RECEIVED

Form 3160-3
(June 2015)

JAN 14 2019

DISTRICT II-ARTESIA O.C.D.

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM125635

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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

1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

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

8. Lease Name and Well No.
LUSITANO 27-34 FED COM
233H
319562

2. Name of Operator
DEVON ENERGY PRODUCTION COMPANY LP

9. API Well No.
30-015-45633

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory
333 West Sheridan Avenue Oklahoma City OK 73102	(800)583-3866	JENNINGS, WEST / BONE SPRING 97860

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

At surface NENW / 385 FNL / 1702 FWL / LAT 32.1074927 / LONG -103.7689907

At proposed prod. zone SESW / 20 FSL / 1650 FWL / LAT 32.0794914 / LONG -103.7692786

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	13. State
	EDDY	NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
382 feet	720	320

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
1170 feet	10280 feet / 20461 feet	FED: CO1104

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3334 feet	01/17/2020	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.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Linda Good / Ph: (405)552-6558	10/16/2018

Title
Regulatory Compliance Professional

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	01/11/2019

Title	Office
Assistant Field Manager Lands & Minerals	CARLSBAD

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

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

APPROVED WITH CONDITIONS

RWP 1-16-19.

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 01/11/2019

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

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

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

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

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

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

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160
PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.
ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.
EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM conects this information to anow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

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

(Continued on page 3)

Additional Operator Remarks

Location of Well

1. SHL: NENW / 385 FNL / 1702 FWL / TWSP: 25S / RANGE: 31E / SECTION: 27 / LAT: 32.1074927 / LONG: -103.7689907 (TVD: 0 feet, MD: 0 feet)
   PPP: NENW / 150 FNL / 1650 FWL / TWSP: 25S / RANGE: 31E / SECTION: 27 / LAT: 32.108139 / LONG: -103.769148 (TVD: 9707 feet, MD: 9712 feet)
   BHL: SESW / 20 FSL / 1650 FWL / TWSP: 25S / RANGE: 31E / SECTION: 34 / LAT: 32.0794914 / LONG: -103.7692786 (TVD: 10280 feet, MD: 20461 feet)

BLM Point of Contact

Name: Tenille Ortiz
Title: Legal Instruments Examiner
Phone: 5752342224
Email: tortiz@blm.gov

Approval Date: 01/11/2019

Review and Appeal Rights

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

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	DEVON ENERGY PRODUCTION COMPANY LP
LEASE NO.:	NMNM125635
WELL NAME & NO.:	LUSITANO 27-34 FED COM 233H
SURFACE HOLE FOOTAGE:	385'/N & 1702'/W
BOTTOM HOLE FOOTAGE	20'/S & 1650'/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.

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

    - 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.**

    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.**

    ❖ **In <u>Medium Cave/Karst Areas</u> 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.

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 intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

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

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

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

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

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a

larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

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

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

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

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

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

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

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

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

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

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

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

e. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes. This test shall be performed prior to the test at full stack pressure.

g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

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 233H
SURFACE HOLE FOOTAGE:	385'/N & 1702'/W
BOTTOM HOLE FOOTAGE	20'/S & 1650'/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.

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 2Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken, to minimize noise associated impacts which could disrupt breeding and nesting activities.
Chapter 3Upon 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 contaminates.

- ***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 values, 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.

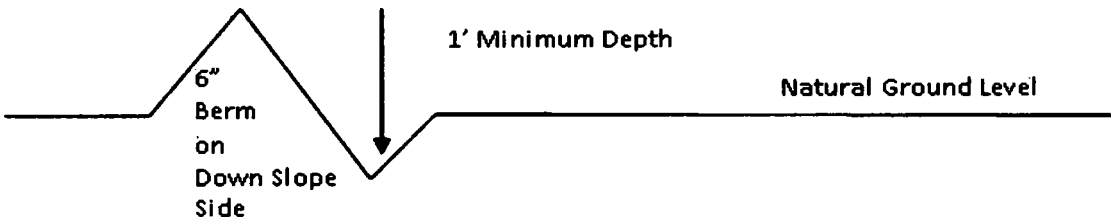
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Cattle guards

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

Fence Requirement

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

Public Access

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

Construction Steps

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

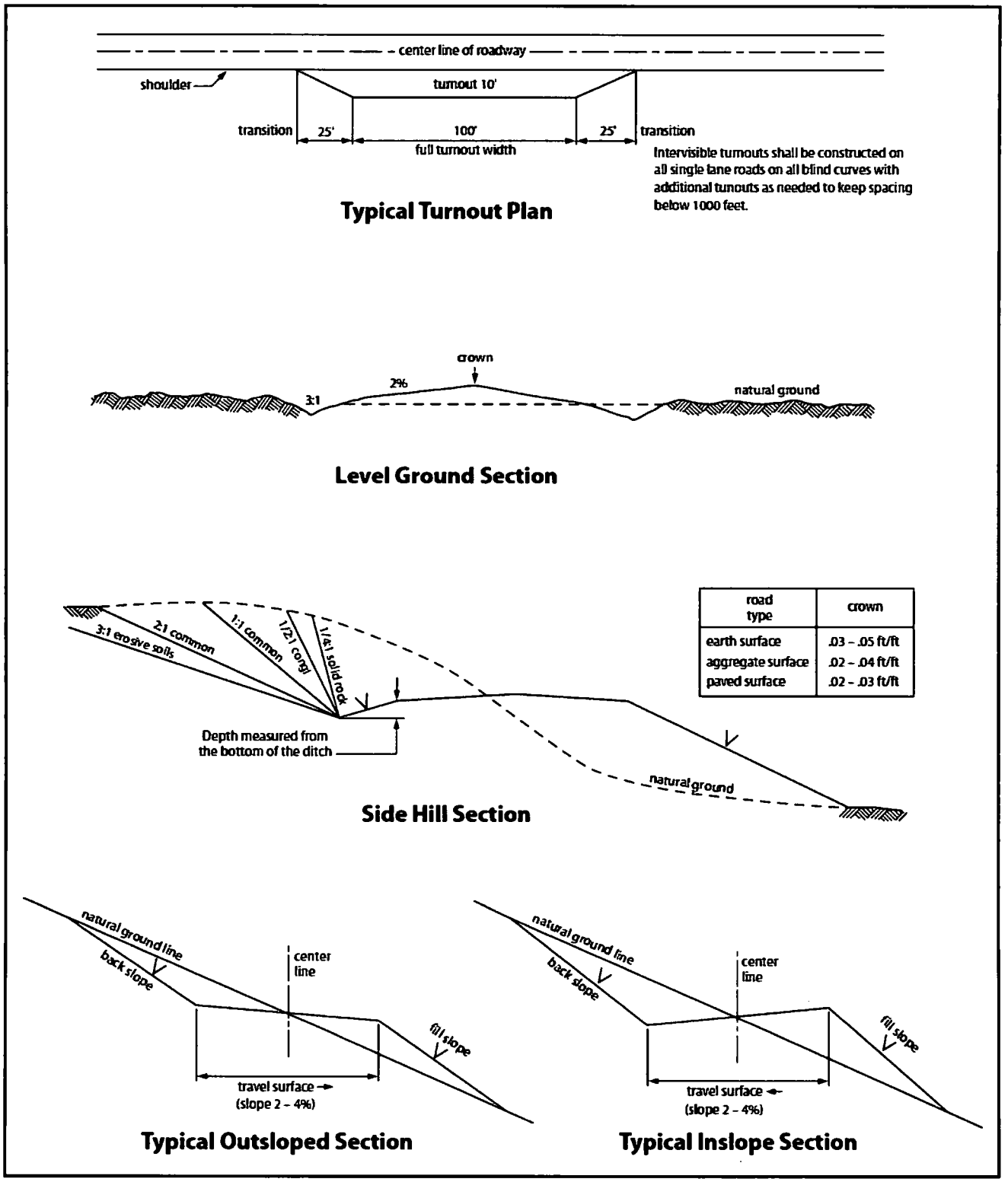


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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

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

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

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

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

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

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

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

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 deterrence shall be placed on all vertical poles that extend past the cross arms.

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

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

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

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

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

Special Stipulations:

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

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

be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

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.

VII. INTERIM RECLAMATION

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

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

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

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

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

VIII. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

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

Seed Mixture for LPC Sand/Shinnery Sites

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

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

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

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

*Pounds of pure live seed:

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

AFMSS

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

Operator Certification Data Report

01/11/2019

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Linda Good **Signed on:** 10/16/2018

Title: Regulatory Compliance Professional

Street Address: 333 West Sheridan Avenue

City: Oklahoma City **State:** OK **Zip:** 73102

Phone: (405)552-6558

Email address: Linda.Good@dvn.com

Field Representative

Representative Name: Ray Vaz

Street Address: 333 West Sheridan Ave.

City: Oklahoma City **State:** OK **Zip:** 73102

Phone: (405)552-4902

Email address: ray.vaz@dvn.com

AFMSS

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

Application Data Report

01/11/2019

APD ID: 10400035075 **Submission Date:** 10/16/2018

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM **Well Number:** 233H

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

[redacted]

Show Final Text

Section 1 - General

APD ID: 10400035075 **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 **Mater 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:** 233H **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:** 233H

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:** LUSITANO 27 WELLPAD **Number:** 3

Well Class: HORIZONTAL **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:** 1170 FT **Distance to lease line:** 382 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: Lusitano_27_34_Fed_Com_233H_C_102_signed_20181015073821.pdf

Lusitano_27_34_Fed_Com_233H_Additional_points_20181015073836.pdf

Well work start Date: 01/17/2020 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 6423A

	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	1702	FWL	25S	31E	27	Aliquot NENW	32.1074927	-103.7689907	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 125635	3334	0	0
KOP Leg #1	150	FNL	1650	FWL	25S	31E	27	Aliquot NENW	32.108139	-103.769148	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 125635	-6373	9712	9707
PPP Leg #1	150	FNL	1650	FWL	25S	31E	27	Aliquot NENW	32.108139	-103.769148	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 125635	-6373	9712	9707

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

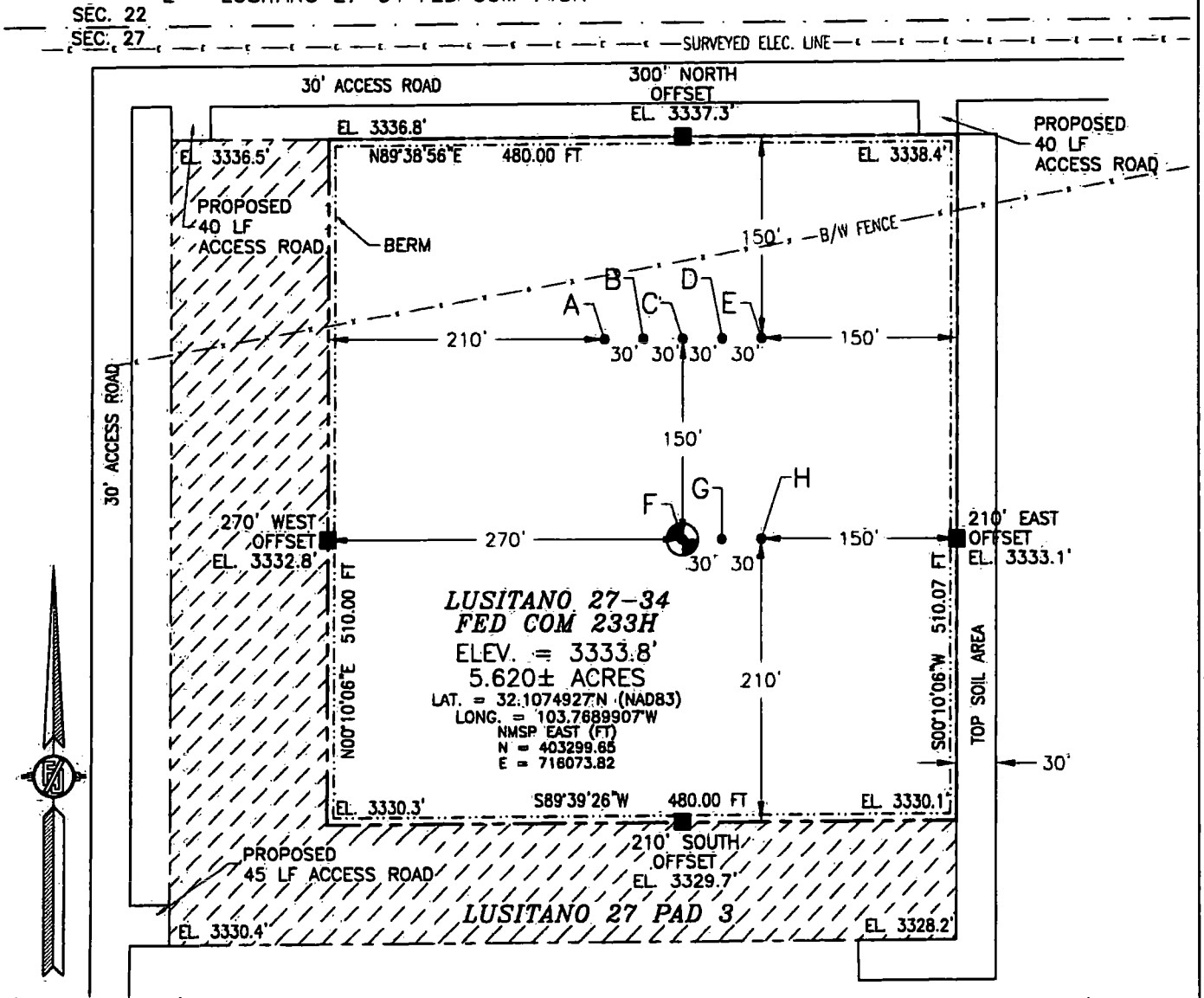
Well Name: LUSITANO 27-34 FED COM **Well Number:** 233H

	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	1650	FWL	25S	31E	34	Aliquot SESW	32.0794914	-103.7692786	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC061672A	-6946	20461	10280
BHL Leg #1	20	FSL	1650	FWL	25S	31E	34	Aliquot SESW	32.0794914	-103.7692786	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC061672A	-6946	20461	10280

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

NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83) LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE. VERTICAL DATUM NAVD88.

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



012 60 120 240
SCALE 1" = 120'

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.

DEVON ENERGY PRODUCTION COMPANY, L.P.
LUSITANO 27–34 FED COM 233H
LOCATED 385 FT. FROM THE NORTH LINE AND 1702 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

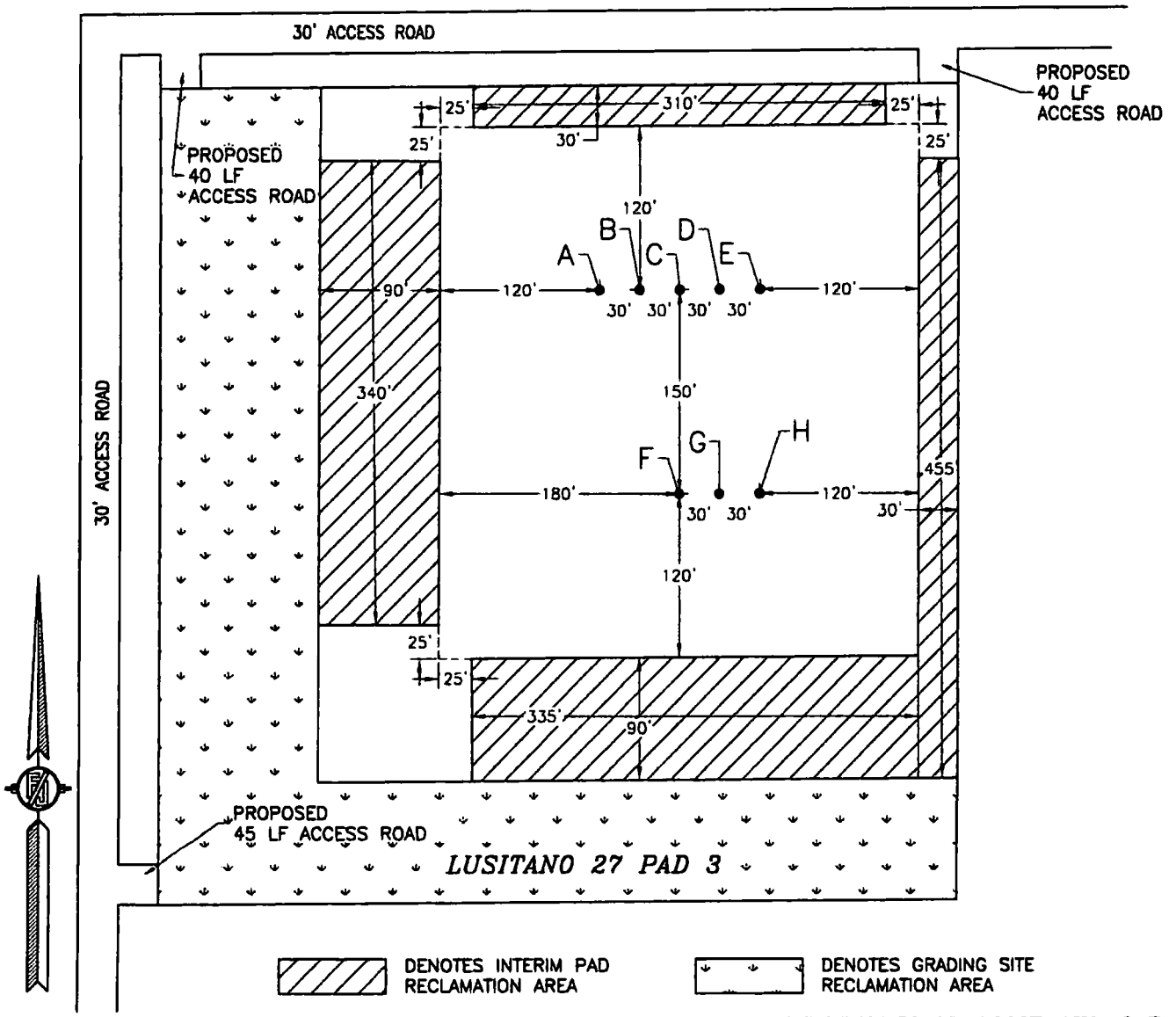
SEPTEMBER 27, 2018
SURVEY NO. 6423A

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
INTERIM SITE BUILD PLAN

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

SEC. 22
SEC. 27



DENOTES INTERIM PAD RECLAMATION AREA

DENOTES GRADING SITE RECLAMATION AREA

012 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

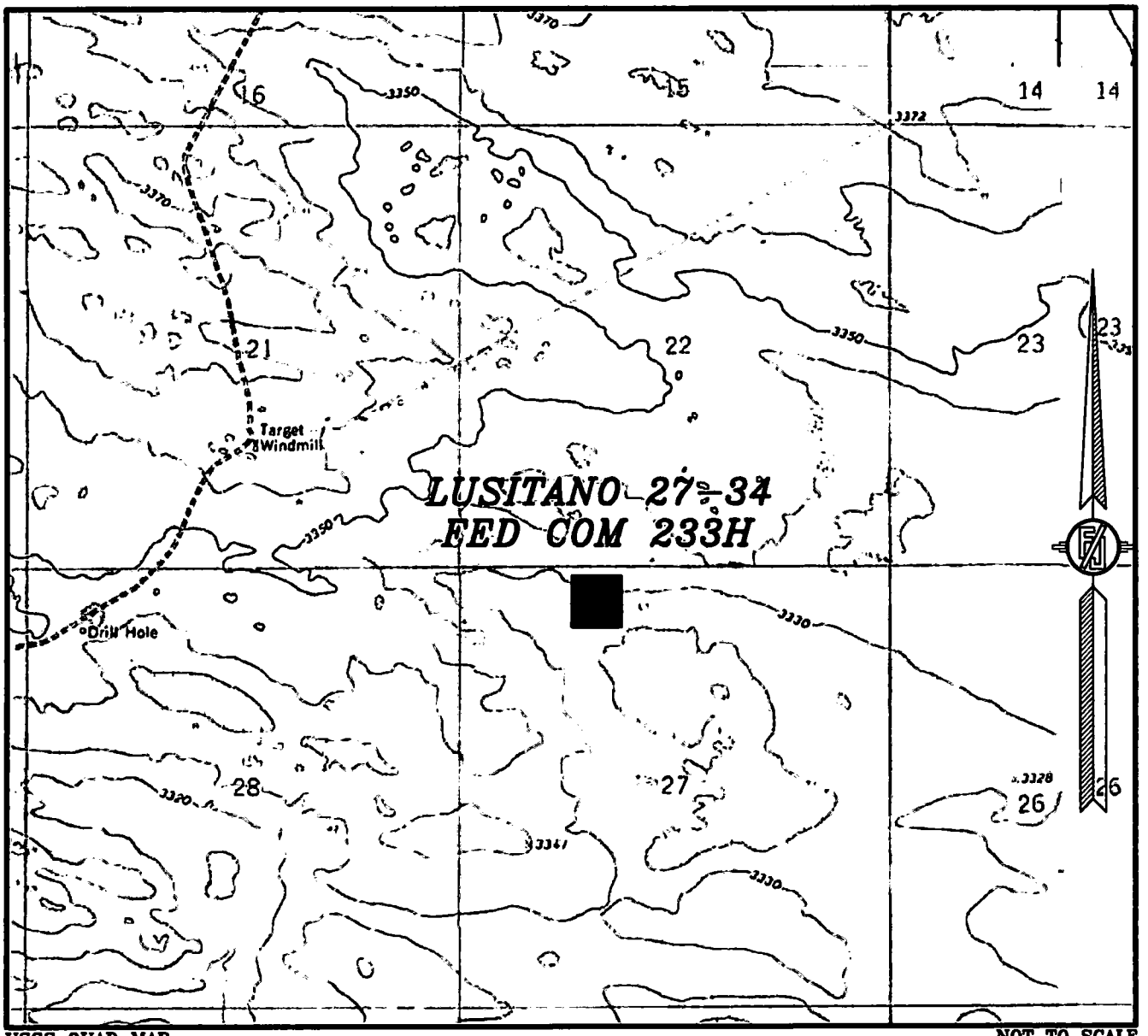
DEVON ENERGY PRODUCTION COMPANY, L.P.
LUSITANO 27-34 FED COM 233H
LOCATED 385 FT. FROM THE NORTH LINE AND 1702 FT. FROM THE WEST LINE OF SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

SEPTEMBER 27, 2018
SURVEY NO. 6423A

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 233H
LOCATED 385 FT. FROM THE NORTH LINE
AND 1702 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

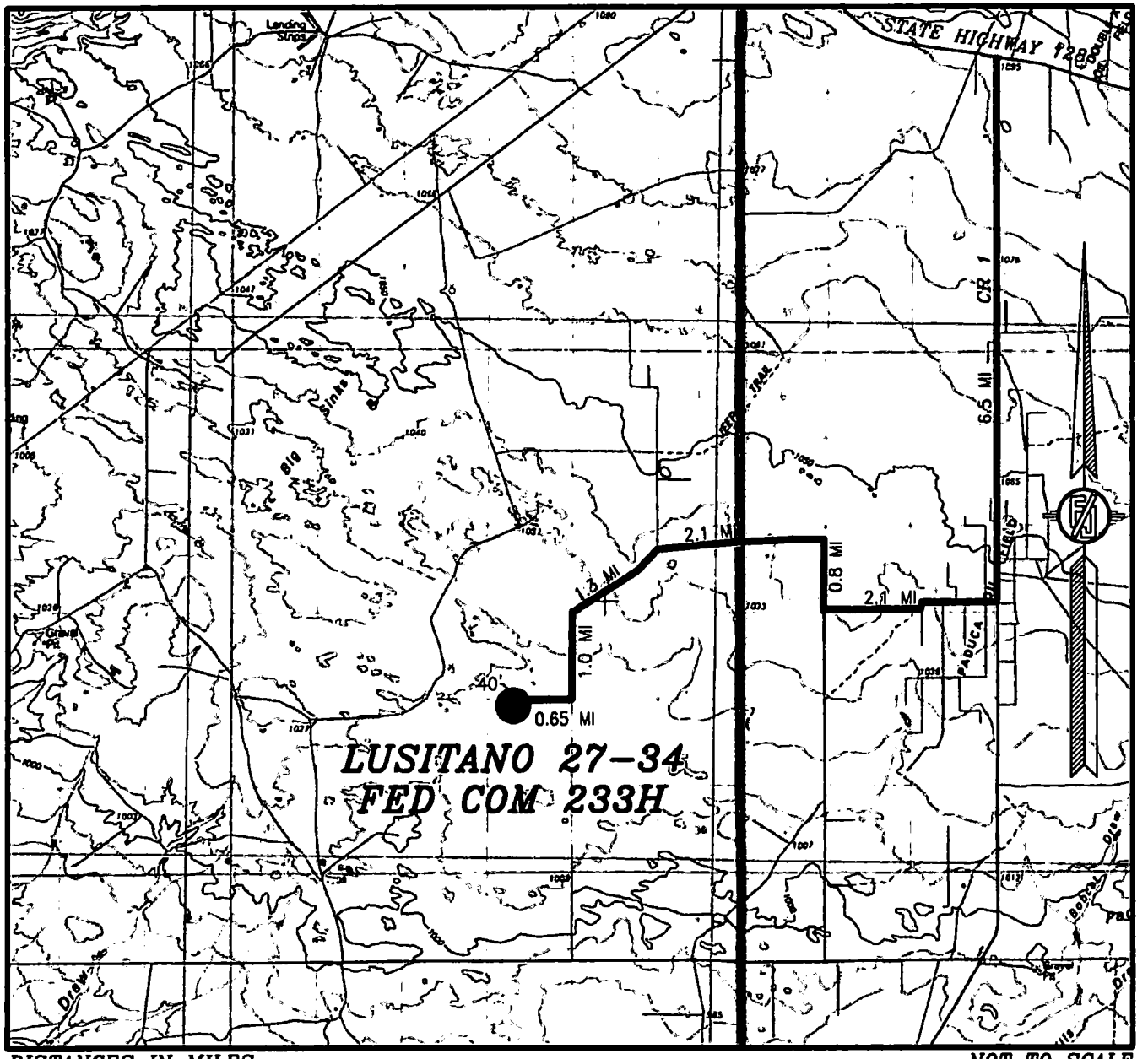
SEPTEMBER 27, 2018

SURVEY NO. 6423A

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 233H

LOCATED 385 FT. FROM THE NORTH LINE
AND 1702 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.

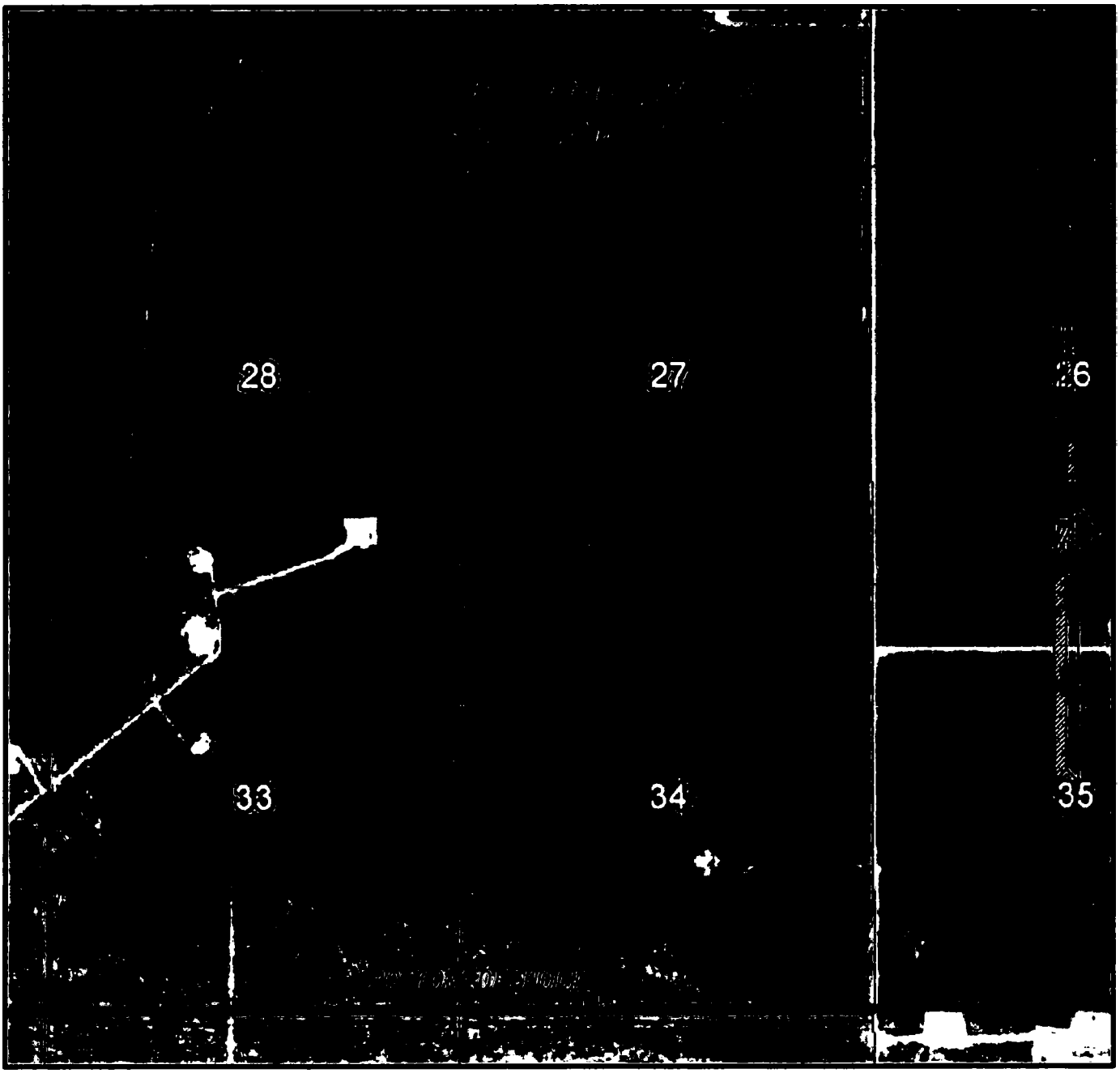
SEPTEMBER 27, 2018

SURVEY NO. 6423A

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 233H

LOCATED 385 FT. FROM THE NORTH LINE
AND 1702 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

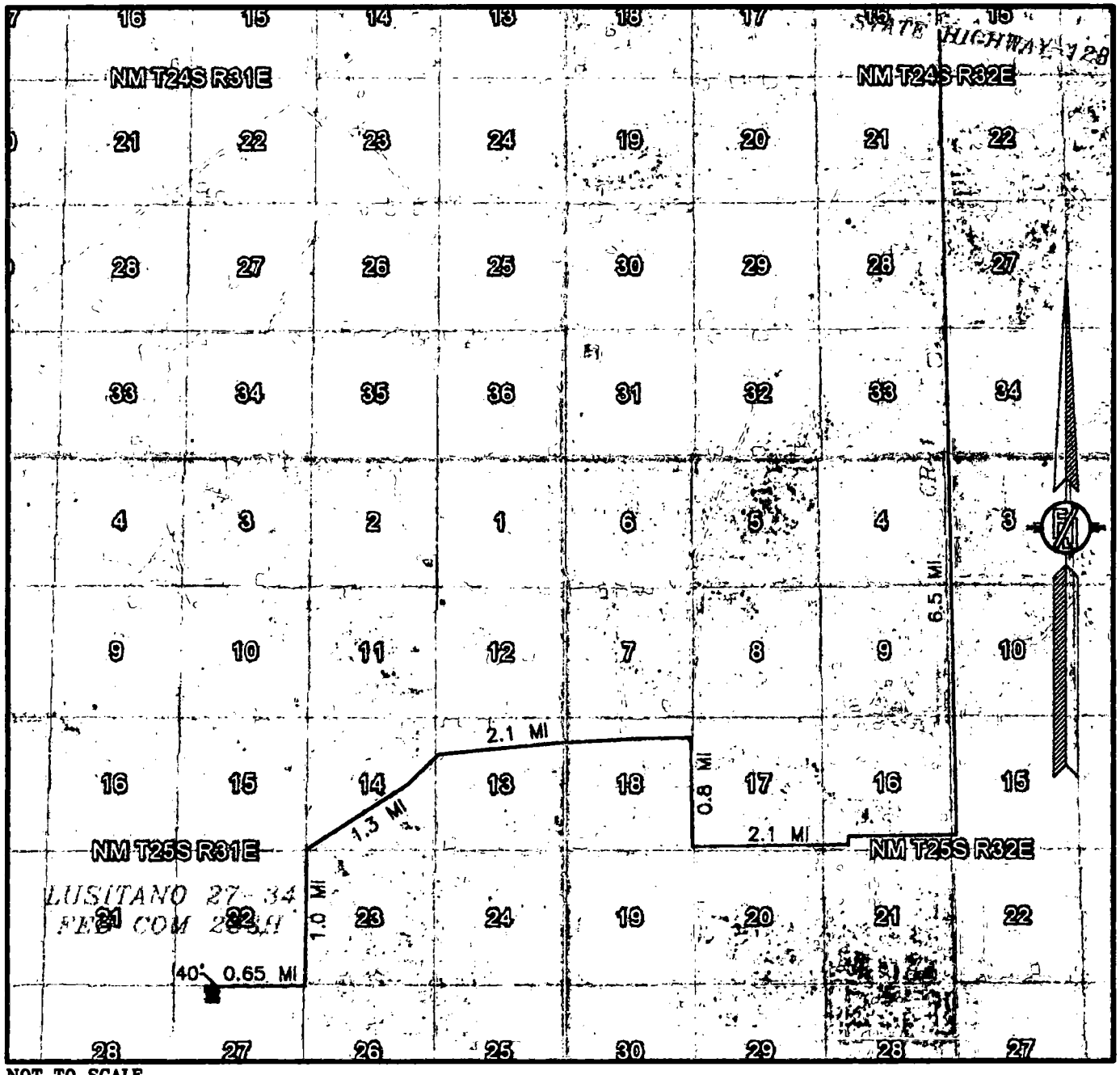
SEPTEMBER 27, 2018

SURVEY NO. 6423A

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

ACCESS AERIAL ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
NOVEMBER 2017

DEVON ENERGY PRODUCTION COMPANY, L.P.

LUSITANO 27-34 FED COM 233H

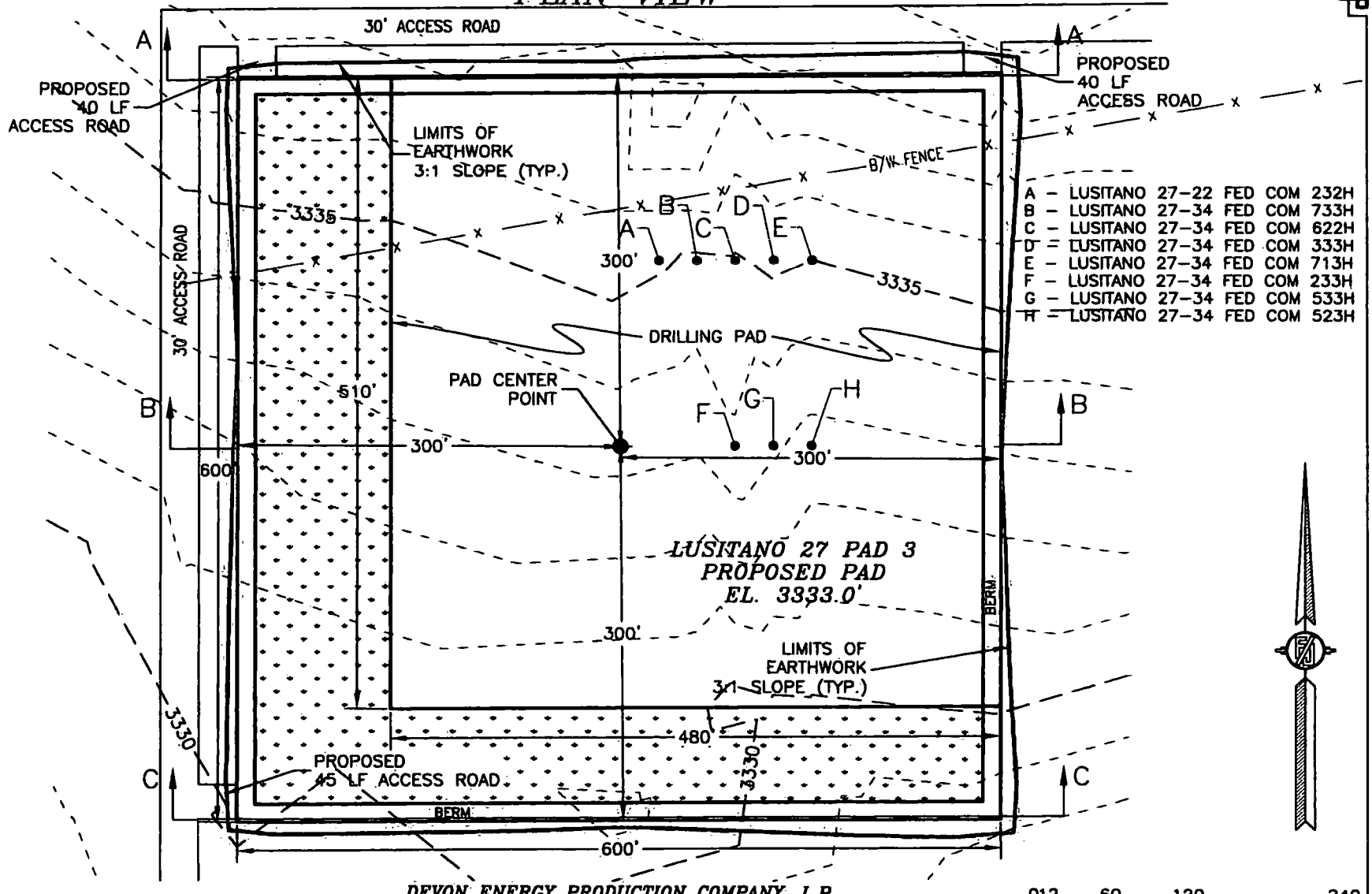
LOCATED 385 FT. FROM THE NORTH LINE
AND 1702 FT. FROM THE WEST LINE OF
SECTION 27, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

SEPTEMBER 27, 2018

SURVEY NO. 6423A

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

PLAN VIEW



SCALE 1" = 120'

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

EARTHWORK QUANTITIES ARE ESTIMATED

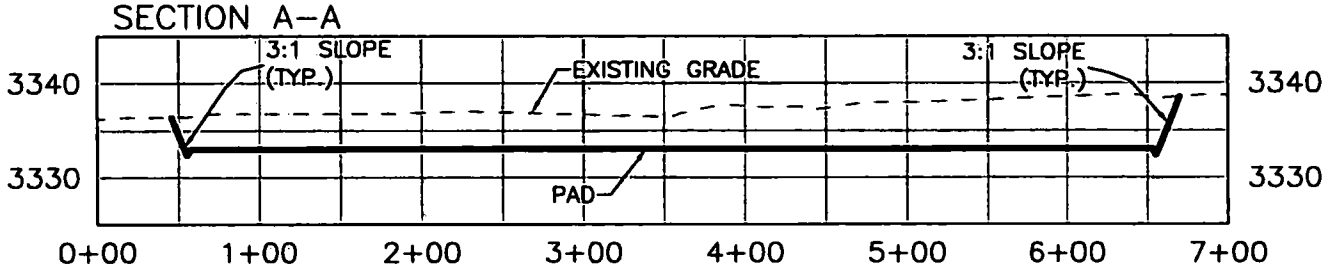
DEVON ENERGY PRODUCTION COMPANY, L.P.
GRADING PLAN AND CROSS SECTIONS
FOR LUSITANO 27-34 FED COM 233H
SECTION 27, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

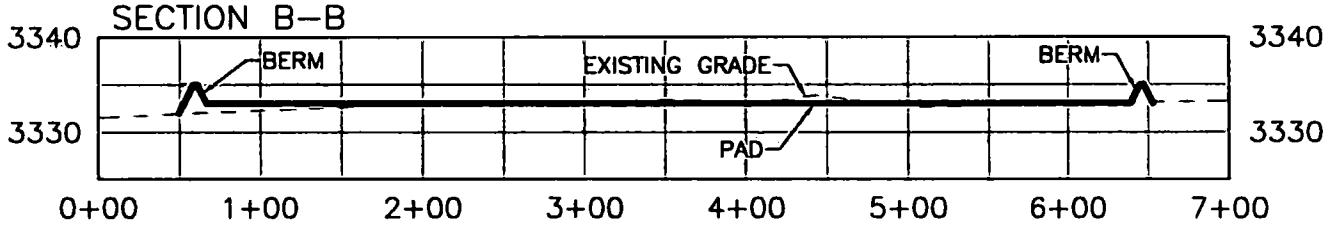
SEPTEMBER 27, 2018

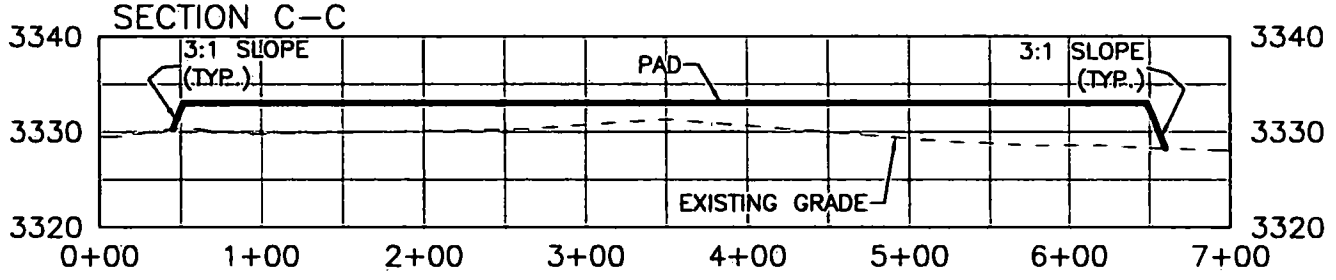
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 *CARLSBAD, NEW MEXICO*

SHEET 1-2
SURVEY NO. 6423A

CROSS SECTIONS







DEVON ENERGY PRODUCTION COMPANY, L.P.
GRADING PLAN AND CROSS SECTIONS
FOR LUSITANO 27–34 FED COM 233H
SECTION 27, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

SEPTEMBER 27, 2018

012 60 120 240
SCALE 1" = 120' – 1" = 20' VER

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

EARTHWORK QUANTITIES ARE ESTIMATED

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

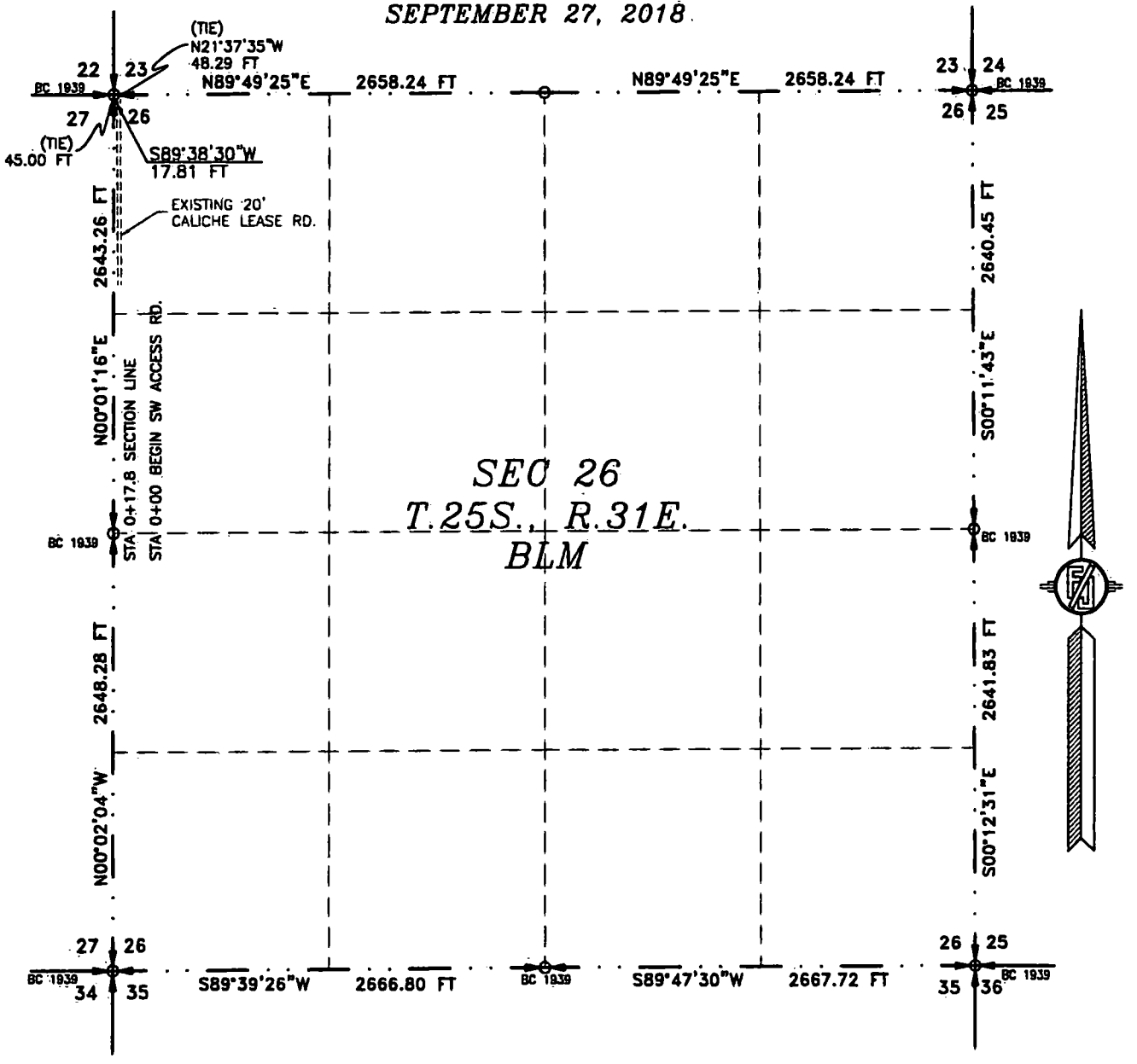
SHEET 2-2
SURVEY NO. 6423A

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

1000 0 1000
Scale: 1" = 1000'

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.

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 27 DAY OF SEPTEMBER 2018

FILIMON F. JARAMILLO PLS: 12797

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

SHEET: 1-4

SURVEY NO. 6423A

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.

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 29 DAY OF SEPTEMBER 2018

FILIMON F. JARAMILLO, PLS. 12797

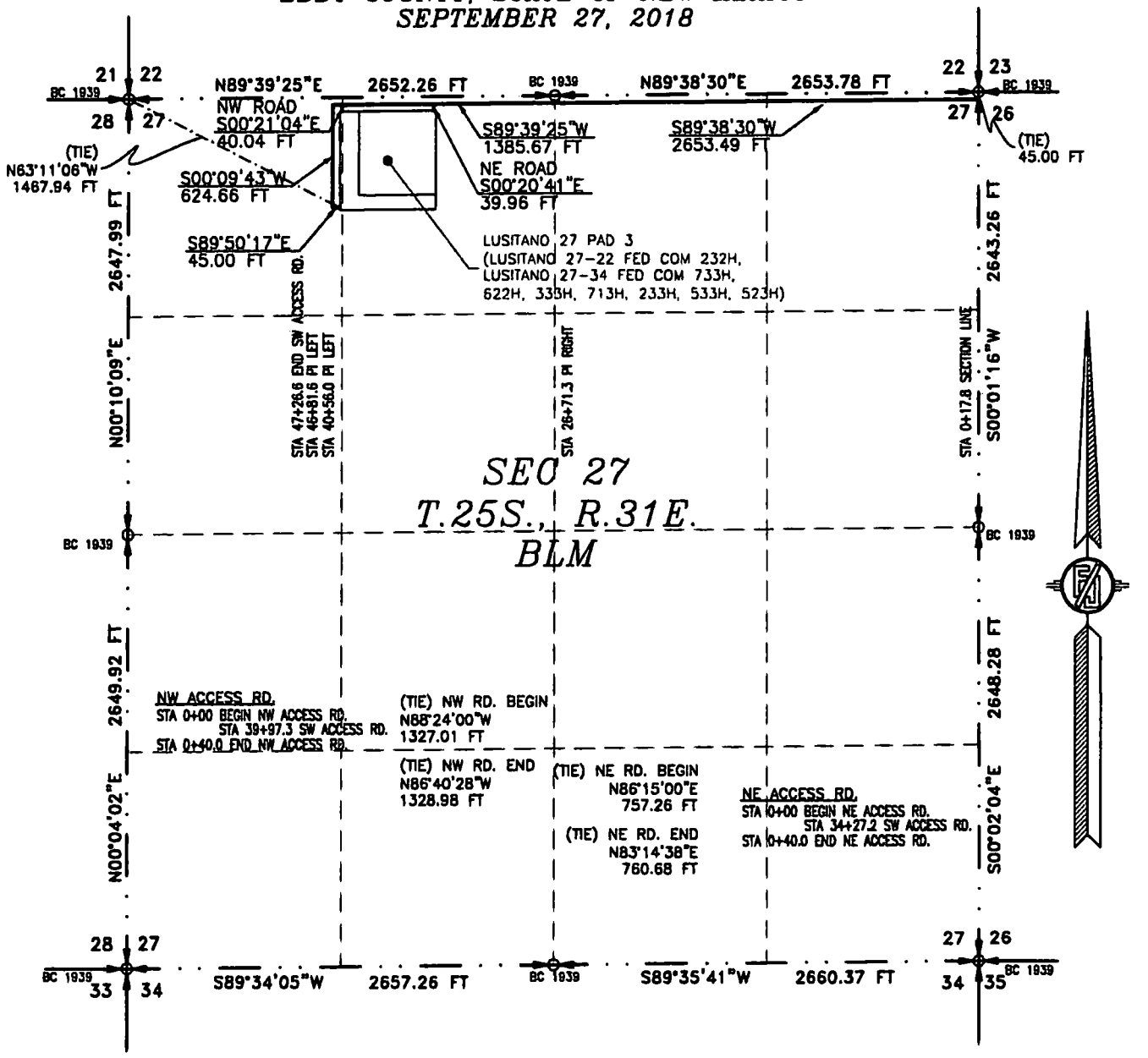
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

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



SEE NEXT SHEET (4-4) FOR DESCRIPTION

1000 0 1000
Scale: 1" = 1000'

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.

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 29 DAY OF SEPTEMBER 2018

FILIMON F. JARAMILLO PLS. 12797

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

SHEET: 3-4

SURVEY NO. 6423A

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

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.

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 27 DAY OF SEPTEMBER 2018

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

FILIMON F. JARAMILLO PLS 12797

301 SOUTH CANAL
(575) 234-3341

SHEET: 4-4

SURVEY NO. 6423A

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

APD ID: 10400035075 **Submission Date:** 10/16/2018

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM **Well Number:** 233H

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

Highlighted data reflects the most recent changes

Show Final Text

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	2542	862	862	LIMESTONE	NONE	No
3	BASE OF SALT	-823	4227	4227	SALT	NONE	No
4	DELAWARE	-878	4282	4282	SANDSTONE	NATURAL GAS,OIL	No
5	BONE SPRING	-6863	10267	10267	LIMESTONE	NATURAL GAS,OIL	Yes

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M **Rating Depth:** 4382

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_233H_3M_BOPE_CK_20181015075358.pdf

BOP Diagram Attachment:

Lusitano_27_34_Fed_Com_233H_3M_BOPE_CK_20181015075409.pdf

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM **Well Number:** 233H

Pressure Rating (PSI): 3M **Rating Depth:** 10280

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_233H_3M_BOPE_CK_20181015075517.pdf

BOP Diagram Attachment:

Lusitano_27_34_Fed_Com_233H_3M_BOPE_CK_20181015075526.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	887	0	887	-6993	-7781	887	H-40	48	STC	1.125	1	BUOY	1.6	BUOY	1.6
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4382	0	4382	-6993		4382	J-55	40	LTC	1.125	1	BUOY	1.6	BUOY	1.6
3	PRODUCTION	8.75	5.5	NEW	API	N	0	20461	0	10280	-6993	-17388	20461	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:** 233H

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_233H_SurfCsg_Ass_20181015080235.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_233H_Int_Csg_Ass_20181015080348.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_233H_ProdCasing_Ass_20181015080519.pdf

Section 4 - Cement

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM **Well Number:** 233H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	887	926	1.33	13.2	1232	100	C	Class C + adds
INTERMEDIATE	Lead		0	3882	688	1.94	9	1336	50	C	Class C + adds
INTERMEDIATE	Tail		3882	4382	196	1.33	13.2	261	50	C	Class C + adds
PRODUCTION	Lead		3882	9712	455	3.27	9	1642	10	TUNED	Class C + adds
PRODUCTION	Tail		9712	20461	1871	1.2	13.2	2731	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
887	4382	SALT SATURATED	10	10.5							

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM **Well Number:** 233H

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	887	WATER-BASED MUD	8.5	9							
4382	20461	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: 4811 **Anticipated Surface Pressure:** 2549.4

Anticipated Bottom Hole Temperature(F): 164

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Lusitano_27_34_Fed_Com_233H_H2S_Plan_20181010101837.pdf

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM **Well Number:** 233H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Lusitano_27_34_Fed_Com_233H_Dir_Plan_20181015082805.pdf

Lusitano_27_34_Fed_Com_233H_Anticollision_20181015082835.pdf

Lusitano_27_34_Fed_Com_233H_Survey_20181015082938.pdf

Other proposed operations facets description:

CLOSED LOOP DESIGN
GAS CAPTURE PLAN
DRILLING PLAN
MB VERB
MB WELLHD

Other proposed operations facets attachment:

Lusitano_27_34_Fed_Com_233H_Clsd_Loop_20181015082849.pdf

Lusitano_27_34_Fed_Com_233H_Gas_Capture_Plan_20181015082901.pdf

Lusitano_27_34_Fed_Com_233H_Drilling_Plan_20181015082926.pdf

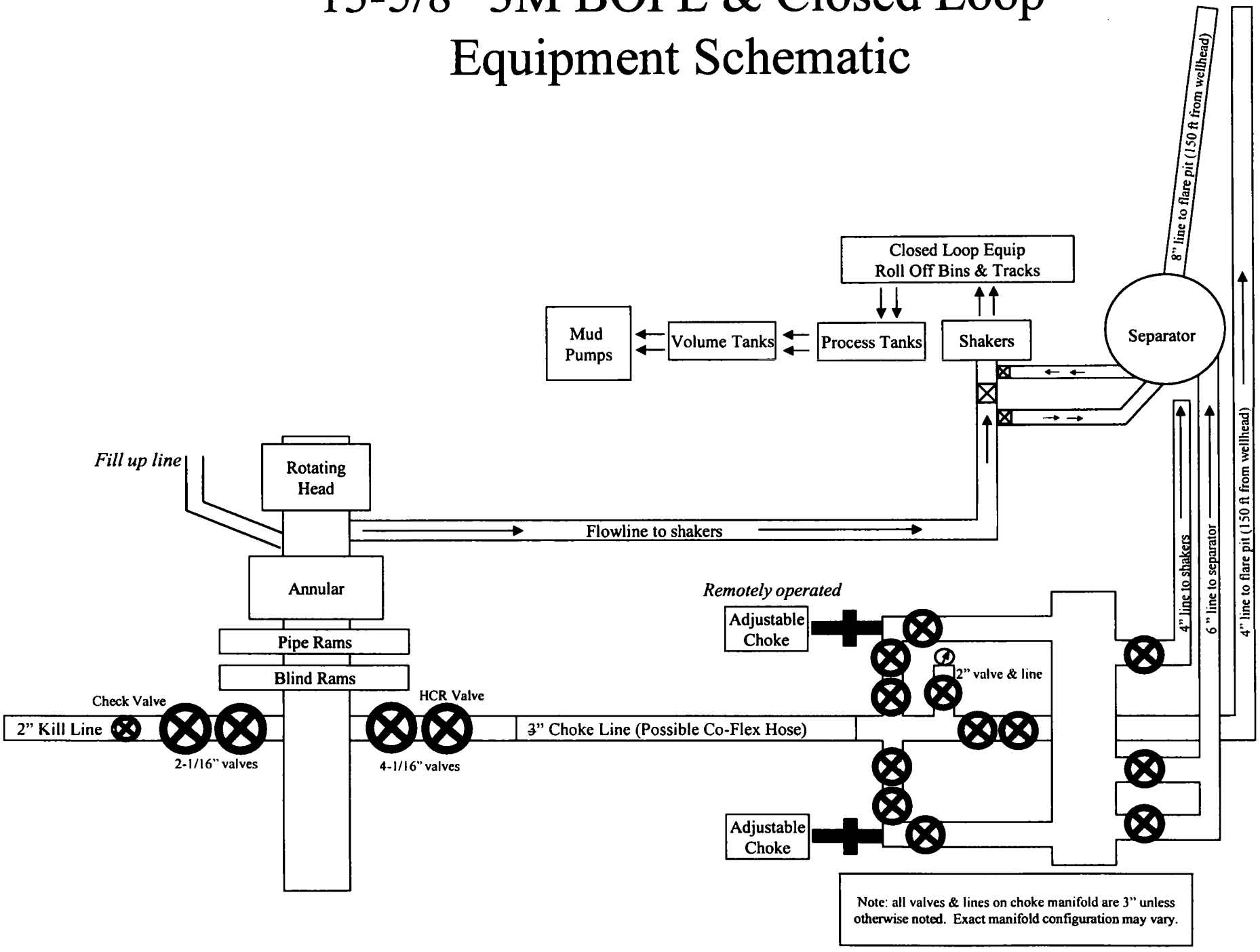
Lusitano_27_34_Fed_Com_233H_MB_Verb_20181015095114.pdf

Lusitano_27_34_Fed_Com_233H_MB_Wellhd_20181015095115.pdf

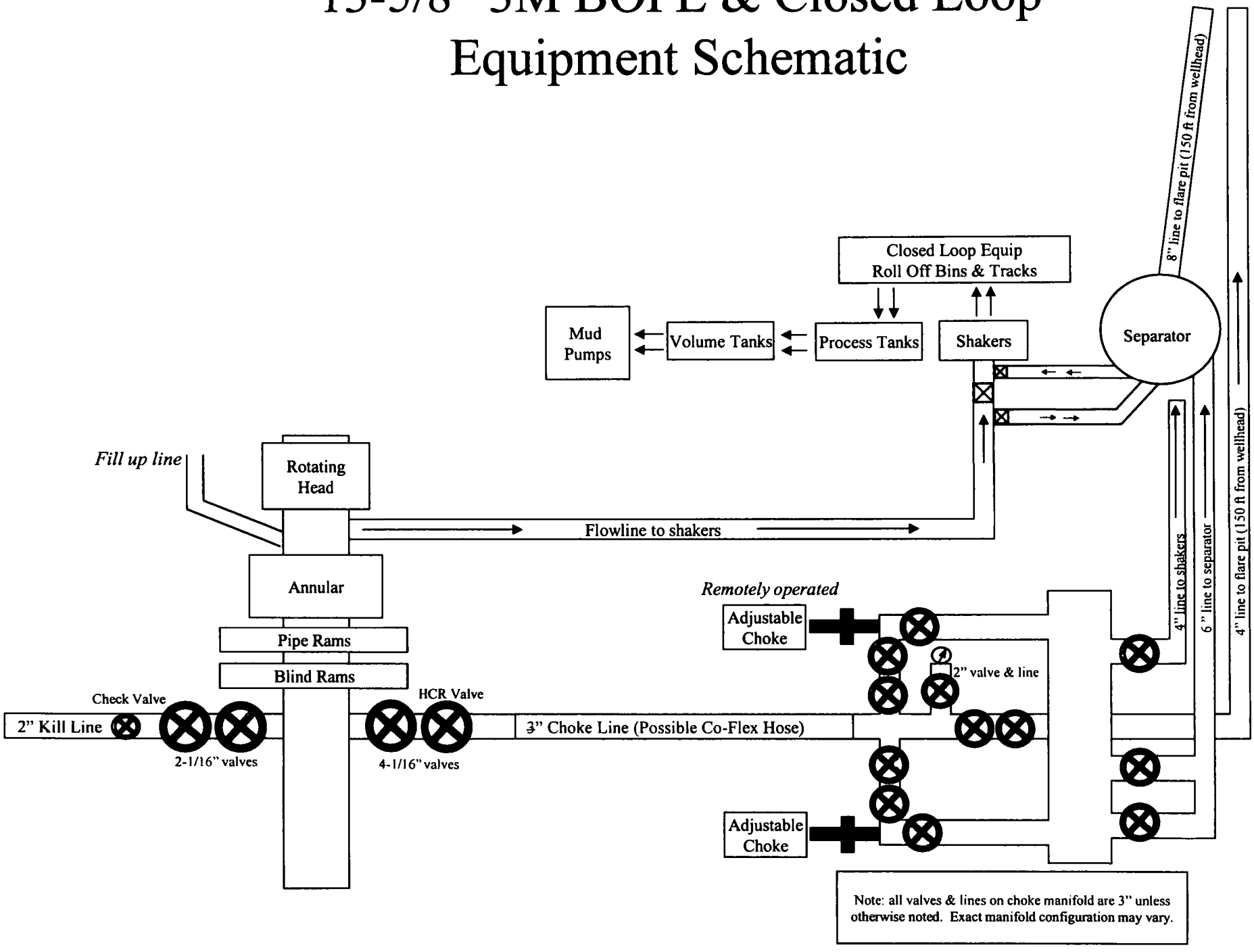
Other Variance attachment:

Lusitano_27_34_Fed_Com_233H_Co_flex_20181010101939.pdf

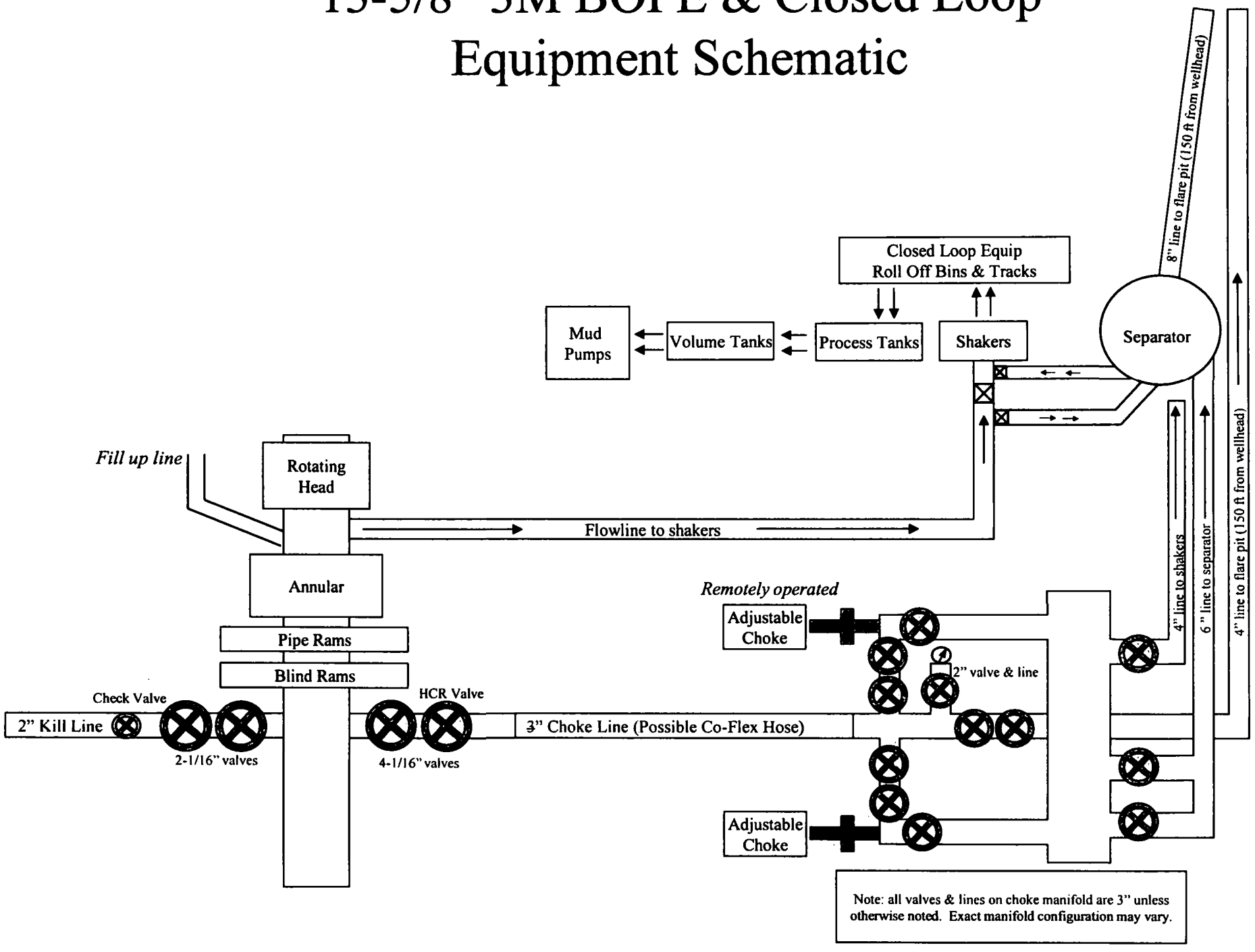
13-5/8" 3M BOPE & Closed Loop Equipment Schematic



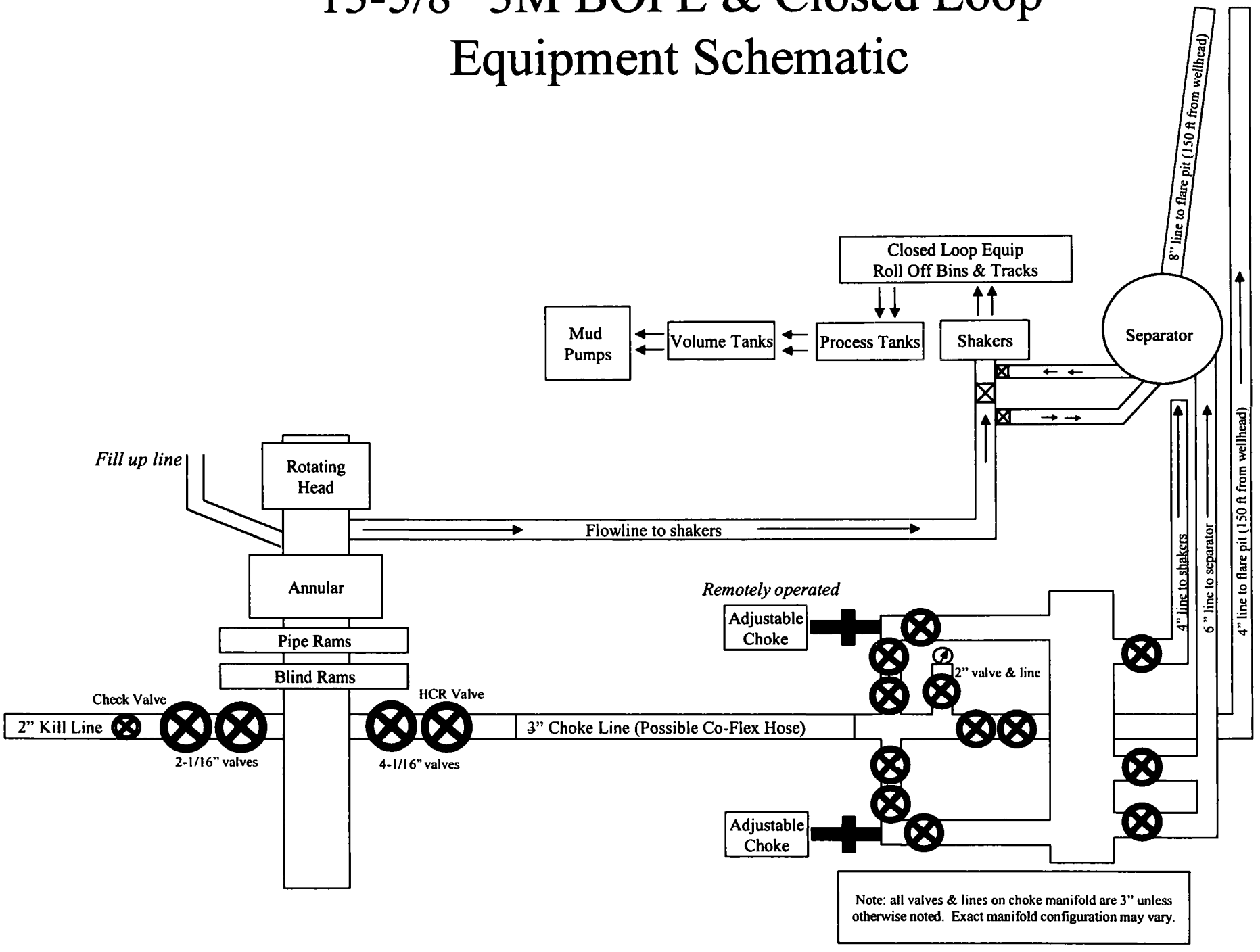
13-5/8" 3M BOPE & Closed Loop Equipment Schematic



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



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

Casing Assumptions and Load Cases

Production

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

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

Hydrogen Sulfide (H_2S) Contingency Plan

For

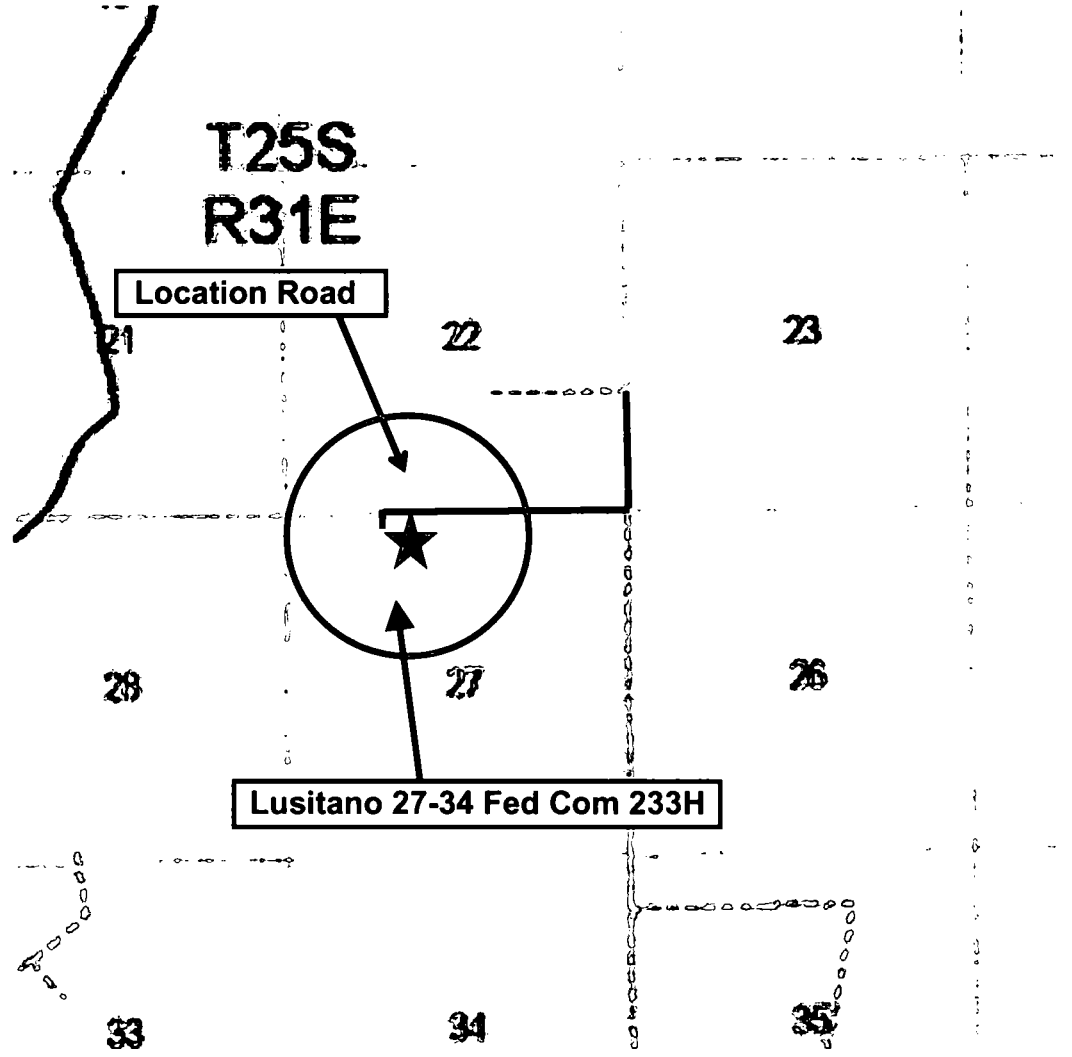
Lusitano 27-34 Fed Com 233H

Sec-27 T-25S R-31E
385' FNL & 1702' FWL
LAT. = 32.1074927' N (NAD83)
LONG = 103.7689907' W

Eddy County NM

Lusitano 27-34 Fed Com 233H

This is an open drilling site. H_2S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H_2S, including warning signs, wind indicators and H_2S 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 H_2S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H_2S, the first responder(s) must

- **Isolate the area and prevent entry by other persons into the 100 ppm ROE.**
- **Evacuate any public places encompassed by the 100 ppm ROE.**
- **Be equipped with H_2S 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 H_2S, 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 (SO_2). 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 H_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	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 (H_2S) 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 (H_2S)

2. The proper use and maintenance of personal protective equipment and life support systems.

3. The proper use of H_2S 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 H_2S 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 H_2S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H_2S zone (within 3 days or 500 feet) and weekly H_2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H_2S Drilling Operations Plan and the Public Protection Plan.

