.00	1,700.00	1,703.90	1,703.90	3.68	3.69	84.43	160.00	1,640.52	1,648.30	1,640.93	7.37	223.553	
1,800.00	1,800.00	1,803.90	1,803.90	3.91	3.92	84.43	160.00	1,640.52	1,648.30	1,640.48	7.82	210.706	
1,900.00	1,900.00	1,903.90	1,903.90	4.13	4.14	84.43	160.00	1,640.52	1,648.30	1,640.03	8.27	199.256	
2,000.00	2,000.00	2,003.90	2,003.90	4.36	4.37	84.43	160.00	1,640.52	1,648.30	1,639.58	8.72	188.986	
2,100.00	2,100.00	2,103.90	2,103.90	4.58	4.59	84.43	160.00	1,640.52	1,648.30	1,639.13	9.17	179.723	
2,200.00	2,200.00	2,203.90	2,203.90	4.81	4.81	84.43	160.00	1,640.52	1,648.30	1,638.68	9.62	171.326	
2,300.00	2,300.00	2,303.90	2,303.90	5.03	5.04	84.43	160.00	1,640.52	1,648.30	1,638.23	10.07	163.678	
2,400.00	2,400.00	2,403.90	2,403.90	5.26	5.26	84.43	160.00	1,640.52	1,648.30	1,637.78	10.52	156.684	
2,500.00	2,500.00	2,503.90	2,503.90	5.48	5.49	84.43	160.00	1,640.52	1,648.30	1,637.33	10.97	150.263	
2,600.00	2,600.00	2,603.90	2,603.90	5.71	5.71	84.43	160.00	1,640.52	1,648.30	1,636.88	11.42	144.347	
2,700.00	2,700.00	2,703.90	2,703.90	5.93	5.94	84.43	160.00	1,640.52	1,648.30	1,636.44	11.87	138.880	
2,800.00	2,800.00	2,803.90	2,803.90	6.15	6.16	84.43	160.00	1,640.52	1,648.30	1,635.99	12.32	133.812	
2,900.00	2,900.00	2,903.90	2,903.90	6.38	6.39	84.43	160.00	1,640.52	1,648.30	1,635.54	12.77	129.100	
3,000.00	3,000.00	3,003.90	3,003.90	6.60	6.61	84.43	160.00	1,640.52	1,648.30	1,635.09	13.22	124.710	
3,100.00	3,100.00	3,103.90	3,103.90	6.83	6.84	84.43	160.00	1,640.52	1,648.30	1,634.64	13.67	120.608	
3,200.00	3,200.00	3,203.90	3,203.90	7.05	7.06	84.43	160.00	1,640.52	1,648.30	1,634.19	14.12	116.767	
3,300.00	3,300.00	3,303.90	3,303.90	7.28	7.29	84.43	160.00	1,640.52	1,648.30	1,633.74	14.57	113.163	
3,400.00	3,400.00	3,403.90	3,403.90	7.50	7.51	84.43	160.00	1,640.52	1,648.30	1,633.29	15.02	109.775	
3,500.00	3,500.00	3,503.90	3,503.90	7.73	7.74	11.34	160.00	1,640.52	1,648.30	1,632.84	15.46	106.585	
3,600.00	3,599.99	3,603.89	3,603.89	7.94	7.96	11.34	160.00	1,640.52	1,647.44	1,631.53	15.90	103.587	
3,700.00	3,699.96	3,703.86	3,703.86	8.15	8.19	11.37	160.00	1,640.52	1,644.86	1,628.53	16.33	100.705	
3,800.00	3,799.86	3,803.76	3,803.76	8.36	8.41	11.41	160.00	1,640.52	1,640.57	1,623.81	16.76	97.863	
3,900.00	3,899.67	3,903.57	3,903.57	8.57	8.64	11.46	160.00	1,640.52	1,634.58	1,617.39	17.20	95.061	
4,000.00	3,999.36	4,004.71	4,004.71	8.78	8.86	11.53	160.00	1,640.52	1,626.88	1,609.25	17.63	92.278	
4,100.00	4,098.99	4,148.26	4,148.23	9.00	9.17	11.58	160.99	1,638.34	1,617.02	1,598.88	18.14	89.152	
4,200.00	4,198.62	4,290.94	4,290.74	9.22	9.47	11.54	163.83	1,632.12	1,604.47	1,585.85	18.62	86.152	
4,300.00	4,298.25	4,390.84	4,390.44	9.44	9.68	11.49	166.48	1,626.30	1,590.53	1,571.49	19.04	83.528	
4,400.00	4,397.88	4,489.85	4,489.25	9.66	9.90	11.43	169.11	1,620.52	1,576.59	1,557.13	19.46	81.015	
4,500.00	4,497.51	4,588.86	4,588.06	9.89	10.11	11.38	171.74	1,614.75	1,562.65	1,542.77	19.88	78.600	
4,600.00	4,597.14	4,687.88	4,686.87	10.12	10.33	11.32	174.37	1,608.98	1,548.71	1,528.41	20.30	76.278	
4,700.00	4,696.77	4,786.89	4,785.67	10.34	10.54	11.26	177.00	1,603.21	1,534.77	1,514.05	20.73	74.044	
4,800.00	4,796.40	4,885.90	4,884.48	10.57	10.76	11.21	179.63	1,597.43	1,520.84	1,499.69	21.15	71.895	
4,900.00	4,896.03	4,984.91	4,983.29	10.81	10.98	11.15	182.26	1,591.66	1,506.91	1,485.33	21.58	69.826	
5,000.00	4,995.66	5,083.93	5,082.10	11.04	11.20	11.09	184.89	1,585.89	1,492.97	1,470.96	22.01	67.833	
5,100.00	5,095.29	5,182.94	5,180.91	11.27	11.42	11.03	187.52	1,580.12	1,479.04	1,456.60	22.44	65.912	

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 734H - OH - Plan #1													Offset Site Error: 0.00 usft	
Survey Program: O-LEAM MWD+HDM													Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (")	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,200.00	5,194.92	5,281.95	5,279.72	11.51	11.65	10.96	190.15	1,574.34	1,465.12	1,442.25	22.87	64.060		
5,300.00	5,294.55	5,380.96	5,378.53	11.75	11.87	10.90	192.78	1,568.57	1,451.19	1,427.89	23.30	62.273		
5,400.00	5,394.18	5,479.98	5,477.34	11.99	12.09	10.83	195.41	1,562.80	1,437.26	1,413.53	23.74	60.549		
5,500.00	5,493.81	5,578.99	5,576.15	12.22	12.32	10.77	198.04	1,557.03	1,423.34	1,399.17	24.17	58.884		
5,600.00	5,593.44	5,678.00	5,674.96	12.46	12.54	10.70	200.68	1,551.25	1,409.42	1,384.81	24.61	57.275		
5,700.00	5,693.08	5,777.01	5,773.76	12.71	12.77	10.63	203.31	1,545.48	1,395.50	1,370.46	25.04	55.721		
5,800.00	5,792.71	5,876.03	5,872.57	12.95	12.99	10.56	205.94	1,539.71	1,381.58	1,356.10	25.48	54.217		
5,900.00	5,892.34	5,975.04	5,971.38	13.19	13.22	10.49	208.57	1,533.94	1,367.67	1,341.75	25.92	52.763		
6,000.00	5,991.97	6,074.05	6,070.19	13.43	13.45	10.41	211.20	1,528.16	1,353.76	1,327.40	26.36	51.356		
6,100.00	6,091.60	6,173.06	6,169.00	13.68	13.68	10.34	213.83	1,522.39	1,339.85	1,313.05	26.80	49.993		
6,200.00	6,191.23	6,272.07	6,267.81	13.92	13.91	10.26	216.46	1,516.62	1,325.94	1,298.70	27.24	48.673		
6,300.00	6,290.86	6,371.09	6,366.62	14.17	14.14	10.19	219.09	1,510.85	1,312.03	1,284.35	27.68	47.394		
6,400.00	6,390.49	6,470.10	6,465.43	14.41	14.37	10.11	221.72	1,505.07	1,298.13	1,270.00	28.13	46.154		
6,500.00	6,490.12	6,569.11	6,564.24	14.66	14.60	10.02	224.35	1,499.30	1,284.23	1,255.66	28.57	44.952		
6,600.00	6,589.75	6,668.12	6,663.05	14.91	14.83	9.94	226.98	1,493.53	1,270.33	1,241.32	29.01	43.785		
6,700.00	6,689.38	6,767.14	6,761.85	15.16	15.06	9.86	229.61	1,487.76	1,256.43	1,226.98	29.46	42.653		
6,800.00	6,789.01	6,866.15	6,860.66	15.40	15.29	9.77	232.24	1,481.98	1,242.54	1,212.64	29.90	41.553		
6,900.00	6,888.64	6,965.16	6,959.47	15.65	15.52	9.68	234.87	1,476.21	1,228.65	1,198.30	30.35	40.485		
7,000.00	6,988.27	7,064.17	7,058.28	15.90	15.75	9.59	237.50	1,470.44	1,214.76	1,183.97	30.79	39.448		
7,100.00	7,087.90	7,163.19	7,157.09	16.15	15.99	9.50	240.13	1,464.67	1,200.88	1,169.64	31.24	38.439		
7,200.00	7,187.53	7,262.20	7,255.90	16.40	16.22	9.40	242.76	1,458.89	1,187.00	1,155.31	31.69	37.459		
7,300.00	7,287.16	7,361.21	7,354.71	16.65	16.45	9.30	245.39	1,453.12	1,173.12	1,140.99	32.14	36.505		
7,400.00	7,386.79	7,460.22	7,453.52	16.90	16.69	9.20	248.02	1,447.35	1,159.25	1,126.66	32.58	35.577		
7,500.00	7,486.42	7,559.24	7,552.33	17.15	16.92	9.10	250.65	1,441.58	1,145.38	1,112.34	33.03	34.674		
7,600.00	7,586.05	7,658.25	7,651.14	17.40	17.16	8.99	253.28	1,435.80	1,131.55	1,098.07	33.48	33.799		
7,700.00	7,685.81	7,757.48	7,750.17	17.60	17.39	8.84	255.92	1,430.02	1,119.41	1,085.52	33.89	33.032		
7,800.00	7,785.72	7,856.98	7,849.46	17.78	17.63	8.67	258.56	1,424.22	1,109.85	1,075.56	34.30	32.359		
7,900.00	7,885.70	7,956.68	7,948.96	17.96	17.86	8.49	261.21	1,418.41	1,102.88	1,068.18	34.71	31.777		
8,000.00	7,985.70	8,056.48	8,048.55	18.15	18.10	8.14	263.86	1,412.59	1,097.49	1,062.36	35.13	31.240		
8,100.00	8,085.70	8,156.27	8,148.14	18.36	18.34	8.12	266.51	1,406.77	1,092.13	1,056.55	35.57	30.700		
8,200.00	8,185.70	8,256.07	8,247.73	18.57	18.58	8.10	269.16	1,400.95	1,086.77	1,050.75	36.02	30.172		
8,300.00	8,285.35	8,355.33	8,346.78	18.75	18.81	-99.78	271.80	1,395.16	1,082.55	1,046.11	36.43	29.713		
8,373.75	8,357.29	8,426.69	8,418.00	18.87	18.98	-100.82	273.70	1,391.00	1,081.50	1,044.78	36.72	29.451	CC, ES	
8,400.00	8,382.31	8,451.45	8,442.71	18.91	19.04	-101.24	274.35	1,389.56	1,081.65	1,044.82	36.83	29.372		
8,500.00	8,473.65	8,541.52	8,532.59	19.06	19.26	-102.93	276.75	1,384.31	1,085.34	1,048.12	37.22	29.159		
8,600.00	8,556.58	8,622.80	8,613.70	19.20	19.45	-104.42	278.91	1,379.57	1,095.27	1,057.63	37.65	29.093	SF	
8,700.00	8,628.58	8,692.81	8,683.57	19.36	19.62	-105.25	280.77	1,375.49	1,113.17	1,075.04	38.13	29.194		
8,800.00	8,687.47	8,749.43	8,740.07	19.57	19.75	-104.93	282.27	1,372.19	1,140.37	1,101.69	38.68	29.482		
8,900.00	8,731.46	8,790.94	8,781.50	19.86	19.85	-103.02	283.37	1,369.77	1,177.47	1,138.18	39.29	29.971		
9,000.00	8,759.21	8,816.08	8,806.59	20.28	19.91	-99.14	284.04	1,368.30	1,224.10	1,184.18	39.92	30.665		
9,100.00	8,769.89	8,824.08	8,814.57	20.82	19.93	-93.06	284.25	1,367.84	1,278.85	1,238.32	40.53	31.555		
9,200.00	8,770.00	8,821.53	8,812.02	21.47	19.93	-92.10	284.19	1,367.98	1,339.52	1,298.42	41.10	32.591		
9,300.00	8,770.00	8,818.86	8,809.36	22.21	19.92	-91.95	284.11	1,368.14	1,404.69	1,363.04	41.65	33.723		
9,400.00	8,770.00	8,816.20	8,806.70	23.05	19.91	-91.81	284.04	1,368.30	1,473.77	1,431.59	42.18	34.944		
9,500.00	8,770.00	8,813.53	8,804.05	23.98	19.91	-91.66	283.97	1,368.45	1,546.23	1,503.57	42.66	36.245		
9,600.00	8,770.00	8,810.87	8,801.39	24.97	19.90	-91.51	283.90	1,368.61	1,621.61	1,578.51	43.11	37.620		
9,700.00	8,770.00	8,808.20	8,798.73	26.03	19.89	-91.37	283.83	1,368.76	1,699.54	1,656.02	43.51	39.059		
9,800.00	8,770.00	8,805.54	8,796.07	27.15	19.89	-91.22	283.76	1,368.92	1,779.66	1,735.78	43.88	40.554		
9,900.00	8,770.00	8,802.87	8,793.41	28.32	19.88	-91.07	283.69	1,369.07	1,861.71	1,817.49	44.22	42.100		
10,000.00	8,770.00	8,800.21	8,790.75	29.53	19.87	-90.93	283.62	1,369.23	1,945.43	1,900.91	44.53	43.690		
10,100.00	8,770.00	8,797.54	8,788.09	30.78	19.87	-90.78	283.55	1,369.38	2,030.63	1,985.82	44.81	45.318		
10,200.00	8,770.00	8,794.88	8,785.43	32.07	19.86	-90.63	283.48	1,369.54	2,117.11	2,072.05	45.06	46.980		

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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design Lusitano - Lusitano 27-34 Fed Com 736H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-LEAM MWD+HDGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,500.00	5,493.81	5,540.44	5,539.59	12.22	12.27	12.72	204.57	2,304.00	2,166.12	2,141.89	24.23	89.395	
5,600.00	5,593.44	5,639.91	5,638.99	12.46	12.50	12.69	207.30	2,301.93	2,155.87	2,131.20	24.67	87.380	
5,700.00	5,693.08	5,739.38	5,738.40	12.71	12.72	12.66	210.04	2,299.86	2,145.62	2,120.50	25.11	85.434	
5,800.00	5,792.71	5,838.84	5,837.81	12.95	12.94	12.64	212.78	2,297.79	2,135.37	2,109.81	25.56	83.553	
5,900.00	5,892.34	5,938.31	5,937.22	13.19	13.17	12.61	215.51	2,295.72	2,125.12	2,099.12	26.00	81.734	
6,000.00	5,991.97	6,037.78	6,036.63	13.43	13.39	12.58	218.25	2,293.65	2,114.88	2,088.43	26.44	79.974	
6,100.00	6,091.60	6,137.25	6,136.04	13.68	13.61	12.55	220.99	2,291.58	2,104.63	2,077.74	26.89	78.271	
6,200.00	6,191.23	6,236.72	6,235.45	13.92	13.84	12.52	223.72	2,289.51	2,094.38	2,067.05	27.33	76.622	
6,300.00	6,290.86	6,336.19	6,334.86	14.17	14.06	12.50	226.46	2,287.43	2,084.14	2,056.36	27.78	75.024	
6,400.00	6,390.49	6,435.65	6,434.27	14.41	14.29	12.47	229.20	2,285.36	2,073.89	2,045.66	28.23	73.476	
6,500.00	6,490.12	6,535.12	6,533.68	14.66	14.51	12.44	231.93	2,283.29	2,063.65	2,034.97	28.67	71.974	
6,600.00	6,589.75	6,634.59	6,633.09	14.91	14.74	12.41	234.67	2,281.22	2,053.40	2,024.28	29.12	70.518	
6,700.00	6,689.38	6,734.06	6,732.49	15.16	14.96	12.38	237.41	2,279.15	2,043.16	2,013.59	29.57	69.104	
6,800.00	6,789.01	6,833.53	6,831.90	15.40	15.19	12.35	240.14	2,277.08	2,032.91	2,002.90	30.01	67.732	
6,900.00	6,888.64	6,933.00	6,931.31	15.65	15.41	12.32	242.88	2,275.01	2,022.67	1,992.21	30.46	66.399	
7,000.00	6,988.27	7,032.46	7,030.72	15.90	15.64	12.29	245.62	2,272.94	2,012.43	1,981.52	30.91	65.105	
7,100.00	7,087.90	7,131.93	7,130.13	16.15	15.86	12.26	248.35	2,270.87	2,002.19	1,970.83	31.36	63.846	
7,200.00	7,187.53	7,231.40	7,229.54	16.40	16.09	12.22	251.09	2,268.80	1,991.95	1,960.14	31.81	62.623	
7,300.00	7,287.16	7,330.87	7,328.95	16.65	16.31	12.19	253.83	2,266.72	1,981.71	1,949.45	32.26	61.432	
7,400.00	7,386.79	7,430.34	7,428.36	16.90	16.54	12.16	256.56	2,264.65	1,971.47	1,938.76	32.71	60.274	
7,500.00	7,486.42	7,529.81	7,527.77	17.15	16.77	12.13	259.30	2,262.58	1,961.23	1,928.07	33.16	59.147	
7,600.00	7,586.05	7,629.28	7,627.18	17.40	16.99	12.09	262.04	2,260.51	1,951.03	1,917.42	33.61	58.057	
7,700.00	7,685.68	7,728.90	7,726.74	17.60	17.22	12.02	264.78	2,258.44	1,942.51	1,908.49	34.02	57.105	
7,800.00	7,785.72	7,828.70	7,826.48	17.78	17.44	11.94	267.52	2,256.36	1,936.54	1,902.11	34.43	56.252	
7,900.00	7,885.70	7,928.60	7,926.33	17.96	17.67	11.85	270.27	2,254.28	1,933.14	1,898.30	34.83	55.495	
8,000.00	7,985.70	8,028.54	8,026.21	18.15	17.90	84.86	273.02	2,252.20	1,931.29	1,896.03	35.26	54.778	
8,100.00	8,085.70	8,128.48	8,126.09	18.36	18.13	84.77	275.77	2,250.12	1,929.46	1,893.76	35.70	54.048	
8,200.00	8,185.70	8,228.43	8,225.97	18.57	18.35	84.69	278.52	2,248.04	1,927.64	1,891.50	36.14	53.336	
8,300.00	8,285.35	8,327.82	8,325.31	18.75	18.58	-95.61	281.26	2,245.97	1,926.48	1,889.93	36.55	52.708	
8,315.64	8,300.77	8,343.16	8,340.63	18.78	18.61	-95.70	281.68	2,245.65	1,926.45	1,889.84	36.61	52.622 CC, ES	
8,400.00	8,382.31	8,424.07	8,421.50	18.91	18.80	-96.30	283.91	2,243.96	1,927.21	1,890.29	36.93	52.192	
8,500.00	8,473.65	8,514.24	8,511.61	19.06	19.00	-97.12	286.39	2,242.09	1,930.52	1,893.23	37.29	51.773	
8,600.00	8,556.58	8,595.58	8,592.91	19.20	19.19	-97.83	288.62	2,240.39	1,937.32	1,899.66	37.66	51.439	
8,700.00	8,628.58	8,665.64	8,662.92	19.36	19.35	-98.18	290.55	2,238.93	1,948.61	1,910.53	38.07	51.179	
8,800.00	8,687.47	8,722.27	8,719.52	19.57	19.48	-97.87	292.11	2,237.75	1,965.28	1,926.73	38.55	50.981	
8,900.00	8,731.46	8,763.77	8,760.99	19.86	19.57	-96.68	293.25	2,236.89	1,987.91	1,948.81	39.10	50.845	
9,000.00	8,759.21	8,788.86	8,786.07	20.28	19.63	-94.42	293.94	2,236.37	2,016.59	1,976.87	39.71	50.778 SF	
9,100.00	8,769.89	8,796.79	8,794.00	20.82	19.65	-91.02	294.16	2,236.20	2,050.82	2,010.44	40.37	50.797	
9,200.00	8,770.00	8,794.15	8,791.35	21.47	19.64	-90.49	294.09	2,236.26	2,089.60	2,048.53	41.07	50.883	
9,300.00	8,770.00	8,791.39	8,788.60	22.21	19.64	-90.40	294.01	2,236.32	2,132.37	2,090.56	41.81	51.006	

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

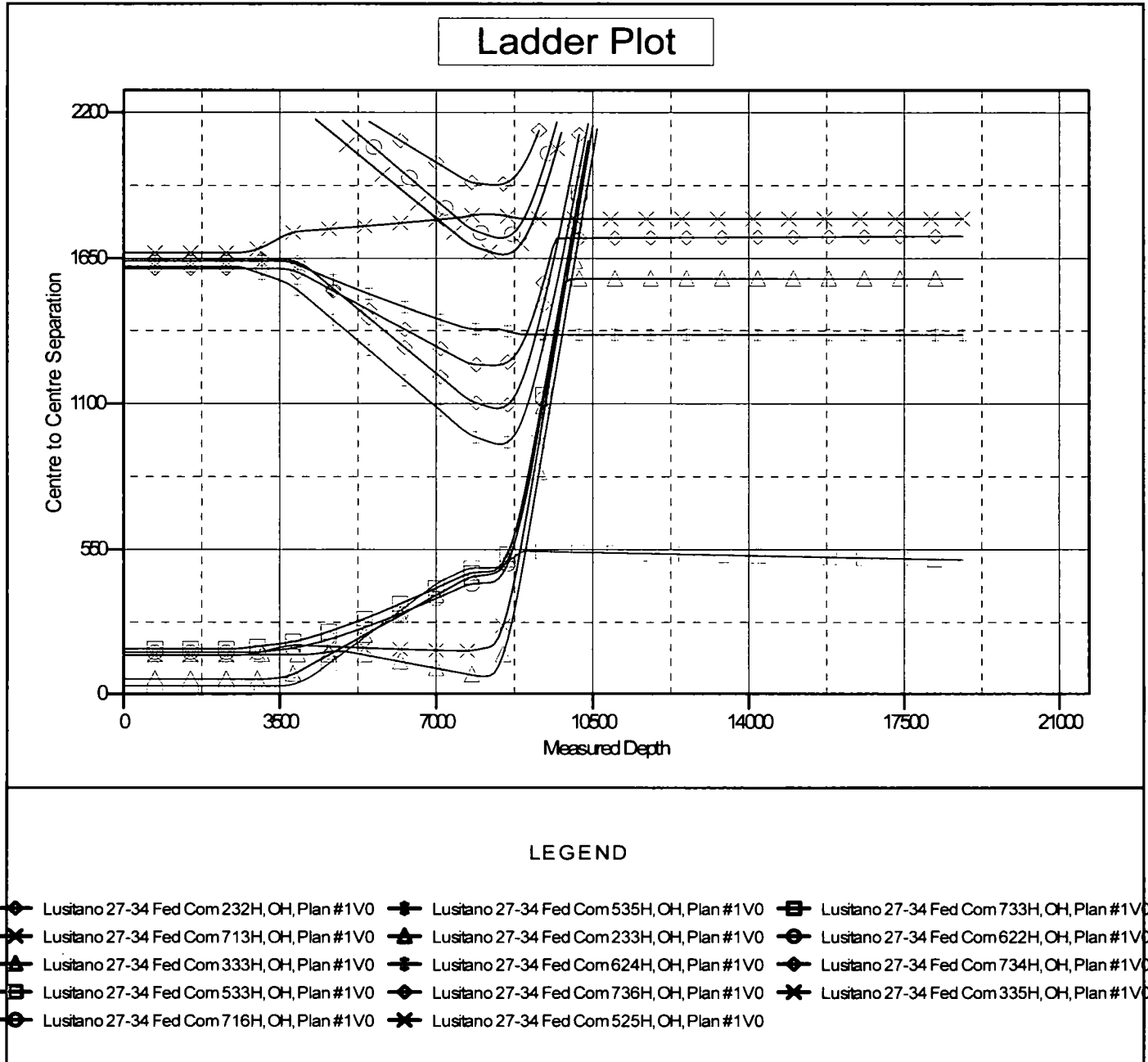
LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Lusitano 27-34 Fed Com 523H
Project:	Eddy County, NM (NAD-83)	TVD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Reference Site:	Lusitano	MD Reference:	3332.6' GE + 23.5' KB @ 3356.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Lusitano 27-34 Fed Com 523H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.1 Multi User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 3332.6' GE + 23.5' KB @ 3356.10usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.33333334

Coordinates are relative to: Lusitano 27-34 Fed Com 523H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.30°



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

LEAM Drilling Services

Anticollision Report

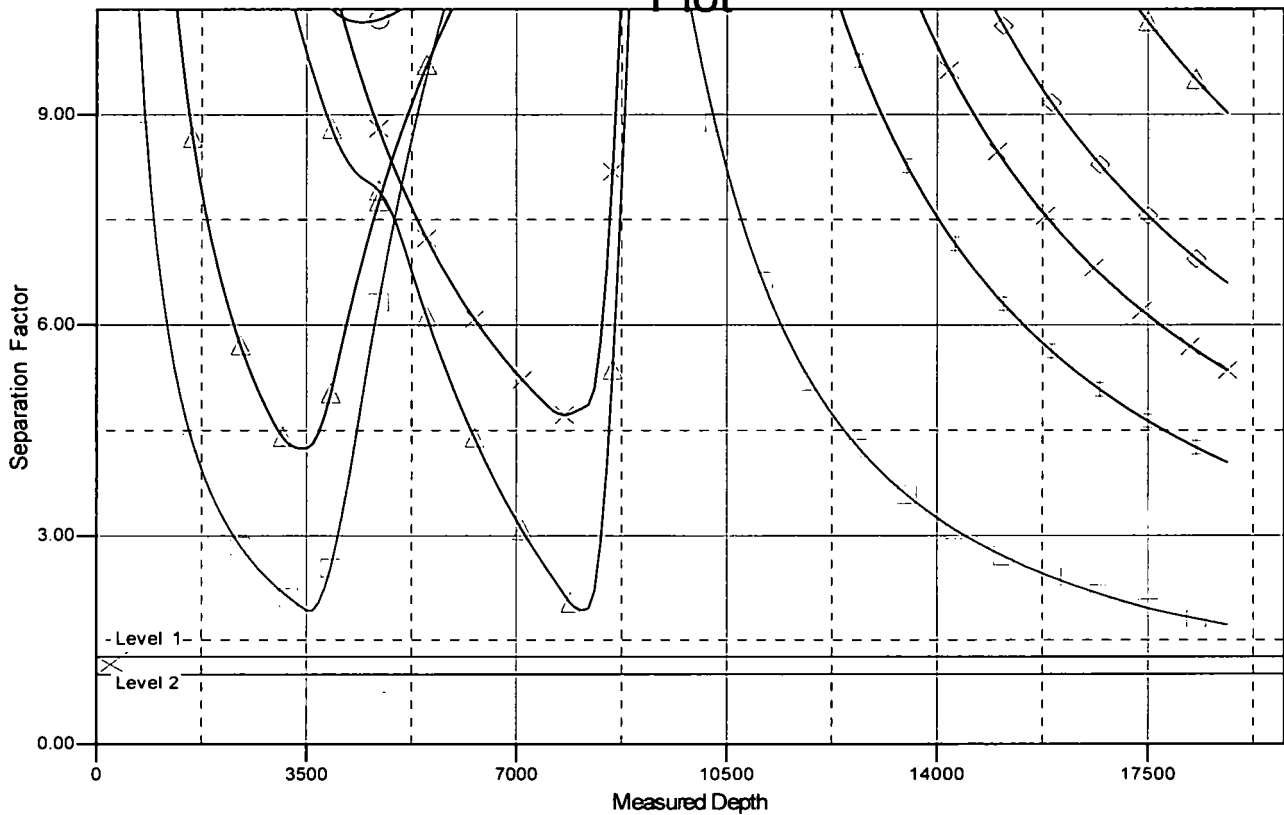
Company: Devon Energy
Project: Eddy County, NM (NAD-83)
Reference Site: Lusitano
Site Error: 0.00 usft
Reference Well: Lusitano 27-34 Fed Com 523H
Well Error: 0.00 usft
Reference Wellbore: OH
Reference Design: Plan #1

Local Co-ordinate Reference: Well Lusitano 27-34 Fed Com 523H
TVD Reference: 3332.6' GE + 23.5' KB @ 3356.10usft
MD Reference: 3332.6' GE + 23.5' KB @ 3356.10usft
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 3332.6' GE + 23.5' KB @ 3356.10usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.3333334

Coordinates are relative to: Lusitano 27-34 Fed Com 523H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.30°

Separation Factor Plot

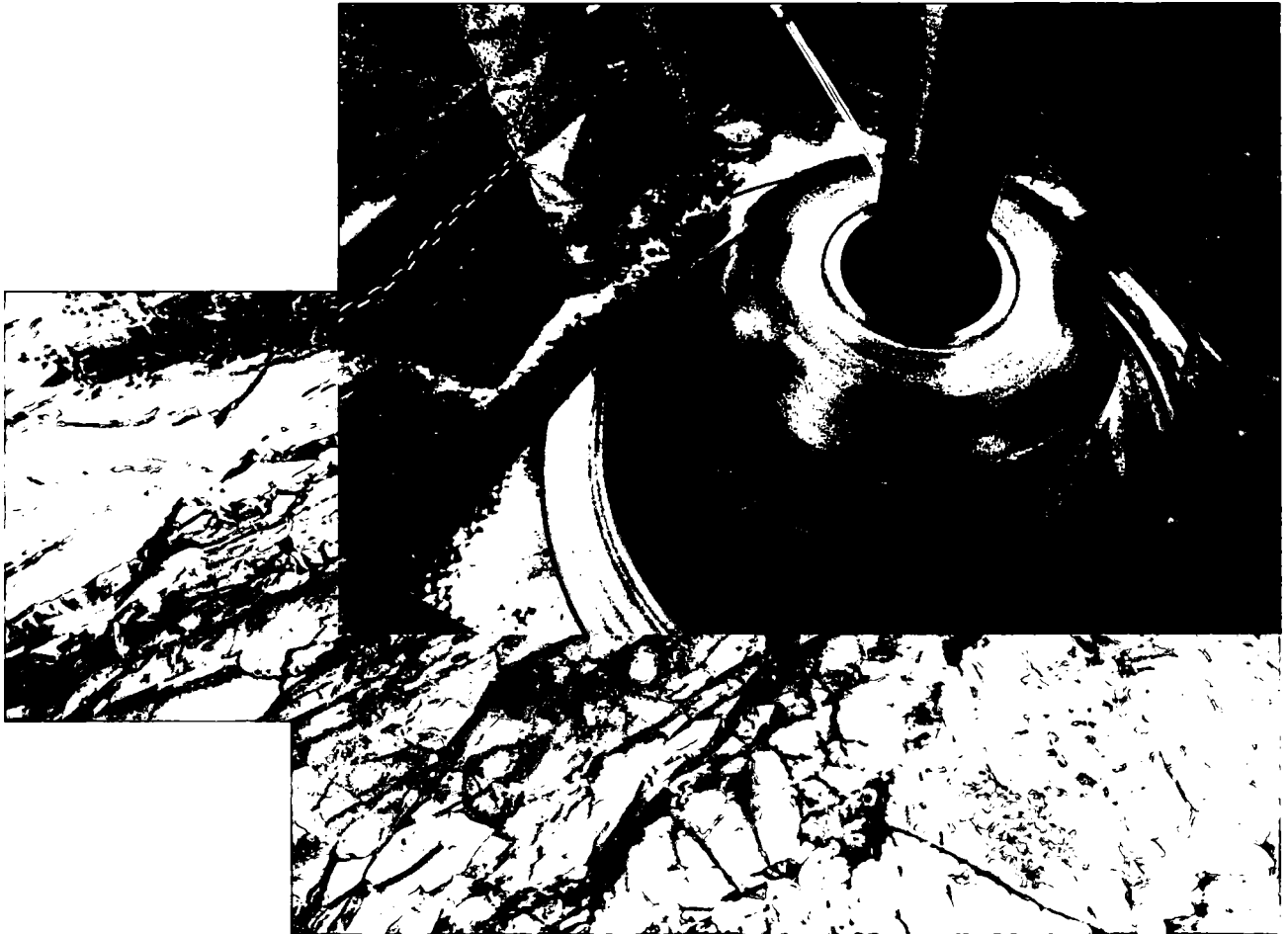


LEGEND

- Lusitano 27-34 Fed Com 232H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 535H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 733H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 713H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 233H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 622H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 333H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 624H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 734H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 533H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 736H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 335H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 716H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 525H, OH, Plan #1V0



Commitment Runs Deep



Design Plan
Operation and Maintenance Plan
Closure Plan

SENM - Closed Loop Systems
June 2010

I. Design Plan

Devon uses MI SWACO closed loop system (CLS). The MI SWACO CLS is designed to maintain drill solids at or below 5%. The equipment is arranged to progressively remove solids from the largest to the smallest size. Drilling fluids can thus be reused and savings is realized on mud and disposal costs. Dewatering may be required with the centrifuges to insure removal of ultra fine solids.