II. HYDROGEN SULFIDE TRAINING

Note: All H_2S 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 H_2S.

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. **H_2S detection and monitoring equipment:**

   Portable H_2S monitors positioned on location for best coverage and response. These units have warning lights which activate when H_2S levels reach 10 ppm and audible sirens which activate at 15 ppm. Sensor locations:

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

   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 H_2S circulated to surface. Proper mud weight, safe drilling practices and the use of H_2S scavengers will minimize hazards when penetrating H_2S bearing zones.

5. **Metallurgy:**

   A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold lines, and valves shall be H_2S trim.

   B. All elastomers used for packing and seals shall be H_2S 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 H_2S 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		
Lea County (575)	**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
Eddy County (575)	**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
Give GPS position:	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 SHARP communications and consulting

Devon Energy

Project: Eddy County, NM (NAD-83)
Site: Lusitano
Well: Lusitano 27-34 Fed Com 233H
Wellbore: OH
Design: Plan #1

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

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: 3333.8' GE + 23.5' KB @ 3357.30usft

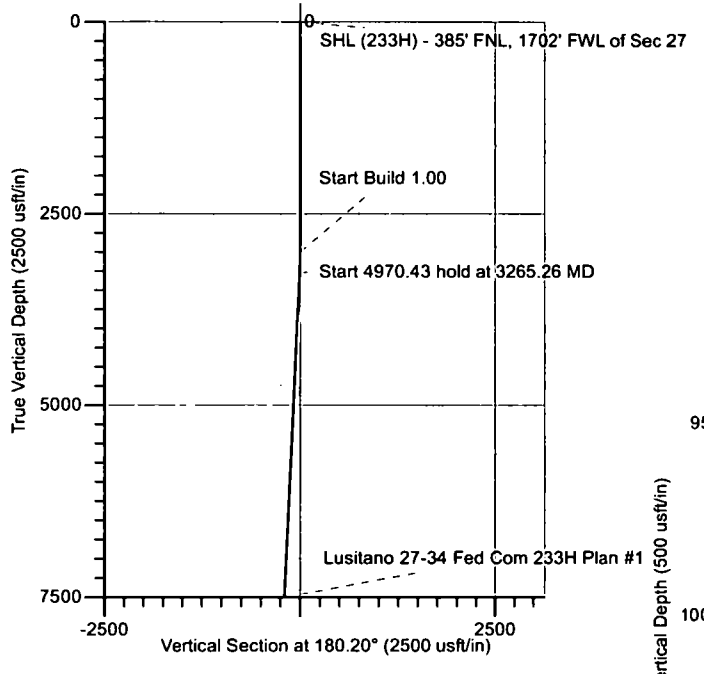
devon

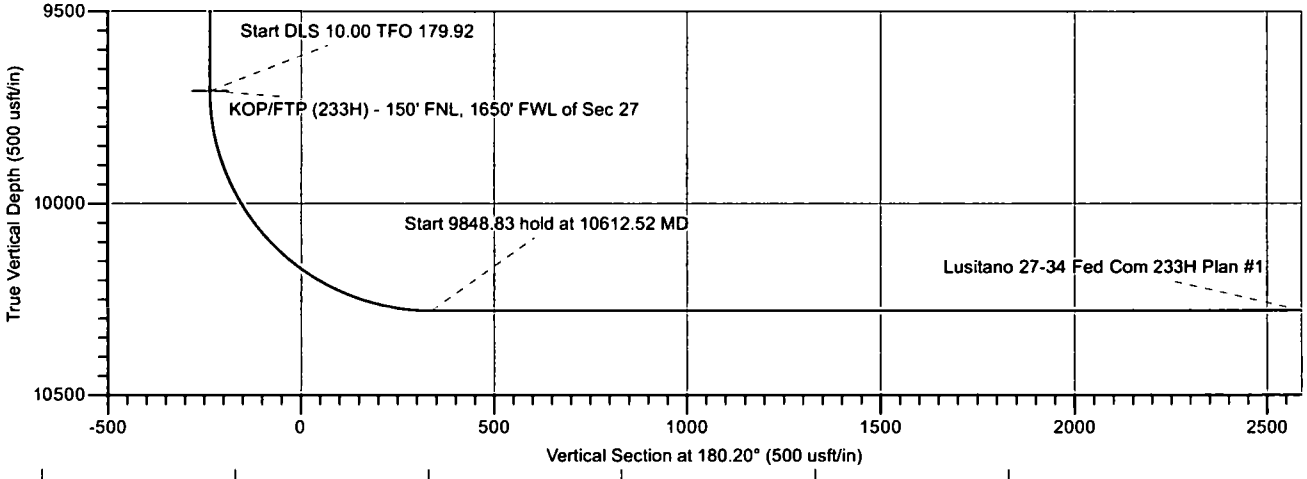
SECTION DETAILS

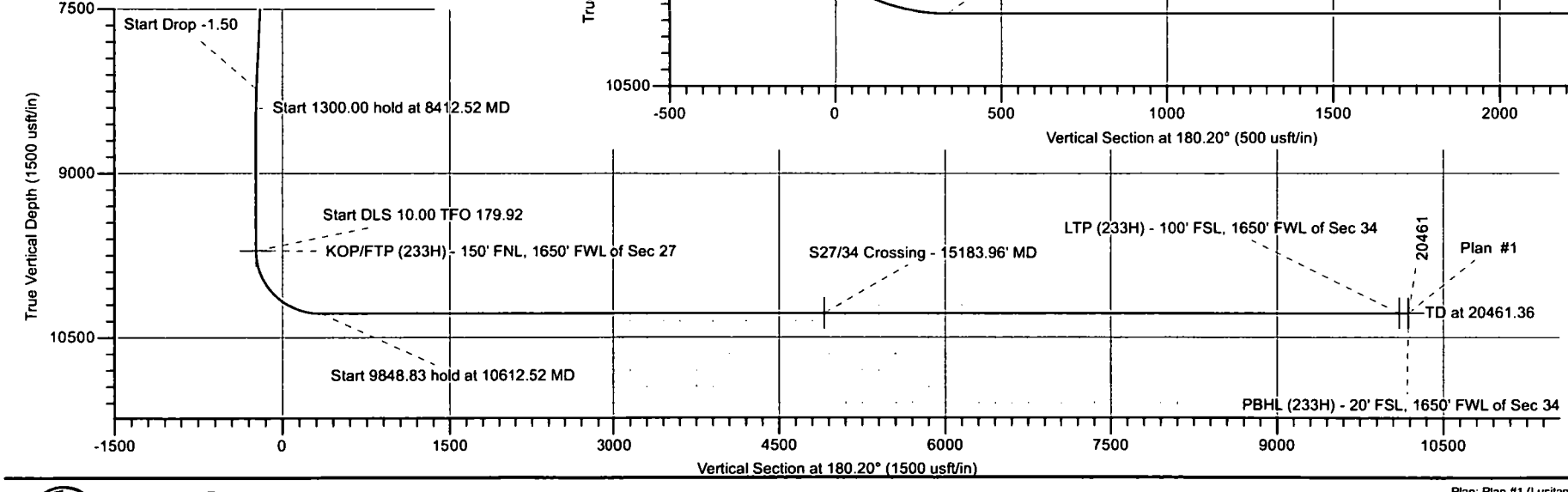
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3000.00	0.00	0.00	3000.00	0.00	0.00	0.00	0.00	0.00
3265.26	2.65	347.99	3265.16	6.00	-1.28	1.00	347.99	-6.00
8235.69	2.65	347.99	8230.27	231.00	-49.15	0.00	0.00	-230.82
8412.52	0.00	0.00	8407.04	235.00	-50.00	1.50	180.00	-234.82
9712.52	0.00	0.00	9707.04	235.00	-50.00	0.00	0.00	-234.82
10612.52	90.00	179.92	10280.00	-337.96	-49.22	10.00	179.92	338.13
20461.36	90.00	179.92	10280.00	-10186.78	-35.87	0.00	0.00	10186.84

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
KOP/FTP (233H)	9707.04	235.00	-50.00	403534.65	716023.82	32.10813933	-103.76914820
LTP (233H)	10280.00	-10106.78	-35.98	393192.87	716037.84	32.07971134	-103.76927762
PBHL (233H)	10280.00	-10186.78	-35.87	393112.87	716037.95	32.07949143	-103.76927862
S27/34 Crossing	10280.00	-4909.39	-43.03	398390.26	716030.79	32.09399820	-103.76921262
SHL (233H)	0.00	0.00	0.00	403299.65	716073.82	32.10749264	-103.76899069







LEAM Drilling Services

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 233H/OH)
Lusitano
Created By: Dustin Ault Date: 14:58, October 10 2018
Date: _____
Approved: _____ Date: _____

Devon Energy

Project: Eddy County, NM (NAD-83)
Site: Lusitano
Well: Lusitano 27-34 Fed Com 233H
Wellbore: OH
Design: Plan #1

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

T M

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

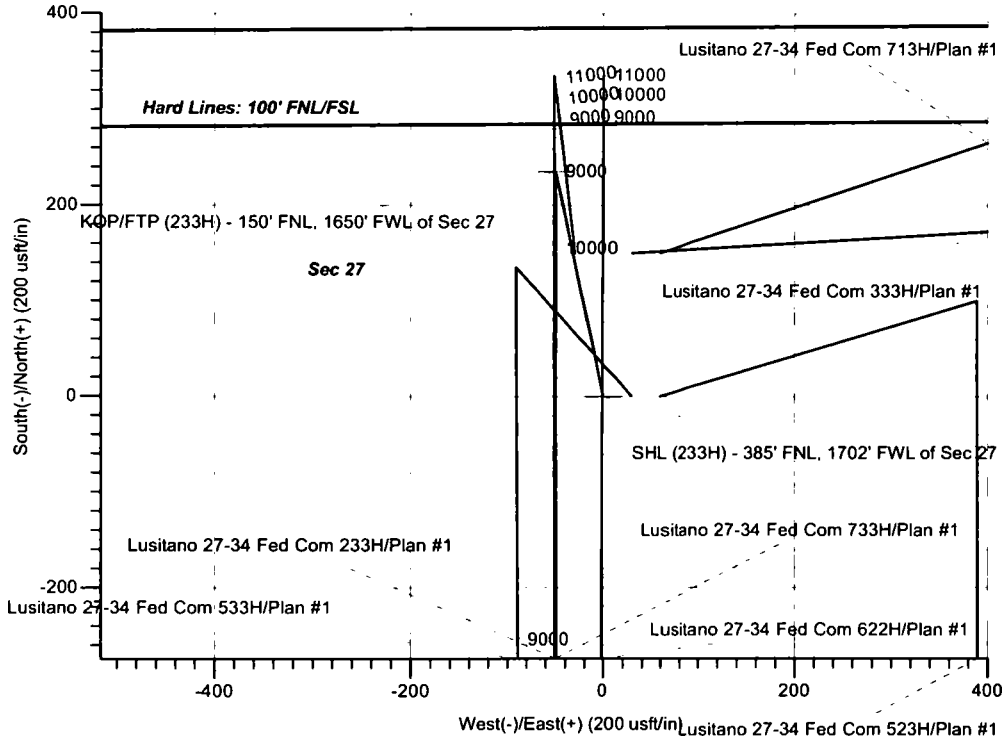
devon

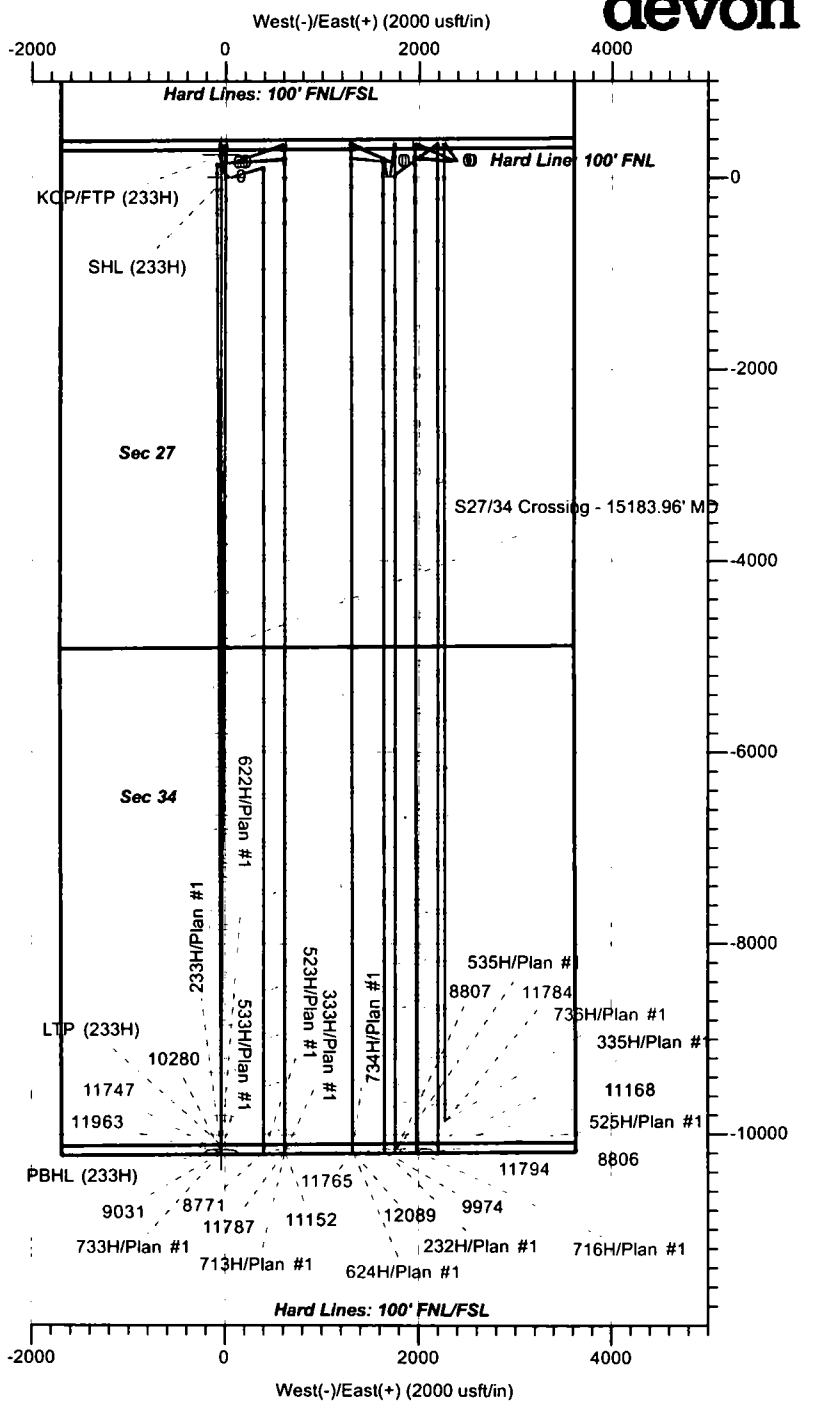
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
KOP/FTP (233H)	9707.04	235.00	-50.00	403534.65	716023.82	32.10813933	-103.76914820
LTP (233H)	10280.00	-10106.78	-35.98	393192.87	716037.84	32.07971134	-103.76927762
PBHL (233H)	10280.00	-10186.78	-35.87	393112.87	716037.95	32.07949143	-103.76927862
S27/34 Crossing	10280.00	-4909.39	-43.03	398390.26	716030.79	32.09399820	-103.76921262
SHL (233H)	0.00	0.00	0.00	403299.65	716073.82	32.10749264	-103.76899069

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
3000.00	0.00	0.00	3000.00	0.00	0.00	0.00	0.00	0.00
3265.26	2.65	347.99	3265.16	6.00	-1.28	1.00	347.99	-6.00
8235.69	2.65	347.99	8230.27	231.00	-49.15	0.00	0.00	-230.82
8412.52	0.00	0.00	8407.04	235.00	-50.00	1.50	180.00	-234.82
9712.52	0.00	0.00	9707.04	235.00	-50.00	0.00	0.00	-234.82
10612.52	90.00	179.92	10280.00	-337.96	-49.22	10.00	179.92	338.13
20461.36	90.00	179.92	10280.00	-10186.78	-35.87	0.00	0.00	10186.84





LEAM Drilling Services

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 233H/OH)
Lusitano
Created By: Dustin Ault Date: 14:59, October 10 2018
Date:
Approved: Date:

RECEIVED

JAN 14 2019

DISTRICT II-ARTESIA O.C.D.

Devon Energy

Eddy County, NM (NAD-83)
Lusitano
Lusitano 27-34 Fed Com 233H

OH

Plan: Plan #1

Standard Planning Report - Geographic

10 October, 2018

Database:	EDM 5000.1 Multi User Db	**Local Co-ordinate Reference:**	Well Lusitano 27-34 Fed Com 233H
Company:	Devon Energy	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Project:	Eddy County, NM (NAD-83)	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site:	Lusitano	**North Reference:**	Grid
Well:	Lusitano 27-34 Fed Com 233H	**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 233H				
Well Position	**+N/-S**	0.00 usft	**Northing:**	403,299.65 usft	**Latitude:**	32.10749264
	+E/-W	0.00 usft	**Easting:**	716,073.82 usft	**Longitude:**	-103.76899069
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,333.80 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) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**
	0.00	0.00	0.00	180.20

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,265.26	2.65	347.99	3,265.16	6.00	-1.28	1.00	1.00	0.00	347.99	
8,235.69	2.65	347.99	8,230.27	231.00	-49.15	0.00	0.00	0.00	0.00	
8,412.52	0.00	0.00	8,407.04	235.00	-50.00	1.50	-1.50	0.00	180.00	
9,712.52	0.00	0.00	9,707.04	235.00	-50.00	0.00	0.00	0.00	0.00	
10,612.52	90.00	179.92	10,280.00	-337.96	-49.22	10.00	10.00	19.99	179.92	
20,461.36	90.00	179.92	10,280.00	-10,186.78	-35.87	0.00	0.00	0.00	0.00	PBHL (233H) - 20' FS

Database:	EDM 5000.1 Multi User Db	**Local Co-ordinate Reference:**	Well Lusitano 27-34 Fed Com 233H
Company:	Devon Energy	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Project:	Eddy County, NM (NAD-83)	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site:	Lusitano	**North Reference:**	Grid
Well:	Lusitano 27-34 Fed Com 233H	**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	403,299.65	716,073.82	32.10749264	-103.76899069
SHL (233H) - 385' FNL, 1702' FWL of Sec 27									
100.00	0.00	0.00	100.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
200.00	0.00	0.00	200.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
300.00	0.00	0.00	300.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
400.00	0.00	0.00	400.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
500.00	0.00	0.00	500.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
600.00	0.00	0.00	600.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
700.00	0.00	0.00	700.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
800.00	0.00	0.00	800.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
900.00	0.00	0.00	900.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
1,000.00	0.00	0.00	1,000.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
1,100.00	0.00	0.00	1,100.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
1,200.00	0.00	0.00	1,200.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
1,300.00	0.00	0.00	1,300.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
1,400.00	0.00	0.00	1,400.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
1,500.00	0.00	0.00	1,500.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
1,600.00	0.00	0.00	1,600.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
1,700.00	0.00	0.00	1,700.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
1,800.00	0.00	0.00	1,800.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
1,900.00	0.00	0.00	1,900.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
2,000.00	0.00	0.00	2,000.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
2,100.00	0.00	0.00	2,100.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
2,200.00	0.00	0.00	2,200.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
2,300.00	0.00	0.00	2,300.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
2,400.00	0.00	0.00	2,400.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
2,500.00	0.00	0.00	2,500.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
2,600.00	0.00	0.00	2,600.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
2,700.00	0.00	0.00	2,700.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
2,800.00	0.00	0.00	2,800.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
2,900.00	0.00	0.00	2,900.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
3,000.00	0.00	0.00	3,000.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
3,100.00	1.00	347.99	3,099.99	0.85	-0.18	403,300.50	716,073.63	32.10749498	-103.76899126
3,200.00	2.00	347.99	3,199.96	3.41	-0.73	403,303.06	716,073.09	32.10750203	-103.76899298
3,265.26	2.65	347.99	3,265.16	6.00	-1.28	403,305.65	716,072.54	32.10750916	-103.76899472
3,300.00	2.65	347.99	3,299.87	7.58	-1.61	403,307.23	716,072.20	32.10751349	-103.76899577
3,400.00	2.65	347.99	3,399.76	12.10	-2.58	403,311.75	716,071.24	32.10752594	-103.76899880
3,500.00	2.65	347.99	3,499.65	16.63	-3.54	403,316.28	716,070.28	32.10753840	-103.76900184
3,600.00	2.65	347.99	3,599.55	21.16	-4.50	403,320.81	716,069.31	32.10755086	-103.76900487
3,700.00	2.65	347.99	3,699.44	25.68	-5.46	403,325.33	716,068.35	32.10756331	-103.76900790
3,800.00	2.65	347.99	3,799.33	30.21	-6.43	403,329.86	716,067.39	32.10757577	-103.76901094
3,900.00	2.65	347.99	3,899.23	34.74	-7.39	403,334.39	716,066.43	32.10758823	-103.76901397
4,000.00	2.65	347.99	3,999.12	39.26	-8.35	403,338.91	716,065.46	32.10760068	-103.76901701
4,100.00	2.65	347.99	4,099.01	43.79	-9.32	403,343.44	716,064.50	32.10761314	-103.76902004
4,200.00	2.65	347.99	4,198.90	48.32	-10.28	403,347.97	716,063.54	32.10762560	-103.76902307
4,300.00	2.65	347.99	4,298.80	52.84	-11.24	403,352.49	716,062.57	32.10763805	-103.76902611
4,400.00	2.65	347.99	4,398.69	57.37	-12.21	403,357.02	716,061.61	32.10765051	-103.76902914
4,500.00	2.65	347.99	4,498.58	61.90	-13.17	403,361.55	716,060.65	32.10766297	-103.76903218
4,600.00	2.65	347.99	4,598.48	66.42	-14.13	403,366.07	716,059.68	32.10767542	-103.76903521
4,700.00	2.65	347.99	4,698.37	70.95	-15.10	403,370.60	716,058.72	32.10768788	-103.76903824
4,800.00	2.65	347.99	4,798.26	75.48	-16.06	403,375.13	716,057.76	32.10770034	-103.76904128
4,900.00	2.65	347.99	4,898.15	80.00	-17.02	403,379.65	716,056.79	32.10771280	-103.76904431
5,000.00	2.65	347.99	4,998.05	84.53	-17.99	403,384.18	716,055.83	32.10772525	-103.76904735
5,100.00	2.65	347.99	5,097.94	89.06	-18.95	403,388.71	716,054.87	32.10773771	-103.76905038

Database:	EDM 5000.1 Multi User Db	**Local Co-ordinate Reference:**	Well Lusitano 27-34 Fed Com 233H
Company:	Devon Energy	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Project:	Eddy County, NM (NAD-83)	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site:	Lusitano	**North Reference:**	Grid
Well:	Lusitano 27-34 Fed Com 233H	**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	2.65	347.99	5,197.83	93.58	-19.91	403,393.23	716,053.90	32.10775017	-103.76905341
5,300.00	2.65	347.99	5,297.73	98.11	-20.87	403,397.76	716,052.94	32.10776262	-103.76905645
5,400.00	2.65	347.99	5,397.62	102.64	-21.84	403,402.29	716,051.98	32.10777508	-103.76905948
5,500.00	2.65	347.99	5,497.51	107.16	-22.80	403,406.81	716,051.02	32.10778754	-103.76906251
5,600.00	2.65	347.99	5,597.40	111.69	-23.76	403,411.34	716,050.05	32.10779999	-103.76906555
5,700.00	2.65	347.99	5,697.30	116.22	-24.73	403,415.87	716,049.09	32.10781245	-103.76906858
5,800.00	2.65	347.99	5,797.19	120.74	-25.69	403,420.39	716,048.13	32.10782491	-103.76907162
5,900.00	2.65	347.99	5,897.08	125.27	-26.65	403,424.92	716,047.16	32.10783736	-103.76907465
6,000.00	2.65	347.99	5,996.98	129.80	-27.62	403,429.45	716,046.20	32.10784982	-103.76907768
6,100.00	2.65	347.99	6,096.87	134.32	-28.58	403,433.97	716,045.24	32.10786228	-103.76908072
6,200.00	2.65	347.99	6,196.76	138.85	-29.54	403,438.50	716,044.27	32.10787473	-103.76908375
6,300.00	2.65	347.99	6,296.65	143.38	-30.51	403,443.02	716,043.31	32.10788719	-103.76908679
6,400.00	2.65	347.99	6,396.55	147.90	-31.47	403,447.55	716,042.35	32.10789965	-103.76908982
6,500.00	2.65	347.99	6,496.44	152.43	-32.43	403,452.08	716,041.38	32.10791210	-103.76909285
6,600.00	2.65	347.99	6,596.33	156.96	-33.39	403,456.60	716,040.42	32.10792456	-103.76909589
6,700.00	2.65	347.99	6,696.23	161.48	-34.36	403,461.13	716,039.46	32.10793702	-103.76909892
6,800.00	2.65	347.99	6,796.12	166.01	-35.32	403,465.66	716,038.49	32.10794947	-103.76910196
6,900.00	2.65	347.99	6,896.01	170.54	-36.28	403,470.18	716,037.53	32.10796193	-103.76910499
7,000.00	2.65	347.99	6,995.90	175.06	-37.25	403,474.71	716,036.57	32.10797439	-103.76910802
7,100.00	2.65	347.99	7,095.80	179.59	-38.21	403,479.24	716,035.61	32.10798684	-103.76911106
7,200.00	2.65	347.99	7,195.69	184.12	-39.17	403,483.76	716,034.64	32.10799930	-103.76911409
7,300.00	2.65	347.99	7,295.58	188.64	-40.14	403,488.29	716,033.68	32.10801176	-103.76911712
7,400.00	2.65	347.99	7,395.48	193.17	-41.10	403,492.82	716,032.72	32.10802421	-103.76912016
7,500.00	2.65	347.99	7,495.37	197.70	-42.06	403,497.34	716,031.75	32.10803667	-103.76912319
7,600.00	2.65	347.99	7,595.26	202.22	-43.03	403,501.87	716,030.79	32.10804913	-103.76912623
7,700.00	2.65	347.99	7,695.15	206.75	-43.99	403,506.40	716,029.83	32.10806158	-103.76912926
7,800.00	2.65	347.99	7,795.05	211.28	-44.95	403,510.92	716,028.86	32.10807404	-103.76913229
7,900.00	2.65	347.99	7,894.94	215.80	-45.92	403,515.45	716,027.90	32.10808650	-103.76913533
8,000.00	2.65	347.99	7,994.83	220.33	-46.88	403,519.98	716,026.94	32.10809895	-103.76913836
8,100.00	2.65	347.99	8,094.73	224.85	-47.84	403,524.50	716,025.97	32.10811141	-103.76914140
8,200.00	2.65	347.99	8,194.62	229.38	-48.80	403,529.03	716,025.01	32.10812387	-103.76914443
8,235.69	2.65	347.99	8,230.27	231.00	-49.15	403,530.65	716,024.67	32.10812831	-103.76914551
8,300.00	1.69	347.99	8,294.53	233.38	-49.66	403,533.03	716,024.16	32.10813487	-103.76914711
8,400.00	0.19	347.99	8,394.52	234.98	-50.00	403,534.63	716,023.82	32.10813927	-103.76914818
8,412.52	0.00	0.00	8,407.04	235.00	-50.00	403,534.65	716,023.82	32.10813933	-103.76914820
8,500.00	0.00	0.00	8,494.52	235.00	-50.00	403,534.65	716,023.82	32.10813933	-103.76914820
8,600.00	0.00	0.00	8,594.52	235.00	-50.00	403,534.65	716,023.82	32.10813933	-103.76914820
8,700.00	0.00	0.00	8,694.52	235.00	-50.00	403,534.65	716,023.82	32.10813933	-103.76914820
8,800.00	0.00	0.00	8,794.52	235.00	-50.00	403,534.65	716,023.82	32.10813933	-103.76914820
8,900.00	0.00	0.00	8,894.52	235.00	-50.00	403,534.65	716,023.82	32.10813933	-103.76914820
9,000.00	0.00	0.00	8,994.52	235.00	-50.00	403,534.65	716,023.82	32.10813933	-103.76914820
9,100.00	0.00	0.00	9,094.52	235.00	-50.00	403,534.65	716,023.82	32.10813933	-103.76914820
9,200.00	0.00	0.00	9,194.52	235.00	-50.00	403,534.65	716,023.82	32.10813933	-103.76914820
9,300.00	0.00	0.00	9,294.52	235.00	-50.00	403,534.65	716,023.82	32.10813933	-103.76914820
9,400.00	0.00	0.00	9,394.52	235.00	-50.00	403,534.65	716,023.82	32.10813933	-103.76914820
9,500.00	0.00	0.00	9,494.52	235.00	-50.00	403,534.65	716,023.82	32.10813933	-103.76914820
9,600.00	0.00	0.00	9,594.52	235.00	-50.00	403,534.65	716,023.82	32.10813933	-103.76914820
9,700.00	0.00	0.00	9,694.52	235.00	-50.00	403,534.65	716,023.82	32.10813933	-103.76914820
9,712.52	0.00	0.00	9,707.04	235.00	-50.00	403,534.65	716,023.82	32.10813933	-103.76914820
KOP/FTP (233H) - 150' FNL, 1650' FWL of Sec 27									
9,750.00	3.75	179.92	9,744.49	233.77	-50.00	403,533.42	716,023.82	32.10813596	-103.76914821
9,800.00	8.75	179.92	9,794.18	228.34	-49.99	403,527.98	716,023.83	32.10812101	-103.76914828
9,850.00	13.75	179.92	9,843.20	218.59	-49.98	403,518.23	716,023.84	32.10809421	-103.76914840
9,900.00	18.75	179.92	9,891.19	204.60	-49.96	403,504.25	716,023.86	32.10805577	-103.76914858

Database:	EDM 5000.1 Multi User Db	**Local Co-ordinate Reference:**	Well Lusitano 27-34 Fed Com 233H
Company:	Devon Energy	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Project:	Eddy County, NM (NAD-83)	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site:	Lusitano	**North Reference:**	Grid
Well:	Lusitano 27-34 Fed Com 233H	**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
9,950.00	23.75	179.92	9,937.78	186.49	-49.93	403,486.14	716,023.88	32.10800597	-103.76914880
10,000.00	28.75	179.92	9,982.61	164.38	-49.90	403,464.03	716,023.91	32.10794521	-103.76914908
10,050.00	33.75	179.92	10,025.34	138.45	-49.87	403,438.10	716,023.95	32.10787393	-103.76914941
10,100.00	38.75	179.92	10,065.65	108.90	-49.83	403,408.55	716,023.99	32.10779269	-103.76914978
10,150.00	43.75	179.92	10,103.23	75.94	-49.78	403,375.59	716,024.03	32.10770210	-103.76915019
10,200.00	48.75	179.92	10,137.80	39.84	-49.74	403,339.49	716,024.08	32.10760286	-103.76915064
10,250.00	53.75	179.92	10,169.09	0.86	-49.68	403,300.51	716,024.13	32.10749571	-103.76915113
10,300.00	58.75	179.92	10,196.86	-40.70	-49.63	403,258.95	716,024.19	32.10738147	-103.76915165
10,350.00	63.75	179.92	10,220.90	-84.52	-49.57	403,215.13	716,024.25	32.10726101	-103.76915220
10,400.00	68.75	179.92	10,241.03	-130.27	-49.50	403,169.38	716,024.31	32.10713525	-103.76915277
10,450.00	73.75	179.92	10,257.10	-177.60	-49.44	403,122.04	716,024.38	32.10700514	-103.76915336
10,500.00	78.75	179.92	10,268.98	-226.16	-49.37	403,073.49	716,024.44	32.10687168	-103.76915397
10,550.00	83.75	179.92	10,276.59	-275.56	-49.31	403,024.09	716,024.51	32.10673589	-103.76915459
10,600.00	88.75	179.92	10,279.86	-325.43	-49.24	402,974.21	716,024.58	32.10659878	-103.76915521
10,612.52	90.00	179.92	10,280.00	-337.96	-49.22	402,961.69	716,024.59	32.10656436	-103.76915537
10,700.00	90.00	179.92	10,280.00	-425.43	-49.10	402,874.22	716,024.71	32.10632390	-103.76915647
10,800.00	90.00	179.92	10,280.00	-525.43	-48.97	402,774.22	716,024.85	32.10604902	-103.76915772
10,900.00	90.00	179.92	10,280.00	-625.43	-48.83	402,674.22	716,024.98	32.10577413	-103.76915897
11,000.00	90.00	179.92	10,280.00	-725.43	-48.70	402,574.22	716,025.12	32.10549925	-103.76916022
11,100.00	90.00	179.92	10,280.00	-825.43	-48.56	402,474.22	716,025.25	32.10522436	-103.76916148
11,200.00	90.00	179.92	10,280.00	-925.43	-48.43	402,374.22	716,025.39	32.10494948	-103.76916273
11,300.00	90.00	179.92	10,280.00	-1,025.43	-48.29	402,274.22	716,025.52	32.10467459	-103.76916398
11,400.00	90.00	179.92	10,280.00	-1,125.43	-48.16	402,174.22	716,025.66	32.10439971	-103.76916523
11,500.00	90.00	179.92	10,280.00	-1,225.43	-48.02	402,074.22	716,025.80	32.10412483	-103.76916649
11,600.00	90.00	179.92	10,280.00	-1,325.43	-47.88	401,974.22	716,025.93	32.10384994	-103.76916774
11,700.00	90.00	179.92	10,280.00	-1,425.43	-47.75	401,874.22	716,026.07	32.10357506	-103.76916899
11,800.00	90.00	179.92	10,280.00	-1,525.43	-47.61	401,774.22	716,026.20	32.10330017	-103.76917024
11,900.00	90.00	179.92	10,280.00	-1,625.43	-47.48	401,674.22	716,026.34	32.10302529	-103.76917149
12,000.00	90.00	179.92	10,280.00	-1,725.43	-47.34	401,574.22	716,026.47	32.10275040	-103.76917275
12,100.00	90.00	179.92	10,280.00	-1,825.43	-47.21	401,474.22	716,026.61	32.10247552	-103.76917400
12,200.00	90.00	179.92	10,280.00	-1,925.43	-47.07	401,374.22	716,026.75	32.10220064	-103.76917525
12,300.00	90.00	179.92	10,280.00	-2,025.43	-46.94	401,274.22	716,026.88	32.10192575	-103.76917650
12,400.00	90.00	179.92	10,280.00	-2,125.43	-46.80	401,174.22	716,027.02	32.10165087	-103.76917775
12,500.00	90.00	179.92	10,280.00	-2,225.43	-46.66	401,074.22	716,027.15	32.10137598	-103.76917901
12,600.00	90.00	179.92	10,280.00	-2,325.43	-46.53	400,974.22	716,027.29	32.10110110	-103.76918026
12,700.00	90.00	179.92	10,280.00	-2,425.43	-46.39	400,874.22	716,027.42	32.10082621	-103.76918151
12,800.00	90.00	179.92	10,280.00	-2,525.43	-46.26	400,774.22	716,027.56	32.10055133	-103.76918276
12,900.00	90.00	179.92	10,280.00	-2,625.43	-46.12	400,674.22	716,027.69	32.10027645	-103.76918401
13,000.00	90.00	179.92	10,280.00	-2,725.43	-45.99	400,574.22	716,027.83	32.10000156	-103.76918527
13,100.00	90.00	179.92	10,280.00	-2,825.43	-45.85	400,474.22	716,027.97	32.09972668	-103.76918652
13,200.00	90.00	179.92	10,280.00	-2,925.43	-45.72	400,374.22	716,028.10	32.09945179	-103.76918777
13,300.00	90.00	179.92	10,280.00	-3,025.43	-45.58	400,274.22	716,028.24	32.09917691	-103.76918902
13,400.00	90.00	179.92	10,280.00	-3,125.43	-45.44	400,174.22	716,028.37	32.09890202	-103.76919027
13,500.00	90.00	179.92	10,280.00	-3,225.43	-45.31	400,074.22	716,028.51	32.09862714	-103.76919152
13,600.00	90.00	179.92	10,280.00	-3,325.43	-45.17	399,974.22	716,028.64	32.09835225	-103.76919278
13,700.00	90.00	179.92	10,280.00	-3,425.43	-45.04	399,874.22	716,028.78	32.09807737	-103.76919403
13,800.00	90.00	179.92	10,280.00	-3,525.43	-44.90	399,774.22	716,028.91	32.09780249	-103.76919528
13,900.00	90.00	179.92	10,280.00	-3,625.43	-44.77	399,674.22	716,029.05	32.09752760	-103.76919653
14,000.00	90.00	179.92	10,280.00	-3,725.43	-44.63	399,574.22	716,029.19	32.09725272	-103.76919778
14,100.00	90.00	179.92	10,280.00	-3,825.43	-44.49	399,474.22	716,029.32	32.09697783	-103.76919904
14,200.00	90.00	179.92	10,280.00	-3,925.43	-44.36	399,374.22	716,029.46	32.09670295	-103.76920029
14,300.00	90.00	179.92	10,280.00	-4,025.43	-44.22	399,274.22	716,029.59	32.09642806	-103.76920154
14,400.00	90.00	179.92	10,280.00	-4,125.43	-44.09	399,174.22	716,029.73	32.09615318	-103.76920279
14,500.00	90.00	179.92	10,280.00	-4,225.43	-43.95	399,074.22	716,029.86	32.09587829	-103.76920404
14,600.00	90.00	179.92	10,280.00	-4,325.43	-43.82	398,974.22	716,030.00	32.09560341	-103.76920529

LEAM Drilling Services

Planning Report - Geographic

Database:	EDM 5000.1 Multi User Db	**Local Co-ordinate Reference:**	Well Lusitano 27-34 Fed Com 233H
Company:	Devon Energy	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Project:	Eddy County, NM (NAD-83)	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site:	Lusitano	**North Reference:**	Grid
Well:	Lusitano 27-34 Fed Com 233H	**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
14,700.00	90.00	179.92	10,280.00	-4,425.43	-43.68	398,874.22	716,030.13	32.09532852	-103.76920654
14,800.00	90.00	179.92	10,280.00	-4,525.43	-43.55	398,774.22	716,030.27	32.09505364	-103.76920780
14,900.00	90.00	179.92	10,280.00	-4,625.43	-43.41	398,674.22	716,030.41	32.09477876	-103.76920905
15,000.00	90.00	179.92	10,280.00	-4,725.43	-43.27	398,574.22	716,030.54	32.09450387	-103.76921030
15,100.00	90.00	179.92	10,280.00	-4,825.43	-43.14	398,474.22	716,030.68	32.09422899	-103.76921155
15,183.96	90.00	179.92	10,280.00	-4,909.39	-43.03	398,390.26	716,030.79	32.09399819	-103.76921260
S27/34 Crossing - 15183.96' MD									
15,200.00	90.00	179.92	10,280.00	-4,925.43	-43.00	398,374.22	716,030.81	32.09395410	-103.76921280
15,300.00	90.00	179.92	10,280.00	-5,025.43	-42.87	398,274.22	716,030.95	32.09367922	-103.76921405
15,400.00	90.00	179.92	10,280.00	-5,125.43	-42.73	398,174.22	716,031.08	32.09340433	-103.76921530
15,500.00	90.00	179.92	10,280.00	-5,225.43	-42.60	398,074.22	716,031.22	32.09312945	-103.76921656
15,600.00	90.00	179.92	10,280.00	-5,325.43	-42.46	397,974.22	716,031.35	32.09285456	-103.76921781
15,700.00	90.00	179.92	10,280.00	-5,425.43	-42.33	397,874.22	716,031.49	32.09257968	-103.76921906
15,800.00	90.00	179.92	10,280.00	-5,525.43	-42.19	397,774.22	716,031.63	32.09230479	-103.76922031
15,900.00	90.00	179.92	10,280.00	-5,625.43	-42.05	397,674.22	716,031.76	32.09202991	-103.76922156
16,000.00	90.00	179.92	10,280.00	-5,725.43	-41.92	397,574.22	716,031.90	32.09175502	-103.76922281
16,100.00	90.00	179.92	10,280.00	-5,825.43	-41.78	397,474.22	716,032.03	32.09148014	-103.76922406
16,200.00	90.00	179.92	10,280.00	-5,925.43	-41.65	397,374.22	716,032.17	32.09120525	-103.76922532
16,300.00	90.00	179.92	10,280.00	-6,025.43	-41.51	397,274.22	716,032.30	32.09093037	-103.76922657
16,400.00	90.00	179.92	10,280.00	-6,125.43	-41.38	397,174.22	716,032.44	32.09065548	-103.76922782
16,500.00	90.00	179.92	10,280.00	-6,225.43	-41.24	397,074.22	716,032.58	32.09038060	-103.76922907
16,600.00	90.00	179.92	10,280.00	-6,325.43	-41.11	396,974.22	716,032.71	32.09010571	-103.76923032
16,700.00	90.00	179.92	10,280.00	-6,425.43	-40.97	396,874.22	716,032.85	32.08983083	-103.76923157
16,800.00	90.00	179.92	10,280.00	-6,525.43	-40.83	396,774.22	716,032.98	32.08955594	-103.76923282
16,900.00	90.00	179.92	10,280.00	-6,625.43	-40.70	396,674.22	716,033.12	32.08928106	-103.76923407
17,000.00	90.00	179.92	10,280.00	-6,725.43	-40.56	396,574.22	716,033.25	32.08900617	-103.76923532
17,100.00	90.00	179.92	10,280.00	-6,825.43	-40.43	396,474.22	716,033.39	32.08873129	-103.76923658
17,200.00	90.00	179.92	10,280.00	-6,925.43	-40.29	396,374.22	716,033.52	32.08845641	-103.76923783
17,300.00	90.00	179.92	10,280.00	-7,025.43	-40.16	396,274.22	716,033.66	32.08818152	-103.76923908
17,400.00	90.00	179.92	10,280.00	-7,125.43	-40.02	396,174.22	716,033.80	32.08790664	-103.76924033
17,500.00	90.00	179.92	10,280.00	-7,225.43	-39.89	396,074.22	716,033.93	32.08763175	-103.76924158
17,600.00	90.00	179.92	10,280.00	-7,325.43	-39.75	395,974.22	716,034.07	32.08735687	-103.76924283
17,700.00	90.00	179.92	10,280.00	-7,425.43	-39.61	395,874.22	716,034.20	32.08708198	-103.76924408
17,800.00	90.00	179.92	10,280.00	-7,525.43	-39.48	395,774.22	716,034.34	32.08680710	-103.76924533
17,900.00	90.00	179.92	10,280.00	-7,625.43	-39.34	395,674.22	716,034.47	32.08653221	-103.76924658
18,000.00	90.00	179.92	10,280.00	-7,725.43	-39.21	395,574.22	716,034.61	32.08625733	-103.76924783
18,100.00	90.00	179.92	10,280.00	-7,825.43	-39.07	395,474.22	716,034.74	32.08598244	-103.76924908
18,200.00	90.00	179.92	10,280.00	-7,925.43	-38.94	395,374.22	716,034.88	32.08570757	-103.76925034
18,300.00	90.00	179.92	10,280.00	-8,025.43	-38.80	395,274.22	716,035.02	32.08543268	-103.76925159
18,400.00	90.00	179.92	10,280.00	-8,125.43	-38.66	395,174.22	716,035.15	32.08515780	-103.76925284
18,500.00	90.00	179.92	10,280.00	-8,225.43	-38.53	395,074.22	716,035.29	32.08488291	-103.76925409
18,600.00	90.00	179.92	10,280.00	-8,325.43	-38.39	394,974.22	716,035.42	32.08460802	-103.76925534
18,700.00	90.00	179.92	10,280.00	-8,425.43	-38.26	394,874.22	716,035.56	32.08433314	-103.76925659
18,800.00	90.00	179.92	10,280.00	-8,525.43	-38.12	394,774.22	716,035.69	32.08405825	-103.76925784
18,900.00	90.00	179.92	10,280.00	-8,625.43	-37.99	394,674.22	716,035.83	32.08378337	-103.76925909
19,000.00	90.00	179.92	10,280.00	-8,725.43	-37.85	394,574.22	716,035.96	32.08350848	-103.76926034
19,100.00	90.00	179.92	10,280.00	-8,825.43	-37.72	394,474.22	716,036.10	32.08323360	-103.76926159
19,200.00	90.00	179.92	10,280.00	-8,925.43	-37.58	394,374.22	716,036.24	32.08295871	-103.76926284
19,300.00	90.00	179.92	10,280.00	-9,025.43	-37.44	394,274.22	716,036.37	32.08268383	-103.76926409
19,400.00	90.00	179.92	10,280.00	-9,125.43	-37.31	394,174.22	716,036.51	32.08240894	-103.76926534
19,500.00	90.00	179.92	10,280.00	-9,225.43	-37.17	394,074.22	716,036.64	32.08213406	-103.76926659
19,600.00	90.00	179.92	10,280.00	-9,325.43	-37.04	393,974.22	716,036.78	32.08185917	-103.76926784
19,700.00	90.00	179.92	10,280.00	-9,425.43	-36.90	393,874.22	716,036.91	32.08158429	-103.76926910
19,800.00	90.00	179.92	10,280.00	-9,525.43	-36.77	393,774.22	716,037.05	32.08130940	-103.76927035

Database:	EDM 5000.1 Multi User Db	**Local Co-ordinate Reference:**	Well Lusitano 27-34 Fed Com 233H
Company:	Devon Energy	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Project:	Eddy County, NM (NAD-83)	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site:	Lusitano	**North Reference:**	Grid
Well:	Lusitano 27-34 Fed Com 233H	**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
19,900.00	90.00	179.92	10,280.00	-9,625.43	-36.63	393,674.22	716,037.18	32.08103452	-103.76927160
20,000.00	90.00	179.92	10,280.00	-9,725.43	-36.50	393,574.22	716,037.32	32.08075963	-103.76927285
20,100.00	90.00	179.92	10,280.00	-9,825.43	-36.36	393,474.22	716,037.46	32.08048475	-103.76927410
20,200.00	90.00	179.92	10,280.00	-9,925.43	-36.22	393,374.22	716,037.59	32.08020986	-103.76927535
20,300.00	90.00	179.92	10,280.00	-10,025.43	-36.09	393,274.22	716,037.73	32.07993498	-103.76927660
20,381.36	90.00	179.92	10,280.00	-10,106.78	-35.98	393,192.87	716,037.84	32.07971134	-103.76927762
LTP (233H) - 100' FSL, 1650' FWL of Sec 34									
20,400.00	90.00	179.92	10,280.00	-10,125.42	-35.95	393,174.22	716,037.86	32.07966009	-103.76927785
20,461.36	90.00	179.92	10,280.00	-10,186.78	-35.87	393,112.87	716,037.95	32.07949143	-103.76927862
PBHL (233H) - 20' FSL, 1650' FWL of Sec 34									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (233H) - 385' FNL, - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	403,299.65	716,073.82	32.10749264	-103.76899069
KOP/FTP (233H) - 150' I - plan hits target center - Point	0.00	0.00	9,707.04	235.00	-50.00	403,534.65	716,023.82	32.10813933	-103.76914820
PBHL (233H) - 20' FSL, - plan hits target center - Point	0.00	0.00	10,280.00	-10,186.78	-35.87	393,112.87	716,037.95	32.07949143	-103.76927862
LTP (233H) - 100' FSL, ' - plan hits target center - Point	0.00	0.00	10,280.00	-10,106.78	-35.98	393,192.87	716,037.84	32.07971134	-103.76927762
S27/34 Crossing - 1518: - plan hits target center - Point	0.00	0.00	10,280.00	-4,909.39	-43.03	398,390.26	716,030.79	32.09399819	-103.76921262

RECEIVED

JAN 1 4 2019

DISTRICT II-ARTESIA O.C.D.

Devon Energy

Eddy County, NM (NAD-83)
Lusitano
Lusitano 27-34 Fed Com 233H

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 2,174.65 usft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 10/10/2018

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	20,461.36	Plan #1 (OH)	LEAM MWD+HDGM	MWD+HDGM

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Lusitano						
Lusitano 27-34 Fed Com 232H - OH - Plan #1	3,000.00	2,999.40	1,670.47	1,657.26	126.484	CC
Lusitano 27-34 Fed Com 232H - OH - Plan #1	20,461.36	20,099.26	1,716.00	1,383.60	5.163	ES, SF
Lusitano 27-34 Fed Com 333H - OH - Plan #1	4,790.08	4,786.97	92.70	71.49	4.371	CC
Lusitano 27-34 Fed Com 333H - OH - Plan #1	4,800.00	4,796.76	92.70	71.46	4.363	ES
Lusitano 27-34 Fed Com 333H - OH - Plan #1	4,900.00	4,895.36	93.76	72.10	4.328	SF
Lusitano 27-34 Fed Com 335H - OH - Plan #1	10,108.22	10,163.62	2,010.71	1,966.26	45.236	CC, ES
Lusitano 27-34 Fed Com 335H - OH - Plan #1	10,300.00	10,245.52	2,019.13	1,974.30	45.044	SF
Lusitano 27-34 Fed Com 523H - OH - Plan #1	3,000.00	2,998.80	59.94	46.74	4.539	CC
Lusitano 27-34 Fed Com 523H - OH - Plan #1	3,100.00	3,098.79	60.12	46.47	4.403	ES
Lusitano 27-34 Fed Com 523H - OH - Plan #1	3,400.00	3,398.56	63.60	48.61	4.241	SF
Lusitano 27-34 Fed Com 525H - OH - Plan #1	2,500.00	2,499.10	1,730.43	1,719.47	157.905	CC, ES
Lusitano 27-34 Fed Com 525H - OH - Plan #1	7,200.00	7,012.13	2,171.62	2,139.37	67.338	SF
Lusitano 27-34 Fed Com 533H - OH - Plan #1	3,000.00	2,999.40	29.99	16.78	2.271	CC
Lusitano 27-34 Fed Com 533H - OH - Plan #1	3,100.00	3,099.39	30.18	16.52	2.210	ES
Lusitano 27-34 Fed Com 533H - OH - Plan #1	5,800.00	5,801.27	45.94	20.11	1.778	SF
Lusitano 27-34 Fed Com 535H - OH - Plan #1	3,000.00	2,998.40	1,700.45	1,687.25	128.775	CC
Lusitano 27-34 Fed Com 535H - OH - Plan #1	3,100.00	3,098.39	1,700.63	1,686.97	124.556	ES
Lusitano 27-34 Fed Com 535H - OH - Plan #1	8,800.00	8,750.00	1,805.28	1,766.55	46.608	SF
Lusitano 27-34 Fed Com 622H - OH - Plan #1	8,300.00	8,296.13	64.61	27.33	1.733	CC, ES, SF
Lusitano 27-34 Fed Com 624H - OH - Plan #1	9,932.34	9,935.64	1,344.41	1,300.72	30.770	CC, ES
Lusitano 27-34 Fed Com 624H - OH - Plan #1	20,461.36	21,905.22	2,012.64	1,756.17	7.847	SF
Lusitano 27-34 Fed Com 713H - OH - Plan #1	2,416.26	2,417.46	162.06	151.48	15.308	CC
Lusitano 27-34 Fed Com 713H - OH - Plan #1	2,500.00	2,501.17	162.06	151.10	14.782	ES
Lusitano 27-34 Fed Com 713H - OH - Plan #1	20,461.36	22,079.63	1,644.95	1,449.14	8.400	SF
Lusitano 27-34 Fed Com 716H - OH - Plan #1	10,044.88	10,162.18	2,057.18	2,012.51	46.045	CC, ES
Lusitano 27-34 Fed Com 716H - OH - Plan #1	10,300.00	10,332.48	2,071.73	2,026.35	45.654	SF
Lusitano 27-34 Fed Com 733H - OH - Plan #1	8,325.87	8,321.89	42.37	5.15	1.138	Level 2, CC, ES, SF
Lusitano 27-34 Fed Com 734H - OH - Plan #1	9,991.66	10,068.14	1,415.23	1,370.82	31.867	CC
Lusitano 27-34 Fed Com 734H - OH - Plan #1	10,000.00	10,075.36	1,415.24	1,370.81	31.850	ES
Lusitano 27-34 Fed Com 734H - OH - Plan #1	10,200.00	10,226.92	1,425.87	1,380.87	31.691	SF
Lusitano 27-34 Fed Com 736H - OH - Plan #1						Out of range

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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: 0-LEAM MWD+HDGM — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	89.65	10.21	1,670.44	1,670.47				
100.00	100.00	99.40	99.40	0.09	0.09	89.65	10.21	1,670.44	1,670.47	1,670.30	0.17	9,744.311	
200.00	200.00	199.40	199.40	0.31	0.31	89.65	10.21	1,670.44	1,670.47	1,669.85	0.62	2,693.745	
300.00	300.00	299.40	299.40	0.54	0.53	89.65	10.21	1,670.44	1,670.47	1,669.40	1.07	1,561.682	
400.00	400.00	399.40	399.40	0.76	0.76	89.65	10.21	1,670.44	1,670.47	1,668.95	1.52	1,099.577	
500.00	500.00	499.40	499.40	0.99	0.98	89.65	10.21	1,670.44	1,670.47	1,668.50	1.97	848.504	
600.00	600.00	599.40	599.40	1.21	1.21	89.65	10.21	1,670.44	1,670.47	1,668.05	2.42	690.775	
700.00	700.00	699.40	699.40	1.43	1.43	89.65	10.21	1,670.44	1,670.47	1,667.60	2.87	582.494	
800.00	800.00	799.40	799.40	1.66	1.66	89.65	10.21	1,670.44	1,670.47	1,667.15	3.32	503.560	
900.00	900.00	899.40	899.40	1.88	1.88	89.65	10.21	1,670.44	1,670.47	1,666.70	3.77	443.466	
1,000.00	1,000.00	999.40	999.40	2.11	2.11	89.65	10.21	1,670.44	1,670.47	1,666.25	4.22	396.186	
1,100.00	1,100.00	1,099.40	1,099.40	2.33	2.33	89.65	10.21	1,670.44	1,670.47	1,665.81	4.67	358.016	
1,200.00	1,200.00	1,199.40	1,199.40	2.56	2.56	89.65	10.21	1,670.44	1,670.47	1,665.36	5.12	326.554	
1,300.00	1,300.00	1,299.40	1,299.40	2.78	2.78	89.65	10.21	1,670.44	1,670.47	1,664.91	5.56	300.175	
1,400.00	1,400.00	1,399.40	1,399.40	3.01	3.01	89.65	10.21	1,670.44	1,670.47	1,664.46	6.01	277.740	
1,500.00	1,500.00	1,499.40	1,499.40	3.23	3.23	89.65	10.21	1,670.44	1,670.47	1,664.01	6.46	258.425	
1,600.00	1,600.00	1,599.40	1,599.40	3.46	3.46	89.65	10.21	1,670.44	1,670.47	1,663.56	6.91	241.622	
1,700.00	1,700.00	1,699.40	1,699.40	3.68	3.68	89.65	10.21	1,670.44	1,670.47	1,663.11	7.36	226.870	
1,800.00	1,800.00	1,799.40	1,799.40	3.91	3.91	89.65	10.21	1,670.44	1,670.47	1,662.66	7.81	213.816	
1,900.00	1,900.00	1,899.40	1,899.40	4.13	4.13	89.65	10.21	1,670.44	1,670.47	1,662.21	8.26	202.183	
2,000.00	2,000.00	1,999.40	1,999.40	4.36	4.36	89.65	10.21	1,670.44	1,670.47	1,661.76	8.71	191.750	
2,100.00	2,100.00	2,099.40	2,099.40	4.58	4.58	89.65	10.21	1,670.44	1,670.47	1,661.31	9.16	182.341	
2,200.00	2,200.00	2,199.40	2,199.40	4.81	4.80	89.65	10.21	1,670.44	1,670.47	1,660.86	9.61	173.812	
2,300.00	2,300.00	2,299.40	2,299.40	5.03	5.03	89.65	10.21	1,670.44	1,670.47	1,660.41	10.06	166.046	
2,400.00	2,400.00	2,399.40	2,399.40	5.26	5.25	89.65	10.21	1,670.44	1,670.47	1,659.96	10.51	158.944	
2,500.00	2,500.00	2,499.40	2,499.40	5.48	5.48	89.65	10.21	1,670.44	1,670.47	1,659.51	10.96	152.424	
2,600.00	2,600.00	2,599.40	2,599.40	5.71	5.70	89.65	10.21	1,670.44	1,670.47	1,659.06	11.41	146.418	
2,700.00	2,700.00	2,699.40	2,699.40	5.93	5.93	89.65	10.21	1,670.44	1,670.47	1,658.61	11.86	140.868	
2,800.00	2,800.00	2,799.40	2,799.40	6.15	6.15	89.65	10.21	1,670.44	1,670.47	1,658.16	12.31	135.723	
2,900.00	2,900.00	2,899.40	2,899.40	6.38	6.38	89.65	10.21	1,670.44	1,670.47	1,657.71	12.76	130.940	
3,000.00	3,000.00	2,999.40	2,999.40	6.60	6.60	89.65	10.21	1,670.44	1,670.47	1,657.26	13.21	126.484	CC
3,100.00	3,099.99	3,099.39	3,099.39	6.83	6.83	101.69	10.21	1,670.44	1,670.65	1,656.99	13.66	122.340	
3,200.00	3,199.96	3,199.36	3,199.36	7.05	7.05	101.77	10.21	1,670.44	1,671.18	1,657.08	14.10	118.494	
3,300.00	3,299.87	3,299.27	3,299.27	7.28	7.28	101.91	10.21	1,670.44	1,672.05	1,657.50	14.55	114.910	
3,400.00	3,399.76	3,399.16	3,399.16	7.50	7.50	102.06	10.21	1,670.44	1,673.02	1,658.02	15.00	111.543	
3,500.00	3,499.65	3,499.05	3,499.05	7.73	7.73	102.22	10.21	1,670.44	1,673.99	1,658.54	15.45	108.368	
3,600.00	3,599.55	3,598.95	3,598.95	7.95	7.95	102.37	10.21	1,670.44	1,674.98	1,659.08	15.90	105.369	
3,700.00	3,699.44	3,698.84	3,698.84	8.18	8.17	102.53	10.21	1,670.44	1,675.98	1,659.63	16.35	102.532	
3,800.00	3,799.33	3,798.73	3,798.73	8.40	8.40	102.68	10.21	1,670.44	1,676.99	1,660.19	16.80	99.844	
3,900.00	3,899.23	3,898.63	3,898.63	8.63	8.62	102.84	10.21	1,670.44	1,678.01	1,660.76	17.25	97.295	
4,000.00	3,999.12	3,998.52	3,998.52	8.85	8.85	102.99	10.21	1,670.44	1,679.05	1,661.35	17.70	94.875	
4,100.00	4,099.01	4,108.79	4,108.78	9.08	9.10	103.12	11.46	1,670.13	1,679.79	1,661.62	18.17	92.444	
4,200.00	4,198.90	4,215.27	4,215.20	9.31	9.33	103.16	14.96	1,669.26	1,679.96	1,661.32	18.63	90.153	
4,300.00	4,298.80	4,315.27	4,315.12	9.54	9.56	103.19	18.70	1,668.33	1,680.00	1,660.92	19.08	88.029	
4,400.00	4,398.69	4,415.27	4,415.04	9.76	9.78	103.22	22.45	1,667.40	1,680.05	1,660.52	19.54	86.000	
4,500.00	4,498.58	4,515.26	4,514.97	9.99	10.01	103.24	26.19	1,666.47	1,680.10	1,660.11	19.99	84.059	
4,600.00	4,598.48	4,615.26	4,614.89	10.22	10.23	103.27	29.93	1,665.54	1,680.15	1,659.71	20.44	82.202	
4,700.00	4,698.37	4,715.26	4,714.81	10.45	10.46	103.30	33.68	1,664.60	1,680.20	1,659.31	20.89	80.423	
4,800.00	4,798.26	4,815.25	4,814.73	10.68	10.68	103.32	37.42	1,663.67	1,680.25	1,658.91	21.35	78.718	
4,900.00	4,898.15	4,915.25	4,914.66	10.91	10.91	103.35	41.16	1,662.74	1,680.30	1,658.50	21.80	77.082	
5,000.00	4,998.05	5,015.25	5,014.58	11.14	11.13	103.38	44.91	1,661.81	1,680.35	1,658.10	22.25	75.511	
5,100.00	5,097.94	5,115.24	5,114.50	11.37	11.36	103.40	48.65	1,660.88	1,680.40	1,657.70	22.71	74.002	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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: 0-LEAM MWD+HDGM

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.00	5,197.83	5,215.24	5,214.42	11.60	11.58	103.43	52.40	1,659.95	1,680.45	1,657.29	23.16	72.550	
5,300.00	5,297.73	5,315.24	5,314.35	11.83	11.81	103.46	56.14	1,659.02	1,680.51	1,656.89	23.62	71.154	
5,400.00	5,397.62	5,415.24	5,414.27	12.06	12.03	103.48	59.88	1,658.09	1,680.56	1,656.49	24.07	69.809	
5,500.00	5,497.51	5,515.23	5,514.19	12.29	12.26	103.51	63.63	1,657.16	1,680.61	1,656.08	24.53	68.513	
5,600.00	5,597.40	5,615.23	5,614.11	12.52	12.49	103.54	67.37	1,656.23	1,680.66	1,655.68	24.99	67.264	
5,700.00	5,697.30	5,715.23	5,714.04	12.75	12.71	103.56	71.11	1,655.30	1,680.72	1,655.28	25.44	66.058	
5,800.00	5,797.19	5,815.22	5,813.96	12.98	12.94	103.59	74.86	1,654.37	1,680.77	1,654.87	25.90	64.895	
5,900.00	5,897.08	5,915.22	5,913.88	13.21	13.17	103.62	78.60	1,653.43	1,680.83	1,654.47	26.36	63.771	
6,000.00	5,996.98	6,015.22	6,013.80	13.45	13.39	103.64	82.34	1,652.50	1,680.88	1,654.07	26.81	62.685	
6,100.00	6,096.87	6,115.21	6,113.73	13.68	13.62	103.67	86.09	1,651.57	1,680.94	1,653.66	27.27	61.635	
6,200.00	6,196.76	6,215.21	6,213.65	13.91	13.85	103.70	89.83	1,650.64	1,680.99	1,653.26	27.73	60.619	
6,300.00	6,296.65	6,315.21	6,313.57	14.14	14.08	103.72	93.58	1,649.71	1,681.05	1,652.86	28.19	59.636	
6,400.00	6,396.55	6,415.20	6,413.49	14.37	14.30	103.75	97.32	1,648.78	1,681.10	1,652.45	28.65	58.683	
6,500.00	6,496.44	6,515.20	6,513.42	14.60	14.53	103.78	101.06	1,647.85	1,681.16	1,652.05	29.11	57.760	
6,600.00	6,596.33	6,615.20	6,613.34	14.84	14.76	103.80	104.81	1,646.92	1,681.21	1,651.65	29.56	56.866	
6,700.00	6,696.23	6,715.20	6,713.26	15.07	14.99	103.83	108.55	1,645.99	1,681.27	1,651.25	30.02	55.999	
6,800.00	6,796.12	6,815.19	6,813.18	15.30	15.21	103.86	112.29	1,645.06	1,681.33	1,650.85	30.48	55.157	
6,900.00	6,896.01	6,915.19	6,913.11	15.53	15.44	103.88	116.04	1,644.13	1,681.39	1,650.45	30.94	54.340	
7,000.00	6,995.90	7,015.19	7,013.03	15.76	15.67	103.91	119.78	1,643.20	1,681.45	1,650.04	31.40	53.547	
7,100.00	7,095.80	7,115.18	7,112.95	16.00	15.90	103.94	123.52	1,642.26	1,681.50	1,649.64	31.86	52.776	
7,200.00	7,195.69	7,215.18	7,212.87	16.23	16.13	103.96	127.27	1,641.33	1,681.56	1,649.24	32.32	52.027	
7,300.00	7,295.58	7,315.18	7,312.80	16.46	16.36	103.99	131.01	1,640.40	1,681.62	1,648.84	32.78	51.299	
7,400.00	7,395.48	7,415.17	7,412.72	16.69	16.58	104.02	134.76	1,639.47	1,681.68	1,648.44	33.24	50.591	
7,500.00	7,495.37	7,515.17	7,512.64	16.93	16.81	104.04	138.50	1,638.54	1,681.74	1,648.04	33.70	49.902	
7,600.00	7,595.26	7,615.17	7,612.56	17.16	17.04	104.07	142.24	1,637.61	1,681.80	1,647.64	34.16	49.231	
7,700.00	7,695.15	7,715.16	7,712.49	17.39	17.27	104.09	145.99	1,636.68	1,681.86	1,647.24	34.62	48.578	
7,800.00	7,795.05	7,815.16	7,812.41	17.62	17.50	104.12	149.73	1,635.75	1,681.92	1,646.84	35.08	47.942	
7,900.00	7,894.94	7,915.16	7,912.33	17.86	17.73	104.15	153.47	1,634.82	1,681.98	1,646.44	35.54	47.323	
8,000.00	7,994.83	8,015.16	8,012.25	18.09	17.96	104.17	157.22	1,633.89	1,682.05	1,646.04	36.00	46.719	
8,100.00	8,094.73	8,115.15	8,112.18	18.32	18.19	104.20	160.96	1,632.96	1,682.11	1,645.64	36.46	46.130	
8,200.00	8,194.62	8,215.15	8,212.10	18.55	18.42	104.23	164.70	1,632.03	1,682.17	1,645.25	36.93	45.556	
8,300.00	8,294.53	8,315.15	8,312.02	18.77	18.65	104.24	168.45	1,631.09	1,682.10	1,644.73	37.37	45.015	
8,400.00	8,394.52	8,415.12	8,411.92	18.94	18.87	104.15	172.19	1,630.16	1,681.43	1,643.66	37.77	44.521	
8,500.00	8,494.52	8,515.05	8,511.77	19.13	19.10	92.01	175.93	1,629.23	1,680.37	1,642.18	38.19	44.005	
8,600.00	8,594.52	8,614.97	8,611.62	19.35	19.33	91.89	179.67	1,628.30	1,679.31	1,640.67	38.64	43.466	
8,700.00	8,694.52	8,714.90	8,711.48	19.57	19.56	91.76	183.41	1,627.37	1,678.26	1,639.17	39.08	42.939	
8,800.00	8,794.52	8,814.82	8,811.33	19.79	19.79	91.63	187.15	1,626.44	1,677.22	1,637.68	39.53	42.424	
8,900.00	8,894.52	8,914.75	8,911.18	20.01	20.02	91.51	190.90	1,625.51	1,676.18	1,636.20	39.98	41.921	
9,000.00	8,994.52	9,008.60	9,004.97	20.23	20.22	91.40	194.06	1,624.73	1,675.26	1,634.86	40.40	41.464	
9,100.00	9,094.52	9,098.19	9,094.55	20.45	20.37	91.36	195.21	1,624.44	1,674.91	1,634.14	40.78	41.077	
9,135.51	9,130.02	9,133.06	9,129.42	20.53	20.44	91.36	195.21	1,624.44	1,674.91	1,633.99	40.92	40.931	
9,200.00	9,194.52	9,197.55	9,193.92	20.67	20.56	91.36	195.21	1,624.44	1,674.91	1,633.72	41.19	40.665	
9,300.00	9,294.52	9,297.55	9,293.92	20.89	20.78	91.36	195.21	1,624.44	1,674.91	1,633.28	41.63	40.233	
9,400.00	9,394.52	9,397.55	9,393.92	21.11	21.01	91.36	195.21	1,624.44	1,674.91	1,632.84	42.07	39.809	
9,500.00	9,494.52	9,490.15	9,486.19	21.33	21.16	91.58	188.70	1,624.46	1,675.12	1,632.67	42.45	39.462	
9,600.00	9,594.52	9,578.04	9,571.73	21.55	21.28	92.26	168.88	1,624.51	1,675.96	1,633.19	42.77	39.185	
9,700.00	9,694.52	9,658.26	9,646.33	21.77	21.37	93.26	139.57	1,624.59	1,677.98	1,634.93	43.06	38.972	
9,800.00	9,794.18	9,731.69	9,710.43	21.94	21.45	-85.29	103.85	1,624.69	1,681.36	1,638.10	43.26	38.866	
9,900.00	9,891.19	9,800.00	9,765.51	22.06	21.53	-84.00	63.52	1,624.80	1,685.34	1,641.95	43.38	38.847	
10,000.00	9,982.61	9,871.60	9,817.65	22.14	21.60	-82.77	14.53	1,624.93	1,689.54	1,646.05	43.48	38.854	
10,100.00	10,065.65	9,939.18	9,860.92	22.23	21.66	-81.72	-37.34	1,625.07	1,693.62	1,650.04	43.57	38.868	
10,200.00	10,137.80	10,000.00	9,894.39	22.31	21.75	-80.90	-88.09	1,625.21	1,697.28	1,653.60	43.68	38.856	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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: 0-LEAM MWD+HDGM — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,300.00	10,196.86	10,071.48	9,926.59	22.40	21.92	-80.20	-151.86	1,625.38	1,700.21	1,656.30	43.91	38.722	
10,400.00	10,241.03	10,136.76	9,948.85	22.59	22.12	-79.76	-213.18	1,625.55	1,702.26	1,658.03	44.23	38.488	
10,500.00	10,268.98	10,200.00	9,963.64	22.87	22.34	-79.55	-274.63	1,625.71	1,703.27	1,658.59	44.68	38.121	
10,600.00	10,279.86	10,266.69	9,971.80	23.24	22.61	-79.59	-340.78	1,625.89	1,703.18	1,657.88	45.30	37.594	
10,669.74	10,280.85	10,316.56	9,973.00	23.56	22.85	-79.61	-390.63	1,626.03	1,703.12	1,657.27	45.85	37.148	
10,700.00	10,280.00	10,346.83	9,973.00	23.70	23.01	-79.64	-420.90	1,626.11	1,703.01	1,656.87	46.14	36.908	
10,800.00	10,280.00	10,446.83	9,973.00	24.26	23.57	-79.64	-520.90	1,626.38	1,703.14	1,655.89	47.25	36.045	
10,900.00	10,280.00	10,546.83	9,973.00	24.91	24.24	-79.64	-620.90	1,626.65	1,703.27	1,654.73	48.55	35.085	
11,000.00	10,280.00	10,646.83	9,973.00	25.65	24.99	-79.64	-720.90	1,626.92	1,703.41	1,653.39	50.02	34.054	
11,100.00	10,280.00	10,746.83	9,973.00	26.47	25.83	-79.64	-820.90	1,627.19	1,703.54	1,651.89	51.65	32.981	
11,200.00	10,280.00	10,846.83	9,973.00	27.37	26.74	-79.64	-920.90	1,627.46	1,703.67	1,650.24	53.43	31.886	
11,300.00	10,280.00	10,946.83	9,973.00	28.33	27.71	-79.64	-1,020.90	1,627.73	1,703.81	1,648.46	55.34	30.788	
11,400.00	10,280.00	11,046.83	9,973.00	29.35	28.75	-79.64	-1,120.90	1,628.00	1,703.94	1,646.57	57.37	29.702	
11,500.00	10,280.00	11,146.83	9,973.00	30.43	29.84	-79.64	-1,220.90	1,628.27	1,704.07	1,644.57	59.50	28.639	
11,600.00	10,280.00	11,246.83	9,973.00	31.55	30.98	-79.64	-1,320.90	1,628.54	1,704.20	1,642.47	61.73	27.607	
11,700.00	10,280.00	11,346.83	9,973.00	32.72	32.16	-79.64	-1,420.90	1,628.81	1,704.34	1,640.29	64.05	26.611	
11,800.00	10,280.00	11,446.83	9,973.00	33.92	33.38	-79.64	-1,520.90	1,629.08	1,704.47	1,638.03	66.44	25.655	
11,900.00	10,280.00	11,546.83	9,973.00	35.16	34.63	-79.64	-1,620.89	1,629.35	1,704.60	1,635.71	68.90	24.742	
12,000.00	10,280.00	11,646.83	9,973.00	36.43	35.92	-79.65	-1,720.89	1,629.63	1,704.74	1,633.32	71.42	23.870	
12,100.00	10,280.00	11,746.83	9,973.00	37.73	37.23	-79.65	-1,820.89	1,629.90	1,704.87	1,630.88	73.99	23.041	
12,200.00	10,280.00	11,846.83	9,973.00	39.06	38.57	-79.65	-1,920.89	1,630.17	1,705.00	1,628.38	76.62	22.253	
12,300.00	10,280.00	11,946.83	9,973.00	40.40	39.93	-79.65	-2,020.89	1,630.44	1,705.13	1,625.85	79.29	21.506	
12,400.00	10,280.00	12,046.83	9,973.00	41.77	41.30	-79.65	-2,120.89	1,630.71	1,705.27	1,623.27	82.00	20.796	
12,500.00	10,280.00	12,146.83	9,973.00	43.16	42.70	-79.65	-2,220.89	1,630.98	1,705.40	1,620.65	84.74	20.124	
12,600.00	10,280.00	12,246.83	9,973.00	44.56	44.12	-79.65	-2,320.89	1,631.25	1,705.53	1,618.01	87.52	19.486	
12,700.00	10,280.00	12,346.83	9,973.00	45.98	45.54	-79.65	-2,420.89	1,631.52	1,705.67	1,615.33	90.33	18.882	
12,800.00	10,280.00	12,446.83	9,973.00	47.41	46.99	-79.65	-2,520.89	1,631.79	1,705.80	1,612.63	93.17	18.308	
12,900.00	10,280.00	12,546.83	9,973.00	48.86	48.44	-79.65	-2,620.89	1,632.06	1,705.93	1,609.90	96.03	17.764	
13,000.00	10,280.00	12,646.83	9,973.00	50.31	49.91	-79.65	-2,720.89	1,632.33	1,706.06	1,607.15	98.92	17.248	
13,100.00	10,280.00	12,746.83	9,973.00	51.78	51.38	-79.65	-2,820.89	1,632.60	1,706.20	1,604.38	101.82	16.757	
13,200.00	10,280.00	12,846.83	9,973.00	53.26	52.87	-79.66	-2,920.89	1,632.87	1,706.33	1,601.58	104.74	16.290	
13,300.00	10,280.00	12,946.83	9,973.00	54.74	54.36	-79.66	-3,020.89	1,633.14	1,706.46	1,598.78	107.69	15.847	
13,400.00	10,280.00	13,046.83	9,973.00	56.24	55.86	-79.66	-3,120.89	1,633.41	1,706.59	1,595.95	110.64	15.424	
13,500.00	10,280.00	13,146.83	9,973.00	57.74	57.37	-79.66	-3,220.89	1,633.68	1,706.73	1,593.11	113.62	15.022	
13,600.00	10,280.00	13,246.83	9,973.00	59.25	58.89	-79.66	-3,320.89	1,633.96	1,706.86	1,590.26	116.60	14.638	
13,700.00	10,280.00	13,346.83	9,973.00	60.77	60.41	-79.66	-3,420.89	1,634.23	1,706.99	1,587.39	119.60	14.273	
13,800.00	10,280.00	13,446.83	9,973.00	62.29	61.94	-79.66	-3,520.89	1,634.50	1,707.13	1,584.52	122.61	13.923	
13,900.00	10,280.00	13,546.83	9,973.00	63.81	63.47	-79.66	-3,620.89	1,634.77	1,707.26	1,581.63	125.63	13.589	
14,000.00	10,280.00	13,646.83	9,973.00	65.35	65.01	-79.66	-3,720.89	1,635.04	1,707.39	1,578.73	128.66	13.270	
14,100.00	10,280.00	13,746.83	9,973.00	66.88	66.55	-79.66	-3,820.88	1,635.31	1,707.52	1,575.82	131.70	12.965	
14,200.00	10,280.00	13,846.83	9,973.00	68.43	68.10	-79.66	-3,920.88	1,635.58	1,707.66	1,572.90	134.75	12.672	
14,300.00	10,280.00	13,946.83	9,973.00	69.97	69.65	-79.66	-4,020.88	1,635.85	1,707.79	1,569.98	137.81	12.392	
14,400.00	10,280.00	14,046.83	9,973.00	71.52	71.21	-79.67	-4,120.88	1,636.12	1,707.92	1,567.05	140.88	12.124	
14,500.00	10,280.00	14,146.83	9,973.00	73.08	72.77	-79.67	-4,220.88	1,636.39	1,708.06	1,564.11	143.95	11.866	
14,600.00	10,280.00	14,246.83	9,973.00	74.63	74.33	-79.67	-4,320.88	1,636.66	1,708.19	1,561.16	147.03	11.618	
14,700.00	10,280.00	14,346.83	9,973.00	76.20	75.89	-79.67	-4,420.88	1,636.93	1,708.32	1,558.21	150.11	11.380	
14,800.00	10,280.00	14,446.83	9,973.00	77.76	77.46	-79.67	-4,520.88	1,637.20	1,708.45	1,555.25	153.21	11.151	
14,900.00	10,280.00	14,546.83	9,973.00	79.33	79.03	-79.67	-4,620.88	1,637.47	1,708.59	1,552.29	156.30	10.931	
15,000.00	10,280.00	14,646.83	9,973.00	80.90	80.61	-79.67	-4,720.88	1,637.74	1,708.72	1,549.32	159.40	10.719	
15,100.00	10,280.00	14,746.83	9,973.00	82.47	82.18	-79.67	-4,820.88	1,638.01	1,708.85	1,546.34	162.51	10.515	
15,200.00	10,280.00	14,846.83	9,973.00	84.04	83.76	-79.67	-4,920.88	1,638.29	1,708.99	1,543.36	165.62	10.318	
15,300.00	10,280.00	14,946.83	9,973.00	85.62	85.34	-79.67	-5,020.88	1,638.56	1,709.12	1,540.38	168.74	10.129	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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: 0-LEAM MWD+HDGM — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,400.00	10,280.00	15,046.83	9,973.00	87.20	86.92	-79.67	-5,120.88	1,638.83	1,709.25	1,537.39	171.86	9.946	
15,500.00	10,280.00	15,146.83	9,973.00	88.78	88.51	-79.67	-5,220.88	1,639.10	1,709.38	1,534.40	174.99	9.769	
15,600.00	10,280.00	15,246.83	9,973.00	90.36	90.09	-79.67	-5,320.88	1,639.37	1,709.52	1,531.40	178.11	9.598	
15,700.00	10,280.00	15,346.83	9,973.00	91.95	91.68	-79.68	-5,420.88	1,639.64	1,709.65	1,528.40	181.25	9.433	
15,800.00	10,280.00	15,446.83	9,973.00	93.53	93.27	-79.68	-5,520.88	1,639.91	1,709.78	1,525.40	184.38	9.273	
15,900.00	10,280.00	15,546.83	9,973.00	95.12	94.86	-79.68	-5,620.88	1,640.18	1,709.92	1,522.40	187.52	9.119	
16,000.00	10,280.00	15,646.83	9,973.00	96.71	96.46	-79.68	-5,720.88	1,640.45	1,710.05	1,519.39	190.66	8.969	
16,100.00	10,280.00	15,746.83	9,973.00	98.30	98.05	-79.68	-5,820.88	1,640.72	1,710.18	1,516.38	193.81	8.824	
16,200.00	10,280.00	15,846.83	9,973.00	99.89	99.64	-79.68	-5,920.88	1,640.99	1,710.31	1,513.36	196.95	8.684	
16,300.00	10,280.00	15,946.83	9,973.00	101.49	101.24	-79.68	-6,020.87	1,641.26	1,710.45	1,510.35	200.10	8.548	
16,400.00	10,280.00	16,046.83	9,973.00	103.08	102.84	-79.68	-6,120.87	1,641.53	1,710.58	1,507.33	203.25	8.416	
16,500.00	10,280.00	16,146.83	9,973.00	104.68	104.44	-79.68	-6,220.87	1,641.80	1,710.71	1,504.30	206.41	8.288	
16,600.00	10,280.00	16,246.83	9,973.00	106.28	106.04	-79.68	-6,320.87	1,642.07	1,710.85	1,501.28	209.57	8.164	
16,700.00	10,280.00	16,346.83	9,973.00	107.87	107.64	-79.68	-6,420.87	1,642.34	1,710.98	1,498.25	212.73	8.043	
16,800.00	10,280.00	16,446.83	9,973.00	109.47	109.24	-79.68	-6,520.87	1,642.62	1,711.11	1,495.22	215.89	7.926	
16,900.00	10,280.00	16,546.83	9,973.00	111.08	110.85	-79.69	-6,620.87	1,642.89	1,711.24	1,492.19	219.05	7.812	
17,000.00	10,280.00	16,646.83	9,973.00	112.68	112.45	-79.69	-6,720.87	1,643.16	1,711.38	1,489.16	222.22	7.701	
17,100.00	10,280.00	16,746.83	9,973.00	114.28	114.05	-79.69	-6,820.87	1,643.43	1,711.51	1,486.13	225.38	7.594	
17,200.00	10,280.00	16,846.83	9,973.00	115.88	115.66	-79.69	-6,920.87	1,643.70	1,711.64	1,483.09	228.55	7.489	
17,300.00	10,280.00	16,946.83	9,973.00	117.49	117.27	-79.69	-7,020.87	1,643.97	1,711.78	1,480.05	231.72	7.387	
17,400.00	10,280.00	17,046.83	9,973.00	119.09	118.87	-79.69	-7,120.87	1,644.24	1,711.91	1,477.01	234.89	7.288	
17,500.00	10,280.00	17,146.83	9,973.00	120.70	120.48	-79.69	-7,220.87	1,644.51	1,712.04	1,473.97	238.07	7.191	
17,600.00	10,280.00	17,246.83	9,973.00	122.31	122.09	-79.69	-7,320.87	1,644.78	1,712.18	1,470.93	241.24	7.097	
17,700.00	10,280.00	17,346.83	9,973.00	123.91	123.70	-79.69	-7,420.87	1,645.05	1,712.31	1,467.89	244.42	7.006	
17,800.00	10,280.00	17,446.83	9,973.00	125.52	125.31	-79.69	-7,520.87	1,645.32	1,712.44	1,464.84	247.60	6.916	
17,900.00	10,280.00	17,546.83	9,973.00	127.13	126.92	-79.69	-7,620.87	1,645.59	1,712.57	1,461.80	250.78	6.829	
18,000.00	10,280.00	17,646.83	9,973.00	128.74	128.54	-79.69	-7,720.87	1,645.86	1,712.71	1,458.75	253.96	6.744	
18,100.00	10,280.00	17,746.83	9,973.00	130.35	130.15	-79.70	-7,820.87	1,646.13	1,712.84	1,455.70	257.14	6.661	
18,200.00	10,280.00	17,846.83	9,973.00	131.96	131.76	-79.70	-7,920.87	1,646.40	1,712.97	1,452.65	260.32	6.580	
18,300.00	10,280.00	17,946.83	9,973.00	133.57	133.37	-79.70	-8,020.87	1,646.67	1,713.11	1,449.60	263.51	6.501	
18,400.00	10,280.00	18,046.83	9,973.00	135.19	134.99	-79.70	-8,120.87	1,646.95	1,713.24	1,446.55	266.69	6.424	
18,500.00	10,280.00	18,146.83	9,973.00	136.80	136.60	-79.70	-8,220.86	1,647.22	1,713.37	1,443.49	269.88	6.349	
18,600.00	10,280.00	18,246.83	9,973.00	138.41	138.22	-79.70	-8,320.86	1,647.49	1,713.50	1,440.44	273.07	6.275	
18,700.00	10,280.00	18,346.83	9,973.00	140.03	139.83	-79.70	-8,420.86	1,647.76	1,713.64	1,437.38	276.26	6.203	
18,800.00	10,280.00	18,446.83	9,973.00	141.64	141.45	-79.70	-8,520.86	1,648.03	1,713.77	1,434.32	279.44	6.133	
18,900.00	10,280.00	18,546.83	9,973.00	143.26	143.06	-79.70	-8,620.86	1,648.30	1,713.90	1,431.27	282.64	6.064	
19,000.00	10,280.00	18,646.83	9,973.00	144.87	144.68	-79.70	-8,720.86	1,648.57	1,714.04	1,428.21	285.83	5.997	
19,100.00	10,280.00	18,746.83	9,973.00	146.49	146.30	-79.70	-8,820.86	1,648.84	1,714.17	1,425.15	289.02	5.931	
19,200.00	10,280.00	18,846.83	9,973.00	148.10	147.92	-79.70	-8,920.86	1,649.11	1,714.30	1,422.09	292.21	5.867	
19,300.00	10,280.00	18,946.83	9,973.00	149.72	149.53	-79.70	-9,020.86	1,649.38	1,714.43	1,419.03	295.41	5.804	
19,400.00	10,280.00	19,046.83	9,973.00	151.34	151.15	-79.71	-9,120.86	1,649.65	1,714.57	1,415.97	298.60	5.742	
19,500.00	10,280.00	19,146.83	9,973.00	152.95	152.77	-79.71	-9,220.86	1,649.92	1,714.70	1,412.90	301.80	5.682	
19,600.00	10,280.00	19,246.83	9,973.00	154.57	154.39	-79.71	-9,320.86	1,650.19	1,714.83	1,409.84	304.99	5.623	
19,700.00	10,280.00	19,346.82	9,973.00	156.19	156.01	-79.71	-9,420.86	1,650.46	1,714.97	1,406.78	308.19	5.565	
19,800.00	10,280.00	19,446.82	9,973.00	157.81	157.63	-79.71	-9,520.86	1,650.73	1,715.10	1,403.71	311.39	5.508	
19,900.00	10,280.00	19,546.82	9,973.00	159.43	159.25	-79.71	-9,620.86	1,651.01	1,715.23	1,400.65	314.58	5.452	
20,000.00	10,280.00	19,646.82	9,973.00	161.04	160.87	-79.71	-9,720.86	1,651.28	1,715.36	1,397.58	317.78	5.398	
20,100.00	10,280.00	19,746.82	9,973.00	162.66	162.49	-79.71	-9,820.86	1,651.55	1,715.50	1,394.51	320.98	5.345	
20,200.00	10,280.00	19,846.82	9,973.00	164.28	164.11	-79.71	-9,920.86	1,651.82	1,715.63	1,391.45	324.18	5.292	
20,300.00	10,280.00	19,946.82	9,973.00	165.90	165.73	-79.71	-10,020.86	1,652.09	1,715.76	1,388.38	327.38	5.241	
20,400.00	10,280.00	20,046.82	9,973.00	167.52	167.36	-79.71	-10,120.86	1,652.36	1,715.90	1,385.31	330.58	5.190	
20,461.36	10,280.00	20,099.26	9,973.00	168.52	168.21	-79.71	-10,173.29	1,652.50	1,716.00	1,383.60	332.40	5.163	ES, SF

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

Company:	Devon Energy	**Local Co-ordinate Reference:**	Well Lusitano 27-34 Fed Com 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	1.40	1.40	0.00	0.00	11.45	150.19	30.43	153.24				
100.00	100.00	101.40	101.40	0.09	0.09	11.45	150.19	30.43	153.24	153.07	0.18	875.202	
200.00	200.00	201.40	201.40	0.31	0.31	11.45	150.19	30.43	153.24	152.62	0.62	245.334	
300.00	300.00	301.40	301.40	0.54	0.54	11.45	150.19	30.43	153.24	152.17	1.07	142.662	
400.00	400.00	401.40	401.40	0.76	0.76	11.45	150.19	30.43	153.24	151.72	1.52	100.573	
500.00	500.00	501.40	501.40	0.99	0.99	11.45	150.19	30.43	153.24	151.27	1.97	77.661	
600.00	600.00	601.40	601.40	1.21	1.21	11.45	150.19	30.43	153.24	150.82	2.42	63.251	
700.00	700.00	701.40	701.40	1.43	1.44	11.45	150.19	30.43	153.24	150.37	2.87	53.352	
800.00	800.00	801.40	801.40	1.66	1.66	11.45	150.19	30.43	153.24	149.92	3.32	46.132	
900.00	900.00	901.40	901.40	1.88	1.89	11.45	150.19	30.43	153.24	149.47	3.77	40.633	
1,000.00	1,000.00	1,001.40	1,001.40	2.11	2.11	11.45	150.19	30.43	153.24	149.02	4.22	36.306	
1,100.00	1,100.00	1,101.40	1,101.40	2.33	2.34	11.45	150.19	30.43	153.24	148.57	4.67	32.811	
1,200.00	1,200.00	1,201.40	1,201.40	2.56	2.56	11.45	150.19	30.43	153.24	148.12	5.12	29.930	
1,300.00	1,300.00	1,301.40	1,301.40	2.78	2.79	11.45	150.19	30.43	153.24	147.67	5.57	27.515	
1,400.00	1,400.00	1,401.40	1,401.40	3.01	3.01	11.45	150.19	30.43	153.24	147.22	6.02	25.460	
1,500.00	1,500.00	1,501.40	1,501.40	3.23	3.24	11.45	150.19	30.43	153.24	146.77	6.47	23.690	
1,600.00	1,600.00	1,601.40	1,601.40	3.46	3.46	11.45	150.19	30.43	153.24	146.32	6.92	22.151	
1,700.00	1,700.00	1,701.40	1,701.40	3.68	3.69	11.45	150.19	30.43	153.24	145.87	7.37	20.799	
1,800.00	1,800.00	1,801.40	1,801.40	3.91	3.91	11.45	150.19	30.43	153.24	145.42	7.82	19.603	
1,900.00	1,900.00	1,901.40	1,901.40	4.13	4.13	11.45	150.19	30.43	153.24	144.98	8.27	18.537	
2,000.00	2,000.00	2,001.40	2,001.40	4.36	4.36	11.45	150.19	30.43	153.24	144.53	8.72	17.581	
2,100.00	2,100.00	2,101.40	2,101.40	4.58	4.58	11.45	150.19	30.43	153.24	144.08	9.17	16.719	
2,200.00	2,200.00	2,201.40	2,201.40	4.81	4.81	11.45	150.19	30.43	153.24	143.63	9.62	15.937	
2,300.00	2,300.00	2,301.40	2,301.40	5.03	5.03	11.45	150.19	30.43	153.24	143.18	10.06	15.226	
2,400.00	2,400.00	2,401.40	2,401.40	5.26	5.26	11.45	150.19	30.43	153.24	142.73	10.51	14.575	
2,500.00	2,500.00	2,501.40	2,501.40	5.48	5.48	11.45	150.19	30.43	153.24	142.28	10.96	13.977	
2,600.00	2,600.00	2,601.40	2,601.40	5.71	5.71	11.45	150.19	30.43	153.24	141.83	11.41	13.426	
2,700.00	2,700.00	2,701.40	2,701.40	5.93	5.93	11.45	150.19	30.43	153.24	141.38	11.86	12.918	
2,800.00	2,800.00	2,801.40	2,801.40	6.15	6.16	11.45	150.19	30.43	153.24	140.93	12.31	12.446	
2,900.00	2,900.00	2,901.40	2,901.40	6.38	6.38	11.45	150.19	30.43	153.24	140.48	12.76	12.008	
3,000.00	3,000.00	3,001.40	3,001.40	6.60	6.61	11.45	150.19	30.43	153.24	140.03	13.21	11.599	
3,100.00	3,099.99	3,101.39	3,101.39	6.83	6.83	23.60	150.19	30.43	152.44	138.78	13.66	11.159	
3,200.00	3,199.96	3,201.36	3,201.36	7.05	7.06	24.01	150.19	30.43	150.05	135.94	14.11	10.634	
3,300.00	3,299.87	3,301.27	3,301.27	7.28	7.28	24.70	150.19	30.43	146.17	131.61	14.56	10.040	
3,400.00	3,399.76	3,401.16	3,401.16	7.50	7.51	25.48	150.19	30.43	141.98	126.97	15.01	9.460	
3,500.00	3,499.65	3,501.05	3,501.05	7.73	7.73	26.31	150.19	30.43	137.81	122.35	15.46	8.916	
3,600.00	3,599.55	3,600.95	3,600.95	7.95	7.95	27.18	150.19	30.43	133.68	117.77	15.91	8.404	
3,700.00	3,699.44	3,700.84	3,700.84	8.18	8.18	28.12	150.19	30.43	129.58	113.22	16.36	7.922	
3,800.00	3,799.33	3,800.73	3,800.73	8.40	8.40	29.11	150.19	30.43	125.51	108.71	16.81	7.468	
3,900.00	3,899.23	3,900.63	3,900.63	8.63	8.63	30.18	150.19	30.43	121.49	104.23	17.26	7.040	
4,000.00	3,999.12	4,000.52	4,000.52	8.85	8.85	31.31	150.19	30.43	117.51	99.80	17.71	6.636	
4,100.00	4,099.01	4,100.41	4,100.41	9.08	9.08	32.52	150.19	30.43	113.58	95.42	18.16	6.255	
4,200.00	4,198.90	4,200.30	4,200.30	9.31	9.30	33.82	150.19	30.43	109.71	91.10	18.61	5.895	
4,300.00	4,298.80	4,300.20	4,300.20	9.54	9.53	35.22	150.19	30.43	105.89	86.83	19.06	5.556	
4,400.00	4,398.69	4,400.09	4,400.09	9.76	9.75	36.71	150.19	30.43	102.14	82.63	19.51	5.235	
4,500.00	4,498.58	4,499.98	4,499.98	9.99	9.98	38.32	150.19	30.43	98.47	78.51	19.96	4.933	
4,600.00	4,598.48	4,599.01	4,599.00	10.22	10.19	40.48	150.24	31.28	95.34	74.93	20.40	4.673	
4,700.00	4,698.37	4,697.95	4,697.91	10.45	10.38	43.64	150.40	33.84	93.33	72.50	20.82	4.482	
4,790.08	4,788.36	4,786.97	4,786.85	10.66	10.56	47.30	150.62	37.60	92.70	71.49	21.21	4.371 CC	
4,800.00	4,798.26	4,796.76	4,796.62	10.68	10.58	47.75	150.65	38.10	92.70	71.46	21.25	4.363 ES	
4,900.00	4,898.15	4,895.36	4,895.04	10.91	10.78	52.63	151.01	44.04	93.76	72.10	21.67	4.328 SF	
5,000.00	4,998.05	4,993.70	4,993.09	11.14	10.99	58.02	151.47	51.65	96.80	74.73	22.08	4.385	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.00	5,097.94	5,091.74	5,090.68	11.37	11.19	63.57	152.04	60.90	102.07	79.59	22.48	4.540	
5,200.00	5,197.83	5,190.41	5,188.78	11.60	11.40	68.93	152.68	71.57	109.41	86.52	22.89	4.779	
5,300.00	5,297.73	5,289.63	5,287.40	11.83	11.62	73.64	153.34	82.42	117.72	94.40	23.32	5.048	
5,400.00	5,397.62	5,388.84	5,386.02	12.06	11.84	77.71	153.99	93.26	126.71	102.96	23.74	5.336	
5,500.00	5,497.51	5,488.06	5,484.64	12.29	12.06	81.23	154.65	104.11	136.25	112.08	24.17	5.637	
5,600.00	5,597.40	5,587.28	5,583.26	12.52	12.29	84.28	155.31	114.96	146.24	121.64	24.60	5.944	
5,700.00	5,697.30	5,686.49	5,681.88	12.75	12.51	86.94	155.97	125.80	156.59	131.56	25.04	6.255	
5,800.00	5,797.19	5,785.71	5,780.50	12.98	12.74	89.26	156.62	136.65	167.24	141.77	25.47	6.566	
5,900.00	5,897.08	5,884.93	5,879.12	13.21	12.97	91.30	157.28	147.49	178.12	152.22	25.90	6.876	
6,000.00	5,996.98	5,984.14	5,977.74	13.45	13.21	93.11	157.94	158.34	189.20	162.86	26.34	7.183	
6,100.00	6,096.87	6,083.36	6,076.36	13.68	13.44	94.72	158.59	169.19	200.45	173.67	26.78	7.485	
6,200.00	6,196.76	6,182.58	6,174.98	13.91	13.68	96.15	159.25	180.03	211.84	184.62	27.22	7.783	
6,300.00	6,296.65	6,281.79	6,273.60	14.14	13.92	97.44	159.91	190.88	223.34	195.68	27.66	8.075	
6,400.00	6,396.55	6,381.01	6,372.22	14.37	14.16	98.61	160.56	201.72	234.95	206.85	28.10	8.361	
6,500.00	6,496.44	6,480.23	6,470.84	14.60	14.40	99.66	161.22	212.57	246.64	218.10	28.54	8.641	
6,600.00	6,596.33	6,579.44	6,569.46	14.84	14.64	100.62	161.88	223.42	258.41	229.42	28.99	8.915	
6,700.00	6,696.23	6,678.66	6,668.08	15.07	14.89	101.49	162.53	234.26	270.24	240.81	29.43	9.182	
6,800.00	6,796.12	6,777.88	6,766.70	15.30	15.13	102.29	163.19	245.11	282.13	252.26	29.88	9.443	
6,900.00	6,896.01	6,877.09	6,865.32	15.53	15.38	103.03	163.85	255.96	294.07	263.75	30.32	9.698	
7,000.00	6,995.90	6,976.31	6,963.94	15.76	15.63	103.70	164.50	266.80	306.06	275.29	30.77	9.946	
7,100.00	7,095.80	7,075.53	7,062.56	16.00	15.88	104.33	165.16	277.65	318.08	286.86	31.22	10.189	
7,200.00	7,195.69	7,174.74	7,161.17	16.23	16.13	104.91	165.82	288.49	330.14	298.47	31.67	10.425	
7,300.00	7,295.58	7,273.96	7,259.79	16.46	16.38	105.45	166.47	299.34	342.23	310.11	32.12	10.655	
7,400.00	7,395.48	7,373.18	7,358.41	16.69	16.63	105.96	167.13	310.19	354.34	321.77	32.57	10.880	
7,500.00	7,495.37	7,472.39	7,457.03	16.93	16.89	106.43	167.79	321.03	366.48	333.47	33.02	11.099	
7,600.00	7,595.26	7,571.61	7,555.65	17.16	17.14	106.87	168.44	331.88	378.65	345.18	33.47	11.313	
7,700.00	7,695.15	7,670.83	7,654.27	17.39	17.40	107.28	169.10	342.72	390.84	356.91	33.92	11.521	
7,800.00	7,795.05	7,770.04	7,752.89	17.62	17.66	107.67	169.76	353.57	403.04	368.66	34.38	11.724	
7,900.00	7,894.94	7,869.26	7,851.51	17.86	17.91	108.03	170.41	364.42	415.26	380.43	34.83	11.923	
8,000.00	7,994.83	7,968.48	7,950.13	18.09	18.17	108.38	171.07	375.26	427.50	392.21	35.28	12.116	
8,100.00	8,094.73	8,067.69	8,048.75	18.32	18.43	108.70	171.73	386.11	439.75	404.01	35.74	12.305	
8,200.00	8,194.62	8,166.91	8,147.37	18.55	18.69	109.01	172.38	396.95	452.01	415.82	36.19	12.489	
8,300.00	8,294.53	8,266.16	8,246.02	18.77	18.95	109.35	173.04	407.80	464.11	427.48	36.63	12.670	
8,400.00	8,394.52	8,365.51	8,344.78	18.94	19.21	109.44	173.70	418.67	475.41	438.38	37.02	12.840	
8,500.00	8,494.52	8,464.91	8,443.58	19.13	19.47	97.21	174.36	429.53	486.18	448.74	37.44	12.986	
8,600.00	8,594.52	8,564.31	8,542.38	19.35	19.74	96.97	175.02	440.40	496.94	459.06	37.88	13.118	
8,700.00	8,694.52	8,663.71	8,641.18	19.57	20.00	96.75	175.67	451.26	507.72	469.39	38.33	13.246	
8,800.00	8,794.52	8,763.11	8,739.98	19.79	20.26	96.54	176.33	462.13	518.50	479.73	38.77	13.372	
8,900.00	8,894.52	8,862.50	8,838.78	20.01	20.53	96.33	176.99	473.00	529.30	490.08	39.22	13.496	
9,000.00	8,994.52	8,961.90	8,937.59	20.23	20.79	96.13	177.65	483.86	540.09	500.43	39.67	13.616	
9,100.00	9,094.52	9,061.30	9,036.39	20.45	21.06	95.94	178.30	494.73	550.90	510.78	40.11	13.734	
9,200.00	9,194.52	9,160.70	9,135.19	20.67	21.32	95.76	178.96	505.59	561.70	521.15	40.56	13.849	
9,300.00	9,294.52	9,260.10	9,233.99	20.89	21.59	95.58	179.62	516.46	572.52	531.51	41.01	13.962	
9,400.00	9,394.52	9,359.50	9,332.79	21.11	21.86	95.41	180.28	527.33	583.34	541.88	41.45	14.072	
9,500.00	9,494.52	9,458.90	9,431.59	21.33	22.12	95.25	180.94	538.19	594.16	552.26	41.90	14.180	
9,600.00	9,594.52	9,558.29	9,530.39	21.55	22.39	95.09	181.59	549.06	604.99	562.64	42.35	14.286	
9,700.00	9,694.52	9,657.69	9,629.19	21.77	22.66	94.94	182.25	559.92	615.83	573.03	42.80	14.389	
9,800.00	9,794.18	9,756.71	9,727.61	21.94	22.93	-84.84	182.91	570.75	626.10	582.91	43.19	14.496	
9,900.00	9,891.19	9,852.99	9,823.31	22.06	23.19	-86.10	183.55	581.27	635.37	591.85	43.52	14.600	
10,000.00	9,982.61	9,954.14	9,923.91	22.14	23.43	-88.90	184.18	591.82	644.84	600.98	43.86	14.703	
10,100.00	10,065.65	10,053.57	10,023.01	22.23	23.63	-92.72	184.67	599.79	655.50	611.31	44.19	14.833	
10,200.00	10,137.80	10,140.33	10,109.64	22.31	23.80	-96.35	184.96	604.63	670.92	626.40	44.52	15.069	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,300.00	10,196.86	10,211.62	10,180.88	22.40	23.93	-98.81	185.11	607.14	694.72	649.84	44.88	15.479	
10,400.00	10,241.03	10,265.10	10,234.35	22.59	24.03	-99.19	185.17	608.16	729.45	684.18	45.26	16.115	
10,500.00	10,268.98	10,299.04	10,268.29	22.87	24.09	-96.76	185.19	608.41	775.82	730.16	45.65	16.994	
10,600.00	10,279.86	10,312.01	10,281.26	23.24	24.11	-90.97	185.19	608.43	832.63	786.62	46.00	18.099	
10,700.00	10,280.00	10,312.15	10,281.40	23.70	24.11	-90.00	185.19	608.43	897.34	851.02	46.31	19.376	
10,800.00	10,280.00	10,312.15	10,281.40	24.26	24.11	-90.00	185.19	608.43	968.07	921.48	46.59	20.777	
10,900.00	10,280.00	10,312.15	10,281.40	24.91	24.11	-90.00	185.19	608.43	1,043.60	996.76	46.85	22.277	
11,000.00	10,280.00	11,847.47	11,153.00	25.65	29.15	-142.93	-724.45	609.79	1,092.38	1,052.15	40.23	27.153	
11,100.00	10,280.00	11,947.47	11,153.00	26.47	29.97	-142.93	-824.45	609.94	1,092.39	1,051.11	41.28	26.462	
11,200.00	10,280.00	12,047.47	11,153.00	27.37	30.86	-142.93	-924.45	610.09	1,092.40	1,049.97	42.43	25.745	
11,300.00	10,280.00	12,147.47	11,153.00	28.33	31.80	-142.93	-1,024.45	610.24	1,092.41	1,048.74	43.67	25.015	
11,400.00	10,280.00	12,247.47	11,153.00	29.35	32.80	-142.93	-1,124.44	610.39	1,092.42	1,047.43	44.99	24.280	
11,500.00	10,280.00	12,347.47	11,153.00	30.43	33.85	-142.93	-1,224.44	610.54	1,092.43	1,046.04	46.39	23.549	
11,600.00	10,280.00	12,447.47	11,153.00	31.55	34.95	-142.93	-1,324.44	610.69	1,092.43	1,044.58	47.86	22.828	
11,700.00	10,280.00	12,547.47	11,153.00	32.72	36.09	-142.92	-1,424.44	610.84	1,092.44	1,043.06	49.39	22.121	
11,800.00	10,280.00	12,647.47	11,153.00	33.92	37.26	-142.92	-1,524.44	610.99	1,092.45	1,041.48	50.97	21.433	
11,900.00	10,280.00	12,747.47	11,153.00	35.16	38.47	-142.92	-1,624.44	611.14	1,092.46	1,039.85	52.61	20.765	
12,000.00	10,280.00	12,847.47	11,153.00	36.43	39.70	-142.92	-1,724.44	611.29	1,092.47	1,038.17	54.30	20.121	
12,100.00	10,280.00	12,947.47	11,153.00	37.73	40.97	-142.92	-1,824.44	611.44	1,092.48	1,036.45	56.02	19.500	
12,200.00	10,280.00	13,047.47	11,153.00	39.06	42.26	-142.92	-1,924.44	611.59	1,092.49	1,034.69	57.79	18.904	
12,300.00	10,280.00	13,147.47	11,153.00	40.40	43.57	-142.92	-2,024.44	611.74	1,092.50	1,032.90	59.60	18.332	
12,400.00	10,280.00	13,247.47	11,153.00	41.77	44.91	-142.92	-2,124.44	611.89	1,092.50	1,031.07	61.43	17.784	
12,500.00	10,280.00	13,347.47	11,153.00	43.16	46.26	-142.92	-2,224.44	612.04	1,092.51	1,029.21	63.30	17.260	
12,600.00	10,280.00	13,447.47	11,153.00	44.56	47.64	-142.92	-2,324.44	612.19	1,092.52	1,027.33	65.19	16.759	
12,700.00	10,280.00	13,547.47	11,153.00	45.98	49.02	-142.92	-2,424.44	612.34	1,092.53	1,025.42	67.11	16.280	
12,800.00	10,280.00	13,647.47	11,153.00	47.41	50.43	-142.92	-2,524.44	612.49	1,092.54	1,023.49	69.05	15.822	
12,900.00	10,280.00	13,747.47	11,153.00	48.86	51.84	-142.92	-2,624.44	612.64	1,092.55	1,021.54	71.01	15.385	
13,000.00	10,280.00	13,847.47	11,153.00	50.31	53.27	-142.92	-2,724.44	612.79	1,092.56	1,019.56	72.99	14.968	
13,100.00	10,280.00	13,947.47	11,153.00	51.78	54.71	-142.92	-2,824.44	612.94	1,092.57	1,017.57	74.99	14.569	
13,200.00	10,280.00	14,047.47	11,153.00	53.26	56.17	-142.92	-2,924.44	613.09	1,092.57	1,015.57	77.01	14.188	
13,300.00	10,280.00	14,147.47	11,153.00	54.74	57.63	-142.92	-3,024.44	613.24	1,092.58	1,013.54	79.04	13.823	
13,400.00	10,280.00	14,247.47	11,153.00	56.24	59.10	-142.91	-3,124.44	613.39	1,092.59	1,011.51	81.08	13.475	
13,500.00	10,280.00	14,347.47	11,153.00	57.74	60.58	-142.91	-3,224.44	613.54	1,092.60	1,009.46	83.14	13.142	
13,600.00	10,280.00	14,447.47	11,153.00	59.25	62.06	-142.91	-3,324.44	613.69	1,092.61	1,007.40	85.21	12.822	
13,700.00	10,280.00	14,547.47	11,153.00	60.77	63.56	-142.91	-3,424.44	613.84	1,092.62	1,005.33	87.29	12.517	
13,800.00	10,280.00	14,647.47	11,153.00	62.29	65.06	-142.91	-3,524.44	613.99	1,092.63	1,003.24	89.38	12.224	
13,900.00	10,280.00	14,747.47	11,153.00	63.81	66.57	-142.91	-3,624.44	614.14	1,092.63	1,001.15	91.48	11.944	
14,000.00	10,280.00	14,847.47	11,153.00	65.35	68.08	-142.91	-3,724.44	614.29	1,092.64	999.05	93.59	11.674	
14,100.00	10,280.00	14,947.47	11,153.00	66.88	69.60	-142.91	-3,824.44	614.44	1,092.65	996.94	95.71	11.416	
14,200.00	10,280.00	15,047.47	11,153.00	68.43	71.12	-142.91	-3,924.44	614.59	1,092.66	994.82	97.84	11.168	
14,300.00	10,280.00	15,147.47	11,153.00	69.97	72.65	-142.91	-4,024.44	614.74	1,092.67	992.70	99.97	10.930	
14,400.00	10,280.00	15,247.47	11,153.00	71.52	74.18	-142.91	-4,124.44	614.89	1,092.68	990.57	102.11	10.701	
14,500.00	10,280.00	15,347.47	11,153.00	73.08	75.72	-142.91	-4,224.44	615.04	1,092.69	988.43	104.26	10.481	
14,600.00	10,280.00	15,447.47	11,153.00	74.63	77.26	-142.91	-4,324.44	615.19	1,092.70	986.28	106.41	10.269	
14,700.00	10,280.00	15,547.47	11,153.00	76.20	78.81	-142.91	-4,424.44	615.34	1,092.70	984.13	108.57	10.064	
14,800.00	10,280.00	15,647.47	11,153.00	77.76	80.36	-142.91	-4,524.44	615.49	1,092.71	981.98	110.74	9.868	
14,900.00	10,280.00	15,747.47	11,153.00	79.33	81.91	-142.91	-4,624.44	615.64	1,092.72	979.82	112.91	9.678	
15,000.00	10,280.00	15,847.47	11,153.00	80.90	83.46	-142.90	-4,724.44	615.79	1,092.73	977.65	115.08	9.495	
15,100.00	10,280.00	15,947.47	11,153.00	82.47	85.02	-142.90	-4,824.44	615.94	1,092.74	975.48	117.26	9.319	
15,200.00	10,280.00	16,047.47	11,153.00	84.04	86.58	-142.90	-4,924.44	616.09	1,092.75	973.31	119.44	9.149	
15,300.00	10,280.00	16,147.47	11,153.00	85.62	88.15	-142.90	-5,024.44	616.24	1,092.76	971.13	121.63	8.984	
15,400.00	10,280.00	16,247.47	11,153.00	87.20	89.71	-142.90	-5,124.44	616.39	1,092.76	968.94	123.82	8.825	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,500.00	10,280.00	16,347.47	11,153.00	88.78	91.28	-142.90	-5,224.44	616.54	1,092.77	966.76	126.02	8.672	
15,600.00	10,280.00	16,447.47	11,153.00	90.36	92.85	-142.90	-5,324.44	616.69	1,092.78	964.57	128.21	8.523	
15,700.00	10,280.00	16,547.47	11,153.00	91.95	94.43	-142.90	-5,424.44	616.84	1,092.79	962.38	130.42	8.379	
15,800.00	10,280.00	16,647.47	11,153.00	93.53	96.00	-142.90	-5,524.44	616.99	1,092.80	960.18	132.62	8.240	
15,900.00	10,280.00	16,747.47	11,153.00	95.12	97.58	-142.90	-5,624.44	617.14	1,092.81	957.98	134.83	8.105	
16,000.00	10,280.00	16,847.47	11,153.00	96.71	99.16	-142.90	-5,724.44	617.29	1,092.82	955.78	137.04	7.975	
16,100.00	10,280.00	16,947.47	11,153.00	98.30	100.74	-142.90	-5,824.44	617.44	1,092.83	953.57	139.25	7.848	
16,200.00	10,280.00	17,047.47	11,153.00	99.89	102.32	-142.90	-5,924.44	617.59	1,092.83	951.37	141.47	7.725	
16,300.00	10,280.00	17,147.47	11,153.00	101.49	103.91	-142.90	-6,024.44	617.74	1,092.84	949.16	143.69	7.606	
16,400.00	10,280.00	17,247.47	11,153.00	103.08	105.49	-142.90	-6,124.44	617.89	1,092.85	946.94	145.91	7.490	
16,500.00	10,280.00	17,347.47	11,153.00	104.68	107.08	-142.90	-6,224.44	618.04	1,092.86	944.73	148.13	7.378	
16,600.00	10,280.00	17,447.47	11,153.00	106.28	108.67	-142.90	-6,324.44	618.19	1,092.87	942.51	150.36	7.269	
16,700.00	10,280.00	17,547.47	11,153.00	107.87	110.26	-142.89	-6,424.44	618.34	1,092.88	940.29	152.58	7.162	
16,800.00	10,280.00	17,647.47	11,153.00	109.47	111.85	-142.89	-6,524.44	618.49	1,092.89	938.07	154.81	7.059	
16,900.00	10,280.00	17,747.47	11,153.00	111.08	113.44	-142.89	-6,624.44	618.64	1,092.90	935.85	157.04	6.959	
17,000.00	10,280.00	17,847.47	11,153.00	112.68	115.04	-142.89	-6,724.44	618.79	1,092.90	933.63	159.28	6.862	
17,100.00	10,280.00	17,947.47	11,153.00	114.28	116.63	-142.89	-6,824.44	618.94	1,092.91	931.40	161.51	6.767	
17,200.00	10,280.00	18,047.47	11,153.00	115.88	118.23	-142.89	-6,924.44	619.09	1,092.92	929.17	163.75	6.674	
17,300.00	10,280.00	18,147.47	11,153.00	117.49	119.83	-142.89	-7,024.44	619.24	1,092.93	926.94	165.99	6.584	
17,400.00	10,280.00	18,247.47	11,153.00	119.09	121.42	-142.89	-7,124.44	619.39	1,092.94	924.71	168.23	6.497	
17,500.00	10,280.00	18,347.47	11,153.00	120.70	123.02	-142.89	-7,224.44	619.54	1,092.95	922.48	170.47	6.411	
17,600.00	10,280.00	18,447.47	11,153.00	122.31	124.62	-142.89	-7,324.44	619.69	1,092.96	920.25	172.71	6.328	
17,700.00	10,280.00	18,547.47	11,153.00	123.91	126.22	-142.89	-7,424.44	619.84	1,092.96	918.01	174.95	6.247	
17,800.00	10,280.00	18,647.47	11,153.00	125.52	127.83	-142.89	-7,524.44	619.99	1,092.97	915.77	177.20	6.168	
17,900.00	10,280.00	18,747.47	11,153.00	127.13	129.43	-142.89	-7,624.44	620.14	1,092.98	913.54	179.45	6.091	
18,000.00	10,280.00	18,847.47	11,153.00	128.74	131.03	-142.89	-7,724.44	620.29	1,092.99	911.30	181.69	6.016	
18,100.00	10,280.00	18,947.47	11,153.00	130.35	132.64	-142.89	-7,824.44	620.44	1,093.00	909.06	183.94	5.942	
18,200.00	10,280.00	19,047.47	11,153.00	131.96	134.24	-142.89	-7,924.44	620.59	1,093.01	906.82	186.19	5.870	
18,300.00	10,280.00	19,147.47	11,153.00	133.57	135.85	-142.88	-8,024.44	620.74	1,093.02	904.57	188.44	5.800	
18,400.00	10,280.00	19,247.47	11,153.00	135.19	137.46	-142.88	-8,124.44	620.89	1,093.03	902.33	190.70	5.732	
18,500.00	10,280.00	19,347.47	11,153.00	136.80	139.06	-142.88	-8,224.44	621.04	1,093.03	900.09	192.95	5.665	
18,600.00	10,280.00	19,447.47	11,153.00	138.41	140.67	-142.88	-8,324.44	621.19	1,093.04	897.84	195.20	5.599	
18,700.00	10,280.00	19,547.47	11,153.00	140.03	142.28	-142.88	-8,424.44	621.34	1,093.05	895.59	197.46	5.536	
18,800.00	10,280.00	19,647.47	11,153.00	141.64	143.89	-142.88	-8,524.44	621.49	1,093.06	893.35	199.72	5.473	
18,900.00	10,280.00	19,747.47	11,153.00	143.26	145.50	-142.88	-8,624.44	621.64	1,093.07	891.10	201.97	5.412	
19,000.00	10,280.00	19,847.47	11,153.00	144.87	147.11	-142.88	-8,724.44	621.79	1,093.08	888.85	204.23	5.352	
19,100.00	10,280.00	19,947.47	11,153.00	146.49	148.72	-142.88	-8,824.44	621.94	1,093.09	886.60	206.49	5.294	
19,200.00	10,280.00	20,047.47	11,153.00	148.10	150.33	-142.88	-8,924.44	622.09	1,093.10	884.35	208.75	5.236	
19,300.00	10,280.00	20,147.47	11,153.00	149.72	151.94	-142.88	-9,024.44	622.24	1,093.10	882.09	211.01	5.180	
19,400.00	10,280.00	20,247.47	11,153.00	151.34	153.55	-142.88	-9,124.44	622.39	1,093.11	879.84	213.27	5.125	
19,500.00	10,280.00	20,347.47	11,153.00	152.95	155.17	-142.88	-9,224.44	622.54	1,093.12	877.59	215.53	5.072	
19,600.00	10,280.00	20,447.47	11,153.00	154.57	156.78	-142.88	-9,324.44	622.69	1,093.13	875.33	217.80	5.019	
19,700.00	10,280.00	20,547.47	11,153.00	156.19	158.39	-142.88	-9,424.44	622.84	1,093.14	873.08	220.06	4.967	
19,800.00	10,280.00	20,647.47	11,153.00	157.81	160.01	-142.88	-9,524.44	622.99	1,093.15	870.82	222.32	4.917	
19,900.00	10,280.00	20,747.47	11,153.00	159.43	161.62	-142.88	-9,624.44	623.14	1,093.16	868.57	224.59	4.867	
20,000.00	10,280.00	20,847.47	11,153.00	161.04	163.24	-142.87	-9,724.44	623.29	1,093.17	866.31	226.85	4.819	
20,100.00	10,280.00	20,947.47	11,153.00	162.66	164.85	-142.87	-9,824.44	623.44	1,093.17	864.05	229.12	4.771	
20,200.00	10,280.00	21,047.47	11,153.00	164.28	166.47	-142.87	-9,924.44	623.59	1,093.18	861.80	231.39	4.724	
20,300.00	10,280.00	21,147.47	11,153.00	165.90	168.08	-142.87	-10,024.44	623.74	1,093.19	859.54	233.65	4.679	
20,400.00	10,280.00	21,247.47	11,153.00	167.52	169.70	-142.87	-10,124.43	623.89	1,093.20	857.28	235.92	4.634	
20,404.57	10,280.00	21,252.04	11,153.00	167.60	169.77	-142.87	-10,129.00	623.90	1,093.20	857.18	236.02	4.632	
20,461.36	10,280.00	21,304.85	11,153.00	168.52	170.63	-142.87	-10,181.81	623.98	1,093.21	855.93	237.28	4.607	