The drilling location is constructed to allow storm water to flow to a central sump normally the cellar. This insures no contamination leaves the drilling pad in the event of a spill. Storm water is reused in the mud system or stored in a reserve fluid tank farm until it can be reused. All lubricants, oils, or chemicals are removed immediately from the ground to prevent the contamination of storm water. An oil trap is normally installed on the sump if an oil spill occurs during a storm.

A tank farm is utilized to store drilling fluids including fresh water and brine fluids. The tank farm is constructed on a 20 ml plastic lined, bermed pad to prevent the contamination of the drilling site during a spill. Fluids from other sites may be stored in these tanks for processing by the solids control equipment and reused in the mud system. At the end of the well the fluids are transported from the tank farm to an adjoining well or to the next well for the rig.

Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

Signs will be posted on the fence surrounding the closed-loop system unless the closed-loop system is located on a site where there is an existing well, that is operated by Devon.

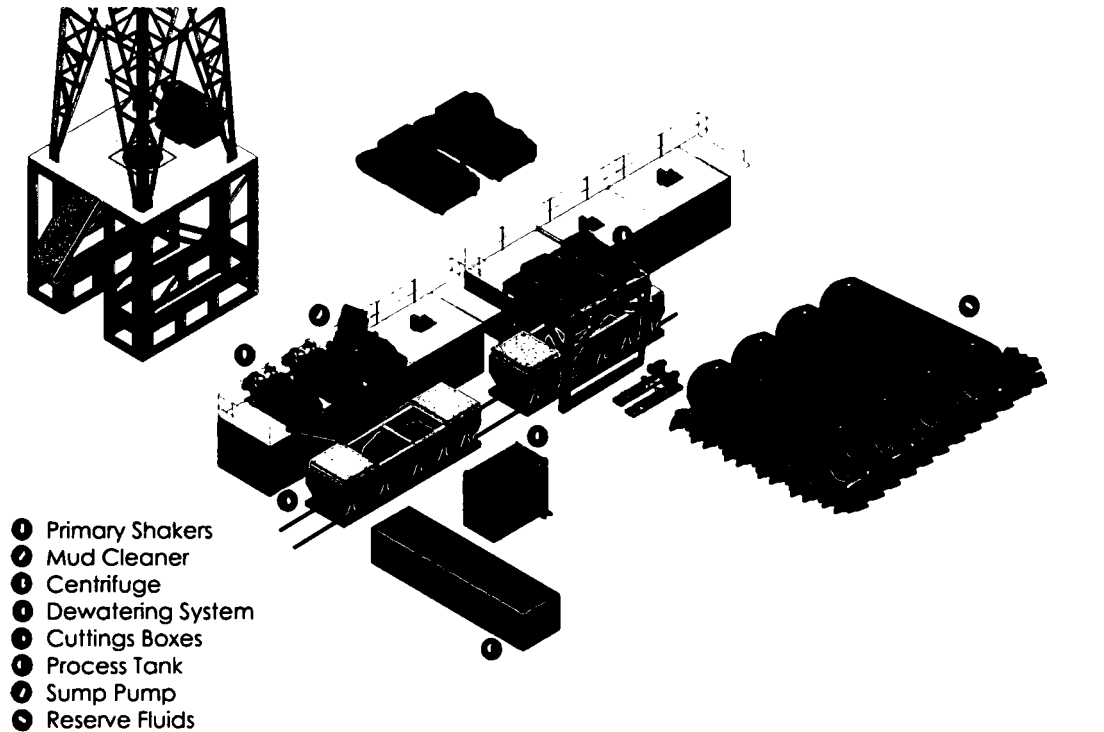
II. Operations and Maintenance Plan

Primary Shakers: The primary shakers make the first removal of drill solids from the drilling mud as it leaves the well bore. The shakers are sized to handle maximum drilling rate at optimal screen size. The shakers normally remove solids down to 74 microns.

Mud Cleaner: The Mud Cleaner cleans the fluid after it leaves the shakers. A set of hydrocyclones are sized to handle 1.25 to 1.5 times the maximum circulating rate. This ensures all the fluid is being processed to an average cut point of 25 microns. The wet discharged is dewatered on a shaker equipped with ultra fine mesh screens and generally cut at 40 microns.



Closed Loop Schematic



Centrifuges: The centrifuges can be one or two in number depending on the well geometry or depth of well. The centrifuges are sized to maintain low gravity solids at 5% or below. They may or may not need a dewatering system to enhance the removal rates. The centrifuges can make a cut point of 8-10 microns depending on bowl speed, feed rate, solids loading and other factors.

The centrifuge system is designed to work on the active system and be flexible to process incoming fluids from other locations. This set-up is also dependant on well factors.

Dewatering System: The dewatering system is a chemical mixing and dosing system designed to enhance the solids removal of the centrifuge. Not commonly used in shallow wells. It may contain pH adjustment, coagulant mixing and dosing, and polymer mixing and dosing. Chemical flocculation binds ultra fine solids into a mass that is within the centrifuge operating design. The

dewatering system improves the centrifuge cut point to infinity or allows for the return of clear water or brine fluid. This ability allows for the ultimate control of low gravity solids.

Cuttings Boxes: Cuttings boxes are utilized to capture drill solids that are discarded from the solids control equipment. These boxes are set upon a rail system that allows for the removal and replacement of a full box of cuttings with an empty one. They are equipped with a cover that insures no product is spilled into the environment during the transportation phase.

Process Tank: (Optional) The process tank allows for the holding and process of fluids that are being transferred into the mud system. Additionally, during times of lost circulation the process tank may hold active fluids that are removed for additional treatment. It can further be used as a mixing tank during well control conditions.

Sump and Sump Pump: The sump is used to collect storm water and the pump is used to transfer this fluid to the active system or to the tank for to hold in reserve. It can also be used to collect fluids that may escape during spills. The location contains drainage ditches that allow the location fluids to drain to the sump.

Reserve Fluids (Tank Farm): A series of frac tanks are used to replace the reserve pit. These are steel tanks that are equipped with a manifold system and a transfer pump. These tanks can contain any number of fluids used during the drilling process. These can include fresh water, cut brine, and saturated salt fluid. The fluid can be from the active well or reclaimed fluid from other locations. A 20 ml liner and berm system is employed to ensure the fluids do not migrate to the environment during a spill.

If a leak develops, the appropriate division district office will be notified within 48 hours of the discovery and the leak will be addressed. Spill prevention is accomplished by maintaining pump packing, hoses, and pipe fittings to insure no leaks are occurring. During an upset condition the source of the spill is isolated and repaired as soon as it is discovered. Free liquid is removed by a diaphragm pump and returned to the mud system. Loose topsoil may be used to stabilize the spill and the contaminated soil is excavated and placed in the cuttings boxes. After the well is finished and the rig has moved, the entire location is scrapped and testing will be performed to determine if a release has occurred.

All trash is kept in a wire mesh enclosure and removed to an approved landfill when full. All spent motor oils are kept in separate containers and they are removed and sent to an approved recycling center. Any spilled lubricants, pipe

A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

Devon proposes using a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. 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.

- Wellhead will be installed by wellhead representatives.
- If the welding is performed by a third party, the wellhead representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- Wellhead representative will install the test plug for the initial BOP test.
- Wellhead company will install a solid steel body pack-off to completely isolate the lower head after cementing intermediate casing. After installation of the pack-off, the pack-off and the lower flange will be tested to 3M, as shown on the attached schematic. Everything above the pack-off will not have been altered whatsoever from the initial nipple up. Therefore the BOP components will not be retested at that time.
- If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head will be cut and top out operations will be conducted.
- Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating.
- Devon will test the casing to 0.22 psi/ft or 1500 psi, whichever is greater, as per Onshore Order #2.

After running the 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 3M will be installed on the wellhead system and will undergo a 250 psi low pressure test followed by a 3,000 psi high pressure test. The 3,000 psi high and 250 psi low test will cover testing requirements a maximum of 30 days, as per Onshore Order #2. If the well is not complete within 30 days of this BOP test, another full BOP test will be conducted, as per Onshore Order #2.

After running the 9-5/8" intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 3M will already be installed on the wellhead.

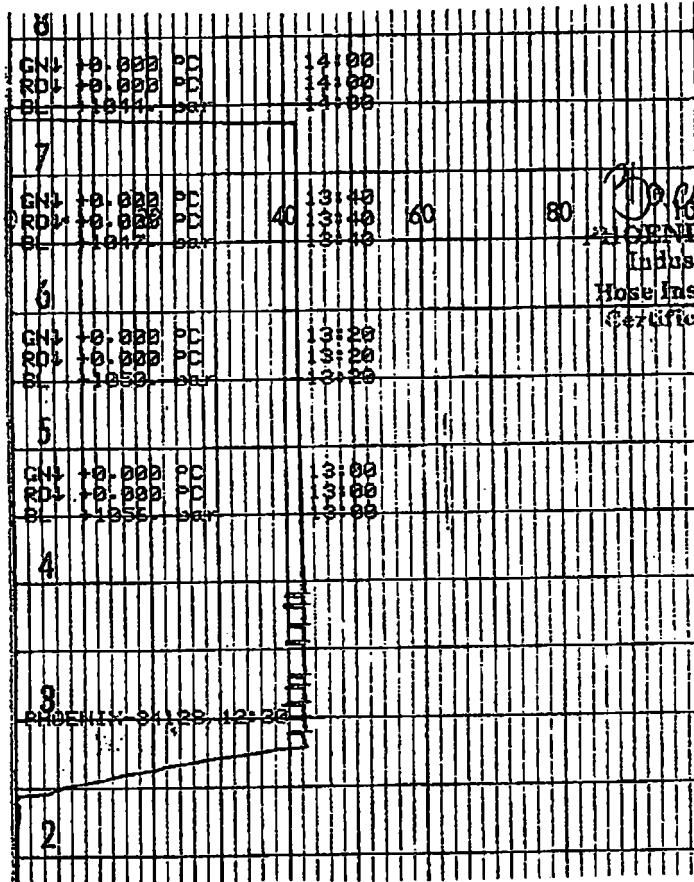
The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 3,000 psi WP.

Devon's proposed wellhead manufactures will be FMC Technologies, Cactus Wellhead, or Cameron.

14094-65

N800C

40920-0-00015



[Signature]
PHOENIX RUBBER
 Industrial Ltd.
 Hose Inspection and
 Certification Dept.

VERIFIED TRUE CO.
 PHOENIX RUBBER CO.

APD ID: 10400035085

Submission Date: 10/16/2018

Highlighted data reflects the most recent changes

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM

Well Type: OIL WELL

Well Number: 523H

Well Work Type: Drill

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:
Lusitano_27_34_Fed_Com_523H_Ex_Access_Rd_20181010115041.pdf

Existing Road Purpose: ACCESS

Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? YES

Existing Road Improvement Description: Improve road to accommodate Drilling and Completion operations.

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:
Lusitano_27_34_Fed_Com_523H_Access_Rds_20181010115112.pdf

New road type: COLLECTOR,RESOURCE

Length: 9442 Feet Width (ft.): 30

Max slope (%): 6 Max grade (%): 4

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 20

New road access erosion control: WATER DRAINAGE DITCH

New road access plan or profile prepared? NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM

Well Number: 523H

Access surfacing type: GRAVEL

Access topsoil source: ONSITE

Access surfacing type description:

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: SEE INTERIM RECLAMATION DIAGRAM

Access other construction information:

Access miscellaneous information:

Number of access turnouts:

Access turnout map:

Drainage Control

New road drainage crossing: CULVERT

Drainage Control comments: N/A

Road Drainage Control Structures (DCS) description: N/A

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Additional Attachment(s):

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Lusitano_27_34_Fed_Com_523H_1mile_Map_20181015095216.pdf

Existing Wells description:

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

Submit or defer a Proposed Production Facilities plan? DEFER

Estimated Production Facilities description: All flowlines will be buried going to the Lusitano 27 CTB 3, aka Cotton Draw Unit 27-34 CTB 3.

Section 5 - Location and Types of Water Supply

Water Source Table

Well Number: 523H

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM

Well Number: 523H

Section 6 - Construction Materials

Construction Materials description: Dirt fill and caliche will be used to construct well pad

Construction Materials source location attachment:

Lusitano_27_34_Fed_Com_523H_Caliche_Pit_20181015095415.pdf

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: WATER BASED CUTTINGS

Amount of waste: 1852 barrels

Waste disposal frequency : Daily

Safe containment description: N/A

Safe containmant attachment:

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

Disposal type description:

Disposal location description: ALL CUTTINGS WILL BE DISPOSED OF AT R360, SUNDANCE OR EQUIVALENT.

Waste type: COMPLETIONS/STIMULATION

Waste content description: Flow back water during completion operations.

Amount of waste: 3000 barrels

Waste disposal frequency : One Time Only

Safe containment description: N.A

Safe containmant attachment:

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

Disposal type description:

Disposal location description: Various disposal locations in Lea and Eddy counties.

Waste type: PRODUCED WATER

Waste content description: Produced water during production operations. This amount is a daily average during the first year of production (BWPD).

Amount of waste: 1000 barrels

Waste disposal frequency : Daily

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: OFF-LEASE INJECTION **Disposal location ownership:** PRIVATE

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM

Well Number: 523H

Disposal type description:

Disposal location description: One of three company owned SWD facilities in the area: CDU 181, CDU 89, CDU 84.

Waste type: FLOWBACK

Waste content description: Produced water during flowback operations. This amount is a daily average during flowback (BWPD).

Amount of waste: 1500 barrels

Waste disposal frequency : Daily

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: OFF-LEASE INJECTION **Disposal location ownership:** PRIVATE

Disposal type description:

Disposal location description: One of three company owned SWD facilities in the area: CDU 181, CDU 89, CDU 84.

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

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

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

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

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? NO

Description of cuttings location

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

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

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

WCuttings area liner

Cuttings area liner specifications and installation description

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM

Well Number: 523H

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

Lusitano_27_34_Fed_Com_523H_Rig_Layout_20181015095525.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: LUSITANO 27 WELLPAD

Multiple Well Pad Number: 3

Recontouring attachment:

Lusitano_27_34_Fed_Com_523H_Reclamation_20181015131014.pdf

Drainage/Erosion control construction: All areas disturbed shall be reclaimed as early and as nearly as practicable to their original condition or their final land use and shall be maintained to control dust and minimize erosion to the extent practicable

Drainage/Erosion control reclamation: Topsoils and subsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns. The disturbed area then shall be reseeded in the first favorable growing season.

Well pad proposed disturbance (acres): 5.62	Well pad interim reclamation (acres): 1.921	Well pad long term disturbance (acres): 3.699
Road proposed disturbance (acres): 6.502	Road interim reclamation (acres): 0	Road long term disturbance (acres): 6.502
Powerline proposed disturbance (acres): 0.621	Powerline interim reclamation (acres): 0	Powerline long term disturbance (acres): 0.621
Pipeline proposed disturbance (acres): 0.185	Pipeline interim reclamation (acres): 0	Pipeline long term disturbance (acres): 0.185
Other proposed disturbance (acres): 4.219	Other interim reclamation (acres): 0	Other long term disturbance (acres): 4.219
Total proposed disturbance: 17.147	Total interim reclamation: 1.921	Total long term disturbance: 15.226

Disturbance Comments:

Reconstruction method: Operator will use Best Management Practices"BMP" to mechanically recontour to obtain the desired outcome.

Topsoil redistribution: Topsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns.

Soil treatment: Topsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns.

Existing Vegetation at the well pad:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM

Well Number: 523H

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road:

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline:

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances:

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed type:

Seed source:

Seed name:

Source name:

Source address:

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre:

Proposed seeding season:

Seed Summary	
Seed Type	Pounds/Acre

Total pounds/Acre:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM

Well Number: 523H

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: JACOB

Last Name: OCHOA

Phone: (575)748-9934

Email: jacob.ocha@dvn.com

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: MAINTAIN WEEDS ON AN AS NEED BASIS.

Weed treatment plan attachment:

Monitoring plan description: MONITOR AS NEEDED.

Monitoring plan attachment:

Success standards: N/A

Pit closure description: N/A

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM

Well Number: 523H

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Disturbance type: EXISTING ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM

Well Number: 523H

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Disturbance type: PIPELINE

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Section 12 - Other Information

Right of Way needed? NO

Use APD as ROW?

ROW Type(s):

ROW Applications

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM

Well Number: 523H

SUPO Additional Information: ELECTRIC PLAT FLOWLINE PLAT GAS & WATER BATTERY CONNECT CTB PLAT

Use a previously conducted onsite? YES

Previous Onsite information: 6/1/2016

Other SUPO Attachment

Lusitano_27_34_Fed_Com_523H_Electric_20181015095819.pdf

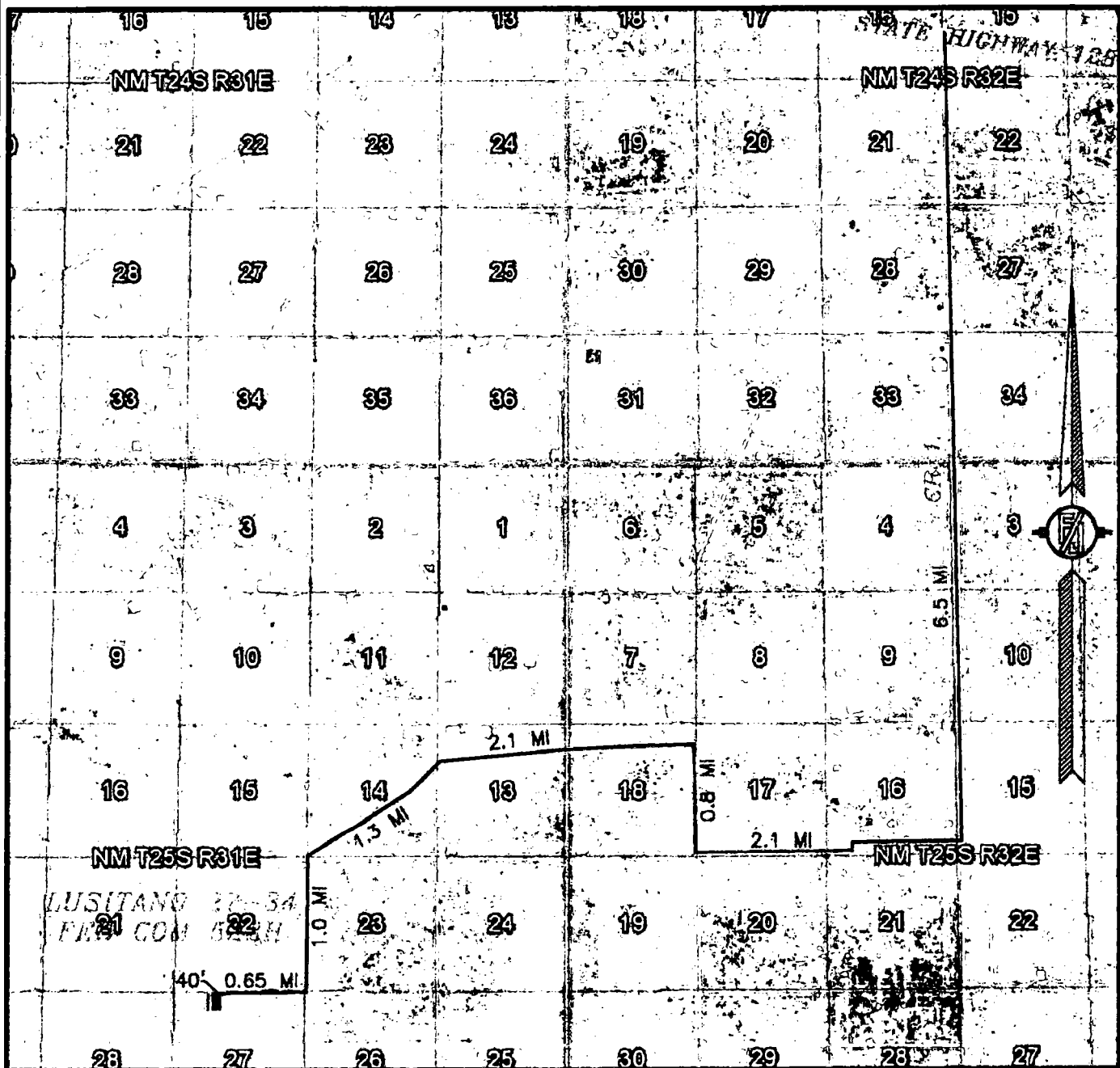
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Lusitano_27_34_Fed_Com_523H_Gas_Water_Battery_Connect_20181015095824.pdf

Lusitano_27_34_Fed_Com_523H_CDU_27_34_CTB_3_20181015095844.pdf

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SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
ACCESS AERIAL ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
NOVEMBER 2017

DEVON ENERGY PRODUCTION COMPANY, L.P.
LUSITANO 27-34 FED COM 523H
LOCATED 385 FT. FROM THE NORTH LINE
AND 1762 FT. FROM THE WEST LINE OF
SECTION 27, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

SEPTEMBER 27, 2018

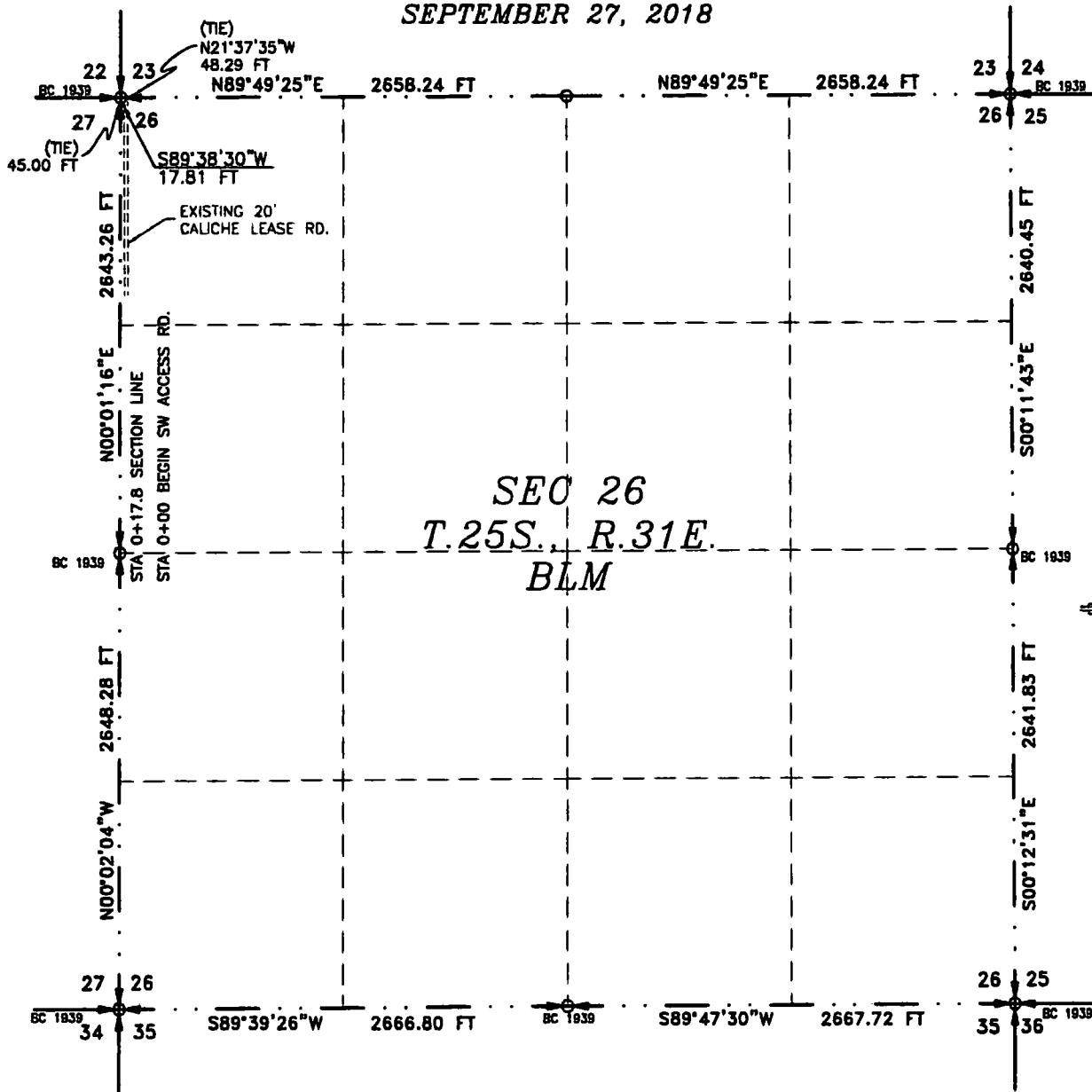
SURVEY NO. 6425A

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

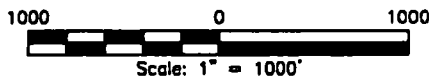
ACCESS ROAD PLAT

ACCESS ROAD TO THE LUSITANO 27 PAD 3 (LUSITANO 27-22 FED COM 232H, LUSITANO 27-34 FED COM 733H, 622H, 333H, 713H, 233H, 533H, 523H)

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SEPTEMBER 27, 2018



SEE NEXT SHEET (2-4) FOR DESCRIPTION



GENERAL NOTES

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 1-4

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 29 DAY OF SEPTEMBER 2018

[Signature]
FILMON F. JARAMILLO, PLS. 12797

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO. 6425A

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT

ACCESS ROAD TO THE LUSITANO 27 PAD 3 (LUSITANO 27-22 FED COM 232H, LUSITANO 27-34 FED COM 733H, 622H, 333H, 713H, 233H, 533H, 523H)

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SEPTEMBER 27, 2018

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

SOUTHWEST ACCESS ROAD

BEGINNING AT A POINT WITHIN THE NW/4 NW/4 OF SAID SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTHWEST CORNER OF SAID SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N21°37'35"W, A DISTANCE OF 48.29 FEET;

THENCE S89°38'30"W A DISTANCE OF 17.81 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N00°01'16"E, A DISTANCE OF 45.00 FEET;

SAID STRIP OF LAND BEING 17.81 FEET OR 1.08 RODS IN LENGTH, CONTAINING 0.012 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NW/4 NW/4 17.81 L.F. 1.08 RODS 0.012 ACRES

GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES, NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 2-4

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
(575) 234-3341

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

NEW MEXICO, THIS 29 DAY OF SEPTEMBER 2018

[Signature]
FILMON F. JARAMILLO, PLS. 12797

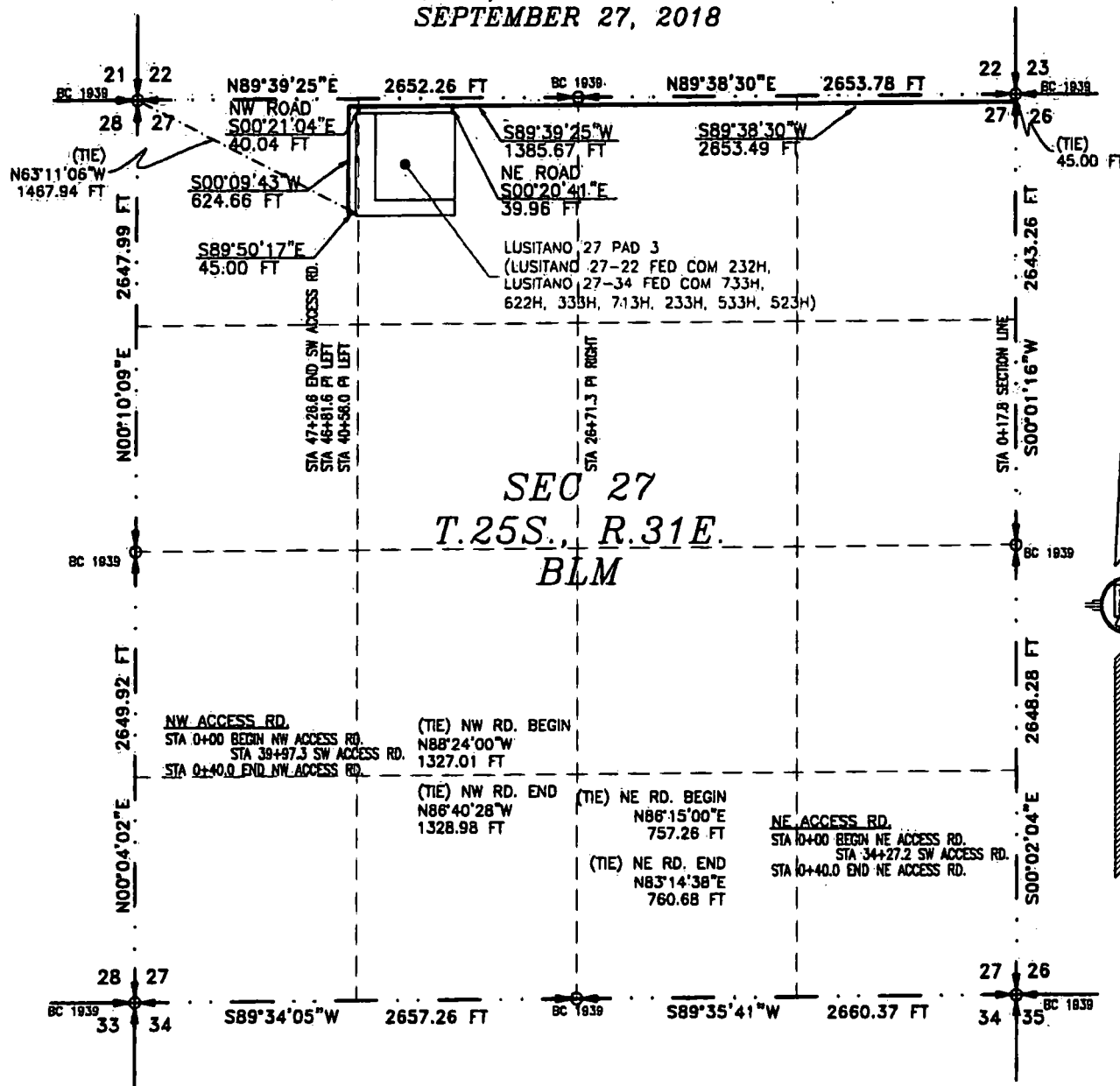
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO. 6425A

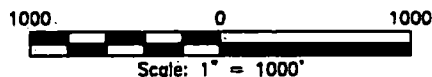
ACCESS ROAD PLAT

ACCESS ROAD TO THE LUSITANO 27 PAD 3 (LUSITANO 27-22 FED COM 232H, LUSITANO 27-34 FED COM 733H, 622H, 333H, 713H, 233H, 533H, 523H)

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SEPTEMBER 27, 2018



SEE NEXT SHEET (4-4) FOR DESCRIPTION



GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 3-4

MADRON SURVEYING, INC.

SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS DAY OF SEPTEMBER 2018

FILIMON F. JARAMILLO
301 SOUTH CANAL
(575) 234-3341

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO. 6425A

CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT

ACCESS ROAD TO THE LUSITANO 27 PAD 3 (LUSITANO 27-22 FED COM 232H, LUSITANO 27-34 FED COM 733H, 622H, 333H, 713H, 233H, 533H, 523H)

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SEPTEMBER 27, 2018

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

SOUTHWEST ACCESS ROAD

BEGINNING AT A POINT WITHIN THE NE/4 NE/4 OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTHEAST CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N00°01'16"E, A DISTANCE OF 45.00 FEET;

THENCE S89°38'30"W A DISTANCE OF 2653.49 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S89°39'25"W A DISTANCE OF 1385.67 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S00°09'43"W A DISTANCE OF 624.66 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S89°50'17"E A DISTANCE OF 45.00 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N63°11'06"W, A DISTANCE OF 1467.94 FEET;

SAID STRIP OF LAND BEING 4708.82 FEET OR 285.38 RODS IN LENGTH, CONTAINING 3.243 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NE/4 1326.91 L.F. 80.42 RODS 0.914 ACRES

NW/4 NE/4 1326.91 L.F. 80.42 RODS 0.914 ACRES

NE/4 NW/4 1326.17 L.F. 80.37 RODS 0.913 ACRES

NW/4 NW/4 728.83 L.F. 44.17 RODS 0.502 ACRES

NORTHEAST ACCESS ROAD

BEGINNING AT A POINT WITHIN THE NE/4 NW/4 OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N86°15'00"E, A DISTANCE OF 757.26 FEET;

THENCE S00°20'41"E A DISTANCE OF 39.96 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N83°14'38"E, A DISTANCE OF 760.68 FEET;

SAID STRIP OF LAND BEING 39.96 FEET OR 2.42 RODS IN LENGTH, CONTAINING 0.028 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NW/4 39.96 L.F. 2.42 RODS 0.028 ACRES

NORTHWEST ACCESS ROAD

BEGINNING AT A POINT WITHIN THE NE/4 NW/4 OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTHWEST CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N88°24'00"W, A DISTANCE OF 1327.01 FEET;

THENCE S00°21'04"E A DISTANCE OF 40.04 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N86°40'28"W, A DISTANCE OF 1328.98 FEET;

SAID STRIP OF LAND BEING 40.04 FEET OR 2.43 RODS IN LENGTH, CONTAINING 0.028 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NW/4 40.04 L.F. 2.43 RODS 0.028 ACRES

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

NEW MEXICO, THIS 27 DAY OF SEPTEMBER 2018

[Signature]
FILMON F. JARAMILLO, PLS. 12797
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

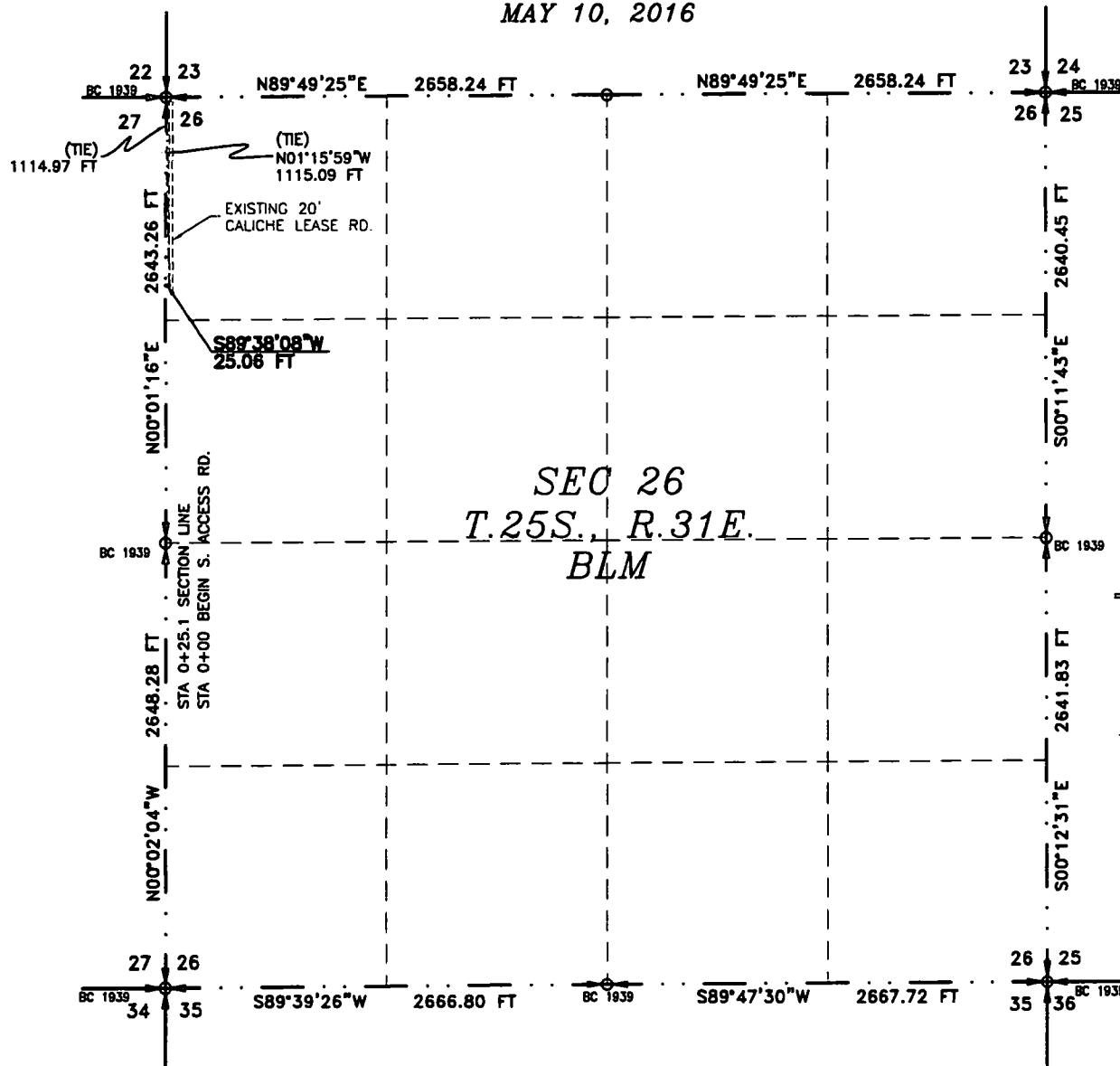
SHEET: 4-4

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
(575) 234-3341

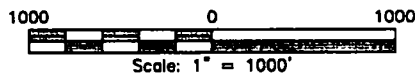
SURVEY NO. 6425A

ACCESS ROAD PLAT (AA000055110)
SOUTH ACCESS ROAD TO THE COTTON DRAW UNIT 27-34 PAD 3 & TO THE
COTTON DRAW UNIT 27-34 CTB 3

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 10, 2016



SEE NEXT SHEET (2-6) FOR DESCRIPTION



GENERAL NOTES

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 11 DAY OF MAY 2016

(Signature of Filimon F. Jaramillo)
FILIMON F. JARAMILLO, PLS. 12797
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SHEET: 1-6

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

SURVEY NO. 4666

ACCESS ROAD PLAT (AA000055110)
SOUTH ACCESS ROAD TO THE COTTON DRAW UNIT 27-34 PAD 3 & TO THE
COTTON DRAW UNIT 27-34 CTB 3

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 10, 2016

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE NW/4 NW/4 OF SAID SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTHWEST CORNER OF SAID SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N01°15'59"W, A DISTANCE OF 1115.09 FEET;

THENCE S89°38'08"W A DISTANCE OF 25.06 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N00°01'16"E, A DISTANCE OF 1114.97 FEET;

SAID STRIP OF LAND BEING 25.06 FEET OR 1.52 RODS IN LENGTH, CONTAINING 0.017 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NW/4 NW/4 25.06 L.F. 1.52 RODS 0.017 ACRES

GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 11 DAY OF MAY 2016.


FILIMON F. JARAMILLO, 12797

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

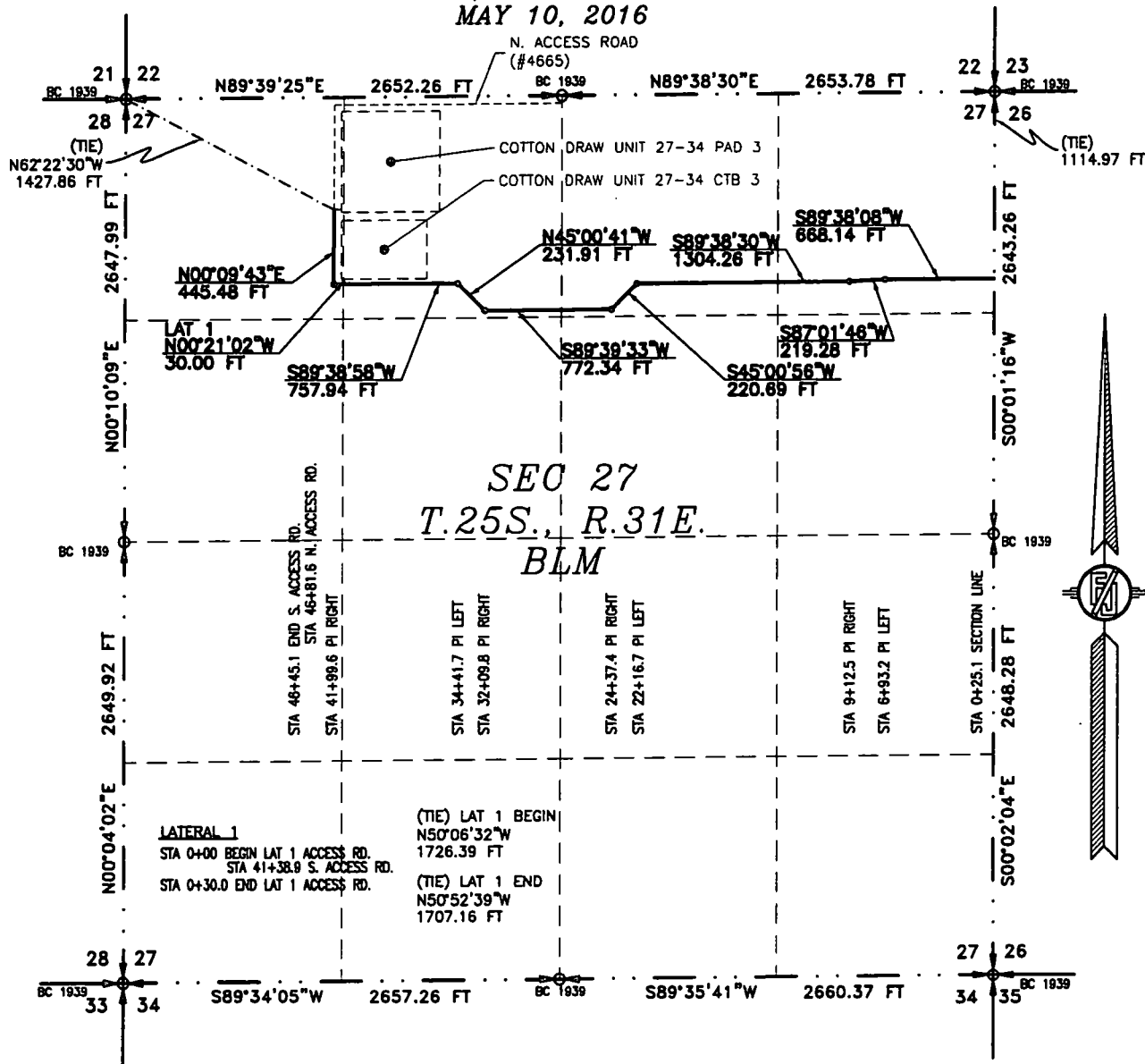
SHEET: 2-6

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

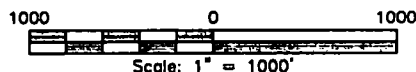
SURVEY NO. 4666

ACCESS ROAD PLAT (AA000055110)
 SOUTH ACCESS ROAD TO THE COTTON DRAW UNIT 27-34 PAD 3 & TO THE
 COTTON DRAW UNIT 27-34 CTB 3

DEVON ENERGY PRODUCTION COMPANY, L.P.
 CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
 SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 MAY 10, 2016



SEE NEXT SHEET (4-6) FOR DESCRIPTION



GENERAL NOTES

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

NEW MEXICO, THIS 10 DAY OF MAY, 2016

12797
 FILMON F. JARAMILLO, P.E.
 PROFESSIONAL SURVEYOR
 REG. NO. 12797
 (575) 234-3341

MADRON SURVEYING, INC.
 301 SOUTH CANAL
 CARLSBAD, NEW MEXICO 88220
 Phone (575) 234-3341

SHEET: 3-6

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

SURVEY NO. 4666

ACCESS ROAD PLAT (AA000055110)
SOUTH ACCESS ROAD TO THE COTTON DRAW UNIT 27-34 PAD 3 & TO THE
COTTON DRAW UNIT 27-34 CTB 3

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 10, 2016

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

SOUTH ACCESS ROAD

BEGINNING AT A POINT WITHIN THE NE/4 NE/4 OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTHEAST CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N00°01'16"E, A DISTANCE OF 1114.97 FEET;

THENCE S89°38'08"W A DISTANCE OF 668.14 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S87°01'46"W A DISTANCE OF 219.28 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S89°38'30"W A DISTANCE OF 1304.26 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S45°00'56"W A DISTANCE OF 220.69 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S89°39'33"W A DISTANCE OF 772.34 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE N45°00'41"W A DISTANCE OF 231.91 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S89°38'58"W A DISTANCE OF 757.94 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE N00°09'43"E A DISTANCE OF 445.48 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N62°22'30"W, A DISTANCE OF 1427.86 FEET;

SAID STRIP OF LAND BEING 4620.04 FEET OR 280.01 RODS IN LENGTH, CONTAINING 3.182 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NE/4 1327.61 L.F. 80.46 RODS 0.914 ACRES

NW/4 NE/4 1392.08 L.F. 84.37 RODS 0.959 ACRES

NE/4 NW/4 1394.86 L.F. 84.54 RODS 0.961 ACRES

NW/4 NW/4 505.49 L.F. 30.64 RODS 0.348 ACRES

LATERAL 1 ACCESS ROAD

BEGINNING AT A POINT WITHIN THE NW/4 NW/4 OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTHWEST CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N50°06'32"W, A DISTANCE OF 1726.39 FEET;

THENCE N00°21'02"W A DISTANCE OF 30.00 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N50°52'39"W, A DISTANCE OF 1707.16 FEET;

SAID STRIP OF LAND BEING 30.00 FEET OR 1.82 RODS IN LENGTH, CONTAINING 0.021 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NW/4 NW/4 30.00 L.F. 1.82 RODS 0.021 ACRES

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

NEW MEXICO, THIS 10 DAY OF MAY 2016

GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

[Handwritten signature of Filmon F. Jaramillo]
FILMON F. JARAMILLO
12797
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
(575) 234-3341

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

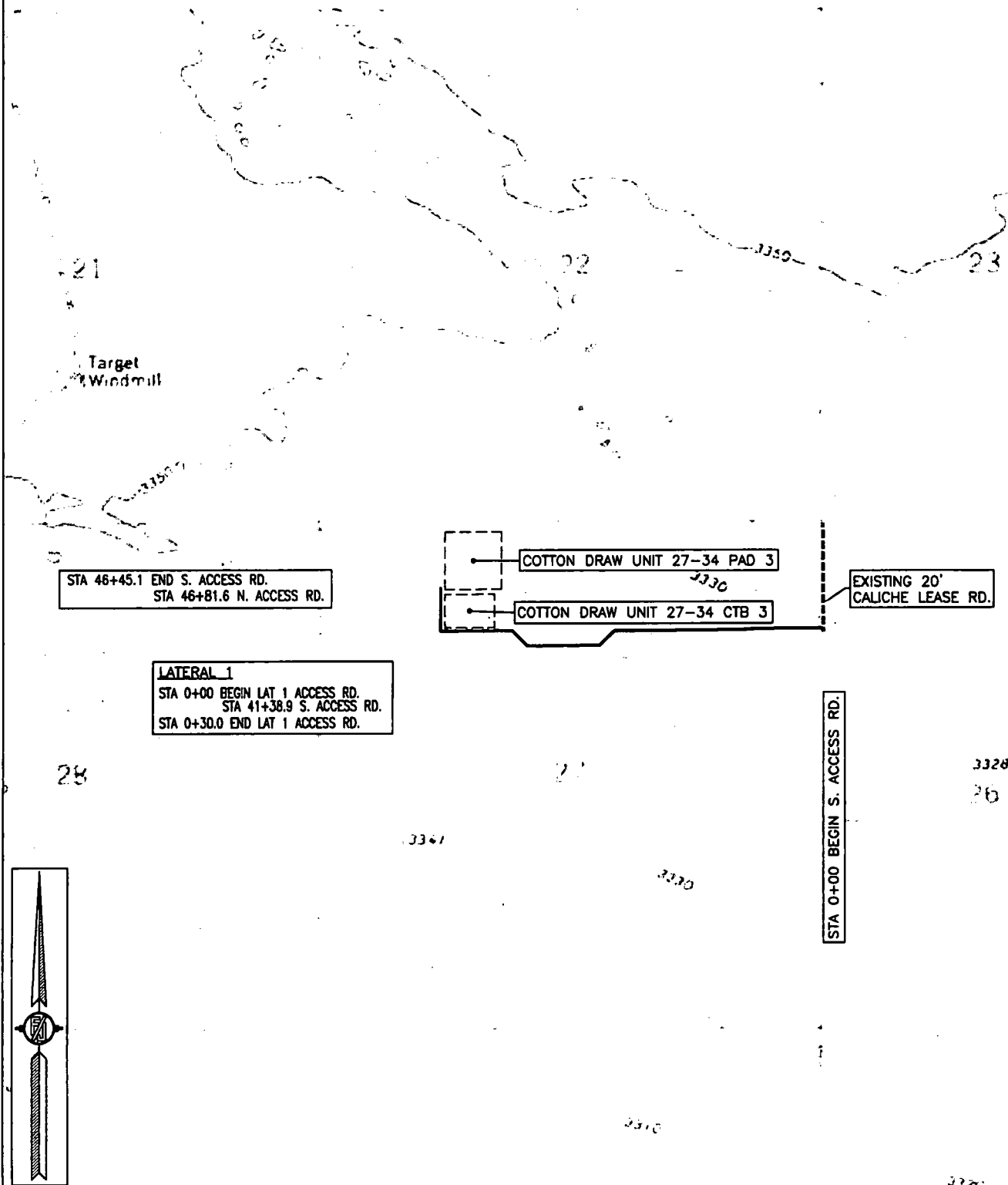
SURVEY NO. 4666

SHEET: 4-6

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT (AA000055110)
SOUTH ACCESS ROAD TO THE COTTON DRAW UNIT 27-34 PAD 3 & TO THE
COTTON DRAW UNIT 27-34 CTB 3

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTIONS 26, 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 10, 2016



ACCESS ROAD PLAT (AA000055110)
SOUTH ACCESS ROAD TO THE COTTON DRAW UNIT 27-34 PAD 3 & TO THE
COTTON DRAW UNIT 27-34 CTB 3

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTIONS 26, 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 10, 2016

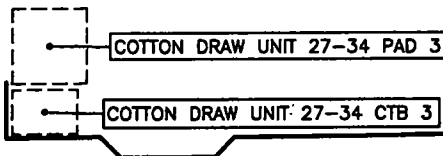
NM T25S R31E

21

22

2

STA 46+45.1 END S. ACCESS RD.
STA 46+81.6 N. ACCESS RD.



EXISTING 20' CALICHE LEASE RD.

LATERAL 1
STA 0+00 BEGIN LAT 1 ACCESS RD.
STA 41+38.9 S. ACCESS RD.
STA 0+30.0 END LAT 1 ACCESS RD.

28

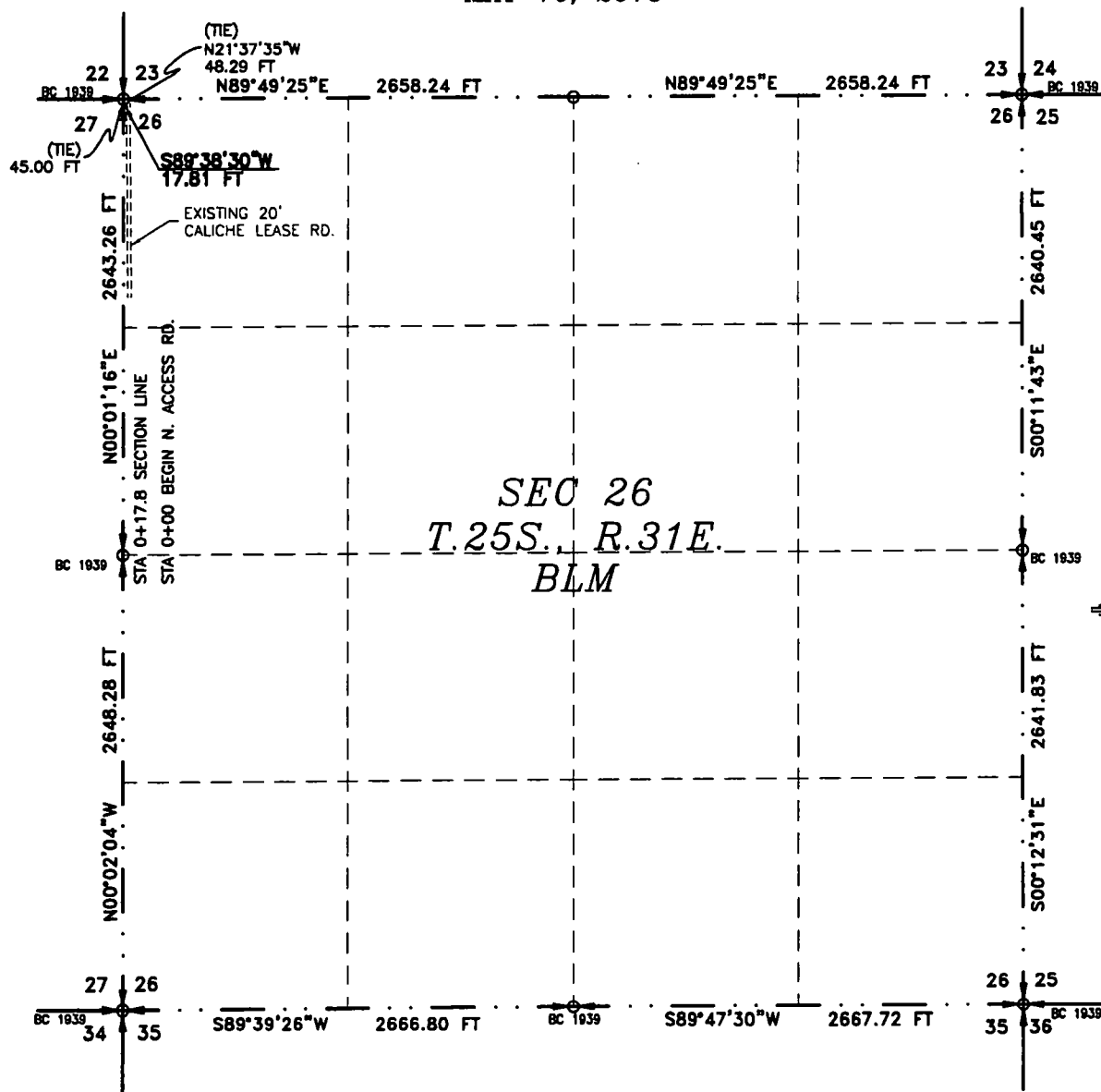
27

STA 0+00 BEGIN S. ACCESS RD.

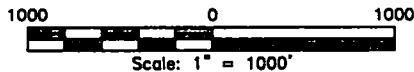


ACCESS ROAD PLAT (AA000055110)
NORTH ACCESS ROAD TO THE COTTON DRAW UNIT 27-34 PAD 3

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 10, 2016



SEE NEXT SHEET (2-6) FOR DESCRIPTION



GENERAL NOTES

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS DAY OF MAY 2016

(Signature of Filmon F. Jaramillo)
FILMON F. JARAMILLO, P.E.S. 12797
PROFESSIONAL SURVEYOR

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SHEET: 1-6

SURVEY NO. 4665

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT (AA000055110)
NORTH ACCESS ROAD TO THE COTTON DRAW UNIT 27-34 PAD 3

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 10, 2016

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE NW/4 NW/4 OF SAID SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTHWEST CORNER OF SAID SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N21°37'35"W, A DISTANCE OF 48.29 FEET;

THENCE S89°38'30"W A DISTANCE OF 17.81 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 26, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N00°01'16"E, A DISTANCE OF 45.00 FEET;

SAID STRIP OF LAND BEING 17.81 FEET OR 1.08 RODS IN LENGTH, CONTAINING 0.012 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NW/4 NW/4 17.81 L.F. 1.08 RODS 0.012 ACRES

GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 12TH DAY OF MAY 2016

FILMON F. JARAMILLO
REGISTERED PROFESSIONAL SURVEYOR
NEW MEXICO
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

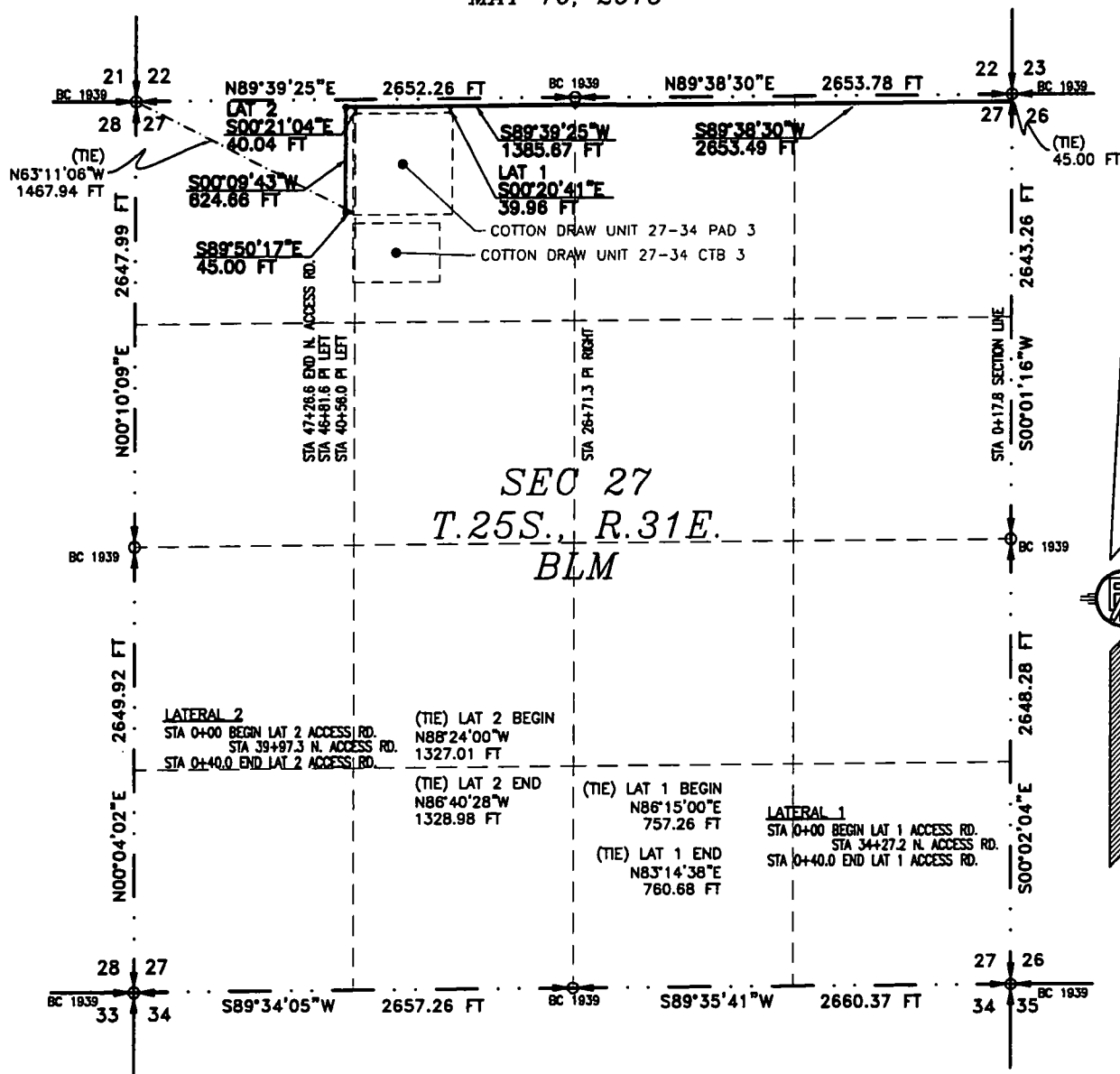
SHEET: 2-6

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

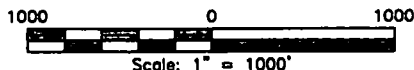
SURVEY NO. 4665

ACCESS ROAD PLAT (AA000055110)
NORTH ACCESS ROAD TO THE COTTON DRAW UNIT 27-34 PAD 3

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 10, 2016



SEE NEXT SHEET (4-6) FOR DESCRIPTION



GENERAL NOTES

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 12TH DAY OF MAY 2016.

FILIMON F. JARAMILLO
REGISTERED PROFESSIONAL SURVEYOR
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SHEET: 3-6

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

SURVEY NO. 4665

ACCESS ROAD PLAT (AA000055110)
NORTH ACCESS ROAD TO THE COTTON DRAW UNIT 27-34 PAD 3

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 10, 2016

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

NORTH ACCESS ROAD

BEGINNING AT A POINT WITHIN THE NE/4 NE/4 OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTHEAST CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N00°01'16"E, A DISTANCE OF 45.00 FEET;

THENCE S89°38'30"W A DISTANCE OF 2653.49 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S89°39'25"W A DISTANCE OF 1385.67 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S00°09'43"W A DISTANCE OF 624.66 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S89°50'17"E A DISTANCE OF 45.00 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N63°11'06"W, A DISTANCE OF 1467.94 FEET;

SAID STRIP OF LAND BEING 4708.82 FEET OR 285.38 RODS IN LENGTH, CONTAINING 3.243 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NE/4	1326.91 L.F.	80.42 RODS	0.914 ACRES
NW/4 NE/4	1326.91 L.F.	80.42 RODS	0.914 ACRES
NE/4 NW/4	1326.17 L.F.	80.37 RODS	0.913 ACRES
NW/4 NW/4	728.83 L.F.	44.17 RODS	0.502 ACRES

LATERAL 1 ACCESS ROAD

BEGINNING AT A POINT WITHIN THE NE/4 NW/4 OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N86°15'00"E, A DISTANCE OF 757.26 FEET;

THENCE S00°20'41"E A DISTANCE OF 39.96 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N83°14'38"E, A DISTANCE OF 760.68 FEET;

SAID STRIP OF LAND BEING 39.96 FEET OR 2.42 RODS IN LENGTH, CONTAINING 0.028 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NW/4	39.96 L.F.	2.42 RODS	0.028 ACRES
-----------	------------	-----------	-------------

LATERAL 2 ACCESS ROAD

BEGINNING AT A POINT WITHIN THE NE/4 NW/4 OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTHWEST CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N88°24'00"W, A DISTANCE OF 1327.01 FEET;

THENCE S00°21'04"E A DISTANCE OF 40.04 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N86°40'28"W, A DISTANCE OF 1328.98 FEET;

SAID STRIP OF LAND BEING 40.04 FEET OR 2.43 RODS IN LENGTH, CONTAINING 0.028 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NW/4	40.04 L.F.	2.43 RODS	0.028 ACRES
-----------	------------	-----------	-------------

SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

NEW MEXICO, THIS 10 DAY OF MAY 2016

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 4-6

MADRON SURVEYING, INC.