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

Company:	Devon Energy	**Local Co-ordinate Reference:**	Well Lusitano 27-34 Fed Com 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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: 0-LEAM MWD+HDGM — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,800.00	6,796.12	6,925.14	6,919.52	15.30	15.38	101.69	183.09	2,134.01	2,172.65	2,142.36	30.29	71.732	
6,900.00	6,896.01	7,024.96	7,019.19	15.53	15.61	101.80	183.59	2,128.54	2,168.12	2,137.37	30.74	70.527	
7,000.00	6,995.90	7,124.78	7,118.85	15.76	15.84	101.90	184.08	2,123.08	2,163.59	2,132.39	31.20	69.356	
7,100.00	7,095.80	7,224.60	7,218.52	16.00	16.08	102.01	184.58	2,117.61	2,159.06	2,127.41	31.65	68.219	
7,200.00	7,195.69	7,324.41	7,318.19	16.23	16.31	102.12	185.07	2,112.14	2,154.55	2,122.45	32.10	67.113	
7,300.00	7,295.58	7,424.23	7,417.85	16.46	16.55	102.22	185.57	2,106.68	2,150.04	2,117.48	32.56	66.039	
7,400.00	7,395.48	7,524.05	7,517.52	16.69	16.78	102.33	186.06	2,101.21	2,145.54	2,112.53	33.01	64.993	
7,500.00	7,495.37	7,623.86	7,617.18	16.93	17.02	102.44	186.56	2,095.74	2,141.05	2,107.58	33.47	63.976	
7,600.00	7,595.26	7,723.68	7,716.85	17.16	17.25	102.55	187.06	2,090.27	2,136.57	2,102.64	33.92	62.986	
7,700.00	7,695.15	7,823.50	7,816.52	17.39	17.49	102.66	187.55	2,084.81	2,132.09	2,097.71	34.38	62.022	
7,800.00	7,795.05	7,923.31	7,916.18	17.62	17.72	102.77	188.05	2,079.34	2,127.62	2,092.79	34.83	61.084	
7,900.00	7,894.94	8,023.13	8,015.85	17.86	17.96	102.88	188.54	2,073.87	2,123.16	2,087.87	35.29	60.169	
8,000.00	7,994.83	8,122.95	8,115.51	18.09	18.19	102.99	189.04	2,068.41	2,118.71	2,082.96	35.74	59.278	
8,100.00	8,094.73	8,222.76	8,215.18	18.32	18.43	103.10	189.53	2,062.94	2,114.26	2,078.06	36.20	58.409	
8,200.00	8,194.62	8,322.58	8,314.84	18.55	18.67	103.21	190.03	2,057.47	2,109.82	2,073.17	36.65	57.562	
8,300.00	8,294.53	8,422.41	8,414.52	18.77	18.90	103.26	190.53	2,052.01	2,105.27	2,068.18	37.09	56.761	
8,400.00	8,394.52	8,522.27	8,514.23	18.94	19.14	103.22	191.02	2,046.54	2,100.16	2,062.67	37.48	56.027	
8,500.00	8,494.52	8,622.12	8,613.93	19.13	19.38	91.19	191.52	2,041.07	2,094.68	2,056.78	37.90	55.270	
8,600.00	8,594.52	8,721.97	8,713.63	19.35	19.61	91.18	192.01	2,035.60	2,089.19	2,050.85	38.34	54.487	
8,700.00	8,694.52	8,821.82	8,813.32	19.57	19.85	91.17	192.51	2,030.13	2,083.70	2,044.92	38.79	53.722	
8,800.00	8,794.52	8,921.67	8,913.02	19.79	20.09	91.16	193.00	2,024.66	2,078.22	2,038.99	39.23	52.974	
8,900.00	8,894.52	9,021.51	9,012.72	20.01	20.32	91.15	193.50	2,019.20	2,072.73	2,033.06	39.68	52.242	
9,000.00	8,994.52	9,121.36	9,112.42	20.23	20.56	91.14	194.00	2,013.73	2,067.25	2,027.13	40.12	51.526	
9,100.00	9,094.52	9,221.21	9,212.12	20.45	20.80	91.13	194.49	2,008.26	2,061.76	2,021.20	40.57	50.826	
9,200.00	9,194.52	9,321.06	9,311.81	20.67	21.04	91.12	194.99	2,002.79	2,056.28	2,015.27	41.01	50.140	
9,300.00	9,294.52	9,420.91	9,411.51	20.89	21.27	91.11	195.48	1,997.32	2,050.79	2,009.33	41.46	49.469	
9,400.00	9,394.52	9,520.76	9,511.21	21.11	21.51	91.09	195.98	1,991.85	2,045.31	2,003.40	41.90	48.813	
9,500.00	9,494.52	9,620.61	9,610.91	21.33	21.75	91.08	196.48	1,986.38	2,039.82	1,997.47	42.35	48.170	
9,600.00	9,594.52	9,720.45	9,710.60	21.55	21.99	91.07	196.97	1,980.92	2,034.33	1,991.54	42.79	47.540	
9,700.00	9,694.52	9,820.30	9,810.30	21.77	22.22	91.06	197.47	1,975.45	2,028.85	1,985.61	43.24	46.923	
9,800.00	9,794.18	9,919.78	9,909.63	21.94	22.46	-89.55	197.96	1,970.00	2,023.26	1,979.63	43.63	46.373	
9,900.00	9,891.19	10,016.53	10,006.23	22.06	22.69	-90.77	198.44	1,964.70	2,017.70	1,973.74	43.96	45.900	
10,000.00	9,982.61	10,100.41	10,089.98	22.14	22.89	-92.20	198.86	1,960.11	2,012.94	1,968.71	44.23	45.509	
10,100.00	10,065.65	10,159.45	10,148.96	22.23	23.01	-93.35	199.11	1,957.33	2,010.73	1,966.29	44.43	45.253	
10,108.22	10,072.02	10,163.62	10,153.13	22.24	23.02	-93.43	199.12	1,957.16	2,010.71	1,966.26	44.45	45.236	CC, ES
10,200.00	10,137.80	10,200.00	10,189.48	22.31	23.10	-93.96	199.24	1,955.94	2,012.56	1,967.95	44.61	45.113	
10,300.00	10,196.86	10,245.52	10,234.99	22.40	23.18	-94.33	199.33	1,954.90	2,019.13	1,974.30	44.83	45.044	SF
10,400.00	10,241.03	10,274.59	10,264.06	22.59	23.23	-93.87	199.36	1,954.52	2,031.04	1,985.96	45.07	45.061	
10,500.00	10,268.98	10,300.00	10,289.47	22.87	23.27	-92.80	199.38	1,954.36	2,048.49	2,003.10	45.39	45.132	
10,600.00	10,279.86	10,300.00	10,289.47	23.24	23.27	-90.47	199.38	1,954.36	2,071.20	2,025.48	45.73	45.296	
10,700.00	10,280.00	10,300.00	10,289.47	23.70	23.27	-90.14	199.38	1,954.36	2,098.64	2,052.51	46.13	45.494	
10,800.00	10,280.00	10,300.00	10,289.47	24.26	23.27	-90.14	199.38	1,954.36	2,130.43	2,083.83	46.60	45.717	
10,900.00	10,280.00	10,300.00	10,289.47	24.91	23.27	-90.14	199.38	1,954.36	2,166.37	2,119.24	47.12	45.974	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	89.63	0.39	59.94	59.95				
100.00	100.00	98.80	98.80	0.09	0.08	89.63	0.39	59.94	59.94	59.77	0.17	350.709	
200.00	200.00	198.80	198.80	0.31	0.31	89.63	0.39	59.94	59.94	59.32	0.62	96.870	
300.00	300.00	298.80	298.80	0.54	0.53	89.63	0.39	59.94	59.94	58.87	1.07	56.108	
400.00	400.00	398.80	398.80	0.76	0.76	89.63	0.39	59.94	59.94	58.42	1.52	39.491	
500.00	500.00	498.80	498.80	0.99	0.98	89.63	0.39	59.94	59.94	57.97	1.97	30.468	
600.00	600.00	598.80	598.80	1.21	1.21	89.63	0.39	59.94	59.94	57.52	2.42	24.801	
700.00	700.00	698.80	698.80	1.43	1.43	89.63	0.39	59.94	59.94	57.07	2.87	20.911	
800.00	800.00	798.80	798.80	1.66	1.66	89.63	0.39	59.94	59.94	56.63	3.32	18.077	
900.00	900.00	898.80	898.80	1.88	1.88	89.63	0.39	59.94	59.94	56.18	3.77	15.919	
1,000.00	1,000.00	998.80	998.80	2.11	2.11	89.63	0.39	59.94	59.94	55.73	4.22	14.221	
1,100.00	1,100.00	1,098.80	1,098.80	2.33	2.33	89.63	0.39	59.94	59.94	55.28	4.66	12.850	
1,200.00	1,200.00	1,198.80	1,198.80	2.56	2.56	89.63	0.39	59.94	59.94	54.83	5.11	11.721	
1,300.00	1,300.00	1,298.80	1,298.80	2.78	2.78	89.63	0.39	59.94	59.94	54.38	5.56	10.774	
1,400.00	1,400.00	1,398.80	1,398.80	3.01	3.01	89.63	0.39	59.94	59.94	53.93	6.01	9.968	
1,500.00	1,500.00	1,498.80	1,498.80	3.23	3.23	89.63	0.39	59.94	59.94	53.48	6.46	9.275	
1,600.00	1,600.00	1,598.80	1,598.80	3.46	3.45	89.63	0.39	59.94	59.94	53.03	6.91	8.672	
1,700.00	1,700.00	1,698.80	1,698.80	3.68	3.68	89.63	0.39	59.94	59.94	52.58	7.36	8.142	
1,800.00	1,800.00	1,798.80	1,798.80	3.91	3.90	89.63	0.39	59.94	59.94	52.13	7.81	7.674	
1,900.00	1,900.00	1,898.80	1,898.80	4.13	4.13	89.63	0.39	59.94	59.94	51.68	8.26	7.256	
2,000.00	2,000.00	1,998.80	1,998.80	4.36	4.35	89.63	0.39	59.94	59.94	51.23	8.71	6.882	
2,100.00	2,100.00	2,098.80	2,098.80	4.58	4.58	89.63	0.39	59.94	59.94	50.78	9.16	6.544	
2,200.00	2,200.00	2,198.80	2,198.80	4.81	4.80	89.63	0.39	59.94	59.94	50.33	9.61	6.238	
2,300.00	2,300.00	2,298.80	2,298.80	5.03	5.03	89.63	0.39	59.94	59.94	49.88	10.06	5.959	
2,400.00	2,400.00	2,398.80	2,398.80	5.26	5.25	89.63	0.39	59.94	59.94	49.43	10.51	5.704	
2,500.00	2,500.00	2,498.80	2,498.80	5.48	5.48	89.63	0.39	59.94	59.94	48.98	10.96	5.470	
2,600.00	2,600.00	2,598.80	2,598.80	5.71	5.70	89.63	0.39	59.94	59.94	48.53	11.41	5.255	
2,700.00	2,700.00	2,698.80	2,698.80	5.93	5.93	89.63	0.39	59.94	59.94	48.08	11.86	5.055	
2,800.00	2,800.00	2,798.80	2,798.80	6.15	6.15	89.63	0.39	59.94	59.94	47.63	12.31	4.871	
2,900.00	2,900.00	2,898.80	2,898.80	6.38	6.38	89.63	0.39	59.94	59.94	47.19	12.76	4.699	
3,000.00	3,000.00	2,998.80	2,998.80	6.60	6.60	89.63	0.39	59.94	59.94	46.74	13.21	4.539 CC	
3,100.00	3,099.99	3,098.79	3,098.79	6.83	6.83	102.45	0.39	59.94	60.12	46.47	13.65	4.403 ES	
3,200.00	3,199.96	3,198.76	3,198.76	7.05	7.05	104.86	0.39	59.94	60.74	46.64	14.10	4.307	
3,300.00	3,299.87	3,298.67	3,298.67	7.28	7.28	108.65	0.39	59.94	61.97	47.42	14.55	4.259	
3,400.00	3,399.76	3,398.56	3,398.56	7.50	7.50	112.60	0.39	59.94	63.60	48.61	15.00	4.241 SF	
3,500.00	3,499.65	3,498.45	3,498.45	7.73	7.72	116.34	0.39	59.94	65.52	50.08	15.45	4.242	
3,600.00	3,599.55	3,597.39	3,597.38	7.95	7.94	119.41	0.63	60.74	68.40	52.52	15.88	4.307	
3,700.00	3,699.44	3,696.26	3,696.23	8.18	8.14	121.42	1.37	63.18	72.85	56.54	16.30	4.468	
3,800.00	3,799.33	3,795.04	3,794.91	8.40	8.35	122.43	2.61	67.24	78.73	62.01	16.72	4.708	
3,900.00	3,899.23	3,893.65	3,893.34	8.63	8.55	122.60	4.33	72.91	85.99	68.85	17.14	5.016	
4,000.00	3,999.12	3,992.39	3,991.78	8.85	8.77	122.11	6.55	80.22	94.62	77.06	17.56	5.387	
4,100.00	4,099.01	4,091.60	4,090.62	9.08	8.98	121.41	9.03	88.38	103.94	85.95	17.99	5.777	
4,200.00	4,198.90	4,191.15	4,189.81	9.31	9.20	120.83	11.52	96.56	113.28	94.85	18.43	6.147	
4,300.00	4,298.80	4,290.71	4,289.00	9.54	9.42	120.33	14.01	104.75	122.62	103.76	18.87	6.500	
4,400.00	4,398.69	4,390.27	4,388.19	9.76	9.64	119.91	16.50	112.93	131.97	112.67	19.30	6.837	
4,500.00	4,498.58	4,489.82	4,487.38	9.99	9.87	119.54	18.99	121.12	141.33	121.59	19.74	7.158	
4,600.00	4,598.48	4,589.38	4,586.57	10.22	10.09	119.22	21.47	129.31	150.70	130.51	20.19	7.465	
4,700.00	4,698.37	4,688.94	4,685.75	10.45	10.32	118.94	23.96	137.49	160.07	139.44	20.63	7.759	
4,800.00	4,798.26	4,788.50	4,784.94	10.68	10.55	118.68	26.45	145.68	169.44	148.36	21.07	8.040	
4,900.00	4,898.15	4,888.05	4,884.13	10.91	10.78	118.46	28.94	153.86	178.81	157.29	21.52	8.309	
5,000.00	4,998.05	4,987.61	4,983.32	11.14	11.01	118.25	31.43	162.05	188.19	166.22	21.97	8.567	
5,100.00	5,097.94	5,087.17	5,082.51	11.37	11.24	118.07	33.91	170.23	197.57	175.15	22.41	8.814	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.00	5,197.83	5,186.73	5,181.70	11.60	11.48	117.90	36.40	178.42	206.95	184.09	22.86	9.052	
5,300.00	5,297.73	5,286.28	5,280.89	11.83	11.72	117.75	38.89	186.61	216.33	193.02	23.31	9.280	
5,400.00	5,397.62	5,385.84	5,380.08	12.06	11.95	117.61	41.38	194.79	225.72	201.95	23.76	9.499	
5,500.00	5,497.51	5,485.40	5,479.27	12.29	12.19	117.48	43.87	202.98	235.10	210.89	24.21	9.710	
5,600.00	5,597.40	5,584.95	5,578.45	12.52	12.43	117.36	46.35	211.16	244.49	219.82	24.66	9.912	
5,700.00	5,697.30	5,684.51	5,677.64	12.75	12.67	117.25	48.84	219.35	253.88	228.76	25.12	10.108	
5,800.00	5,797.19	5,784.07	5,776.83	12.98	12.91	117.14	51.33	227.54	263.26	237.69	25.57	10.296	
5,900.00	5,897.08	5,883.63	5,876.02	13.21	13.15	117.05	53.82	235.72	272.65	246.63	26.02	10.477	
6,000.00	5,996.98	5,983.18	5,975.21	13.45	13.39	116.96	56.31	243.91	282.04	255.56	26.48	10.652	
6,100.00	6,096.87	6,082.74	6,074.40	13.68	13.64	116.87	58.80	252.09	291.43	264.50	26.93	10.821	
6,200.00	6,196.76	6,182.30	6,173.59	13.91	13.88	116.80	61.28	260.28	300.82	273.44	27.39	10.983	
6,300.00	6,296.65	6,281.86	6,272.78	14.14	14.12	116.72	63.77	268.46	310.22	282.37	27.84	11.141	
6,400.00	6,396.55	6,381.41	6,371.97	14.37	14.37	116.65	66.26	276.65	319.61	291.31	28.30	11.293	
6,500.00	6,496.44	6,480.97	6,471.16	14.60	14.61	116.59	68.75	284.84	329.00	300.24	28.76	11.440	
6,600.00	6,596.33	6,580.53	6,570.34	14.84	14.86	116.53	71.24	293.02	338.39	309.18	29.22	11.583	
6,700.00	6,696.23	6,680.08	6,669.53	15.07	15.11	116.47	73.72	301.21	347.79	318.11	29.67	11.721	
6,800.00	6,796.12	6,779.64	6,768.72	15.30	15.35	116.41	76.21	309.39	357.18	327.05	30.13	11.854	
6,900.00	6,896.01	6,879.20	6,867.91	15.53	15.60	116.36	78.70	317.58	366.57	335.98	30.59	11.984	
7,000.00	6,995.90	6,978.76	6,967.10	15.76	15.85	116.31	81.19	325.76	375.97	344.92	31.05	12.109	
7,100.00	7,095.80	7,078.31	7,066.29	16.00	16.10	116.26	83.68	333.95	385.36	353.85	31.51	12.231	
7,200.00	7,195.69	7,177.87	7,165.48	16.23	16.35	116.22	86.16	342.14	394.76	362.79	31.97	12.349	
7,300.00	7,295.58	7,277.43	7,264.67	16.46	16.59	116.18	88.65	350.32	404.15	371.72	32.43	12.463	
7,400.00	7,395.48	7,376.98	7,363.86	16.69	16.84	116.13	91.14	358.51	413.55	380.66	32.89	12.575	
7,500.00	7,495.37	7,476.54	7,463.04	16.93	17.09	116.10	93.63	366.69	422.94	389.59	33.35	12.683	
7,600.00	7,595.26	7,576.10	7,562.23	17.16	17.34	116.06	96.12	374.88	432.34	398.53	33.81	12.788	
7,700.00	7,695.15	7,685.86	7,671.70	17.39	17.57	116.11	98.46	382.57	440.66	406.37	34.29	12.851	
7,800.00	7,795.05	7,796.68	7,782.40	17.62	17.78	116.38	99.89	387.29	446.51	411.76	34.75	12.849	
7,900.00	7,894.94	7,907.67	7,893.37	17.86	17.98	116.85	100.39	388.94	449.91	414.72	35.19	12.785	
8,000.00	7,994.83	8,007.93	7,993.63	18.09	18.17	117.37	100.39	388.94	452.02	416.40	35.62	12.689	
8,100.00	8,094.73	8,107.82	8,093.53	18.32	18.38	117.89	100.39	388.94	454.17	418.10	36.07	12.590	
8,200.00	8,194.62	8,207.71	8,193.42	18.55	18.59	118.40	100.39	388.94	456.35	419.83	36.52	12.495	
8,300.00	8,294.53	8,288.94	8,274.41	18.77	18.73	119.43	95.14	388.95	460.26	423.39	36.87	12.484	
8,400.00	8,394.52	8,366.24	8,350.07	18.94	18.86	121.49	79.58	388.97	467.67	430.60	37.07	12.617	
8,500.00	8,494.52	8,438.35	8,418.16	19.13	18.97	112.18	56.00	389.01	480.01	442.88	37.13	12.928	
8,600.00	8,594.52	8,500.00	8,473.65	19.35	19.06	115.11	29.20	389.04	499.43	462.48	36.95	13.516	
8,700.00	8,694.52	8,561.54	8,525.84	19.57	19.14	118.49	-3.35	389.09	526.93	490.33	36.60	14.398	
8,800.00	8,794.52	8,612.29	8,566.06	19.79	19.22	121.52	-34.27	389.14	563.02	527.09	35.93	15.670	
8,900.00	8,894.52	8,650.00	8,594.09	20.01	19.28	123.84	-59.49	389.17	607.57	572.63	34.94	17.391	
9,000.00	8,994.52	8,700.00	8,628.58	20.23	19.36	126.97	-95.67	389.23	659.77	625.59	34.18	19.303	
9,100.00	9,094.52	8,728.19	8,646.59	20.45	19.41	128.73	-117.34	389.26	718.79	685.72	33.07	21.734	
9,200.00	9,194.52	8,750.00	8,659.79	20.67	19.46	130.08	-134.71	389.28	783.78	751.82	31.96	24.524	
9,300.00	9,294.52	8,782.70	8,678.31	20.89	19.53	132.08	-161.66	389.32	853.57	822.37	31.20	27.355	
9,400.00	9,394.52	8,800.00	8,687.47	21.11	19.57	133.11	-176.33	389.35	927.60	897.28	30.32	30.595	
9,500.00	9,494.52	8,824.84	8,699.85	21.33	19.63	134.57	-197.86	389.38	1,004.99	975.28	29.72	33.821	
9,600.00	9,594.52	8,850.00	8,711.42	21.55	19.70	136.01	-220.20	389.41	1,085.37	1,056.13	29.24	37.119	
9,700.00	9,694.52	8,850.00	8,711.42	21.77	19.70	136.01	-220.20	389.41	1,168.08	1,139.55	28.52	40.952	
9,800.00	9,794.18	8,874.04	8,721.56	21.94	19.78	-34.93	-242.00	389.44	1,249.90	1,221.73	28.17	44.364	
9,900.00	9,891.19	8,900.00	8,731.46	22.06	19.86	-28.19	-265.99	389.48	1,325.42	1,297.65	27.78	47.719	
10,000.00	9,982.61	8,900.00	8,731.46	22.14	19.86	-24.14	-265.99	389.48	1,393.07	1,366.00	27.06	51.473	
10,100.00	10,065.65	8,950.00	8,747.43	22.23	20.06	-20.82	-313.36	389.55	1,451.17	1,424.26	26.91	53.931	
10,200.00	10,137.80	8,950.00	8,747.43	22.31	20.06	-18.95	-313.36	389.55	1,499.16	1,472.87	26.30	57.009	
10,300.00	10,196.86	9,000.00	8,759.21	22.40	20.28	-17.46	-361.93	389.62	1,536.06	1,509.85	26.21	58.611	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,400.00	10,241.03	9,000.00	8,759.21	22.59	20.28	-16.68	-361.93	389.62	1,561.64	1,535.79	25.85	60.416	
10,500.00	10,268.98	9,050.00	8,766.72	22.87	20.54	-16.22	-411.35	389.69	1,574.89	1,548.93	25.96	60.669	
10,600.00	10,279.86	9,070.73	8,768.56	23.24	20.65	-16.18	-431.99	389.72	1,576.21	1,550.16	26.05	60.500	
10,700.00	10,280.00	9,100.00	8,769.89	23.70	20.82	-16.22	-461.23	389.76	1,571.85	1,545.50	26.34	59.665	
10,747.73	10,280.00	9,111.34	8,770.00	23.96	20.89	-16.22	-472.57	389.78	1,571.32	1,544.79	26.53	59.222	
10,800.00	10,280.00	9,163.56	8,770.00	24.26	21.23	-16.22	-524.79	389.86	1,571.32	1,544.47	26.85	58.511	
10,900.00	10,280.00	9,263.56	8,770.00	24.91	21.94	-16.22	-624.79	390.00	1,571.32	1,543.78	27.54	57.053	
11,000.00	10,280.00	9,363.56	8,770.00	25.65	22.75	-16.22	-724.79	390.15	1,571.33	1,543.02	28.31	55.504	
11,100.00	10,280.00	9,463.56	8,770.00	26.47	23.64	-16.22	-824.79	390.30	1,571.33	1,542.17	29.16	53.894	
11,200.00	10,280.00	9,563.56	8,770.00	27.37	24.61	-16.22	-924.79	390.44	1,571.33	1,541.26	30.07	52.253	
11,300.00	10,280.00	9,663.56	8,770.00	28.33	25.65	-16.22	-1,024.79	390.59	1,571.34	1,540.28	31.05	50.604	
11,400.00	10,280.00	9,763.56	8,770.00	29.35	26.74	-16.22	-1,124.79	390.74	1,571.34	1,539.25	32.09	48.968	
11,500.00	10,280.00	9,863.56	8,770.00	30.43	27.89	-16.22	-1,224.79	390.88	1,571.34	1,538.16	33.18	47.360	
11,600.00	10,280.00	9,963.56	8,770.00	31.55	29.09	-16.22	-1,324.79	391.03	1,571.34	1,537.03	34.32	45.791	
11,700.00	10,280.00	10,063.56	8,770.00	32.72	30.32	-16.22	-1,424.79	391.18	1,571.35	1,535.85	35.50	44.269	
11,800.00	10,280.00	10,163.56	8,770.00	33.92	31.60	-16.22	-1,524.79	391.32	1,571.35	1,534.64	36.71	42.799	
11,900.00	10,280.00	10,263.56	8,770.00	35.16	32.90	-16.22	-1,624.79	391.47	1,571.35	1,533.39	37.97	41.387	
12,000.00	10,280.00	10,363.56	8,770.00	36.43	34.24	-16.22	-1,724.79	391.62	1,571.36	1,532.10	39.25	40.032	
12,100.00	10,280.00	10,463.56	8,770.00	37.73	35.59	-16.22	-1,824.79	391.76	1,571.36	1,530.79	40.57	38.736	
12,200.00	10,280.00	10,563.56	8,770.00	39.06	36.98	-16.22	-1,924.79	391.91	1,571.36	1,529.46	41.91	37.497	
12,300.00	10,280.00	10,663.56	8,770.00	40.40	38.38	-16.22	-2,024.79	392.06	1,571.37	1,528.10	43.27	36.316	
12,400.00	10,280.00	10,763.56	8,770.00	41.77	39.80	-16.22	-2,124.79	392.21	1,571.37	1,526.72	44.65	35.190	
12,500.00	10,280.00	10,863.56	8,770.00	43.16	41.23	-16.22	-2,224.79	392.35	1,571.37	1,525.32	46.06	34.118	
12,600.00	10,280.00	10,963.56	8,770.00	44.56	42.68	-16.22	-2,324.79	392.50	1,571.38	1,523.90	47.48	33.096	
12,700.00	10,280.00	11,063.56	8,770.00	45.98	44.14	-16.22	-2,424.79	392.65	1,571.38	1,522.46	48.92	32.123	
12,800.00	10,280.00	11,163.56	8,770.00	47.41	45.62	-16.22	-2,524.79	392.79	1,571.38	1,521.01	50.37	31.197	
12,900.00	10,280.00	11,263.56	8,770.00	48.86	47.10	-16.23	-2,624.79	392.94	1,571.39	1,519.55	51.84	30.314	
13,000.00	10,280.00	11,363.56	8,770.00	50.31	48.60	-16.23	-2,724.79	393.09	1,571.39	1,518.07	53.32	29.473	
13,100.00	10,280.00	11,463.56	8,770.00	51.78	50.10	-16.23	-2,824.79	393.23	1,571.39	1,516.59	54.81	28.672	
13,200.00	10,280.00	11,563.56	8,770.00	53.26	51.61	-16.23	-2,924.79	393.38	1,571.39	1,515.09	56.31	27.908	
13,300.00	10,280.00	11,663.56	8,770.00	54.74	53.13	-16.23	-3,024.79	393.53	1,571.40	1,513.58	57.82	27.178	
13,400.00	10,280.00	11,763.56	8,770.00	56.24	54.65	-16.23	-3,124.79	393.67	1,571.40	1,512.06	59.34	26.482	
13,500.00	10,280.00	11,863.56	8,770.00	57.74	56.18	-16.23	-3,224.79	393.82	1,571.40	1,510.54	60.87	25.817	
13,600.00	10,280.00	11,963.56	8,770.00	59.25	57.72	-16.23	-3,324.79	393.97	1,571.41	1,509.01	62.40	25.182	
13,700.00	10,280.00	12,063.56	8,770.00	60.77	59.26	-16.23	-3,424.79	394.11	1,571.41	1,507.46	63.95	24.574	
13,800.00	10,280.00	12,163.56	8,770.00	62.29	60.81	-16.23	-3,524.79	394.26	1,571.41	1,505.92	65.50	23.993	
13,900.00	10,280.00	12,263.56	8,770.00	63.81	62.36	-16.23	-3,624.79	394.41	1,571.42	1,504.37	67.05	23.436	
14,000.00	10,280.00	12,363.56	8,770.00	65.35	63.92	-16.23	-3,724.79	394.55	1,571.42	1,502.81	68.61	22.902	
14,100.00	10,280.00	12,463.56	8,770.00	66.88	65.48	-16.23	-3,824.79	394.70	1,571.42	1,501.24	70.18	22.391	
14,200.00	10,280.00	12,563.56	8,770.00	68.43	67.04	-16.23	-3,924.79	394.85	1,571.43	1,499.67	71.75	21.900	
14,300.00	10,280.00	12,663.56	8,770.00	69.97	68.61	-16.23	-4,024.79	394.99	1,571.43	1,498.10	73.33	21.429	
14,400.00	10,280.00	12,763.56	8,770.00	71.52	70.18	-16.23	-4,124.79	395.14	1,571.43	1,496.52	74.91	20.977	
14,500.00	10,280.00	12,863.56	8,770.00	73.08	71.75	-16.23	-4,224.79	395.29	1,571.44	1,494.94	76.50	20.542	
14,600.00	10,280.00	12,963.56	8,770.00	74.63	73.33	-16.23	-4,324.79	395.43	1,571.44	1,493.35	78.09	20.124	
14,700.00	10,280.00	13,063.56	8,770.00	76.20	74.91	-16.23	-4,424.79	395.58	1,571.44	1,491.76	79.68	19.721	
14,800.00	10,280.00	13,163.56	8,770.00	77.76	76.49	-16.23	-4,524.79	395.73	1,571.44	1,490.17	81.28	19.334	
14,900.00	10,280.00	13,263.56	8,770.00	79.33	78.07	-16.23	-4,624.79	395.87	1,571.45	1,488.57	82.88	18.960	
15,000.00	10,280.00	13,363.56	8,770.00	80.90	79.65	-16.23	-4,724.79	396.02	1,571.45	1,486.97	84.48	18.601	
15,100.00	10,280.00	13,463.56	8,770.00	82.47	81.24	-16.23	-4,824.79	396.17	1,571.45	1,485.36	86.09	18.254	
15,200.00	10,280.00	13,563.56	8,770.00	84.04	82.83	-16.23	-4,924.79	396.31	1,571.46	1,483.76	87.70	17.919	
15,300.00	10,280.00	13,663.56	8,770.00	85.62	84.42	-16.23	-5,024.79	396.46	1,571.46	1,482.15	89.31	17.595	
15,400.00	10,280.00	13,763.56	8,770.00	87.20	86.01	-16.23	-5,124.79	396.61	1,571.46	1,480.54	90.93	17.283	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,500.00	10,280.00	13,883.56	8,770.00	88.78	87.61	-16.24	-5,224.78	396.75	1,571.47	1,478.92	92.54	16.981	
15,600.00	10,280.00	13,963.56	8,770.00	90.36	89.20	-16.24	-5,324.78	396.90	1,571.47	1,477.31	94.16	16.689	
15,700.00	10,280.00	14,063.56	8,770.00	91.95	90.80	-16.24	-5,424.78	397.05	1,571.47	1,475.69	95.78	16.407	
15,800.00	10,280.00	14,163.56	8,770.00	93.53	92.40	-16.24	-5,524.78	397.19	1,571.48	1,474.07	97.41	16.133	
15,900.00	10,280.00	14,263.56	8,770.00	95.12	94.00	-16.24	-5,624.78	397.34	1,571.48	1,472.45	99.03	15.869	
16,000.00	10,280.00	14,363.56	8,770.00	96.71	95.60	-16.24	-5,724.78	397.49	1,571.48	1,470.82	100.66	15.612	
16,100.00	10,280.00	14,463.56	8,770.00	98.30	97.20	-16.24	-5,824.78	397.63	1,571.49	1,469.20	102.29	15.364	
16,200.00	10,280.00	14,563.56	8,770.00	99.89	98.80	-16.24	-5,924.78	397.78	1,571.49	1,467.57	103.92	15.123	
16,300.00	10,280.00	14,663.56	8,770.00	101.49	100.40	-16.24	-6,024.78	397.93	1,571.49	1,465.94	105.55	14.889	
16,400.00	10,280.00	14,763.56	8,770.00	103.08	102.01	-16.24	-6,124.78	398.07	1,571.49	1,464.31	107.18	14.662	
16,500.00	10,280.00	14,863.56	8,770.00	104.68	103.62	-16.24	-6,224.78	398.22	1,571.50	1,462.68	108.82	14.442	
16,600.00	10,280.00	14,963.56	8,770.00	106.28	105.22	-16.24	-6,324.78	398.37	1,571.50	1,461.05	110.45	14.228	
16,700.00	10,280.00	15,063.56	8,770.00	107.87	106.83	-16.24	-6,424.78	398.51	1,571.50	1,459.41	112.09	14.020	
16,800.00	10,280.00	15,163.56	8,770.00	109.47	108.44	-16.24	-6,524.78	398.66	1,571.51	1,457.78	113.73	13.818	
16,900.00	10,280.00	15,263.56	8,770.00	111.08	110.05	-16.24	-6,624.78	398.81	1,571.51	1,456.14	115.37	13.622	
17,000.00	10,280.00	15,363.56	8,770.00	112.68	111.66	-16.24	-6,724.78	398.95	1,571.51	1,454.50	117.01	13.431	
17,100.00	10,280.00	15,463.56	8,770.00	114.28	113.27	-16.24	-6,824.78	399.10	1,571.52	1,452.86	118.65	13.245	
17,200.00	10,280.00	15,563.56	8,770.00	115.88	114.88	-16.24	-6,924.78	399.25	1,571.52	1,451.22	120.30	13.064	
17,300.00	10,280.00	15,663.56	8,770.00	117.49	116.49	-16.24	-7,024.78	399.40	1,571.52	1,449.58	121.94	12.888	
17,400.00	10,280.00	15,763.56	8,770.00	119.09	118.10	-16.24	-7,124.78	399.54	1,571.53	1,447.94	123.59	12.716	
17,500.00	10,280.00	15,863.56	8,770.00	120.70	119.72	-16.24	-7,224.78	399.69	1,571.53	1,446.30	125.23	12.549	
17,600.00	10,280.00	15,963.56	8,770.00	122.31	121.33	-16.24	-7,324.78	399.84	1,571.53	1,444.65	126.88	12.386	
17,700.00	10,280.00	16,063.56	8,770.00	123.91	122.95	-16.24	-7,424.78	399.98	1,571.54	1,443.01	128.53	12.227	
17,800.00	10,280.00	16,163.56	8,770.00	125.52	124.56	-16.24	-7,524.78	400.13	1,571.54	1,441.36	130.18	12.072	
17,900.00	10,280.00	16,263.56	8,770.00	127.13	126.18	-16.24	-7,624.78	400.28	1,571.54	1,439.71	131.83	11.921	
18,000.00	10,280.00	16,363.56	8,770.00	128.74	127.79	-16.24	-7,724.78	400.42	1,571.54	1,438.07	133.48	11.774	
18,100.00	10,280.00	16,463.56	8,770.00	130.35	129.41	-16.25	-7,824.78	400.57	1,571.55	1,436.42	135.13	11.630	
18,200.00	10,280.00	16,563.56	8,770.00	131.96	131.03	-16.25	-7,924.78	400.72	1,571.55	1,434.77	136.78	11.489	
18,300.00	10,280.00	16,663.56	8,770.00	133.57	132.64	-16.25	-8,024.78	400.86	1,571.55	1,433.12	138.43	11.352	
18,400.00	10,280.00	16,763.56	8,770.00	135.19	134.26	-16.25	-8,124.78	401.01	1,571.56	1,431.47	140.09	11.218	
18,500.00	10,280.00	16,863.56	8,770.00	136.80	135.88	-16.25	-8,224.78	401.16	1,571.56	1,429.82	141.74	11.087	
18,600.00	10,280.00	16,963.56	8,770.00	138.41	137.50	-16.25	-8,324.78	401.30	1,571.56	1,428.17	143.40	10.959	
18,700.00	10,280.00	17,063.56	8,770.00	140.03	139.12	-16.25	-8,424.78	401.45	1,571.57	1,426.51	145.05	10.834	
18,800.00	10,280.00	17,163.56	8,770.00	141.64	140.74	-16.25	-8,524.78	401.60	1,571.57	1,424.86	146.71	10.712	
18,900.00	10,280.00	17,263.56	8,770.00	143.26	142.36	-16.25	-8,624.78	401.74	1,571.57	1,423.21	148.37	10.593	
19,000.00	10,280.00	17,363.56	8,770.00	144.87	143.98	-16.25	-8,724.78	401.89	1,571.58	1,421.55	150.02	10.476	
19,100.00	10,280.00	17,463.56	8,770.00	146.49	145.60	-16.25	-8,824.78	402.04	1,571.58	1,419.90	151.68	10.361	
19,200.00	10,280.00	17,563.56	8,770.00	148.10	147.22	-16.25	-8,924.78	402.18	1,571.58	1,418.24	153.34	10.249	
19,300.00	10,280.00	17,663.56	8,770.00	149.72	148.84	-16.25	-9,024.78	402.33	1,571.59	1,416.59	155.00	10.139	
19,400.00	10,280.00	17,763.56	8,770.00	151.34	150.46	-16.25	-9,124.78	402.48	1,571.59	1,414.93	156.66	10.032	
19,500.00	10,280.00	17,863.56	8,770.00	152.95	152.08	-16.25	-9,224.78	402.62	1,571.59	1,413.27	158.32	9.927	
19,600.00	10,280.00	17,963.56	8,770.00	154.57	153.71	-16.25	-9,324.78	402.77	1,571.59	1,411.62	159.98	9.824	
19,700.00	10,280.00	18,063.56	8,770.00	156.19	155.33	-16.25	-9,424.78	402.92	1,571.60	1,409.96	161.64	9.723	
19,800.00	10,280.00	18,163.56	8,770.00	157.81	156.95	-16.25	-9,524.78	403.06	1,571.60	1,408.30	163.30	9.624	
19,900.00	10,280.00	18,263.56	8,770.00	159.43	158.57	-16.25	-9,624.78	403.21	1,571.60	1,406.64	164.96	9.527	
20,000.00	10,280.00	18,363.56	8,770.00	161.04	160.20	-16.25	-9,724.78	403.36	1,571.61	1,404.98	166.62	9.432	
20,100.00	10,280.00	18,463.56	8,770.00	162.66	161.82	-16.25	-9,824.78	403.50	1,571.61	1,403.32	168.29	9.339	
20,200.00	10,280.00	18,563.56	8,770.00	164.28	163.44	-16.25	-9,924.78	403.65	1,571.61	1,401.67	169.95	9.248	
20,300.00	10,280.00	18,663.56	8,770.00	165.90	165.07	-16.25	-10,024.78	403.80	1,571.62	1,400.01	171.61	9.158	
20,400.00	10,280.00	18,763.56	8,770.00	167.52	166.69	-16.25	-10,124.78	403.94	1,571.62	1,398.34	173.27	9.070	
20,405.27	10,280.00	18,768.83	8,770.00	167.61	166.78	-16.25	-10,130.05	403.95	1,571.62	1,398.26	173.36	9.066	
20,461.36	10,280.00	18,822.21	8,770.00	168.52	167.56	-16.25	-10,183.43	404.03	1,571.62	1,397.42	174.20	9.022	

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

Company:	Devon Energy	**Local Co-ordinate Reference:**	Well Lusitano 27-34 Fed Com 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	**Local Co-ordinate Reference:**	Well Lusitano 27-34 Fed Com 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	89.65	10.61	1,730.40	1,730.43				
100.00	100.00	99.10	99.10	0.09	0.09	89.65	10.61	1,730.40	1,730.43	1,730.26	0.17	N/A	
200.00	200.00	199.10	199.10	0.31	0.31	89.65	10.61	1,730.40	1,730.43	1,729.81	0.62	2,793.474	
300.00	300.00	299.10	299.10	0.54	0.53	89.65	10.61	1,730.40	1,730.43	1,729.36	1.07	1,618.758	
400.00	400.00	399.10	399.10	0.76	0.76	89.65	10.61	1,730.40	1,730.43	1,728.91	1.52	1,139.552	
500.00	500.00	499.10	499.10	0.99	0.98	89.65	10.61	1,730.40	1,730.43	1,728.46	1.97	879.262	
600.00	600.00	599.10	599.10	1.21	1.21	89.65	10.61	1,730.40	1,730.43	1,728.01	2.42	715.769	
700.00	700.00	699.10	699.10	1.43	1.43	89.65	10.61	1,730.40	1,730.43	1,727.57	2.87	603.545	
800.00	800.00	799.10	799.10	1.66	1.66	89.65	10.61	1,730.40	1,730.43	1,727.12	3.32	521.741	
900.00	900.00	899.10	899.10	1.88	1.88	89.65	10.61	1,730.40	1,730.43	1,726.67	3.77	459.466	
1,000.00	1,000.00	999.10	999.10	2.11	2.11	89.65	10.61	1,730.40	1,730.43	1,726.22	4.22	410.472	
1,100.00	1,100.00	1,099.10	1,099.10	2.33	2.33	89.65	10.61	1,730.40	1,730.43	1,725.77	4.67	370.920	
1,200.00	1,200.00	1,199.10	1,199.10	2.56	2.56	89.65	10.61	1,730.40	1,730.43	1,725.32	5.11	338.320	
1,300.00	1,300.00	1,299.10	1,299.10	2.78	2.78	89.65	10.61	1,730.40	1,730.43	1,724.87	5.56	310.988	
1,400.00	1,400.00	1,399.10	1,399.10	3.01	3.01	89.65	10.61	1,730.40	1,730.43	1,724.42	6.01	287.742	
1,500.00	1,500.00	1,499.10	1,499.10	3.23	3.23	89.65	10.61	1,730.40	1,730.43	1,723.97	6.46	267.729	
1,600.00	1,600.00	1,599.10	1,599.10	3.46	3.46	89.65	10.61	1,730.40	1,730.43	1,723.52	6.91	250.319	
1,700.00	1,700.00	1,699.10	1,699.10	3.68	3.68	89.65	10.61	1,730.40	1,730.43	1,723.07	7.36	235.035	
1,800.00	1,800.00	1,799.10	1,799.10	3.91	3.90	89.65	10.61	1,730.40	1,730.43	1,722.62	7.81	221.510	
1,900.00	1,900.00	1,899.10	1,899.10	4.13	4.13	89.65	10.61	1,730.40	1,730.43	1,722.17	8.26	209.457	
2,000.00	2,000.00	1,999.10	1,999.10	4.36	4.35	89.65	10.61	1,730.40	1,730.43	1,721.72	8.71	198.648	
2,100.00	2,100.00	2,099.10	2,099.10	4.58	4.58	89.65	10.61	1,730.40	1,730.43	1,721.27	9.16	188.900	
2,200.00	2,200.00	2,199.10	2,199.10	4.81	4.80	89.65	10.61	1,730.40	1,730.43	1,720.82	9.61	180.064	
2,300.00	2,300.00	2,299.10	2,299.10	5.03	5.03	89.65	10.61	1,730.40	1,730.43	1,720.37	10.06	172.018	
2,400.00	2,400.00	2,399.10	2,399.10	5.26	5.25	89.65	10.61	1,730.40	1,730.43	1,719.92	10.51	164.659	
2,500.00	2,500.00	2,499.10	2,499.10	5.48	5.48	89.65	10.61	1,730.40	1,730.43	1,719.47	10.96	157.905	CC, ES
2,600.00	2,600.00	2,579.61	2,579.61	5.71	5.65	89.64	10.94	1,730.85	1,730.99	1,719.63	11.36	152.390	
2,700.00	2,700.00	2,659.92	2,659.90	5.93	5.83	89.61	11.93	1,732.20	1,732.68	1,720.93	11.75	147.412	
2,800.00	2,800.00	2,740.16	2,740.09	6.15	6.00	89.55	13.59	1,734.46	1,735.52	1,723.37	12.15	142.882	
2,900.00	2,900.00	2,820.31	2,820.15	6.38	6.17	89.48	15.90	1,737.62	1,739.48	1,726.95	12.54	138.742	
3,000.00	3,000.00	2,900.00	2,899.68	6.60	6.35	89.38	18.86	1,741.66	1,744.59	1,731.67	12.93	134.966	
3,100.00	3,099.99	2,980.22	2,979.66	6.83	6.53	101.23	22.50	1,746.62	1,751.02	1,737.70	13.31	131.509	
3,200.00	3,199.96	3,059.96	3,059.07	7.05	6.70	101.08	26.77	1,752.45	1,756.91	1,745.21	13.70	128.385	
3,300.00	3,299.87	3,139.53	3,138.20	7.28	6.89	100.98	31.69	1,759.16	1,768.26	1,754.17	14.08	125.550	
3,400.00	3,399.76	3,233.21	3,231.27	7.50	7.10	100.91	38.05	1,767.84	1,778.51	1,764.01	14.51	122.579	
3,500.00	3,499.65	3,332.66	3,330.05	7.73	7.34	100.85	44.83	1,777.09	1,788.82	1,773.87	14.95	119.623	
3,600.00	3,599.55	3,432.10	3,428.83	7.95	7.58	100.78	51.62	1,786.34	1,799.13	1,783.73	15.40	116.820	
3,700.00	3,699.44	3,531.55	3,527.61	8.18	7.82	100.71	58.40	1,795.59	1,809.44	1,793.59	15.85	114.158	
3,800.00	3,799.33	3,630.99	3,626.39	8.40	8.06	100.65	65.18	1,804.84	1,819.76	1,803.46	16.30	111.628	
3,900.00	3,899.23	3,730.44	3,725.17	8.63	8.31	100.58	71.96	1,814.09	1,830.07	1,813.32	16.76	109.222	
4,000.00	3,999.12	3,829.88	3,823.95	8.85	8.56	100.52	78.74	1,823.35	1,840.39	1,823.18	17.21	106.931	
4,100.00	4,099.01	3,929.33	3,922.73	9.08	8.81	100.45	85.52	1,832.60	1,850.72	1,833.05	17.67	104.749	
4,200.00	4,198.90	4,028.77	4,021.52	9.31	9.07	100.39	92.31	1,841.85	1,861.04	1,842.91	18.13	102.668	
4,300.00	4,298.80	4,128.22	4,120.30	9.54	9.33	100.33	99.09	1,851.10	1,871.36	1,852.78	18.59	100.683	
4,400.00	4,398.69	4,227.66	4,219.08	9.76	9.58	100.27	105.87	1,860.35	1,881.69	1,862.64	19.05	98.786	
4,500.00	4,498.58	4,327.11	4,317.86	9.99	9.84	100.21	112.65	1,869.60	1,892.02	1,872.51	19.51	96.974	
4,600.00	4,598.48	4,426.55	4,416.64	10.22	10.11	100.15	119.43	1,878.86	1,902.35	1,882.38	19.97	95.240	
4,700.00	4,698.37	4,526.00	4,515.42	10.45	10.37	100.09	126.22	1,888.11	1,912.69	1,892.25	20.44	93.581	
4,800.00	4,798.26	4,625.44	4,614.20	10.68	10.63	100.03	133.00	1,897.36	1,923.02	1,902.12	20.90	91.991	
4,900.00	4,898.15	4,724.89	4,712.99	10.91	10.90	99.97	139.78	1,906.61	1,933.36	1,911.99	21.37	90.466	
5,000.00	4,998.05	4,824.34	4,811.77	11.14	11.17	99.91	146.56	1,915.86	1,943.70	1,921.86	21.84	89.004	
5,100.00	5,097.94	4,923.78	4,910.55	11.37	11.43	99.86	153.34	1,925.11	1,954.04	1,931.74	22.31	87.600	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.00	5,197.83	5,023.23	5,009.33	11.60	11.70	99.80	160.13	1,934.37	1,964.39	1,941.61	22.78	86.251	
5,300.00	5,297.73	5,122.67	5,108.11	11.83	11.97	99.74	166.91	1,943.62	1,974.73	1,951.49	23.24	84.954	
5,400.00	5,397.62	5,222.12	5,206.89	12.06	12.24	99.69	173.69	1,952.87	1,985.08	1,961.37	23.71	83.706	
5,500.00	5,497.51	5,321.56	5,305.67	12.29	12.51	99.63	180.47	1,962.12	1,995.43	1,971.25	24.19	82.505	
5,600.00	5,597.40	5,421.01	5,404.45	12.52	12.78	99.58	187.25	1,971.37	2,005.78	1,981.13	24.66	81.348	
5,700.00	5,697.30	5,520.45	5,503.24	12.75	13.06	99.53	194.03	1,980.62	2,016.14	1,991.01	25.13	80.233	
5,800.00	5,797.19	5,619.90	5,602.02	12.98	13.33	99.47	200.82	1,989.88	2,026.49	2,000.89	25.60	79.157	
5,900.00	5,897.08	5,719.34	5,700.80	13.21	13.60	99.42	207.60	1,999.13	2,036.85	2,010.77	26.07	78.119	
6,000.00	5,996.98	5,818.79	5,799.58	13.45	13.88	99.37	214.38	2,008.38	2,047.20	2,020.66	26.55	77.117	
6,100.00	6,096.87	5,918.23	5,898.36	13.68	14.15	99.32	221.16	2,017.63	2,057.56	2,030.54	27.02	76.149	
6,200.00	6,196.76	6,017.68	5,997.14	13.91	14.43	99.27	227.94	2,026.88	2,067.92	2,040.43	27.49	75.214	
6,300.00	6,296.65	6,117.12	6,095.92	14.14	14.70	99.22	234.73	2,036.13	2,078.29	2,050.32	27.97	74.309	
6,400.00	6,396.55	6,216.57	6,194.71	14.37	14.98	99.17	241.51	2,045.39	2,088.65	2,060.21	28.44	73.433	
6,500.00	6,496.44	6,316.01	6,293.49	14.60	15.26	99.12	248.29	2,054.64	2,099.02	2,070.10	28.92	72.586	
6,600.00	6,596.33	6,415.46	6,392.27	14.84	15.53	99.07	255.07	2,063.89	2,109.39	2,079.99	29.39	71.765	
6,700.00	6,696.23	6,514.90	6,491.05	15.07	15.81	99.02	261.85	2,073.14	2,119.75	2,089.89	29.87	70.970	
6,800.00	6,796.12	6,614.35	6,589.83	15.30	16.09	98.97	268.64	2,082.39	2,130.12	2,099.78	30.34	70.199	
6,900.00	6,896.01	6,713.79	6,688.61	15.53	16.37	98.93	275.42	2,091.65	2,140.50	2,109.68	30.82	69.451	
7,000.00	6,995.90	6,813.24	6,787.39	15.76	16.65	98.88	282.20	2,100.90	2,150.87	2,119.57	31.30	68.726	
7,100.00	7,095.80	6,912.68	6,886.17	16.00	16.93	98.83	288.98	2,110.15	2,161.24	2,129.47	31.77	68.021	
7,200.00	7,195.69	7,012.13	6,984.96	16.23	17.21	98.79	295.76	2,119.40	2,171.62	2,139.37	32.25	67.338 SF	

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	**Local Co-ordinate Reference:**	Well Lusitano 27-34 Fed Com 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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: 0-LEAM MWD+HDGM — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	89.60	0.21	29.99	30.00				
100.00	100.00	99.40	99.40	0.09	0.09	89.60	0.21	29.99	29.99	29.82	0.17	174.944	
200.00	200.00	199.40	199.40	0.31	0.31	89.60	0.21	29.99	29.99	29.37	0.62	48.362	
300.00	300.00	299.40	299.40	0.54	0.53	89.60	0.21	29.99	29.99	28.92	1.07	28.038	
400.00	400.00	399.40	399.40	0.76	0.76	89.60	0.21	29.99	29.99	28.47	1.52	19.741	
500.00	500.00	499.40	499.40	0.99	0.98	89.60	0.21	29.99	29.99	28.02	1.97	15.234	
600.00	600.00	599.40	599.40	1.21	1.21	89.60	0.21	29.99	29.99	27.57	2.42	12.402	
700.00	700.00	699.40	699.40	1.43	1.43	89.60	0.21	29.99	29.99	27.12	2.87	10.458	
800.00	800.00	799.40	799.40	1.66	1.66	89.60	0.21	29.99	29.99	26.67	3.32	9.041	
900.00	900.00	899.40	899.40	1.88	1.88	89.60	0.21	29.99	29.99	26.22	3.77	7.962	
1,000.00	1,000.00	999.40	999.40	2.11	2.11	89.60	0.21	29.99	29.99	25.77	4.22	7.113	
1,100.00	1,100.00	1,099.40	1,099.40	2.33	2.33	89.60	0.21	29.99	29.99	25.32	4.67	6.428	
1,200.00	1,200.00	1,199.40	1,199.40	2.56	2.56	89.60	0.21	29.99	29.99	24.88	5.12	5.863	
1,300.00	1,300.00	1,299.40	1,299.40	2.78	2.78	89.60	0.21	29.99	29.99	24.43	5.56	5.389	
1,400.00	1,400.00	1,399.40	1,399.40	3.01	3.01	89.60	0.21	29.99	29.99	23.98	6.01	4.986	
1,500.00	1,500.00	1,499.40	1,499.40	3.23	3.23	89.60	0.21	29.99	29.99	23.53	6.46	4.640	
1,600.00	1,600.00	1,599.40	1,599.40	3.46	3.46	89.60	0.21	29.99	29.99	23.08	6.91	4.338	
1,700.00	1,700.00	1,699.40	1,699.40	3.68	3.68	89.60	0.21	29.99	29.99	22.63	7.36	4.073	
1,800.00	1,800.00	1,799.40	1,799.40	3.91	3.91	89.60	0.21	29.99	29.99	22.18	7.81	3.839	
1,900.00	1,900.00	1,899.40	1,899.40	4.13	4.13	89.60	0.21	29.99	29.99	21.73	8.26	3.630	
2,000.00	2,000.00	1,999.40	1,999.40	4.36	4.36	89.60	0.21	29.99	29.99	21.28	8.71	3.443	
2,100.00	2,100.00	2,099.40	2,099.40	4.58	4.58	89.60	0.21	29.99	29.99	20.83	9.16	3.274	
2,200.00	2,200.00	2,199.40	2,199.40	4.81	4.80	89.60	0.21	29.99	29.99	20.38	9.61	3.121	
2,300.00	2,300.00	2,299.40	2,299.40	5.03	5.03	89.60	0.21	29.99	29.99	19.93	10.06	2.981	
2,400.00	2,400.00	2,399.40	2,399.40	5.26	5.25	89.60	0.21	29.99	29.99	19.48	10.51	2.854	
2,500.00	2,500.00	2,499.40	2,499.40	5.48	5.48	89.60	0.21	29.99	29.99	19.03	10.96	2.737	
2,600.00	2,600.00	2,599.40	2,599.40	5.71	5.70	89.60	0.21	29.99	29.99	18.58	11.41	2.629	
2,700.00	2,700.00	2,699.40	2,699.40	5.93	5.93	89.60	0.21	29.99	29.99	18.13	11.86	2.529	
2,800.00	2,800.00	2,799.40	2,799.40	6.15	6.15	89.60	0.21	29.99	29.99	17.68	12.31	2.437	
2,900.00	2,900.00	2,899.40	2,899.40	6.38	6.38	89.60	0.21	29.99	29.99	17.23	12.76	2.351	
3,000.00	3,000.00	2,999.40	2,999.40	6.60	6.60	89.60	0.21	29.99	29.99	16.78	13.21	2.271 CC	
3,100.00	3,099.99	3,099.39	3,099.39	6.83	6.83	103.23	0.21	29.99	30.18	16.52	13.66	2.210 ES	
3,200.00	3,199.96	3,199.36	3,199.36	7.05	7.05	107.96	0.21	29.99	30.88	16.78	14.10	2.190	
3,300.00	3,299.87	3,299.27	3,299.27	7.28	7.28	115.11	0.21	29.99	32.45	17.90	14.55	2.230	
3,400.00	3,399.76	3,399.16	3,399.16	7.50	7.50	122.05	0.21	29.99	34.67	19.67	15.00	2.311	
3,500.00	3,499.65	3,499.05	3,499.05	7.73	7.73	128.08	0.21	29.99	37.33	21.89	15.45	2.417	
3,600.00	3,599.55	3,598.95	3,598.95	7.95	7.95	133.25	0.21	29.99	40.35	24.46	15.90	2.539	
3,700.00	3,699.44	3,698.84	3,698.84	8.18	8.17	137.68	0.21	29.99	43.66	27.31	16.35	2.671	
3,800.00	3,799.33	3,798.73	3,798.73	8.40	8.40	141.46	0.21	29.99	47.18	30.39	16.79	2.809	
3,900.00	3,899.23	3,898.63	3,898.63	8.63	8.62	144.71	0.21	29.99	50.89	33.64	17.24	2.951	
4,000.00	3,999.12	3,998.52	3,998.52	8.85	8.85	147.51	0.21	29.99	54.73	37.04	17.69	3.093	
4,100.00	4,099.01	4,099.42	4,099.41	9.08	9.07	149.96	0.85	29.41	57.83	39.69	18.14	3.188	
4,200.00	4,198.90	4,200.42	4,200.38	9.31	9.29	152.21	2.82	27.65	59.27	40.69	18.58	3.190	
4,300.00	4,298.80	4,301.43	4,301.29	9.54	9.51	154.48	6.11	24.70	59.04	40.02	19.01	3.105	
4,400.00	4,398.69	4,402.02	4,401.69	9.76	9.74	156.95	10.61	20.67	57.27	37.82	19.45	2.945	
4,500.00	4,498.58	4,501.96	4,501.44	9.99	9.96	159.60	15.33	16.44	55.29	35.40	19.89	2.779	
4,600.00	4,598.48	4,601.91	4,601.19	10.22	10.18	162.45	20.05	12.21	53.44	33.10	20.34	2.627	
4,700.00	4,698.37	4,701.86	4,700.93	10.45	10.40	165.49	24.77	7.98	51.73	30.94	20.79	2.488	
4,800.00	4,798.26	4,801.80	4,800.68	10.68	10.63	168.73	29.48	3.75	50.17	28.93	21.24	2.362	
4,900.00	4,898.15	4,901.75	4,900.42	10.91	10.85	172.16	34.20	-0.48	48.78	27.09	21.69	2.249	
5,000.00	4,998.05	5,001.69	5,000.17	11.14	11.08	175.79	38.92	-4.71	47.58	25.44	22.14	2.149	
5,100.00	5,097.94	5,101.64	5,099.91	11.37	11.30	179.58	43.64	-8.93	46.58	23.98	22.60	2.061	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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: 0-LEAM MWD+HDGM — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.00	5,197.83	5,201.59	5,199.66	11.60	11.53	-176.48	48.36	-13.16	45.79	22.74	23.05	1.986	
5,300.00	5,297.73	5,301.53	5,299.40	11.83	11.76	-172.42	53.07	-17.39	45.23	21.72	23.51	1.924	
5,400.00	5,397.62	5,401.48	5,399.15	12.06	11.99	-168.28	57.79	-21.62	44.90	20.92	23.97	1.873	
5,489.59	5,487.11	5,491.02	5,488.51	12.27	12.19	-164.53	62.02	-25.41	44.80	20.41	24.39	1.837	
5,500.00	5,497.51	5,501.43	5,498.89	12.29	12.22	-164.10	62.51	-25.85	44.80	20.37	24.43	1.833	
5,600.00	5,597.40	5,601.37	5,598.64	12.52	12.45	-159.92	67.23	-30.08	44.94	20.05	24.90	1.805	
5,700.00	5,697.30	5,701.32	5,698.38	12.75	12.68	-155.79	71.95	-34.31	45.33	19.96	25.37	1.787	
5,800.00	5,797.19	5,801.27	5,798.13	12.98	12.91	-151.76	76.66	-38.54	45.94	20.11	25.83	1.778 SF	
5,900.00	5,897.08	5,901.21	5,897.88	13.21	13.14	-147.84	81.38	-42.76	46.77	20.47	26.30	1.778	
6,000.00	5,996.98	6,001.16	5,997.62	13.45	13.37	-144.08	86.10	-46.99	47.82	21.05	26.77	1.786	
6,100.00	6,096.87	6,101.10	6,097.37	13.68	13.60	-140.50	90.82	-51.22	49.06	21.82	27.24	1.801	
6,200.00	6,196.76	6,201.05	6,197.11	13.91	13.84	-137.10	95.54	-55.45	50.48	22.77	27.71	1.822	
6,300.00	6,296.65	6,301.00	6,296.86	14.14	14.07	-133.91	100.25	-59.68	52.07	23.89	28.18	1.848	
6,400.00	6,396.55	6,400.94	6,396.60	14.37	14.30	-130.91	104.97	-63.91	53.81	25.17	28.64	1.879	
6,500.00	6,496.44	6,500.89	6,496.35	14.60	14.54	-128.10	109.69	-68.14	55.69	26.58	29.11	1.913	
6,600.00	6,596.33	6,600.84	6,596.09	14.84	14.77	-125.48	114.41	-72.37	57.70	28.12	29.58	1.951	
6,700.00	6,696.23	6,700.78	6,695.84	15.07	15.00	-123.05	119.13	-76.60	59.82	29.77	30.05	1.991	
6,800.00	6,796.12	6,800.73	6,795.58	15.30	15.24	-120.78	123.85	-80.82	62.03	31.52	30.51	2.033	
6,900.00	6,896.01	6,900.68	6,895.33	15.53	15.48	-118.68	128.56	-85.05	64.34	33.36	30.98	2.077	
7,000.00	6,995.90	7,000.69	6,995.19	15.76	15.69	-117.44	132.66	-88.72	66.69	35.27	31.42	2.122	
7,100.00	7,095.80	7,100.72	7,095.17	16.00	15.86	-118.43	134.84	-90.68	68.96	37.13	31.83	2.166	
7,200.00	7,195.69	7,200.64	7,195.09	16.23	16.05	-121.29	135.21	-91.01	71.27	39.02	32.24	2.210	
7,300.00	7,295.58	7,300.53	7,294.98	16.46	16.27	-124.37	135.21	-91.01	73.78	41.09	32.69	2.257	
7,400.00	7,395.48	7,400.42	7,394.88	16.69	16.49	-127.23	135.21	-91.01	76.49	43.35	33.14	2.308	
7,500.00	7,495.37	7,500.32	7,494.77	16.93	16.71	-129.89	135.21	-91.01	79.37	45.79	33.58	2.364	
7,600.00	7,595.26	7,600.21	7,594.66	17.16	16.93	-132.35	135.21	-91.01	82.42	48.40	34.02	2.422	
7,700.00	7,695.15	7,700.10	7,694.55	17.39	17.15	-134.64	135.21	-91.01	85.61	51.14	34.47	2.484	
7,800.00	7,795.05	7,800.00	7,794.45	17.62	17.37	-136.76	135.21	-91.01	88.92	54.01	34.91	2.547	
7,900.00	7,894.94	7,899.89	7,894.34	17.86	17.59	-138.73	135.21	-91.01	92.35	57.00	35.35	2.612	
8,000.00	7,994.83	7,999.78	7,994.23	18.09	17.81	-140.55	135.21	-91.01	95.88	60.08	35.79	2.679	
8,100.00	8,094.73	8,099.67	8,094.13	18.32	18.03	-142.25	135.21	-91.01	99.50	63.26	36.24	2.746	
8,200.00	8,194.62	8,199.57	8,194.02	18.55	18.25	-143.82	135.21	-91.01	103.20	66.52	36.68	2.814	
8,300.00	8,294.53	8,299.48	8,293.93	18.77	18.47	-145.13	135.21	-91.01	106.52	69.42	37.10	2.871	
8,400.00	8,394.52	8,399.47	8,393.92	18.94	18.69	-145.64	135.21	-91.01	107.87	70.38	37.49	2.877	
8,402.45	8,396.96	8,401.91	8,396.36	18.94	18.70	-145.64	135.21	-91.01	107.88	70.38	37.50	2.877	
8,500.00	8,494.52	8,493.97	8,488.41	19.13	18.89	-157.83	134.35	-91.01	108.82	71.00	37.82	2.877	
8,600.00	8,594.52	8,577.63	8,571.31	19.35	19.02	-159.80	123.70	-90.95	120.73	83.11	37.62	3.209	
8,700.00	8,694.52	8,656.62	8,647.38	19.57	19.13	-162.85	102.67	-90.84	146.10	109.22	36.88	3.962	
8,800.00	8,794.52	8,728.66	8,713.65	19.79	19.23	-165.77	74.54	-90.69	183.98	148.24	35.74	5.148	
8,900.00	8,894.52	8,792.67	8,769.16	20.01	19.31	-168.10	42.73	-90.52	232.75	198.34	34.41	6.764	
9,000.00	8,994.52	8,850.00	8,815.60	20.23	19.38	-169.87	9.15	-90.34	290.57	257.43	33.15	8.766	
9,100.00	9,094.52	8,900.00	8,853.18	20.45	19.43	-171.18	-23.80	-90.16	355.73	323.77	31.96	11.131	
9,200.00	9,194.52	8,938.73	8,880.24	20.67	19.48	-172.05	-51.50	-90.01	426.71	396.03	30.68	13.908	
9,300.00	9,294.52	8,974.73	8,903.66	20.89	19.52	-172.76	-78.84	-89.87	502.38	472.66	29.72	16.904	
9,400.00	9,394.52	9,000.00	8,919.05	21.11	19.55	-173.21	-98.88	-89.76	581.86	553.14	28.72	20.263	
9,500.00	9,494.52	9,032.91	8,937.74	21.33	19.61	-173.74	-125.96	-89.61	664.23	635.97	28.26	23.504	
9,600.00	9,594.52	9,050.00	8,946.82	21.55	19.64	-173.99	-140.43	-89.54	749.16	721.60	27.56	27.181	
9,700.00	9,694.52	9,077.25	8,960.40	21.77	19.71	-174.36	-164.05	-89.41	835.97	808.65	27.32	30.599	
9,800.00	9,794.18	9,100.00	8,970.87	21.94	19.77	4.28	-184.25	-89.30	921.20	894.25	26.96	34.175	
9,900.00	9,891.19	9,121.30	8,979.94	22.06	19.84	3.35	-203.52	-89.20	998.69	972.27	26.42	37.796	
10,000.00	9,982.61	9,150.00	8,991.01	22.14	19.93	2.76	-230.00	-89.06	1,067.31	1,041.35	25.95	41.126	
10,100.00	10,065.65	9,174.90	8,999.53	22.23	20.03	2.39	-253.40	-88.93	1,126.11	1,100.71	25.40	44.341	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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: 0-LEAM MWD+HDGM — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,200.00	10,137.80	9,200.00	9,007.08	22.31	20.12	2.14	-277.33	-88.81	1,174.43	1,149.55	24.88	47.205	
10,300.00	10,196.86	9,250.00	9,018.97	22.40	20.34	1.95	-325.88	-88.55	1,211.96	1,187.25	24.70	49.061	
10,400.00	10,241.03	9,250.00	9,018.97	22.59	20.34	1.86	-325.88	-88.55	1,237.64	1,213.49	24.15	51.241	
10,500.00	10,268.98	9,300.00	9,026.58	22.87	20.58	1.80	-375.28	-88.28	1,251.33	1,227.16	24.17	51.768	
10,600.00	10,279.86	9,327.39	9,028.92	23.24	20.73	1.78	-402.56	-88.14	1,253.32	1,229.13	24.20	51.795	
10,700.00	10,280.00	9,362.59	9,030.00	23.70	20.92	1.78	-437.74	-87.95	1,250.06	1,225.63	24.44	51.152	
10,738.71	10,280.00	9,389.20	9,030.00	23.91	21.07	1.78	-464.35	-87.81	1,250.00	1,225.40	24.60	50.808	
10,800.00	10,280.00	9,450.49	9,030.00	24.26	21.47	1.77	-525.64	-87.48	1,249.99	1,225.08	24.91	50.181	
10,900.00	10,280.00	9,550.49	9,030.00	24.91	22.18	1.75	-625.64	-86.95	1,249.98	1,224.51	25.47	49.076	
11,000.00	10,280.00	9,650.49	9,030.00	25.65	22.98	1.73	-725.64	-86.41	1,249.97	1,223.87	26.10	47.886	
11,100.00	10,280.00	9,750.49	9,030.00	26.47	23.87	1.71	-825.63	-85.88	1,249.96	1,223.16	26.80	46.638	
11,200.00	10,280.00	9,850.49	9,030.00	27.37	24.83	1.69	-925.63	-85.34	1,249.95	1,222.38	27.56	45.352	
11,300.00	10,280.00	9,950.49	9,030.00	28.33	25.86	1.67	-1,025.63	-84.81	1,249.93	1,221.56	28.38	44.048	
11,400.00	10,280.00	10,050.49	9,030.00	29.35	26.96	1.66	-1,125.63	-84.27	1,249.92	1,220.68	29.24	42.742	
11,500.00	10,280.00	10,150.48	9,030.00	30.43	28.10	1.64	-1,225.62	-83.74	1,249.91	1,219.75	30.16	41.447	
11,600.00	10,280.00	10,250.48	9,030.00	31.55	29.29	1.62	-1,325.62	-83.21	1,249.90	1,218.79	31.11	40.173	
11,700.00	10,280.00	10,350.48	9,030.00	32.72	30.53	1.60	-1,425.62	-82.67	1,249.89	1,217.78	32.11	38.929	
11,800.00	10,280.00	10,450.48	9,030.00	33.92	31.79	1.58	-1,525.62	-82.14	1,249.88	1,216.74	33.14	37.719	
11,900.00	10,280.00	10,550.48	9,030.00	35.16	33.10	1.56	-1,625.62	-81.60	1,249.87	1,215.67	34.20	36.549	
12,000.00	10,280.00	10,650.48	9,030.00	36.43	34.43	1.55	-1,725.61	-81.07	1,249.86	1,214.57	35.29	35.419	
12,100.00	10,280.00	10,750.48	9,030.00	37.73	35.78	1.53	-1,825.61	-80.54	1,249.84	1,213.44	36.40	34.333	
12,200.00	10,280.00	10,850.48	9,030.00	39.06	37.16	1.51	-1,925.61	-80.00	1,249.83	1,212.29	37.54	33.290	
12,300.00	10,280.00	10,950.48	9,030.00	40.40	38.56	1.49	-2,025.61	-79.47	1,249.82	1,211.12	38.71	32.290	
12,400.00	10,280.00	11,050.48	9,030.00	41.77	39.97	1.47	-2,125.60	-78.93	1,249.81	1,209.92	39.89	31.333	
12,500.00	10,280.00	11,150.48	9,030.00	43.16	41.41	1.45	-2,225.60	-78.40	1,249.80	1,208.71	41.09	30.417	
12,600.00	10,280.00	11,250.48	9,030.00	44.56	42.85	1.44	-2,325.60	-77.86	1,249.79	1,207.49	42.31	29.542	
12,700.00	10,280.00	11,350.48	9,030.00	45.98	44.31	1.42	-2,425.60	-77.33	1,249.78	1,206.25	43.54	28.706	
12,800.00	10,280.00	11,450.47	9,030.00	47.41	45.79	1.40	-2,525.60	-76.80	1,249.77	1,204.99	44.78	27.907	
12,900.00	10,280.00	11,550.47	9,030.00	48.86	47.27	1.38	-2,625.59	-76.26	1,249.76	1,203.72	46.04	27.143	
13,000.00	10,280.00	11,650.47	9,030.00	50.31	48.76	1.36	-2,725.59	-75.73	1,249.75	1,202.44	47.31	26.414	
13,100.00	10,280.00	11,750.47	9,030.00	51.78	50.26	1.35	-2,825.59	-75.19	1,249.74	1,201.15	48.60	25.717	
13,200.00	10,280.00	11,850.47	9,030.00	53.26	51.77	1.33	-2,925.59	-74.66	1,249.74	1,199.85	49.89	25.051	
13,300.00	10,280.00	11,950.47	9,030.00	54.74	53.29	1.31	-3,025.58	-74.13	1,249.73	1,198.54	51.19	24.414	
13,400.00	10,280.00	12,050.47	9,030.00	56.24	54.82	1.29	-3,125.58	-73.59	1,249.72	1,197.22	52.50	23.805	
13,500.00	10,280.00	12,150.47	9,030.00	57.74	56.35	1.27	-3,225.58	-73.06	1,249.71	1,195.89	53.82	23.222	
13,600.00	10,280.00	12,250.47	9,030.00	59.25	57.88	1.25	-3,325.58	-72.52	1,249.70	1,194.56	55.14	22.664	
13,700.00	10,280.00	12,350.47	9,030.00	60.77	59.43	1.24	-3,425.58	-71.99	1,249.69	1,193.22	56.47	22.129	
13,800.00	10,280.00	12,450.47	9,030.00	62.29	60.97	1.22	-3,525.57	-71.45	1,249.68	1,191.87	57.81	21.617	
13,900.00	10,280.00	12,550.47	9,030.00	63.81	62.52	1.20	-3,625.57	-70.92	1,249.67	1,190.52	59.16	21.125	
14,000.00	10,280.00	12,650.46	9,030.00	65.35	64.08	1.18	-3,725.57	-70.39	1,249.67	1,189.16	60.51	20.654	
14,100.00	10,280.00	12,750.46	9,030.00	66.88	65.64	1.16	-3,825.57	-69.85	1,249.66	1,187.80	61.86	20.201	
14,200.00	10,280.00	12,850.46	9,030.00	68.43	67.20	1.14	-3,925.56	-69.32	1,249.65	1,186.43	63.22	19.767	
14,300.00	10,280.00	12,950.46	9,030.00	69.97	68.77	1.13	-4,025.56	-68.78	1,249.64	1,185.06	64.58	19.349	
14,400.00	10,280.00	13,050.46	9,030.00	71.52	70.34	1.11	-4,125.56	-68.25	1,249.63	1,183.68	65.95	18.947	
14,500.00	10,280.00	13,150.46	9,030.00	73.08	71.91	1.09	-4,225.56	-67.71	1,249.63	1,182.30	67.33	18.561	
14,600.00	10,280.00	13,250.46	9,030.00	74.63	73.49	1.07	-4,325.56	-67.18	1,249.62	1,180.92	68.70	18.189	
14,700.00	10,280.00	13,350.46	9,030.00	76.20	75.07	1.05	-4,425.55	-66.65	1,249.61	1,179.53	70.08	17.830	
14,800.00	10,280.00	13,450.46	9,030.00	77.76	76.65	1.03	-4,525.55	-66.11	1,249.60	1,178.14	71.47	17.485	
14,900.00	10,280.00	13,550.46	9,030.00	79.33	78.23	1.02	-4,625.55	-65.58	1,249.60	1,176.74	72.85	17.152	
15,000.00	10,280.00	13,650.46	9,030.00	80.90	79.81	1.00	-4,725.55	-65.04	1,249.59	1,175.35	74.24	16.831	
15,100.00	10,280.00	13,750.46	9,030.00	82.47	81.40	0.98	-4,825.54	-64.51	1,249.58	1,173.95	75.64	16.521	
15,200.00	10,280.00	13,850.46	9,030.00	84.04	82.99	0.96	-4,925.54	-63.98	1,249.58	1,172.54	77.03	16.222	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 533H - OH - Plan #1

Offset Site Error: 0.00 usft

Survey Program: 0-LEAM MWD+HDGM

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,300.00	10,280.00	13,950.45	9,030.00	85.62	84.58	0.94	-5,025.54	-63.44	1,249.57	1,171.14	78.43	15.933	
15,400.00	10,280.00	14,050.45	9,030.00	87.20	86.17	0.93	-5,125.54	-62.91	1,249.56	1,169.73	79.83	15.653	
15,500.00	10,280.00	14,150.45	9,030.00	88.78	87.77	0.91	-5,225.54	-62.37	1,249.56	1,168.33	81.23	15.383	
15,600.00	10,280.00	14,250.45	9,030.00	90.36	89.36	0.89	-5,325.53	-61.84	1,249.55	1,166.91	82.64	15.121	
15,700.00	10,280.00	14,350.45	9,030.00	91.95	90.96	0.87	-5,425.53	-61.30	1,249.54	1,165.50	84.04	14.868	
15,800.00	10,280.00	14,450.45	9,030.00	93.53	92.56	0.85	-5,525.53	-60.77	1,249.54	1,164.09	85.45	14.623	
15,900.00	10,280.00	14,550.45	9,030.00	95.12	94.16	0.83	-5,625.53	-60.24	1,249.53	1,162.67	86.86	14.385	
16,000.00	10,280.00	14,650.45	9,030.00	96.71	95.76	0.82	-5,725.52	-59.70	1,249.53	1,161.25	88.27	14.155	
16,100.00	10,280.00	14,750.45	9,030.00	98.30	97.36	0.80	-5,825.52	-59.17	1,249.52	1,159.83	89.69	13.932	
16,200.00	10,280.00	14,850.45	9,030.00	99.89	98.97	0.78	-5,925.52	-58.63	1,249.52	1,158.41	91.10	13.715	
16,300.00	10,280.00	14,950.45	9,030.00	101.49	100.57	0.76	-6,025.52	-58.10	1,249.51	1,156.99	92.52	13.505	
16,400.00	10,280.00	15,050.45	9,030.00	103.08	102.18	0.74	-6,125.52	-57.57	1,249.50	1,155.57	93.94	13.301	
16,500.00	10,280.00	15,150.44	9,030.00	104.68	103.78	0.72	-6,225.51	-57.03	1,249.50	1,154.14	95.36	13.103	
16,600.00	10,280.00	15,250.44	9,030.00	106.28	105.39	0.71	-6,325.51	-56.50	1,249.49	1,152.71	96.78	12.911	
16,700.00	10,280.00	15,350.44	9,030.00	107.87	107.00	0.69	-6,425.51	-55.96	1,249.49	1,151.29	98.20	12.724	
16,800.00	10,280.00	15,450.44	9,030.00	109.47	108.61	0.67	-6,525.51	-55.43	1,249.49	1,149.86	99.63	12.542	
16,900.00	10,280.00	15,550.44	9,030.00	111.08	110.22	0.65	-6,625.50	-54.89	1,249.48	1,148.43	101.05	12.365	
17,000.00	10,280.00	15,650.44	9,030.00	112.68	111.83	0.63	-6,725.50	-54.36	1,249.48	1,147.00	102.48	12.193	
17,100.00	10,280.00	15,750.44	9,030.00	114.28	113.44	0.61	-6,825.50	-53.83	1,249.47	1,145.57	103.90	12.025	
17,200.00	10,280.00	15,850.44	9,030.00	115.88	115.05	0.60	-6,925.50	-53.29	1,249.47	1,144.13	105.33	11.862	
17,300.00	10,280.00	15,950.44	9,030.00	117.49	116.66	0.58	-7,025.50	-52.76	1,249.46	1,142.70	106.76	11.703	
17,400.00	10,280.00	16,050.44	9,030.00	119.09	118.28	0.56	-7,125.49	-52.22	1,249.46	1,141.27	108.19	11.548	
17,500.00	10,280.00	16,150.44	9,030.00	120.70	119.89	0.54	-7,225.49	-51.69	1,249.46	1,139.83	109.62	11.398	
17,600.00	10,280.00	16,250.44	9,030.00	122.31	121.51	0.52	-7,325.49	-51.16	1,249.45	1,138.40	111.06	11.251	
17,700.00	10,280.00	16,350.44	9,030.00	123.91	123.12	0.50	-7,425.49	-50.62	1,249.45	1,136.96	112.49	11.107	
17,800.00	10,280.00	16,450.43	9,030.00	125.52	124.74	0.49	-7,525.48	-50.09	1,249.45	1,135.52	113.92	10.967	
17,900.00	10,280.00	16,550.43	9,030.00	127.13	126.35	0.47	-7,625.48	-49.55	1,249.44	1,134.08	115.36	10.831	
18,000.00	10,280.00	16,650.43	9,030.00	128.74	127.97	0.45	-7,725.48	-49.02	1,249.44	1,132.65	116.79	10.698	
18,100.00	10,280.00	16,750.43	9,030.00	130.35	129.59	0.43	-7,825.48	-48.48	1,249.44	1,131.21	118.23	10.568	
18,200.00	10,280.00	16,850.43	9,030.00	131.96	131.21	0.41	-7,925.48	-47.95	1,249.43	1,129.77	119.67	10.441	
18,300.00	10,280.00	16,950.43	9,030.00	133.57	132.82	0.40	-8,025.47	-47.42	1,249.43	1,128.33	121.10	10.317	
18,400.00	10,280.00	17,050.43	9,030.00	135.19	134.44	0.38	-8,125.47	-46.88	1,249.43	1,126.89	122.54	10.196	
18,500.00	10,280.00	17,150.43	9,030.00	136.80	136.06	0.36	-8,225.47	-46.35	1,249.42	1,125.44	123.98	10.078	
18,600.00	10,280.00	17,250.43	9,030.00	138.41	137.68	0.34	-8,325.47	-45.81	1,249.42	1,124.00	125.42	9.962	
18,700.00	10,280.00	17,350.43	9,030.00	140.03	139.30	0.32	-8,425.46	-45.28	1,249.42	1,122.56	126.86	9.849	
18,800.00	10,280.00	17,450.43	9,030.00	141.64	140.92	0.30	-8,525.46	-44.74	1,249.42	1,121.12	128.30	9.738	
18,900.00	10,280.00	17,550.43	9,030.00	143.26	142.54	0.29	-8,625.46	-44.21	1,249.42	1,119.67	129.74	9.630	
19,000.00	10,280.00	17,650.43	9,030.00	144.87	144.16	0.27	-8,725.46	-43.68	1,249.41	1,118.23	131.18	9.524	
19,100.00	10,280.00	17,750.42	9,030.00	146.49	145.79	0.25	-8,825.46	-43.14	1,249.41	1,116.78	132.63	9.420	
19,200.00	10,280.00	17,850.42	9,030.00	148.10	147.41	0.23	-8,925.45	-42.61	1,249.41	1,115.34	134.07	9.319	
19,300.00	10,280.00	17,950.42	9,030.00	149.72	149.03	0.21	-9,025.45	-42.07	1,249.41	1,113.89	135.51	9.220	
19,400.00	10,280.00	18,050.42	9,030.00	151.34	150.65	0.19	-9,125.45	-41.54	1,249.41	1,112.45	136.96	9.123	
19,500.00	10,280.00	18,150.42	9,030.00	152.95	152.27	0.18	-9,225.45	-41.01	1,249.41	1,111.00	138.40	9.027	
19,600.00	10,280.00	18,250.42	9,030.00	154.57	153.90	0.16	-9,325.44	-40.47	1,249.40	1,109.56	139.85	8.934	
19,700.00	10,280.00	18,350.42	9,030.00	156.19	155.52	0.14	-9,425.44	-39.94	1,249.40	1,108.11	141.29	8.843	
19,800.00	10,280.00	18,450.42	9,030.00	157.81	157.14	0.12	-9,525.44	-39.40	1,249.40	1,106.66	142.74	8.753	
19,900.00	10,280.00	18,550.42	9,030.00	159.43	158.77	0.10	-9,625.44	-38.87	1,249.40	1,105.22	144.19	8.665	
20,000.00	10,280.00	18,650.42	9,030.00	161.04	160.39	0.08	-9,725.44	-38.33	1,249.40	1,103.77	145.63	8.579	
20,100.00	10,280.00	18,750.42	9,030.00	162.66	162.02	0.07	-9,825.43	-37.80	1,249.40	1,102.32	147.08	8.495	
20,200.00	10,280.00	18,850.42	9,030.00	164.28	163.64	0.05	-9,925.43	-37.27	1,249.40	1,100.87	148.53	8.412	
20,300.00	10,280.00	18,950.41	9,030.00	165.90	165.27	0.03	-10,025.43	-36.73	1,249.40	1,099.42	149.98	8.331	
20,400.00	10,280.00	19,050.41	9,030.00	167.52	166.89	0.01	-10,125.43	-36.20	1,249.40	1,097.97	151.43	8.251	

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

Company:	Devon Energy	**Local Co-ordinate Reference:**	Well Lusitano 27-34 Fed Com 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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: 0-LEAM MWD+HDGM

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
20,452.72	10,280.00	19,103.13	9,030.00	168.38	167.75	0.00	-10,178.14	-35.92	1,249.40	1,097.21	152.19	8.210	
20,461.36	10,280.00	19,111.77	9,030.00	168.52	167.89	0.00	-10,186.78	-35.87	1,249.40	1,097.09	152.31	8.203	