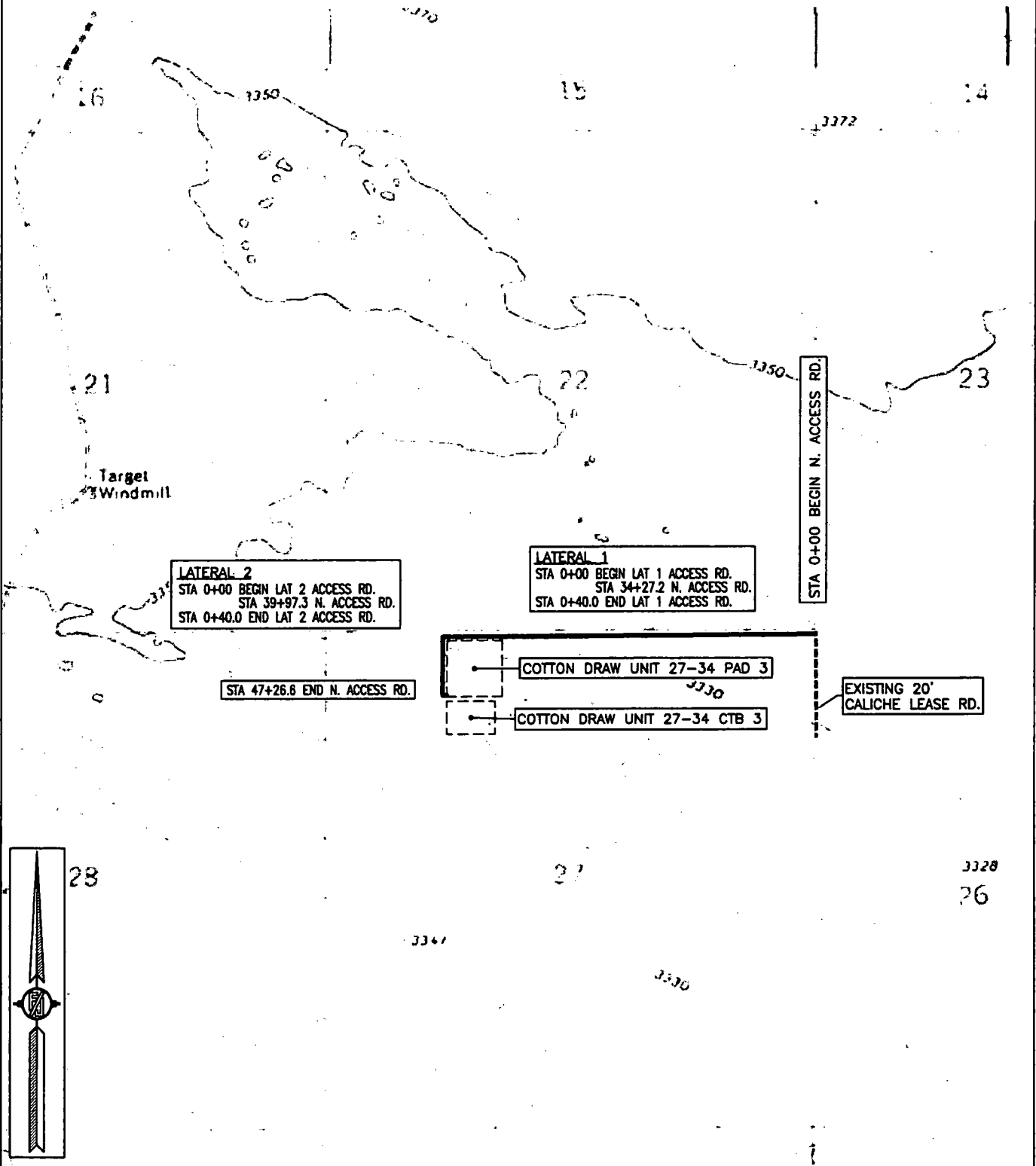
301 SOUTH CANAL
(575) 234-3341

CARLSBAD, NEW MEXICO

SURVEY NO. 4665

ACCESS ROAD PLAT (AA000055110)
NORTH ACCESS ROAD TO THE COTTON DRAW UNIT 27-34 PAD 3

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTIONS 26, 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 10, 2016



ACCESS ROAD PLAT (AA000055110)
NORTH ACCESS ROAD TO THE COTTON DRAW UNIT 27-34 PAD 3

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTIONS 26, 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 10, 2016

NM T25S R31E

21

22

LATERAL 2
STA 0+00 BEGIN LAT 2 ACCESS RD.
STA 39+97.3 N. ACCESS RD.
STA 0+40.0 END LAT 2 ACCESS RD.

LATERAL 1
STA 0+00 BEGIN LAT 1 ACCESS RD.
STA 34+27.2 N. ACCESS RD.
STA 0+40.0 END LAT 1 ACCESS RD.

STA 0+00 BEGIN N. ACCESS RD.

STA 47+26.6 END N. ACCESS RD.

COTTON DRAW UNIT 27-34 PAD 3

COTTON DRAW UNIT 27-34 CTB 3

EXISTING 20'
CALICHE LEASE RD.

28

27



LUSITANO 27-34 FED COM 523H WA017161516

One Mile Radius Map



This map is for illustrative purposes only and is neither a legally recorded map nor a survey and is not intended to be used as one. Devon makes no warranty, representation, or guarantee of any kind regarding this map.

SHIRE 22 FED 1H

Nearest wellbore to SHL:

1720 ft.

LUSITANO 27-34 FED COM 626H

Nearest wellbore to BHL:

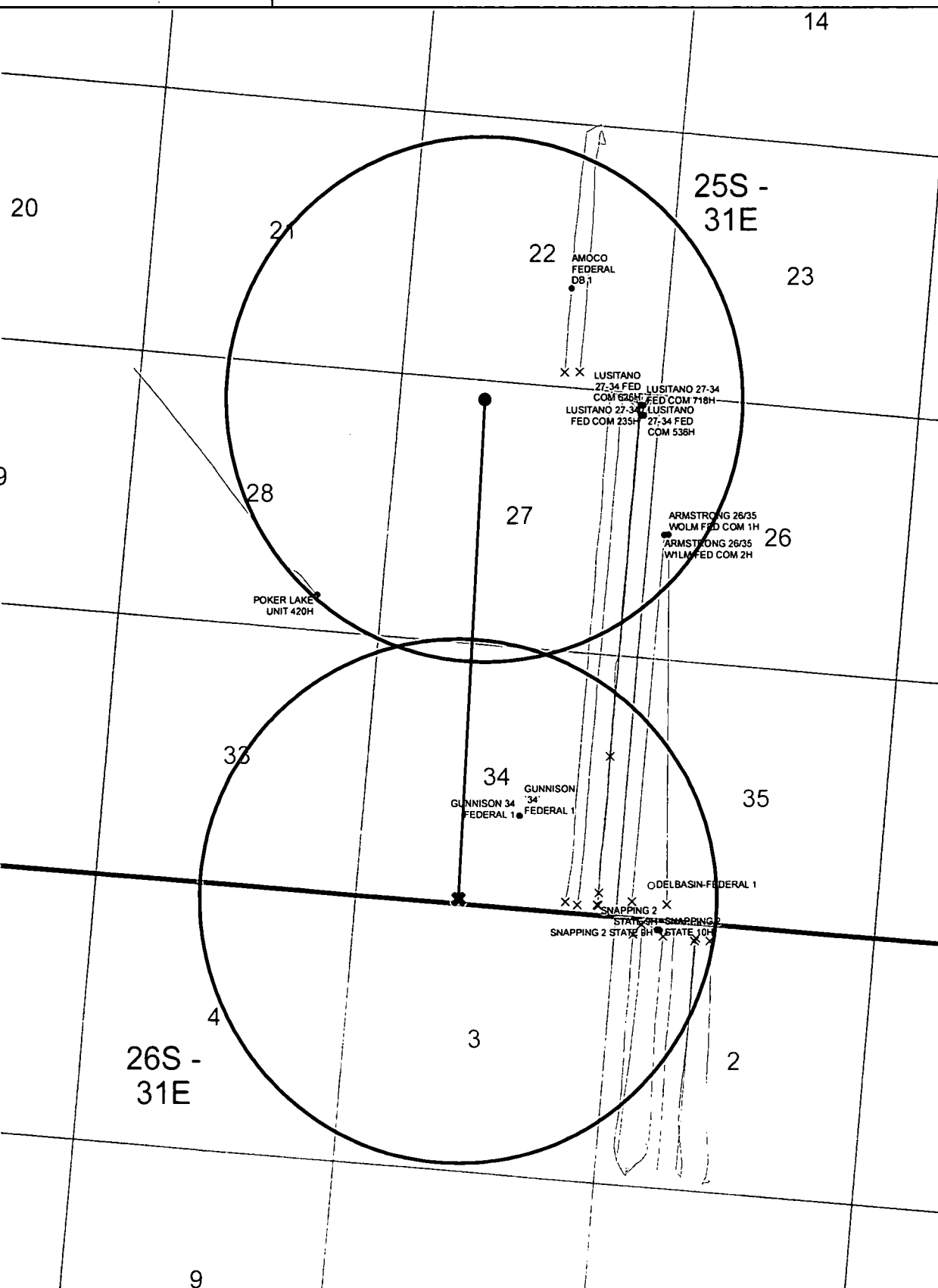
2174 ft.

- Unknown SHL
- Active SHL
- Inactive SHL
- × BHL

USA Contiguous Equidistant Conic
Datum: North American 1983
Created by: FME Server
Map is current as of 10/4/2018



0 0.3 Miles 1 inch = 0.44 miles



LUSITANO 27-34 FED COM

713H/622H/534H/523H/333H

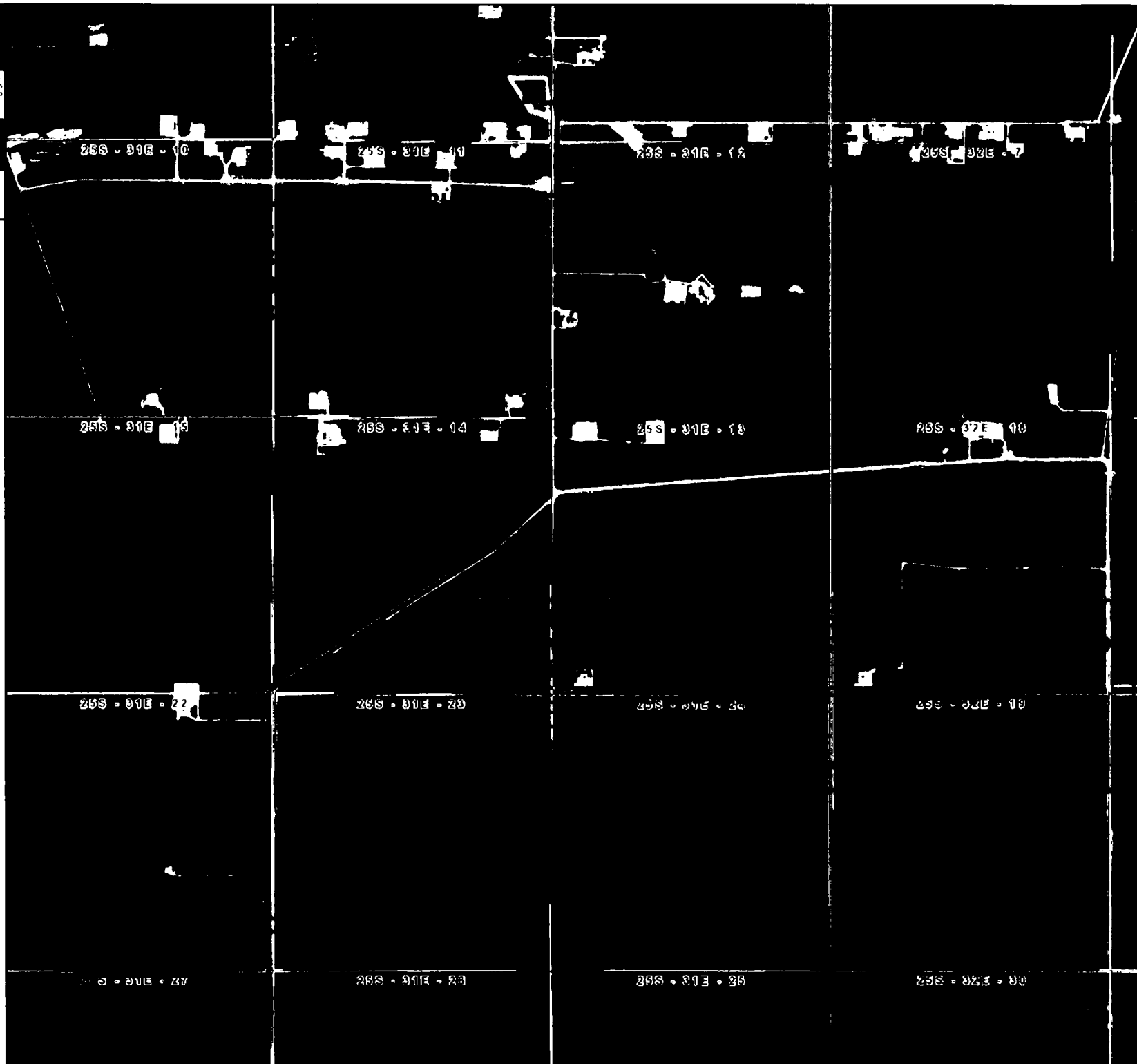


This map is for illustrative purposes only and is not a legally recorded map nor conveyance and is not intended to be used as one. Devon makes no warranty, representation, or guarantee of any kind regarding this map.

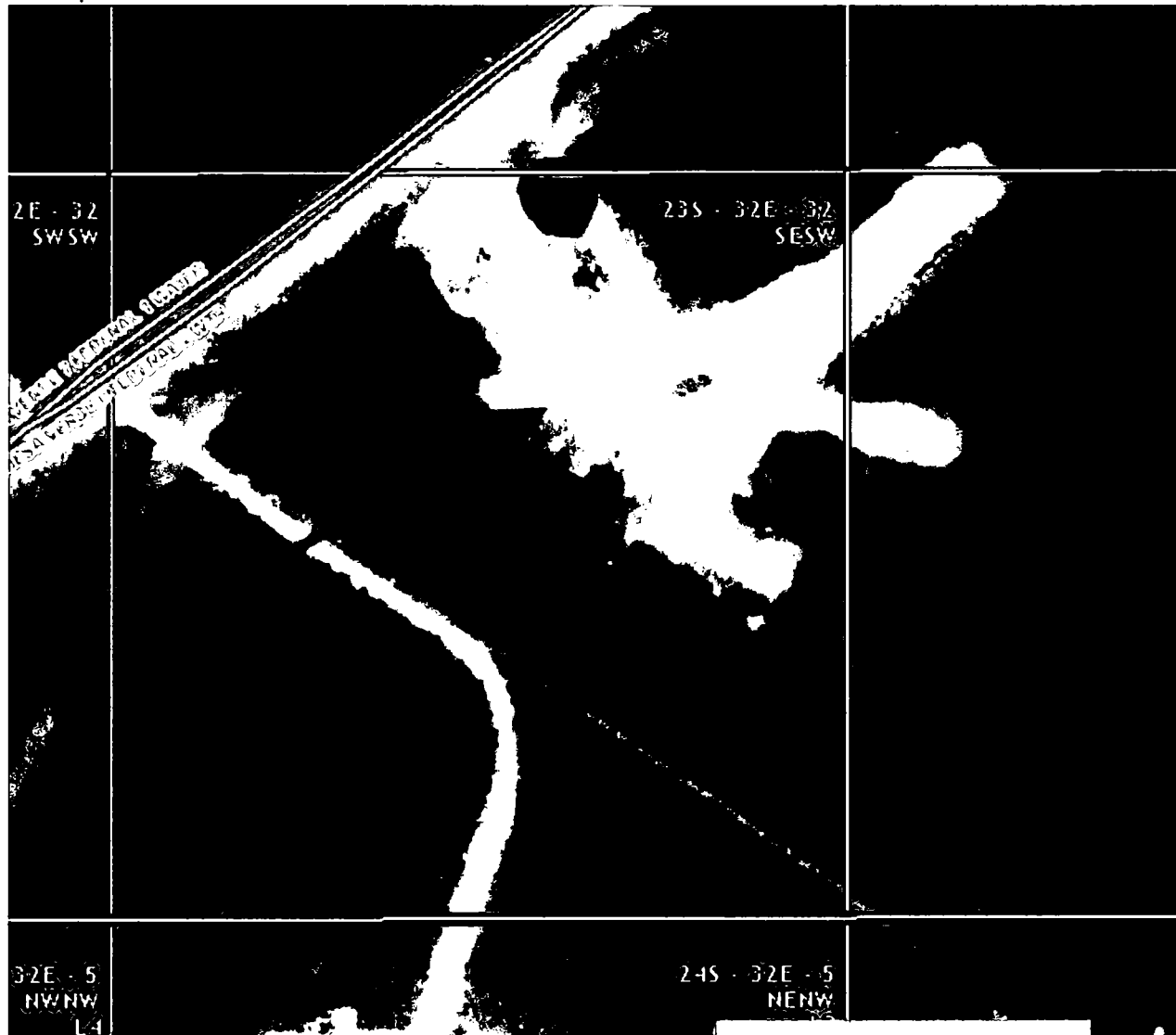
WGS 1984, Web_Mercator Auxiliary_Sphere
Prepared by: User
Map is current as of: 17-Aug-2018



Miles
0 0.14 0.28 0.56 1:28,457



- State pit 616 and 617 32- 23S- 32E



- Fed pit 25- 23S- 31E

31E - 25
NENW

23S - 31E - 25
NWNE

31E - 25
SENW

23S - 31E - 25
SWNE

- Private pit 26- 23S- 31E

27

235 - 01E - 26

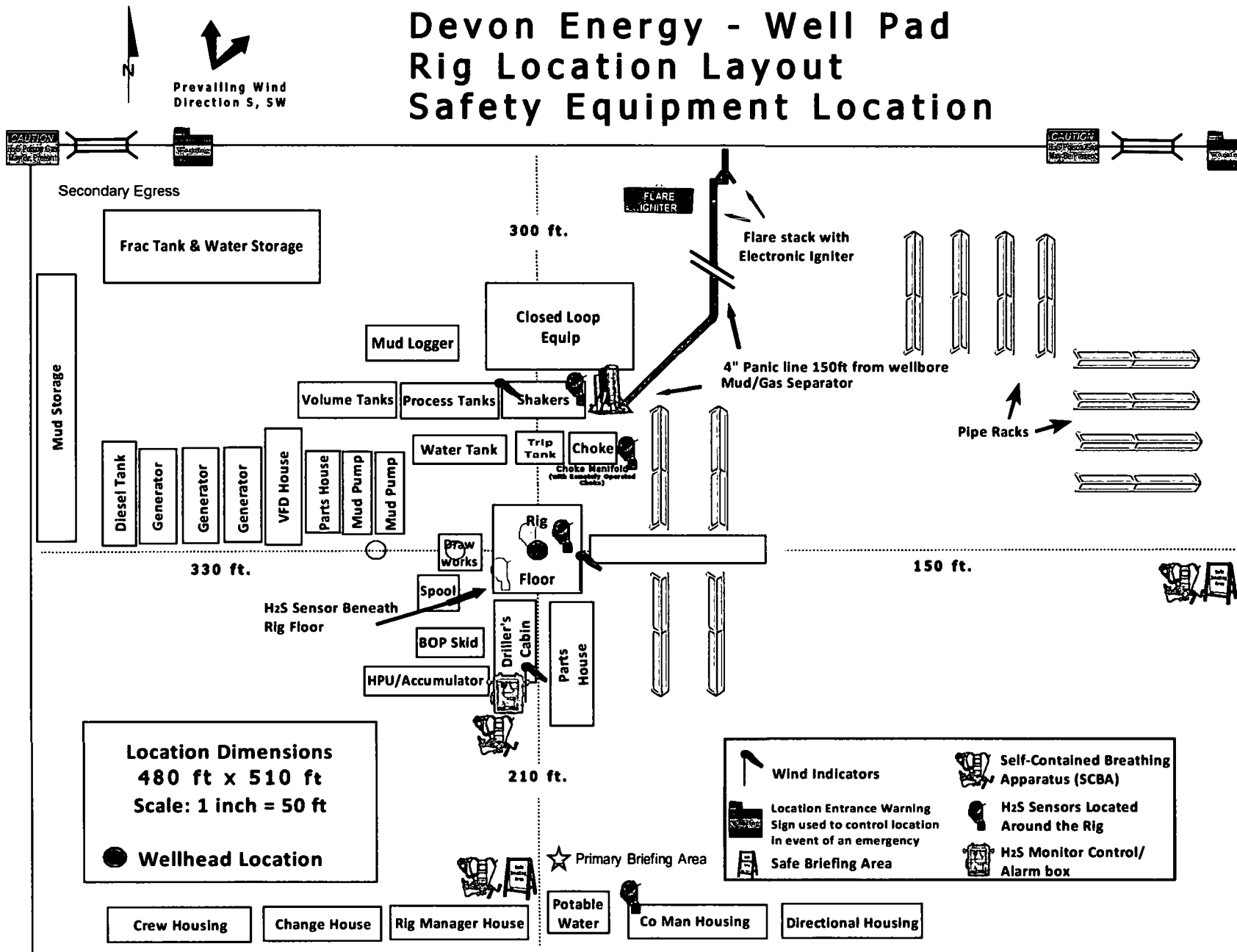
PUMP AND DRAINAGE WATER

235 - 01E

5

234

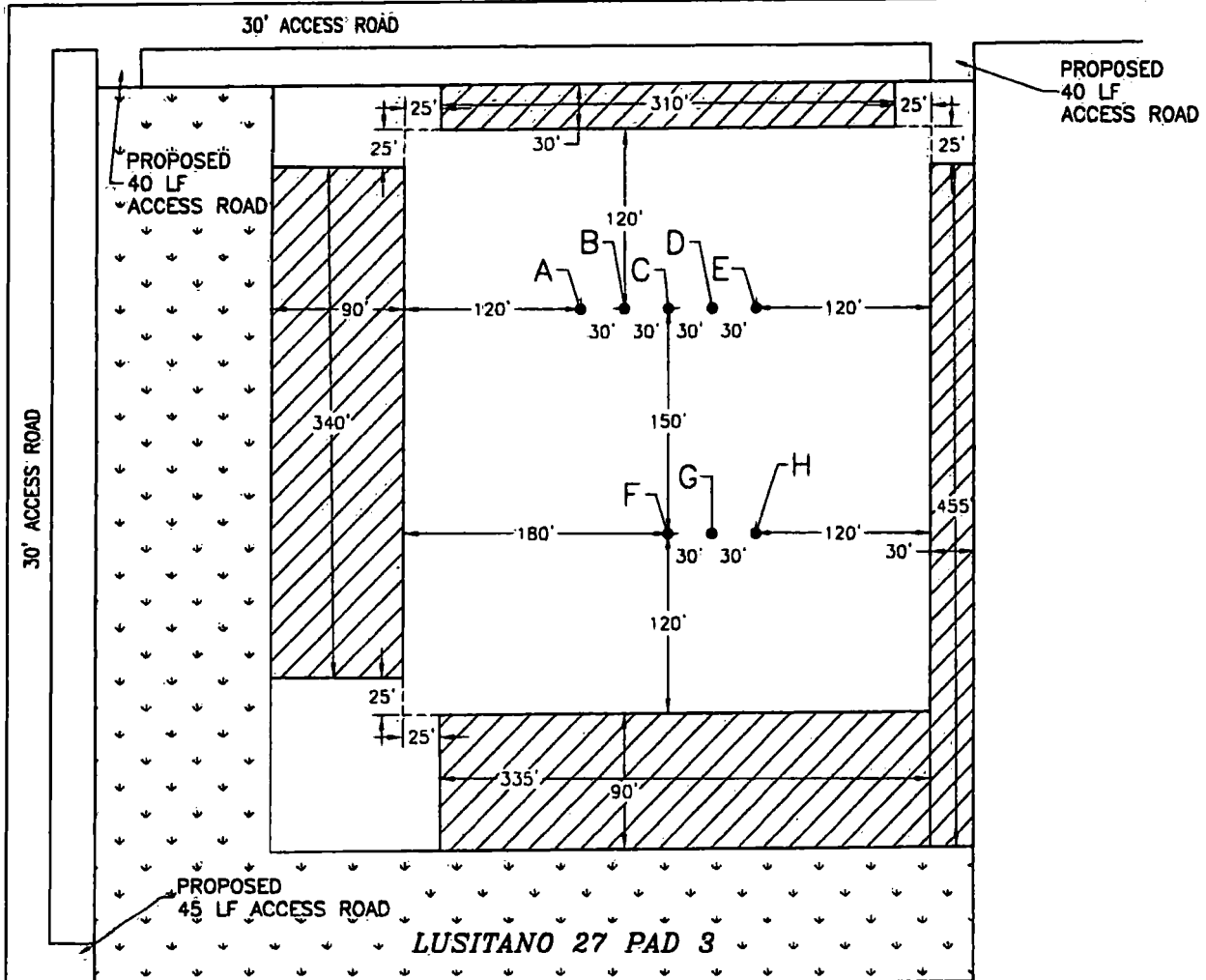
Devon Energy - Well Pad Rig Location Layout Safety Equipment Location



SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
INTERIM SITE BUILD PLAN

- | | |
|---------------------------------|---------------------------------|
| A - LUSITANO 27-22 FED COM 232H | F - LUSITANO 27-34 FED COM 233H |
| B - LUSITANO 27-34 FED COM 733H | G - LUSITANO 27-34 FED COM 533H |
| C - LUSITANO 27-34 FED COM 622H | H - LUSITANO 27-34 FED COM 523H |
| D - LUSITANO 27-34 FED COM 333H | |
| E - LUSITANO 27-34 FED COM 713H | |

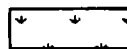
SEC. 22
SEC. 27



0 12 60 120 240
SCALE 1" = 120'



DENOTES INTERIM PAD
RECLAMATION AREA



DENOTES GRADING SITE
RECLAMATION AREA

1.921± ACRES INTERIM PAD RECLAMATION AREA
2.646± ACRES GRADING SITE RECLAMATION AREA
3.699± ACRES NON-RECLAIMED AREA
8.266± ACRES LUSITANO 27 PAD 3

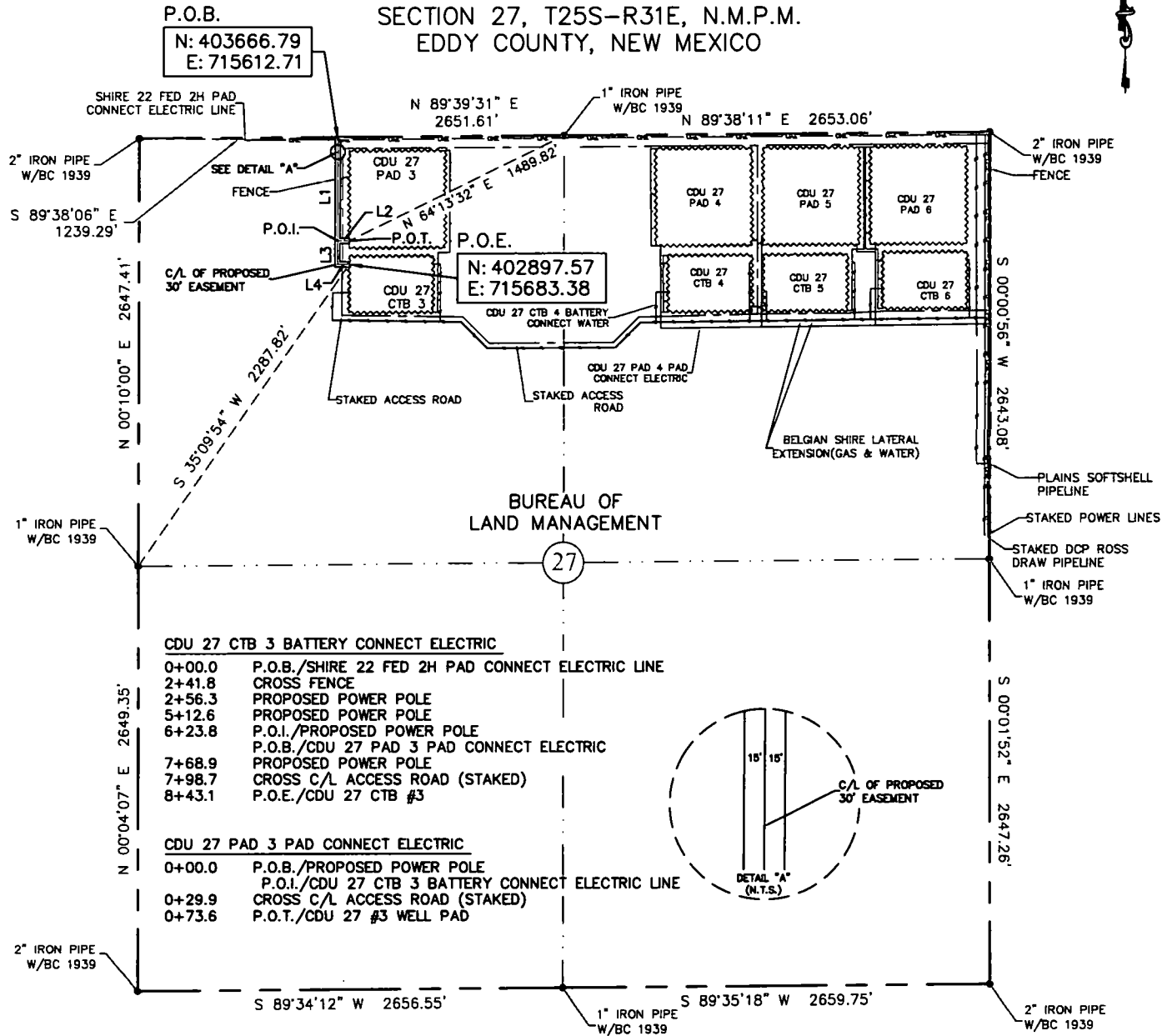
DEVON ENERGY PRODUCTION COMPANY, L.P.
LUSITANO 27-34 FED COM 523H
LOCATED 385 FT. FROM THE NORTH LINE
AND 1762 FT. FROM THE WEST LINE OF
SECTION 27, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

SEPTEMBER 27, 2018

SURVEY NO. 6425A

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
(575) 234-3341

EXHIBIT "A"
PAGE 1 of 17
ELECTRIC LINE PLAT
SECTION 27, T25S-R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



30' EASEMENT AREA = 0.621 ACRE(S)
916.72 FEET OR 55.56 RODS

SEE THE ATTACHED LEGAL DESCRIPTION

Note: All bearings recited herein are based on the New Mexico State Plane Coordinate System, NAD 83, New Mexico East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.

B.L. Laman PLS #22404
Date Signed: 05-13-2016
Horizonrow, LLC
571 State Street Jasper, TX
(409) 202-5111 75951
Employee of Horizonrow, LLC



0 1000 2000



LINE	BEARING	DISTANCE
L1	S 00°16'02" W	623.83'
L2	S 89°45'48" E	73.61'
L3	S 00°16'02" W	145.03'
L4	S 89°42'35" E	74.25'

WBS NUMBER:		LINE NUMBER:
CDU 27 CTB 3 BATTERY CONNECT ELECTRIC LINE		CC-112971.AL
CDU 27 PAD 3 PAD CONNECT ELECTRIC LINE		CC-112971.AL
CDU 27 CTB 3 BATTERY CONNECT AND CDU 27 PAD 3 PAD CONNECT ELECTRIC LINES		EL7794
HORIZON ROW LLC		EL7800
Drawn for:		SCALE: 1" = 1000'
devon		REVISIONS:
Drawn by: WAYNE BEETS		SHEET: 1 OF 17
Date: 05/09/2016		
PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 27, T25S-R31E, N.M.P.M.		

**SECTION 27, T25S-R31E, N.M.P.M.,
EDDY COUNTY, NEW MEXICO**

ELECTRIC LINE PLAT

LEGAL DESCRIPTION

FOR

DEVON ENERGY PRODUCTION COMPANY, L.P.

BUREAU OF LAND MANAGEMENT

30' EASEMENT DESCRIPTION:

BEING an easement thirty (30) feet in width lying fifteen (15) feet on the right side and fifteen (15) feet on the left side of the survey centerline described below, being out of the northwest quarter (NW ¼) of Section 27, Township 25 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, and being out of a parcel of land owned by the Bureau of Land Management. Said centerline of easement being more particularly described as follows:

Commencing from a 2" iron pipe w/ BC 1939 for the northwest corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico;

Thence S 89°38'06" E a distance of 1239.29' to the **Point of Beginning** of this easement having coordinates of Northing=403666.79 feet, Easting=715612.71 feet, and continuing the following courses;

Thence S 00°16'02" W, a distance of 623.83' to the Point of Intersection;

Thence S 89°45'48" E, a distance of 73.61' to the point of termination of this portion of said easement, from said point a 1" iron pipe w/ BC1939 found for the north quarter corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico bears N 64°13'32" E a distance of 1489.82';

Thence continuing from said point of intersection the following courses;

Thence S 00°16'02" W, a distance of 145.03' to an angle point;

Thence S 89°42'35" E, a distance of 74.25' to the **Point of Ending** having coordinates of Northing=402897.57 feet, Easting=715683.38 feet, from said point a 1" iron pipe w/ BC1939 found for the west quarter corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico bears S 35°09'54" W a distance of 2287.82', covering **916.72' or 55.56 rods** and having an area of **0.621 acres**.

NOTES:

Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.



B.L. Laman PLS 22404

Date Signed: 05/13/2016

Horizon Row, LLC

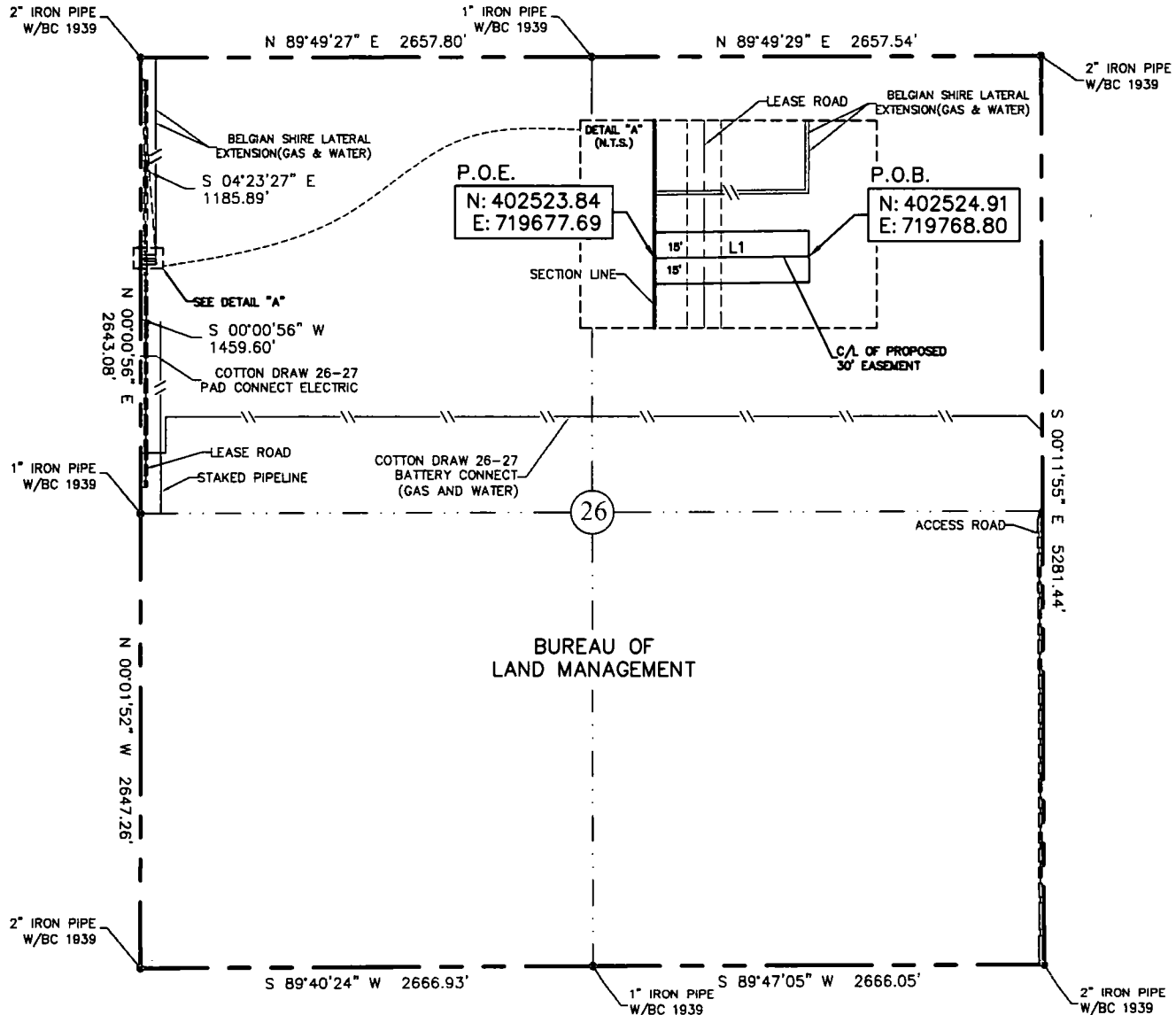
571 State Street, Jasper, TX

(402) 202-5111 75951

Employee of Horizon Row, LLC



EXHIBIT "A"
PAGE 4 of 17
ELECTRIC LINE PLAT
SECTION 26, T25S-R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



30' EASEMENT AREA = 0.063 ACRE(S)
 91.12 FEET OR 5.52 RODS

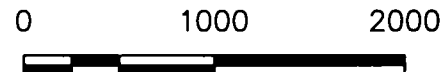
0+00.0 P.O.B.
 0+35.0 PROPOSED POWER POLE
 0+49.9 EDGE OF LEASE ROAD
 0+61.3 C/L LEASE ROAD
 0+72.6 EDGE OF LEASE ROAD
 0+91.1 P.O.E. SECTION LINE

SEE THE ATTACHED LEGAL DESCRIPTION

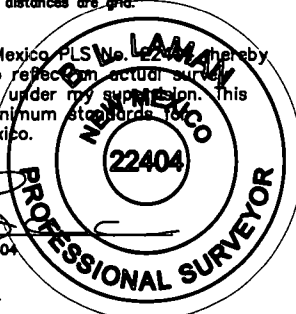
Note: All bearings recited herein are based on the New Mexico State Plane Coordinate System, NAD 83, New Mexico East Zone 3001, US Survey Feet, all distances are grid.

LINE	BEARING	DISTANCE
L1	S 89°19'37" W	91.12

I, B.L. Laman, New Mexico Professional Surveyor No. 22404, hereby certify this survey to represent actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.



B.L. Laman PLS #22404
 Date Signed: 05-13-2018
 Horizonrow, LLC
 571 State Street Jasper, TX
 (409) 202-5111 75931
 Employee of Horizonrow, LLC



HORIZON ROW LLC

Drawn for:

devon

Drawn by:
 WAYNE BEETS

Date: 05/05/2018

DEVON ENERGY PRODUCTION COMPANY, L.P.

CDU 27 PAD 4 PAD
 CONNECT-ELECTRIC LINE

PROPOSED 30' EASEMENT
 ON THE PROPERTY OF
 BUREAU OF LAND MANAGEMENT
 SECTION 26, T25S-R31E, N.M.P.M.

LINE NUMBER:
 EL7801

WBS NUMBER:
 CC-112971.AL

SCALE:
 1" = 1000'

REVISIONS:

SHEET:
 4 OF 17

**SECTION 26, T25S-R31E, N.M.P.M.,
EDDY COUNTY, NEW MEXICO**

ELECTRIC LINE PLAT

LEGAL DESCRIPTION

FOR

DEVON ENERGY PRODUCTION COMPANY, L.P.

BUREAU OF LAND MANAGEMENT

30' EASEMENT DESCRIPTION:

BEING an easement thirty (30) feet in width lying fifteen (15) feet on the right side and fifteen (15) feet on the left side of the survey centerline described below, being out of the northwest quarter (NW ¼) of Section 26, Township 25 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, and being out of a parcel of land owned by the Bureau of Land Management. Said centerline of easement being more particularly described as follows:

Commencing from a 2" iron pipe w/ BC 1939 for the northwest corner of Section 26, T25S-R31E, N.M.P.M., Eddy County, New Mexico;

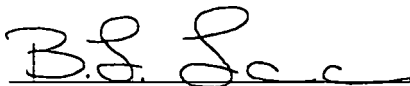
Thence S 04°23'27" E a distance of 1185.89' to the **Point of Beginning** of this easement having coordinates of Northing=402524.91 feet, Easting=719768.80 feet, and continuing the following course;

Thence S 89°19'37" W, a distance of 91.12' to the **Point of Ending** having coordinates of Northing=402523.84 feet, Easting=719677.69 feet, being in the west line of Section 26, T25S-R31E, from said point a 1" iron pipe w/ BC1939 found for the west quarter corner of Section 26, T25S-R31E, N.M.P.M., Eddy County, New Mexico bears S 00°00'56" W a distance of 1459.60', covering **91.12' or 5.52 rods** and having an area of **0.063 acres**.

NOTES:

Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.


B.L. Laman PLS 22404

Date Signed: 05/13/2016

Horizon Row, LLC

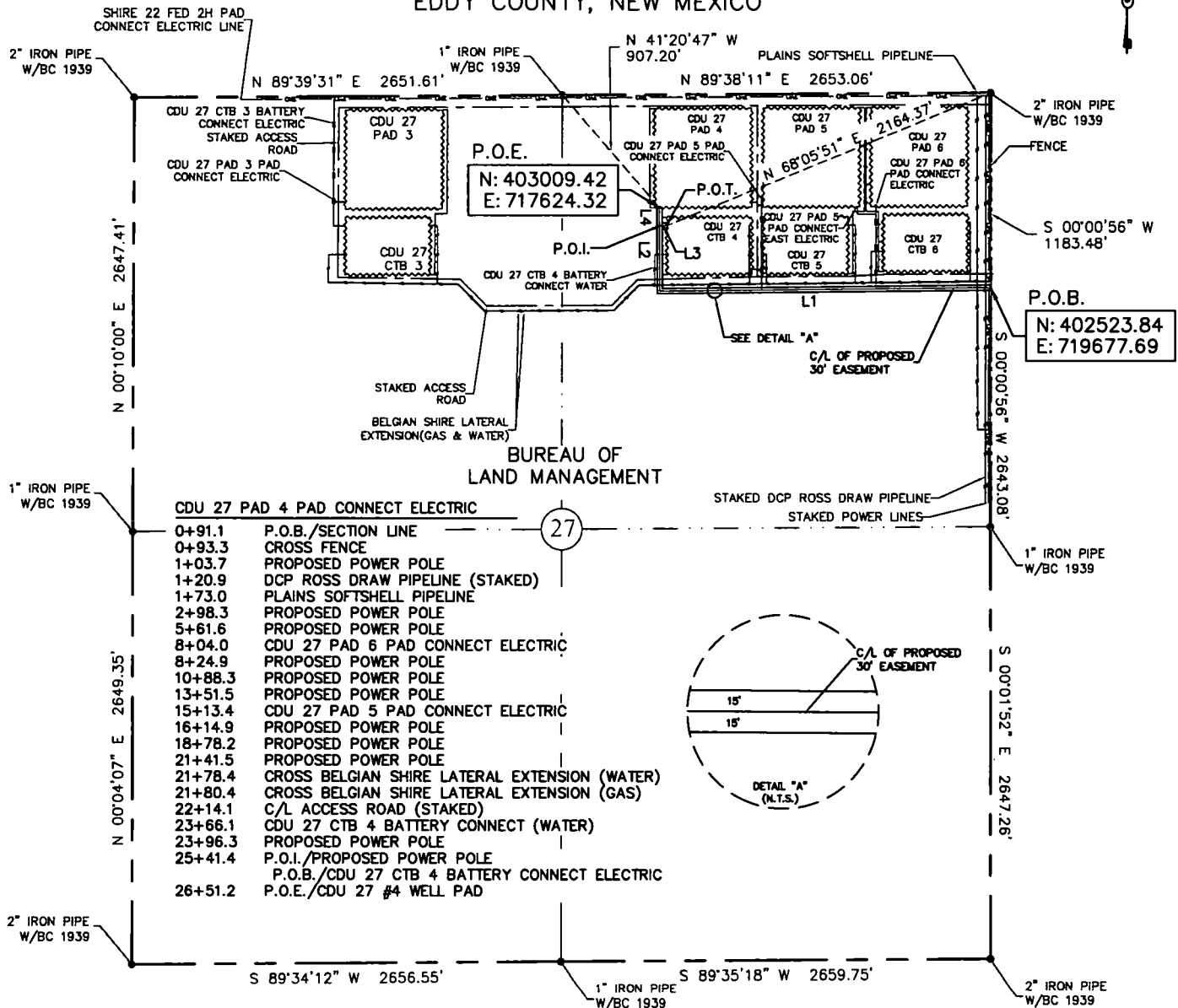
571 State Street, Jasper, TX

(402) 202-5111 75951

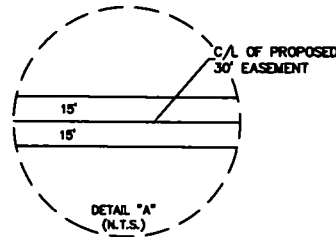
Employee of Horizon Row, LLC



EXHIBIT "A"
PAGE 6 of 17
ELECTRIC LINE PLAT
SECTION 27, T25S-R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



- CDU 27 PAD 4 PAD CONNECT ELECTRIC
- 0+91.1 P.O.B./SECTION LINE
 - 0+93.3 CROSS FENCE
 - 1+03.7 PROPOSED POWER POLE
 - 1+20.9 DCP ROSS DRAW PIPELINE (STAKED)
 - 1+73.0 PLAINS SOFTSHELL PIPELINE
 - 2+98.3 PROPOSED POWER POLE
 - 5+61.6 PROPOSED POWER POLE
 - 8+04.0 CDU 27 PAD 6 PAD CONNECT ELECTRIC
 - 8+24.9 PROPOSED POWER POLE
 - 10+88.3 PROPOSED POWER POLE
 - 13+51.5 PROPOSED POWER POLE
 - 15+13.4 CDU 27 PAD 5 PAD CONNECT ELECTRIC
 - 16+14.9 PROPOSED POWER POLE
 - 18+78.2 PROPOSED POWER POLE
 - 21+41.5 PROPOSED POWER POLE
 - 21+78.4 CROSS BELGIAN SHIRE LATERAL EXTENSION (WATER)
 - 21+80.4 CROSS BELGIAN SHIRE LATERAL EXTENSION (GAS)
 - 22+14.1 C/L ACCESS ROAD (STAKED)
 - 23+66.1 CDU 27 CTB 4 BATTERY CONNECT (WATER)
 - 23+96.3 PROPOSED POWER POLE
 - 25+41.4 P.O.I./PROPOSED POWER POLE
 - P.O.B./CDU 27 CTB 4 BATTERY CONNECT ELECTRIC
 - P.O.E./CDU 27 #4 WELL PAD



CDU 27 CTB 4 BATTERY CONNECT ELECTRIC

- 0+00.0 P.O.B./PROPOSED POWER POLE
- P.O.I./CDU 27 PAD 4 PAD CONNECT ELECTRIC
- 0+44.9 P.O.T./CDU 27 CTB 4 PAD

30' EASEMENT AREA = 1.784 ACRE(S)
2604.91 FEET OR 157.87 RODS

SEE THE ATTACHED LEGAL DESCRIPTION

Note: All bearings recited herein are based on the New Mexico State Plane Coordinate System, NAD 83, New Mexico East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.

B.L. Laman
Date Signed: 05-13-2018
Horizonrow, LLC
571 State Street Jasper, TX
(409) 202-5111 75951
Employee of Horizonrow, LLC

CDU 27 PAD 4 PAD CONNECT ELECTRIC LINE		CC-112971.AL	EL7801
CDU 27 CTB 4 BATTERY CONNECT ELECTRIC LINE		CC-112971.AL	EL7795
<i>HORIZON ROW LLC</i>		DEVON ENERGY PRODUCTION COMPANY, L.P. CDU 27 PAD 4 PAD CONNECT AND CDU 27 CTB 4 BATTERY CONNECT ELECTRIC LINES	SCALE: 1" = 1000'
Drawn for:			REVISIONS:
			SHEET: 6 OF 17
Drawn by: WAYNE BEETS	Date: 05/09/2018	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 27, T25S-R31E, N.M.P.M.	

**SECTION 27, T25S-R31E, N.M.P.M.,
EDDY COUNTY, NEW MEXICO**

ELECTRIC LINE PLAT

LEGAL DESCRIPTION

FOR

DEVON ENERGY PRODUCTION COMPANY, L.P.

BUREAU OF LAND MANAGEMENT

30' EASEMENT DESCRIPTION:

BEING an easement thirty (30) feet in width lying fifteen (15) feet on the right side and fifteen (15) feet on the left side of the survey centerline described below, being out of the northeast quarter (NE ¼) of Section 27, Township 25 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, and being out of a parcel of land owned by the Bureau of Land Management. Said centerline of easement being more particularly described as follows:

Commencing from a 2" iron pipe w/ BC 1939 for the northeast corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico;

Thence S 00°00'56" W a distance of 1183.48' to the **Point of Beginning** of this easement having coordinates of Northing=402523.84 feet, Easting=719677.69 feet, and continuing the following courses;

Thence S 89°19'37" W, a distance of 2050.37' to an angle point;

Thence N 00°21'11" W, a distance of 399.93' to the Point of Intersection;

Thence N 89°39'00" E, a distance of 44.87' to the point of termination of this portion of said easement, from said point a 2" iron pipe w/ BC1939 found for the northeast corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico bears N 68°05'51" E a distance of 2164.37';

Thence continuing from said point of intersection the following courses;

Thence N 00°21'11" W, a distance of 109.74' to the **Point of Ending** having coordinates of Northing=403009.42 feet, Easting=717624.32 feet, from said point a 1" iron pipe w/ BC1939 found for the north quarter corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico bears N 41°20'47" W a distance of 907.20', covering **2604.91' or 157.87 rods** and having an area of **1.784 acres**.

NOTES:

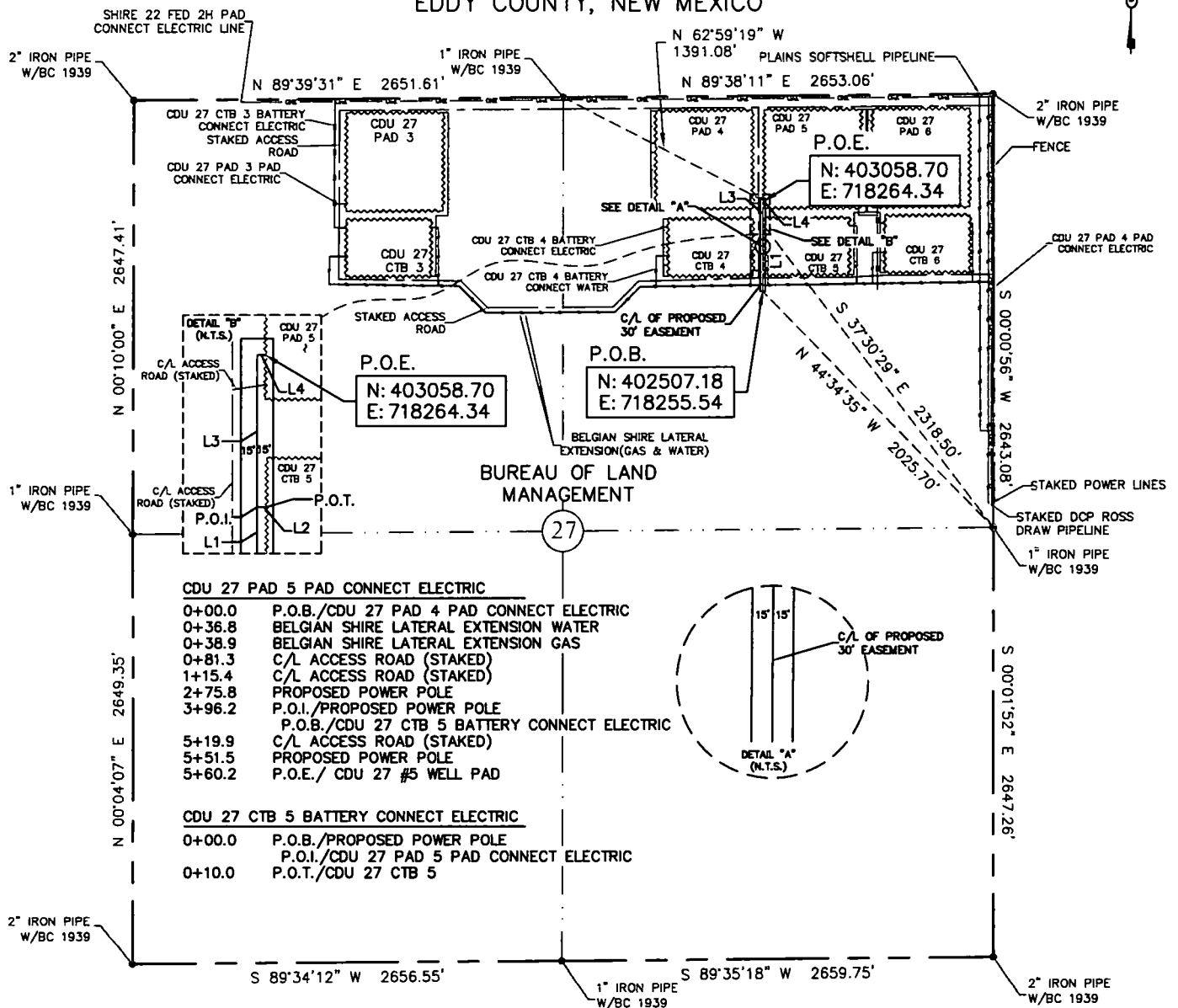
Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.


B.L. Laman PLS 22404
Date Signed: 05/13/2016
Horizon Row, LLC
571 State Street, Jasper, TX
(402) 202-5111 75951
Employee of Horizon Row, LLC



EXHIBIT "A"
PAGE 9 of 17
ELECTRIC LINE PLAT
SECTION 27, T25S-R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



30' EASEMENT AREA = 0.390 ACRE(S)
570.14 FEET OR 34.55 RODS

SEE THE ATTACHED LEGAL DESCRIPTION

Note: All bearings recited herein are based on the New Mexico State Plane Coordinate System, NAD 83, New Mexico East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico Professional Surveyor No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.

B.L. Laman
Date Signed: 05-13-2018
Horizonrow, LLC
571 State Street Jasper, TX
(409) 202-5111 75951
Employee of Horizonrow, LLC

WBS NUMBER:		LINE NUMBER:
CDU 27 PAD 5 PAD CONNECT ELECTRIC LINE		CC-112971.AL
CDU 27 CTB 5 BATTERY CONNECT ELECTRIC LINE		CC-112971.AL
HORIZON ROW LLC		SCALE: 1" = 1000'
Devon Energy Production Company, L.P.		REVISIONS:
CDU 27 PAD 5 PAD CONNECT AND		SHEET: 9 OF 17
CDU 27 CTB 5 BATTERY CONNECT		
ELECTRIC LINES		
PROPOSED 30' EASEMENT ON THE PROPERTY OF		
BUREAU OF LAND MANAGEMENT		
SECTION 27, T25S-R31E, N.M.P.M.		

**SECTION 27, T25S-R31E, N.M.P.M.,
EDDY COUNTY, NEW MEXICO**

ELECTRIC LINE PLAT

LEGAL DESCRIPTION

FOR

DEVON ENERGY PRODUCTION COMPANY, L.P.

BUREAU OF LAND MANAGEMENT

30' EASEMENT DESCRIPTION:

BEING an easement thirty (30) feet in width lying fifteen (15) feet on the right side and fifteen (15) feet on the left side of the survey centerline described below, being out of the northeast quarter (NE ¼) of Section 27, Township 25 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, and being out of a parcel of land owned by the Bureau of Land Management. Said centerline of easement being more particularly described as follows:

Commencing from a 1" iron pipe w/ BC 1939 for the east quarter corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico;

Thence N 44°34'35" W a distance of 2025.70' to the **Point of Beginning** of this easement having coordinates of Northing=402507.18 feet, Easting=718255.54 feet, and continuing the following courses;

Thence N 00°00'59" E, a distance of 396.22' to the Point of Intersection;

Thence N 89°50'02" E, a distance of 9.97' to the point of termination of this portion of said easement, from said point a 1" iron pipe w/ BC1939 found for the east quarter corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico bears S 37°30'29" E a distance of 2318.50';

Thence continuing from said point of intersection the following courses;

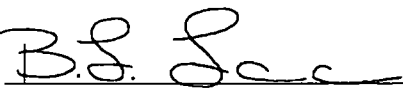
Thence N 00°00'59" E, a distance of 155.30' to an angle point;

Thence N 89°59'36" E, a distance of 8.65' to the **Point of Ending** having coordinates of Northing=403058.70 feet, Easting=718264.34 feet, from said point a 1" iron pipe w/ BC1939 found for the north quarter corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico bears N 62°59'19" W a distance of 1391.08', covering **570.14' or 34.55 rods** and having an area of **0.390 acres**.

NOTES:

Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.



B.L. Laman PLS 22404

Date Signed: 05/13/2016

Horizon Row, LLC

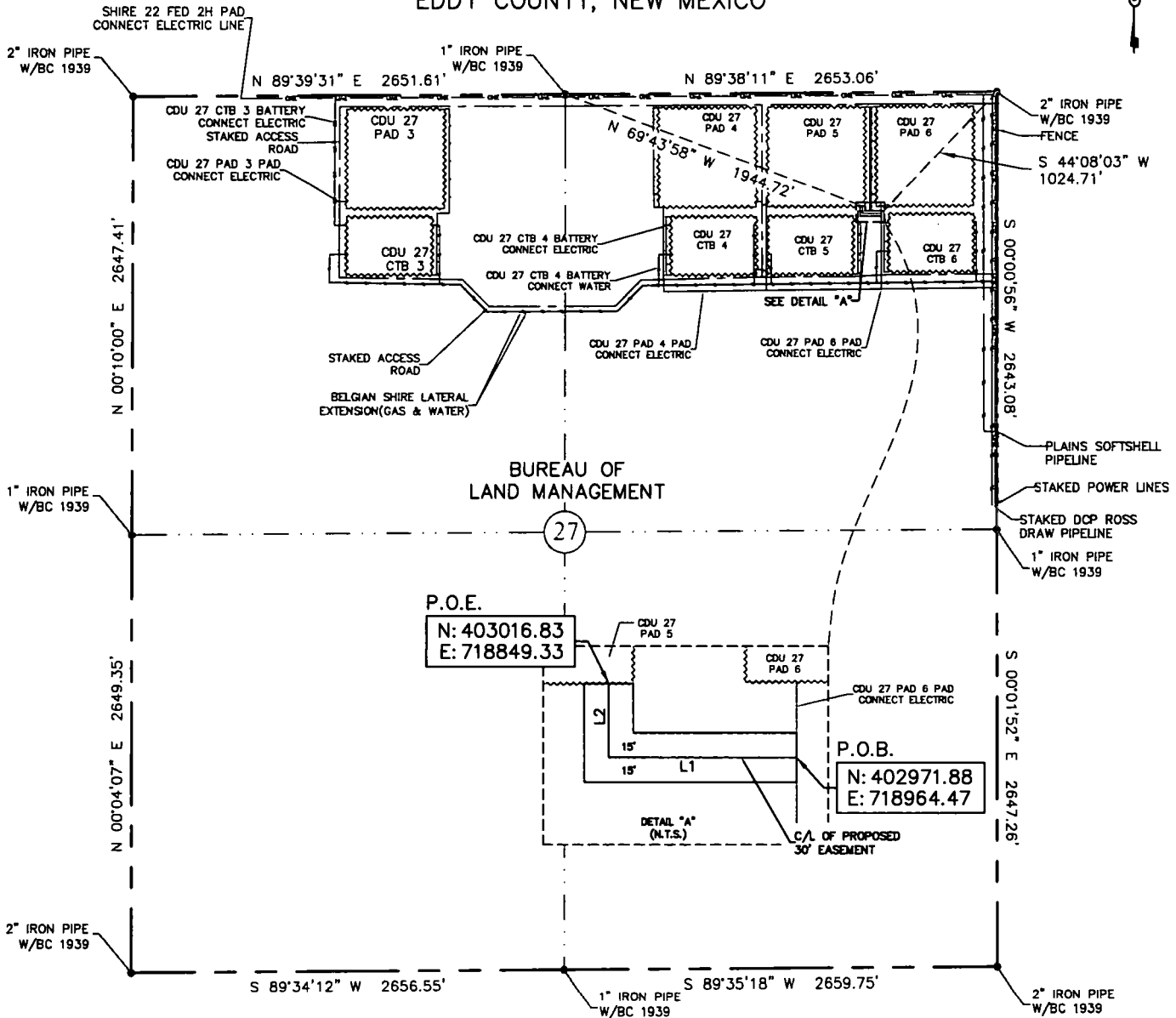
571 State Street, Jasper, TX

(402) 202-5111 75951

Employee of Horizon Row, LLC



EXHIBIT "A"
PAGE 12 of 17
ELECTRIC LINE PLAT
SECTION 27, T25S-R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



30' EASEMENT AREA = 0.110 ACRE(S)
 160.17 FEET OR 9.71 RODS

0+00.0
 1+15.2
 1+60.2

P.O.B./CDU 27 PAD 6 PAD CONNECT ELECTRIC
 PROPOSED POWER POLE
 P.O.E./CDU 27 #5 WELL PAD

LINE	BEARING	DISTANCE
L1	S 89°58'05\"	W 115.15'
L2	N 00°01'04\"	E 145.02'

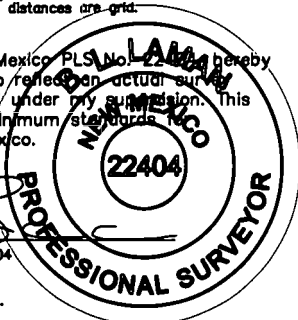
0 1000 2000



SEE THE ATTACHED LEGAL DESCRIPTION

Note: All bearings recited herein are based on the New Mexico State Plane Coordinate System, NAD 83, New Mexico East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404 hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.