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	**Local Co-ordinate Reference:**	Well Lusitano 27-34 Fed Com 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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: 0-LEAM MWD+HDGM — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	89.65	10.37	1,700.42	1,700.45				
100.00	100.00	98.40	98.40	0.09	0.08	89.65	10.37	1,700.42	1,700.45	1,700.28	0.17	9,969.191	
200.00	200.00	198.40	198.40	0.31	0.31	89.65	10.37	1,700.42	1,700.45	1,699.83	0.62	2,752.065	
300.00	300.00	298.40	298.40	0.54	0.53	89.65	10.37	1,700.42	1,700.45	1,699.38	1.07	1,593.057	
400.00	400.00	398.40	398.40	0.76	0.76	89.65	10.37	1,700.42	1,700.45	1,698.93	1.52	1,120.970	
500.00	500.00	498.40	498.40	0.99	0.98	89.65	10.37	1,700.42	1,700.45	1,698.49	1.97	864.719	
600.00	600.00	598.40	598.40	1.21	1.21	89.65	10.37	1,700.42	1,700.45	1,698.04	2.42	703.826	
700.00	700.00	698.40	698.40	1.43	1.43	89.65	10.37	1,700.42	1,700.45	1,697.59	2.87	593.414	
800.00	800.00	798.40	798.40	1.66	1.66	89.65	10.37	1,700.42	1,700.45	1,697.14	3.32	512.945	
900.00	900.00	898.40	898.40	1.88	1.88	89.65	10.37	1,700.42	1,700.45	1,696.69	3.76	451.694	
1,000.00	1,000.00	998.40	998.40	2.11	2.11	89.65	10.37	1,700.42	1,700.45	1,696.24	4.21	403.511	
1,100.00	1,100.00	1,098.40	1,098.40	2.33	2.33	89.65	10.37	1,700.42	1,700.45	1,695.79	4.66	364.617	
1,200.00	1,200.00	1,198.40	1,198.40	2.56	2.55	89.65	10.37	1,700.42	1,700.45	1,695.34	5.11	332.581	
1,300.00	1,300.00	1,298.40	1,298.40	2.78	2.78	89.65	10.37	1,700.42	1,700.45	1,694.89	5.56	305.686	
1,400.00	1,400.00	1,398.40	1,398.40	3.01	3.00	89.65	10.37	1,700.42	1,700.45	1,694.44	6.01	282.830	
1,500.00	1,500.00	1,498.40	1,498.40	3.23	3.23	89.65	10.37	1,700.42	1,700.45	1,693.99	6.46	263.155	
1,600.00	1,600.00	1,598.40	1,598.40	3.46	3.45	89.65	10.37	1,700.42	1,700.45	1,693.54	6.91	246.038	
1,700.00	1,700.00	1,698.40	1,698.40	3.68	3.68	89.65	10.37	1,700.42	1,700.45	1,693.09	7.36	231.013	
1,800.00	1,800.00	1,798.40	1,798.40	3.91	3.90	89.65	10.37	1,700.42	1,700.45	1,692.64	7.81	217.716	
1,900.00	1,900.00	1,898.40	1,898.40	4.13	4.13	89.65	10.37	1,700.42	1,700.45	1,692.19	8.26	205.868	
2,000.00	2,000.00	1,998.40	1,998.40	4.36	4.35	89.65	10.37	1,700.42	1,700.45	1,691.74	8.71	195.242	
2,100.00	2,100.00	2,098.40	2,098.40	4.58	4.58	89.65	10.37	1,700.42	1,700.45	1,691.29	9.16	185.659	
2,200.00	2,200.00	2,198.40	2,198.40	4.81	4.80	89.65	10.37	1,700.42	1,700.45	1,690.84	9.61	176.973	
2,300.00	2,300.00	2,298.40	2,298.40	5.03	5.03	89.65	10.37	1,700.42	1,700.45	1,690.39	10.06	169.064	
2,400.00	2,400.00	2,398.40	2,398.40	5.26	5.25	89.65	10.37	1,700.42	1,700.45	1,689.94	10.51	161.831	
2,500.00	2,500.00	2,498.40	2,498.40	5.48	5.48	89.65	10.37	1,700.42	1,700.45	1,689.49	10.96	155.191	
2,600.00	2,600.00	2,598.40	2,598.40	5.71	5.70	89.65	10.37	1,700.42	1,700.45	1,689.05	11.41	149.075	
2,700.00	2,700.00	2,698.40	2,698.40	5.93	5.93	89.65	10.37	1,700.42	1,700.45	1,688.60	11.86	143.423	
2,800.00	2,800.00	2,798.40	2,798.40	6.15	6.15	89.65	10.37	1,700.42	1,700.45	1,688.15	12.31	138.184	
2,900.00	2,900.00	2,898.40	2,898.40	6.38	6.38	89.65	10.37	1,700.42	1,700.45	1,687.70	12.76	133.314	
3,000.00	3,000.00	2,998.40	2,998.40	6.60	6.60	89.65	10.37	1,700.42	1,700.45	1,687.25	13.20	128.775 CC	
3,100.00	3,099.99	3,098.39	3,098.39	6.83	6.83	101.69	10.37	1,700.42	1,700.63	1,686.97	13.65	124.556 ES	
3,200.00	3,199.96	3,198.36	3,198.36	7.05	7.05	101.77	10.37	1,700.42	1,701.16	1,687.06	14.10	120.638	
3,300.00	3,299.87	3,298.27	3,298.27	7.28	7.27	101.91	10.37	1,700.42	1,702.03	1,687.49	14.55	116.989	
3,400.00	3,399.76	3,398.16	3,398.16	7.50	7.50	102.06	10.37	1,700.42	1,703.00	1,688.00	15.00	113.559	
3,500.00	3,499.65	3,498.05	3,498.05	7.73	7.72	102.21	10.37	1,700.42	1,703.97	1,688.52	15.45	110.325	
3,600.00	3,599.55	3,597.95	3,597.95	7.95	7.95	102.36	10.37	1,700.42	1,704.96	1,689.06	15.89	107.270	
3,700.00	3,699.44	3,697.84	3,697.84	8.18	8.17	102.51	10.37	1,700.42	1,705.95	1,689.61	16.34	104.380	
3,800.00	3,799.33	3,797.73	3,797.73	8.40	8.40	102.66	10.37	1,700.42	1,706.96	1,690.17	16.79	101.643	
3,900.00	3,899.23	3,897.63	3,897.63	8.63	8.62	102.82	10.37	1,700.42	1,707.98	1,690.74	17.24	99.046	
4,000.00	3,999.12	3,997.52	3,997.52	8.85	8.85	102.97	10.37	1,700.42	1,709.02	1,691.32	17.70	96.581	
4,100.00	4,099.01	4,093.97	4,093.96	9.08	9.06	103.09	11.13	1,700.53	1,710.16	1,692.02	18.14	94.285	
4,200.00	4,198.90	4,190.42	4,190.38	9.31	9.28	103.15	13.50	1,700.87	1,711.52	1,692.94	18.58	92.113	
4,300.00	4,298.80	4,286.90	4,286.78	9.54	9.50	103.17	17.48	1,701.44	1,713.08	1,694.06	19.02	90.054	
4,400.00	4,398.69	4,383.36	4,383.07	9.76	9.71	103.12	23.06	1,702.24	1,714.85	1,695.38	19.47	88.098	
4,500.00	4,498.58	4,479.74	4,479.18	9.99	9.93	103.03	30.24	1,703.27	1,716.82	1,696.91	19.91	86.237	
4,600.00	4,598.48	4,576.70	4,575.73	10.22	10.15	102.88	39.04	1,704.53	1,719.01	1,698.66	20.35	84.456	
4,700.00	4,698.37	4,676.54	4,675.10	10.45	10.37	102.71	48.65	1,705.90	1,721.28	1,700.47	20.81	82.719	
4,800.00	4,798.26	4,776.38	4,774.47	10.68	10.60	102.54	58.25	1,707.28	1,723.57	1,702.30	21.27	81.049	
4,900.00	4,898.15	4,876.22	4,873.84	10.91	10.83	102.37	67.85	1,708.66	1,725.87	1,704.15	21.72	79.442	
5,000.00	4,998.05	4,976.07	4,973.21	11.14	11.06	102.20	77.45	1,710.03	1,728.19	1,706.00	22.19	77.896	
5,100.00	5,097.94	5,075.91	5,072.58	11.37	11.29	102.03	87.05	1,711.41	1,730.52	1,707.87	22.65	76.407	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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: 0-LEAM MWD+HDGM — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.00	5,197.83	5,175.75	5,171.95	11.60	11.53	101.86	96.65	1,712.78	1,732.87	1,709.75	23.11	74.974	
5,300.00	5,297.73	5,275.59	5,271.32	11.83	11.76	101.69	106.25	1,714.16	1,735.23	1,711.65	23.58	73.592	
5,400.00	5,397.62	5,375.44	5,370.69	12.06	12.00	101.53	115.85	1,715.53	1,737.61	1,713.56	24.05	72.260	
5,500.00	5,497.51	5,475.28	5,470.06	12.29	12.24	101.36	125.46	1,716.91	1,740.00	1,715.48	24.52	70.975	
5,600.00	5,597.40	5,575.12	5,569.43	12.52	12.48	101.19	135.06	1,718.29	1,742.41	1,717.42	24.99	69.735	
5,700.00	5,697.30	5,674.96	5,668.80	12.75	12.72	101.03	144.66	1,719.66	1,744.83	1,719.37	25.46	68.539	
5,800.00	5,797.19	5,774.81	5,768.17	12.98	12.96	100.86	154.26	1,721.04	1,747.26	1,721.33	25.93	67.383	
5,900.00	5,897.08	5,874.65	5,867.54	13.21	13.21	100.69	163.86	1,722.41	1,749.71	1,723.31	26.40	66.267	
6,000.00	5,996.98	5,974.49	5,966.91	13.45	13.45	100.53	173.46	1,723.79	1,752.18	1,725.30	26.88	65.187	
6,100.00	6,096.87	6,074.33	6,066.28	13.68	13.70	100.37	183.06	1,725.16	1,754.66	1,727.31	27.35	64.144	
6,200.00	6,196.76	6,174.18	6,165.65	13.91	13.94	100.20	192.67	1,726.54	1,757.15	1,729.32	27.83	63.135	
6,300.00	6,296.65	6,274.02	6,265.02	14.14	14.19	100.04	202.27	1,727.92	1,759.66	1,731.35	28.31	62.158	
6,400.00	6,396.55	6,373.86	6,364.39	14.37	14.44	99.88	211.87	1,729.29	1,762.19	1,733.40	28.79	61.213	
6,500.00	6,496.44	6,473.70	6,463.76	14.60	14.69	99.71	221.47	1,730.67	1,764.72	1,735.46	29.27	60.297	
6,600.00	6,596.33	6,573.54	6,563.13	14.84	14.94	99.55	231.07	1,732.04	1,767.28	1,737.53	29.75	59.410	
6,700.00	6,696.23	6,673.39	6,662.50	15.07	15.19	99.39	240.67	1,733.42	1,769.84	1,739.61	30.23	58.550	
6,800.00	6,796.12	6,773.23	6,761.87	15.30	15.44	99.23	250.27	1,734.79	1,772.42	1,741.71	30.71	57.716	
6,900.00	6,896.01	6,873.07	6,861.24	15.53	15.69	99.07	259.88	1,736.17	1,775.01	1,743.82	31.19	56.907	
7,000.00	6,995.90	6,972.91	6,960.61	15.76	15.94	98.91	269.48	1,737.55	1,777.62	1,745.95	31.67	56.122	
7,100.00	7,095.80	7,072.76	7,059.98	16.00	16.19	98.75	279.08	1,738.92	1,780.24	1,748.09	32.16	55.361	
7,200.00	7,195.69	7,172.60	7,159.35	16.23	16.45	98.59	288.68	1,740.30	1,782.88	1,750.24	32.64	54.621	
7,300.00	7,295.58	7,272.44	7,258.72	16.46	16.70	98.43	298.28	1,741.67	1,785.53	1,752.40	33.13	53.902	
7,400.00	7,395.48	7,372.28	7,358.09	16.69	16.95	98.27	307.88	1,743.05	1,788.19	1,754.58	33.61	53.204	
7,500.00	7,495.37	7,472.13	7,457.46	16.93	17.21	98.11	317.48	1,744.42	1,790.87	1,756.77	34.10	52.526	
7,600.00	7,595.26	7,571.97	7,556.83	17.16	17.46	97.96	327.09	1,745.80	1,793.56	1,758.98	34.58	51.866	
7,700.00	7,695.15	7,682.49	7,666.96	17.39	17.69	97.83	336.25	1,747.11	1,795.98	1,760.94	35.04	51.257	
7,800.00	7,795.05	7,793.64	7,777.94	17.62	17.89	97.80	342.29	1,747.98	1,797.78	1,762.30	35.48	50.672	
7,900.00	7,894.94	7,904.78	7,889.03	17.86	18.09	97.87	345.13	1,748.39	1,798.96	1,763.05	35.91	50.101	
8,000.00	7,994.83	8,008.98	7,993.23	18.09	18.28	98.02	345.37	1,748.42	1,799.65	1,763.32	36.33	49.535	
8,100.00	8,094.73	8,108.87	8,093.13	18.32	18.49	98.16	345.37	1,748.42	1,800.30	1,763.52	36.78	48.950	
8,200.00	8,194.62	8,208.76	8,193.02	18.55	18.71	98.31	345.37	1,748.42	1,800.96	1,763.74	37.23	48.380	
8,300.00	8,294.53	8,322.65	8,306.69	18.77	18.90	98.61	340.49	1,748.43	1,801.32	1,763.69	37.63	47.873	
8,400.00	8,394.52	8,438.64	8,419.38	18.94	18.99	99.50	313.88	1,748.46	1,800.38	1,762.49	37.89	47.513	
8,500.00	8,494.52	8,540.72	8,512.38	19.13	19.02	88.82	272.10	1,748.52	1,799.01	1,760.89	38.12	47.199	
8,573.88	8,568.40	8,605.29	8,566.80	19.29	19.03	89.92	237.40	1,748.56	1,798.57	1,760.28	38.28	46.979	
8,600.00	8,594.52	8,625.93	8,583.33	19.35	19.03	90.32	225.05	1,748.58	1,798.63	1,760.29	38.34	46.909	
8,700.00	8,694.52	8,695.24	8,635.38	19.57	19.03	91.77	179.35	1,748.64	1,800.42	1,761.87	38.55	46.700	
8,800.00	8,794.52	8,750.00	8,672.37	19.79	19.05	93.06	139.00	1,748.70	1,805.28	1,766.55	38.73	46.608 SF	
8,900.00	8,894.52	8,800.00	8,702.65	20.01	19.07	94.32	99.23	1,748.75	1,813.87	1,774.99	38.88	46.655	
9,000.00	8,994.52	8,833.48	8,720.93	20.23	19.09	95.20	71.19	1,748.79	1,826.59	1,787.64	38.96	46.889	
9,100.00	9,094.52	8,864.03	8,736.16	20.45	19.12	96.04	44.71	1,748.82	1,843.70	1,804.73	38.97	47.307	
9,200.00	9,194.52	8,900.00	8,752.25	20.67	19.17	97.05	12.54	1,748.86	1,865.37	1,826.41	38.95	47.887	
9,300.00	9,294.52	8,900.00	8,752.25	20.89	19.17	97.05	12.54	1,748.86	1,891.49	1,852.71	38.78	48.776	
9,400.00	9,394.52	8,929.50	8,763.92	21.11	19.22	97.90	-14.54	1,748.90	1,921.97	1,883.32	38.65	49.726	
9,500.00	9,494.52	8,950.00	8,771.20	21.33	19.26	98.50	-33.71	1,748.93	1,956.84	1,918.39	38.45	50.894	
9,600.00	9,594.52	8,950.00	8,771.20	21.55	19.26	98.50	-33.71	1,748.93	1,995.89	1,957.74	38.14	52.327	
9,700.00	9,694.52	8,971.22	8,778.01	21.77	19.30	99.12	-53.81	1,748.95	2,038.80	2,000.91	37.89	53.803	
9,800.00	9,794.18	9,000.00	8,786.04	21.94	19.37	-75.60	-81.44	1,748.99	2,084.56	2,046.96	37.61	55.430	
9,900.00	9,891.19	9,000.00	8,786.04	22.06	19.37	-70.76	-81.44	1,748.99	2,129.75	2,092.59	37.16	57.307	
10,000.00	9,982.61	9,020.71	8,790.96	22.14	19.42	-65.82	-101.56	1,749.02	2,173.26	2,136.45	36.81	59.045	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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: 0-LEAM MWD+HDGM — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	1.10	1.10	0.00	0.00	0.16	150.00	0.41	150.00				
100.00	100.00	101.10	101.10	0.09	0.09	0.16	150.00	0.41	150.00	149.83	0.17	860.003	
200.00	200.00	201.10	201.10	0.31	0.31	0.16	150.00	0.41	150.00	149.38	0.62	240.404	
300.00	300.00	301.10	301.10	0.54	0.54	0.16	150.00	0.41	150.00	148.93	1.07	139.733	
400.00	400.00	401.10	401.10	0.76	0.76	0.16	150.00	0.41	150.00	148.48	1.52	98.489	
500.00	500.00	501.10	501.10	0.99	0.99	0.16	150.00	0.41	150.00	148.03	1.97	76.044	
600.00	600.00	601.10	601.10	1.21	1.21	0.16	150.00	0.41	150.00	147.58	2.42	61.930	
700.00	700.00	701.10	701.10	1.43	1.44	0.16	150.00	0.41	150.00	147.13	2.87	52.236	
800.00	800.00	801.10	801.10	1.66	1.66	0.16	150.00	0.41	150.00	146.68	3.32	45.165	
900.00	900.00	901.10	901.10	1.88	1.89	0.16	150.00	0.41	150.00	146.23	3.77	39.781	
1,000.00	1,000.00	1,001.10	1,001.10	2.11	2.11	0.16	150.00	0.41	150.00	145.78	4.22	35.543	
1,100.00	1,100.00	1,101.10	1,101.10	2.33	2.34	0.16	150.00	0.41	150.00	145.33	4.67	32.122	
1,200.00	1,200.00	1,201.10	1,201.10	2.56	2.56	0.16	150.00	0.41	150.00	144.88	5.12	29.301	
1,300.00	1,300.00	1,301.10	1,301.10	2.78	2.79	0.16	150.00	0.41	150.00	144.43	5.57	26.936	
1,400.00	1,400.00	1,401.10	1,401.10	3.01	3.01	0.16	150.00	0.41	150.00	143.98	6.02	24.924	
1,500.00	1,500.00	1,501.10	1,501.10	3.23	3.24	0.16	150.00	0.41	150.00	143.53	6.47	23.192	
1,600.00	1,600.00	1,601.10	1,601.10	3.46	3.46	0.16	150.00	0.41	150.00	143.08	6.92	21.685	
1,700.00	1,700.00	1,701.10	1,701.10	3.68	3.68	0.16	150.00	0.41	150.00	142.63	7.37	20.361	
1,800.00	1,800.00	1,801.10	1,801.10	3.91	3.91	0.16	150.00	0.41	150.00	142.18	7.82	19.190	
1,900.00	1,900.00	1,901.10	1,901.10	4.13	4.13	0.16	150.00	0.41	150.00	141.73	8.27	18.147	
2,000.00	2,000.00	2,001.10	2,001.10	4.36	4.36	0.16	150.00	0.41	150.00	141.29	8.72	17.211	
2,100.00	2,100.00	2,101.10	2,101.10	4.58	4.58	0.16	150.00	0.41	150.00	140.84	9.17	16.367	
2,200.00	2,200.00	2,201.10	2,201.10	4.81	4.81	0.16	150.00	0.41	150.00	140.39	9.61	15.601	
2,300.00	2,300.00	2,301.10	2,301.10	5.03	5.03	0.16	150.00	0.41	150.00	139.94	10.06	14.904	
2,400.00	2,400.00	2,401.10	2,401.10	5.26	5.26	0.16	150.00	0.41	150.00	139.49	10.51	14.267	
2,500.00	2,500.00	2,501.10	2,501.10	5.48	5.48	0.16	150.00	0.41	150.00	139.04	10.96	13.682	
2,600.00	2,600.00	2,601.10	2,601.10	5.71	5.71	0.16	150.00	0.41	150.00	138.59	11.41	13.143	
2,700.00	2,700.00	2,701.10	2,701.10	5.93	5.93	0.16	150.00	0.41	150.00	138.14	11.86	12.645	
2,800.00	2,800.00	2,801.10	2,801.10	6.15	6.16	0.16	150.00	0.41	150.00	137.69	12.31	12.183	
2,900.00	2,900.00	2,901.10	2,901.10	6.38	6.38	0.16	150.00	0.41	150.00	137.24	12.76	11.754	
2,916.30	2,916.30	2,917.40	2,917.40	6.42	6.42	0.16	150.00	0.41	150.00	137.17	12.83	11.687	
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	0.16	150.00	0.41	150.00	136.80	13.21	11.357	
3,100.00	3,099.99	3,098.52	3,098.52	6.83	6.83	12.24	150.85	0.41	150.02	136.36	13.65	10.988	
3,200.00	3,199.96	3,197.53	3,197.50	7.05	7.05	12.44	153.08	0.41	149.71	135.61	14.10	10.620	
3,300.00	3,299.87	3,297.51	3,297.45	7.28	7.27	12.79	155.45	0.41	147.93	133.38	14.55	10.169	
3,400.00	3,399.76	3,397.48	3,397.40	7.50	7.50	13.18	157.83	0.41	145.79	130.80	15.00	9.722	
3,500.00	3,499.65	3,497.46	3,497.34	7.73	7.72	13.59	160.20	0.41	143.67	128.22	15.45	9.302	
3,600.00	3,599.55	3,597.43	3,597.29	7.95	7.95	14.00	162.58	0.41	141.55	125.65	15.90	8.905	
3,700.00	3,699.44	3,697.40	3,697.23	8.18	8.17	14.43	164.95	0.41	139.43	123.09	16.35	8.531	
3,800.00	3,799.33	3,797.37	3,797.17	8.40	8.40	14.87	167.33	0.41	137.33	120.53	16.80	8.177	
3,900.00	3,899.23	3,897.35	3,897.12	8.63	8.62	15.32	169.70	0.41	135.23	117.98	17.25	7.841	
4,000.00	3,999.12	3,997.32	3,997.06	8.85	8.85	15.79	172.08	0.41	133.14	115.44	17.70	7.524	
4,100.00	4,099.01	4,097.29	4,097.01	9.08	9.07	16.27	174.45	0.41	131.06	112.91	18.15	7.222	
4,200.00	4,198.90	4,197.26	4,196.95	9.31	9.30	16.77	176.83	0.41	128.99	110.39	18.60	6.936	
4,300.00	4,298.80	4,297.23	4,296.89	9.54	9.52	17.28	179.20	0.41	126.93	107.88	19.05	6.664	
4,400.00	4,398.69	4,397.21	4,396.84	9.76	9.75	17.81	181.58	0.41	124.88	105.38	19.50	6.404	
4,500.00	4,498.58	4,497.18	4,496.78	9.99	9.97	18.36	183.95	0.41	122.84	102.89	19.95	6.157	
4,600.00	4,598.48	4,597.15	4,596.73	10.22	10.20	18.93	186.33	0.41	120.82	100.42	20.40	5.922	
4,700.00	4,698.37	4,697.12	4,696.67	10.45	10.42	19.51	188.70	0.41	118.80	97.95	20.85	5.697	
4,800.00	4,798.26	4,797.10	4,796.61	10.68	10.65	20.12	191.08	0.41	116.80	95.50	21.31	5.482	
4,900.00	4,898.15	4,897.07	4,896.56	10.91	10.87	20.74	193.46	0.41	114.82	93.06	21.76	5.277	
5,000.00	4,998.05	4,997.04	4,996.50	11.14	11.10	21.39	195.83	0.41	112.84	90.63	22.21	5.081	

LEAM Drilling Services

Anticollision Report

Company:	Devon Energy	**Local Co-ordinate Reference:**	Well Lusitano 27-34 Fed Com 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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: 0-LEAM MWD+HDGM — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.00	5,097.94	5,097.01	5,096.45	11.37	11.32	22.07	198.21	0.41	110.88	88.22	22.66	4.893	
5,200.00	5,197.83	5,196.98	5,196.39	11.60	11.55	22.76	200.58	0.41	108.94	85.83	23.11	4.713	
5,300.00	5,297.73	5,296.96	5,296.33	11.83	11.77	23.48	202.96	0.41	107.01	83.45	23.57	4.541	
5,400.00	5,397.62	5,396.93	5,396.28	12.06	12.00	24.23	205.33	0.41	105.11	81.09	24.02	4.376	
5,500.00	5,497.51	5,496.90	5,496.22	12.29	12.22	25.01	207.71	0.41	103.22	78.74	24.47	4.217	
5,600.00	5,597.40	5,596.87	5,596.17	12.52	12.45	25.81	210.08	0.41	101.35	76.42	24.93	4.066	
5,700.00	5,697.30	5,696.85	5,696.11	12.75	12.67	26.65	212.46	0.41	99.50	74.12	25.38	3.920	
5,800.00	5,797.19	5,796.82	5,796.05	12.98	12.90	27.51	214.83	0.41	97.67	71.83	25.83	3.781	
5,900.00	5,897.08	5,896.79	5,896.00	13.21	13.13	28.41	217.21	0.41	95.86	69.57	26.29	3.647	
6,000.00	5,996.98	5,996.76	5,995.94	13.45	13.35	29.34	219.58	0.41	94.08	67.34	26.74	3.518	
6,100.00	6,096.87	6,096.73	6,095.89	13.68	13.58	30.31	221.96	0.41	92.33	65.13	27.20	3.395	
6,200.00	6,196.76	6,196.71	6,195.83	13.91	13.80	31.32	224.33	0.41	90.60	62.95	27.65	3.276	
6,300.00	6,296.65	6,296.68	6,295.77	14.14	14.03	32.36	226.71	0.41	88.90	60.80	28.11	3.163	
6,400.00	6,396.55	6,396.65	6,395.72	14.37	14.25	33.45	229.08	0.41	87.24	58.67	28.56	3.054	
6,500.00	6,496.44	6,496.62	6,495.66	14.60	14.48	34.57	231.46	0.41	85.60	56.58	29.02	2.950	
6,600.00	6,596.33	6,596.59	6,595.61	14.84	14.71	35.74	233.83	0.41	84.00	54.53	29.48	2.850	
6,700.00	6,696.23	6,696.57	6,695.55	15.07	14.93	36.96	236.21	0.41	82.44	52.51	29.93	2.754	
6,800.00	6,796.12	6,796.54	6,795.49	15.30	15.16	38.22	238.58	0.41	80.91	50.52	30.39	2.662	
6,900.00	6,896.01	6,896.51	6,895.44	15.53	15.38	39.53	240.96	0.41	79.43	48.58	30.85	2.575	
7,000.00	6,995.90	6,996.48	6,995.38	15.76	15.61	40.89	243.34	0.41	77.99	46.68	31.31	2.491	
7,100.00	7,095.80	7,096.46	7,095.33	16.00	15.84	42.29	245.71	0.41	76.59	44.82	31.77	2.411	
7,200.00	7,195.69	7,196.43	7,195.27	16.23	16.06	43.75	248.09	0.41	75.24	43.02	32.22	2.335	
7,300.00	7,295.58	7,296.40	7,295.21	16.46	16.29	45.27	250.46	0.41	73.94	41.26	32.68	2.262	
7,400.00	7,395.48	7,396.37	7,395.16	16.69	16.52	46.83	252.84	0.41	72.70	39.56	33.14	2.193	
7,500.00	7,495.37	7,496.34	7,495.10	16.93	16.74	48.45	255.21	0.41	71.51	37.91	33.61	2.128	
7,600.00	7,595.26	7,596.32	7,595.05	17.16	16.97	50.12	257.59	0.41	70.38	36.32	34.07	2.066	
7,700.00	7,695.15	7,696.29	7,694.99	17.39	17.19	51.84	259.96	0.41	69.31	34.79	34.53	2.007	
7,800.00	7,795.05	7,796.26	7,794.93	17.62	17.42	53.62	262.34	0.41	68.31	33.32	34.99	1.952	
7,900.00	7,894.94	7,896.23	7,894.88	17.86	17.65	55.45	264.71	0.41	67.38	31.92	35.45	1.900	
8,000.00	7,994.83	7,996.21	7,994.82	18.09	17.87	57.32	267.09	0.41	66.51	30.60	35.92	1.852	
8,100.00	8,094.73	8,096.18	8,094.77	18.32	18.10	59.25	269.46	0.41	65.72	29.34	36.38	1.807	
8,200.00	8,194.62	8,196.15	8,194.71	18.55	18.33	61.22	271.84	0.41	65.00	28.16	36.84	1.764	
8,289.89	8,284.44	8,286.02	8,284.56	18.75	18.53	62.48	273.97	0.41	64.74	27.50	37.24	1.738	
8,300.00	8,294.53	8,296.13	8,294.66	18.77	18.55	62.80	274.21	0.41	64.61	27.33	37.29	1.733	CC, ES, SF
8,400.00	8,394.52	8,396.13	8,394.63	18.94	18.78	62.47	276.59	0.41	65.37	27.69	37.68	1.735	
8,500.00	8,494.52	8,496.10	8,494.57	19.13	19.00	48.91	278.96	0.41	66.90	28.81	38.09	1.756	
8,600.00	8,594.52	8,596.07	8,594.52	19.35	19.23	47.41	281.34	0.41	68.48	29.95	38.53	1.777	
8,700.00	8,694.52	8,696.04	8,694.46	19.57	19.46	45.98	283.71	0.41	70.11	31.14	38.97	1.799	
8,800.00	8,794.52	8,796.01	8,794.40	19.79	19.68	44.62	286.09	0.41	71.78	32.37	39.42	1.821	
8,900.00	8,894.52	8,895.98	8,894.35	20.01	19.91	43.32	288.47	0.41	73.49	33.63	39.86	1.844	
9,000.00	8,994.52	8,995.96	8,994.29	20.23	20.14	42.07	290.84	0.41	75.24	34.94	40.30	1.867	
9,100.00	9,094.52	9,095.93	9,094.23	20.45	20.36	40.89	293.22	0.41	77.02	36.27	40.75	1.890	
9,200.00	9,194.52	9,195.90	9,194.18	20.67	20.59	39.76	295.59	0.41	78.83	37.64	41.19	1.914	
9,300.00	9,294.52	9,295.87	9,294.12	20.89	20.81	38.68	297.97	0.41	80.67	39.04	41.63	1.938	
9,400.00	9,394.52	9,395.84	9,394.06	21.11	21.04	37.65	300.34	0.41	82.54	40.46	42.08	1.962	
9,500.00	9,494.52	9,495.82	9,494.01	21.33	21.27	36.66	302.72	0.41	84.44	41.91	42.52	1.986	
9,600.00	9,594.52	9,595.79	9,593.95	21.55	21.49	35.72	305.09	0.41	86.35	43.39	42.97	2.010	
9,700.00	9,694.52	9,695.76	9,693.89	21.77	21.72	34.82	307.47	0.41	88.29	44.88	43.41	2.034	
9,800.00	9,794.18	9,795.23	9,793.34	21.94	21.95	-147.79	309.83	0.41	95.84	52.04	43.80	2.188	
9,900.00	9,891.19	9,891.65	9,889.73	22.06	22.16	-153.41	312.12	0.41	118.76	74.62	44.14	2.691	
10,000.00	9,982.61	9,982.09	9,980.14	22.14	22.37	-158.71	314.27	0.41	158.15	113.70	44.45	3.558	
10,100.00	10,065.65	10,063.79	10,061.82	22.23	22.55	-162.33	316.21	0.41	213.37	168.63	44.74	4.769	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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: 0-LEAM MWD+HDGM — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,200.00	10,137.80	10,134.28	10,132.29	22.31	22.71	-164.18	317.89	0.41	282.61	237.62	44.99	6.282	
10,300.00	10,196.86	10,191.41	10,189.40	22.40	22.84	-164.27	319.24	0.41	363.51	318.32	45.19	8.044	
10,400.00	10,241.03	10,233.44	10,231.43	22.59	22.94	-161.76	320.24	0.41	453.40	408.06	45.33	10.001	
10,500.00	10,268.98	10,259.11	10,257.08	22.87	23.00	-151.73	320.85	0.41	549.42	504.00	45.42	12.095	
10,600.00	10,279.88	10,267.62	10,265.60	23.24	23.02	-88.60	321.05	0.41	648.57	603.11	45.46	14.267	
10,700.00	10,280.00	10,265.38	10,263.36	23.70	23.01	-70.65	321.00	0.41	748.29	702.82	45.47	16.458	
10,800.00	10,280.00	10,263.01	10,260.98	24.26	23.01	-68.29	320.94	0.41	848.06	802.58	45.47	18.650	
10,900.00	10,280.00	10,260.63	10,258.61	24.91	23.00	-66.01	320.89	0.41	947.87	902.39	45.48	20.841	
11,000.00	10,280.00	10,258.26	10,256.23	25.65	22.99	-63.80	320.83	0.41	1,047.71	1,002.22	45.49	23.031	
11,100.00	10,280.00	10,255.88	10,253.86	26.47	22.99	-61.67	320.78	0.41	1,147.58	1,102.07	45.50	25.220	
11,200.00	10,280.00	10,253.50	10,251.48	27.37	22.98	-59.62	320.72	0.41	1,247.46	1,201.94	45.52	27.407	
11,300.00	10,280.00	10,251.13	10,249.11	28.33	22.98	-57.66	320.66	0.41	1,347.36	1,301.82	45.53	29.591	
11,400.00	10,280.00	12,876.80	11,677.57	29.35	33.02	-178.21	-1,114.74	-4.59	1,397.19	1,361.18	36.02	38.793	
11,500.00	10,280.00	12,976.79	11,678.35	30.43	34.07	-178.23	-1,214.73	-4.93	1,397.96	1,361.14	36.82	37.971	
11,600.00	10,280.00	13,076.79	11,679.12	31.55	35.17	-178.25	-1,314.73	-5.28	1,398.72	1,361.06	37.66	37.145	
11,700.00	10,280.00	13,176.78	11,679.90	32.72	36.30	-178.27	-1,414.72	-5.62	1,399.48	1,360.95	38.53	36.320	
11,800.00	10,280.00	13,276.78	11,680.68	33.92	37.48	-178.30	-1,514.71	-5.97	1,400.24	1,360.79	39.44	35.499	
11,900.00	10,280.00	13,376.78	11,681.45	35.16	38.68	-178.32	-1,614.70	-6.31	1,401.00	1,360.61	40.39	34.688	
12,000.00	10,280.00	13,476.77	11,682.23	36.43	39.92	-178.34	-1,714.70	-6.66	1,401.76	1,360.40	41.36	33.888	
12,100.00	10,280.00	13,576.77	11,683.01	37.73	41.19	-178.36	-1,814.69	-7.00	1,402.52	1,360.16	42.37	33.104	
12,200.00	10,280.00	13,676.76	11,683.78	39.06	42.48	-178.38	-1,914.68	-7.35	1,403.29	1,359.89	43.40	32.336	
12,300.00	10,280.00	13,776.76	11,684.56	40.40	43.79	-178.40	-2,014.67	-7.69	1,404.05	1,359.60	44.45	31.586	
12,400.00	10,280.00	13,876.76	11,685.33	41.77	45.12	-178.42	-2,114.66	-8.04	1,404.81	1,359.28	45.53	30.856	
12,500.00	10,280.00	13,976.75	11,686.11	43.16	46.48	-178.44	-2,214.66	-8.38	1,405.58	1,358.95	46.63	30.146	
12,600.00	10,280.00	14,076.75	11,686.89	44.56	47.85	-178.46	-2,314.65	-8.73	1,406.34	1,358.60	47.74	29.456	
12,700.00	10,280.00	14,176.74	11,687.66	45.98	49.23	-178.48	-2,414.64	-9.07	1,407.10	1,358.22	48.88	28.788	
12,800.00	10,280.00	14,276.74	11,688.44	47.41	50.63	-178.50	-2,514.63	-9.42	1,407.86	1,357.83	50.03	28.139	
12,900.00	10,280.00	14,376.73	11,689.22	48.86	52.05	-178.52	-2,614.63	-9.76	1,408.63	1,357.43	51.20	27.512	
13,000.00	10,280.00	14,476.73	11,689.99	50.31	53.48	-178.54	-2,714.62	-10.11	1,409.39	1,357.01	52.38	26.905	
13,100.00	10,280.00	14,576.73	11,690.77	51.78	54.92	-178.56	-2,814.61	-10.45	1,410.16	1,356.57	53.58	26.318	
13,200.00	10,280.00	14,676.72	11,691.54	53.26	56.37	-178.58	-2,914.60	-10.79	1,410.92	1,356.13	54.79	25.751	
13,300.00	10,280.00	14,776.72	11,692.32	54.74	57.82	-178.60	-3,014.59	-11.14	1,411.68	1,355.67	56.01	25.202	
13,400.00	10,280.00	14,876.71	11,693.10	56.24	59.29	-178.62	-3,114.59	-11.48	1,412.45	1,355.20	57.25	24.673	
13,500.00	10,280.00	14,976.71	11,693.87	57.74	60.77	-178.64	-3,214.58	-11.83	1,413.21	1,354.72	58.49	24.161	
13,600.00	10,280.00	15,076.71	11,694.65	59.25	62.26	-178.66	-3,314.57	-12.17	1,413.98	1,354.23	59.75	23.666	
13,700.00	10,280.00	15,176.70	11,695.43	60.77	63.75	-178.68	-3,414.56	-12.52	1,414.74	1,353.73	61.01	23.189	
13,800.00	10,280.00	15,276.70	11,696.20	62.29	65.25	-178.70	-3,514.56	-12.86	1,415.51	1,353.23	62.28	22.727	
13,900.00	10,280.00	15,376.69	11,696.98	63.81	66.75	-178.72	-3,614.55	-13.21	1,416.27	1,352.71	63.56	22.281	
14,000.00	10,280.00	15,476.69	11,697.75	65.35	68.26	-178.74	-3,714.54	-13.55	1,417.04	1,352.19	64.85	21.850	
14,100.00	10,280.00	15,576.68	11,698.53	66.88	69.78	-178.76	-3,814.53	-13.90	1,417.80	1,351.66	66.15	21.434	
14,200.00	10,280.00	15,676.68	11,699.31	68.43	71.30	-178.78	-3,914.52	-14.24	1,418.57	1,351.12	67.45	21.031	
14,300.00	10,280.00	15,776.68	11,700.08	69.97	72.83	-178.80	-4,014.52	-14.59	1,419.34	1,350.58	68.76	20.642	
14,400.00	10,280.00	15,876.67	11,700.86	71.52	74.36	-178.82	-4,114.51	-14.93	1,420.10	1,350.03	70.07	20.266	
14,500.00	10,280.00	15,976.67	11,701.64	73.08	75.89	-178.84	-4,214.50	-15.28	1,420.87	1,349.47	71.40	19.901	
14,600.00	10,280.00	16,076.66	11,702.41	74.63	77.43	-178.86	-4,314.49	-15.62	1,421.64	1,348.91	72.72	19.549	
14,700.00	10,280.00	16,176.66	11,703.19	76.20	78.98	-178.88	-4,414.49	-15.97	1,422.40	1,348.35	74.05	19.208	
14,800.00	10,280.00	16,276.66	11,703.96	77.76	80.52	-178.90	-4,514.48	-16.31	1,423.17	1,347.78	75.39	18.877	
14,900.00	10,280.00	16,376.65	11,704.74	79.33	82.07	-178.92	-4,614.47	-16.66	1,423.94	1,347.20	76.73	18.557	
15,000.00	10,280.00	16,476.65	11,705.52	80.90	83.63	-178.94	-4,714.46	-17.00	1,424.70	1,346.63	78.08	18.247	
15,100.00	10,280.00	16,576.64	11,706.29	82.47	85.18	-178.96	-4,814.45	-17.35	1,425.47	1,346.04	79.43	17.947	
15,200.00	10,280.00	16,676.64	11,707.07	84.04	86.74	-178.98	-4,914.45	-17.69	1,426.24	1,345.46	80.78	17.656	
15,300.00	10,280.00	16,776.63	11,707.85	85.62	88.31	-179.00	-5,014.44	-18.04	1,427.01	1,344.87	82.14	17.373	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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: 0-LEAM MWD+HDGM

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,400.00	10,280.00	16,876.63	11,708.62	87.20	89.87	-179.02	-5,114.43	-18.38	1,427.77	1,344.27	83.50	17.099	
15,500.00	10,280.00	16,976.63	11,709.40	88.78	91.44	-179.04	-5,214.42	-18.72	1,428.54	1,343.68	84.86	16.833	
15,600.00	10,280.00	17,076.62	11,710.17	90.36	93.01	-179.06	-5,314.42	-19.07	1,429.31	1,343.08	86.23	16.575	
15,700.00	10,280.00	17,176.62	11,710.95	91.95	94.58	-179.08	-5,414.41	-19.41	1,430.08	1,342.47	87.60	16.324	
15,800.00	10,280.00	17,276.61	11,711.73	93.53	96.15	-179.10	-5,514.40	-19.76	1,430.85	1,341.87	88.98	16.081	
15,900.00	10,280.00	17,376.61	11,712.50	95.12	97.73	-179.12	-5,614.39	-20.10	1,431.62	1,341.26	90.35	15.844	
16,000.00	10,280.00	17,476.61	11,713.28	96.71	99.30	-179.14	-5,714.38	-20.45	1,432.38	1,340.65	91.73	15.615	
16,100.00	10,280.00	17,576.60	11,714.06	98.30	100.88	-179.16	-5,814.38	-20.79	1,433.15	1,340.04	93.12	15.391	
16,200.00	10,280.00	17,676.60	11,714.83	99.89	102.46	-179.18	-5,914.37	-21.14	1,433.92	1,339.42	94.50	15.174	
16,300.00	10,280.00	17,776.59	11,715.61	101.49	104.05	-179.20	-6,014.36	-21.48	1,434.69	1,338.80	95.89	14.962	
16,400.00	10,280.00	17,876.59	11,716.39	103.08	105.63	-179.22	-6,114.35	-21.83	1,435.46	1,338.18	97.28	14.756	
16,500.00	10,280.00	17,976.58	11,717.16	104.68	107.22	-179.24	-6,214.35	-22.17	1,436.23	1,337.56	98.67	14.556	
16,600.00	10,280.00	18,076.58	11,717.94	106.28	108.80	-179.26	-6,314.34	-22.52	1,437.00	1,336.94	100.06	14.361	
16,700.00	10,280.00	18,176.58	11,718.71	107.87	110.39	-179.28	-6,414.33	-22.86	1,437.77	1,336.31	101.46	14.171	
16,800.00	10,280.00	18,276.57	11,719.49	109.47	111.98	-179.30	-6,514.32	-23.21	1,438.54	1,335.69	102.86	13.986	
16,900.00	10,280.00	18,376.57	11,720.27	111.08	113.57	-179.32	-6,614.31	-23.55	1,439.31	1,335.06	104.26	13.806	
17,000.00	10,280.00	18,476.56	11,721.04	112.68	115.16	-179.34	-6,714.31	-23.90	1,440.08	1,334.43	105.66	13.630	
17,100.00	10,280.00	18,576.56	11,721.82	114.28	116.76	-179.36	-6,814.30	-24.24	1,440.85	1,333.79	107.06	13.458	
17,200.00	10,280.00	18,676.56	11,722.60	115.88	118.35	-179.38	-6,914.29	-24.59	1,441.62	1,333.16	108.46	13.291	
17,300.00	10,280.00	18,776.55	11,723.37	117.49	119.95	-179.39	-7,014.28	-24.93	1,442.40	1,332.52	109.87	13.128	
17,400.00	10,280.00	18,876.55	11,724.15	119.09	121.54	-179.41	-7,114.28	-25.28	1,443.17	1,331.89	111.28	12.969	
17,500.00	10,280.00	18,976.54	11,724.92	120.70	123.14	-179.43	-7,214.27	-25.62	1,443.94	1,331.25	112.69	12.814	
17,600.00	10,280.00	19,076.54	11,725.70	122.31	124.74	-179.45	-7,314.26	-25.97	1,444.71	1,330.61	114.10	12.662	
17,700.00	10,280.00	19,176.53	11,726.48	123.91	126.34	-179.47	-7,414.25	-26.31	1,445.48	1,329.97	115.51	12.514	
17,800.00	10,280.00	19,276.53	11,727.25	125.52	127.94	-179.49	-7,514.24	-26.65	1,446.25	1,329.33	116.92	12.369	
17,900.00	10,280.00	19,376.53	11,728.03	127.13	129.54	-179.51	-7,614.24	-27.00	1,447.03	1,328.69	118.34	12.228	
18,000.00	10,280.00	19,476.52	11,728.81	128.74	131.14	-179.53	-7,714.23	-27.34	1,447.80	1,328.04	119.75	12.090	
18,100.00	10,280.00	19,576.52	11,729.58	130.35	132.74	-179.55	-7,814.22	-27.69	1,448.57	1,327.40	121.17	11.955	
18,200.00	10,280.00	19,676.51	11,730.36	131.96	134.35	-179.57	-7,914.21	-28.03	1,449.34	1,326.75	122.59	11.823	
18,300.00	10,280.00	19,776.51	11,731.13	133.57	135.95	-179.59	-8,014.21	-28.38	1,450.12	1,326.11	124.01	11.694	
18,400.00	10,280.00	19,876.51	11,731.91	135.19	137.56	-179.61	-8,114.20	-28.72	1,450.89	1,325.46	125.43	11.567	
18,500.00	10,280.00	19,976.50	11,732.69	136.80	139.16	-179.63	-8,214.19	-29.07	1,451.66	1,324.81	126.85	11.444	
18,600.00	10,280.00	20,076.50	11,733.46	138.41	140.77	-179.65	-8,314.18	-29.41	1,452.43	1,324.16	128.27	11.323	
18,700.00	10,280.00	20,176.49	11,734.24	140.03	142.37	-179.66	-8,414.17	-29.76	1,453.21	1,323.51	129.70	11.205	
18,800.00	10,280.00	20,276.49	11,735.02	141.64	143.98	-179.68	-8,514.17	-30.10	1,453.98	1,322.86	131.12	11.089	
18,900.00	10,280.00	20,376.48	11,735.79	143.26	145.59	-179.70	-8,614.16	-30.45	1,454.75	1,322.21	132.55	10.975	
19,000.00	10,280.00	20,476.48	11,736.57	144.87	147.20	-179.72	-8,714.15	-30.79	1,455.53	1,321.56	133.97	10.864	
19,100.00	10,280.00	20,576.48	11,737.34	146.49	148.81	-179.74	-8,814.14	-31.14	1,456.30	1,320.90	135.40	10.756	
19,200.00	10,280.00	20,676.47	11,738.12	148.10	150.42	-179.76	-8,914.14	-31.48	1,457.08	1,320.25	136.83	10.649	
19,300.00	10,280.00	20,776.47	11,738.90	149.72	152.03	-179.78	-9,014.13	-31.83	1,457.85	1,319.59	138.26	10.544	
19,400.00	10,280.00	20,876.46	11,739.67	151.34	153.64	-179.80	-9,114.12	-32.17	1,458.63	1,318.94	139.69	10.442	
19,500.00	10,280.00	20,976.46	11,740.45	152.95	155.25	-179.82	-9,214.11	-32.52	1,459.40	1,318.28	141.12	10.342	
19,600.00	10,280.00	21,076.46	11,741.23	154.57	156.86	-179.84	-9,314.10	-32.86	1,460.18	1,317.63	142.55	10.243	
19,700.00	10,280.00	21,176.45	11,742.00	156.19	158.47	-179.85	-9,414.10	-33.21	1,460.95	1,316.97	143.98	10.147	
19,800.00	10,280.00	21,276.45	11,742.78	157.81	160.08	-179.87	-9,514.09	-33.55	1,461.73	1,316.31	145.41	10.052	
19,900.00	10,280.00	21,376.44	11,743.55	159.43	161.70	-179.89	-9,614.08	-33.90	1,462.50	1,315.65	146.85	9.959	
20,000.00	10,280.00	21,476.44	11,744.33	161.04	163.31	-179.91	-9,714.07	-34.24	1,463.28	1,314.99	148.28	9.868	
20,100.00	10,280.00	21,576.43	11,745.11	162.66	164.92	-179.93	-9,814.07	-34.58	1,464.05	1,314.34	149.72	9.779	
20,200.00	10,280.00	21,676.43	11,745.88	164.28	166.54	-179.95	-9,914.06	-34.93	1,464.83	1,313.68	151.15	9.691	
20,300.00	10,280.00	21,776.43	11,746.66	165.90	168.15	-179.97	-10,014.05	-35.27	1,465.60	1,313.02	152.59	9.605	
20,400.00	10,280.00	21,876.42	11,747.44	167.52	169.77	-179.99	-10,114.04	-35.62	1,466.38	1,312.35	154.02	9.520	
20,461.36	10,280.00	21,937.78	11,747.91	168.52	170.76	-180.00	-10,175.39	-35.83	1,466.86	1,311.95	154.91	9.469	