HORIZON ROW LLC

Drawn for:

devon

Drawn by:
 WAYNE BEETS

Date: 05/10/2016

DEVON ENERGY PRODUCTION COMPANY, L.P.

CDU 27 PAD 5 PAD
 CONNECT EAST-ELECTRIC LINE

PROPOSED 30' EASEMENT
 ON THE PROPERTY OF
 BUREAU OF LAND MANAGEMENT
 SECTION 27, T25S-R31E, N.M.P.M.

LINE NUMBER:
 EL7814

WBS NUMBER:
 CC-112971.AL

SCALE:
 1" = 1000'

REVISIONS:

SHEET:
 12 OF 17

B.L. Laman PLS #22404
 Date Signed: 05-13-2016
 Horizonrow, LLC
 571 State Street Jasper, TX
 (409) 202-5111 75951
 Employee of Horizonrow, LLC

**SECTION 27, T25S-R31E, N.M.P.M.,
EDDY COUNTY, NEW MEXICO**

ELECTRIC LINE PLAT

LEGAL DESCRIPTION

FOR

DEVON ENERGY PRODUCTION COMPANY, L.P.

BUREAU OF LAND MANAGEMENT

30' EASEMENT DESCRIPTION:

BEING an easement thirty (30) feet in width lying fifteen (15) feet on the right side and fifteen (15) feet on the left side of the survey centerline described below, being out of the northeast quarter (NE ¼) of Section 27, Township 25 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, and being out of a parcel of land owned by the Bureau of Land Management. Said centerline of easement being more particularly described as follows:

Commencing from a 2" iron pipe w/ BC 1939 for the northeast corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico;

Thence S 44°08'03" W a distance of 1024.71' to the **Point of Beginning** of this easement having coordinates of Northing=402971.88 feet, Easting=718964.47 feet, and continuing the following courses;

Thence S 89°58'05" W, a distance of 115.15' to an angle point;

Thence N 00°01'04" E, a distance of 45.02' to the **Point of Ending** having coordinates of Northing=403016.83 feet, Easting=718849.33 feet, from said point a 1" iron pipe w/ BC1939 found for the north quarter corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico bears N 69°43'58" W a distance of 1944.72', covering **160.17' or 9.71 rods** and having an area of **0.110 acres**.

NOTES:

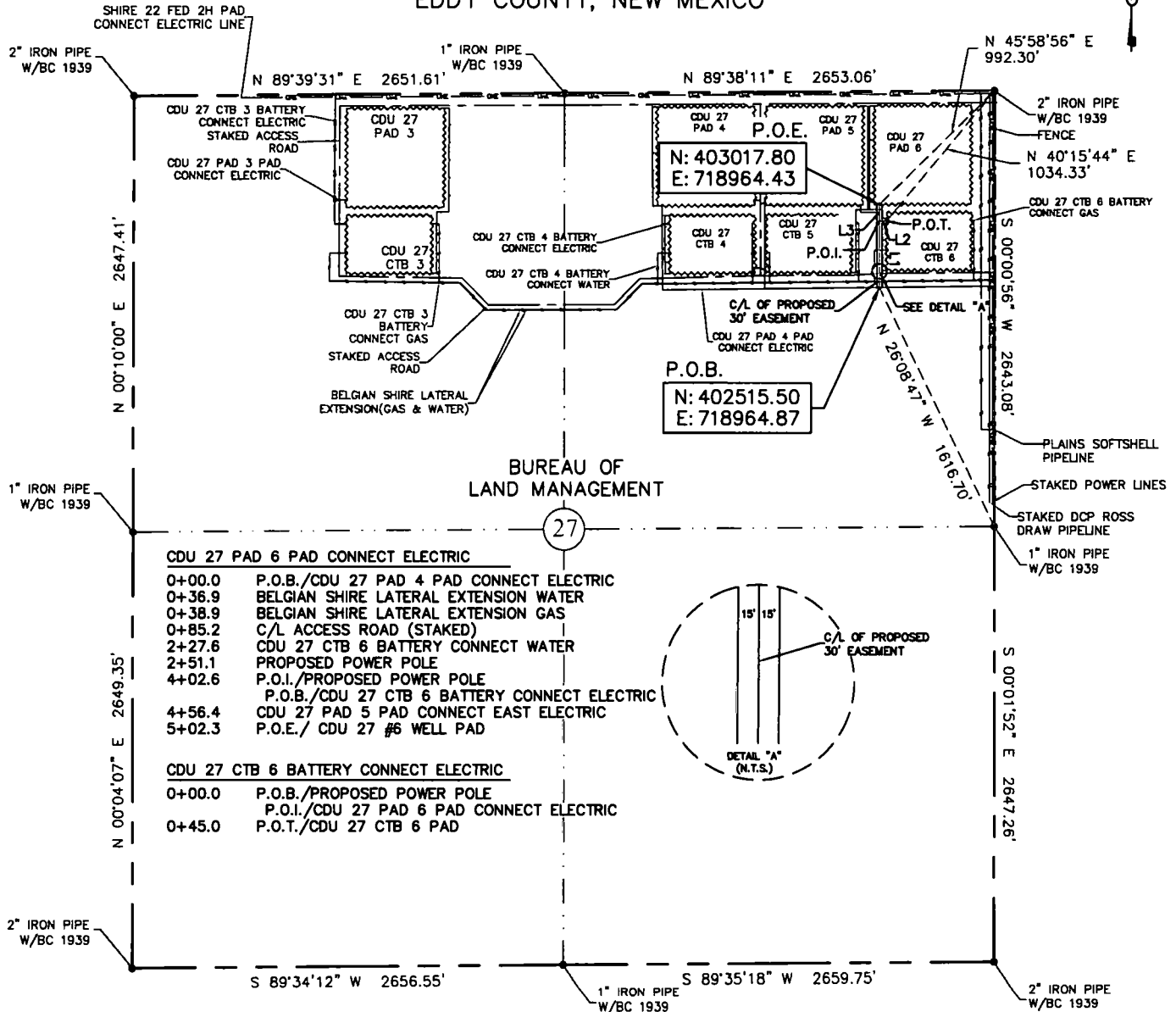
Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.


B.L. Laman PLS 22404
Date Signed: 05/13/2016
Horizon Row, LLC
571 State Street, Jasper, TX
(402) 202-5111 75951
Employee of Horizon Row, LLC



EXHIBIT "A"
PAGE 14 of 17
ELECTRIC LINE PLAT
SECTION 27, T25S-R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



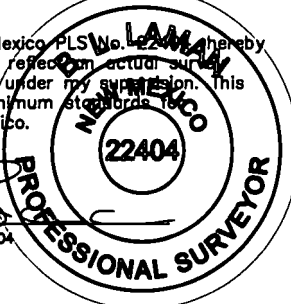
30' EASEMENT AREA = 0.367 ACRE(S)
 547.32 FEET OR 33.17 RODS

SEE THE ATTACHED LEGAL DESCRIPTION

Note: All bearings recited herein are based on the New Mexico State Plane Coordinate System, NAD 83, New Mexico East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.

B.L. Laman PLS #22404
 Date Signed: 05-13-2018
 Horizonrow, LLC
 571 State Street Jasper, TX
 (409) 202-5111 75951
 Employee of Horizonrow, LLC



CDU 27 PAD 6 PAD CONNECT ELECTRIC LINE		CC-112971.AL	EL7803
CDU 27 CTB 6 BATTERY CONNECT ELECTRIC LINE		CC-112971.AL	EL7797
HORIZON ROW LLC Drawn for:  devon Drawn by: WAYNE BEETS Date: 05/09/2016 <td colspan="2">DEVON ENERGY PRODUCTION COMPANY, L.P. CDU 27 PAD 6 PAD CONNECT AND CDU 27 CTB 6 BATTERY CONNECT ELECTRIC LINES</td>		DEVON ENERGY PRODUCTION COMPANY, L.P. CDU 27 PAD 6 PAD CONNECT AND CDU 27 CTB 6 BATTERY CONNECT ELECTRIC LINES	
		SCALE: 1" = 1000'	
		REVISIONS:	
		SHEET: 14 OF 17	
PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 27, T25S-R31E, N.M.P.M.			

**SECTION 27, T25S-R31E, N.M.P.M.,
EDDY COUNTY, NEW MEXICO**

ELECTRIC LINE PLAT

LEGAL DESCRIPTION

FOR

DEVON ENERGY PRODUCTION COMPANY, L.P.

BUREAU OF LAND MANAGEMENT

30' EASEMENT DESCRIPTION:

BEING an easement thirty (30) feet in width lying fifteen (15) feet on the right side and fifteen (15) feet on the left side of the survey centerline described below, being out of the northeast quarter (NE ¼) of Section 27, Township 25 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, and being out of a parcel of land owned by the Bureau of Land Management. Said centerline of easement being more particularly described as follows:

Commencing from a 1" iron pipe w/ BC 1939 for the east quarter corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico;

Thence N 26°08'47" W a distance of 1616.70' to the **Point of Beginning** of this easement having coordinates of Northing=402515.50 feet, Easting=718964.87 feet, and continuing the following courses;

Thence N 00°03'00" W, a distance of 402.56' to the Point of Intersection;

Thence S 89°58'05" E, a distance of 45.02' to the point of termination of this portion of said easement, from said point a 2" iron pipe w/ BC1939 found for the northeast corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico bears N 40°15'44" E a distance of 1034.33';

Thence continuing from said point of intersection the following course;

Thence N 00°03'00" W, a distance of 99.74' to the **Point of Ending** having coordinates of Northing=403017.80 feet, Easting=718964.43 feet, from said point a 2" iron pipe w/ BC1939 found for the northeast corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico bears N 45°58'56" E a distance of 992.30', covering **547.32' or 33.17 rods** and having an area of **0.367 acres**.

NOTES:

Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.

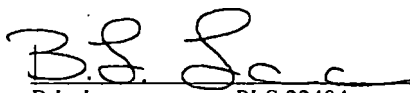
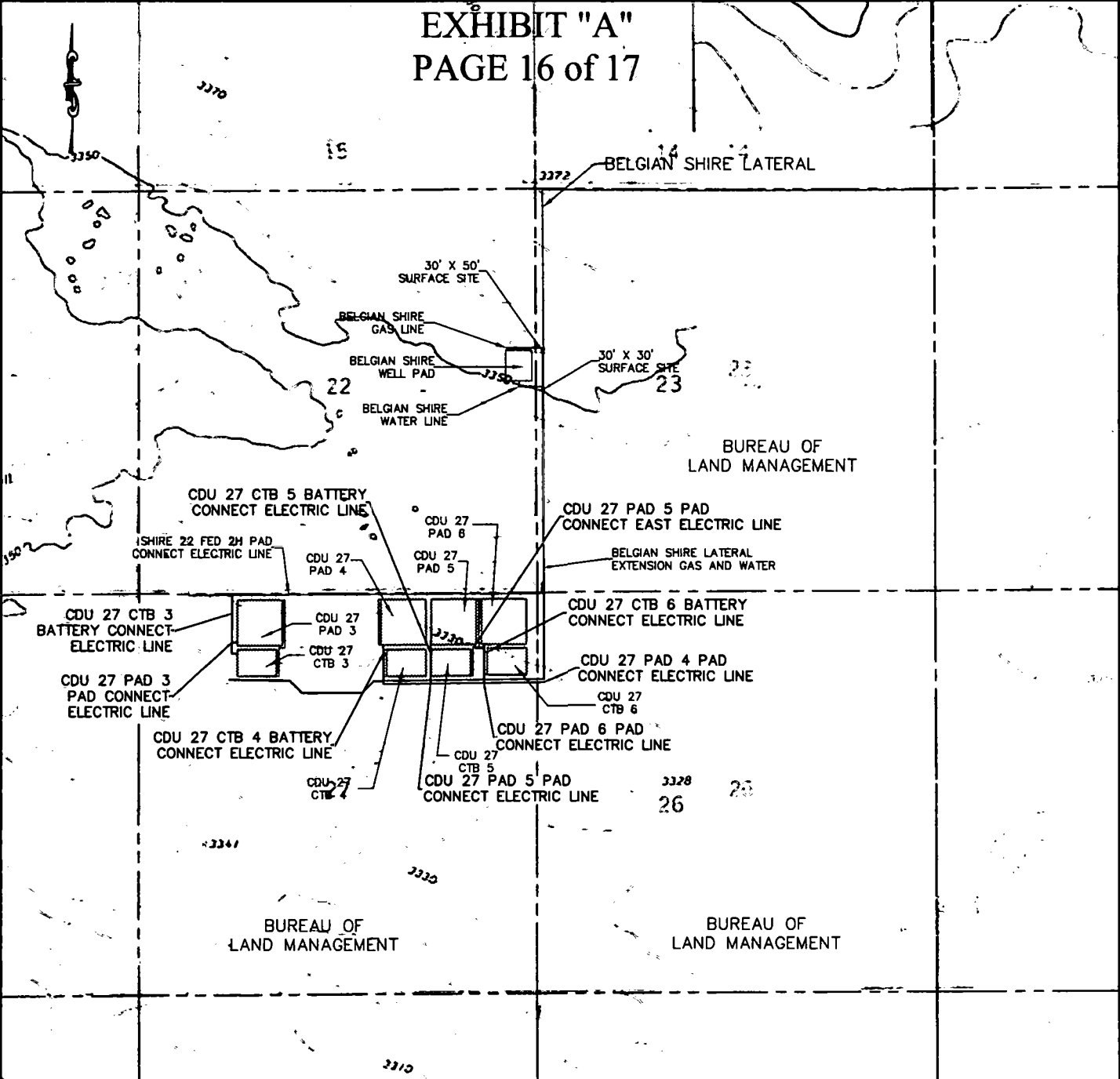

B.L. Laman PLS 22404
Date Signed: 05/13/2016
Horizon Row, LLC
571 State Street, Jasper, TX
(402) 202-5111 75951
Employee of Horizon Row, LLC



EXHIBIT "A"

PAGE 16 of 17



QUAD MAP

SECTION 27, T25S-R31E, N.M.P.M.
SECTION 26, T25S-R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

	WBS NUMBER:	LINE NUMBER:
CDU 27 CTB 3 BATTERY CONNECT-ELECTRIC LINE	CC-112871.AL	EL7784
CDU 27 PAD 3 PAD CONNECT-ELECTRIC LINE	CC-112871.AL	EL7800
CDU 27 PAD 4 PAD CONNECT-ELECTRIC LINE	CC-112871.AL	EL7801
CDU 27 CTB 4 BATTERY CONNECT-ELECTRIC LINE	CC-112871.AL	EL7786
CDU 27 PAD 5 PAD CONNECT EAST-ELECTRIC LINE	CC-112871.AL	EL7814
CDU 27 PAD 5 PAD CONNECT-ELECTRIC LINE	CC-112871.AL	EL7802
CDU 27 CTB 5 BATTERY CONNECT-ELECTRIC LINE	CC-112871.AL	EL7786
CDU 27 PAD 6 PAD CONNECT-ELECTRIC LINE	CC-112871.AL	EL7803
CDU 27 CTB 6 BATTERY CONNECT-ELECTRIC LINE	CC-112871.AL	EL7787

Drawn for:

devon

Drawn by:
WAYNE GERTS

Date: 05/10/2018

DEVON ENERGY PRODUCTION COMPANY, L.P.

PROPOSED 30' EASEMENT
ON THE PROPERTY OF
BUREAU OF LAND MANAGEMENT

SCALE:
1" = 2000'

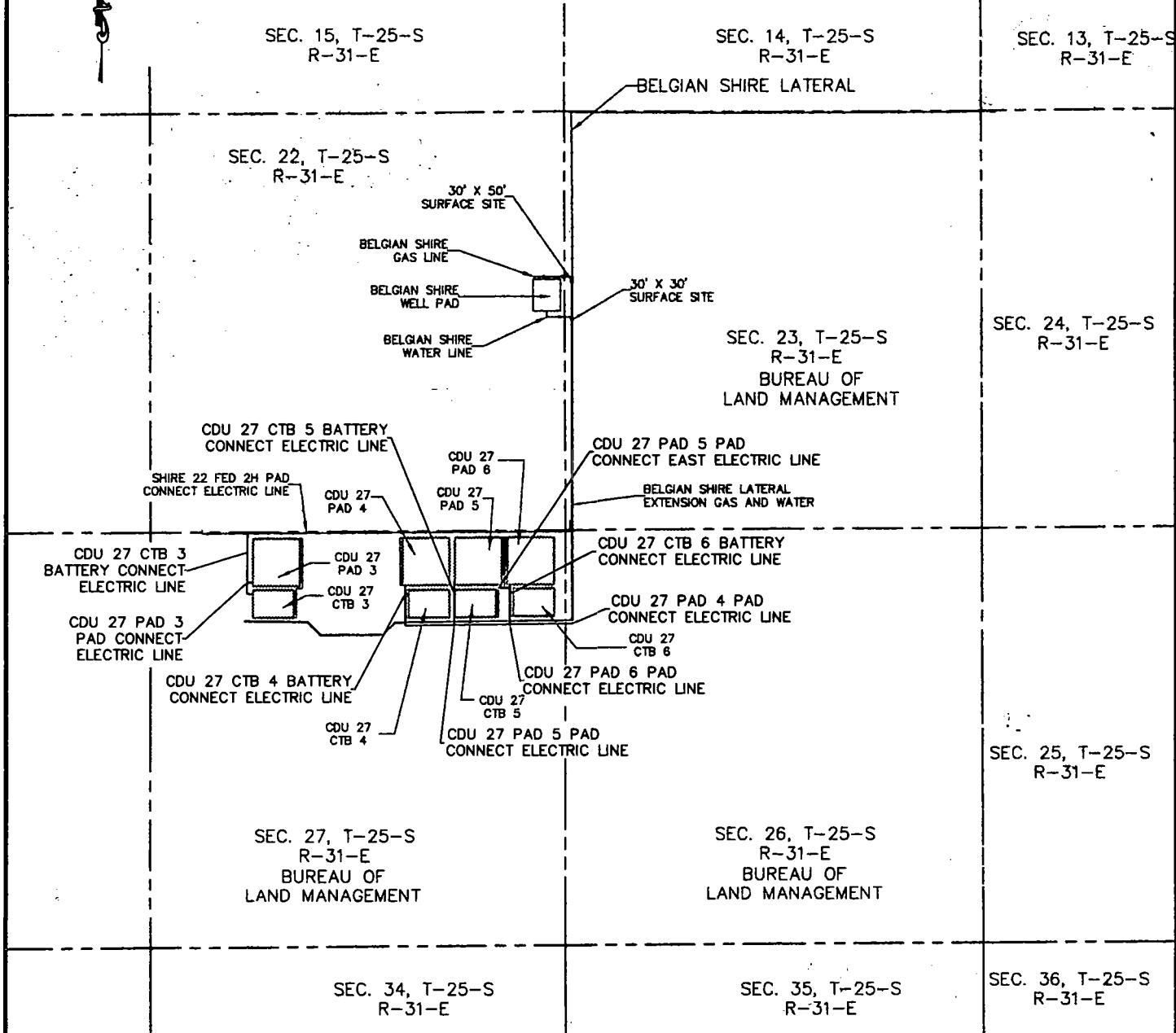
REVISIONS:

SHEET:
16 OF 17

HORIZON ROW LLC

EXHIBIT "A"

PAGE 17 of 17



AERIAL MAP

SECTION 27, T25S-R31E, N.M.P.M.
SECTION 26, T25S-R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

WBS NUMBER:	LINE NUMBER:
CD-112971.AL	EL7794
CD-112971.AL	EL7800
CD-112971.AL	EL7801
CD-112971.AL	EL7795
CD-112971.AL	EL7814
CD-112971.AL	EL7802
CD-112971.AL	EL7796
CD-112971.AL	EL7803
CD-112971.AL	EL7797

Drawn for:

devon

Drawn by:
WAYNE BEETS

Date: 05/10/2016

DEVON ENERGY PRODUCTION COMPANY, L.P.

PROPOSED 30' EASEMENT
ON THE PROPERTY OF
BUREAU OF LAND MANAGEMENT

SCALE:
1" = 2000'

REVISIONS:

SHEET:
17 OF 17

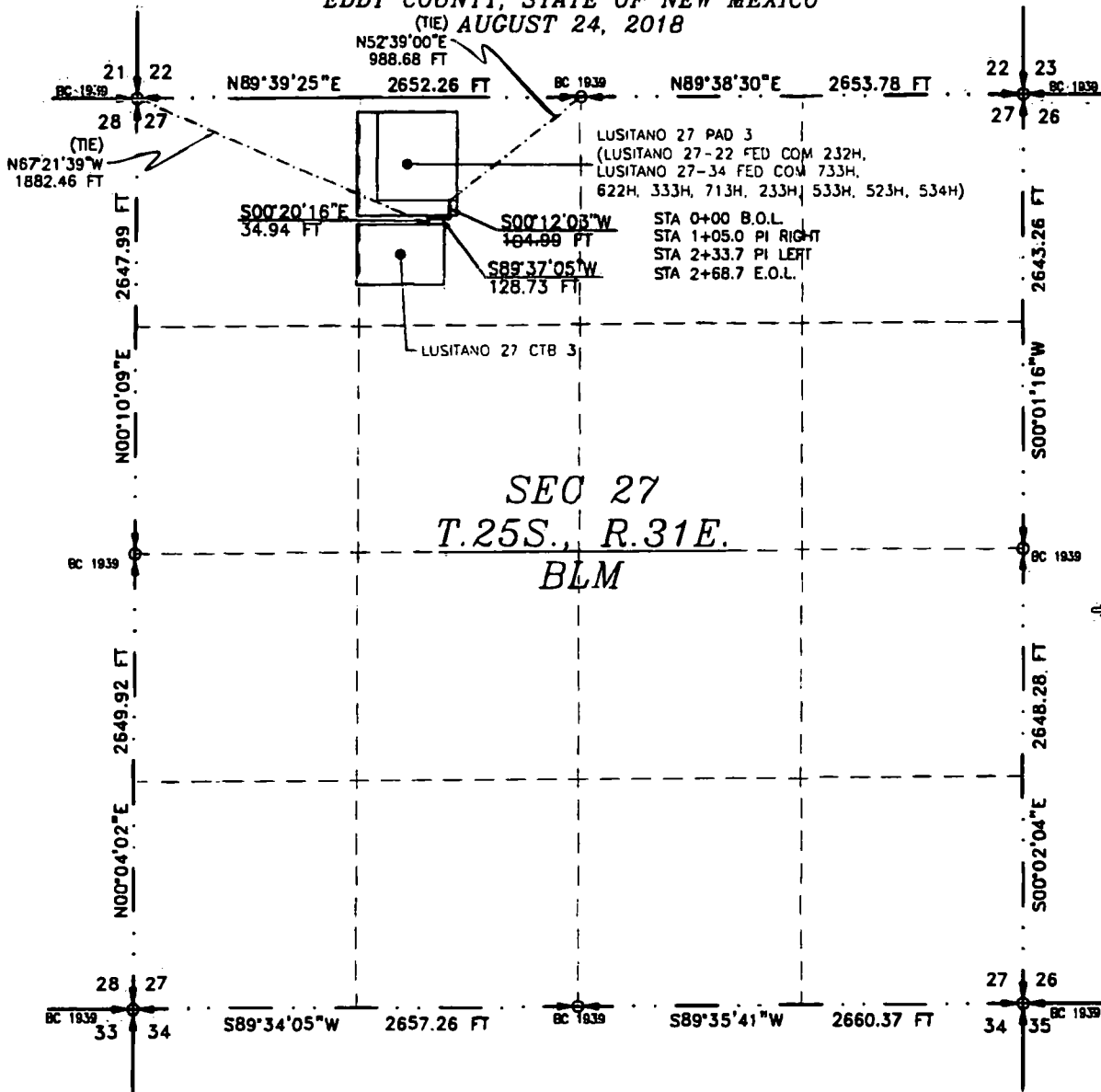
HORIZON ROW LLC

FLOWLINE PLAT

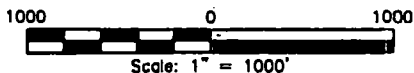
NINE 8" BURIED COMPOSITE FLOWLINES AND ONE 8" GAS LIFT LINE FROM THE LUSITANO 27, PAD 3 (LUSITANO 27-22 FED COM 232H, LUSITANO 27-34 FED COM 733H, 622H, 333H, 713H, 233H, 533H, 523H, 534H) TO THE LUSITANO 27 CTB 3

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF A PIPELINE CROSSING
SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

(TIE) AUGUST 24, 2018



SEE NEXT SHEET (2-4) FOR DESCRIPTION



GENERAL NOTES

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 1-4

MADRON SURVEYING, INC. (575) 234-3341 **CARLSBAD, NEW MEXICO**

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

NEW MEXICO, THIS 27 DAY OF AUGUST 2018

FILMON F. JARAMILLO, P.S. 12797
 SURVEYOR

MADRON SURVEYING, INC.
 301 SOUTH CANAL
 CARLSBAD, NEW MEXICO 88220
 Phone (575) 234-3341

SURVEY NO. 6504

FLOWLINE PLAT

NINE 8" BURIED COMPOSITE FLOWLINES AND ONE 8" GAS LIFT LINE FROM THE LUSITANO 27 PAD 3 (LUSITANO 27-22 FED COM 232H, LUSITANO 27-34 FED COM 733H, 622H, 333H, 713H, 233H, 533H, 523H, 534H) TO THE LUSITANO 27 CTB 3

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF A PIPELINE CROSSING
SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AUGUST 24, 2018

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE NE/4 NW/4 OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N52°39'00"E. A DISTANCE OF 988.68 FEET;

THENCE S00°12'03"W A DISTANCE OF 104.99 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S89°37'05"W A DISTANCE OF 128.73 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE S00°20'16"E A DISTANCE OF 34.94 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N67°21'39"W, A DISTANCE OF 1882.46 FEET;

SAID STRIP OF LAND BEING 268.66 FEET OR 16.28 RODS IN LENGTH, CONTAINING 0.185 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

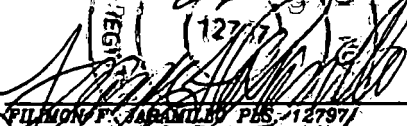
NE/4 NW/4 268.66 L.F. 16.28 RODS 0.185 ACRES

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

NEW MEXICO, THIS 27 DAY OF AUGUST 2018


FILMON F. JARAMILLO PLS 12797

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 2-4

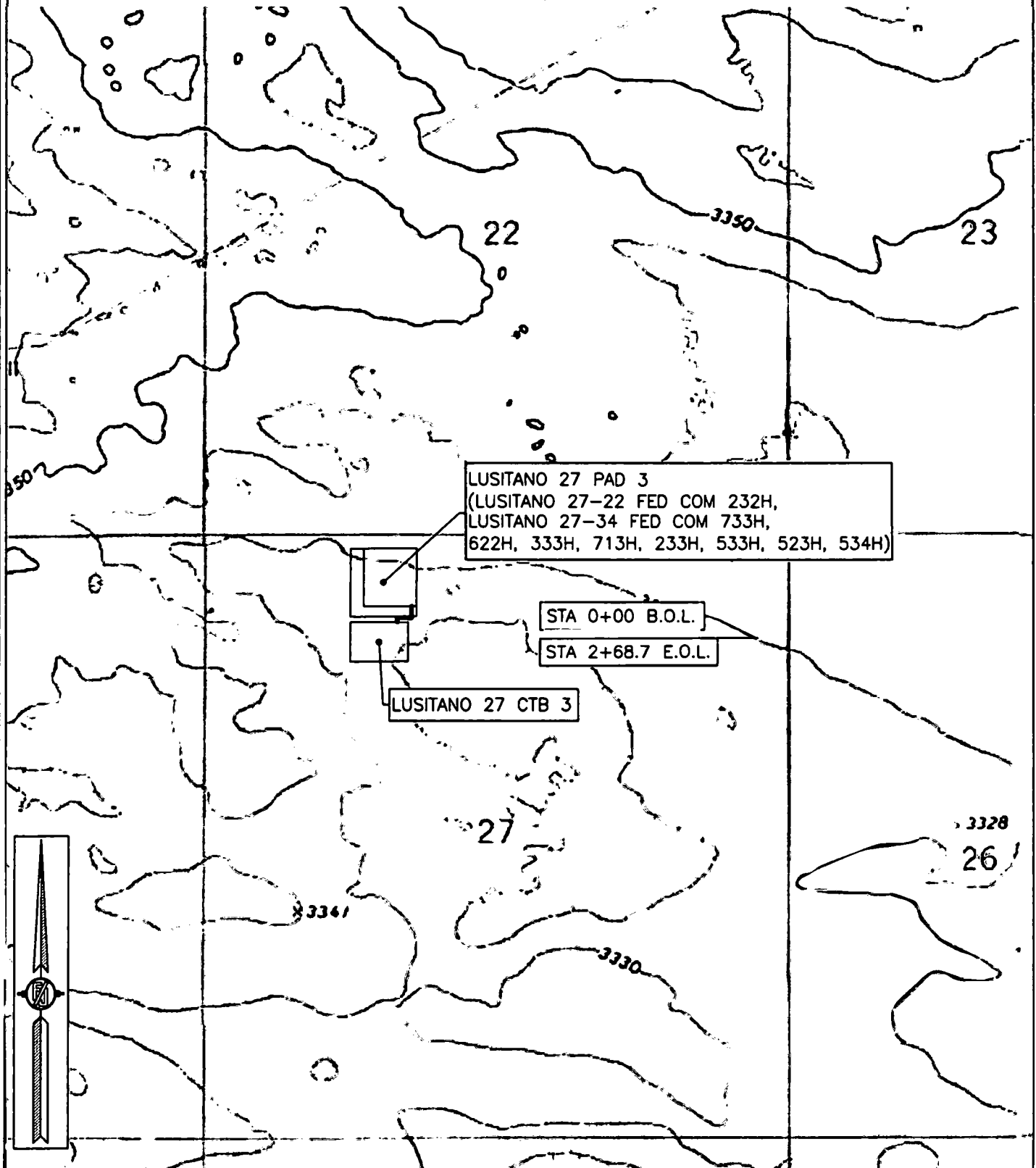
MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO

SURVEY NO. 6504

FLOWLINE PLAT

NINE 8" BURIED COMPOSITE FLOWLINES AND ONE 8" GAS LIFT LINE FROM THE LUSITANO 27 PAD 3
(LUSITANO 27-22 FED COM 232H, LUSITANO 27-34 FED COM 733H, 622H, 333H, 713H, 233H, 533H,
523H, 534H) TO THE LUSITANO 27 CTB 3

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF A PIPELINE CROSSING
SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AUGUST 24, 2018



SHEET: 3-4

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SURVEY NO. 6504

FLOWLINE PLAT

NINE 8" BURIED COMPOSITE FLOWLINES AND ONE 8" GAS LIFT LINE FROM THE LUSITANO 27 PAD 3
(LUSITANO 27-22 FED COM 232H, LUSITANO 27-34 FED COM 733H, 622H, 333H, 713H, 233H, 533H,
523H, 534H) TO THE LUSITANO 27 CTB 3

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF A PIPELINE CROSSING
SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AUGUST 24, 2018

22

LUSITANO 27 PAD 3
(LUSITANO 27-22 FED COM 232H,
LUSITANO 27-34 FED COM 733H,
622H, 333H, 713H, 233H, 533H, 523H, 534H)

STA 0+00 B.O.L.

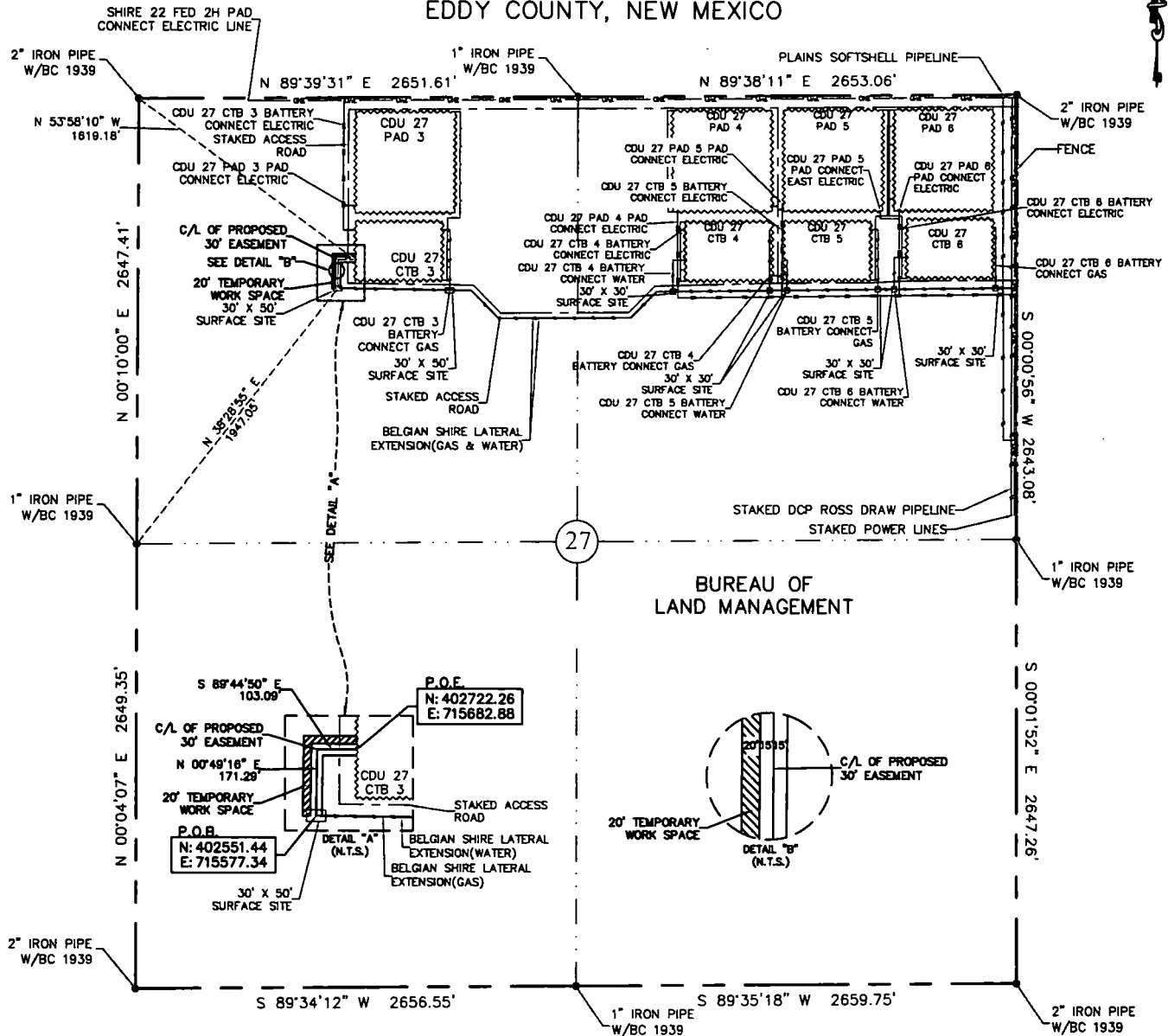
STA 2+68.7 E.O.L.

LUSITANO 27 CTB 3

27



EXHIBIT "A"
PAGE 1 of 18
SECTION 27, T25S-R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



30' EASEMENT AREA = 0.189 ACRE(S)
20' TEMPORARY WORK SPACE AREA = 0.149 ACRE(S)
274.38 FEET OR 16.63 RODS

0+00.0 P.O.B./BELGIAN SHIRE LATERAL EXTENSION (WATER)
0+16.0 EXIT 30' X 50' SURFACE SITE
2+29.7 C/L STAKED ACCESS ROAD
2+74.4 P.O.E./CDU 27 CTB 3

SEE THE ATTACHED LEGAL DESCRIPTION

Note: All bearings recited herein are based on the New Mexico State Plane Coordinate System, NAD 83, New Mexico East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.

B.L. Laman PLS 22404
Date Signed: 05-12-2018
Horizonrow, LLC
571 State Street Jasper, TX
(409) 202-5111 75951
Employee of Horizonrow, LLC



HORIZON ROW LLC

Drawn for:

devon

Drawn by:
CHRIS MAAS

Date: 05/03/2016

DEVON ENERGY PRODUCTION COMPANY, L.P.

CDU 27 CTB 3 BATTERY
CONNECT (WATER)

PROPOSED 30' EASEMENT
ON THE PROPERTY OF
BUREAU OF LAND MANAGEMENT
SECTION 27, T25S-R31E, N.M.P.M.

LINE NUMBER:
7800672

WBS NUMBER:
CC-110133.03

SCALE:
1" = 1000'

REVISIONS:

SHEET:
1 OF 18

0 1000 2000



**SECTION 27, T25S-R31E, N.M.P.M.,
EDDY COUNTY, NEW MEXICO**

LEGAL DESCRIPTION

FOR

DEVON ENERGY PRODUCTION COMPANY, L.P.

BUREAU OF LAND MANAGEMENT

30' EASEMENT DESCRIPTION:

BEING an easement thirty (30) feet in width lying fifteen (15) feet on the right side and fifteen (15) feet on the left side of the survey centerline described below, being out of the northwest quarter (NW ¼) of Section 27, Township 25 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, and being out of a parcel of land owned by the Bureau of Land Management. Said centerline of easement being more particularly described as follows:

Commencing from a 1" iron pipe w/ BC1939 found for the west quarter corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico;

Thence N 38°28'55" E, a distance of 1947.05' to the **Point of Beginning** of this easement having coordinates of Northing=402551.44 feet, Easting=715577.34 feet, being in the northwest quarter (NW ¼) of Section 27, T25S-R31E, and continuing the following courses;

Thence N 00°49'16" E, a distance of 171.29' to an angle point;

Thence S 89°44'50" E, a distance of 103.09' to the **Point of Ending** having coordinates of Northing=402722.26 feet, Easting=715682.88 feet, from said point a 2" iron pipe w/ BC1939 found for the northwest corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico bears N 53°58'10" W a distance of 1619.18', covering **274.38' or 16.63 rods** and having an area of **0.189 acres**.

20' TEMPORARY WORK SPACE DESCRIPTION:

Being a temporary work space twenty (20) feet in width lying on the left side and adjoining the left side of the above described thirty (30) feet easement, having a total area of **0.149 acres**.

NOTES:

Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

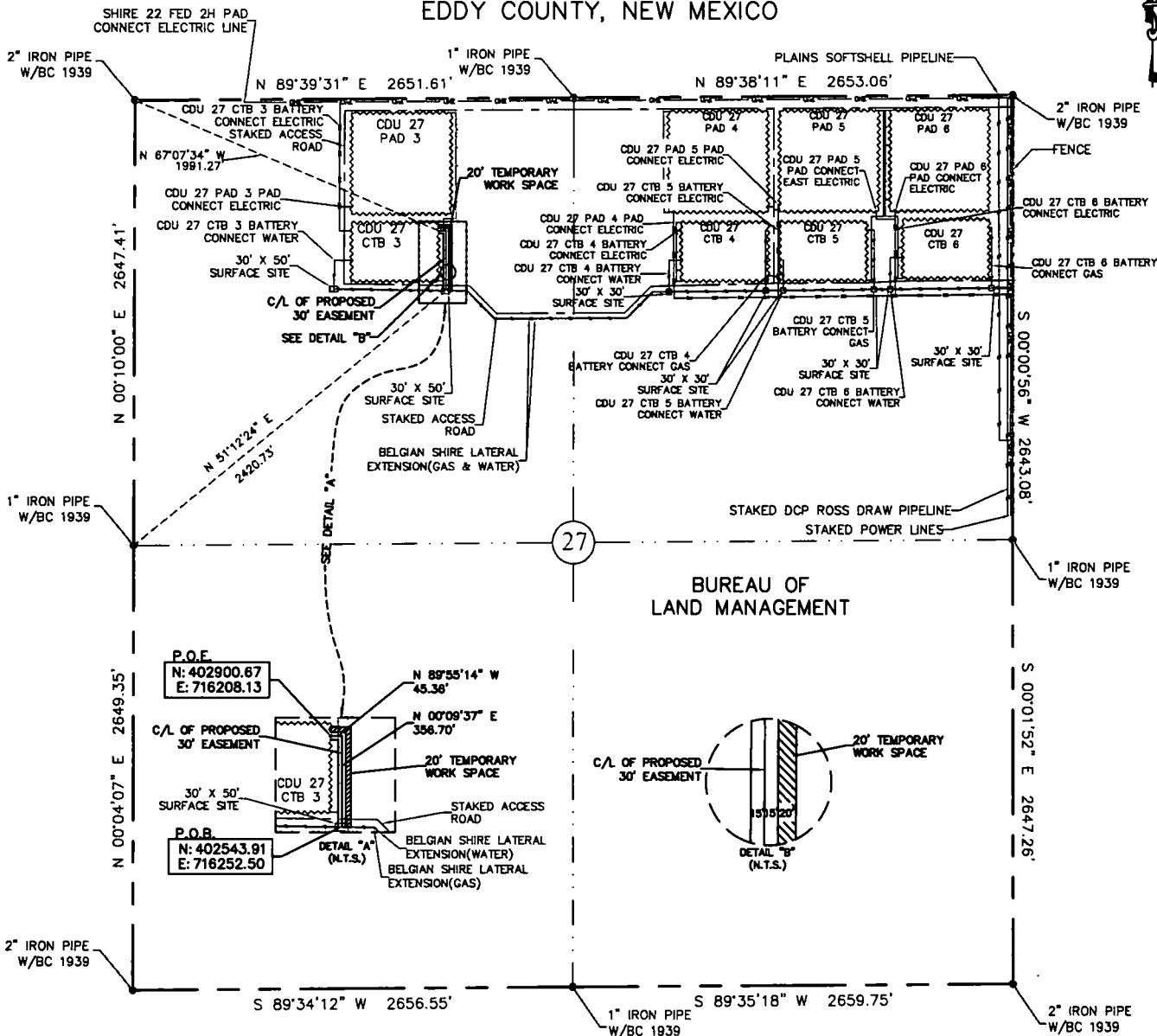
I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.



B.L. Laman PLS 22404
Date Signed: 05/12/2016
Horizon Row, LLC
571 State Street, Jasper, TX
(409) 202-5111 75951
Employee of Horizon Row, LLC



EXHIBIT "A"
PAGE 3 of 18
SECTION 27, T25S-R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



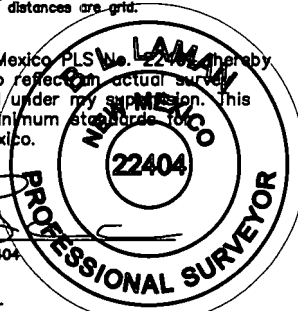
30' EASEMENT AREA = 0.277 ACRE(S)
 20' TEMPORARY WORK SPACE AREA = 0.208 ACRE(S)
 402.06 FEET OR 24.37 RODS

0+00.0 P.O.B./BELGIAN SHIRE LATERAL EXTENSION (GAS)
 0+13.0 EXIT 30' X 50' SURFACE SITE
 0+30.0 C/L STAKED ACCESS ROAD
 4+02.1 P.O.E./CDU 27 CTB 3

SEE THE ATTACHED LEGAL DESCRIPTION

Note: All bearings recited herein are based on the New Mexico State Plane Coordinate System, NAD 83, New Mexico East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.



HORIZON ROW LLC

Drawn for:

devon

Drawn by:
CHRIS MAAS

Date: 05/03/2016

0 1000 2000

DEVON ENERGY PRODUCTION COMPANY, L.P.

CDU 27 CTB 3 BATTERY
CONNECT (GAS)

PROPOSED 30' EASEMENT
ON THE PROPERTY OF
BUREAU OF LAND MANAGEMENT
SECTION 27, T25S-R31E, N.M.P.M.

LINE NUMBER:
760067X

WBS NUMBER:
CC-110133.01

SCALE:
1" = 1000'

REVISIONS:

SHEET:
3 OF 18

**SECTION 27, T25S-R31E, N.M.P.M.,
EDDY COUNTY, NEW MEXICO**

LEGAL DESCRIPTION

FOR

DEVON ENERGY PRODUCTION COMPANY, L.P.

BUREAU OF LAND MANAGEMENT

30' EASEMENT DESCRIPTION:

BEING an easement thirty (30) feet in width lying fifteen (15) feet on the right side and fifteen (15) feet on the left side of the survey centerline described below, being out of the northwest quarter (NW ¼) of Section 27, Township 25 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, and being out of a parcel of land owned by the Bureau of Land Management. Said centerline of easement being more particularly described as follows:

Commencing from a 1" iron pipe w/ BC1939 found for the west quarter corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico;

Thence N 51°12'24" E, a distance of 2420.73' to the **Point of Beginning** of this easement having coordinates of Northing=402543.91 feet, Easting=716252.50 feet, being in the northwest quarter (NW ¼) of Section 27, T25S-R31E, and continuing the following courses;

Thence N 00°09'37" E, a distance of 356.70' to an angle point;

Thence N 89°55'14" W, a distance of 45.36' to the **Point of Ending** having coordinates of Northing=402900.67 feet, Easting=716208.13 feet, from said point a 2" iron pipe w/ BC1939 found for the northwest corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico bears N 67°07'34" W a distance of 1991.27', covering **402.06' or 24.37 rods** and having an area of **0.277 acres**.

20' TEMPORARY WORK SPACE DESCRIPTION:

Being a temporary work space twenty (20) feet in width lying on the right side and adjoining the right side of the above described thirty (30) feet easement, having a total area of **0.208 acres**.

NOTES:

Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.



B.L. Laman PLS 22404

Date Signed: 05/12/2016

Horizon Row, LLC

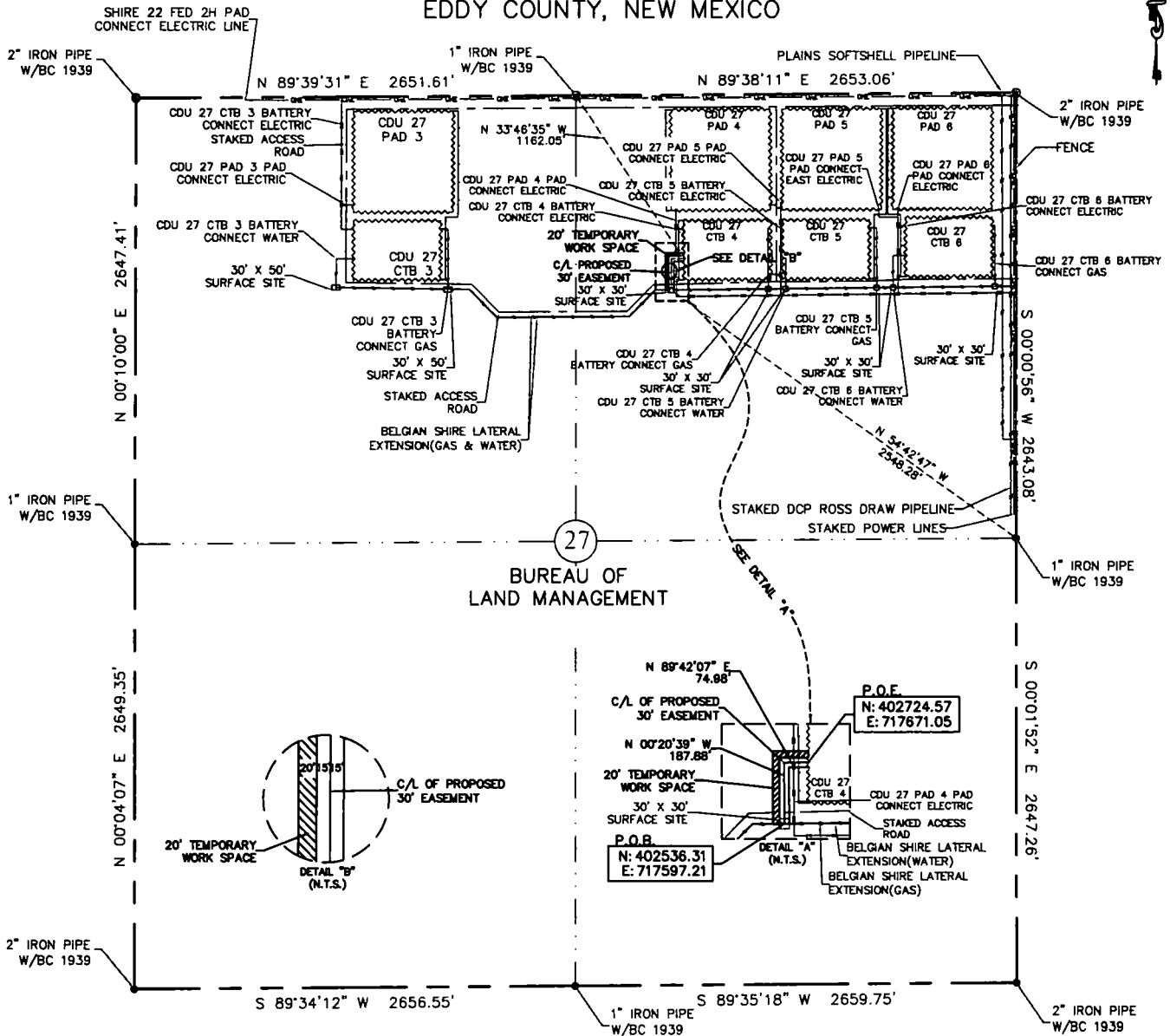
571 State Street, Jasper, TX

(409) 202-5111 75951

Employee of Horizon Row, LLC



EXHIBIT "A"
PAGE 5 of 18
SECTION 27, T25S-R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



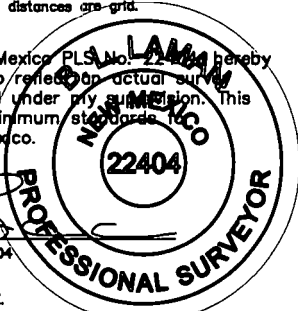
30' EASEMENT AREA = 0.181 ACRE(S)
 20' TEMPORARY WORK SPACE AREA = 0.144 ACRE(S)
 262.86 FEET OR 15.93 RODS

0+00.0 P.O.B./BELGIAN SHIRE LATERAL EXTENSION (WATER)
 0+02.0 BELGIAN SHIRE LATERAL EXTENSION (GAS)
 0+16.0 EXIT 30' X 30' SURFACE SITE
 0+35.2 C/L STAKED ACCESS ROAD
 2+17.9 CDU 27 PAD 4 PAD CONNECT ELECTRIC LINE
 2+62.9 P.O.E./CDU 27 CTB 4

SEE THE ATTACHED LEGAL DESCRIPTION

Note: All bearings rectified herein are based on the New Mexico State Plane Coordinate System, NAD 83, New Mexico East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404 hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.



0 1000 2000



HORIZON ROW LLC

Drawn for:

devon

Drawn by:
CHRIS MAAS

Date: 05/03/2016

DEVON ENERGY PRODUCTION COMPANY, L.P.

CDU 27 CTB 4 BATTERY
CONNECT (WATER)

PROPOSED 30' EASEMENT
ON THE PROPERTY OF
BUREAU OF LAND MANAGEMENT
SECTION 27, T25S-R31E, N.M.P.M.

LINE NUMBER:
7800682

WBS NUMBER:
CC-110133.03

SCALE:
1" = 1000'

REVISIONS:

SHEET:
5 OF 18

B.L. Laman PLS #22404
 Date Signed: 05-12-2016
 Horizonrow, LLC
 571 State Street Jasper, TX
 (409) 202-5111 75951
 Employee of Horizonrow, LLC

**SECTION 27, T25S-R31E, N.M.P.M.,
EDDY COUNTY, NEW MEXICO**

LEGAL DESCRIPTION

FOR

DEVON ENERGY PRODUCTION COMPANY, L.P.

BUREAU OF LAND MANAGEMENT

30' EASEMENT DESCRIPTION:

BEING an easement thirty (30) feet in width lying fifteen (15) feet on the right side and fifteen (15) feet on the left side of the survey centerline described below, being out of the northeast quarter (NE ¼) of Section 27, Township 25 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, and being out of a parcel of land owned by the Bureau of Land Management. Said centerline of easement being more particularly described as follows:

Commencing from a 1" iron pipe w/ BC1939 found for the east quarter corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico;

Thence N 54°42'47" W, a distance of 2548.28' to the **Point of Beginning** of this easement having coordinates of Northing=402536.31 feet, Easting=717597.21 feet, being in the northeast quarter (NE ¼) of Section 27, T25S-R31E, and continuing the following courses;

Thence N 00°20'39" W, a distance of 187.88' to an angle point;

Thence N 89°42'07" E, a distance of 74.98' to the **Point of Ending** having coordinates of Northing=402724.57 feet, Easting=717671.05 feet, from said point a 1" iron pipe w/ BC1939 found for the north quarter corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico bears N 33°46'35" W a distance of 1162.05', covering **262.86' or 15.93 rods** and having an area of **0.181 acres**.

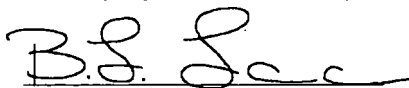
20' TEMPORARY WORK SPACE DESCRIPTION:

Being a temporary work space twenty (20) feet in width lying on the left side and adjoining the left side of the above described thirty (30) feet easement, having a total area of **0.144 acres**.

NOTES:

Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.



B.L. Laman PLS 22404

Date Signed: 05/12/2016

Horizon Row, LLC

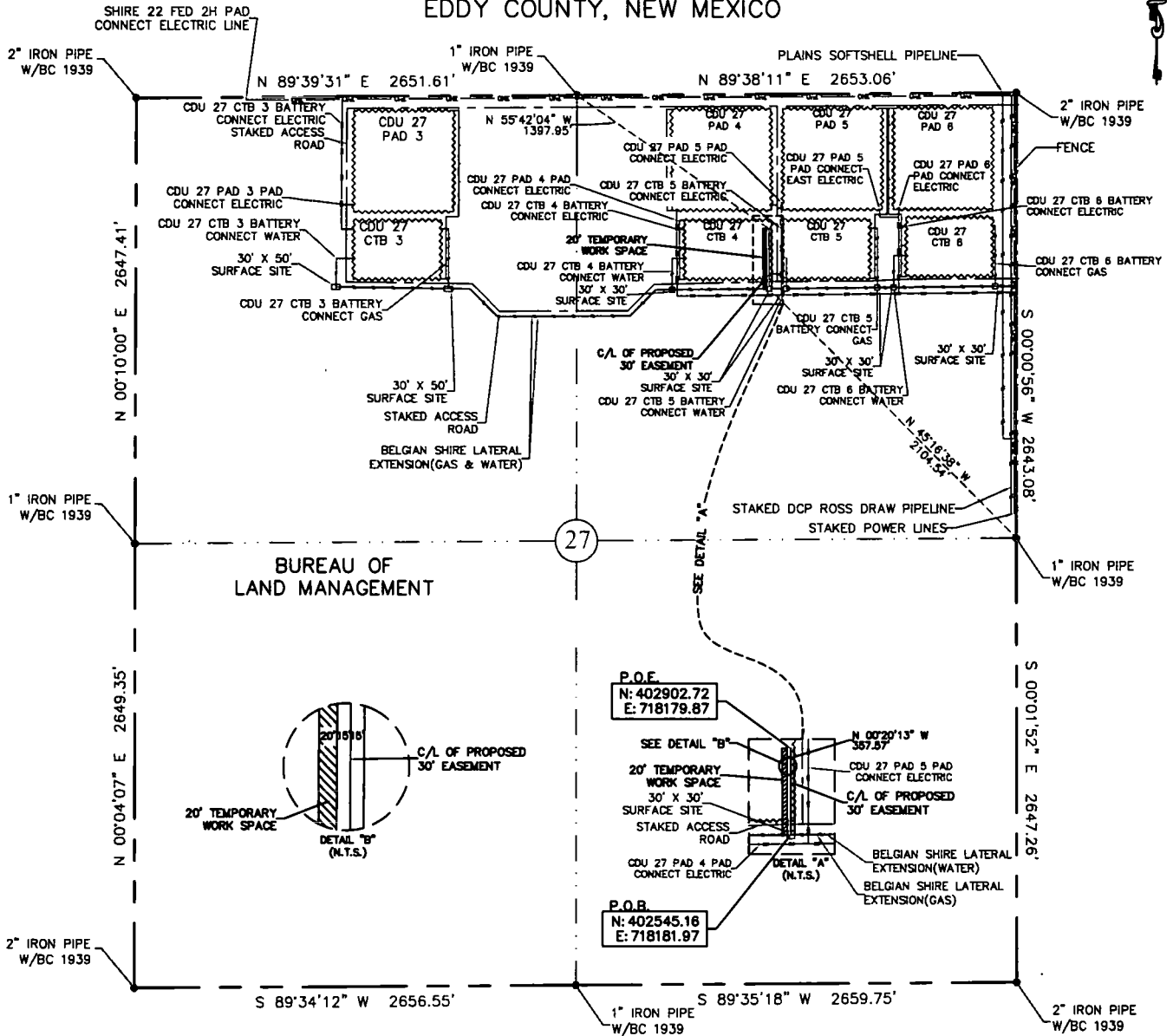
571 State Street, Jasper, TX

(409) 202-5111 75951

Employee of Horizon Row, LLC



EXHIBIT "A"
PAGE 7 of 18
SECTION 27, T25S-R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



30' EASEMENT AREA = 0.246 ACRE(S)
 20' TEMPORARY WORK SPACE AREA = 0.164 ACRE(S)
 357.57 FEET OR 21.67 RODS

0+00.0 P.O.B./BELGIAN SHIRE LATERAL EXTENSION (GAS)
 0+14.0 EXIT 30' X 30' SURFACE SITE
 0+41.9 C/L STAKED ACCESS ROAD
 0+57.7 ENTER CDU 27 CTB 4
 3+57.6 P.O.E.

SEE THE ATTACHED LEGAL DESCRIPTION

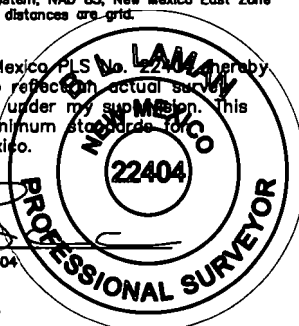
Note: All bearings recited herein are based on the New Mexico State Plane Coordinate System, NAD 83, New Mexico East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.

0 1000 2000



B.L. Laman PLS #22404
 Date Signed: 05-12-2016
 Horizon Row, LLC
 571 State Street Jasper, TX
 (409) 202-5111 75951
 Employee of Horizon Row, LLC



HORIZON ROW LLC

Drawn for:

devon

Drawn by:
 CHRIS MAAS

Date: 05/03/2016

DEVON ENERGY PRODUCTION COMPANY, L.P.

CDU 27 CTB 4 BATTERY
 CONNECT (GAS)

PROPOSED 30' EASEMENT
 ON THE PROPERTY OF
 BUREAU OF LAND MANAGEMENT
 SECTION 27, T25S-R31E, N.M.P.M.

LINE NUMBER:
 760068X

WBS NUMBER:
 CC-110133.01

SCALE:
 1" = 1000'

REVISIONS:

SHEET:
 7 OF 18

**SECTION 27, T25S-R31E, N.M.P.M.,
EDDY COUNTY, NEW MEXICO**

LEGAL DESCRIPTION

FOR

DEVON ENERGY PRODUCTION COMPANY, L.P.

BUREAU OF LAND MANAGEMENT

30' EASEMENT DESCRIPTION:

BEING an easement thirty (30) feet in width lying fifteen (15) feet on the right side and fifteen (15) feet on the left side of the survey centerline described below, being out of the northeast quarter (NE ¼) of Section 27, Township 25 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, and being out of a parcel of land owned by the Bureau of Land Management. Said centerline of easement being more particularly described as follows:

Commencing from a 1" iron pipe w/ BC1939 found for the east quarter corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico;

Thence N 45°16'38" W, a distance of 2104.54' to the **Point of Beginning** of this easement having coordinates of Northing=402545.16 feet, Easting=718181.97 feet, being in the northeast quarter (NE ¼) of Section 27, T25S-R31E, and continuing the following course;

Thence N 00°20'13" W, a distance of 357.57' to the **Point of Ending** having coordinates of Northing=402902.72 feet, Easting=718179.87 feet, from said point a 1" iron pipe w/ BC1939 found for the north quarter corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico bears N 55°42'04" W a distance of 1397.95', covering **357.57' or 21.67 rods** and having an area of **0.246 acres**.

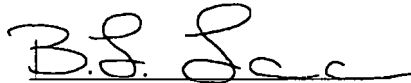
20' TEMPORARY WORK SPACE DESCRIPTION:

Being a temporary work space twenty (20) feet in width lying on the left side and adjoining the left side of the above described thirty (30) feet easement, having a total area of **0.164 acres**.

NOTES:

Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.



B.L. Laman PLS 22404

Date Signed: 05/12/2016

Horizon Row, LLC

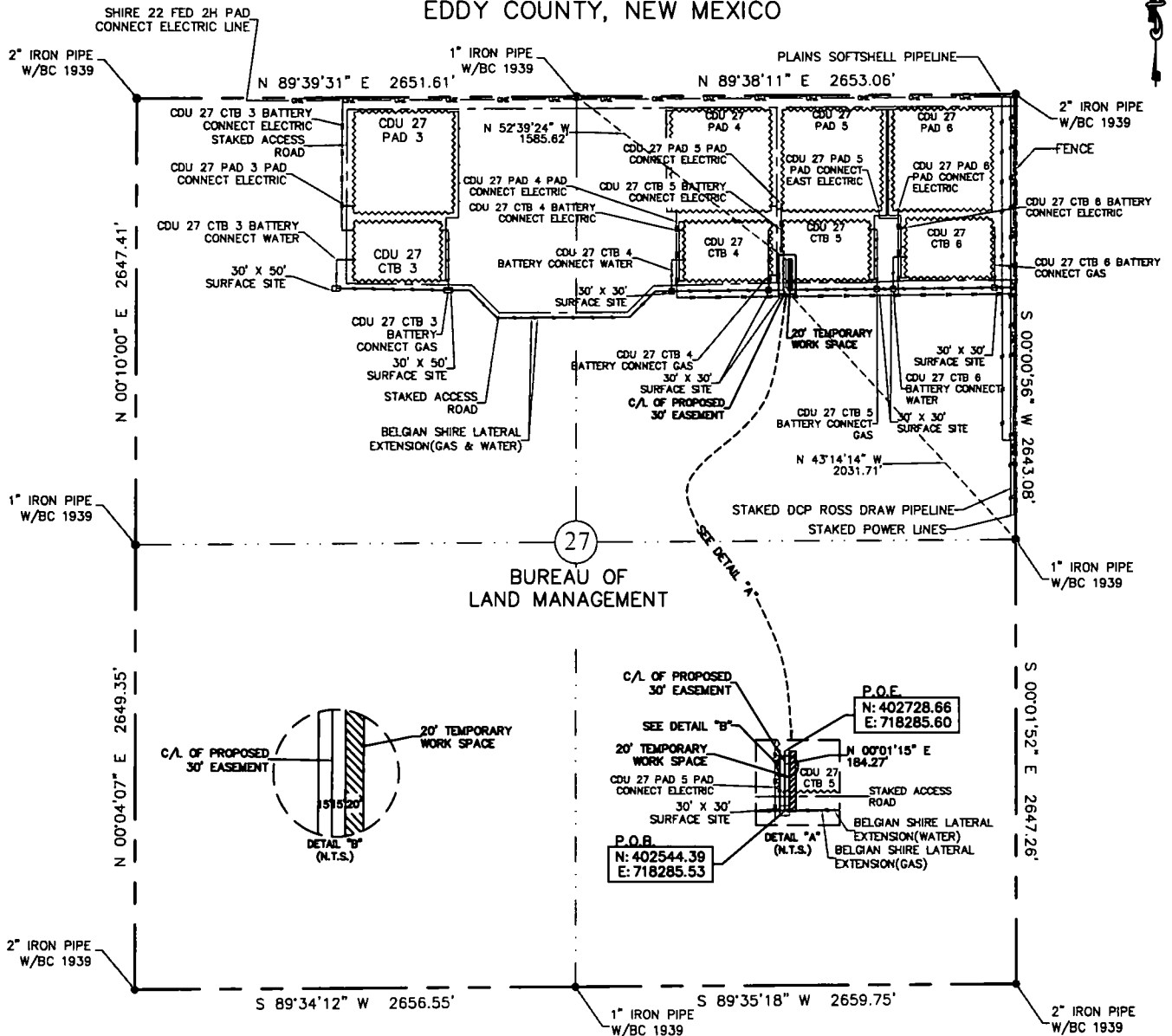
571 State Street, Jasper, TX

(409) 202-5111 75951

Employee of Horizon Row, LLC



EXHIBIT "A"
PAGE 9 of 18
SECTION 27, T25S-R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



30' EASEMENT AREA = 0.127 ACRE(S)
 20' TEMPORARY WORK SPACE AREA = 0.085 ACRE(S)
 184.27 FEET OR 11.17 RODS

0+00.0 P.O.B./BELGIAN SHIRE LATERAL EXTENSION (WATER)
 0+02.0 BELGIAN SHIRE LATERAL EXTENSION (GAS)
 0+16.0 EXIT 30' X 30' SURFACE SITE
 0+44.3 C/L STAKED ACCESS ROAD
 0+59.3 ENTER CDU 27 CTB 5
 1+84.3 P.O.E.