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

Company:	Devon Energy	**Local Co-ordinate Reference:**	Well Lusitano 27-34 Fed Com 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	3.00	3.00	0.00	0.00	84.52	160.17	1,670.47	1,678.13				
100.00	100.00	103.00	103.00	0.09	0.09	84.52	160.17	1,670.47	1,678.13	1,677.95	0.18	9,391.340	
200.00	200.00	203.00	203.00	0.31	0.32	84.52	160.17	1,670.47	1,678.13	1,677.50	0.63	2,671.242	
300.00	300.00	303.00	303.00	0.54	0.54	84.52	160.17	1,670.47	1,678.13	1,677.05	1.08	1,557.064	
400.00	400.00	403.00	403.00	0.76	0.77	84.52	160.17	1,670.47	1,678.13	1,676.60	1.53	1,098.767	
500.00	500.00	503.00	503.00	0.99	0.99	84.52	160.17	1,670.47	1,678.13	1,676.15	1.98	848.906	
600.00	600.00	603.00	603.00	1.21	1.22	84.52	160.17	1,670.47	1,678.13	1,675.70	2.43	691.628	
700.00	700.00	703.00	703.00	1.43	1.44	84.52	160.17	1,670.47	1,678.13	1,675.26	2.88	583.519	
800.00	800.00	803.00	803.00	1.66	1.67	84.52	160.17	1,670.47	1,678.13	1,674.81	3.33	504.638	
900.00	900.00	903.00	903.00	1.88	1.89	84.52	160.17	1,670.47	1,678.13	1,674.36	3.77	444.544	
1,000.00	1,000.00	1,003.00	1,003.00	2.11	2.12	84.52	160.17	1,670.47	1,678.13	1,673.91	4.22	397.240	
1,100.00	1,100.00	1,103.00	1,103.00	2.33	2.34	84.52	160.17	1,670.47	1,678.13	1,673.46	4.67	359.035	
1,200.00	1,200.00	1,203.00	1,203.00	2.56	2.57	84.52	160.17	1,670.47	1,678.13	1,673.01	5.12	327.533	
1,300.00	1,300.00	1,303.00	1,303.00	2.78	2.79	84.52	160.17	1,670.47	1,678.13	1,672.56	5.57	301.114	
1,400.00	1,400.00	1,403.00	1,403.00	3.01	3.01	84.52	160.17	1,670.47	1,678.13	1,672.11	6.02	278.639	
1,500.00	1,500.00	1,503.00	1,503.00	3.23	3.24	84.52	160.17	1,670.47	1,678.13	1,671.66	6.47	259.285	
1,600.00	1,600.00	1,603.00	1,603.00	3.46	3.46	84.52	160.17	1,670.47	1,678.13	1,671.21	6.92	242.446	
1,700.00	1,700.00	1,703.00	1,703.00	3.68	3.69	84.52	160.17	1,670.47	1,678.13	1,670.76	7.37	227.660	
1,800.00	1,800.00	1,803.00	1,803.00	3.91	3.91	84.52	160.17	1,670.47	1,678.13	1,670.31	7.82	214.575	
1,900.00	1,900.00	1,903.00	1,903.00	4.13	4.14	84.52	160.17	1,670.47	1,678.13	1,669.86	8.27	202.911	
2,000.00	2,000.00	2,003.00	2,003.00	4.36	4.36	84.52	160.17	1,670.47	1,678.13	1,669.41	8.72	192.451	
2,100.00	2,100.00	2,103.00	2,103.00	4.58	4.59	84.52	160.17	1,670.47	1,678.13	1,668.96	9.17	183.016	
2,200.00	2,200.00	2,203.00	2,203.00	4.81	4.81	84.52	160.17	1,670.47	1,678.13	1,668.51	9.62	174.463	
2,300.00	2,300.00	2,303.00	2,303.00	5.03	5.04	84.52	160.17	1,670.47	1,678.13	1,668.06	10.07	166.673	
2,400.00	2,400.00	2,403.00	2,403.00	5.26	5.26	84.52	160.17	1,670.47	1,678.13	1,667.61	10.52	159.550	
2,500.00	2,500.00	2,504.21	2,504.21	5.48	5.49	84.52	160.17	1,670.47	1,678.13	1,667.16	10.97	152.980	
2,600.00	2,600.00	2,644.57	2,644.56	5.71	5.78	84.51	160.34	1,668.65	1,676.85	1,665.37	11.48	146.027	
2,700.00	2,700.00	2,784.76	2,784.64	5.93	6.07	84.48	160.83	1,663.43	1,673.18	1,661.19	11.98	139.660	
2,800.00	2,800.00	2,901.25	2,900.94	6.15	6.31	84.43	161.44	1,656.78	1,667.51	1,655.07	12.44	134.092	
2,900.00	2,900.00	3,001.07	3,000.58	6.38	6.52	84.40	162.00	1,650.84	1,661.63	1,648.77	12.86	129.164	
3,000.00	3,000.00	3,100.89	3,100.22	6.60	6.73	84.36	162.55	1,644.89	1,655.76	1,642.47	13.30	124.540	
3,100.00	3,099.99	3,200.72	3,199.88	6.83	6.95	96.42	163.10	1,638.95	1,649.99	1,636.26	13.73	120.207	
3,200.00	3,199.96	3,300.55	3,299.53	7.05	7.16	96.52	163.66	1,633.00	1,644.41	1,630.25	14.16	116.149	
3,300.00	3,299.87	3,400.36	3,399.16	7.28	7.38	96.67	164.21	1,627.06	1,639.02	1,624.43	14.59	112.338	
3,400.00	3,399.76	3,500.16	3,498.77	7.50	7.60	96.79	164.76	1,621.12	1,633.68	1,618.65	15.02	108.737	
3,500.00	3,499.65	3,599.95	3,598.39	7.73	7.82	96.91	165.32	1,615.18	1,628.35	1,612.89	15.46	105.328	
3,600.00	3,599.55	3,699.75	3,698.01	7.95	8.04	97.03	165.87	1,609.23	1,623.02	1,607.12	15.90	102.096	
3,700.00	3,699.44	3,799.55	3,797.63	8.18	8.27	97.16	166.42	1,603.29	1,617.70	1,601.37	16.34	99.029	
3,800.00	3,799.33	3,899.34	3,897.25	8.40	8.49	97.28	166.98	1,597.35	1,612.39	1,595.62	16.78	96.116	
3,900.00	3,899.23	3,999.14	3,996.86	8.63	8.72	97.41	167.53	1,591.40	1,607.09	1,589.87	17.22	93.346	
4,000.00	3,999.12	4,098.93	4,096.48	8.85	8.95	97.54	168.08	1,585.46	1,601.80	1,584.14	17.66	90.710	
4,100.00	4,099.01	4,198.73	4,196.10	9.08	9.17	97.67	168.64	1,579.52	1,596.51	1,578.41	18.10	88.197	
4,200.00	4,198.90	4,298.53	4,295.72	9.31	9.40	97.79	169.19	1,573.58	1,591.23	1,572.68	18.55	85.801	
4,300.00	4,298.80	4,398.32	4,395.34	9.54	9.63	97.92	169.74	1,567.63	1,585.96	1,566.97	18.99	83.514	
4,400.00	4,398.69	4,498.12	4,494.95	9.76	9.86	98.05	170.30	1,561.69	1,580.70	1,561.26	19.44	81.328	
4,500.00	4,498.58	4,597.92	4,594.57	9.99	10.09	98.19	170.85	1,555.75	1,575.44	1,555.56	19.88	79.238	
4,600.00	4,598.48	4,697.71	4,694.19	10.22	10.32	98.32	171.40	1,549.81	1,570.20	1,549.87	20.33	77.237	
4,700.00	4,698.37	4,797.51	4,793.81	10.45	10.55	98.45	171.96	1,543.86	1,564.96	1,544.18	20.78	75.320	
4,800.00	4,798.26	4,897.31	4,893.42	10.68	10.79	98.58	172.51	1,537.92	1,559.73	1,538.50	21.23	73.483	
4,900.00	4,898.15	4,997.10	4,993.04	10.91	11.02	98.72	173.06	1,531.98	1,554.51	1,532.84	21.67	71.720	
5,000.00	4,998.05	5,096.90	5,092.66	11.14	11.25	98.86	173.61	1,526.03	1,549.30	1,527.17	22.12	70.028	
5,100.00	5,097.94	5,196.70	5,192.28	11.37	11.49	98.99	174.17	1,520.09	1,544.10	1,521.52	22.57	68.401	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.00	5,197.83	5,296.49	5,291.90	11.60	11.72	99.13	174.72	1,514.15	1,538.90	1,515.88	23.02	66.837	
5,300.00	5,297.73	5,396.29	5,391.51	11.83	11.96	99.27	175.27	1,508.21	1,533.72	1,510.24	23.48	65.333	
5,400.00	5,397.62	5,496.09	5,491.13	12.06	12.19	99.41	175.83	1,502.26	1,528.54	1,504.61	23.93	63.884	
5,500.00	5,497.51	5,595.88	5,590.75	12.29	12.43	99.55	176.38	1,496.32	1,523.37	1,498.99	24.38	62.489	
5,600.00	5,597.40	5,695.68	5,690.37	12.52	12.66	99.69	176.93	1,490.38	1,518.21	1,493.38	24.83	61.143	
5,700.00	5,697.30	5,795.48	5,789.99	12.75	12.90	99.83	177.49	1,484.44	1,513.07	1,487.78	25.28	59.845	
5,800.00	5,797.19	5,895.27	5,889.60	12.98	13.13	99.97	178.04	1,478.49	1,507.93	1,482.19	25.74	58.593	
5,900.00	5,897.08	5,995.07	5,989.22	13.21	13.37	100.12	178.59	1,472.55	1,502.80	1,476.61	26.19	57.383	
6,000.00	5,996.98	6,094.86	6,088.84	13.45	13.61	100.26	179.15	1,466.61	1,497.68	1,471.04	26.64	56.215	
6,100.00	6,096.87	6,194.66	6,188.46	13.68	13.85	100.41	179.70	1,460.66	1,492.57	1,465.47	27.10	55.085	
6,200.00	6,196.76	6,294.46	6,288.07	13.91	14.08	100.56	180.25	1,454.72	1,487.47	1,459.92	27.55	53.992	
6,300.00	6,296.65	6,394.25	6,387.69	14.14	14.32	100.71	180.81	1,448.78	1,482.38	1,454.37	28.00	52.935	
6,400.00	6,396.55	6,494.05	6,487.31	14.37	14.56	100.86	181.36	1,442.84	1,477.29	1,448.84	28.46	51.911	
6,500.00	6,496.44	6,593.85	6,586.93	14.60	14.80	101.01	181.91	1,436.89	1,472.22	1,443.31	28.91	50.919	
6,600.00	6,596.33	6,693.64	6,686.55	14.84	15.03	101.16	182.47	1,430.95	1,467.16	1,437.79	29.37	49.958	
6,700.00	6,696.23	6,793.44	6,786.16	15.07	15.27	101.31	183.02	1,425.01	1,462.11	1,432.29	29.82	49.026	
6,800.00	6,796.12	6,893.24	6,885.78	15.30	15.51	101.46	183.57	1,419.07	1,457.07	1,426.79	30.28	48.123	
6,900.00	6,896.01	6,993.03	6,985.40	15.53	15.75	101.62	184.13	1,413.12	1,452.04	1,421.31	30.73	47.246	
7,000.00	6,995.90	7,092.83	7,085.02	15.76	15.99	101.77	184.68	1,407.18	1,447.02	1,415.84	31.19	46.395	
7,100.00	7,095.80	7,192.63	7,184.64	16.00	16.23	101.93	185.23	1,401.24	1,442.02	1,410.37	31.65	45.568	
7,200.00	7,195.69	7,292.42	7,284.25	16.23	16.47	102.09	185.78	1,395.30	1,437.02	1,404.92	32.10	44.765	
7,300.00	7,295.58	7,392.22	7,383.87	16.46	16.71	102.25	186.34	1,389.35	1,432.03	1,399.48	32.56	43.985	
7,400.00	7,395.48	7,492.02	7,483.49	16.69	16.95	102.41	186.89	1,383.41	1,427.06	1,394.04	33.01	43.226	
7,500.00	7,495.37	7,591.81	7,583.11	16.93	17.19	102.57	187.44	1,377.47	1,422.09	1,388.62	33.47	42.488	
7,600.00	7,595.26	7,691.61	7,682.72	17.16	17.43	102.73	188.00	1,371.52	1,417.14	1,383.21	33.93	41.771	
7,700.00	7,695.15	7,791.41	7,782.34	17.39	17.67	102.89	188.55	1,365.58	1,412.20	1,377.82	34.38	41.072	
7,800.00	7,795.05	7,891.20	7,881.96	17.62	17.91	103.06	189.10	1,359.64	1,407.27	1,372.43	34.84	40.392	
7,900.00	7,894.94	7,991.00	7,981.58	17.86	18.15	103.22	189.66	1,353.70	1,402.35	1,367.05	35.30	39.730	
8,000.00	7,994.83	8,090.79	8,081.20	18.09	18.39	103.39	190.21	1,347.75	1,397.45	1,361.69	35.75	39.085	
8,100.00	8,094.73	8,190.59	8,180.81	18.32	18.63	103.56	190.76	1,341.81	1,392.55	1,356.34	36.21	38.456	
8,200.00	8,194.62	8,290.39	8,280.43	18.55	18.87	103.73	191.32	1,335.87	1,387.67	1,351.00	36.67	37.843	
8,300.00	8,294.53	8,390.20	8,380.06	18.77	19.11	103.83	191.87	1,329.92	1,382.67	1,345.56	37.11	37.261	
8,400.00	8,394.52	8,490.03	8,479.72	18.94	19.35	103.80	192.42	1,323.98	1,377.09	1,339.59	37.50	36.719	
8,500.00	8,494.52	8,589.85	8,579.36	19.13	19.59	91.76	192.98	1,318.04	1,371.13	1,333.21	37.92	36.159	
8,600.00	8,594.52	8,689.67	8,679.00	19.35	19.83	91.74	193.53	1,312.09	1,365.16	1,326.79	38.37	35.583	
8,700.00	8,694.52	8,789.49	8,778.64	19.57	20.07	91.73	194.08	1,306.15	1,359.19	1,320.38	38.81	35.021	
8,800.00	8,794.52	8,884.60	8,873.58	19.79	20.30	91.71	194.61	1,300.51	1,353.25	1,314.00	39.25	34.480	
8,900.00	8,894.52	8,958.43	8,947.33	20.01	20.44	91.70	194.93	1,297.08	1,348.59	1,308.97	39.62	34.039	
9,000.00	8,994.52	9,032.37	9,021.24	20.23	20.57	91.70	195.11	1,295.06	1,345.86	1,305.89	39.98	33.665	
9,100.00	9,094.52	9,108.65	9,097.52	20.45	20.71	91.70	195.17	1,294.47	1,345.06	1,304.72	40.33	33.347	
9,200.00	9,194.52	9,208.65	9,197.52	20.67	20.90	91.70	195.17	1,294.47	1,345.06	1,304.30	40.76	33.003	
9,300.00	9,294.52	9,308.65	9,297.52	20.89	21.10	91.70	195.17	1,294.47	1,345.06	1,303.87	41.19	32.659	
9,400.00	9,394.52	9,408.65	9,397.52	21.11	21.31	91.70	195.17	1,294.47	1,345.06	1,303.44	41.62	32.321	
9,500.00	9,494.52	9,508.65	9,497.52	21.33	21.51	91.70	195.17	1,294.47	1,345.06	1,303.01	42.05	31.990	
9,600.00	9,594.52	9,608.65	9,597.52	21.55	21.72	91.70	195.17	1,294.47	1,345.06	1,302.58	42.48	31.665	
9,700.00	9,694.52	9,708.65	9,697.52	21.77	21.92	91.70	195.17	1,294.47	1,345.06	1,302.15	42.91	31.347	
9,800.00	9,794.18	9,808.31	9,797.18	21.94	22.13	-88.53	195.17	1,294.47	1,344.87	1,301.58	43.29	31.069	
9,900.00	9,891.19	9,905.32	9,894.19	22.06	22.33	-89.55	195.17	1,294.47	1,344.46	1,300.86	43.60	30.835	
9,932.34	9,921.51	9,935.64	9,924.51	22.08	22.39	-90.00	195.17	1,294.47	1,344.41	1,300.72	43.69	30.770	CC, ES
10,000.00	9,982.61	9,996.74	9,985.61	22.14	22.51	-91.08	195.17	1,294.47	1,344.73	1,300.85	43.88	30.647	
10,100.00	10,065.65	10,079.78	10,068.65	22.23	22.69	-92.80	195.17	1,294.47	1,347.06	1,302.94	44.13	30.526	
10,200.00	10,137.80	10,151.93	10,140.80	22.31	22.84	-94.31	195.17	1,294.47	1,353.15	1,308.77	44.38	30.493	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,300.00	10,196.86	10,210.99	10,199.86	22.40	22.96	-95.16	195.17	1,294.47	1,364.64	1,320.00	44.64	30.570	
10,400.00	10,241.03	10,255.16	10,244.03	22.59	23.05	-94.99	195.17	1,294.47	1,382.82	1,337.88	44.93	30.775	
10,500.00	10,268.98	10,283.12	10,271.98	22.87	23.11	-93.48	195.17	1,294.47	1,408.34	1,363.09	45.26	31.117	
10,600.00	10,279.86	10,293.99	10,282.86	23.24	23.13	-90.48	195.17	1,294.47	1,441.04	1,395.44	45.60	31.601	
10,700.00	10,280.00	10,294.13	10,283.00	23.70	23.13	-90.00	195.17	1,294.47	1,479.98	1,434.02	45.96	32.199	
10,800.00	10,280.00	10,294.13	10,283.00	24.26	23.13	-90.00	195.17	1,294.47	1,524.50	1,478.14	46.36	32.881	
10,900.00	10,280.00	10,294.13	10,283.00	24.91	23.13	-90.00	195.17	1,294.47	1,574.12	1,527.34	46.78	33.646	
11,000.00	10,280.00	10,294.13	10,283.00	25.65	23.13	-90.00	195.17	1,294.47	1,628.38	1,581.16	47.21	34.490	
11,100.00	10,280.00	10,294.13	10,283.00	26.47	23.13	-90.00	195.17	1,294.47	1,686.82	1,639.18	47.64	35.410	
11,200.00	10,280.00	10,294.13	10,283.00	27.37	23.13	-90.00	195.17	1,294.47	1,749.03	1,700.99	48.05	36.401	
11,300.00	10,280.00	10,294.13	10,283.00	28.33	23.13	-90.00	195.17	1,294.47	1,814.63	1,766.19	48.44	37.459	
11,400.00	10,280.00	10,294.13	10,283.00	29.35	23.13	-90.00	195.17	1,294.47	1,883.25	1,834.43	48.82	38.577	
11,500.00	10,280.00	10,294.13	10,283.00	30.43	23.13	-90.00	195.17	1,294.47	1,954.58	1,905.41	49.17	39.752	
11,600.00	10,280.00	13,050.17	11,768.00	31.55	35.34	-137.80	-1,321.78	1,298.58	2,004.55	1,951.18	53.37	37.558	
11,700.00	10,280.00	13,150.17	11,768.00	32.72	36.47	-137.80	-1,421.78	1,298.85	2,004.64	1,949.60	55.04	36.423	
11,800.00	10,280.00	13,250.17	11,768.00	33.92	37.64	-137.80	-1,521.78	1,299.12	2,004.73	1,947.97	56.76	35.319	
11,900.00	10,280.00	13,350.17	11,768.00	35.16	38.84	-137.79	-1,621.78	1,299.39	2,004.82	1,946.28	58.54	34.249	
12,000.00	10,280.00	13,450.17	11,768.00	36.43	40.07	-137.79	-1,721.78	1,299.67	2,004.91	1,944.55	60.36	33.217	
12,100.00	10,280.00	13,550.17	11,768.00	37.73	41.33	-137.79	-1,821.78	1,299.94	2,005.00	1,942.78	62.22	32.222	
12,200.00	10,280.00	13,650.17	11,768.00	39.06	42.61	-137.78	-1,921.78	1,300.21	2,005.09	1,940.96	64.13	31.266	
12,300.00	10,280.00	13,750.17	11,768.00	40.40	43.92	-137.78	-2,021.78	1,300.48	2,005.18	1,939.11	66.07	30.348	
12,400.00	10,280.00	13,850.17	11,768.00	41.77	45.25	-137.78	-2,121.78	1,300.75	2,005.28	1,937.23	68.05	29.469	
12,500.00	10,280.00	13,950.17	11,768.00	43.16	46.60	-137.78	-2,221.78	1,301.02	2,005.37	1,935.31	70.05	28.627	
12,600.00	10,280.00	14,050.17	11,768.00	44.56	47.96	-137.77	-2,321.78	1,301.29	2,005.46	1,933.37	72.08	27.821	
12,700.00	10,280.00	14,150.17	11,768.00	45.98	49.34	-137.77	-2,421.78	1,301.56	2,005.55	1,931.40	74.14	27.050	
12,800.00	10,280.00	14,250.17	11,768.00	47.41	50.74	-137.77	-2,521.78	1,301.83	2,005.64	1,929.41	76.23	26.312	
12,900.00	10,280.00	14,350.17	11,768.00	48.86	52.15	-137.76	-2,621.78	1,302.10	2,005.73	1,927.40	78.33	25.607	
13,000.00	10,280.00	14,450.17	11,768.00	50.31	53.58	-137.76	-2,721.78	1,302.38	2,005.82	1,925.37	80.45	24.932	
13,100.00	10,280.00	14,550.17	11,768.00	51.78	55.01	-137.76	-2,821.78	1,302.65	2,005.91	1,923.32	82.59	24.286	
13,200.00	10,280.00	14,650.17	11,768.00	53.26	56.46	-137.76	-2,921.78	1,302.92	2,006.00	1,921.25	84.75	23.669	
13,300.00	10,280.00	14,750.17	11,768.00	54.74	57.92	-137.75	-3,021.78	1,303.19	2,006.09	1,919.17	86.93	23.078	
13,400.00	10,280.00	14,850.17	11,768.00	56.24	59.38	-137.75	-3,121.77	1,303.46	2,006.19	1,917.07	89.12	22.512	
13,500.00	10,280.00	14,950.17	11,768.00	57.74	60.86	-137.75	-3,221.77	1,303.73	2,006.28	1,914.96	91.32	21.970	
13,600.00	10,280.00	15,050.17	11,768.00	59.25	62.34	-137.74	-3,321.77	1,304.00	2,006.37	1,912.83	93.53	21.450	
13,700.00	10,280.00	15,150.17	11,768.00	60.77	63.83	-137.74	-3,421.77	1,304.27	2,006.46	1,910.70	95.76	20.953	
13,800.00	10,280.00	15,250.17	11,768.00	62.29	65.33	-137.74	-3,521.77	1,304.54	2,006.55	1,908.55	98.00	20.475	
13,900.00	10,280.00	15,350.17	11,768.00	63.81	66.83	-137.74	-3,621.77	1,304.82	2,006.64	1,906.39	100.25	20.017	
14,000.00	10,280.00	15,450.17	11,768.00	65.35	68.34	-137.73	-3,721.77	1,305.09	2,006.73	1,904.23	102.51	19.577	
14,100.00	10,280.00	15,550.17	11,768.00	66.88	69.86	-137.73	-3,821.77	1,305.36	2,006.82	1,902.05	104.77	19.154	
14,200.00	10,280.00	15,650.17	11,768.00	68.43	71.38	-137.73	-3,921.77	1,305.63	2,006.91	1,899.86	107.05	18.747	
14,300.00	10,280.00	15,750.17	11,768.00	69.97	72.91	-137.72	-4,021.77	1,305.90	2,007.01	1,897.67	109.33	18.357	
14,400.00	10,280.00	15,850.17	11,768.00	71.52	74.44	-137.72	-4,121.77	1,306.17	2,007.10	1,895.47	111.62	17.981	
14,500.00	10,280.00	15,950.17	11,768.00	73.08	75.97	-137.72	-4,221.77	1,306.44	2,007.19	1,893.27	113.92	17.619	
14,600.00	10,280.00	16,050.17	11,768.00	74.63	77.51	-137.72	-4,321.77	1,306.71	2,007.28	1,891.05	116.23	17.270	
14,700.00	10,280.00	16,150.17	11,768.00	76.20	79.05	-137.71	-4,421.77	1,306.98	2,007.37	1,888.83	118.54	16.934	
14,800.00	10,280.00	16,250.17	11,768.00	77.76	80.60	-137.71	-4,521.77	1,307.25	2,007.46	1,886.61	120.85	16.611	
14,900.00	10,280.00	16,350.17	11,768.00	79.33	82.15	-137.71	-4,621.77	1,307.53	2,007.55	1,884.38	123.18	16.298	
15,000.00	10,280.00	16,450.17	11,768.00	80.90	83.70	-137.70	-4,721.77	1,307.80	2,007.64	1,882.14	125.50	15.997	
15,100.00	10,280.00	16,550.17	11,768.00	82.47	85.26	-137.70	-4,821.77	1,308.07	2,007.73	1,879.90	127.84	15.705	
15,200.00	10,280.00	16,650.17	11,768.00	84.04	86.82	-137.70	-4,921.77	1,308.34	2,007.83	1,877.65	130.17	15.424	
15,300.00	10,280.00	16,750.17	11,768.00	85.62	88.38	-137.70	-5,021.77	1,308.61	2,007.92	1,875.40	132.52	15.152	
15,400.00	10,280.00	16,850.17	11,768.00	87.20	89.95	-137.69	-5,121.77	1,308.88	2,008.01	1,873.15	134.86	14.889	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,500.00	10,280.00	16,950.17	11,768.00	88.78	91.51	-137.69	-5,221.77	1,309.15	2,008.10	1,870.89	137.21	14.635	
15,600.00	10,280.00	17,050.17	11,768.00	90.36	93.08	-137.69	-5,321.76	1,309.42	2,008.19	1,868.62	139.57	14.389	
15,700.00	10,280.00	17,150.17	11,768.00	91.95	94.65	-137.68	-5,421.76	1,309.69	2,008.28	1,866.36	141.92	14.150	
15,800.00	10,280.00	17,250.17	11,768.00	93.53	96.23	-137.68	-5,521.76	1,309.97	2,008.37	1,864.09	144.29	13.919	
15,900.00	10,280.00	17,350.17	11,768.00	95.12	97.80	-137.68	-5,621.76	1,310.24	2,008.46	1,861.81	146.65	13.696	
16,000.00	10,280.00	17,450.17	11,768.00	96.71	99.38	-137.68	-5,721.76	1,310.51	2,008.56	1,859.54	149.02	13.479	
16,100.00	10,280.00	17,550.17	11,768.00	98.30	100.96	-137.67	-5,821.76	1,310.78	2,008.65	1,857.26	151.39	13.268	
16,200.00	10,280.00	17,650.17	11,768.00	99.89	102.54	-137.67	-5,921.76	1,311.05	2,008.74	1,854.97	153.76	13.064	
16,300.00	10,280.00	17,750.17	11,768.00	101.49	104.13	-137.67	-6,021.76	1,311.32	2,008.83	1,852.69	156.14	12.866	
16,400.00	10,280.00	17,850.17	11,768.00	103.08	105.71	-137.66	-6,121.76	1,311.59	2,008.92	1,850.40	158.52	12.673	
16,500.00	10,280.00	17,950.17	11,768.00	104.68	107.30	-137.66	-6,221.76	1,311.86	2,009.01	1,848.11	160.90	12.486	
16,600.00	10,280.00	18,050.17	11,768.00	106.28	108.88	-137.66	-6,321.76	1,312.13	2,009.10	1,845.82	163.28	12.304	
16,700.00	10,280.00	18,150.17	11,768.00	107.87	110.47	-137.66	-6,421.76	1,312.40	2,009.19	1,843.52	165.67	12.128	
16,800.00	10,280.00	18,250.17	11,768.00	109.47	112.06	-137.65	-6,521.76	1,312.68	2,009.29	1,841.22	168.06	11.956	
16,900.00	10,280.00	18,350.17	11,768.00	111.08	113.66	-137.65	-6,621.76	1,312.95	2,009.38	1,838.92	170.45	11.789	
17,000.00	10,280.00	18,450.17	11,768.00	112.68	115.25	-137.65	-6,721.76	1,313.22	2,009.47	1,836.62	172.85	11.626	
17,100.00	10,280.00	18,550.17	11,768.00	114.28	116.84	-137.64	-6,821.76	1,313.49	2,009.56	1,834.32	175.24	11.467	
17,200.00	10,280.00	18,650.17	11,768.00	115.88	118.44	-137.64	-6,921.76	1,313.76	2,009.65	1,832.01	177.64	11.313	
17,300.00	10,280.00	18,750.17	11,768.00	117.49	120.04	-137.64	-7,021.76	1,314.03	2,009.74	1,829.70	180.04	11.163	
17,400.00	10,280.00	18,850.17	11,768.00	119.09	121.63	-137.64	-7,121.76	1,314.30	2,009.83	1,827.39	182.44	11.017	
17,500.00	10,280.00	18,950.17	11,768.00	120.70	123.23	-137.63	-7,221.76	1,314.57	2,009.92	1,825.08	184.84	10.874	
17,600.00	10,280.00	19,050.17	11,768.00	122.31	124.83	-137.63	-7,321.76	1,314.84	2,010.02	1,822.77	187.24	10.735	
17,700.00	10,280.00	19,150.17	11,768.00	123.91	126.43	-137.63	-7,421.76	1,315.11	2,010.11	1,820.46	189.65	10.599	
17,800.00	10,280.00	19,250.17	11,768.00	125.52	128.03	-137.62	-7,521.75	1,315.39	2,010.20	1,818.14	192.06	10.467	
17,900.00	10,280.00	19,350.17	11,768.00	127.13	129.63	-137.62	-7,621.75	1,315.66	2,010.29	1,815.82	194.47	10.337	
18,000.00	10,280.00	19,450.17	11,768.00	128.74	131.24	-137.62	-7,721.75	1,315.93	2,010.38	1,813.50	196.88	10.211	
18,100.00	10,280.00	19,550.17	11,768.00	130.35	132.84	-137.62	-7,821.75	1,316.20	2,010.47	1,811.18	199.29	10.088	
18,200.00	10,280.00	19,650.17	11,768.00	131.96	134.45	-137.61	-7,921.75	1,316.47	2,010.56	1,808.86	201.70	9.968	
18,300.00	10,280.00	19,750.17	11,768.00	133.57	136.05	-137.61	-8,021.75	1,316.74	2,010.65	1,806.54	204.12	9.850	
18,400.00	10,280.00	19,850.17	11,768.00	135.19	137.66	-137.61	-8,121.75	1,317.01	2,010.75	1,804.21	206.53	9.736	
18,500.00	10,280.00	19,950.17	11,768.00	136.80	139.26	-137.60	-8,221.75	1,317.28	2,010.84	1,801.89	208.95	9.623	
18,600.00	10,280.00	20,050.17	11,768.00	138.41	140.87	-137.60	-8,321.75	1,317.55	2,010.93	1,799.56	211.37	9.514	
18,700.00	10,280.00	20,150.17	11,768.00	140.03	142.48	-137.60	-8,421.75	1,317.83	2,011.02	1,797.23	213.79	9.407	
18,800.00	10,280.00	20,250.17	11,768.00	141.64	144.09	-137.60	-8,521.75	1,318.10	2,011.11	1,794.90	216.21	9.302	
18,900.00	10,280.00	20,350.17	11,768.00	143.26	145.70	-137.59	-8,621.75	1,318.37	2,011.20	1,792.57	218.63	9.199	
19,000.00	10,280.00	20,450.17	11,768.00	144.87	147.31	-137.59	-8,721.75	1,318.64	2,011.29	1,790.24	221.06	9.099	
19,100.00	10,280.00	20,550.17	11,768.00	146.49	148.92	-137.59	-8,821.75	1,318.91	2,011.39	1,787.90	223.48	9.000	
19,200.00	10,280.00	20,650.17	11,768.00	148.10	150.53	-137.58	-8,921.75	1,319.18	2,011.48	1,785.57	225.91	8.904	
19,300.00	10,280.00	20,750.17	11,768.00	149.72	152.14	-137.58	-9,021.75	1,319.45	2,011.57	1,783.24	228.33	8.810	
19,400.00	10,280.00	20,850.17	11,768.00	151.34	153.75	-137.58	-9,121.75	1,319.72	2,011.66	1,780.90	230.76	8.718	
19,500.00	10,280.00	20,950.17	11,768.00	152.95	155.36	-137.58	-9,221.75	1,319.99	2,011.75	1,778.56	233.19	8.627	
19,600.00	10,280.00	21,050.17	11,768.00	154.57	156.98	-137.57	-9,321.75	1,320.26	2,011.84	1,776.23	235.62	8.539	
19,700.00	10,280.00	21,150.17	11,768.00	156.19	158.59	-137.57	-9,421.75	1,320.54	2,011.93	1,773.89	238.05	8.452	
19,800.00	10,280.00	21,250.17	11,768.00	157.81	160.20	-137.57	-9,521.75	1,320.81	2,012.02	1,771.55	240.48	8.367	
19,900.00	10,280.00	21,350.17	11,768.00	159.43	161.82	-137.56	-9,621.75	1,321.08	2,012.12	1,769.21	242.91	8.283	
20,000.00	10,280.00	21,450.17	11,768.00	161.04	163.43	-137.56	-9,721.74	1,321.35	2,012.21	1,766.87	245.34	8.202	
20,100.00	10,280.00	21,550.17	11,768.00	162.66	165.05	-137.56	-9,821.74	1,321.62	2,012.30	1,764.52	247.77	8.121	
20,200.00	10,280.00	21,650.17	11,768.00	164.28	166.66	-137.56	-9,921.74	1,321.89	2,012.39	1,762.18	250.21	8.043	
20,300.00	10,280.00	21,750.16	11,768.00	165.90	168.28	-137.55	-10,021.74	1,322.16	2,012.48	1,759.84	252.64	7.966	
20,400.00	10,280.00	21,850.16	11,768.00	167.52	169.89	-137.55	-10,121.74	1,322.43	2,012.57	1,757.49	255.08	7.890	
20,461.36	10,280.00	21,905.22	11,768.00	168.52	170.79	-137.55	-10,176.80	1,322.58	2,012.64	1,756.17	256.47	7.847 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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	1.20	1.20	0.00	0.00	21.88	150.39	60.39	162.06				
100.00	100.00	101.20	101.20	0.09	0.09	21.88	150.39	60.39	162.06	161.89	0.17	927.960	
200.00	200.00	201.20	201.20	0.31	0.31	21.88	150.39	60.39	162.06	161.44	0.62	259.642	
300.00	300.00	301.20	301.20	0.54	0.54	21.88	150.39	60.39	162.06	160.99	1.07	150.937	
400.00	400.00	401.20	401.20	0.76	0.76	21.88	150.39	60.39	162.06	160.54	1.52	106.393	
500.00	500.00	501.20	501.20	0.99	0.99	21.88	150.39	60.39	162.06	160.09	1.97	82.149	
600.00	600.00	601.20	601.20	1.21	1.21	21.88	150.39	60.39	162.06	159.64	2.42	66.904	
700.00	700.00	701.20	701.20	1.43	1.44	21.88	150.39	60.39	162.06	159.19	2.87	56.432	
800.00	800.00	801.20	801.20	1.66	1.66	21.88	150.39	60.39	162.06	158.74	3.32	48.794	
900.00	900.00	901.20	901.20	1.88	1.89	21.88	150.39	60.39	162.06	158.29	3.77	42.977	
1,000.00	1,000.00	1,001.20	1,001.20	2.11	2.11	21.88	150.39	60.39	162.06	157.84	4.22	38.399	
1,100.00	1,100.00	1,101.20	1,101.20	2.33	2.34	21.88	150.39	60.39	162.06	157.39	4.67	34.703	
1,200.00	1,200.00	1,201.20	1,201.20	2.56	2.56	21.88	150.39	60.39	162.06	156.94	5.12	31.656	
1,300.00	1,300.00	1,301.20	1,301.20	2.78	2.79	21.88	150.39	60.39	162.06	156.49	5.57	29.101	
1,400.00	1,400.00	1,401.20	1,401.20	3.01	3.01	21.88	150.39	60.39	162.06	156.04	6.02	26.927	
1,500.00	1,500.00	1,501.20	1,501.20	3.23	3.24	21.88	150.39	60.39	162.06	155.59	6.47	25.056	
1,600.00	1,600.00	1,601.20	1,601.20	3.46	3.46	21.88	150.39	60.39	162.06	155.14	6.92	23.427	
1,700.00	1,700.00	1,701.20	1,701.20	3.68	3.68	21.88	150.39	60.39	162.06	154.69	7.37	21.998	
1,800.00	1,800.00	1,801.20	1,801.20	3.91	3.91	21.88	150.39	60.39	162.06	154.25	7.82	20.733	
1,900.00	1,900.00	1,901.20	1,901.20	4.13	4.13	21.88	150.39	60.39	162.06	153.80	8.27	19.605	
2,000.00	2,000.00	2,001.20	2,001.20	4.36	4.36	21.88	150.39	60.39	162.06	153.35	8.72	18.594	
2,100.00	2,100.00	2,101.20	2,101.20	4.58	4.58	21.88	150.39	60.39	162.06	152.90	9.17	17.682	
2,200.00	2,200.00	2,201.20	2,201.20	4.81	4.81	21.88	150.39	60.39	162.06	152.45	9.61	16.855	
2,300.00	2,300.00	2,301.20	2,301.20	5.03	5.03	21.88	150.39	60.39	162.06	152.00	10.06	16.103	
2,400.00	2,400.00	2,401.20	2,401.20	5.26	5.26	21.88	150.39	60.39	162.06	151.55	10.51	15.414	
2,416.26	2,416.26	2,417.46	2,417.46	5.29	5.29	21.88	150.39	60.39	162.06	151.48	10.59	15.308 CC	
2,500.00	2,500.00	2,501.17	2,501.17	5.48	5.48	21.88	150.39	60.39	162.06	151.10	10.96	14.782 ES	
2,600.00	2,600.00	2,600.00	2,599.99	5.71	5.70	22.17	150.74	61.42	162.78	151.38	11.40	14.278	
2,700.00	2,700.00	2,696.56	2,696.50	5.93	5.90	22.99	151.74	64.38	164.90	153.08	11.82	13.949	
2,800.00	2,800.00	2,794.03	2,793.83	6.15	6.10	24.32	153.41	69.32	168.50	156.26	12.25	13.761	
2,900.00	2,900.00	2,892.97	2,892.53	6.38	6.31	25.99	155.62	75.88	173.35	160.67	12.68	13.675	
3,000.00	3,000.00	2,992.72	2,992.02	6.60	6.53	27.62	157.89	82.60	178.42	165.31	13.11	13.606	
3,100.00	3,099.99	3,092.47	3,091.52	6.83	6.75	41.31	160.16	89.32	182.98	169.42	13.55	13.502	
3,200.00	3,199.96	3,192.20	3,191.00	7.05	6.97	43.28	162.42	96.03	186.41	172.42	13.99	13.324	
3,300.00	3,299.87	3,291.89	3,290.44	7.28	7.19	45.53	164.69	102.75	188.91	174.48	14.43	13.092	
3,400.00	3,399.76	3,391.57	3,389.87	7.50	7.41	47.81	166.96	109.46	191.45	176.58	14.87	12.875	
3,500.00	3,499.65	3,491.25	3,489.29	7.73	7.64	50.04	169.22	116.17	194.29	178.98	15.31	12.690	
3,600.00	3,599.55	3,590.93	3,588.72	7.95	7.87	52.19	171.49	122.89	197.41	181.66	15.75	12.532	
3,700.00	3,699.44	3,690.61	3,688.14	8.18	8.10	54.28	173.75	129.60	200.81	184.61	16.19	12.400	
3,800.00	3,799.33	3,790.28	3,787.57	8.40	8.33	56.29	176.02	136.31	204.46	187.82	16.64	12.289	
3,900.00	3,899.23	3,889.96	3,887.00	8.63	8.56	58.23	178.29	143.03	208.36	191.28	17.08	12.198	
4,000.00	3,999.12	3,989.64	3,986.42	8.85	8.79	60.10	180.55	149.74	212.49	194.96	17.52	12.125	
4,100.00	4,099.01	4,089.32	4,085.85	9.08	9.02	61.90	182.82	156.45	216.83	198.86	17.97	12.067	
4,200.00	4,198.90	4,189.00	4,185.27	9.31	9.26	63.62	185.09	163.17	221.38	202.97	18.41	12.022	
4,300.00	4,298.80	4,288.68	4,284.70	9.54	9.49	65.27	187.35	169.88	226.13	207.27	18.86	11.990	
4,400.00	4,398.69	4,388.35	4,384.13	9.76	9.73	66.86	189.62	176.59	231.05	211.74	19.31	11.968	
4,500.00	4,498.58	4,488.03	4,483.55	9.99	9.96	68.37	191.89	183.31	236.14	216.39	19.75	11.955	
4,600.00	4,598.48	4,587.71	4,582.98	10.22	10.20	69.83	194.15	190.02	241.40	221.20	20.20	11.950	
4,700.00	4,698.37	4,687.39	4,682.41	10.45	10.44	71.22	196.42	196.73	246.80	226.15	20.65	11.953	
4,800.00	4,798.26	4,787.07	4,781.83	10.68	10.67	72.55	198.68	203.45	252.34	231.24	21.10	11.961	
4,900.00	4,898.15	4,886.75	4,881.26	10.91	10.91	73.82	200.95	210.16	258.01	236.46	21.54	11.975	
5,000.00	4,998.05	4,986.42	4,980.68	11.14	11.15	75.04	203.22	216.87	263.80	241.81	21.99	11.994	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.00	5,097.94	5,086.10	5,080.11	11.37	11.39	76.20	205.48	223.59	269.71	247.26	22.44	12.017	
5,200.00	5,197.83	5,185.78	5,179.54	11.60	11.63	77.31	207.75	230.30	275.72	252.82	22.89	12.043	
5,300.00	5,297.73	5,285.46	5,278.96	11.83	11.87	78.38	210.02	237.01	281.83	258.48	23.35	12.072	
5,400.00	5,397.62	5,385.14	5,378.39	12.06	12.11	79.40	212.28	243.73	288.04	264.24	23.80	12.104	
5,500.00	5,497.51	5,484.81	5,477.81	12.29	12.36	80.38	214.55	250.44	294.33	270.08	24.25	12.137	
5,600.00	5,597.40	5,584.49	5,577.24	12.52	12.60	81.32	216.82	257.15	300.70	276.00	24.70	12.173	
5,700.00	5,697.30	5,684.17	5,676.67	12.75	12.84	82.21	219.08	263.87	307.16	282.00	25.16	12.210	
5,800.00	5,797.19	5,783.85	5,776.09	12.98	13.08	83.07	221.35	270.58	313.68	288.07	25.61	12.249	
5,900.00	5,897.08	5,883.53	5,875.52	13.21	13.32	83.90	223.62	277.29	320.27	294.21	26.06	12.289	
6,000.00	5,996.98	5,983.21	5,974.94	13.45	13.57	84.69	225.88	284.01	326.93	300.41	26.52	12.329	
6,100.00	6,096.87	6,082.88	6,074.37	13.68	13.81	85.45	228.15	290.72	333.64	306.67	26.97	12.370	
6,200.00	6,196.76	6,182.56	6,173.80	13.91	14.05	86.18	230.41	297.43	340.41	312.99	27.43	12.412	
6,300.00	6,296.65	6,282.24	6,273.22	14.14	14.30	86.88	232.68	304.15	347.24	319.36	27.88	12.454	
6,400.00	6,396.55	6,381.92	6,372.65	14.37	14.54	87.56	234.95	310.86	354.11	325.78	28.34	12.496	
6,500.00	6,496.44	6,481.60	6,472.07	14.60	14.78	88.21	237.21	317.57	361.04	332.24	28.79	12.538	
6,600.00	6,596.33	6,581.27	6,571.50	14.84	15.03	88.83	239.48	324.29	368.00	338.75	29.25	12.581	
6,700.00	6,696.23	6,680.95	6,670.93	15.07	15.27	89.43	241.75	331.00	375.01	345.30	29.71	12.623	
6,800.00	6,796.12	6,780.63	6,770.35	15.30	15.52	90.01	244.01	337.71	382.06	351.89	30.17	12.665	
6,900.00	6,896.01	6,880.31	6,869.78	15.53	15.76	90.57	246.28	344.43	389.14	358.52	30.62	12.707	
7,000.00	6,995.90	6,979.99	6,969.20	15.76	16.01	91.11	248.55	351.14	396.26	365.18	31.08	12.749	
7,100.00	7,095.80	7,079.67	7,068.63	16.00	16.25	91.63	250.81	357.85	403.42	371.88	31.54	12.791	
7,200.00	7,195.69	7,179.34	7,168.06	16.23	16.50	92.13	253.08	364.57	410.60	378.60	32.00	12.832	
7,300.00	7,295.58	7,279.02	7,267.48	16.46	16.74	92.61	255.34	371.28	417.82	385.36	32.46	12.873	
7,400.00	7,395.48	7,378.70	7,366.91	16.69	16.99	93.08	257.61	377.99	425.06	392.15	32.92	12.914	
7,500.00	7,495.37	7,478.38	7,466.33	16.93	17.23	93.53	259.88	384.71	432.34	398.96	33.38	12.954	
7,600.00	7,595.26	7,578.06	7,565.76	17.16	17.48	93.97	262.14	391.42	439.63	405.80	33.83	12.994	
7,700.00	7,695.15	7,677.73	7,665.19	17.39	17.73	94.39	264.41	398.13	446.96	412.66	34.29	13.033	
7,800.00	7,795.05	7,777.41	7,764.61	17.62	17.97	94.80	266.68	404.85	454.30	419.55	34.75	13.072	
7,900.00	7,894.94	7,877.09	7,864.04	17.86	18.22	95.20	268.94	411.56	461.67	426.46	35.21	13.110	
8,000.00	7,994.83	7,976.77	7,963.46	18.09	18.47	95.58	271.21	418.27	469.06	433.38	35.68	13.148	
8,100.00	8,094.73	8,076.45	8,062.89	18.32	18.71	95.95	273.48	424.99	476.47	440.33	36.14	13.186	
8,200.00	8,194.62	8,176.13	8,162.32	18.55	18.96	96.31	275.74	431.70	483.90	447.30	36.60	13.222	
8,300.00	8,294.53	8,275.82	8,261.76	18.77	19.21	96.67	278.01	438.42	491.28	454.24	37.04	13.264	
8,400.00	8,394.52	8,375.57	8,361.25	18.94	19.45	96.77	280.28	445.13	498.39	460.95	37.44	13.313	
8,500.00	8,494.52	8,475.31	8,460.75	19.13	19.70	84.59	282.54	451.85	505.31	467.46	37.85	13.349	
8,600.00	8,594.52	8,575.06	8,560.24	19.35	19.95	84.41	284.81	458.57	512.23	473.93	38.30	13.374	
8,700.00	8,694.52	8,674.81	8,659.74	19.57	20.19	84.23	287.08	465.29	519.16	480.41	38.75	13.398	
8,800.00	8,794.52	8,774.55	8,759.23	19.79	20.44	84.06	289.35	472.01	526.09	486.90	39.20	13.422	
8,900.00	8,894.52	8,874.30	8,858.73	20.01	20.69	83.89	291.62	478.72	533.03	493.39	39.64	13.446	
9,000.00	8,994.52	8,974.05	8,958.22	20.23	20.94	83.72	293.88	485.44	539.97	499.88	40.09	13.468	
9,100.00	9,094.52	9,073.80	9,057.72	20.45	21.18	83.56	296.15	492.16	546.92	506.38	40.54	13.491	
9,200.00	9,194.52	9,173.54	9,157.21	20.67	21.43	83.41	298.42	498.88	553.87	512.88	40.99	13.513	
9,300.00	9,294.52	9,273.29	9,256.70	20.89	21.68	83.26	300.69	505.60	560.82	519.39	41.44	13.535	
9,400.00	9,394.52	9,373.04	9,356.20	21.11	21.93	83.11	302.96	512.31	567.78	525.90	41.88	13.556	
9,500.00	9,494.52	9,472.78	9,455.69	21.33	22.17	82.96	305.22	519.03	574.74	532.41	42.33	13.577	
9,600.00	9,594.52	9,572.53	9,555.19	21.55	22.42	82.82	307.49	525.75	581.71	538.93	42.78	13.597	
9,700.00	9,694.52	9,672.28	9,654.68	21.77	22.67	82.69	309.76	532.47	588.68	545.45	43.23	13.617	
9,800.00	9,794.18	9,771.54	9,753.69	21.94	22.92	-97.31	312.02	539.15	596.52	552.89	43.62	13.674	
9,900.00	9,891.19	9,867.76	9,849.68	22.06	23.15	-98.52	314.20	545.63	607.10	563.15	43.95	13.814	
10,000.00	9,982.61	9,958.04	9,939.72	22.14	23.38	-100.47	316.26	551.71	622.06	577.82	44.24	14.062	
10,100.00	10,065.65	10,039.62	10,021.09	22.23	23.58	-102.43	318.11	557.21	643.71	599.19	44.51	14.462	
10,200.00	10,137.80	10,110.02	10,091.32	22.31	23.76	-103.61	319.71	561.95	674.36	629.56	44.80	15.054	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,300.00	10,196.86	10,167.10	10,148.26	22.40	23.90	-103.22	321.01	565.79	715.58	670.48	45.10	15.866	
10,400.00	10,241.03	10,209.14	10,190.19	22.59	24.00	-100.54	321.97	568.63	767.67	722.25	45.42	16.903	
10,500.00	10,268.98	10,234.85	10,215.83	22.87	24.07	-94.94	322.55	570.36	829.52	783.81	45.71	18.146	
10,600.00	10,279.86	10,243.45	10,224.41	23.24	24.09	-86.09	322.75	570.94	898.87	852.91	45.96	19.556	
10,700.00	10,280.00	10,241.32	10,222.29	23.70	24.08	-84.58	322.70	570.79	973.37	927.19	46.18	21.080	
10,800.00	10,280.00	10,239.06	10,220.03	24.26	24.08	-84.37	322.65	570.64	1,052.09	1,005.72	46.37	22.687	
10,900.00	10,280.00	10,236.79	10,217.77	24.91	24.07	-84.16	322.59	570.49	1,134.17	1,087.61	46.56	24.361	
11,000.00	10,280.00	10,234.53	10,215.51	25.65	24.07	-83.96	322.54	570.34	1,218.92	1,172.20	46.72	26.089	
11,100.00	10,280.00	10,232.26	10,213.25	26.47	24.06	-83.75	322.49	570.18	1,305.83	1,258.96	46.87	27.861	
11,200.00	10,280.00	10,230.00	10,210.99	27.37	24.06	-83.54	322.44	570.03	1,394.49	1,347.49	47.00	29.668	
11,300.00	10,280.00	10,227.73	10,208.74	28.33	24.05	-83.33	322.39	569.88	1,484.59	1,437.46	47.13	31.503	
11,400.00	10,280.00	10,225.47	10,206.48	29.35	24.04	-83.13	322.34	569.73	1,575.88	1,528.64	47.24	33.362	
11,500.00	10,280.00	13,122.26	11,788.00	30.43	35.24	-156.39	-1,224.46	610.70	1,644.49	1,602.36	42.13	39.032	
11,600.00	10,280.00	13,222.26	11,788.00	31.55	36.32	-156.39	-1,324.46	610.85	1,644.50	1,601.24	43.26	38.014	
11,700.00	10,280.00	13,322.26	11,788.00	32.72	37.43	-156.39	-1,424.46	611.00	1,644.50	1,600.07	44.44	37.006	
11,800.00	10,280.00	13,422.26	11,788.00	33.92	38.59	-156.39	-1,524.46	611.15	1,644.51	1,598.85	45.66	36.013	
11,900.00	10,280.00	13,522.26	11,788.00	35.16	39.78	-156.39	-1,624.46	611.30	1,644.51	1,597.58	46.93	35.040	
12,000.00	10,280.00	13,622.26	11,788.00	36.43	41.00	-156.38	-1,724.46	611.44	1,644.52	1,596.28	48.24	34.090	
12,100.00	10,280.00	13,722.26	11,788.00	37.73	42.24	-156.38	-1,824.46	611.59	1,644.52	1,594.94	49.58	33.167	
12,200.00	10,280.00	13,822.26	11,788.00	39.06	43.51	-156.38	-1,924.46	611.74	1,644.53	1,593.57	50.96	32.270	
12,300.00	10,280.00	13,922.26	11,788.00	40.40	44.81	-156.38	-2,024.46	611.89	1,644.54	1,592.17	52.37	31.403	
12,400.00	10,280.00	14,022.26	11,788.00	41.77	46.13	-156.38	-2,124.46	612.04	1,644.54	1,590.73	53.81	30.564	
12,500.00	10,280.00	14,122.26	11,788.00	43.16	47.47	-156.38	-2,224.46	612.18	1,644.55	1,589.28	55.27	29.756	
12,600.00	10,280.00	14,222.26	11,788.00	44.56	48.82	-156.38	-2,324.45	612.33	1,644.55	1,587.79	56.76	28.976	
12,700.00	10,280.00	14,322.26	11,788.00	45.98	50.19	-156.38	-2,424.45	612.48	1,644.56	1,586.29	58.26	28.226	
12,800.00	10,280.00	14,422.26	11,788.00	47.41	51.58	-156.38	-2,524.45	612.63	1,644.56	1,584.77	59.79	27.504	
12,900.00	10,280.00	14,522.26	11,788.00	48.86	52.98	-156.38	-2,624.45	612.78	1,644.57	1,583.22	61.34	26.809	
13,000.00	10,280.00	14,622.26	11,788.00	50.31	54.40	-156.38	-2,724.45	612.93	1,644.57	1,581.66	62.91	26.141	
13,100.00	10,280.00	14,722.26	11,788.00	51.78	55.82	-156.38	-2,824.45	613.07	1,644.58	1,580.08	64.49	25.500	
13,200.00	10,280.00	14,822.26	11,788.00	53.26	57.26	-156.38	-2,924.45	613.22	1,644.58	1,578.49	66.09	24.883	
13,300.00	10,280.00	14,922.26	11,788.00	54.74	58.71	-156.38	-3,024.45	613.37	1,644.59	1,576.88	67.70	24.291	
13,400.00	10,280.00	15,022.26	11,788.00	56.24	60.17	-156.38	-3,124.45	613.52	1,644.59	1,575.26	69.33	23.721	
13,500.00	10,280.00	15,122.26	11,788.00	57.74	61.63	-156.38	-3,224.45	613.67	1,644.60	1,573.63	70.97	23.173	
13,600.00	10,280.00	15,222.26	11,788.00	59.25	63.11	-156.38	-3,324.45	613.82	1,644.60	1,571.98	72.62	22.647	
13,700.00	10,280.00	15,322.26	11,788.00	60.77	64.59	-156.38	-3,424.45	613.96	1,644.61	1,570.33	74.28	22.141	
13,800.00	10,280.00	15,422.26	11,788.00	62.29	66.08	-156.38	-3,524.45	614.11	1,644.61	1,568.66	75.95	21.654	
13,900.00	10,280.00	15,522.26	11,788.00	63.81	67.58	-156.38	-3,624.45	614.26	1,644.62	1,566.99	77.63	21.185	
14,000.00	10,280.00	15,622.26	11,788.00	65.35	69.08	-156.38	-3,724.45	614.41	1,644.62	1,565.30	79.32	20.735	
14,100.00	10,280.00	15,722.26	11,788.00	66.88	70.59	-156.38	-3,824.45	614.56	1,644.63	1,563.61	81.01	20.300	
14,200.00	10,280.00	15,822.26	11,788.00	68.43	72.10	-156.38	-3,924.45	614.70	1,644.63	1,561.91	82.72	19.882	
14,300.00	10,280.00	15,922.26	11,788.00	69.97	73.62	-156.38	-4,024.45	614.85	1,644.64	1,560.20	84.43	19.479	
14,400.00	10,280.00	16,022.26	11,788.00	71.52	75.15	-156.37	-4,124.45	615.00	1,644.64	1,558.49	86.15	19.090	
14,500.00	10,280.00	16,122.26	11,788.00	73.08	76.68	-156.37	-4,224.45	615.15	1,644.65	1,556.77	87.88	18.716	
14,600.00	10,280.00	16,222.26	11,788.00	74.63	78.21	-156.37	-4,324.45	615.30	1,644.65	1,555.04	89.61	18.354	
14,700.00	10,280.00	16,322.26	11,788.00	76.20	79.75	-156.37	-4,424.45	615.45	1,644.66	1,553.31	91.34	18.005	
14,800.00	10,280.00	16,422.26	11,788.00	77.76	81.29	-156.37	-4,524.45	615.59	1,644.66	1,551.58	93.09	17.668	
14,900.00	10,280.00	16,522.26	11,788.00	79.33	82.83	-156.37	-4,624.45	615.74	1,644.67	1,549.83	94.83	17.343	
15,000.00	10,280.00	16,622.26	11,788.00	80.90	84.38	-156.37	-4,724.45	615.89	1,644.67	1,548.09	96.59	17.028	
15,100.00	10,280.00	16,722.26	11,788.00	82.47	85.93	-156.37	-4,824.45	616.04	1,644.68	1,546.33	98.34	16.724	
15,200.00	10,280.00	16,822.26	11,788.00	84.04	87.49	-156.37	-4,924.45	616.19	1,644.68	1,544.58	100.11	16.430	
15,300.00	10,280.00	16,922.26	11,788.00	85.62	89.04	-156.37	-5,024.45	616.34	1,644.69	1,542.82	101.87	16.145	
15,400.00	10,280.00	17,022.26	11,788.00	87.20	90.60	-156.37	-5,124.45	616.48	1,644.69	1,541.05	103.64	15.869	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,500.00	10,280.00	17,122.26	11,788.00	88.78	92.17	-156.37	-5,224.45	616.63	1,644.70	1,539.28	105.41	15.602	
15,600.00	10,280.00	17,222.26	11,788.00	90.36	93.73	-156.37	-5,324.45	616.78	1,644.70	1,537.51	107.19	15.344	
15,700.00	10,280.00	17,322.26	11,788.00	91.95	95.30	-156.37	-5,424.45	616.93	1,644.71	1,535.74	108.97	15.093	
15,800.00	10,280.00	17,422.26	11,788.00	93.53	96.87	-156.37	-5,524.45	617.08	1,644.71	1,533.96	110.75	14.850	
15,900.00	10,280.00	17,522.26	11,788.00	95.12	98.44	-156.37	-5,624.45	617.22	1,644.72	1,532.18	112.54	14.615	
16,000.00	10,280.00	17,622.26	11,788.00	96.71	100.01	-156.37	-5,724.45	617.37	1,644.72	1,530.39	114.33	14.386	
16,100.00	10,280.00	17,722.26	11,788.00	98.30	101.59	-156.37	-5,824.45	617.52	1,644.73	1,528.61	116.12	14.164	
16,200.00	10,280.00	17,822.26	11,788.00	99.89	103.17	-156.37	-5,924.45	617.67	1,644.73	1,526.82	117.92	13.948	
16,300.00	10,280.00	17,922.26	11,788.00	101.49	104.75	-156.37	-6,024.45	617.82	1,644.74	1,525.02	119.71	13.739	
16,400.00	10,280.00	18,022.26	11,788.00	103.08	106.33	-156.37	-6,124.45	617.97	1,644.74	1,523.23	121.51	13.536	
16,500.00	10,280.00	18,122.26	11,788.00	104.68	107.91	-156.37	-6,224.45	618.11	1,644.75	1,521.43	123.32	13.338	
16,600.00	10,280.00	18,222.26	11,788.00	106.28	109.49	-156.37	-6,324.45	618.26	1,644.75	1,519.63	125.12	13.145	
16,700.00	10,280.00	18,322.26	11,788.00	107.87	111.08	-156.37	-6,424.45	618.41	1,644.76	1,517.83	126.93	12.958	
16,800.00	10,280.00	18,422.26	11,788.00	109.47	112.67	-156.37	-6,524.45	618.56	1,644.76	1,516.03	128.73	12.776	
16,900.00	10,280.00	18,522.26	11,788.00	111.08	114.26	-156.36	-6,624.45	618.71	1,644.77	1,514.22	130.54	12.599	
17,000.00	10,280.00	18,622.26	11,788.00	112.68	115.85	-156.36	-6,724.45	618.86	1,644.77	1,512.42	132.36	12.427	
17,100.00	10,280.00	18,722.26	11,788.00	114.28	117.44	-156.36	-6,824.45	619.00	1,644.78	1,510.61	134.17	12.259	
17,200.00	10,280.00	18,822.26	11,788.00	115.88	119.03	-156.36	-6,924.45	619.15	1,644.78	1,508.80	135.99	12.095	
17,300.00	10,280.00	18,922.26	11,788.00	117.49	120.62	-156.36	-7,024.45	619.30	1,644.79	1,506.98	137.80	11.936	
17,400.00	10,280.00	19,022.26	11,788.00	119.09	122.22	-156.36	-7,124.45	619.45	1,644.79	1,505.17	139.62	11.780	
17,500.00	10,280.00	19,122.26	11,788.00	120.70	123.81	-156.36	-7,224.45	619.60	1,644.80	1,503.35	141.44	11.629	
17,600.00	10,280.00	19,222.26	11,788.00	122.31	125.41	-156.36	-7,324.45	619.74	1,644.80	1,501.54	143.27	11.481	
17,700.00	10,280.00	19,322.26	11,788.00	123.91	127.01	-156.36	-7,424.45	619.89	1,644.81	1,499.72	145.09	11.336	
17,800.00	10,280.00	19,422.26	11,788.00	125.52	128.61	-156.36	-7,524.45	620.04	1,644.81	1,497.90	146.91	11.196	
17,900.00	10,280.00	19,522.26	11,788.00	127.13	130.21	-156.36	-7,624.45	620.19	1,644.82	1,496.08	148.74	11.058	
18,000.00	10,280.00	19,622.26	11,788.00	128.74	131.81	-156.36	-7,724.45	620.34	1,644.82	1,494.26	150.57	10.924	
18,100.00	10,280.00	19,722.26	11,788.00	130.35	133.41	-156.36	-7,824.45	620.49	1,644.83	1,492.43	152.40	10.793	
18,200.00	10,280.00	19,822.26	11,788.00	131.96	135.01	-156.36	-7,924.45	620.63	1,644.83	1,490.61	154.23	10.665	
18,300.00	10,280.00	19,922.26	11,788.00	133.57	136.61	-156.36	-8,024.45	620.78	1,644.84	1,488.78	156.06	10.540	
18,400.00	10,280.00	20,022.26	11,788.00	135.19	138.22	-156.36	-8,124.45	620.93	1,644.84	1,486.95	157.89	10.418	
18,500.00	10,280.00	20,122.26	11,788.00	136.80	139.82	-156.36	-8,224.45	621.08	1,644.85	1,485.13	159.72	10.298	
18,600.00	10,280.00	20,222.26	11,788.00	138.41	141.42	-156.36	-8,324.45	621.23	1,644.85	1,483.30	161.56	10.181	
18,700.00	10,280.00	20,322.26	11,788.00	140.03	143.03	-156.36	-8,424.45	621.38	1,644.86	1,481.47	163.39	10.067	
18,800.00	10,280.00	20,422.26	11,788.00	141.64	144.64	-156.36	-8,524.45	621.52	1,644.86	1,479.63	165.23	9.955	
18,900.00	10,280.00	20,522.26	11,788.00	143.26	146.24	-156.36	-8,624.45	621.67	1,644.87	1,477.80	167.07	9.846	
19,000.00	10,280.00	20,622.26	11,788.00	144.87	147.85	-156.36	-8,724.45	621.82	1,644.87	1,475.97	168.91	9.738	
19,100.00	10,280.00	20,722.26	11,788.00	146.49	149.46	-156.36	-8,824.45	621.97	1,644.88	1,474.13	170.74	9.634	
19,200.00	10,280.00	20,822.26	11,788.00	148.10	151.07	-156.36	-8,924.45	622.12	1,644.88	1,472.30	172.58	9.531	
19,300.00	10,280.00	20,922.26	11,788.00	149.72	152.68	-156.36	-9,024.45	622.26	1,644.89	1,470.46	174.43	9.430	
19,400.00	10,280.00	21,022.26	11,788.00	151.34	154.29	-156.35	-9,124.45	622.41	1,644.90	1,468.63	176.27	9.332	
19,500.00	10,280.00	21,122.26	11,788.00	152.95	155.90	-156.35	-9,224.45	622.56	1,644.90	1,466.79	178.11	9.235	
19,600.00	10,280.00	21,222.26	11,788.00	154.57	157.51	-156.35	-9,324.45	622.71	1,644.91	1,464.95	179.95	9.141	
19,700.00	10,280.00	21,322.26	11,788.00	156.19	159.12	-156.35	-9,424.45	622.86	1,644.91	1,463.11	181.80	9.048	
19,800.00	10,280.00	21,422.26	11,788.00	157.81	160.73	-156.35	-9,524.45	623.01	1,644.92	1,461.27	183.64	8.957	
19,900.00	10,280.00	21,522.26	11,788.00	159.43	162.34	-156.35	-9,624.45	623.15	1,644.92	1,459.43	185.49	8.868	
20,000.00	10,280.00	21,622.26	11,788.00	161.04	163.96	-156.35	-9,724.45	623.30	1,644.93	1,457.59	187.33	8.781	
20,100.00	10,280.00	21,722.26	11,788.00	162.66	165.57	-156.35	-9,824.45	623.45	1,644.93	1,455.75	189.18	8.695	
20,200.00	10,280.00	21,822.26	11,788.00	164.28	167.18	-156.35	-9,924.45	623.60	1,644.94	1,453.91	191.03	8.611	
20,300.00	10,280.00	21,922.26	11,788.00	165.90	168.80	-156.35	-10,024.45	623.75	1,644.94	1,452.07	192.87	8.529	
20,400.00	10,280.00	22,022.26	11,788.00	167.52	170.41	-156.35	-10,124.45	623.89	1,644.95	1,450.22	194.72	8.448	
20,404.67	10,280.00	22,026.93	11,788.00	167.60	170.49	-156.35	-10,129.12	623.90	1,644.95	1,450.14	194.81	8.444	
20,461.36	10,280.00	22,079.63	11,788.00	168.52	171.34	-156.35	-10,181.81	623.98	1,644.95	1,449.14	195.82	8.400 SF	

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

Company:	Devon Energy	**Local Co-ordinate Reference:**	Well Lusitano 27-34 Fed Com 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 716H - OH - Plan #1 — **Offset Site Error:** 0.00 usft

Survey Program: 0-LEAM MWD+HDGM — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
8,000.00	7,994.83	8,142.70	8,133.48	18.09	18.37	100.71	275.38	2,121.09	2,172.82	2,136.85	35.97	60.403	
8,100.00	8,094.73	8,242.55	8,233.09	18.32	18.61	100.75	278.15	2,114.84	2,167.49	2,131.06	36.43	59.497	
8,200.00	8,194.62	8,342.39	8,332.70	18.55	18.85	100.79	280.93	2,108.60	2,162.16	2,125.27	36.89	58.614	
8,300.00	8,294.53	8,442.24	8,432.31	18.77	19.09	100.77	283.71	2,102.36	2,156.73	2,119.41	37.33	57.779	
8,400.00	8,394.52	8,542.05	8,531.89	18.94	19.33	100.65	286.48	2,096.11	2,150.85	2,113.12	37.72	57.015	
8,500.00	8,494.52	8,641.82	8,631.43	19.13	19.57	88.55	289.26	2,089.88	2,144.67	2,106.53	38.14	56.229	
8,600.00	8,594.52	8,741.58	8,730.96	19.35	19.81	88.47	292.03	2,083.64	2,138.49	2,099.90	38.59	55.418	
8,700.00	8,694.52	8,841.35	8,830.49	19.57	20.05	88.39	294.81	2,077.40	2,132.31	2,093.27	39.04	54.625	
8,800.00	8,794.52	8,941.11	8,930.02	19.79	20.29	88.31	297.58	2,071.16	2,126.14	2,086.65	39.48	53.850	
8,900.00	8,894.52	9,040.88	9,029.55	20.01	20.53	88.23	300.35	2,064.92	2,119.97	2,080.04	39.93	53.092	
9,000.00	8,994.52	9,140.65	9,129.08	20.23	20.77	88.15	303.13	2,058.68	2,113.80	2,073.42	40.38	52.350	
9,100.00	9,094.52	9,240.41	9,228.62	20.45	21.02	88.07	305.90	2,052.45	2,107.64	2,066.82	40.83	51.624	
9,200.00	9,194.52	9,340.18	9,328.15	20.67	21.26	87.99	308.68	2,046.21	2,101.49	2,060.21	41.27	50.914	
9,300.00	9,294.52	9,439.94	9,427.68	20.89	21.50	87.91	311.45	2,039.97	2,095.33	2,053.61	41.72	50.219	
9,400.00	9,394.52	9,539.71	9,527.21	21.11	21.74	87.82	314.23	2,033.73	2,089.19	2,047.01	42.17	49.539	
9,500.00	9,494.52	9,639.47	9,626.74	21.33	21.99	87.74	317.00	2,027.49	2,083.04	2,040.42	42.62	48.873	
9,600.00	9,594.52	9,739.24	9,726.27	21.55	22.23	87.66	319.77	2,021.25	2,076.90	2,033.83	43.07	48.221	
9,700.00	9,694.52	9,839.00	9,825.81	21.77	22.47	87.57	322.55	2,015.02	2,070.77	2,027.25	43.52	47.581	
9,800.00	9,794.18	9,938.25	9,924.81	21.94	22.71	-93.12	325.31	2,008.81	2,064.95	2,021.03	43.92	47.019	
9,900.00	9,891.19	10,034.37	10,020.71	22.06	22.95	-94.30	327.98	2,002.80	2,060.27	2,016.02	44.25	46.555	
10,000.00	9,982.61	10,124.45	10,110.58	22.14	23.17	-95.65	330.49	1,997.17	2,057.52	2,012.97	44.55	46.181	
10,044.88	10,021.07	10,162.18	10,148.22	22.18	23.26	-96.26	331.53	1,994.81	2,057.18	2,012.51	44.68	46.045	CC, ES
10,100.00	10,065.65	10,205.75	10,191.69	22.23	23.36	-96.94	332.75	1,992.08	2,057.75	2,012.92	44.83	45.904	
10,200.00	10,137.80	10,275.80	10,261.58	22.31	23.54	-97.89	334.69	1,987.70	2,062.13	2,017.03	45.10	45.728	
10,300.00	10,196.86	10,332.48	10,318.12	22.40	23.67	-98.23	336.27	1,984.16	2,071.73	2,026.35	45.38	45.654	SF
10,400.00	10,241.03	10,374.05	10,359.60	22.59	23.78	-97.71	337.43	1,981.56	2,087.35	2,041.66	45.69	45.686	
10,500.00	10,268.98	10,399.26	10,384.75	22.87	23.84	-96.15	338.13	1,979.98	2,109.30	2,063.27	46.03	45.824	
10,600.00	10,279.86	10,407.34	10,392.81	23.24	23.86	-93.47	338.35	1,979.48	2,137.31	2,090.92	46.40	46.068	
10,700.00	10,280.00	10,404.69	10,390.17	23.70	23.85	-92.99	338.28	1,979.64	2,170.32	2,123.53	46.79	46.382	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	1.00	1.00	0.00	0.00	-11.17	149.82	-29.58	152.71				
100.00	100.00	101.00	101.00	0.09	0.09	-11.17	149.82	-29.58	152.71	152.54	0.17	876.679	
200.00	200.00	201.00	201.00	0.31	0.31	-11.17	149.82	-29.58	152.71	152.09	0.62	244.839	
300.00	300.00	301.00	301.00	0.54	0.54	-11.17	149.82	-29.58	152.71	151.64	1.07	142.288	
400.00	400.00	401.00	401.00	0.76	0.76	-11.17	149.82	-29.58	152.71	151.19	1.52	100.284	
500.00	500.00	501.00	501.00	0.99	0.99	-11.17	149.82	-29.58	152.71	150.74	1.97	77.428	
600.00	600.00	601.00	601.00	1.21	1.21	-11.17	149.82	-29.58	152.71	150.29	2.42	63.056	
700.00	700.00	701.00	701.00	1.43	1.44	-11.17	149.82	-29.58	152.71	149.84	2.87	53.184	
800.00	800.00	801.00	801.00	1.66	1.66	-11.17	149.82	-29.58	152.71	149.39	3.32	45.985	
900.00	900.00	901.00	901.00	1.88	1.89	-11.17	149.82	-29.58	152.71	148.94	3.77	40.502	
1,000.00	1,000.00	1,001.00	1,001.00	2.11	2.11	-11.17	149.82	-29.58	152.71	148.49	4.22	36.188	
1,100.00	1,100.00	1,101.00	1,101.00	2.33	2.34	-11.17	149.82	-29.58	152.71	148.04	4.67	32.704	
1,200.00	1,200.00	1,201.00	1,201.00	2.56	2.56	-11.17	149.82	-29.58	152.71	147.59	5.12	29.832	
1,300.00	1,300.00	1,301.00	1,301.00	2.78	2.79	-11.17	149.82	-29.58	152.71	147.14	5.57	27.424	
1,400.00	1,400.00	1,401.00	1,401.00	3.01	3.01	-11.17	149.82	-29.58	152.71	146.69	6.02	25.375	
1,500.00	1,500.00	1,501.00	1,501.00	3.23	3.23	-11.17	149.82	-29.58	152.71	146.24	6.47	23.612	
1,600.00	1,600.00	1,601.00	1,601.00	3.46	3.46	-11.17	149.82	-29.58	152.71	145.80	6.92	22.077	
1,700.00	1,700.00	1,701.00	1,701.00	3.68	3.68	-11.17	149.82	-29.58	152.71	145.35	7.37	20.730	
1,800.00	1,800.00	1,801.00	1,801.00	3.91	3.91	-11.17	149.82	-29.58	152.71	144.90	7.82	19.538	
1,900.00	1,900.00	1,901.00	1,901.00	4.13	4.13	-11.17	149.82	-29.58	152.71	144.45	8.27	18.475	
2,000.00	2,000.00	2,001.00	2,001.00	4.36	4.36	-11.17	149.82	-29.58	152.71	144.00	8.72	17.522	
2,100.00	2,100.00	2,101.00	2,101.00	4.58	4.58	-11.17	149.82	-29.58	152.71	143.55	9.16	16.663	
2,200.00	2,200.00	2,201.00	2,201.00	4.81	4.81	-11.17	149.82	-29.58	152.71	143.10	9.61	15.884	
2,300.00	2,300.00	2,301.00	2,301.00	5.03	5.03	-11.17	149.82	-29.58	152.71	142.65	10.06	15.174	
2,400.00	2,400.00	2,401.00	2,401.00	5.26	5.26	-11.17	149.82	-29.58	152.71	142.20	10.51	14.525	
2,416.33	2,416.33	2,417.33	2,417.33	5.29	5.29	-11.17	149.82	-29.58	152.71	142.13	10.59	14.425	
2,500.00	2,500.00	2,500.00	2,500.00	5.48	5.48	-11.17	149.82	-29.58	152.72	141.75	10.96	13.933	
2,600.00	2,600.00	2,598.38	2,598.37	5.71	5.70	-11.14	150.66	-29.68	153.58	142.17	11.41	13.466	
2,700.00	2,700.00	2,697.60	2,697.57	5.93	5.92	-11.09	152.77	-29.93	155.71	143.86	11.85	13.138	
2,800.00	2,800.00	2,797.57	2,797.52	6.15	6.15	-11.03	154.96	-30.19	157.91	145.61	12.30	12.837	
2,900.00	2,900.00	2,897.55	2,897.47	6.38	6.37	-10.97	157.15	-30.45	160.11	147.36	12.75	12.558	
3,000.00	3,000.00	2,997.53	2,997.43	6.60	6.60	-10.91	159.34	-30.71	162.31	149.11	13.20	12.297	
3,100.00	3,099.99	3,097.52	3,097.39	6.83	6.82	1.16	161.53	-30.97	163.64	150.00	13.65	11.990	
3,200.00	3,199.96	3,197.51	3,197.36	7.05	7.05	1.24	163.73	-31.23	163.23	149.13	14.10	11.579	
3,300.00	3,299.87	3,297.49	3,297.32	7.28	7.27	1.32	165.92	-31.49	161.18	146.63	14.55	11.080	
3,400.00	3,399.76	3,397.46	3,397.26	7.50	7.50	1.42	168.11	-31.76	158.75	143.75	15.00	10.586	
3,500.00	3,499.65	3,497.43	3,497.21	7.73	7.72	1.51	170.30	-32.02	156.33	140.88	15.44	10.122	
3,600.00	3,599.55	3,597.40	3,597.16	7.95	7.95	1.61	172.49	-32.28	153.90	138.01	15.89	9.683	
3,700.00	3,699.44	3,697.37	3,697.10	8.18	8.17	1.71	174.69	-32.54	151.48	135.13	16.34	9.268	
3,800.00	3,799.33	3,797.34	3,797.05	8.40	8.40	1.82	176.88	-32.80	149.06	132.26	16.79	8.876	
3,900.00	3,899.23	3,897.31	3,896.99	8.63	8.62	1.93	179.07	-33.06	146.63	129.39	17.24	8.504	
4,000.00	3,999.12	3,997.28	3,996.94	8.85	8.85	2.04	181.26	-33.32	144.21	126.52	17.69	8.151	
4,100.00	4,099.01	4,097.25	4,096.88	9.08	9.07	2.16	183.45	-33.58	141.79	123.65	18.14	7.815	
4,200.00	4,198.90	4,197.22	4,196.83	9.31	9.30	2.28	185.65	-33.84	139.37	120.78	18.59	7.495	
4,300.00	4,298.80	4,297.19	4,296.78	9.54	9.52	2.40	187.84	-34.10	136.95	117.90	19.04	7.191	
4,400.00	4,398.69	4,397.16	4,396.72	9.76	9.75	2.53	190.03	-34.36	134.53	115.03	19.49	6.901	
4,500.00	4,498.58	4,497.13	4,496.67	9.99	9.97	2.66	192.22	-34.62	132.11	112.17	19.95	6.624	
4,600.00	4,598.48	4,597.10	4,596.61	10.22	10.20	2.80	194.41	-34.88	129.69	109.30	20.40	6.359	
4,700.00	4,698.37	4,697.08	4,696.56	10.45	10.42	2.95	196.61	-35.14	127.28	106.43	20.85	6.105	
4,800.00	4,798.26	4,797.05	4,796.51	10.68	10.65	3.10	198.80	-35.40	124.86	103.56	21.30	5.863	
4,900.00	4,898.15	4,897.02	4,896.45	10.91	10.87	3.25	200.99	-35.66	122.44	100.69	21.75	5.630	
5,000.00	4,998.05	4,996.99	4,996.40	11.14	11.10	3.41	203.18	-35.93	120.03	97.83	22.20	5.407	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.00	5,097.94	5,096.96	5,096.34	11.37	11.33	3.58	205.37	-36.19	117.62	94.96	22.65	5.193	
5,200.00	5,197.83	5,196.93	5,196.29	11.60	11.55	3.76	207.56	-36.45	115.20	92.10	23.10	4.987	
5,300.00	5,297.73	5,296.90	5,296.24	11.83	11.78	3.94	209.76	-36.71	112.79	89.24	23.55	4.789	
5,400.00	5,397.62	5,396.87	5,396.18	12.06	12.00	4.13	211.95	-36.97	110.38	86.38	24.00	4.598	
5,500.00	5,497.51	5,496.84	5,496.13	12.29	12.23	4.33	214.14	-37.23	107.97	83.52	24.46	4.415	
5,600.00	5,597.40	5,596.81	5,596.07	12.52	12.45	4.54	216.33	-37.49	105.57	80.66	24.91	4.238	
5,700.00	5,697.30	5,696.78	5,696.02	12.75	12.68	4.76	218.52	-37.75	103.16	77.80	25.36	4.068	
5,800.00	5,797.19	5,796.75	5,795.96	12.98	12.91	4.99	220.72	-38.01	100.75	74.94	25.81	3.904	
5,900.00	5,897.08	5,896.72	5,895.91	13.21	13.13	5.23	222.91	-38.27	98.35	72.09	26.26	3.745	
6,000.00	5,996.98	5,996.69	5,995.86	13.45	13.36	5.48	225.10	-38.53	95.95	69.24	26.71	3.592	
6,100.00	6,096.87	6,096.66	6,095.80	13.68	13.58	5.74	227.29	-38.79	93.55	66.39	27.17	3.444	
6,200.00	6,196.76	6,196.63	6,195.75	13.91	13.81	6.02	229.48	-39.05	91.15	63.54	27.62	3.301	
6,300.00	6,296.65	6,296.60	6,295.69	14.14	14.03	6.31	231.68	-39.31	88.76	60.69	28.07	3.162	
6,400.00	6,396.55	6,396.57	6,395.64	14.37	14.26	6.62	233.87	-39.57	86.37	57.85	28.52	3.028	
6,500.00	6,496.44	6,496.54	6,495.59	14.60	14.49	6.95	236.06	-39.84	83.98	55.00	28.97	2.898	
6,600.00	6,596.33	6,596.51	6,595.53	14.84	14.71	7.30	238.25	-40.10	81.59	52.17	29.43	2.773	
6,700.00	6,696.23	6,696.48	6,695.48	15.07	14.94	7.67	240.44	-40.36	79.21	49.33	29.88	2.651	
6,800.00	6,796.12	6,796.45	6,795.42	15.30	15.16	8.06	242.64	-40.62	76.83	46.50	30.33	2.533	
6,900.00	6,896.01	6,896.42	6,895.37	15.53	15.39	8.47	244.83	-40.88	74.45	43.67	30.78	2.419	
7,000.00	6,995.90	6,996.39	6,995.32	15.76	15.62	8.92	247.02	-41.14	72.08	40.84	31.24	2.308	
7,100.00	7,095.80	7,096.36	7,095.26	16.00	15.84	9.39	249.21	-41.40	69.71	38.02	31.69	2.200	
7,200.00	7,195.69	7,196.33	7,195.21	16.23	16.07	9.90	251.40	-41.66	67.35	35.21	32.14	2.095	
7,300.00	7,295.58	7,296.30	7,295.15	16.46	16.29	10.44	253.59	-41.92	64.99	32.40	32.59	1.994	
7,400.00	7,395.48	7,396.27	7,395.10	16.69	16.52	11.02	255.79	-42.18	62.64	29.60	33.05	1.896	
7,500.00	7,495.37	7,496.24	7,495.04	16.93	16.75	11.65	257.98	-42.44	60.30	26.80	33.50	1.800	
7,600.00	7,595.26	7,596.21	7,594.99	17.16	16.97	12.33	260.17	-42.70	57.96	24.01	33.95	1.707	
7,700.00	7,695.15	7,696.18	7,694.94	17.39	17.20	13.07	262.36	-42.96	55.64	21.23	34.41	1.617	
7,800.00	7,795.05	7,796.15	7,794.88	17.62	17.42	13.87	264.55	-43.22	53.32	18.46	34.86	1.529	
7,900.00	7,894.94	7,896.12	7,894.83	17.86	17.65	14.74	266.75	-43.48	51.01	15.70	35.32	1.444	Level 3
8,000.00	7,994.83	7,996.09	7,994.77	18.09	17.88	15.70	268.94	-43.75	48.72	12.95	35.77	1.362	Level 3
8,100.00	8,094.73	8,096.06	8,094.72	18.32	18.10	16.75	271.13	-44.01	46.44	10.22	36.23	1.282	Level 3
8,200.00	8,194.62	8,196.03	8,194.67	18.55	18.33	17.91	273.32	-44.27	44.18	7.50	36.68	1.204	Level 2
8,300.00	8,294.53	8,296.01	8,294.62	18.77	18.55	18.95	275.51	-44.53	42.46	5.33	37.12	1.144	Level 2
8,325.87	8,320.40	8,321.89	8,320.49	18.81	18.61	19.06	276.08	-44.59	42.37	5.15	37.22	1.138	Level 2, CC, ES, SF
8,400.00	8,394.52	8,396.01	8,394.59	18.94	18.78	18.96	277.71	-44.79	43.05	5.54	37.51	1.148	Level 2
8,500.00	8,494.52	8,495.99	8,494.54	19.13	19.01	6.29	279.90	-45.05	45.18	7.25	37.93	1.191	Level 2
8,600.00	8,594.52	8,595.96	8,594.50	19.35	19.23	5.69	282.09	-45.31	47.33	8.96	38.37	1.233	Level 2
8,700.00	8,694.52	8,695.94	8,694.45	19.57	19.46	5.14	284.28	-45.57	49.49	10.67	38.82	1.275	Level 3
8,800.00	8,794.52	8,795.91	8,794.40	19.79	19.69	4.63	286.47	-45.83	51.66	12.39	39.27	1.315	Level 3
8,900.00	8,894.52	8,895.89	8,894.35	20.01	19.91	4.17	288.67	-46.09	53.82	14.11	39.72	1.355	Level 3
9,000.00	8,994.52	8,995.86	8,994.30	20.23	20.14	3.74	290.86	-46.35	55.99	15.83	40.16	1.394	Level 3
9,100.00	9,094.52	9,095.84	9,094.25	20.45	20.36	3.34	293.05	-46.61	58.16	17.55	40.61	1.432	Level 3
9,200.00	9,194.52	9,195.82	9,194.20	20.67	20.59	2.97	295.24	-46.87	60.34	19.28	41.06	1.470	Level 3
9,300.00	9,294.52	9,295.79	9,294.15	20.89	20.82	2.63	297.43	-47.13	62.52	21.01	41.51	1.506	
9,400.00	9,394.52	9,395.77	9,394.11	21.11	21.04	2.31	299.63	-47.39	64.69	22.74	41.95	1.542	
9,500.00	9,494.52	9,495.74	9,494.06	21.33	21.27	2.01	301.82	-47.66	66.88	24.47	42.40	1.577	
9,600.00	9,594.52	9,595.72	9,594.01	21.55	21.50	1.73	304.01	-47.92	69.06	26.21	42.85	1.612	
9,700.00	9,694.52	9,695.69	9,693.96	21.77	21.72	1.47	306.20	-48.18	71.24	27.95	43.30	1.645	
9,800.00	9,794.18	9,795.18	9,793.43	21.94	21.95	-178.79	308.38	-48.44	80.08	36.38	43.70	1.832	
9,900.00	9,891.19	9,891.65	9,889.87	22.06	22.16	-179.19	310.50	-48.69	105.93	61.86	44.07	2.403	
10,000.00	9,982.61	9,982.16	9,980.36	22.14	22.37	-179.47	312.48	-48.92	148.14	103.73	44.42	3.335	
10,100.00	10,065.65	10,063.97	10,062.15	22.23	22.55	-179.65	314.28	-49.14	205.43	160.71	44.72	4.594	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,200.00	10,137.80	10,134.59	10,132.75	22.31	22.71	-179.75	315.83	-49.32	276.06	231.08	44.98	6.138	
10,300.00	10,196.86	10,191.86	10,190.01	22.40	22.84	-179.79	317.08	-49.47	357.87	312.69	45.18	7.920	
10,400.00	10,241.03	10,234.07	10,232.20	22.59	22.94	-179.80	318.01	-49.58	448.39	403.05	45.33	9.891	
10,500.00	10,268.98	10,259.91	10,258.04	22.87	23.00	-179.72	318.57	-49.65	544.86	499.43	45.43	11.994	
10,600.00	10,279.86	10,268.61	10,266.73	23.24	23.02	-84.07	318.76	-49.67	644.35	598.89	45.46	14.173	
10,700.00	10,280.00	10,266.55	10,264.68	23.70	23.01	-1.57	318.72	-49.67	744.33	698.86	45.47	16.369	
10,800.00	10,280.00	10,264.36	10,262.48	24.26	23.01	-1.40	318.67	-49.66	844.31	798.83	45.48	18.565	
10,900.00	10,280.00	10,262.16	10,260.29	24.91	23.00	-1.27	318.62	-49.65	944.28	898.80	45.49	20.759	
11,000.00	10,280.00	10,259.97	10,258.10	25.65	23.00	-1.16	318.58	-49.65	1,044.26	998.76	45.50	22.951	
11,100.00	10,280.00	10,257.78	10,255.91	26.47	22.99	-1.07	318.53	-49.64	1,144.24	1,098.72	45.51	25.141	
11,200.00	10,280.00	10,255.59	10,253.71	27.37	22.99	-1.00	318.48	-49.64	1,244.21	1,198.69	45.53	27.330	
11,300.00	10,280.00	10,253.39	10,251.52	28.33	22.98	-0.94	318.43	-49.63	1,344.19	1,298.65	45.54	29.515	
11,400.00	10,280.00	10,251.20	10,249.33	29.35	22.98	-0.88	318.38	-49.63	1,444.16	1,398.60	45.56	31.698	
11,500.00	10,280.00	10,249.01	10,247.14	30.43	22.97	-0.83	318.33	-49.62	1,544.14	1,498.56	45.58	33.879	
11,600.00	10,280.00	10,246.81	10,244.95	31.55	22.97	-0.79	318.29	-49.61	1,644.12	1,598.52	45.60	36.056	
11,700.00	10,280.00	13,480.39	11,964.00	32.72	36.87	179.96	-1,425.43	-48.95	1,683.00	1,643.68	39.32	42.802	
11,800.00	10,280.00	13,580.39	11,964.00	33.92	38.03	179.96	-1,525.43	-48.80	1,683.00	1,642.78	40.22	41.846	
11,900.00	10,280.00	13,680.39	11,964.00	35.16	39.23	179.96	-1,625.43	-48.65	1,683.00	1,641.85	41.15	40.900	
12,000.00	10,280.00	13,780.39	11,964.00	36.43	40.46	179.96	-1,725.43	-48.50	1,683.00	1,640.89	42.11	39.967	
12,100.00	10,280.00	13,880.39	11,964.00	37.73	41.72	179.96	-1,825.43	-48.35	1,683.00	1,639.90	43.10	39.049	
12,200.00	10,280.00	13,980.39	11,964.00	39.06	43.00	179.96	-1,925.43	-48.21	1,683.00	1,638.88	44.12	38.150	
12,300.00	10,280.00	14,080.39	11,964.00	40.40	44.30	179.96	-2,025.43	-48.06	1,683.00	1,637.84	45.16	37.271	
12,400.00	10,280.00	14,180.39	11,964.00	41.77	45.63	179.96	-2,125.43	-47.91	1,683.00	1,636.78	46.22	36.413	
12,500.00	10,280.00	14,280.39	11,964.00	43.16	46.97	179.96	-2,225.43	-47.76	1,683.00	1,635.70	47.30	35.579	
12,600.00	10,280.00	14,380.39	11,964.00	44.56	48.34	179.96	-2,325.43	-47.61	1,683.00	1,634.59	48.41	34.767	
12,700.00	10,280.00	14,480.39	11,964.00	45.98	49.72	179.96	-2,425.43	-47.46	1,683.00	1,633.47	49.53	33.978	
12,800.00	10,280.00	14,580.39	11,964.00	47.41	51.11	179.96	-2,525.43	-47.31	1,683.00	1,632.33	50.67	33.213	
12,900.00	10,280.00	14,680.39	11,964.00	48.86	52.52	179.96	-2,625.43	-47.16	1,683.00	1,631.17	51.83	32.472	
13,000.00	10,280.00	14,780.39	11,964.00	50.31	53.94	179.97	-2,725.43	-47.01	1,683.00	1,630.00	53.00	31.754	
13,100.00	10,280.00	14,880.39	11,964.00	51.78	55.38	179.97	-2,825.43	-46.86	1,683.00	1,628.81	54.19	31.059	
13,200.00	10,280.00	14,980.39	11,964.00	53.26	56.82	179.97	-2,925.43	-46.71	1,683.00	1,627.61	55.39	30.386	
13,300.00	10,280.00	15,080.39	11,964.00	54.74	58.27	179.97	-3,025.43	-46.56	1,683.00	1,626.40	56.60	29.736	
13,400.00	10,280.00	15,180.39	11,964.00	56.24	59.74	179.97	-3,125.43	-46.41	1,683.00	1,625.18	57.82	29.107	
13,500.00	10,280.00	15,280.39	11,964.00	57.74	61.21	179.97	-3,225.43	-46.26	1,683.00	1,623.94	59.06	28.498	
13,600.00	10,280.00	15,380.39	11,964.00	59.25	62.69	179.97	-3,325.43	-46.11	1,683.00	1,622.70	60.30	27.910	
13,700.00	10,280.00	15,480.39	11,964.00	60.77	64.18	179.97	-3,425.43	-45.97	1,683.00	1,621.44	61.56	27.341	
13,800.00	10,280.00	15,580.39	11,964.00	62.29	65.67	179.97	-3,525.43	-45.82	1,683.00	1,620.18	62.82	26.791	
13,900.00	10,280.00	15,680.39	11,964.00	63.81	67.18	179.97	-3,625.43	-45.67	1,683.00	1,618.91	64.09	26.259	
14,000.00	10,280.00	15,780.39	11,964.00	65.35	68.68	179.97	-3,725.43	-45.52	1,683.00	1,617.63	65.37	25.745	
14,100.00	10,280.00	15,880.39	11,964.00	66.88	70.20	179.97	-3,825.43	-45.37	1,683.00	1,616.34	66.66	25.248	
14,200.00	10,280.00	15,980.39	11,964.00	68.43	71.72	179.97	-3,925.43	-45.22	1,683.00	1,615.05	67.95	24.767	
14,300.00	10,280.00	16,080.39	11,964.00	69.97	73.24	179.97	-4,025.43	-45.07	1,683.00	1,613.74	69.26	24.301	
14,400.00	10,280.00	16,180.39	11,964.00	71.52	74.77	179.97	-4,125.43	-44.92	1,683.00	1,612.44	70.56	23.851	
14,500.00	10,280.00	16,280.39	11,964.00	73.08	76.30	179.97	-4,225.43	-44.77	1,683.00	1,611.12	71.88	23.415	
14,600.00	10,280.00	16,380.39	11,964.00	74.63	77.84	179.97	-4,325.43	-44.62	1,683.00	1,609.80	73.20	22.993	
14,700.00	10,280.00	16,480.39	11,964.00	76.20	79.38	179.97	-4,425.43	-44.47	1,683.00	1,608.48	74.52	22.584	
14,800.00	10,280.00	16,580.39	11,964.00	77.76	80.92	179.97	-4,525.43	-44.32	1,683.00	1,607.15	75.85	22.187	
14,900.00	10,280.00	16,680.39	11,964.00	79.33	82.47	179.97	-4,625.43	-44.17	1,683.00	1,605.81	77.19	21.804	
15,000.00	10,280.00	16,780.39	11,964.00	80.90	84.02	179.97	-4,725.43	-44.02	1,683.00	1,604.47	78.53	21.432	
15,100.00	10,280.00	16,880.39	11,964.00	82.47	85.58	179.97	-4,825.43	-43.88	1,683.00	1,603.13	79.87	21.071	
15,200.00	10,280.00	16,980.39	11,964.00	84.04	87.14	179.98	-4,925.43	-43.73	1,683.00	1,601.78	81.22	20.721	
15,300.00	10,280.00	17,080.39	11,964.00	85.62	88.70	179.98	-5,025.43	-43.58	1,683.00	1,600.43	82.57	20.382	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,400.00	10,280.00	17,180.39	11,964.00	87.20	90.26	179.98	-5,125.43	-43.43	1,683.00	1,599.07	83.93	20.052	
15,500.00	10,280.00	17,280.39	11,964.00	88.78	91.83	179.98	-5,225.43	-43.28	1,683.00	1,597.71	85.29	19.732	
15,600.00	10,280.00	17,380.39	11,964.00	90.36	93.39	179.98	-5,325.43	-43.13	1,683.00	1,596.35	86.65	19.422	
15,700.00	10,280.00	17,480.39	11,964.00	91.95	94.96	179.98	-5,425.43	-42.98	1,683.00	1,594.98	88.02	19.120	
15,800.00	10,280.00	17,580.39	11,964.00	93.53	96.54	179.98	-5,525.43	-42.83	1,683.00	1,593.61	89.39	18.827	
15,900.00	10,280.00	17,680.39	11,964.00	95.12	98.11	179.98	-5,625.43	-42.68	1,683.00	1,592.24	90.76	18.543	
16,000.00	10,280.00	17,780.39	11,964.00	96.71	99.69	179.98	-5,725.43	-42.53	1,683.00	1,590.86	92.14	18.266	
16,100.00	10,280.00	17,880.39	11,964.00	98.30	101.26	179.98	-5,825.43	-42.38	1,683.00	1,589.48	93.52	17.996	
16,200.00	10,280.00	17,980.39	11,964.00	99.89	102.84	179.98	-5,925.43	-42.23	1,683.00	1,588.10	94.90	17.735	
16,300.00	10,280.00	18,080.39	11,964.00	101.49	104.43	179.98	-6,025.43	-42.08	1,683.00	1,586.72	96.28	17.480	
16,400.00	10,280.00	18,180.39	11,964.00	103.08	106.01	179.98	-6,125.43	-41.93	1,683.00	1,585.33	97.67	17.232	
16,500.00	10,280.00	18,280.39	11,964.00	104.68	107.60	179.98	-6,225.43	-41.78	1,683.00	1,583.94	99.06	16.990	
16,600.00	10,280.00	18,380.39	11,964.00	106.28	109.18	179.98	-6,325.43	-41.64	1,683.00	1,582.55	100.45	16.755	
16,700.00	10,280.00	18,480.39	11,964.00	107.87	110.77	179.98	-6,425.43	-41.49	1,683.00	1,581.16	101.84	16.526	
16,800.00	10,280.00	18,580.39	11,964.00	109.47	112.36	179.98	-6,525.43	-41.34	1,683.00	1,579.76	103.24	16.302	
16,900.00	10,280.00	18,680.39	11,964.00	111.08	113.95	179.98	-6,625.43	-41.19	1,683.00	1,578.37	104.63	16.085	
17,000.00	10,280.00	18,780.39	11,964.00	112.68	115.54	179.98	-6,725.43	-41.04	1,683.00	1,576.97	106.03	15.873	
17,100.00	10,280.00	18,880.39	11,964.00	114.28	117.13	179.98	-6,825.43	-40.89	1,683.00	1,575.57	107.43	15.666	
17,200.00	10,280.00	18,980.39	11,964.00	115.88	118.73	179.98	-6,925.43	-40.74	1,683.00	1,574.17	108.83	15.464	
17,300.00	10,280.00	19,080.39	11,964.00	117.49	120.32	179.99	-7,025.43	-40.59	1,683.00	1,572.76	110.24	15.267	
17,400.00	10,280.00	19,180.39	11,964.00	119.09	121.92	179.99	-7,125.43	-40.44	1,683.00	1,571.36	111.64	15.075	
17,500.00	10,280.00	19,280.39	11,964.00	120.70	123.52	179.99	-7,225.43	-40.29	1,683.00	1,569.95	113.05	14.887	
17,600.00	10,280.00	19,380.39	11,964.00	122.31	125.12	179.99	-7,325.43	-40.14	1,683.00	1,568.54	114.46	14.704	
17,700.00	10,280.00	19,480.39	11,964.00	123.91	126.71	179.99	-7,425.43	-39.99	1,683.00	1,567.13	115.87	14.525	
17,800.00	10,280.00	19,580.39	11,964.00	125.52	128.31	179.99	-7,525.43	-39.84	1,683.00	1,565.72	117.28	14.350	
17,900.00	10,280.00	19,680.39	11,964.00	127.13	129.92	179.99	-7,625.43	-39.69	1,683.00	1,564.31	118.69	14.179	
18,000.00	10,280.00	19,780.39	11,964.00	128.74	131.52	179.99	-7,725.43	-39.55	1,683.00	1,562.89	120.11	14.013	
18,100.00	10,280.00	19,880.39	11,964.00	130.35	133.12	179.99	-7,825.43	-39.40	1,683.00	1,561.48	121.52	13.849	
18,200.00	10,280.00	19,980.39	11,964.00	131.96	134.72	179.99	-7,925.43	-39.25	1,683.00	1,560.06	122.94	13.690	
18,300.00	10,280.00	20,080.39	11,964.00	133.57	136.33	179.99	-8,025.43	-39.10	1,683.00	1,558.64	124.36	13.534	
18,400.00	10,280.00	20,180.39	11,964.00	135.19	137.93	179.99	-8,125.43	-38.95	1,683.00	1,557.23	125.77	13.381	
18,500.00	10,280.00	20,280.39	11,964.00	136.80	139.54	179.99	-8,225.43	-38.80	1,683.00	1,555.81	127.19	13.232	
18,600.00	10,280.00	20,380.39	11,964.00	138.41	141.15	179.99	-8,325.43	-38.65	1,683.00	1,554.39	128.61	13.086	
18,700.00	10,280.00	20,480.39	11,964.00	140.03	142.75	179.99	-8,425.43	-38.50	1,683.00	1,552.96	130.04	12.942	
18,800.00	10,280.00	20,580.39	11,964.00	141.64	144.36	179.99	-8,525.43	-38.35	1,683.00	1,551.54	131.46	12.802	
18,900.00	10,280.00	20,680.39	11,964.00	143.26	145.97	179.99	-8,625.43	-38.20	1,683.00	1,550.12	132.88	12.665	
19,000.00	10,280.00	20,780.39	11,964.00	144.87	147.58	179.99	-8,725.43	-38.05	1,683.00	1,548.69	134.31	12.531	
19,100.00	10,280.00	20,880.39	11,964.00	146.49	149.19	179.99	-8,825.43	-37.90	1,683.00	1,547.27	135.73	12.399	
19,200.00	10,280.00	20,980.39	11,964.00	148.10	150.80	179.99	-8,925.43	-37.75	1,683.00	1,545.84	137.16	12.270	
19,300.00	10,280.00	21,080.39	11,964.00	149.72	152.41	179.99	-9,025.43	-37.60	1,683.00	1,544.41	138.59	12.144	
19,400.00	10,280.00	21,180.39	11,964.00	151.34	154.02	180.00	-9,125.43	-37.45	1,683.00	1,542.98	140.02	12.020	
19,500.00	10,280.00	21,280.39	11,964.00	152.95	155.63	180.00	-9,225.43	-37.31	1,683.00	1,541.56	141.44	11.899	
19,600.00	10,280.00	21,380.39	11,964.00	154.57	157.24	180.00	-9,325.43	-37.16	1,683.00	1,540.13	142.87	11.780	
19,700.00	10,280.00	21,480.39	11,964.00	156.19	158.85	180.00	-9,425.43	-37.01	1,683.00	1,538.70	144.30	11.663	
19,800.00	10,280.00	21,580.39	11,964.00	157.81	160.47	180.00	-9,525.43	-36.86	1,683.00	1,537.26	145.74	11.548	
19,900.00	10,280.00	21,680.39	11,964.00	159.43	162.08	180.00	-9,625.43	-36.71	1,683.00	1,535.83	147.17	11.436	
20,000.00	10,280.00	21,780.39	11,964.00	161.04	163.69	180.00	-9,725.42	-36.56	1,683.00	1,534.40	148.60	11.326	
20,100.00	10,280.00	21,880.39	11,964.00	162.66	165.31	180.00	-9,825.42	-36.41	1,683.00	1,532.97	150.03	11.218	
20,200.00	10,280.00	21,980.39	11,964.00	164.28	166.92	180.00	-9,925.42	-36.26	1,683.00	1,531.53	151.47	11.111	
20,300.00	10,280.00	22,080.39	11,964.00	165.90	168.54	180.00	-10,025.42	-36.11	1,683.00	1,530.10	152.90	11.007	
20,400.00	10,280.00	22,180.39	11,964.00	167.52	170.15	180.00	-10,125.42	-35.96	1,683.00	1,528.66	154.34	10.905	
20,461.36	10,280.00	22,241.74	11,964.00	168.52	171.15	-180.00	-10,186.78	-35.87	1,683.00	1,527.78	155.22	10.843	

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

Company:	Devon Energy	**Local Co-ordinate Reference:**	Well Lusitano 27-34 Fed Com 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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: 0-LEAM MWD+HDGM — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	2.70	2.70	0.00	0.00	84.61	160.39	1,700.46	1,708.01				
100.00	100.00	102.70	102.70	0.09	0.09	84.61	160.39	1,700.46	1,708.01	1,707.83	0.18	9,594.743	
200.00	200.00	202.70	202.70	0.31	0.32	84.61	160.39	1,700.46	1,708.01	1,707.38	0.63	2,721.720	
300.00	300.00	302.70	302.70	0.54	0.54	84.61	160.39	1,700.46	1,708.01	1,706.93	1.08	1,585.777	
400.00	400.00	402.70	402.70	0.76	0.77	84.61	160.39	1,700.46	1,708.01	1,706.48	1.53	1,118.823	
500.00	500.00	502.70	502.70	0.99	0.99	84.61	160.39	1,700.46	1,708.01	1,706.03	1.98	864.314	
600.00	600.00	602.70	602.70	1.21	1.22	84.61	160.39	1,700.46	1,708.01	1,705.58	2.43	704.137	
700.00	700.00	702.70	702.70	1.43	1.44	84.61	160.39	1,700.46	1,708.01	1,705.13	2.88	594.047	
800.00	800.00	802.70	802.70	1.66	1.67	84.61	160.39	1,700.46	1,708.01	1,704.68	3.32	513.727	
900.00	900.00	902.70	902.70	1.88	1.89	84.61	160.39	1,700.46	1,708.01	1,704.23	3.77	452.540	
1,000.00	1,000.00	1,002.70	1,002.70	2.11	2.11	84.61	160.39	1,700.46	1,708.01	1,703.78	4.22	404.377	
1,100.00	1,100.00	1,102.70	1,102.70	2.33	2.34	84.61	160.39	1,700.46	1,708.01	1,703.33	4.67	365.479	
1,200.00	1,200.00	1,202.70	1,202.70	2.56	2.56	84.61	160.39	1,700.46	1,708.01	1,702.88	5.12	333.408	
1,300.00	1,300.00	1,302.70	1,302.70	2.78	2.79	84.61	160.39	1,700.46	1,708.01	1,702.44	5.57	306.512	
1,400.00	1,400.00	1,402.70	1,402.70	3.01	3.01	84.61	160.39	1,700.46	1,708.01	1,701.99	6.02	283.631	
1,500.00	1,500.00	1,502.70	1,502.70	3.23	3.24	84.61	160.39	1,700.46	1,708.01	1,701.54	6.47	263.929	
1,600.00	1,600.00	1,602.70	1,602.70	3.46	3.46	84.61	160.39	1,700.46	1,708.01	1,701.09	6.92	246.786	
1,700.00	1,700.00	1,702.70	1,702.70	3.68	3.69	84.61	160.39	1,700.46	1,708.01	1,700.64	7.37	231.735	
1,800.00	1,800.00	1,802.70	1,802.70	3.91	3.91	84.61	160.39	1,700.46	1,708.01	1,700.19	7.82	218.414	
1,900.00	1,900.00	1,902.70	1,902.70	4.13	4.14	84.61	160.39	1,700.46	1,708.01	1,699.74	8.27	206.541	
2,000.00	2,000.00	2,002.70	2,002.70	4.36	4.36	84.61	160.39	1,700.46	1,708.01	1,699.29	8.72	195.892	
2,100.00	2,100.00	2,102.70	2,102.70	4.58	4.59	84.61	160.39	1,700.46	1,708.01	1,698.84	9.17	186.288	
2,200.00	2,200.00	2,202.70	2,202.70	4.81	4.81	84.61	160.39	1,700.46	1,708.01	1,698.39	9.62	177.581	
2,300.00	2,300.00	2,302.70	2,302.70	5.03	5.04	84.61	160.39	1,700.46	1,708.01	1,697.94	10.07	169.652	
2,400.00	2,400.00	2,402.70	2,402.70	5.26	5.26	84.61	160.39	1,700.46	1,708.01	1,697.49	10.52	162.401	
2,500.00	2,500.00	2,502.70	2,502.70	5.48	5.49	84.61	160.39	1,700.46	1,708.01	1,697.04	10.97	155.744	
2,600.00	2,600.00	2,602.70	2,602.70	5.71	5.71	84.61	160.39	1,700.46	1,708.01	1,696.59	11.42	149.611	
2,700.00	2,700.00	2,702.70	2,702.70	5.93	5.94	84.61	160.39	1,700.46	1,708.01	1,696.14	11.87	143.943	
2,800.00	2,800.00	2,802.70	2,802.70	6.15	6.16	84.61	160.39	1,700.46	1,708.01	1,695.69	12.32	138.689	
2,900.00	2,900.00	2,902.70	2,902.70	6.38	6.39	84.61	160.39	1,700.46	1,708.01	1,695.24	12.76	133.805	
3,000.00	3,000.00	3,002.70	3,002.70	6.60	6.61	84.61	160.39	1,700.46	1,708.01	1,694.79	13.21	129.253	
3,100.00	3,099.99	3,102.69	3,102.69	6.83	6.84	96.65	160.39	1,700.46	1,708.11	1,694.45	13.66	125.015	
3,200.00	3,199.96	3,202.66	3,202.66	7.05	7.06	96.74	160.39	1,700.46	1,708.41	1,694.30	14.11	121.070	
3,300.00	3,299.87	3,302.57	3,302.57	7.28	7.28	96.87	160.39	1,700.46	1,708.92	1,694.36	14.56	117.383	
3,400.00	3,399.76	3,402.46	3,402.46	7.50	7.51	97.03	160.39	1,700.46	1,709.48	1,694.47	15.01	113.917	
3,500.00	3,499.65	3,502.35	3,502.35	7.73	7.73	97.18	160.39	1,700.46	1,710.05	1,694.60	15.45	110.648	
3,600.00	3,599.55	3,602.25	3,602.25	7.95	7.96	97.34	160.39	1,700.46	1,710.64	1,694.73	15.90	107.560	
3,700.00	3,699.44	3,702.14	3,702.14	8.18	8.18	97.49	160.39	1,700.46	1,711.23	1,694.88	16.35	104.638	
3,800.00	3,799.33	3,802.03	3,802.03	8.40	8.41	97.64	160.39	1,700.46	1,711.84	1,695.04	16.80	101.871	
3,900.00	3,899.23	3,901.93	3,901.93	8.63	8.63	97.80	160.39	1,700.46	1,712.47	1,695.21	17.25	99.247	
4,000.00	3,999.12	4,002.71	4,002.71	8.85	8.86	97.95	160.39	1,700.46	1,713.10	1,695.39	17.71	96.744	
4,100.00	4,099.01	4,151.50	4,151.47	9.08	9.18	98.14	161.43	1,698.18	1,712.27	1,694.02	18.24	93.849	
4,200.00	4,198.90	4,298.15	4,297.94	9.31	9.49	98.25	164.41	1,691.64	1,708.59	1,689.84	18.76	91.088	
4,300.00	4,298.80	4,398.02	4,397.60	9.54	9.70	98.30	167.06	1,685.82	1,703.61	1,684.42	19.19	88.756	
4,400.00	4,398.69	4,497.88	4,497.26	9.76	9.91	98.35	169.71	1,680.00	1,698.64	1,679.00	19.63	86.523	
4,500.00	4,498.58	4,597.74	4,596.92	9.99	10.13	98.41	172.37	1,674.17	1,693.66	1,673.59	20.07	84.381	
4,600.00	4,598.48	4,697.61	4,696.58	10.22	10.35	98.46	175.02	1,668.35	1,688.68	1,668.17	20.51	82.327	
4,700.00	4,698.37	4,797.47	4,796.24	10.45	10.57	98.51	177.67	1,662.53	1,683.71	1,662.76	20.95	80.355	
4,800.00	4,798.26	4,897.34	4,895.89	10.68	10.79	98.56	180.33	1,656.71	1,678.74	1,657.34	21.40	78.461	
4,900.00	4,898.15	4,997.20	4,995.55	10.91	11.01	98.62	182.98	1,650.89	1,673.76	1,651.93	21.84	76.641	
5,000.00	4,998.05	5,097.06	5,095.21	11.14	11.23	98.67	185.63	1,645.06	1,668.79	1,646.51	22.28	74.889	
5,100.00	5,097.94	5,196.93	5,194.87	11.37	11.45	98.73	188.29	1,639.24	1,663.83	1,641.10	22.73	73.204	

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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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: 0-LEAM MWD+HDGM — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.00	5,197.83	5,296.79	5,294.53	11.60	11.68	98.78	190.94	1,633.42	1,658.86	1,635.69	23.17	71.581	
5,300.00	5,297.73	5,396.66	5,394.19	11.83	11.90	98.84	193.59	1,627.60	1,653.89	1,630.27	23.62	70.018	
5,400.00	5,397.62	5,496.52	5,493.85	12.06	12.13	98.89	196.24	1,621.78	1,648.93	1,624.86	24.07	68.510	
5,500.00	5,497.51	5,596.38	5,593.51	12.29	12.36	98.95	198.90	1,615.95	1,643.97	1,619.45	24.52	67.056	
5,600.00	5,597.40	5,696.25	5,693.17	12.52	12.58	99.00	201.55	1,610.13	1,639.01	1,614.04	24.97	65.652	
5,700.00	5,697.30	5,796.11	5,792.82	12.75	12.81	99.06	204.20	1,604.31	1,634.05	1,608.63	25.41	64.296	
5,800.00	5,797.19	5,895.98	5,892.48	12.98	13.04	99.12	206.86	1,598.49	1,629.09	1,603.23	25.86	62.986	
5,900.00	5,897.08	5,995.84	5,992.14	13.21	13.27	99.17	209.51	1,592.66	1,624.14	1,597.82	26.31	61.720	
6,000.00	5,996.98	6,095.70	6,091.80	13.45	13.50	99.23	212.16	1,586.84	1,619.18	1,592.42	26.77	60.496	
6,100.00	6,096.87	6,195.57	6,191.46	13.68	13.73	99.29	214.81	1,581.02	1,614.23	1,587.01	27.22	59.310	
6,200.00	6,196.76	6,295.43	6,291.12	13.91	13.96	99.35	217.47	1,575.20	1,609.28	1,581.61	27.67	58.163	
6,300.00	6,296.65	6,395.30	6,390.78	14.14	14.19	99.40	220.12	1,569.38	1,604.33	1,576.21	28.12	57.052	
6,400.00	6,396.55	6,495.16	6,490.44	14.37	14.42	99.46	222.77	1,563.55	1,599.38	1,570.81	28.57	55.975	
6,500.00	6,496.44	6,595.02	6,590.10	14.60	14.66	99.52	225.43	1,557.73	1,594.43	1,565.41	29.03	54.931	
6,600.00	6,596.33	6,694.89	6,689.75	14.84	14.89	99.58	228.08	1,551.91	1,589.49	1,560.01	29.48	53.919	
6,700.00	6,696.23	6,794.75	6,789.41	15.07	15.12	99.64	230.73	1,546.09	1,584.55	1,554.61	29.93	52.936	
6,800.00	6,796.12	6,894.62	6,889.07	15.30	15.36	99.70	233.39	1,540.26	1,579.61	1,549.22	30.39	51.983	
6,900.00	6,896.01	6,994.48	6,988.73	15.53	15.59	99.76	236.04	1,534.44	1,574.67	1,543.83	30.84	51.057	
7,000.00	6,995.90	7,094.34	7,088.39	15.76	15.83	99.82	238.69	1,528.62	1,569.73	1,538.43	31.30	50.158	
7,100.00	7,095.80	7,194.21	7,188.05	16.00	16.06	99.89	241.34	1,522.80	1,564.79	1,533.04	31.75	49.284	
7,200.00	7,195.69	7,294.07	7,287.71	16.23	16.30	99.95	244.00	1,516.98	1,559.86	1,527.65	32.21	48.434	
7,300.00	7,295.58	7,393.94	7,387.37	16.46	16.53	100.01	246.65	1,511.15	1,554.93	1,522.27	32.66	47.607	
7,400.00	7,395.48	7,493.80	7,487.02	16.69	16.77	100.07	249.30	1,505.33	1,550.00	1,516.88	33.12	46.803	
7,500.00	7,495.37	7,593.66	7,586.68	16.93	17.00	100.14	251.96	1,499.51	1,545.07	1,511.50	33.57	46.021	
7,600.00	7,595.26	7,693.53	7,686.34	17.16	17.24	100.20	254.61	1,493.69	1,540.14	1,506.11	34.03	45.259	
7,700.00	7,695.15	7,793.39	7,786.00	17.39	17.48	100.26	257.26	1,487.87	1,535.22	1,500.73	34.49	44.518	
7,800.00	7,795.05	7,893.26	7,885.66	17.62	17.71	100.33	259.91	1,482.04	1,530.30	1,495.36	34.94	43.795	
7,900.00	7,894.94	7,993.12	7,985.32	17.86	17.95	100.39	262.57	1,476.22	1,525.38	1,489.98	35.40	43.091	
8,000.00	7,994.83	8,092.98	8,084.98	18.09	18.19	100.46	265.22	1,470.40	1,520.46	1,484.60	35.86	42.405	
8,100.00	8,094.73	8,192.85	8,184.64	18.32	18.42	100.52	267.87	1,464.58	1,515.54	1,479.23	36.31	41.736	
8,200.00	8,194.62	8,292.71	8,284.30	18.55	18.66	100.59	270.53	1,458.75	1,510.63	1,473.86	36.77	41.083	
8,300.00	8,294.53	8,392.58	8,383.96	18.77	18.90	100.59	273.18	1,452.93	1,505.61	1,468.41	37.21	40.464	
8,400.00	8,394.52	8,492.42	8,483.59	18.94	19.14	100.46	275.83	1,447.11	1,500.15	1,462.55	37.61	39.892	
8,500.00	8,494.52	8,592.21	8,583.18	19.13	19.38	88.33	278.48	1,441.29	1,494.40	1,456.38	38.02	39.304	
8,600.00	8,594.52	8,692.01	8,682.77	19.35	19.62	88.22	281.13	1,435.48	1,488.65	1,450.18	38.47	38.698	
8,700.00	8,694.52	8,791.80	8,782.36	19.57	19.85	88.11	283.79	1,429.66	1,482.91	1,443.99	38.91	38.107	
8,800.00	8,794.52	8,891.60	8,881.95	19.79	20.09	88.00	286.44	1,423.84	1,477.17	1,437.81	39.36	37.528	
8,900.00	8,894.52	8,991.39	8,981.54	20.01	20.33	87.89	289.09	1,418.02	1,471.44	1,431.63	39.81	36.962	
9,000.00	8,994.52	9,091.19	9,081.13	20.23	20.57	87.78	291.74	1,412.20	1,465.71	1,425.45	40.26	36.409	
9,100.00	9,094.52	9,190.98	9,180.72	20.45	20.81	87.66	294.39	1,406.38	1,459.99	1,419.28	40.70	35.868	
9,200.00	9,194.52	9,290.78	9,280.31	20.67	21.05	87.55	297.04	1,400.57	1,454.27	1,413.12	41.15	35.339	
9,300.00	9,294.52	9,390.57	9,379.90	20.89	21.29	87.44	299.69	1,394.75	1,448.56	1,406.96	41.60	34.821	
9,400.00	9,394.52	9,490.36	9,479.49	21.11	21.53	87.32	302.34	1,388.93	1,442.85	1,400.80	42.05	34.314	
9,500.00	9,494.52	9,590.16	9,579.08	21.33	21.77	87.20	304.99	1,383.11	1,437.15	1,394.66	42.50	33.817	
9,600.00	9,594.52	9,689.95	9,678.67	21.55	22.01	87.09	307.65	1,377.29	1,431.46	1,388.51	42.95	33.331	
9,700.00	9,694.52	9,789.75	9,778.26	21.77	22.25	86.97	310.30	1,371.48	1,425.77	1,382.38	43.40	32.855	
9,800.00	9,794.18	9,889.03	9,877.33	21.94	22.49	-93.80	312.93	1,365.69	1,420.48	1,376.69	43.79	32.436	
9,900.00	9,891.19	9,985.21	9,973.31	22.06	22.72	-95.22	315.49	1,360.08	1,416.62	1,372.49	44.13	32.099	
9,991.66	9,975.26	10,068.14	10,056.08	22.14	22.92	-96.77	317.69	1,355.25	1,415.23	1,370.82	44.41	31.867 CC	
10,000.00	9,982.61	10,075.36	10,063.29	22.14	22.94	-96.92	317.88	1,354.82	1,415.24	1,370.81	44.44	31.850 ES	
10,100.00	10,065.65	10,156.76	10,144.51	22.23	23.13	-98.56	320.05	1,350.08	1,417.79	1,373.07	44.72	31.707	
10,200.00	10,137.80	10,226.92	10,214.53	22.31	23.30	-99.77	321.91	1,345.99	1,425.87	1,380.87	44.99	31.691 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 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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

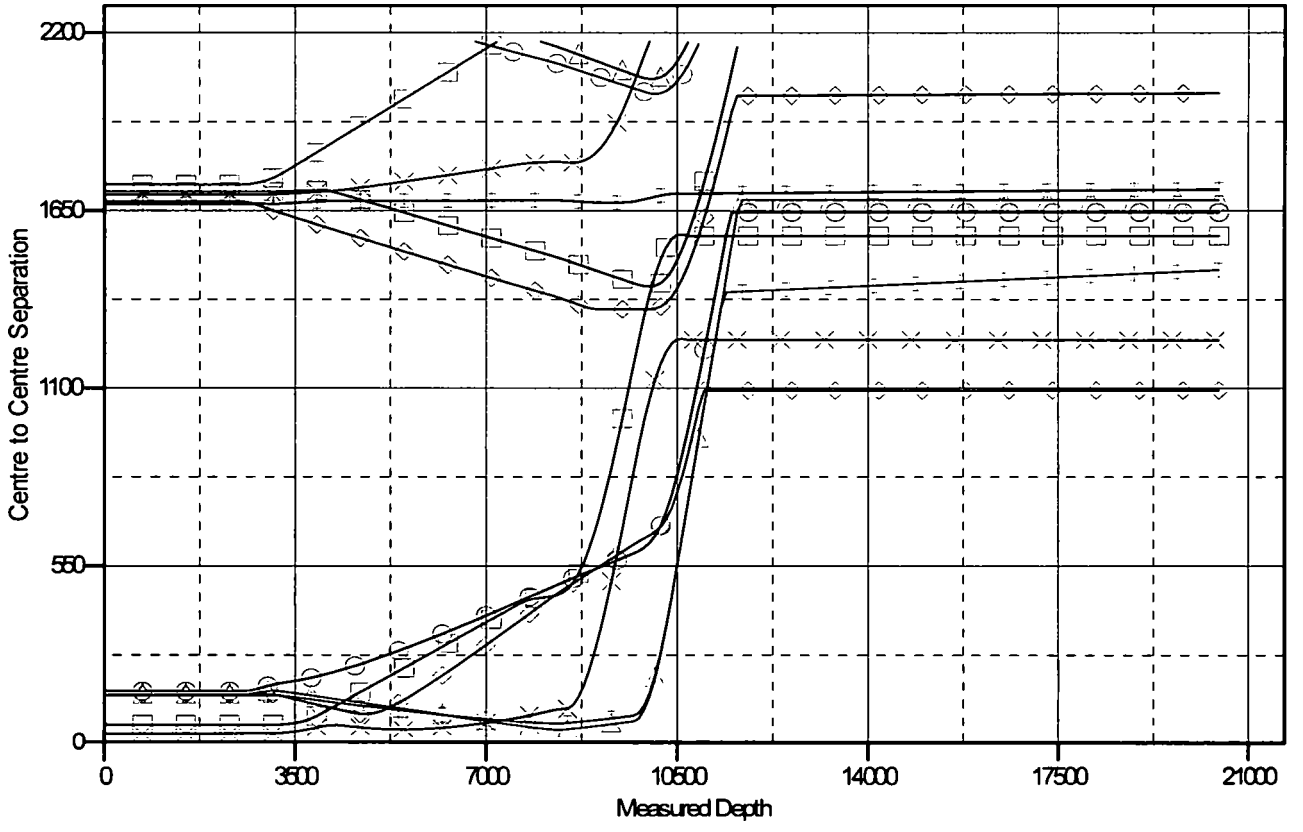
Survey Program: 0-LEAM MWD+HDGM — Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,300.00	10,196.86	10,283.71	10,271.20	22.40	23.44	-100.14	323.42	1,342.68	1,440.91	1,395.63	45.28	31.820	
10,400.00	10,241.03	10,325.41	10,312.82	22.59	23.54	-99.34	324.53	1,340.25	1,463.91	1,418.31	45.59	32.107	
10,500.00	10,268.98	10,350.75	10,338.10	22.87	23.60	-97.07	325.20	1,338.77	1,495.11	1,449.18	45.93	32.555	
10,600.00	10,279.86	10,358.96	10,346.30	23.24	23.62	-93.21	325.42	1,338.29	1,533.92	1,487.66	46.26	33.159	
10,700.00	10,280.00	10,356.43	10,343.77	23.70	23.62	-92.52	325.35	1,338.44	1,578.82	1,532.22	46.60	33.879	
10,800.00	10,280.00	10,353.77	10,341.11	24.26	23.61	-92.41	325.28	1,338.59	1,628.64	1,581.66	46.97	34.671	
10,900.00	10,280.00	10,351.10	10,338.46	24.91	23.60	-92.30	325.21	1,338.75	1,682.92	1,635.55	47.36	35.531	
11,000.00	10,280.00	10,348.44	10,335.80	25.65	23.60	-92.19	325.14	1,338.90	1,741.25	1,693.49	47.76	36.458	
11,100.00	10,280.00	10,345.77	10,333.14	26.47	23.59	-92.08	325.07	1,339.06	1,803.24	1,755.09	48.15	37.448	
11,200.00	10,280.00	10,343.11	10,330.48	27.37	23.58	-91.97	325.00	1,339.21	1,868.53	1,820.00	48.54	38.498	
11,300.00	10,280.00	10,340.44	10,327.82	28.33	23.58	-91.86	324.93	1,339.37	1,936.78	1,887.87	48.90	39.604	
11,400.00	10,280.00	10,337.78	10,325.16	29.35	23.57	-91.75	324.86	1,339.53	2,007.68	1,958.43	49.25	40.761	
11,500.00	10,280.00	10,335.11	10,322.50	30.43	23.56	-91.64	324.78	1,339.68	2,080.98	2,031.39	49.59	41.966	
11,600.00	10,280.00	10,332.45	10,319.84	31.55	23.56	-91.53	324.71	1,339.84	2,156.42	2,106.51	49.90	43.213	

Company:	Devon Energy	**Local Co-ordinate Reference:**	Well Lusitano 27-34 Fed Com 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 3333.8' GE + 23.5' KB @ 3357.30usft	Coordinates are relative to: Lusitano 27-34 Fed Com 233H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Central Meridian is -104.33333334	Grid Convergence at Surface is: 0.30°

Ladder Plot

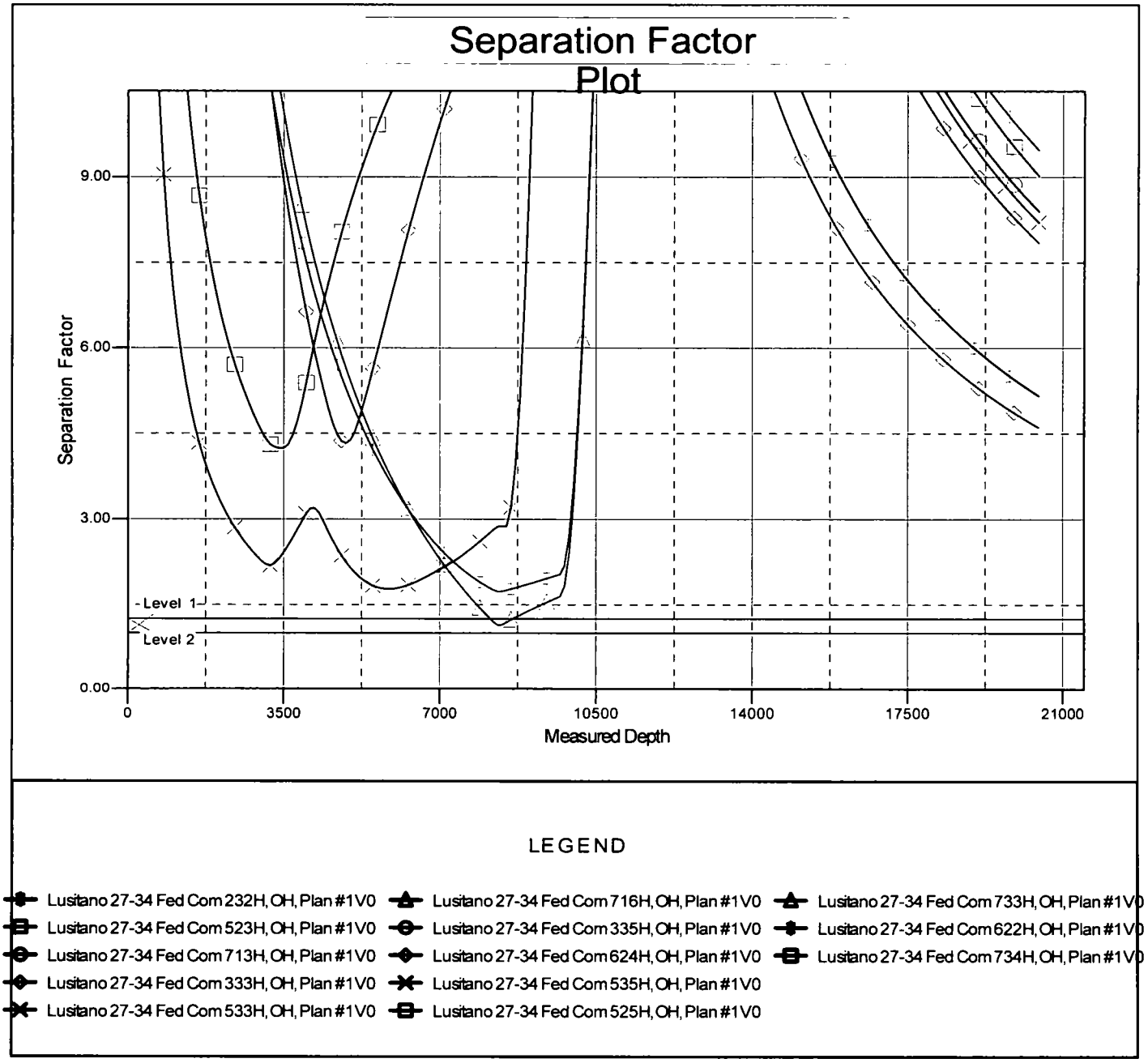


LEGEND

- Lusitano 27-34 Fed Com 232H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 716H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 733H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 523H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 335H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 622H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 713H, 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 333H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 535H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 533H, OH, Plan #1V0
- Lusitano 27-34 Fed Com 525H, OH, Plan #1V0

Company:	Devon Energy	**Local Co-ordinate Reference:**	Well Lusitano 27-34 Fed Com 233H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Reference Site:	Lusitano	**MD Reference:**	3333.8' GE + 23.5' KB @ 3357.30usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lusitano 27-34 Fed Com 233H	**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 3333.8' GE + 23.5' KB @ 3357.30usft	Coordinates are relative to: Lusitano 27-34 Fed Com 233H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Central Meridian is -104.33333334	Grid Convergence at Surface is: 0.30°



COMPANY Devon Energy
FIELD Eddy County, NM (NAD-83)
SITE Lusitano
WELL Lusitano 27-34 Fed Com 233H
WELLPATH OH
DESIGN Plan #1
DEPTHUNT (usft)

WELL INFO
MAP DATUM North American Datum 1983
MAP SYSTEM US State Plane 1983
MAP ZONE New Mexico Eastern Zone
WELL LAT 32.107493
WELL LON -103.768991
WELL EW MAI 716073.82
WELL NS MAP 403299.65
CONVERGENC 0.3
MAGMODEL HDGM
DECLINATION 6.77
NORTH REF Grid
GROUND ELE\ 3333.8
KB ELEVN 3357.3
VS AZI 180.2

SURVEY PROGRAM
1 0.00 - 20461.36 PLAN #1 : LEAM MWD+HDGM

SURVEY LIST

Measured De	Inclination	Azimuth	Course Length	True Vertical I	SubSea TVD	Local N/-S	Local E/-W	Easting	Northing	Latitude	Longitude	Dogleg Severi	Build Rate	Turn Rate	Vertical Section
MD	INC	AZI	CL	TVD	SSTVD	NS	EW	X	Y	LAT	LON	DLS	BLD	TRN	VS
0.00	0.00	0.00	0.00	0.00	3357.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
30.00	0.00	0.00	30.00	30.00	3327.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
60.00	0.00	0.00	30.00	60.00	3297.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
90.00	0.00	0.00	30.00	90.00	3267.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
120.00	0.00	0.00	30.00	120.00	3237.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
150.00	0.00	0.00	30.00	150.00	3207.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
180.00	0.00	0.00	30.00	180.00	3177.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
210.00	0.00	0.00	30.00	210.00	3147.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
240.00	0.00	0.00	30.00	240.00	3117.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
270.00	0.00	0.00	30.00	270.00	3087.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
300.00	0.00	0.00	30.00	300.00	3057.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
330.00	0.00	0.00	30.00	330.00	3027.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
360.00	0.00	0.00	30.00	360.00	2997.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
390.00	0.00	0.00	30.00	390.00	2967.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
420.00	0.00	0.00	30.00	420.00	2937.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
450.00	0.00	0.00	30.00	450.00	2907.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
480.00	0.00	0.00	30.00	480.00	2877.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
510.00	0.00	0.00	30.00	510.00	2847.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
540.00	0.00	0.00	30.00	540.00	2817.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
570.00	0.00	0.00	30.00	570.00	2787.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
600.00	0.00	0.00	30.00	600.00	2757.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
630.00	0.00	0.00	30.00	630.00	2727.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
660.00	0.00	0.00	30.00	660.00	2697.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
690.00	0.00	0.00	30.00	690.00	2667.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
720.00	0.00	0.00	30.00	720.00	2637.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
750.00	0.00	0.00	30.00	750.00	2607.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
780.00	0.00	0.00	30.00	780.00	2577.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
810.00	0.00	0.00	30.00	810.00	2547.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
840.00	0.00	0.00	30.00	840.00	2517.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
870.00	0.00	0.00	30.00	870.00	2487.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
900.00	0.00	0.00	30.00	900.00	2457.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
930.00	0.00	0.00	30.00	930.00	2427.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
960.00	0.00	0.00	30.00	960.00	2397.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
990.00	0.00	0.00	30.00	990.00	2367.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1020.00	0.00	0.00	30.00	1020.00	2337.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1050.00	0.00	0.00	30.00	1050.00	2307.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1080.00	0.00	0.00	30.00	1080.00	2277.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1110.00	0.00	0.00	30.00	1110.00	2247.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1140.00	0.00	0.00	30.00	1140.00	2217.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1170.00	0.00	0.00	30.00	1170.00	2187.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1200.00	0.00	0.00	30.00	1200.00	2157.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1230.00	0.00	0.00	30.00	1230.00	2127.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1260.00	0.00	0.00	30.00	1260.00	2097.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1290.00	0.00	0.00	30.00	1290.00	2067.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1320.00	0.00	0.00	30.00	1320.00	2037.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1350.00	0.00	0.00	30.00	1350.00	2007.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1380.00	0.00	0.00	30.00	1380.00	1977.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1410.00	0.00	0.00	30.00	1410.00	1947.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1440.00	0.00	0.00	30.00	1440.00	1917.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1470.00	0.00	0.00	30.00	1470.00	1887.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1500.00	0.00	0.00	30.00	1500.00	1857.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1530.00	0.00	0.00	30.00	1530.00	1827.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1560.00	0.00	0.00	30.00	1560.00	1797.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1590.00	0.00	0.00	30.00	1590.00	1767.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1620.00	0.00	0.00	30.00	1620.00	1737.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1650.00	0.00	0.00	30.00	1650.00	1707.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1680.00	0.00	0.00	30.00	1680.00	1677.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1710.00	0.00	0.00	30.00	1710.00	1647.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1740.00	0.00	0.00	30.00	1740.00	1617.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1770.00	0.00	0.00	30.00	1770.00	1587.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1800.00	0.00	0.00	30.00	1800.00	1557.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1830.00	0.00	0.00	30.00	1830.00	1527.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1860.00	0.00	0.00	30.00	1860.00	1497.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1890.00	0.00	0.00	30.00	1890.00	1467.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1920.00	0.00	0.00	30.00	1920.00	1437.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1950.00	0.00	0.00	30.00	1950.00	1407.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
1980.00	0.00	0.00	30.00	1980.00	1377.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2010.00	0.00	0.00	30.00	2010.00	1347.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2040.00	0.00	0.00	30.00	2040.00	1317.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00

2070.00	0.00	0.00	30.00	2070.00	1287.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2100.00	0.00	0.00	30.00	2100.00	1257.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2130.00	0.00	0.00	30.00	2130.00	1227.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2160.00	0.00	0.00	30.00	2160.00	1197.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2190.00	0.00	0.00	30.00	2190.00	1167.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2220.00	0.00	0.00	30.00	2220.00	1137.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2250.00	0.00	0.00	30.00	2250.00	1107.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2280.00	0.00	0.00	30.00	2280.00	1077.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2310.00	0.00	0.00	30.00	2310.00	1047.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2340.00	0.00	0.00	30.00	2340.00	1017.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2370.00	0.00	0.00	30.00	2370.00	987.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2400.00	0.00	0.00	30.00	2400.00	957.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2430.00	0.00	0.00	30.00	2430.00	927.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2460.00	0.00	0.00	30.00	2460.00	897.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2490.00	0.00	0.00	30.00	2490.00	867.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2520.00	0.00	0.00	30.00	2520.00	837.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2550.00	0.00	0.00	30.00	2550.00	807.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2580.00	0.00	0.00	30.00	2580.00	777.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2610.00	0.00	0.00	30.00	2610.00	747.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2640.00	0.00	0.00	30.00	2640.00	717.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2670.00	0.00	0.00	30.00	2670.00	687.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2700.00	0.00	0.00	30.00	2700.00	657.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2730.00	0.00	0.00	30.00	2730.00	627.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2760.00	0.00	0.00	30.00	2760.00	597.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2790.00	0.00	0.00	30.00	2790.00	567.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2820.00	0.00	0.00	30.00	2820.00	537.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2850.00	0.00	0.00	30.00	2850.00	507.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2880.00	0.00	0.00	30.00	2880.00	477.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2910.00	0.00	0.00	30.00	2910.00	447.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2940.00	0.00	0.00	30.00	2940.00	417.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
2970.00	0.00	0.00	30.00	2970.00	387.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
3000.00	0.00	0.00	30.00	3000.00	357.30	0.00	0.00	716073.82	403299.65	32.107493	-103.768991	0.00	0.00	0.00	0.00
3030.00	0.30	347.99	30.00	3030.00	327.30	0.08	-0.02	716073.80	403299.73	32.107493	-103.768991	1.00	1.00	0.00	-0.08
3060.00	0.60	347.99	30.00	3060.00	297.30	0.31	-0.07	716073.76	403299.96	32.107493	-103.768991	1.00	1.00	0.00	-0.31
3090.00	0.90	347.99	30.00	3090.00	267.30	0.69	-0.15	716073.67	403300.34	32.107495	-103.768991	1.00	1.00	0.00	-0.69
3120.00	1.20	347.99	30.00	3119.99	237.31	1.23	-0.26	716073.56	403300.88	32.107496	-103.768992	1.00	1.00	0.00	-1.23
3150.00	1.50	347.99	30.00	3149.98	207.32	1.92	-0.41	716073.41	403301.57	32.107498	-103.768992	1.00	1.00	0.00	-1.92
3180.00	1.80	347.99	30.00	3179.97	177.33	2.77	-0.59	716073.23	403302.42	32.107500	-103.768993	1.00	1.00	0.00	-2.76
3210.00	2.10	347.99	30.00	3209.95	147.35	3.76	-0.80	716073.02	403303.41	32.107503	-103.768993	1.00	1.00	0.00	-3.76
3240.00	2.40	347.99	30.00	3239.93	117.37	4.92	-1.05	716072.77	403304.57	32.107506	-103.768994	1.00	1.00	0.00	-4.91
3270.00	2.65	347.99	30.00	3269.90	87.40	6.22	-1.32	716072.50	403305.87	32.107510	-103.768995	0.84	0.84	0.00	-6.22
3300.00	2.65	347.99	30.00	3299.87	57.43	7.58	-1.61	716072.21	403307.23	32.107513	-103.768996	0.00	0.00	0.00	-7.57
3330.00	2.65	347.99	30.00	3329.84	27.46	8.94	-1.90	716071.92	403308.59	32.107517	-103.768997	0.00	0.00	0.00	-8.93
3360.00	2.65	347.99	30.00	3359.80	-2.50	10.29	-2.19	716071.63	403309.94	32.107521	-103.768998	0.00	0.00	0.00	-10.29
3390.00	2.65	347.99	30.00	3389.77	-32.47	11.65	-2.48	716071.34	403311.30	32.107525	-103.768998	0.00	0.00	0.00	-11.64
3420.00	2.65	347.99	30.00	3419.74	-62.44	13.01	-2.77	716071.05	403312.66	32.107528	-103.768999	0.00	0.00	0.00	-13.00
3450.00	2.65	347.99	30.00	3449.71	-92.41	14.37	-3.06	716070.76	403314.02	32.107532	-103.769000	0.00	0.00	0.00	-14.36
3480.00	2.65	347.99	30.00	3479.68	-122.38	15.73	-3.35	716070.47	403315.38	32.107536	-103.769001	0.00	0.00	0.00	-15.71
3510.00	2.65	347.99	30.00	3509.64	-152.34	17.08	-3.64	716070.19	403316.73	32.107540	-103.769002	0.00	0.00	0.00	-17.07
3540.00	2.65	347.99	30.00	3539.61	-182.31	18.44	-3.92	716069.90	403318.09	32.107543	-103.769003	0.00	0.00	0.00	-18.43
3570.00	2.65	347.99	30.00	3569.58	-212.28	19.80	-4.21	716069.61	403319.45	32.107547	-103.769004	0.00	0.00	0.00	-19.78
3600.00	2.65	347.99	30.00	3599.55	-242.25	21.16	-4.50	716069.32	403320.81	32.107551	-103.769005	0.00	0.00	0.00	-21.14
3630.00	2.65	347.99	30.00	3629.51	-272.21	22.52	-4.79	716069.03	403322.17	32.107555	-103.769006	0.00	0.00	0.00	-22.50
3660.00	2.65	347.99	30.00	3659.48	-302.18	23.87	-5.08	716068.74	403323.52	32.107558	-103.769007	0.00	0.00	0.00	-23.86
3690.00	2.65	347.99	30.00	3689.45	-332.15	25.23	-5.37	716068.45	403324.88	32.107562	-103.769008	0.00	0.00	0.00	-25.21
3720.00	2.65	347.99	30.00	3719.42	-362.12	26.59	-5.66	716068.16	403326.24	32.107566	-103.769009	0.00	0.00	0.00	-26.57
3750.00	2.65	347.99	30.00	3749.39	-392.09	27.95	-5.95	716067.87	403327.60	32.107570	-103.769009	0.00	0.00	0.00	-27.93
3780.00	2.65	347.99	30.00	3779.35	-422.05	29.31	-6.24	716067.59	403328.96	32.107573	-103.769010	0.00	0.00	0.00	-29.28
3810.00	2.65	347.99	30.00	3809.32	-452.02	30.66	-6.52	716067.30	403330.31	32.107577	-103.769011	0.00	0.00	0.00	-30.64
3840.00	2.65	347.99	30.00	3839.29	-481.99	32.02	-6.81	716067.01	403331.67	32.107581	-103.769012	0.00	0.00	0.00	-32.00
3870.00	2.65	347.99	30.00	3869.26	-511.96	33.38	-7.10	716066.72	403333.03	32.107584	-103.769013	0.00	0.00	0.00	-33.35
3900.00	2.65	347.99	30.00	3899.23	-541.93	34.74	-7.39	716066.43	403334.39	32.107588	-103.769014	0.00	0.00	0.00	-34.71
3930.00	2.65	347.99	30.00	3929.19	-571.89	36.10	-7.68	716066.14	403335.75	32.107592	-103.769015	0.00	0.00	0.00	-36.07
3960.00	2.65	347.99	30.00	3959.16	-601.86	37.45	-7.97	716065.85	403337.10	32.107596	-103.769016	0.00	0.00	0.00	-37.43
3990.00	2.65	347.99	30.00	3989.13	-631.83	38.81	-8.26	716065.56	403338.46	32.107599	-103.769017	0.00	0.00	0.00	-38.78
4020.00	2.65	347.99	30.00	4019.10	-661.80	40.17	-8.55	716065.27	403339.82	32.107603	-103.769018	0.00	0.00	0.00	-40.14
4050.00	2.65	347.99	30.00	4049.06	-691.76	41.53	-8.84	716064.98	403341.18	32.107607	-103.769019	0.00	0.00	0.00	-41.50
4080.00	2.65	347.99	30.00	4079.03	-721.73	42.89	-9.12	716064.70	403342.54	32.107611	-103.769019	0.00	0.00	0.00	-42.85
4110.00	2.65	347.99	30.00	4109.00	-751.70	44.24	-9.41	716064.41	403343.89	32.107614	-103.769020	0.00	0.00	0.00	-44.21
4140.00	2.65	347.99	30.00	4138.97	-781.67	45.60	-9.70	716064.12	403345.25	32.107618	-103.769021	0.00	0.00	0.00	-45.57
4170.00	2.65	347.99	30.00	4168.94	-811.64	46.96	-9.99	716063.83	403346.61	32.107622	-103.769022	0.00	0.00	0.00	-46.92
4200.00	2.65	347.99	30.00	4198.90	-841.60	48.32	-10.28	716063.54	403347.97	32.107626	-103.769023	0.00	0.00	0.00	-48.28
4230.00	2.65	347.99	30.00	4228.87	-871.57	49.68	-10.57	716063.25	403349.33	32.107629	-103.769024	0.00	0.00	0.00	-49.64
4260.00	2.65	347.99	30.00	4258.84	-901.54	51.03	-10.86	716062.96	403350.68	32.107633	-103.769025	0.00	0.00	0.00	-50.99
4290.00	2.65	347.99	30.00	4288.81	-931.51	52.39	-11.15	716062.67	403352.04	32.107637	-103.769026	0.00	0.00	0.00	-52.35
4320.00	2.65	347.99	30.00	4318.78	-961.48	53.75	-11.44	716062.38	403353.40	32.107641	-103.769027	0.00	0.00	0.00	-53.71
4350.00	2.65	347.99	30.00	4348.74	-991.44	55.11	-11.73	716062.10	403354.76	32.107644	-103.769028	0.00	0.00	0.00	-55.07
4380.00	2.65	347.99	30.00	4378.71	-1021.41	56.47	-12.01	716061.81	403356.12	32.107648	-103.769029	0.00	0.00	0.00	-56.42
4410.00	2.65	347.99	30.00	4408.68	-1051.38	57.82	-12.30	716061.52	403357.47	32.107652	-103.769029	0.00	0.00	0.00	-57.78
4440.00	2.65	347.99	30.00	4438.65	-1081.35	59.18	-12.59	716061.23	403358.83	32.107655	-103.769030	0.00	0.00	0.00	-59.14
4470.00	2.65	347.99	30.00	4468.61	-1111.31	60.54	-12.88	716060.94	403360.19	32.107659	-103.769031	0.00	0.00	0.00	-60.49
4500.00	2.65	347.99	30.00	4498.58	-1141.28	61.90	-13.17	716060.65	403361.55	32.107663	-103.769032	0.00	0.00	0.00	-61.85
4530.00	2.65	347.99	30.00	4528.55	-1171.25	63.26	-13.46	716060.36	403362.91	32.107667	-103.769033	0.00	0.00	0.00	-63.21
4560.00	2.65	347.99	30.00	4558.52	-1201.22	64.61	-13.75	716060.07	403364.26	32.107670	-103.769034	0.00	0.00	0.00	-64.56
4590.00	2.65	347.99	30.00	4588.49	-1231.19	65.97	-14.04	716059.78	403365.62	32.107674	-103.769035	0.00	0.00	0.00	-65.92
4620.00	2.65	347.99	30.00	4618.45	-1261.15	67.33	-14.33	716059.50	403366.98	32.107678	-103.769036	0.00	0.00	0.00	-67.28
4650.00	2.65	347.99	30.00	4648.42	-1291.12	68.69	-14.61	716059.21	403368.34	32.107682	-103.769037	0.00	0.00	0.00	-68.64
4680.00	2.65	347.99	30.00	4678.39	-1321.09	70.05	-14.90	716058.92	403369.70	32.107685	-103.769038	0.00	0.00	0.00	-69.99
4710.00	2.65	347.99	30.00	4708.36	-1351.06	71.40	-15.19	716058.63	403371.05	32.107689	-103.769039	0.00	0.00	0.00	-71.35
4740.00	2.65	347.99	30.00	4738.33	-1381.03	72.76	-15.48	716058.34	403372.41	32.107693	-103.769039	0.00	0.00	0.00	-72.71
4770.00	2.65	347.99	30.00	4768.29	-1410.99	74.12	-15.77	716058.05	403373.77	32.107697	-103.769040	0.00	0.00	0.00	-74.06
4800.00	2.65	347.99	30.00	4798.26	-1440.96	75.48	-16.06	716057.76	403375.13	32.107700	-103.769041	0.00	0.00	0.00	-75.42
4830.00	2.65	347.99	30.00	4828.23	-1470.93	76.84	-16.35	716057.47	403376.49	32.107704	-103.769042	0.00	0.00	0.00	-76.78
4860.00	2.65	347.99	30.00	4858.20	-1500.90	78.19	-16.64	716057.18	403377.84	32.107708	-103.769043	0.00	0.00	0.00	-78.13
4890.00	2.65	347.99	30.00	4888.16	-1530.86	79.55	-16.93	716056.89	403379.20	32.107712	-103.769044	0.00	0.00	0.00	-79.49
4920.00	2.65	347.99	30.00	4918.13	-1560.83	80.91	-17.22	716056.61	403380.56	32.107715	-103.769045	0.00	0.00	0.00	-80.85
4950.00	2.65	347.99	30.00	4948.10	-1590.80	82.27	-17.50	716056.32	403381.92	32.107719	-103.769046	0.00	0.00	0.00	-82.20
4980.00	2.65	347.99	30.00	4978.07	-1620.77	83.63	-17.79	716056.03	403383.28	32.107723	-103.769047	0.00	0.00	0.00	-83.56
5010.00	2.65	347.99	30.00	5008.04	-1650.74	84.98	-18.08	716055.74	403384.63	32.107727	-103.769048	0.00	0.00	0.00	-84.92

5040.00	2.65	347.99	30.00	5038.00	-1680.70	86.34	-18.37	716055.45	403385.99	32.107730	-103.769049	0.00	0.00	0.00	-86.28
5070.00	2.65	347.99	30.00	5067.97	-1710.67	87.70	-18.66	716055.16	403387.35	32.107734	-103.769049	0.00	0.00	0.00	-87.63
5100.00	2.65	347.99	30.00	5097.94	-1740.64	89.06	-18.95	716054.87	403388.71	32.107738	-103.769050	0.00	0.00	0.00	-88.99
5130.00	2.65	347.99	30.00	5127.91	-1770.61	90.41	-19.24	716054.58	403390.06	32.107741	-103.769051	0.00	0.00	0.00	-90.35
5160.00	2.65	347.99	30.00	5157.88	-1800.58	91.77	-19.53	716054.29	403391.42	32.107745	-103.769052	0.00	0.00	0.00	-91.70
5190.00	2.65	347.99	30.00	5187.84	-1830.54	93.13	-19.82	716054.01	403392.78	32.107749	-103.769053	0.00	0.00	0.00	-93.06
5220.00	2.65	347.99	30.00	5217.81	-1860.51	94.49	-20.10	716053.72	403394.14	32.107753	-103.769054	0.00	0.00	0.00	-94.42
5250.00	2.65	347.99	30.00	5247.78	-1890.48	95.85	-20.39	716053.43	403395.50	32.107756	-103.769055	0.00	0.00	0.00	-95.77
5280.00	2.65	347.99	30.00	5277.75	-1920.45	97.20	-20.68	716053.14	403396.85	32.107760	-103.769056	0.00	0.00	0.00	-97.13
5310.00	2.65	347.99	30.00	5307.71	-1950.41	98.56	-20.97	716052.85	403398.21	32.107764	-103.769057	0.00	0.00	0.00	-98.49
5340.00	2.65	347.99	30.00	5337.68	-1980.38	99.92	-21.26	716052.56	403399.57	32.107768	-103.769058	0.00	0.00	0.00	-99.85
5370.00	2.65	347.99	30.00	5367.65	-2010.35	101.28	-21.55	716052.27	403400.93	32.107771	-103.769059	0.00	0.00	0.00	-101.20
5400.00	2.65	347.99	30.00	5397.62	-2040.32	102.64	-21.84	716051.98	403402.29	32.107775	-103.769059	0.00	0.00	0.00	-102.56
5430.00	2.65	347.99	30.00	5427.59	-2070.29	103.99	-22.13	716051.69	403403.64	32.107779	-103.769060	0.00	0.00	0.00	-103.92
5460.00	2.65	347.99	30.00	5457.55	-2100.25	105.35	-22.42	716051.41	403405.00	32.107783	-103.769061	0.00	0.00	0.00	-105.27
5490.00	2.65	347.99	30.00	5487.52	-2130.22	106.71	-22.70	716051.12	403406.36	32.107786	-103.769062	0.00	0.00	0.00	-106.63
5520.00	2.65	347.99	30.00	5517.49	-2160.19	108.07	-22.99	716050.83	403407.72	32.107790	-103.769063	0.00	0.00	0.00	-107.99
5550.00	2.65	347.99	30.00	5547.46	-2190.16	109.43	-23.28	716050.54	403409.08	32.107794	-103.769064	0.00	0.00	0.00	-109.34
5580.00	2.65	347.99	30.00	5577.43	-2220.13	110.78	-23.57	716050.25	403410.43	32.107798	-103.769065	0.00	0.00	0.00	-110.70
5610.00	2.65	347.99	30.00	5607.39	-2250.09	112.14	-23.86	716049.96	403411.79	32.107801	-103.769066	0.00	0.00	0.00	-112.06
5640.00	2.65	347.99	30.00	5637.36	-2280.06	113.50	-24.15	716049.67	403413.15	32.107805	-103.769067	0.00	0.00	0.00	-113.41
5670.00	2.65	347.99	30.00	5667.33	-2310.03	114.86	-24.44	716049.38	403414.51	32.107809	-103.769068	0.00	0.00	0.00	-114.77
5700.00	2.65	347.99	30.00	5697.30	-2340.00	116.22	-24.73	716049.09	403415.87	32.107812	-103.769069	0.00	0.00	0.00	-116.13
5730.00	2.65	347.99	30.00	5727.26	-2369.96	117.57	-25.02	716048.80	403417.22	32.107816	-103.769069	0.00	0.00	0.00	-117.49
5760.00	2.65	347.99	30.00	5757.23	-2399.93	118.93	-25.31	716048.52	403418.58	32.107820	-103.769070	0.00	0.00	0.00	-118.84
5790.00	2.65	347.99	30.00	5787.20	-2429.90	120.29	-25.59	716048.23	403419.94	32.107824	-103.769071	0.00	0.00	0.00	-120.20
5820.00	2.65	347.99	30.00	5817.17	-2459.87	121.65	-25.88	716047.94	403421.30	32.107827	-103.769072	0.00	0.00	0.00	-121.56
5850.00	2.65	347.99	30.00	5847.14	-2489.84	123.01	-26.17	716047.65	403422.66	32.107831	-103.769073	0.00	0.00	0.00	-122.91
5880.00	2.65	347.99	30.00	5877.10	-2519.80	124.36	-26.46	716047.36	403424.01	32.107835	-103.769074	0.00	0.00	0.00	-124.27
5910.00	2.65	347.99	30.00	5907.07	-2549.77	125.72	-26.75	716047.07	403425.37	32.107839	-103.769075	0.00	0.00	0.00	-125.63
5940.00	2.65	347.99	30.00	5937.04	-2579.74	127.08	-27.04	716046.78	403426.73	32.107842	-103.769076	0.00	0.00	0.00	-126.98
5970.00	2.65	347.99	30.00	5967.01	-2609.71	128.44	-27.33	716046.49	403428.09	32.107846	-103.769077	0.00	0.00	0.00	-128.34
6000.00	2.65	347.99	30.00	5996.98	-2639.68	129.80	-27.62	716046.20	403429.45	32.107850	-103.769078	0.00	0.00	0.00	-129.70
6030.00	2.65	347.99	30.00	6026.94	-2669.64	131.15	-27.91	716045.92	403430.80	32.107854	-103.769079	0.00	0.00	0.00	-131.06
6060.00	2.65	347.99	30.00	6056.91	-2699.61	132.51	-28.19	716045.63	403432.16	32.107857	-103.769080	0.00	0.00	0.00	-132.41
6090.00	2.65	347.99	30.00	6086.88	-2729.58	133.87	-28.48	716045.34	403433.52	32.107861	-103.769080	0.00	0.00	0.00	-133.77
6120.00	2.65	347.99	30.00	6116.85	-2759.55	135.23	-28.77	716045.05	403434.88	32.107865	-103.769081	0.00	0.00	0.00	-135.13
6150.00	2.65	347.99	30.00	6146.81	-2789.51	136.59	-29.06	716044.76	403436.24	32.107869	-103.769082	0.00	0.00	0.00	-136.48
6180.00	2.65	347.99	30.00	6176.78	-2819.48	137.94	-29.35	716044.47	403437.59	32.107872	-103.769083	0.00	0.00	0.00	-137.84
6210.00	2.65	347.99	30.00	6206.75	-2849.45	139.30	-29.64	716044.18	403438.95	32.107876	-103.769084	0.00	0.00	0.00	-139.20
6240.00	2.65	347.99	30.00	6236.72	-2879.42	140.66	-29.93	716043.89	403440.31	32.107880	-103.769085	0.00	0.00	0.00	-140.55
6270.00	2.65	347.99	30.00	6266.69	-2909.39	142.02	-30.22	716043.60	403441.67	32.107883	-103.769086	0.00	0.00	0.00	-141.91
6300.00	2.65	347.99	30.00	6296.65	-2939.35	143.38	-30.51	716043.32	403443.03	32.107887	-103.769087	0.00	0.00	0.00	-143.27
6330.00	2.65	347.99	30.00	6326.62	-2969.32	144.73	-30.79	716043.03	403444.38	32.107891	-103.769088	0.00	0.00	0.00	-144.62
6360.00	2.65	347.99	30.00	6356.59	-2999.29	146.09	-31.08	716042.74	403445.74	32.107895	-103.769089	0.00	0.00	0.00	-145.98
6390.00	2.65	347.99	30.00	6386.56	-3029.26	147.45	-31.37	716042.45	403447.10	32.107898	-103.769090	0.00	0.00	0.00	-147.34
6420.00	2.65	347.99	30.00	6416.53	-3059.23	148.81	-31.66	716042.16	403448.46	32.107902	-103.769090	0.00	0.00	0.00	-148.70
6450.00	2.65	347.99	30.00	6446.49	-3089.19	150.17	-31.95	716041.87	403449.82	32.107906	-103.769091	0.00	0.00	0.00	-150.05
6480.00	2.65	347.99	30.00	6476.46	-3119.16	151.52	-32.24	716041.58	403451.17	32.107910	-103.769092	0.00	0.00	0.00	-151.41
6510.00	2.65	347.99	30.00	6506.43	-3149.13	152.88	-32.53	716041.29	403452.53	32.107913	-103.769093	0.00	0.00	0.00	-152.77
6540.00	2.65	347.99	30.00	6536.40	-3179.10	154.24	-32.82	716041.00	403453.89	32.107917	-103.769094	0.00	0.00	0.00	-154.12
6570.00	2.65	347.99	30.00	6566.36	-3209.06	155.60	-33.11	716040.71	403455.25	32.107921	-103.769095	0.00	0.00	0.00	-155.48
6600.00	2.65	347.99	30.00	6596.33	-3239.03	156.96	-33.40	716040.43	403456.61	32.107925	-103.769096	0.00	0.00	0.00	-156.84
6630.00	2.65	347.99	30.00	6626.30	-3269.00	158.31	-33.68	716040.14	403457.96	32.107928	-103.769097	0.00	0.00	0.00	-158.19
6660.00	2.65	347.99	30.00	6656.27	-3298.97	159.67	-33.97	716039.85	403459.32	32.107932	-103.769098	0.00	0.00	0.00	-159.55
6690.00	2.65	347.99	30.00	6686.24	-3328.94	161.03	-34.26	716039.56	403460.68	32.107936	-103.769099	0.00	0.00	0.00	-160.91
6720.00	2.65	347.99	30.00	6716.20	-3358.90	162.39	-34.55	716039.27	403462.04	32.107940	-103.769100	0.00	0.00	0.00	-162.27
6750.00	2.65	347.99	30.00	6746.17	-3388.87	163.75	-34.84	716038.98	403463.40	32.107943	-103.769100	0.00	0.00	0.00	-163.62
6780.00	2.65	347.99	30.00	6776.14	-3418.84	165.10	-35.13	716038.69	403464.75	32.107947	-103.769101	0.00	0.00	0.00	-164.98
6810.00	2.65	347.99	30.00	6806.11	-3448.81	166.46	-35.42	716038.40	403466.11	32.107951	-103.769102	0.00	0.00	0.00	-166.34
6840.00	2.65	347.99	30.00	6836.08	-3478.78	167.82	-35.71	716038.11	403467.47	32.107954	-103.769103	0.00	0.00	0.00	-167.69
6870.00	2.65	347.99	30.00	6866.04	-3508.74	169.18	-36.00	716037.83	403468.83	32.107958	-103.769104	0.00	0.00	0.00	-169.05
6900.00	2.65	347.99	30.00	6896.01	-3538.71	170.54	-36.28	716037.54	403470.19	32.107962	-103.769105	0.00	0.00	0.00	-170.41
6930.00	2.65	347.99	30.00	6925.98	-3568.68	171.89	-36.57	716037.25	403471.54	32.107966	-103.769106	0.00	0.00	0.00	-171.76
6960.00	2.65	347.99	30.00	6955.95	-3598.65	173.25	-36.86	716036.96	403472.90	32.107969	-103.769107	0.00	0.00	0.00	-173.12
6990.00	2.65	347.99	30.00	6985.91	-3628.61	174.61	-37.15	716036.67	403474.26	32.107973	-103.769108	0.00	0.00	0.00	-174.48
7020.00	2.65	347.99	30.00	7015.88	-3658.58	175.97	-37.44	716036.38	403475.62	32.107977	-103.769109	0.00	0.00	0.00	-175.84
7050.00	2.65	347.99	30.00	7045.85	-3688.55	177.33	-37.73	716036.09	403476.98	32.107981	-103.769110	0.00	0.00	0.00	-177.19
7080.00	2.65	347.99	30.00	7075.82	-3718.52	178.68	-38.02	716035.80	403478.33	32.107984	-103.769110	0.00	0.00	0.00	-178.55
7110.00	2.65	347.99	30.00	7105.79	-3748.49	180.04	-38.31	716035.51	403479.69	32.107988	-103.769111	0.00	0.00	0.00	-179.91
7140.00	2.65	347.99	30.00	7135.75	-3778.45	181.40	-38.60	716035.22	403481.05	32.107992	-103.769112	0.00	0.00	0.00	-181.26
7170.00	2.65	347.99	30.00	7165.72	-3808.42	182.76	-38.89	716034.94	403482.41	32.107996	-103.769113	0.00	0.00	0.00	-182.62
7200.00	2.65	347.99	30.00	7195.69	-3838.39	184.12	-39.17	716034.65	403483.77	32.107999	-103.769114	0.00	0.00	0.00	-183.98
7230.00	2.65	347.99	30.00	7225.66	-3868.36	185.47	-39.46	716034.36	403485.12	32.108003	-103.769115	0.00	0.00	0.00	-185.33
7260.00	2.65	347.99	30.00	7255.63	-3898.33	186.83	-39.75	716034.07	403486.48	32.108007	-103.769116	0.00	0.00	0.00	-186.69
7290.00	2.65	347.99	30.00	7285.59	-3928.29	188.19	-40.04	716033.78	403487.84	32.108011	-103.769117	0.00	0.00	0.00	-188.05
7320.00	2.65	347.99	30.00	7315.56	-3958.26	189.55	-40.33	716033.49	403489.20	32.108014	-103.769118	0.00	0.00	0.00	-189.40
7350.00	2.65	347.99	30.00	7345.53	-3988.23	190.91	-40.62	716033.20	403490.56	32.108018	-103.769119	0.00	0.00	0.00	-190.76
7380.00	2.65	347.99	30.00	7375.50	-4018.20	192.26	-40.91	716032.91	403491.91	32.108022	-103.769120	0.00	0.00	0.00	-192.12
7410.00	2.65	347.99	30.00	7405.46	-4048.16	193.62	-41.20	716032.62	403493.27	32.108025	-103.769120	0.00	0.00	0.00	-193.48
7440.00	2.65	347.99	30.00	7435.43	-4078.13	194.98	-41.49	716032.34	403494.63	32.108029	-103.769121	0.00	0.00	0.00	-194.83
7470.00	2.65	347.99	30.00	7465.40	-4108.10	196.34	-41.77	716032.05	403495.99	32.108033	-103.769122	0.00	0.00	0.00	-196.19
7500.00	2.65	347.99	30.00	7495.37	-4138.07	197.70	-42.06	716031.76	403497.35	32.108037	-103.769123	0.00	0.00	0.00	-197.55
7530.00	2.65	347.99	30.00	7525.34	-4168.04	199.05	-42.35	716031.47	403498.70	32.108040	-103.769124	0.00	0.00	0.00	-198.90
7560.00	2.65	347.99	30.00	7555.30	-4198.00	200.41	-42.64	716031.18	403500.06	32.108044	-103.769125	0.00	0.00	0.00	-200.26
7590.00	2.65	347.99	30.00	7585.27	-4227.97	201.77	-42.93	716030.89	403501.42	32.108048	-103.769126	0.00	0.00	0.00	-201.62
7620.00	2.65	347.99	30.00	7615.24	-4257.94	203.13	-43.22	716030.60	403502.78	32.108052	-103.769127	0.00	0.00	0.00	-202.97
7650.00	2.65	347.99	30.00	7645.21	-4287.91	204.49	-43.51	716030.31	403504.14	32.108055	-103.769128	0.00	0.00	0.00	-204.33
7680.00	2.65	347.99	30.00	7675.18	-4317.88	205.84	-43.80	716030.02	403505.49	32.108059	-103.769129	0.00	0.00	0.00	-205.69
7710.00	2.65	347.99	30.00	7705.14	-4347.84	207.20	-44.09	716029.74	403506.85	32.108063	-103.769130	0.00	0.00	0.00	-207.05
7740.00	2.65	347.99	30.00	7735.11	-4377.81	208.56	-44.37	716029.45	403508.21	32.108067	-103.769130	0.00	0.00	0.00	-208.40
7770.00	2.65	347.99	30.00	7765.08	-4407.78	209.92	-44.66	716029.16	403509.57	32.108070	-103.769131	0.00	0.00	0.00	-209.76
7800.00	2.65	347.99	30.00	7795.05	-4437.75	211.28	-44.95	716028.87	403510.93	32.108074	-103.769132	0.00	0.00	0.00	-211.12
7830.00	2.65	347.99	30.00	7825.01	-4467.71	212.63	-45.24	716028.58	403512.28	32.108078	-103.769133	0.00	0.00	0.00	-212.47
7860.00	2.65	347.99	30.00	7854.98	-4497.68	213.99	-45.53	716028.29	403513.64	32.108082	-103.769134	0.00	0.00	0.00	-213.83
7890.00	2.65	347.99	30.00	7884.95	-4527.65	215.35	-45.82	716028.00	403515.00	32.108085	-103.769135	0.00	0.00	0.00	-215.19
7920.00	2.65	347.99	30.00	7914.92	-4557.62	216.71	-46.11	716027.71	403516.36	32.108089	-103.769136	0.00	0.00	0.00	-216.54
7950.00	2.65	347.99	30.00	7944.89	-4587.59	218.07	-46.40	716027.42	403517.72	32.108093	-103.769137	0.00	0.00	0.00	-217.90
7980.00	2.65	347.99	30.00	7974.85	-4617.55	219.42	-46.69	716027.13	403519.07	32.108096	-103.769138	0.00	0.00	0.00	-219.26

8010.00	2.65	347.99	30.00	8004.82	-4647.52	220.78	-46.98	716026.85	403520.43	32.108100	-103.769139	0.00	0.00	0.00	-220.61
8040.00	2.65	347.99	30.00	8034.79	-4677.49	222.14	-47.26	716026.56	403521.79	32.108104	-103.769140	0.00	0.00	0.00	-221.97
8070.00	2.65	347.99	30.00	8064.76	-4707.46	223.50	-47.55	716026.27	403523.15	32.108108	-103.769140	0.00	0.00	0.00	-223.33
8100.00	2.65	347.99	30.00	8094.73	-4737.43	224.86	-47.84	716025.98	403524.51	32.108111	-103.769141	0.00	0.00	0.00	-224.69
8130.00	2.65	347.99	30.00	8124.69	-4767.39	226.21	-48.13	716025.69	403525.86	32.108115	-103.769142	0.00	0.00	0.00	-226.04
8160.00	2.65	347.99	30.00	8154.66	-4797.36	227.57	-48.42	716025.40	403527.22	32.108119	-103.769143	0.00	0.00	0.00	-227.40
8190.00	2.65	347.99	30.00	8184.63	-4827.33	228.93	-48.71	716025.11	403528.58	32.108123	-103.769144	0.00	0.00	0.00	-228.76
8220.00	2.65	347.99	30.00	8214.60	-4857.30	230.29	-49.00	716024.82	403529.94	32.108126	-103.769145	0.00	0.00	0.00	-230.11
8250.00	2.44	347.99	30.00	8244.57	-4887.27	231.62	-49.28	716024.54	403531.27	32.108130	-103.769146	0.72	-0.72	0.00	-231.44
8280.00	1.99	347.99	30.00	8274.54	-4917.24	232.75	-49.52	716024.30	403532.40	32.108133	-103.769147	1.50	-1.50	0.00	-232.58
8310.00	1.54	347.99	30.00	8304.53	-4947.23	233.65	-49.71	716024.11	403533.30	32.108136	-103.769147	1.50	-1.50	0.00	-233.48
8340.00	1.09	347.99	30.00	8334.52	-4977.22	234.33	-49.86	716023.96	403533.98	32.108137	-103.769148	1.50	-1.50	0.00	-234.15
8370.00	0.64	347.99	30.00	8364.52	-5007.22	234.77	-49.95	716023.87	403534.42	32.108139	-103.769148	1.50	-1.50	0.00	-234.59
8400.00	0.19	347.99	30.00	8394.52	-5037.22	234.98	-50.00	716023.82	403534.63	32.108139	-103.769148	1.50	-1.50	0.00	-234.80
8430.00	0.00	0.00	30.00	8424.52	-5067.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.63	-0.63	0.00	-234.82
8460.00	0.00	0.00	30.00	8454.52	-5097.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
8490.00	0.00	0.00	30.00	8484.52	-5127.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
8520.00	0.00	0.00	30.00	8514.52	-5157.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
8550.00	0.00	0.00	30.00	8544.52	-5187.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
8580.00	0.00	0.00	30.00	8574.52	-5217.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
8610.00	0.00	0.00	30.00	8604.52	-5247.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
8640.00	0.00	0.00	30.00	8634.52	-5277.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
8670.00	0.00	0.00	30.00	8664.52	-5307.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
8700.00	0.00	0.00	30.00	8694.52	-5337.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
8730.00	0.00	0.00	30.00	8724.52	-5367.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
8760.00	0.00	0.00	30.00	8754.52	-5397.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
8790.00	0.00	0.00	30.00	8784.52	-5427.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
8820.00	0.00	0.00	30.00	8814.52	-5457.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
8850.00	0.00	0.00	30.00	8844.52	-5487.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
8880.00	0.00	0.00	30.00	8874.52	-5517.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
8910.00	0.00	0.00	30.00	8904.52	-5547.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
8940.00	0.00	0.00	30.00	8934.52	-5577.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
8970.00	0.00	0.00	30.00	8964.52	-5607.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9000.00	0.00	0.00	30.00	8994.52	-5637.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9030.00	0.00	0.00	30.00	9024.52	-5667.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9060.00	0.00	0.00	30.00	9054.52	-5697.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9090.00	0.00	0.00	30.00	9084.52	-5727.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9120.00	0.00	0.00	30.00	9114.52	-5757.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9150.00	0.00	0.00	30.00	9144.52	-5787.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9180.00	0.00	0.00	30.00	9174.52	-5817.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9210.00	0.00	0.00	30.00	9204.52	-5847.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9240.00	0.00	0.00	30.00	9234.52	-5877.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9270.00	0.00	0.00	30.00	9264.52	-5907.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9300.00	0.00	0.00	30.00	9294.52	-5937.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9330.00	0.00	0.00	30.00	9324.52	-5967.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9360.00	0.00	0.00	30.00	9354.52	-5997.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9390.00	0.00	0.00	30.00	9384.52	-6027.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9420.00	0.00	0.00	30.00	9414.52	-6057.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9450.00	0.00	0.00	30.00	9444.52	-6087.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9480.00	0.00	0.00	30.00	9474.52	-6117.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9510.00	0.00	0.00	30.00	9504.52	-6147.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9540.00	0.00	0.00	30.00	9534.52	-6177.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9570.00	0.00	0.00	30.00	9564.52	-6207.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9600.00	0.00	0.00	30.00	9594.52	-6237.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9630.00	0.00	0.00	30.00	9624.52	-6267.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9660.00	0.00	0.00	30.00	9654.52	-6297.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9690.00	0.00	0.00	30.00	9684.52	-6327.22	235.00	-50.00	716023.82	403534.65	32.108139	-103.769148	0.00	0.00	0.00	-234.82
9720.00	0.75	179.92	30.00	9714.52	-6357.22	234.95	-50.00	716023.82	403534.60	32.108139	-103.769148	2.49	2.49	0.00	-234.77
9750.00	3.75	179.92	30.00	9744.49	-6387.19	233.78	-50.00	716023.82	403533.43	32.108136	-103.769148	10.00	10.00	0.00	-233.60
9780.00	6.75	179.92	30.00	9774.36	-6417.06	231.03	-50.00	716023.83	403530.68	32.108128	-103.769148	10.00	10.00	0.00	-230.85
9810.00	9.75	179.92	30.00	9804.05	-6446.75	226.73	-49.99	716023.83	403526.38	32.108117	-103.769148	10.00	10.00	0.00	-226.55
9840.00	12.75	179.92	30.00	9833.47	-6476.17	220.88	-49.98	716023.84	403520.53	32.108101	-103.769148	10.00	10.00	0.00	-220.70
9870.00	15.75	179.92	30.00	9862.54	-6505.24	213.50	-49.97	716023.85	403513.15	32.108080	-103.769148	10.00	10.00	0.00	-213.32
9900.00	18.75	179.92	30.00	9891.19	-6533.89	204.60	-49.96	716023.86	403504.25	32.108056	-103.769149	10.00	10.00	0.00	-204.42
9930.00	21.75	179.92	30.00	9919.33	-6562.03	194.22	-49.95	716023.88	403493.87	32.108027	-103.769149	10.00	10.00	0.00	-194.04
9960.00	24.75	179.92	30.00	9946.89	-6589.59	182.38	-49.93	716023.89	403482.03	32.107995	-103.769149	10.00	10.00	0.00	-182.20
9990.00	27.75	179.92	30.00	9973.80	-6616.50	169.11	-49.91	716023.91	403468.76	32.107958	-103.769149	10.00	10.00	0.00	-168.94
10020.00	30.75	179.92	30.00	9999.97	-6642.67	154.46	-49.89	716023.93	403454.11	32.107918	-103.769149	10.00	10.00	0.00	-154.28
10050.00	33.75	179.92	30.00	10025.34	-6668.04	138.45	-49.87	716023.95	403438.10	32.107874	-103.769149	10.00	10.00	0.00	-138.28
10080.00	36.75	179.92	30.00	10049.84	-6692.54	121.14	-49.85	716023.97	403420.79	32.107826	-103.769150	10.00	10.00	0.00	-120.97
10110.00	39.75	179.92	30.00	10073.39	-6716.09	102.57	-49.82	716024.00	403402.22	32.107775	-103.769150	10.00	10.00	0.00	-102.40
10140.00	42.75	179.92	30.00	10095.95	-6738.65	82.79	-49.79	716024.03	403382.44	32.107721	-103.769150	10.00	10.00	0.00	-82.62
10170.00	45.75	179.92	30.00	10117.43	-6760.13	61.86	-49.77	716024.06	403361.51	32.107663	-103.769150	10.00	10.00	0.00	-61.69
10200.00	48.75	179.92	30.00	10137.80	-6780.50	39.84	-49.74	716024.09	403339.49	32.107603	-103.769151	10.00	10.00	0.00	-39.66
10230.00	51.75	179.92	30.00	10156.98	-6799.68	16.78	-49.70	716024.12	403316.43	32.107539	-103.769151	10.00	10.00	0.00	-16.60
10260.00	54.75	179.92	30.00	10174.93	-6817.63	-7.26	-49.67	716024.15	403292.39	32.107473	-103.769151	10.00	10.00	0.00	7.43
10290.00	57.75	179.92	30.00	10191.59	-6834.29	-32.20	-49.64	716024.18	403267.45	32.107405	-103.769152	10.00	10.00	0.00	32.37
10320.00	60.75	179.92	30.00	10206.93	-6849.63	-57.98	-49.60	716024.22	403241.67	32.107334	-103.769152	10.00	10.00	0.00	58.15
10350.00	63.75	179.92	30.00	10220.90	-6863.60	-84.52	-49.57	716024.25	403215.13	32.107261	-103.769152	10.00	10.00	0.00	84.70
10380.00	66.75	179.92	30.00	10233.46	-6876.16	-111.76	-49.53	716024.29	403187.89	32.107186	-103.769153	10.00	10.00	0.00	111.94
10410.00	69.75	179.92	30.00	10244.58	-6887.28	-139.63	-49.49	716024.33	403160.03	32.107110	-103.769153	10.00	10.00	0.00	139.80
10440.00	72.75	179.92	30.00	10254.22	-6896.92	-168.03	-49.45	716024.37	403131.62	32.107031	-103.769153	10.00	10.00	0.00	168.20
10470.00	75.75	179.92	30.00	10262.36	-6905.06	-196.90	-49.41	716024.41	403102.75	32.106952	-103.769154	10.00	10.00	0.00	197.07
10500.00	78.75	179.92	30.00	10268.98	-6911.68	-226.16	-49.38	716024.45	403073.49	32.106872	-103.769154	10.00	10.00	0.00	226.33
10530.00	81.75	179.92	30.00	10274.07	-6916.77	-255.72	-49.34	716024.49	403043.93	32.106790	-103.769154	10.00	10.00	0.00	255.89
10560.00	84.75	179.92	30.00	10277.59	-6920.29	-285.51	-49.29	716024.53	403014.14	32.106709	-103.769155	10.00	10.00	0.00	285.68
10590.00	87.75	179.92	30.00	10279.56	-6922.26	-315.44	-49.25	716024.57	402984.21	32.106626	-103.769155	10.00	10.00	0.00	315.61
10620.00	90.00	179.92	30.00	10280.00	-6922.70	-345.43	-49.21	716024.61	402954.22	32.106544	-103.769155	7.51	7.51	0.00	345.61
10650.00	90.00	179.92	30.00	10280.00	-6922.70	-375.43	-49.17	716024.65	402924.22	32.106461	-103.769156	0.00	0.00	0.00	375.60
10680.00	90.00	179.92	30.00	10280.00	-6922.70	-405.43	-49.13	716024.69	402894.22	32.106379	-103.769156	0.00	0.00	0.00	405.60
10710.00	90.00	179.92	30.00	10280.00	-6922.70	-435.43	-49.09	716024.73	402864.22	32.106296	-103.769157	0.00	0.00	0.00	435.60
10740.00	90.00	179.92	30.00	10280.00	-6922.70	-465.43	-49.05	716024.77	402834.22	32.106214	-103.769157	0.00	0.00	0.00	465.60
10770.00	90.00	179.92	30.00	10280.00	-6922.70	-495.43	-49.01	716024.81	402804.22	32.106131	-103.769157	0.00	0.00	0.00	495.60
10800.00	90.00	179.92	30.00	10280.00	-6922.70	-525.43	-48.97	716024.85	402774.22	32.106049	-103.769158	0.00	0.00	0.00	525.60
10830.00	90.00	179.92	30.00	10280.00	-6922.70	-555.43	-48.93	716024.89	402744.22	32.105967	-103.769158	0.00	0.00	0.00	555.60
10860.00	90.00	179.92	30.00	10280.00	-6922.70	-585.43	-48.89	716024.93	402714.22	32.105884	-103.769158	0.00	0.00	0.00	585.60
10890.00	90.00	179.92	30.00	10280.00	-6922.70	-615.43	-48.85	716024.97	402684.22	32.105802	-103.769159	0.00	0.00	0.00	615.60
10920.00	90.00	179.92	30.00	10280.00	-6922.70	-645.43	-48.81	716025.01	402654.22	32.105719	-103.769159	0.00	0.00	0.00	645.60
10950.00	90.00	179.92	30.00	10280.00	-6922.70	-675.43	-48.77	716025.05	402624.22	32.105637	-103.769160	0.00	0.00	0.00	675.60

10980.00	90.00	179.92	30.00	10280.00	-6922.70	-705.43	-48.73	716025.10	402594.22	32.105554	-103.769160	0.00	0.00	0.00	705.60
11010.00	90.00	179.92	30.00	10280.00	-6922.70	-735.43	-48.68	716025.14	402564.22	32.105472	-103.769160	0.00	0.00	0.00	735.60
11040.00	90.00	179.92	30.00	10280.00	-6922.70	-765.43	-48.64	716025.18	402534.22	32.105389	-103.769161	0.00	0.00	0.00	765.60
11070.00	90.00	179.92	30.00	10280.00	-6922.70	-795.43	-48.60	716025.22	402504.22	32.105307	-103.769161	0.00	0.00	0.00	795.60
11100.00	90.00	179.92	30.00	10280.00	-6922.70	-825.43	-48.56	716025.26	402474.22	32.105224	-103.769161	0.00	0.00	0.00	825.60
11130.00	90.00	179.92	30.00	10280.00	-6922.70	-855.43	-48.52	716025.30	402444.22	32.105142	-103.769162	0.00	0.00	0.00	855.60
11160.00	90.00	179.92	30.00	10280.00	-6922.70	-885.43	-48.48	716025.34	402414.22	32.105059	-103.769162	0.00	0.00	0.00	885.60
11190.00	90.00	179.92	30.00	10280.00	-6922.70	-915.43	-48.44	716025.38	402384.22	32.104977	-103.769163	0.00	0.00	0.00	915.60
11220.00	90.00	179.92	30.00	10280.00	-6922.70	-945.43	-48.40	716025.42	402354.22	32.104895	-103.769163	0.00	0.00	0.00	945.60
11250.00	90.00	179.92	30.00	10280.00	-6922.70	-975.43	-48.36	716025.46	402324.22	32.104812	-103.769163	0.00	0.00	0.00	975.60
11280.00	90.00	179.92	30.00	10280.00	-6922.70	-1005.43	-48.32	716025.50	402294.22	32.104730	-103.769164	0.00	0.00	0.00	1005.60
11310.00	90.00	179.92	30.00	10280.00	-6922.70	-1035.43	-48.28	716025.54	402264.22	32.104647	-103.769164	0.00	0.00	0.00	1035.60
11340.00	90.00	179.92	30.00	10280.00	-6922.70	-1065.43	-48.24	716025.58	402234.22	32.104565	-103.769164	0.00	0.00	0.00	1065.60
11370.00	90.00	179.92	30.00	10280.00	-6922.70	-1095.43	-48.20	716025.62	402204.22	32.104482	-103.769165	0.00	0.00	0.00	1095.60
11400.00	90.00	179.92	30.00	10280.00	-6922.70	-1125.43	-48.16	716025.66	402174.22	32.104400	-103.769165	0.00	0.00	0.00	1125.60
11430.00	90.00	179.92	30.00	10280.00	-6922.70	-1155.43	-48.12	716025.71	402144.22	32.104317	-103.769166	0.00	0.00	0.00	1155.60
11460.00	90.00	179.92	30.00	10280.00	-6922.70	-1185.43	-48.07	716025.75	402114.22	32.104235	-103.769166	0.00	0.00	0.00	1185.60
11490.00	90.00	179.92	30.00	10280.00	-6922.70	-1215.43	-48.03	716025.79	402084.22	32.104152	-103.769166	0.00	0.00	0.00	1215.59
11520.00	90.00	179.92	30.00	10280.00	-6922.70	-1245.43	-47.99	716025.83	402054.22	32.104070	-103.769167	0.00	0.00	0.00	1245.59
11550.00	90.00	179.92	30.00	10280.00	-6922.70	-1275.43	-47.95	716025.87	402024.22	32.103987	-103.769167	0.00	0.00	0.00	1275.59
11580.00	90.00	179.92	30.00	10280.00	-6922.70	-1305.43	-47.91	716025.91	401994.22	32.103905	-103.769167	0.00	0.00	0.00	1305.59
11610.00	90.00	179.92	30.00	10280.00	-6922.70	-1335.43	-47.87	716025.95	401964.22	32.103822	-103.769168	0.00	0.00	0.00	1335.59
11640.00	90.00	179.92	30.00	10280.00	-6922.70	-1365.43	-47.83	716025.99	401934.22	32.103740	-103.769168	0.00	0.00	0.00	1365.59
11670.00	90.00	179.92	30.00	10280.00	-6922.70	-1395.43	-47.79	716026.03	401904.22	32.103658	-103.769169	0.00	0.00	0.00	1395.59
11700.00	90.00	179.92	30.00	10280.00	-6922.70	-1425.43	-47.75	716026.07	401874.22	32.103575	-103.769169	0.00	0.00	0.00	1425.59
11730.00	90.00	179.92	30.00	10280.00	-6922.70	-1455.43	-47.71	716026.11	401844.22	32.103493	-103.769169	0.00	0.00	0.00	1455.59
11760.00	90.00	179.92	30.00	10280.00	-6922.70	-1485.43	-47.67	716026.15	401814.22	32.103410	-103.769170	0.00	0.00	0.00	1485.59
11790.00	90.00	179.92	30.00	10280.00	-6922.70	-1515.43	-47.63	716026.19	401784.22	32.103328	-103.769170	0.00	0.00	0.00	1515.59
11820.00	90.00	179.92	30.00	10280.00	-6922.70	-1545.43	-47.59	716026.23	401754.22	32.103245	-103.769170	0.00	0.00	0.00	1545.59
11850.00	90.00	179.92	30.00	10280.00	-6922.70	-1575.43	-47.55	716026.28	401724.22	32.103163	-103.769171	0.00	0.00	0.00	1575.59
11880.00	90.00	179.92	30.00	10280.00	-6922.70	-1605.43	-47.51	716026.32	401694.22	32.103080	-103.769171	0.00	0.00	0.00	1605.59
11910.00	90.00	179.92	30.00	10280.00	-6922.70	-1635.43	-47.46	716026.36	401664.22	32.102998	-103.769172	0.00	0.00	0.00	1635.59
11940.00	90.00	179.92	30.00	10280.00	-6922.70	-1665.43	-47.42	716026.40	401634.22	32.102915	-103.769172	0.00	0.00	0.00	1665.59
11970.00	90.00	179.92	30.00	10280.00	-6922.70	-1695.43	-47.38	716026.44	401604.22	32.102833	-103.769172	0.00	0.00	0.00	1695.59
12000.00	90.00	179.92	30.00	10280.00	-6922.70	-1725.43	-47.34	716026.48	401574.22	32.102750	-103.769173	0.00	0.00	0.00	1725.59
12030.00	90.00	179.92	30.00	10280.00	-6922.70	-1755.43	-47.30	716026.52	401544.22	32.102668	-103.769173	0.00	0.00	0.00	1755.59
12060.00	90.00	179.92	30.00	10280.00	-6922.70	-1785.43	-47.26	716026.56	401514.22	32.102585	-103.769173	0.00	0.00	0.00	1785.59
12090.00	90.00	179.92	30.00	10280.00	-6922.70	-1815.43	-47.22	716026.60	401484.22	32.102503	-103.769174	0.00	0.00	0.00	1815.59
12120.00	90.00	179.92	30.00	10280.00	-6922.70	-1845.43	-47.18	716026.64	401454.22	32.102421	-103.769174	0.00	0.00	0.00	1845.59
12150.00	90.00	179.92	30.00	10280.00	-6922.70	-1875.43	-47.14	716026.68	401424.22	32.102338	-103.769175	0.00	0.00	0.00	1875.59
12180.00	90.00	179.92	30.00	10280.00	-6922.70	-1905.43	-47.10	716026.72	401394.22	32.102256	-103.769175	0.00	0.00	0.00	1905.59
12210.00	90.00	179.92	30.00	10280.00	-6922.70	-1935.43	-47.06	716026.76	401364.22	32.102173	-103.769175	0.00	0.00	0.00	1935.59
12240.00	90.00	179.92	30.00	10280.00	-6922.70	-1965.43	-47.02	716026.80	401334.22	32.102091	-103.769176	0.00	0.00	0.00	1965.59
12270.00	90.00	179.92	30.00	10280.00	-6922.70	-1995.43	-46.98	716026.84	401304.22	32.102008	-103.769176	0.00	0.00	0.00	1995.59
12300.00	90.00	179.92	30.00	10280.00	-6922.70	-2025.43	-46.94	716026.89	401274.22	32.101926	-103.769177	0.00	0.00	0.00	2025.59
12330.00	90.00	179.92	30.00	10280.00	-6922.70	-2055.43	-46.90	716026.93	401244.22	32.101843	-103.769177	0.00	0.00	0.00	2055.58
12360.00	90.00	179.92	30.00	10280.00	-6922.70	-2085.43	-46.85	716026.97	401214.22	32.101761	-103.769177	0.00	0.00	0.00	2085.58
12390.00	90.00	179.92	30.00	10280.00	-6922.70	-2115.43	-46.81	716027.01	401184.22	32.101678	-103.769178	0.00	0.00	0.00	2115.58
12420.00	90.00	179.92	30.00	10280.00	-6922.70	-2145.43	-46.77	716027.05	401154.22	32.101596	-103.769178	0.00	0.00	0.00	2145.58
12450.00	90.00	179.92	30.00	10280.00	-6922.70	-2175.43	-46.73	716027.09	401124.22	32.101513	-103.769178	0.00	0.00	0.00	2175.58
12480.00	90.00	179.92	30.00	10280.00	-6922.70	-2205.43	-46.69	716027.13	401094.22	32.101431	-103.769179	0.00	0.00	0.00	2205.58
12510.00	90.00	179.92	30.00	10280.00	-6922.70	-2235.43	-46.65	716027.17	401064.22	32.101348	-103.769179	0.00	0.00	0.00	2235.58
12540.00	90.00	179.92	30.00	10280.00	-6922.70	-2265.43	-46.61	716027.21	401034.22	32.101266	-103.769180	0.00	0.00	0.00	2265.58
12570.00	90.00	179.92	30.00	10280.00	-6922.70	-2295.43	-46.57	716027.25	401004.22	32.101184	-103.769180	0.00	0.00	0.00	2295.58
12600.00	90.00	179.92	30.00	10280.00	-6922.70	-2325.43	-46.53	716027.29	400974.22	32.101101	-103.769180	0.00	0.00	0.00	2325.58
12630.00	90.00	179.92	30.00	10280.00	-6922.70	-2355.43	-46.49	716027.33	400944.22	32.101019	-103.769181	0.00	0.00	0.00	2355.58
12660.00	90.00	179.92	30.00	10280.00	-6922.70	-2385.43	-46.45	716027.37	400914.22	32.100936	-103.769181	0.00	0.00	0.00	2385.58
12690.00	90.00	179.92	30.00	10280.00	-6922.70	-2415.43	-46.41	716027.41	400884.22	32.100854	-103.769181	0.00	0.00	0.00	2415.58
12720.00	90.00	179.92	30.00	10280.00	-6922.70	-2445.43	-46.37	716027.45	400854.22	32.100771	-103.769182	0.00	0.00	0.00	2445.58
12750.00	90.00	179.92	30.00	10280.00	-6922.70	-2475.43	-46.33	716027.50	400824.22	32.100689	-103.769182	0.00	0.00	0.00	2475.58
12780.00	90.00	179.92	30.00	10280.00	-6922.70	-2505.43	-46.28	716027.54	400794.22	32.100606	-103.769183	0.00	0.00	0.00	2505.58
12810.00	90.00	179.92	30.00	10280.00	-6922.70	-2535.43	-46.24	716027.58	400764.22	32.100524	-103.769183	0.00	0.00	0.00	2535.58
12840.00	90.00	179.92	30.00	10280.00	-6922.70	-2565.43	-46.20	716027.62	400734.22	32.100441	-103.769183	0.00	0.00	0.00	2565.58
12870.00	90.00	179.92	30.00	10280.00	-6922.70	-2595.43	-46.16	716027.66	400704.22	32.100359	-103.769184	0.00	0.00	0.00	2595.58
12900.00	90.00	179.92	30.00	10280.00	-6922.70	-2625.43	-46.12	716027.70	400674.22	32.100276	-103.769184	0.00	0.00	0.00	2625.58
12930.00	90.00	179.92	30.00	10280.00	-6922.70	-2655.43	-46.08	716027.74	400644.22	32.100194	-103.769184	0.00	0.00	0.00	2655.58
12960.00	90.00	179.92	30.00	10280.00	-6922.70	-2685.43	-46.04	716027.78	400614.22	32.100112	-103.769185	0.00	0.00	0.00	2685.58
12990.00	90.00	179.92	30.00	10280.00	-6922.70	-2715.43	-46.00	716027.82	400584.22	32.100029	-103.769185	0.00	0.00	0.00	2715.58
13020.00	90.00	179.92	30.00	10280.00	-6922.70	-2745.43	-45.96	716027.86	400554.22	32.099947	-103.769186	0.00	0.00	0.00	2745.58
13050.00	90.00	179.92	30.00	10280.00	-6922.70	-2775.43	-45.92	716027.90	400524.22	32.099864	-103.769186	0.00	0.00	0.00	2775.58
13080.00	90.00	179.92	30.00	10280.00	-6922.70	-2805.43	-45.88	716027.94	400494.22	32.099782	-103.769186	0.00	0.00	0.00	2805.58
13110.00	90.00	179.92	30.00	10280.00	-6922.70	-2835.43	-45.84	716027.98	400464.22	32.099699	-103.769187	0.00	0.00	0.00	2835.58
13140.00	90.00	179.92	30.00	10280.00	-6922.70	-2865.43	-45.80	716028.02	400434.22	32.099617	-103.769187	0.00	0.00	0.00	2865.58
13170.00	90.00	179.92	30.00	10280.00	-6922.70	-2895.43	-45.76	716028.06	400404.22	32.099534	-103.769187	0.00	0.00	0.00	2895.58
13200.00	90.00	179.92	30.00	10280.00	-6922.70	-2925.43	-45.72	716028.11	400374.22	32.099452	-103.769188	0.00	0.00	0.00	2925.57
13230.00	90.00	179.92	30.00	10280.00	-6922.70	-2955.43	-45.67	716028.15	400344.22	32.099369	-103.769188	0.00	0.00	0.00	2955.57
13260.00	90.00	179.92	30.00	10280.00	-6922.70	-2985.43	-45.63	716028.19	400314.22	32.099287	-103.769189	0.00	0.00	0.00	2985.57
13290.00	90.00	179.92	30.00	10280.00	-6922.70	-3015.43	-45.59	716028.23	400284.22	32.099204	-103.769189	0.00	0.00	0.00	3015.57
13320.00	90.00	179.92	30.00	10280.00	-6922.70	-3045.43	-45.55	716028.27	400254.22	32.099122	-103.769189	0.00	0.00	0.00	3045.57
13350.00	90.00	179.92	30.00	10280.00	-6922.70	-3075.43	-45.51	716028.31	400224.22	32.099039	-103.769190	0.00	0.00	0.00	3075.57
13380.00	90.00	179.92	30.00	10280.00	-6922.70	-3105.43	-45.47	716028.35	400194.22	32.098957	-103.769190	0.00	0.00	0.00	3105.57
13410.00	90.00	179.92	30.00	10280.00	-6922.70	-3135.43	-45.43	716028.39	400164.22	32.098875	-103.769190	0.00	0.00	0.00	3135.57
13440.00	90.00	179.92	30.00	10280.00	-6922.70	-3165.43	-45.39	716028.43	400134.22	32.098792	-103.769191	0.00	0.00	0.00	3165.57
13470.00	90.00	179.92	30.00	10280.00	-6922.70	-3195.43	-45.35	716028.47	400104.22	32.098710	-103.769191	0.00	0.00	0.00	3195.57
13500.00	90.00	179.92	30.00	10280.00	-6922.70	-3225.43	-45.31	716028.51	400074.22	32.098627	-103.769192	0.00	0.00	0.00	3225.57
13530.00	90.00	179.92	30.00	10280.00	-6922.70	-3255.43	-45.27	716028.55	400044.22	32.098545	-103.769192	0.00	0.00	0.00	3255.57
13560.00	90.00	179.92	30.00	10280.00	-6922.70	-3285.43	-45.23	716028.59	400014.22	32.098462	-103.769192	0.00	0.00	0.00	3285.57
13590.00	90.00	179.92	30.00	10280.00	-6922.70	-3315.43	-45.19	716028.63	399984.22	32.098380	-103.769193	0.00	0.00	0.00	3315.57
13620.00	90.00	179.92	30.00	10280.00	-6922.70	-3345.43	-45.15	716028.67	399954.22	32.098297	-103.769193	0.00	0.00	0.00	3345.57
13650.00	90.00	179.92	30.00	10280.00	-6922.70	-3375.43	-45.11	716028.72	399924.22	32.098215	-103.769193	0.00	0.00	0.00	3375.57
13680.00	90.00	179.92	30.00	10280.00	-6922.70	-3405.43	-45.06	716028.76	399894.22	32.098132	-103.769194	0.00	0.00	0.00	3405.57
13710.00	90.00	179.92	30.00	10280.00	-6922.70	-3435.43	-45.02	716028.80	399864.22	32.098050	-103.769194	0.00	0.00	0.00	3435.57
13740.00	90.00	179.92	30.00	10280.00	-6922.70	-3465.43	-44.98	716028.84	399834.22	32.097967	-103.769195	0.00	0.00	0.00	3465.57
13770.00	90.00	179.92	30.00	10280.00	-6922.70	-3495.43	-44.94	716028.88	399804.22	32.097885	-103.769195	0.00	0.00	0.00	3495.57
13800.00	90.00	179.92	30.00	10280.00	-6922.70	-3525.43	-44.90	716028.92	399774.22	32.097802	-103.769195	0.00	0.00	0.00	3525.57
13830.00	90.00	179.92	30.00	10280.00	-6922.70	-3555.43	-44.86	716028.96	399744.22	32.097720	-103.769196	0.00	0.00	0.00	3555.57
13860.00	90.00	179.92	30.00	10280.00	-6922.70	-3585.43	-44.82	716029.00	399714.22	32.097638	-103.769196	0.00	0.00	0.00	3585.57
13890.00	90.00	179.92	30.00	10280.00	-6922.70	-3615.43	-44.78	716029.04	399684.22	32.097555	-103.769196	0.00	0.00	0.00	3615.57
13920.00	90.00	179.92	30.00	10280.00	-6922.70	-3645.43	-44.74	716029.08	399654.22	32.097473	-103.769197	0.00	0.00	0.00	3645.57

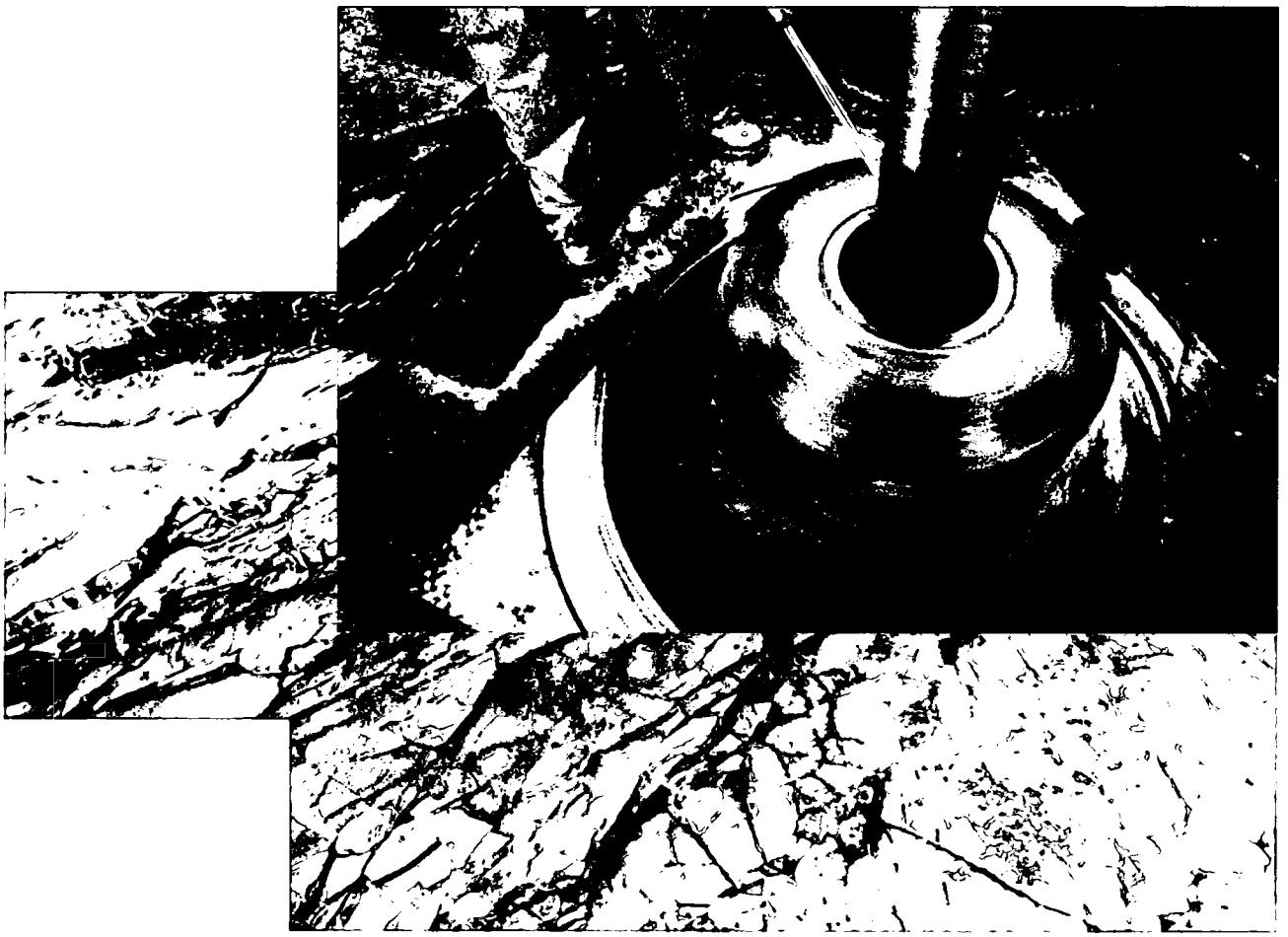
13950.00	90.00	179.92	30.00	10280.00	-6922.70	-3675.43	-44.70	716029.12	399624.22	32.097390	-103.769197	0.00	0.00	0.00	3675.57
13980.00	90.00	179.92	30.00	10280.00	-6922.70	-3705.43	-44.66	716029.16	399594.22	32.097308	-103.769198	0.00	0.00	0.00	3705.57
14010.00	90.00	179.92	30.00	10280.00	-6922.70	-3735.43	-44.62	716029.20	399564.22	32.097225	-103.769198	0.00	0.00	0.00	3735.57
14040.00	90.00	179.92	30.00	10280.00	-6922.70	-3765.43	-44.58	716029.24	399534.22	32.097143	-103.769198	0.00	0.00	0.00	3765.56
14070.00	90.00	179.92	30.00	10280.00	-6922.70	-3795.43	-44.54	716029.29	399504.22	32.097060	-103.769199	0.00	0.00	0.00	3795.56
14100.00	90.00	179.92	30.00	10280.00	-6922.70	-3825.43	-44.50	716029.33	399474.22	32.096978	-103.769199	0.00	0.00	0.00	3825.56
14130.00	90.00	179.92	30.00	10280.00	-6922.70	-3855.43	-44.45	716029.37	399444.22	32.096895	-103.769199	0.00	0.00	0.00	3855.56
14160.00	90.00	179.92	30.00	10280.00	-6922.70	-3885.43	-44.41	716029.41	399414.22	32.096813	-103.769200	0.00	0.00	0.00	3885.56
14190.00	90.00	179.92	30.00	10280.00	-6922.70	-3915.43	-44.37	716029.45	399384.22	32.096730	-103.769200	0.00	0.00	0.00	3915.56
14220.00	90.00	179.92	30.00	10280.00	-6922.70	-3945.43	-44.33	716029.49	399354.22	32.096648	-103.769201	0.00	0.00	0.00	3945.56
14250.00	90.00	179.92	30.00	10280.00	-6922.70	-3975.43	-44.29	716029.53	399324.22	32.096566	-103.769201	0.00	0.00	0.00	3975.56
14280.00	90.00	179.92	30.00	10280.00	-6922.70	-4005.43	-44.25	716029.57	399294.22	32.096483	-103.769201	0.00	0.00	0.00	4005.56
14310.00	90.00	179.92	30.00	10280.00	-6922.70	-4035.43	-44.21	716029.61	399264.22	32.096401	-103.769202	0.00	0.00	0.00	4035.56
14340.00	90.00	179.92	30.00	10280.00	-6922.70	-4065.43	-44.17	716029.65	399234.22	32.096318	-103.769202	0.00	0.00	0.00	4065.56
14370.00	90.00	179.92	30.00	10280.00	-6922.70	-4095.43	-44.13	716029.69	399204.22	32.096236	-103.769202	0.00	0.00	0.00	4095.56
14400.00	90.00	179.92	30.00	10280.00	-6922.70	-4125.43	-44.09	716029.73	399174.22	32.096153	-103.769203	0.00	0.00	0.00	4125.56
14430.00	90.00	179.92	30.00	10280.00	-6922.70	-4155.43	-44.05	716029.77	399144.22	32.096071	-103.769203	0.00	0.00	0.00	4155.56
14460.00	90.00	179.92	30.00	10280.00	-6922.70	-4185.43	-44.01	716029.81	399114.22	32.095988	-103.769204	0.00	0.00	0.00	4185.56
14490.00	90.00	179.92	30.00	10280.00	-6922.70	-4215.43	-43.97	716029.85	399084.22	32.095906	-103.769204	0.00	0.00	0.00	4215.56
14520.00	90.00	179.92	30.00	10280.00	-6922.70	-4245.43	-43.93	716029.90	399054.22	32.095823	-103.769204	0.00	0.00	0.00	4245.56
14550.00	90.00	179.92	30.00	10280.00	-6922.70	-4275.43	-43.89	716029.94	399024.22	32.095741	-103.769205	0.00	0.00	0.00	4275.56
14580.00	90.00	179.92	30.00	10280.00	-6922.70	-4305.43	-43.84	716029.98	398994.22	32.095658	-103.769205	0.00	0.00	0.00	4305.56
14610.00	90.00	179.92	30.00	10280.00	-6922.70	-4335.43	-43.80	716030.02	398964.22	32.095576	-103.769205	0.00	0.00	0.00	4335.56
14640.00	90.00	179.92	30.00	10280.00	-6922.70	-4365.43	-43.76	716030.06	398934.22	32.095493	-103.769206	0.00	0.00	0.00	4365.56
14670.00	90.00	179.92	30.00	10280.00	-6922.70	-4395.43	-43.72	716030.10	398904.22	32.095411	-103.769206	0.00	0.00	0.00	4395.56
14700.00	90.00	179.92	30.00	10280.00	-6922.70	-4425.43	-43.68	716030.14	398874.22	32.095329	-103.769207	0.00	0.00	0.00	4425.56
14730.00	90.00	179.92	30.00	10280.00	-6922.70	-4455.43	-43.64	716030.18	398844.22	32.095246	-103.769207	0.00	0.00	0.00	4455.56
14760.00	90.00	179.92	30.00	10280.00	-6922.70	-4485.43	-43.60	716030.22	398814.22	32.095164	-103.769207	0.00	0.00	0.00	4485.56
14790.00	90.00	179.92	30.00	10280.00	-6922.70	-4515.43	-43.56	716030.26	398784.22	32.095081	-103.769208	0.00	0.00	0.00	4515.56
14820.00	90.00	179.92	30.00	10280.00	-6922.70	-4545.43	-43.52	716030.30	398754.22	32.094999	-103.769208	0.00	0.00	0.00	4545.56
14850.00	90.00	179.92	30.00	10280.00	-6922.70	-4575.43	-43.48	716030.34	398724.22	32.094916	-103.769208	0.00	0.00	0.00	4575.56
14880.00	90.00	179.92	30.00	10280.00	-6922.70	-4605.43	-43.44	716030.38	398694.22	32.094834	-103.769209	0.00	0.00	0.00	4605.55
14910.00	90.00	179.92	30.00	10280.00	-6922.70	-4635.43	-43.40	716030.42	398664.22	32.094751	-103.769209	0.00	0.00	0.00	4635.55
14940.00	90.00	179.92	30.00	10280.00	-6922.70	-4665.43	-43.36	716030.46	398634.22	32.094669	-103.769210	0.00	0.00	0.00	4665.55
14970.00	90.00	179.92	30.00	10280.00	-6922.70	-4695.43	-43.32	716030.51	398604.22	32.094586	-103.769210	0.00	0.00	0.00	4695.55
15000.00	90.00	179.92	30.00	10280.00	-6922.70	-4725.43	-43.28	716030.55	398574.22	32.094504	-103.769210	0.00	0.00	0.00	4725.55
15030.00	90.00	179.92	30.00	10280.00	-6922.70	-4755.43	-43.23	716030.59	398544.22	32.094421	-103.769211	0.00	0.00	0.00	4755.55
15060.00	90.00	179.92	30.00	10280.00	-6922.70	-4785.43	-43.19	716030.63	398514.22	32.094339	-103.769211	0.00	0.00	0.00	4785.55
15090.00	90.00	179.92	30.00	10280.00	-6922.70	-4815.43	-43.15	716030.67	398484.22	32.094256	-103.769211	0.00	0.00	0.00	4815.55
15120.00	90.00	179.92	30.00	10280.00	-6922.70	-4845.43	-43.11	716030.71	398454.22	32.094174	-103.769212	0.00	0.00	0.00	4845.55
15150.00	90.00	179.92	30.00	10280.00	-6922.70	-4875.43	-43.07	716030.75	398424.22	32.094092	-103.769212	0.00	0.00	0.00	4875.55
15180.00	90.00	179.92	30.00	10280.00	-6922.70	-4905.43	-43.03	716030.79	398394.22	32.094009	-103.769213	0.00	0.00	0.00	4905.55
15210.00	90.00	179.92	30.00	10280.00	-6922.70	-4935.43	-42.99	716030.83	398364.22	32.093927	-103.769213	0.00	0.00	0.00	4935.55
15240.00	90.00	179.92	30.00	10280.00	-6922.70	-4965.43	-42.95	716030.87	398334.22	32.093844	-103.769213	0.00	0.00	0.00	4965.55
15270.00	90.00	179.92	30.00	10280.00	-6922.70	-4995.43	-42.91	716030.91	398304.22	32.093762	-103.769214	0.00	0.00	0.00	4995.55
15300.00	90.00	179.92	30.00	10280.00	-6922.70	-5025.43	-42.87	716030.95	398274.22	32.093679	-103.769214	0.00	0.00	0.00	5025.55
15330.00	90.00	179.92	30.00	10280.00	-6922.70	-5055.43	-42.83	716030.99	398244.22	32.093597	-103.769214	0.00	0.00	0.00	5055.55
15360.00	90.00	179.92	30.00	10280.00	-6922.70	-5085.43	-42.79	716031.03	398214.22	32.093514	-103.769215	0.00	0.00	0.00	5085.55
15390.00	90.00	179.92	30.00	10280.00	-6922.70	-5115.43	-42.75	716031.07	398184.22	32.093432	-103.769215	0.00	0.00	0.00	5115.55
15420.00	90.00	179.92	30.00	10280.00	-6922.70	-5145.43	-42.71	716031.12	398154.22	32.093349	-103.769216	0.00	0.00	0.00	5145.55
15450.00	90.00	179.92	30.00	10280.00	-6922.70	-5175.43	-42.66	716031.16	398124.22	32.093267	-103.769216	0.00	0.00	0.00	5175.55
15480.00	90.00	179.92	30.00	10280.00	-6922.70	-5205.43	-42.62	716031.20	398094.22	32.093184	-103.769216	0.00	0.00	0.00	5205.55
15510.00	90.00	179.92	30.00	10280.00	-6922.70	-5235.43	-42.58	716031.24	398064.22	32.093102	-103.769217	0.00	0.00	0.00	5235.55
15540.00	90.00	179.92	30.00	10280.00	-6922.70	-5265.43	-42.54	716031.28	398034.22	32.093019	-103.769217	0.00	0.00	0.00	5265.55
15570.00	90.00	179.92	30.00	10280.00	-6922.70	-5295.43	-42.50	716031.32	398004.22	32.092937	-103.769217	0.00	0.00	0.00	5295.55
15600.00	90.00	179.92	30.00	10280.00	-6922.70	-5325.43	-42.46	716031.36	397974.22	32.092855	-103.769218	0.00	0.00	0.00	5325.55
15630.00	90.00	179.92	30.00	10280.00	-6922.70	-5355.43	-42.42	716031.40	397944.22	32.092772	-103.769218	0.00	0.00	0.00	5355.55
15660.00	90.00	179.92	30.00	10280.00	-6922.70	-5385.43	-42.38	716031.44	397914.22	32.092690	-103.769219	0.00	0.00	0.00	5385.55
15690.00	90.00	179.92	30.00	10280.00	-6922.70	-5415.43	-42.34	716031.48	397884.22	32.092607	-103.769219	0.00	0.00	0.00	5415.55
15720.00	90.00	179.92	30.00	10280.00	-6922.70	-5445.43	-42.30	716031.52	397854.22	32.092525	-103.769219	0.00	0.00	0.00	5445.54
15750.00	90.00	179.92	30.00	10280.00	-6922.70	-5475.43	-42.26	716031.56	397824.22	32.092442	-103.769220	0.00	0.00	0.00	5475.54
15780.00	90.00	179.92	30.00	10280.00	-6922.70	-5505.43	-42.22	716031.60	397794.22	32.092360	-103.769220	0.00	0.00	0.00	5505.54
15810.00	90.00	179.92	30.00	10280.00	-6922.70	-5535.43	-42.18	716031.64	397764.22	32.092277	-103.769220	0.00	0.00	0.00	5535.54
15840.00	90.00	179.92	30.00	10280.00	-6922.70	-5565.43	-42.14	716031.68	397734.22	32.092195	-103.769221	0.00	0.00	0.00	5565.54
15870.00	90.00	179.92	30.00	10280.00	-6922.70	-5595.43	-42.10	716031.73	397704.22	32.092112	-103.769221	0.00	0.00	0.00	5595.54
15900.00	90.00	179.92	30.00	10280.00	-6922.70	-5625.43	-42.05	716031.77	397674.22	32.092030	-103.769222	0.00	0.00	0.00	5625.54
15930.00	90.00	179.92	30.00	10280.00	-6922.70	-5655.43	-42.01	716031.81	397644.22	32.091947	-103.769222	0.00	0.00	0.00	5655.54
15960.00	90.00	179.92	30.00	10280.00	-6922.70	-5685.43	-41.97	716031.85	397614.22	32.091865	-103.769222	0.00	0.00	0.00	5685.54
15990.00	90.00	179.92	30.00	10280.00	-6922.70	-5715.43	-41.93	716031.89	397584.22	32.091783	-103.769223	0.00	0.00	0.00	5715.54
16020.00	90.00	179.92	30.00	10280.00	-6922.70	-5745.43	-41.89	716031.93	397554.22	32.091700	-103.769223	0.00	0.00	0.00	5745.54
16050.00	90.00	179.92	30.00	10280.00	-6922.70	-5775.43	-41.85	716031.97	397524.22	32.091618	-103.769223	0.00	0.00	0.00	5775.54
16080.00	90.00	179.92	30.00	10280.00	-6922.70	-5805.43	-41.81	716032.01	397494.22	32.091535	-103.769224	0.00	0.00	0.00	5805.54
16110.00	90.00	179.92	30.00	10280.00	-6922.70	-5835.43	-41.77	716032.05	397464.22	32.091453	-103.769224	0.00	0.00	0.00	5835.54
16140.00	90.00	179.92	30.00	10280.00	-6922.70	-5865.43	-41.73	716032.09	397434.22	32.091370	-103.769225	0.00	0.00	0.00	5865.54
16170.00	90.00	179.92	30.00	10280.00	-6922.70	-5895.43	-41.69	716032.13	397404.22	32.091288	-103.769225	0.00	0.00	0.00	5895.54
16200.00	90.00	179.92	30.00	10280.00	-6922.70	-5925.43	-41.65	716032.17	397374.22	32.091205	-103.769225	0.00	0.00	0.00	5925.54
16230.00	90.00	179.92	30.00	10280.00	-6922.70	-5955.43	-41.61	716032.21	397344.22	32.091123	-103.769226	0.00	0.00	0.00	5955.54
16260.00	90.00	179.92	30.00	10280.00	-6922.70	-5985.43	-41.57	716032.25	397314.22	32.091040	-103.769226	0.00	0.00	0.00	5985.54
16290.00	90.00	179.92	30.00	10280.00	-6922.70	-6015.43	-41.53	716032.29	397284.22	32.090958	-103.769226	0.00	0.00	0.00	6015.54
16320.00	90.00	179.92	30.00	10280.00	-6922.70	-6045.43	-41.49	716032.34	397254.22	32.090875	-103.769227	0.00	0.00	0.00	6045.54
16350.00	90.00	179.92	30.00	10280.00	-6922.70	-6075.43	-41.44	716032.38	397224.22	32.090793	-103.769227	0.00	0.00	0.00	6075.54
16380.00	90.00	179.92	30.00	10280.00	-6922.70	-6105.43	-41.40	716032.42	397194.22	32.090710	-103.769228	0.00	0.00	0.00	6105.54
16410.00	90.00	179.92	30.00	10280.00	-6922.70	-6135.43	-41.36	716032.46	397164.22	32.090628	-103.769228	0.00	0.00	0.00	6135.54
16440.00	90.00	179.92	30.00	10280.00	-6922.70	-6165.43	-41.32	716032.50	397134.22	32.090546	-103.769228	0.00	0.00	0.00	6165.54
16470.00	90.00	179.92	30.00	10280.00	-6922.70	-6195.43	-41.28	716032.54	397104.22	32.090463	-103.769229	0.00	0.00	0.00	6195.54
16500.00	90.00	179.92	30.00	10280.00	-6922.70	-6225.43	-41.24	716032.58	397074.22	32.090381	-103.769229	0.00	0.00	0.00	6225.54
16530.00	90.00	179.92	30.00	10280.00	-6922.70	-6255.43	-41.20	716032.62	397044.22	32.090298	-103.769229	0.00	0.00	0.00	6255.54
16560.00	90.00	179.92	30.00	10280.00	-6922.70	-6285.43	-41.16	716032.66	397014.22	32.090216	-103.769230	0.00	0.00	0.00	6285.53
16590.00	90.00	179.92	30.00	10280.00	-6922.70	-6315.43	-41.12	716032.70	396984.22	32.090133	-103.769230	0.00	0.00	0.00	6315.53
16620.00	90.00	179.92	30.00	10280.00	-6922.70	-6345.43	-41.08	716032.74	396954.22	32.090051	-103.769231	0.00	0.00	0.00	6345.53
16650.00	90.00	179.92	30.00	10280.00	-6922.70	-6375.43	-41.04	716032.78	396924.22	32.089968	-103.769231	0.00	0.00	0.00	6375.53
16680.00	90.00	179.92	30.00	10280.00	-6922.70	-6405.43	-41.00	716032.82	396894.22	32.089886	-103.769231	0.00	0.00	0.00	6405.53
16710.00	90.00	179.92	30.00	10280.00	-6922.70	-6435.43	-40.96	716032.86	396864.22	32.089803	-103.769232	0.00	0.00	0.00	6435.53
16740.00	90.00	179.92	30.00	10280.00	-6922.70	-6465.43	-40.92	716032.91	396834.22	32.089721	-103.769232	0.00	0.00	0.00	6465.53
16770.00	90.00	179.92	30.00	10280.00	-6922.70	-6495.43	-40.88	716032.95	396804.22	32.089638	-103.769232	0.00	0.00	0.00	6495.53
16800.00	90.00	179.92	30.00	10280.00	-6922.70	-6525.43	-40.83	716032.99	396774.22	32.089556	-103.769233	0.00	0.00	0.00	6525.53
16830.00	90.00	179.92	30.00	10280.00	-6922.70	-6555.43	-40.79	716033.03	396744.22	32.089473	-103.769233	0.00	0.00	0.00	6555.53
16860.00	90.00	179.92	30.00	10280.00	-6922.70	-6585.43	-40.75	716033.07	396714.22	32.089391	-103.769234	0.00	0.00	0.00	6585.53
16890.00	90.00	179.92	30.00	10280.00	-6922.70	-6615.43	-40.71	716033.11	396684.22	32.089309	-103.769234	0.00	0.00	0.00	6615.53

16920.00	90.00	179.92	30.00	10280.00	-6922.70	-6645.43	-40.67	716033.15	396654.22	32.089226	-103.769234	0.00	0.00	0.00	6645.53
16950.00	90.00	179.92	30.00	10280.00	-6922.70	-6675.43	-40.63	716033.19	396624.22	32.089144	-103.769235	0.00	0.00	0.00	6675.53
16980.00	90.00	179.92	30.00	10280.00	-6922.70	-6705.43	-40.59	716033.23	396594.22	32.089061	-103.769235	0.00	0.00	0.00	6705.53
17010.00	90.00	179.92	30.00	10280.00	-6922.70	-6735.43	-40.55	716033.27	396564.22	32.088979	-103.769235	0.00	0.00	0.00	6735.53
17040.00	90.00	179.92	30.00	10280.00	-6922.70	-6765.43	-40.51	716033.31	396534.22	32.088896	-103.769236	0.00	0.00	0.00	6765.53
17070.00	90.00	179.92	30.00	10280.00	-6922.70	-6795.43	-40.47	716033.35	396504.22	32.088814	-103.769236	0.00	0.00	0.00	6795.53
17100.00	90.00	179.92	30.00	10280.00	-6922.70	-6825.43	-40.43	716033.39	396474.22	32.088731	-103.769237	0.00	0.00	0.00	6825.53
17130.00	90.00	179.92	30.00	10280.00	-6922.70	-6855.43	-40.39	716033.43	396444.22	32.088649	-103.769237	0.00	0.00	0.00	6855.53
17160.00	90.00	179.92	30.00	10280.00	-6922.70	-6885.43	-40.35	716033.47	396414.22	32.088566	-103.769237	0.00	0.00	0.00	6885.53
17190.00	90.00	179.92	30.00	10280.00	-6922.70	-6915.43	-40.31	716033.52	396384.22	32.088484	-103.769238	0.00	0.00	0.00	6915.53
17220.00	90.00	179.92	30.00	10280.00	-6922.70	-6945.43	-40.27	716033.56	396354.22	32.088401	-103.769238	0.00	0.00	0.00	6945.53
17250.00	90.00	179.92	30.00	10280.00	-6922.70	-6975.43	-40.22	716033.60	396324.22	32.088319	-103.769238	0.00	0.00	0.00	6975.53
17280.00	90.00	179.92	30.00	10280.00	-6922.70	-7005.43	-40.18	716033.64	396294.22	32.088237	-103.769239	0.00	0.00	0.00	7005.53
17310.00	90.00	179.92	30.00	10280.00	-6922.70	-7035.43	-40.14	716033.68	396264.22	32.088154	-103.769239	0.00	0.00	0.00	7035.53
17340.00	90.00	179.92	30.00	10280.00	-6922.70	-7065.43	-40.10	716033.72	396234.22	32.088072	-103.769240	0.00	0.00	0.00	7065.53
17370.00	90.00	179.92	30.00	10280.00	-6922.70	-7095.43	-40.06	716033.76	396204.22	32.087989	-103.769240	0.00	0.00	0.00	7095.53
17400.00	90.00	179.92	30.00	10280.00	-6922.70	-7125.43	-40.02	716033.80	396174.22	32.087907	-103.769240	0.00	0.00	0.00	7125.52
17430.00	90.00	179.92	30.00	10280.00	-6922.70	-7155.43	-39.98	716033.84	396144.22	32.087824	-103.769241	0.00	0.00	0.00	7155.52
17460.00	90.00	179.92	30.00	10280.00	-6922.70	-7185.43	-39.94	716033.88	396114.22	32.087742	-103.769241	0.00	0.00	0.00	7185.52
17490.00	90.00	179.92	30.00	10280.00	-6922.70	-7215.43	-39.90	716033.92	396084.22	32.087659	-103.769241	0.00	0.00	0.00	7215.52
17520.00	90.00	179.92	30.00	10280.00	-6922.70	-7245.43	-39.86	716033.96	396054.22	32.087577	-103.769242	0.00	0.00	0.00	7245.52
17550.00	90.00	179.92	30.00	10280.00	-6922.70	-7275.43	-39.82	716034.00	396024.22	32.087494	-103.769242	0.00	0.00	0.00	7275.52
17580.00	90.00	179.92	30.00	10280.00	-6922.70	-7305.43	-39.78	716034.04	395994.22	32.087412	-103.769243	0.00	0.00	0.00	7305.52
17610.00	90.00	179.92	30.00	10280.00	-6922.70	-7335.43	-39.74	716034.08	395964.22	32.087329	-103.769243	0.00	0.00	0.00	7335.52
17640.00	90.00	179.92	30.00	10280.00	-6922.70	-7365.43	-39.70	716034.13	395934.22	32.087247	-103.769243	0.00	0.00	0.00	7365.52
17670.00	90.00	179.92	30.00	10280.00	-6922.70	-7395.43	-39.66	716034.17	395904.22	32.087164	-103.769244	0.00	0.00	0.00	7395.52
17700.00	90.00	179.92	30.00	10280.00	-6922.70	-7425.43	-39.61	716034.21	395874.22	32.087082	-103.769244	0.00	0.00	0.00	7425.52
17730.00	90.00	179.92	30.00	10280.00	-6922.70	-7455.43	-39.57	716034.25	395844.22	32.087000	-103.769244	0.00	0.00	0.00	7455.52
17760.00	90.00	179.92	30.00	10280.00	-6922.70	-7485.43	-39.53	716034.29	395814.22	32.086917	-103.769245	0.00	0.00	0.00	7485.52
17790.00	90.00	179.92	30.00	10280.00	-6922.70	-7515.43	-39.49	716034.33	395784.22	32.086835	-103.769245	0.00	0.00	0.00	7515.52
17820.00	90.00	179.92	30.00	10280.00	-6922.70	-7545.43	-39.45	716034.37	395754.22	32.086752	-103.769246	0.00	0.00	0.00	7545.52
17850.00	90.00	179.92	30.00	10280.00	-6922.70	-7575.43	-39.41	716034.41	395724.22	32.086670	-103.769246	0.00	0.00	0.00	7575.52
17880.00	90.00	179.92	30.00	10280.00	-6922.70	-7605.43	-39.37	716034.45	395694.22	32.086587	-103.769246	0.00	0.00	0.00	7605.52
17910.00	90.00	179.92	30.00	10280.00	-6922.70	-7635.43	-39.33	716034.49	395664.22	32.086505	-103.769247	0.00	0.00	0.00	7635.52
17940.00	90.00	179.92	30.00	10280.00	-6922.70	-7665.43	-39.29	716034.53	395634.22	32.086422	-103.769247	0.00	0.00	0.00	7665.52
17970.00	90.00	179.92	30.00	10280.00	-6922.70	-7695.43	-39.25	716034.57	395604.22	32.086340	-103.769247	0.00	0.00	0.00	7695.52
18000.00	90.00	179.92	30.00	10280.00	-6922.70	-7725.43	-39.21	716034.61	395574.22	32.086257	-103.769248	0.00	0.00	0.00	7725.52
18030.00	90.00	179.92	30.00	10280.00	-6922.70	-7755.43	-39.17	716034.65	395544.22	32.086175	-103.769248	0.00	0.00	0.00	7755.52
18060.00	90.00	179.92	30.00	10280.00	-6922.70	-7785.43	-39.13	716034.69	395514.22	32.086092	-103.769249	0.00	0.00	0.00	7785.52
18090.00	90.00	179.92	30.00	10280.00	-6922.70	-7815.43	-39.09	716034.74	395484.22	32.086010	-103.769249	0.00	0.00	0.00	7815.52
18120.00	90.00	179.92	30.00	10280.00	-6922.70	-7845.43	-39.04	716034.78	395454.22	32.085927	-103.769249	0.00	0.00	0.00	7845.52
18150.00	90.00	179.92	30.00	10280.00	-6922.70	-7875.43	-39.00	716034.82	395424.22	32.085845	-103.769250	0.00	0.00	0.00	7875.52
18180.00	90.00	179.92	30.00	10280.00	-6922.70	-7905.43	-38.96	716034.86	395394.22	32.085763	-103.769250	0.00	0.00	0.00	7905.52
18210.00	90.00	179.92	30.00	10280.00	-6922.70	-7935.43	-38.92	716034.90	395364.22	32.085680	-103.769250	0.00	0.00	0.00	7935.52
18240.00	90.00	179.92	30.00	10280.00	-6922.70	-7965.43	-38.88	716034.94	395334.22	32.085598	-103.769251	0.00	0.00	0.00	7965.51
18270.00	90.00	179.92	30.00	10280.00	-6922.70	-7995.43	-38.84	716034.98	395304.22	32.085515	-103.769251	0.00	0.00	0.00	7995.51
18300.00	90.00	179.92	30.00	10280.00	-6922.70	-8025.43	-38.80	716035.02	395274.22	32.085433	-103.769252	0.00	0.00	0.00	8025.51
18330.00	90.00	179.92	30.00	10280.00	-6922.70	-8055.43	-38.76	716035.06	395244.22	32.085350	-103.769252	0.00	0.00	0.00	8055.51
18360.00	90.00	179.92	30.00	10280.00	-6922.70	-8085.43	-38.72	716035.10	395214.22	32.085268	-103.769252	0.00	0.00	0.00	8085.51
18390.00	90.00	179.92	30.00	10280.00	-6922.70	-8115.43	-38.68	716035.14	395184.22	32.085185	-103.769253	0.00	0.00	0.00	8115.51
18420.00	90.00	179.92	30.00	10280.00	-6922.70	-8145.43	-38.64	716035.18	395154.22	32.085103	-103.769253	0.00	0.00	0.00	8145.51
18450.00	90.00	179.92	30.00	10280.00	-6922.70	-8175.43	-38.60	716035.22	395124.22	32.085020	-103.769253	0.00	0.00	0.00	8175.51
18480.00	90.00	179.92	30.00	10280.00	-6922.70	-8205.43	-38.56	716035.26	395094.22	32.084938	-103.769254	0.00	0.00	0.00	8205.51
18510.00	90.00	179.92	30.00	10280.00	-6922.70	-8235.43	-38.52	716035.30	395064.22	32.084855	-103.769254	0.00	0.00	0.00	8235.51
18540.00	90.00	179.92	30.00	10280.00	-6922.70	-8265.43	-38.48	716035.35	395034.22	32.084773	-103.769255	0.00	0.00	0.00	8265.51
18570.00	90.00	179.92	30.00	10280.00	-6922.70	-8295.43	-38.43	716035.39	395004.22	32.084690	-103.769255	0.00	0.00	0.00	8295.51
18600.00	90.00	179.92	30.00	10280.00	-6922.70	-8325.43	-38.39	716035.43	394974.22	32.084608	-103.769255	0.00	0.00	0.00	8325.51
18630.00	90.00	179.92	30.00	10280.00	-6922.70	-8355.43	-38.35	716035.47	394944.22	32.084526	-103.769256	0.00	0.00	0.00	8355.51
18660.00	90.00	179.92	30.00	10280.00	-6922.70	-8385.43	-38.31	716035.51	394914.22	32.084443	-103.769256	0.00	0.00	0.00	8385.51
18690.00	90.00	179.92	30.00	10280.00	-6922.70	-8415.43	-38.27	716035.55	394884.22	32.084361	-103.769256	0.00	0.00	0.00	8415.51
18720.00	90.00	179.92	30.00	10280.00	-6922.70	-8445.43	-38.23	716035.59	394854.22	32.084278	-103.769257	0.00	0.00	0.00	8445.51
18750.00	90.00	179.92	30.00	10280.00	-6922.70	-8475.43	-38.19	716035.63	394824.22	32.084196	-103.769257	0.00	0.00	0.00	8475.51
18780.00	90.00	179.92	30.00	10280.00	-6922.70	-8505.43	-38.15	716035.67	394794.22	32.084113	-103.769258	0.00	0.00	0.00	8505.51
18810.00	90.00	179.92	30.00	10280.00	-6922.70	-8535.43	-38.11	716035.71	394764.22	32.084031	-103.769258	0.00	0.00	0.00	8535.51
18840.00	90.00	179.92	30.00	10280.00	-6922.70	-8565.43	-38.07	716035.75	394734.22	32.083948	-103.769258	0.00	0.00	0.00	8565.51
18870.00	90.00	179.92	30.00	10280.00	-6922.70	-8595.43	-38.03	716035.79	394704.22	32.083866	-103.769259	0.00	0.00	0.00	8595.51
18900.00	90.00	179.92	30.00	10280.00	-6922.70	-8625.43	-37.99	716035.83	394674.22	32.083783	-103.769259	0.00	0.00	0.00	8625.51
18930.00	90.00	179.92	30.00	10280.00	-6922.70	-8655.43	-37.95	716035.87	394644.22	32.083701	-103.769259	0.00	0.00	0.00	8655.51
18960.00	90.00	179.92	30.00	10280.00	-6922.70	-8685.43	-37.91	716035.91	394614.22	32.083618	-103.769260	0.00	0.00	0.00	8685.51
18990.00	90.00	179.92	30.00	10280.00	-6922.70	-8715.43	-37.87	716035.96	394584.22	32.083536	-103.769260	0.00	0.00	0.00	8715.51
19020.00	90.00	179.92	30.00	10280.00	-6922.70	-8745.43	-37.82	716036.00	394554.22	32.083454	-103.769261	0.00	0.00	0.00	8745.51
19050.00	90.00	179.92	30.00	10280.00	-6922.70	-8775.43	-37.78	716036.04	394524.22	32.083371	-103.769261	0.00	0.00	0.00	8775.51
19080.00	90.00	179.92	30.00	10280.00	-6922.70	-8805.43	-37.74	716036.08	394494.22	32.083289	-103.769261	0.00	0.00	0.00	8805.50
19110.00	90.00	179.92	30.00	10280.00	-6922.70	-8835.43	-37.70	716036.12	394464.22	32.083206	-103.769262	0.00	0.00	0.00	8835.50
19140.00	90.00	179.92	30.00	10280.00	-6922.70	-8865.43	-37.66	716036.16	394434.22	32.083124	-103.769262	0.00	0.00	0.00	8865.50
19170.00	90.00	179.92	30.00	10280.00	-6922.70	-8895.43	-37.62	716036.20	394404.22	32.083041	-103.769262	0.00	0.00	0.00	8895.50
19200.00	90.00	179.92	30.00	10280.00	-6922.70	-8925.43	-37.58	716036.24	394374.22	32.082959	-103.769263	0.00	0.00	0.00	8925.50
19230.00	90.00	179.92	30.00	10280.00	-6922.70	-8955.43	-37.54	716036.28	394344.22	32.082876	-103.769263	0.00	0.00	0.00	8955.50
19260.00	90.00	179.92	30.00	10280.00	-6922.70	-8985.43	-37.50	716036.32	394314.22	32.082794	-103.769264	0.00	0.00	0.00	8985.50
19290.00	90.00	179.92	30.00	10280.00	-6922.70	-9015.43	-37.46	716036.36	394284.22	32.082711	-103.769264	0.00	0.00	0.00	9015.50
19320.00	90.00	179.92	30.00	10280.00	-6922.70	-9045.43	-37.42	716036.40	394254.22	32.082629	-103.769264	0.00	0.00	0.00	9045.50
19350.00	90.00	179.92	30.00	10280.00	-6922.70	-9075.43	-37.38	716036.44	394224.22	32.082546	-103.769265	0.00	0.00	0.00	9075.50
19380.00	90.00	179.92	30.00	10280.00	-6922.70	-9105.43	-37.34	716036.48	394194.22	32.082464	-103.769265	0.00	0.00	0.00	9105.50
19410.00	90.00	179.92	30.00	10280.00	-6922.70	-9135.43	-37.30	716036.53	394164.22	32.082381	-103.769265	0.00	0.00	0.00	9135.50
19440.00	90.00	179.92	30.00	10280.00	-6922.70	-9165.43	-37.26	716036.57	394134.22	32.082299	-103.769266	0.00	0.00	0.00	9165.50
19470.00	90.00	179.92	30.00	10280.00	-6922.70	-9195.43	-37.21	716036.61	394104.22	32.082217	-103.769266	0.00	0.00	0.00	9195.50
19500.00	90.00	179.92	30.00	10280.00	-6922.70	-9225.43	-37.17	716036.65	394074.22	32.082134	-103.769267	0.00	0.00	0.00	9225.50
19530.00	90.00	179.92	30.00	10280.00	-6922.70	-9255.43	-37.13	716036.69	394044.23	32.082052	-103.769267	0.00	0.00	0.00	9255.50
19560.00	90.00	179.92	30.00	10280.00	-6922.70	-9285.43	-37.09	716036.73	394014.23	32.081969	-103.769267	0.00	0.00	0.00	9285.50
19590.00	90.00	179.92	30.00	10280.00	-6922.70	-9315.43	-37.05	716036.77	393984.23	32.081887	-103.769268	0.00	0.00	0.00	9315.50
19620.00	90.00	179.92	30.00	10280.00	-6922.70	-9345.43	-37.01	716036.81	393954.23	32.081804	-103.769268	0.00	0.00	0.00	9345.50
19650.00	90.00	179.92	30.00	10280.00	-6922.70	-9375.43	-36.97	716036.85	393924.23	32.081722	-103.769268	0.00	0.00	0.00	9375.50
19680.00	90.00	179.92	30.00	10280.00	-6922.70	-9405.43	-36.93	716036.89	393894.23	32.081639	-103.769269	0.00	0.00	0.00	9405.50
19710.00	90.00	179.92	30.00	10280.00	-6922.70	-9435.43	-36.89	716036.93	393864.23	32.081557	-103.769269	0.00	0.00	0.00	9435.50
19740.00	90.