SEE THE ATTACHED LEGAL DESCRIPTION

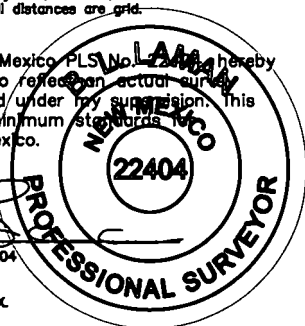
Note: All bearings recited herein are based on the New Mexico State Plane Coordinate System, NAD 83, New Mexico East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS #22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.

0 1000 2000



B.L. Laman PLS #22404
 Date Signed: 05-12-2018
 Horizonrow, LLC
 571 State Street Jasper, TX
 (409) 202-5111 75951
 Employee of Horizonrow, LLC



HORIZON ROW LLC

Drawn for:



Drawn by:
 CHRIS MAAS

Date: 05/03/2018

DEVON ENERGY PRODUCTION COMPANY, L.P.

CDU 27 CTB 5 BATTERY
 CONNECT (WATER)

PROPOSED 30' EASEMENT
 ON THE PROPERTY OF
 BUREAU OF LAND MANAGEMENT
 SECTION 27, T25S-R31E, N.M.P.M.

LINE NUMBER:
 760069Z

WBS NUMBER:
 CC-110133.03

SCALE:
 1" = 1000'

REVISIONS:

SHEET:
 9 OF 18

SECTION 27, T25S-R31E, N.M.P.M.,
EDDY COUNTY, NEW MEXICO

LEGAL DESCRIPTION

FOR

DEVON ENERGY PRODUCTION COMPANY, L.P.

BUREAU OF LAND MANAGEMENT

30' EASEMENT DESCRIPTION:

BEING an easement thirty (30) feet in width lying fifteen (15) feet on the right side and fifteen (15) feet on the left side of the survey centerline described below, being out of the northeast quarter (NE ¼) of Section 27, Township 25 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, and being out of a parcel of land owned by the Bureau of Land Management. Said centerline of easement being more particularly described as follows:

Commencing from a 1" iron pipe w/ BC1939 found for the east quarter corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico;

Thence N 43°14'14" W, a distance of 2031.71' to the **Point of Beginning** of this easement having coordinates of Northing=402544.39 feet, Easting=718285.53 feet, being in the northeast quarter (NE ¼) of Section 27, T25S-R31E, and continuing the following courses;

Thence N 00°01'15" E, a distance of 184.27' to the **Point of Ending** having coordinates of Northing=402728.66 feet, Easting=718285.60 feet, from said point a 1" iron pipe w/ BC1939 found for the north quarter corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico bears N 52°39'24" W a distance of 1585.62', covering **184.27' or 11.17 rods** and having an area of **0.127 acres**.

20' TEMPORARY WORK SPACE DESCRIPTION:

Being a temporary work space twenty (20) feet in width lying on the right side and adjoining the right side of the above described thirty (30) feet easement, having a total area of **0.085 acres**.

NOTES:

Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.



B.L. Laman PLS 22404

Date Signed: 05/12/2016

Horizon Row, LLC

571 State Street, Jasper, TX

(409) 202-5111 75951

Employee of Horizon Row, LLC





**SECTION 27, T25S-R31E, N.M.P.M.,
EDDY COUNTY, NEW MEXICO**

LEGAL DESCRIPTION

FOR

DEVON ENERGY PRODUCTION COMPANY, L.P.

BUREAU OF LAND MANAGEMENT

30' EASEMENT DESCRIPTION:

BEING an easement thirty (30) feet in width lying fifteen (15) feet on the right side and fifteen (15) feet on the left side of the survey centerline described below, being out of the northeast quarter (NE ¼) of Section 27, Township 25 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, and being out of a parcel of land owned by the Bureau of Land Management. Said centerline of easement being more particularly described as follows:

Commencing from a 1" iron pipe w/ BC1939 found for the east quarter corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico;

Thence N 29°29'28" W, a distance of 1710.27' to the **Point of Beginning** of this easement having coordinates of Northing=402552.92 feet, Easting=718835.35 feet, being in the northeast quarter (NE ¼) of Section 27, T25S-R31E, and continuing the following courses;

Thence N 00°02'54" E, a distance of 353.80' to an angle point;

Thence N 89°55'44" W, a distance of 45.06' to the **Point of Ending** having coordinates of Northing=402906.77 feet, Easting=718790.59 feet, from said point a 2" iron pipe w/ BC1939 found for the northeast corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico bears N 47°56'46" E a distance of 1195.16', covering **398.86' or 24.17 rods** and having an area of **0.275 acres**.

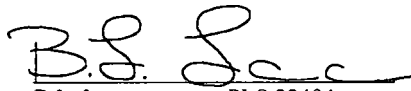
20' TEMPORARY WORK SPACE DESCRIPTION:

Being a temporary work space twenty (20) feet in width lying on the right side and adjoining the right side of the above described thirty (30) feet easement, having a total area of **0.206 acres**.

NOTES:

Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.



B.L. Laman PLS 22404

Date Signed: 05/12/2016

Horizon Row, LLC

571 State Street, Jasper, TX

(409) 202-5111 75951

Employee of Horizon Row, LLC





SECTION 27, T25S-R31E, N.M.P.M.,
EDDY COUNTY, NEW MEXICO

LEGAL DESCRIPTION

FOR

DEVON ENERGY PRODUCTION COMPANY, L.P.

BUREAU OF LAND MANAGEMENT

30' EASEMENT DESCRIPTION:

BEING an easement thirty (30) feet in width lying fifteen (15) feet on the right side and fifteen (15) feet on the left side of the survey centerline described below, being out of the northeast quarter (NE ¼) of Section 27, Township 25 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, and being out of a parcel of land owned by the Bureau of Land Management. Said centerline of easement being more particularly described as follows:

Commencing from a 1" iron pipe w/ BC1939 found for the east quarter corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico;

Thence N 26°31'20" W, a distance of 1662.77' to the **Point of Beginning** of this easement having coordinates of Northing=402552.02 feet, Easting=718934.79 feet, being in the northeast quarter (NE ¼) of Section 27, T25S-R31E, and continuing the following courses;

Thence N 00°02'45" W, a distance of 191.11' to an angle point;

Thence N 89°58'35" E, a distance of 74.88' to the **Point of Ending** having coordinates of Northing=402743.17 feet, Easting=719009.52 feet, from said point a 2" iron pipe w/ BC1939 found for the northeast corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico bears N 34°44'07" E a distance of 1173.24', covering **265.99' or 16.12 rods** and having an area of **0.183 acres**.

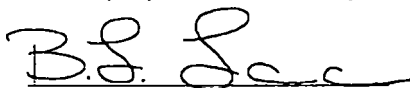
20' TEMPORARY WORK SPACE DESCRIPTION:

Being a temporary work space twenty (20) feet in width lying on the left side and adjoining the left side of the above described thirty (30) feet easement, having a total area of **0.145 acres**.

NOTES:

Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.



B.L. Laman PLS 22404

Date Signed: 05/12/2016

Horizon Row, LLC

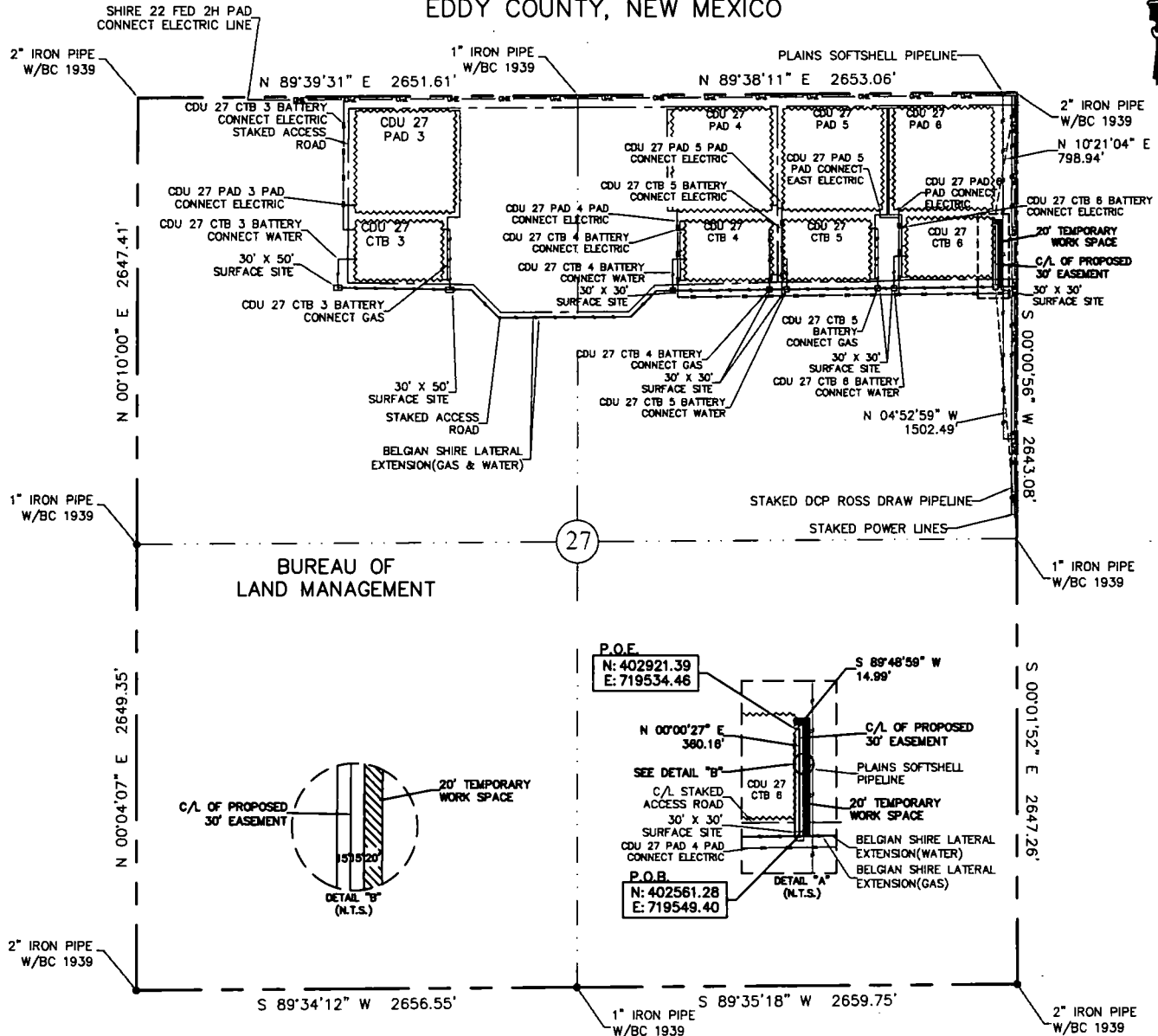
571 State Street, Jasper, TX

(409) 202-5111 75951

Employee of Horizon Row, LLC



EXHIBIT "A"
PAGE 15 of 18
SECTION 27, T25S-R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



30' EASEMENT AREA = 0.258 ACRE(S)
20' TEMPORARY WORK SPACE AREA = 0.195 ACRE(S)
375.15 FEET OR 22.74 RODS

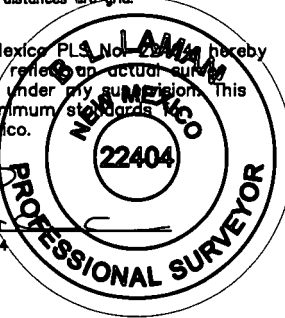
0+00.0 P.O.B./BELGIAN SHIRE LATERAL EXTENSION (GAS)
0+14.0 EXIT 30' X 30' SURFACE SITE
0+45.1 C/L STAKED ACCESS ROAD
3+75.2 P.O.E./CDU 27 CTB 6

SEE THE ATTACHED LEGAL DESCRIPTION

Note: All bearings recited herein are based on the New Mexico State Plane Coordinate System, NAD 83, New Mexico East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.

B.L. Laman PLS #22404
Date Signed: 05-12-2018
Horizonrow, LLC
571 State Street Jasper, TX
(409) 202-5111 75951
Employee of Horizonrow, LLC



HORIZON ROW LLC

Drawn for:

devon

Drawn by:
CHRIS MAAS

Date: 05/04/2018

DEVON ENERGY PRODUCTION COMPANY, L.P.

CDU 27 CTB 6 BATTERY
CONNECT (GAS)

PROPOSED 30' EASEMENT
ON THE PROPERTY OF
BUREAU OF LAND MANAGEMENT
SECTION 27, T25S-R31E, N.M.P.M.

LINE NUMBER:
760070X

WBS NUMBER:
CC-110133.01

SCALE:
1" = 1000'

REVISIONS:

SHEET:
15 OF 18

0 1000 2000



**SECTION 27, T25S-R31E, N.M.P.M.,
EDDY COUNTY, NEW MEXICO**

LEGAL DESCRIPTION

FOR

DEVON ENERGY PRODUCTION COMPANY, L.P.

BUREAU OF LAND MANAGEMENT

30' EASEMENT DESCRIPTION:

BEING an easement thirty (30) feet in width lying fifteen (15) feet on the right side and fifteen (15) feet on the left side of the survey centerline described below, being out of the northeast quarter (NE ¼) of Section 27, Township 25 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, and being out of a parcel of land owned by the Bureau of Land Management. Said centerline of easement being more particularly described as follows:

Commencing from a 1" iron pipe w/ BC1939 found for the east quarter corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico;

Thence N 04°52'59" W, a distance of 1502.49' to the **Point of Beginning** of this easement having coordinates of Northing=402561.28 feet, Easting=719549.40 feet, being in the northeast quarter (NE ¼) of Section 27, T25S-R31E, and continuing the following courses;

Thence N 00°00'27" E, a distance of 360.16' to an angle point;

Thence S 89°48'59" W, a distance of 14.99' to the **Point of Ending** having coordinates of Northing=402921.39 feet, Easting=719534.46 feet, from said point a 2" iron pipe w/ BC1939 found for the northeast corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico bears N 10°21'04" E a distance of 798.94', covering **375.15' or 22.74 rods** and having an area of **0.258 acres**.

20' TEMPORARY WORK SPACE DESCRIPTION:

Being a temporary work space twenty (20) feet in width lying on the right side and adjoining the right side of the above described thirty (30) feet easement, having a total area of **0.195 acres**.

NOTES:

Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to reflect an actual survey made on the ground under my supervision. This survey meets the minimum standards for surveying in New Mexico.



B.L. Laman PLS 22404

Date Signed: 05/12/2016

Horizon Row, LLC

571 State Street, Jasper, TX

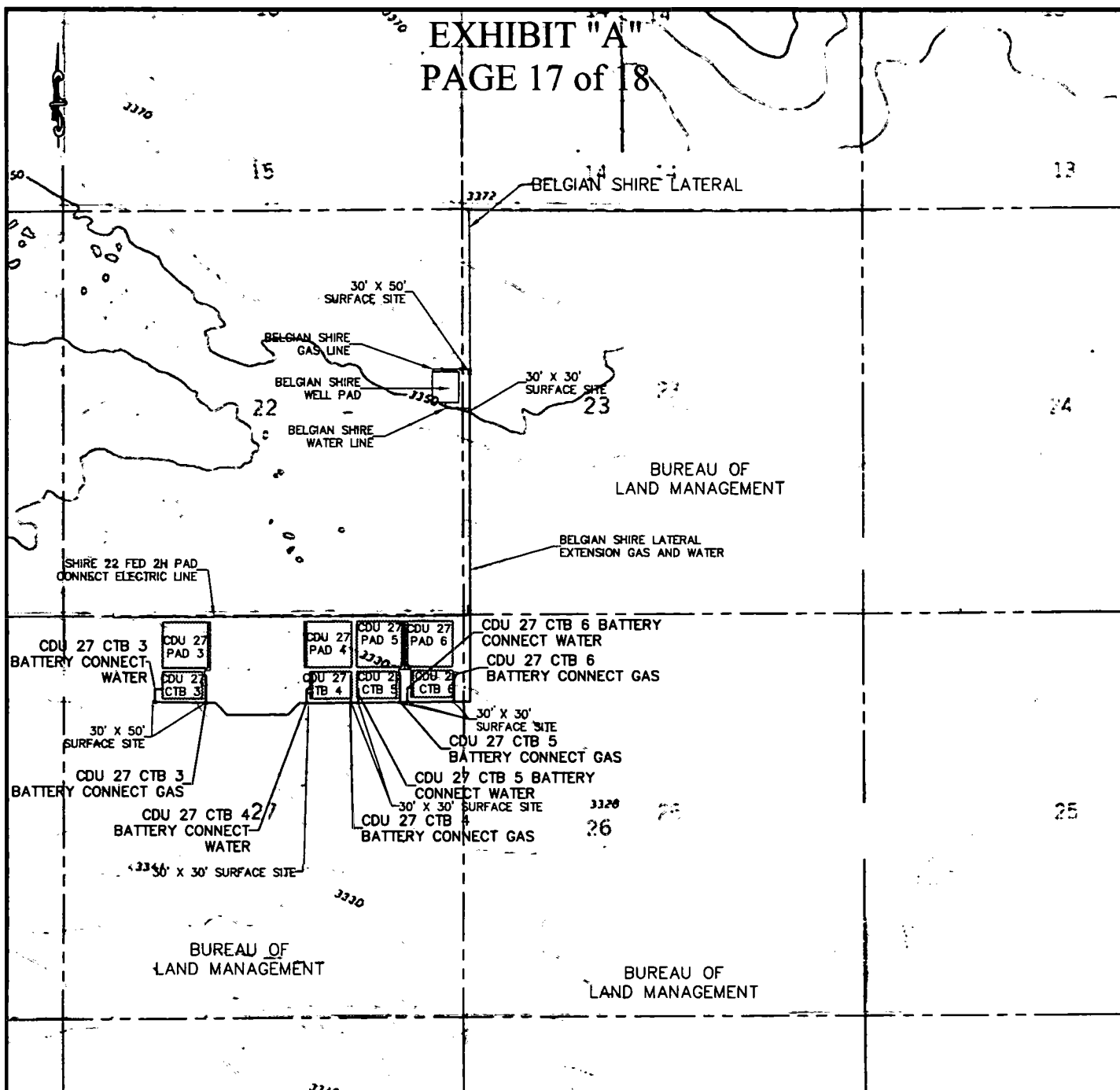
(409) 202-5111 75951

Employee of Horizon Row, LLC



EXHIBIT "A"

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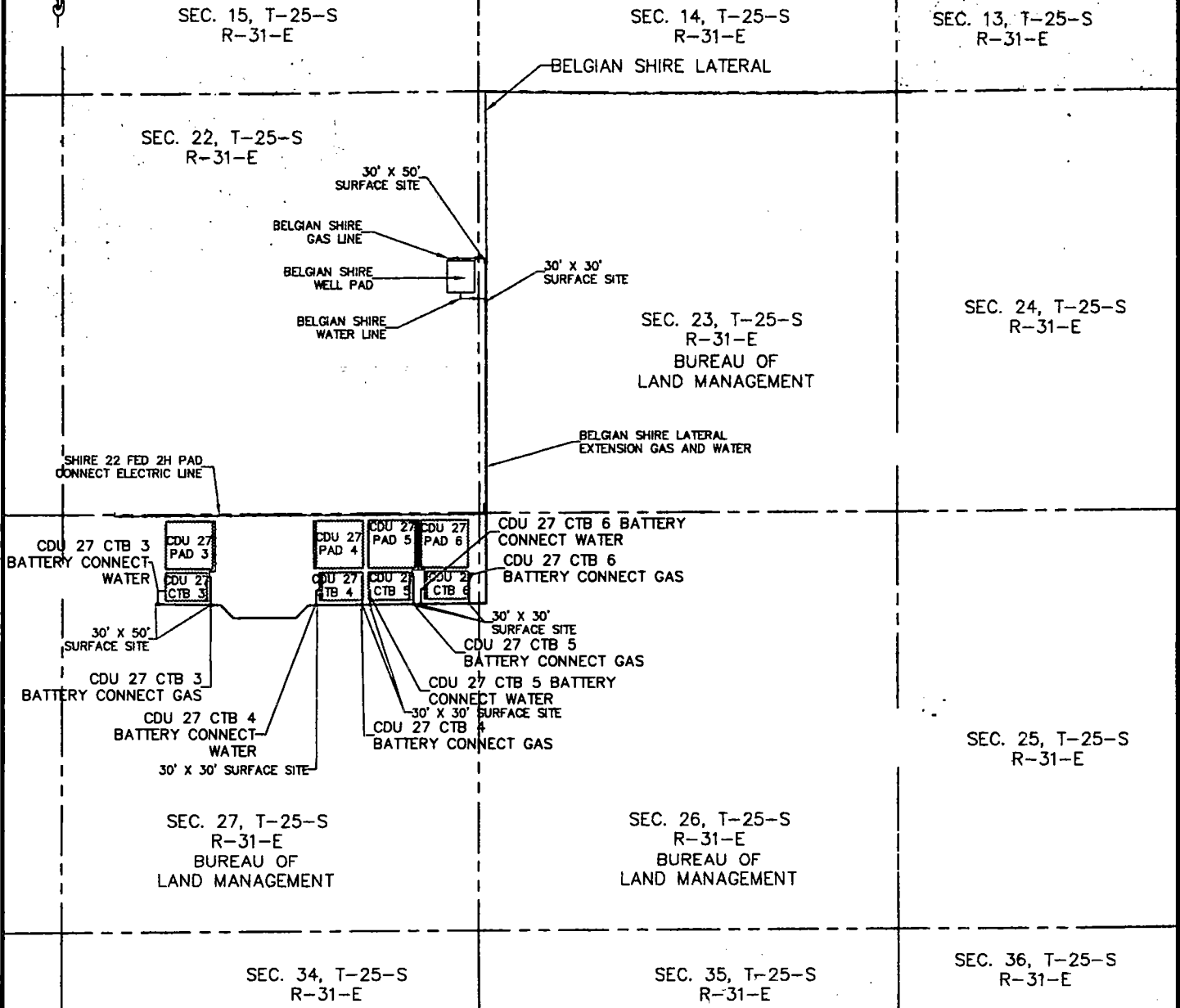
QUAD MAP

SECTION 27, T25S-R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

HORIZON ROW LLC		WBS NUMBER:	LINE NUMBER:
CDU 27 CTB 3 BATTERY CONNECT (GAS & WATER)		CD-110133.01	760087X.2
CDU 27 CTB 4 BATTERY CONNECT (GAS & WATER)		CD-110133.01	760088X.2
CDU 27 CTB 5 BATTERY CONNECT (GAS & WATER)		CD-110133.01	760089X.2
CDU 27 CTB 6 BATTERY CONNECT (GAS & WATER)		CD-110133.01	760070X.2
Drawn for:		DEVON ENERGY PRODUCTION COMPANY, L.P.	
devon		PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT	
Drawn by: CHRIS MAAS	Date: 05/04/2016	SCALE: 1" = 2000'	REVISIONS: SHEET: 17 OF 18

EXHIBIT "A"

PAGE 18 of 18



AERIAL MAP

SECTION 27, T25S-R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

HORIZON ROW LLC		WBS NUMBER:	LINE NUMBER:
CDU 27 CTB 3 BATTERY CONNECT (GAS & WATER)		CO-110133.01	760067X.L2
CDU 27 CTB 4 BATTERY CONNECT (GAS & WATER)		CO-110133.01	760068X.L2
CDU 27 CTB 5 BATTERY CONNECT (GAS & WATER)		CO-110133.01	760069X.L2
CDU 27 CTB 6 BATTERY CONNECT (GAS & WATER)		CO-110133.01	760070X.L2
Drawn for:		DEVON ENERGY PRODUCTION COMPANY, L.P.	
devon		PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT	
Drawn by: CHRIS MAAS	Date: 05/04/2018	SCALE: 1" = 2000'	REVISIONS: SHEET: 18 OF 18

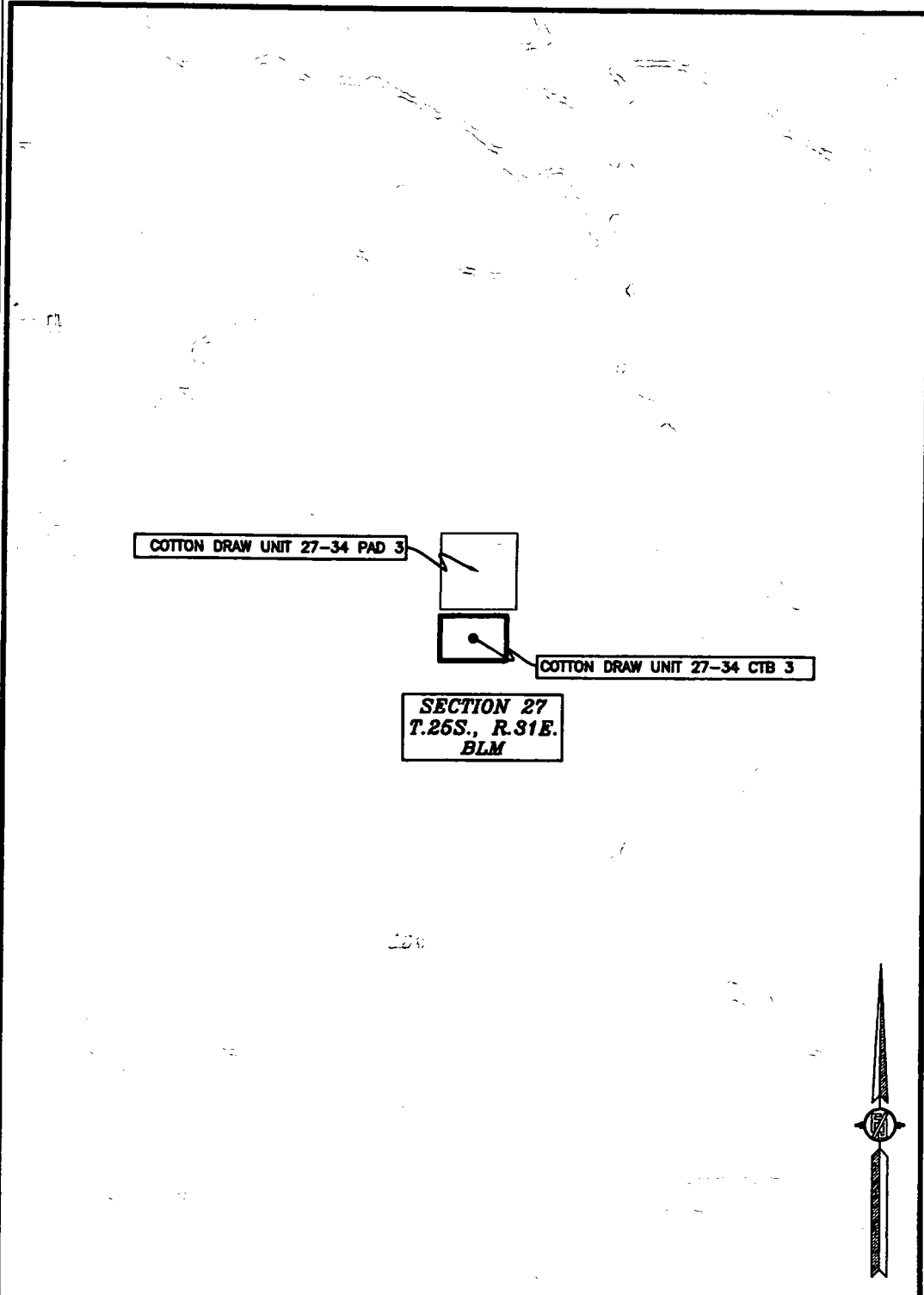
~~CARLSBAD~~, NEW MEXICO

COTTON DRAW UNIT 27-34 CTB 3 (AA000056029)

DEVON ENERGY PRODUCTION COMPANY, L.P.
IN THE NE/4 NW/4 & NW/4 NW/4 OF
SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

JUNE 17, 2016

QUAD MAP



SHEET: 2-3

MADRON SURVEYING, INC.

301 SOUTH CANAL
(575) 234-3341

CARLSBAD, NEW MEXICO

SURVEY NO. 4494B

COTTON DRAW UNIT 27-34 CTB 3 (AA000056029)

DEVON ENERGY PRODUCTION COMPANY, L.P.
IN THE NE/4 NW/4 & NW/4 NW/4 OF
SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

JUNE 17, 2016

AERIAL PHOTO

22

COTTON DRAW UNIT 27-34 PAD 3

COTTON DRAW UNIT 27-34 CTB 3

SECTION 27
T.25S., R.31E.
BLM

27

SHEET: 3-3

SURVEY NO. 4494B

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO



Receipt

Tracking Information

Pay.gov Tracking ID: 26D6U3T6

Agency Tracking ID: 75605495439

Form Name: Bureau of Land Management (BLM) Application for Permit to Drill (APD) Fee

Application Name: BLM Oil and Gas Online Payment

Payment Information

Payment Type: Bank account (ACH)

Payment Amount: \$30,150.00

Transaction Date: 10/30/2018 10:40:07 AM EDT

Payment Date: 10/31/2018

Company: Devon Energy Production Co., L.P.

APD IDs: 10400035075, 10400035085, 10400035224

Lease Numbers: NMNM125635, NMNM125635, NMNM016348

Well Numbers: 233H, 523H, 525H

Note: You will need your Pay.gov Tracking ID to complete your APD transaction in AFMSS II. Please ensure you write this number down upon completion of payment.

Account Information

Account Holder Name: Devon Energy Production Company, L.P.

Routing Number: 061000052

Account Number: *****9892



Section 1 - General

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

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number:

Injection well name:

Assigned injection well API number?

Injection well API number:

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:



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

Bond Info Data Report

01/18/2019

Bond Information

Federal/Indian APD: FED

BLM Bond number: CO1104

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment: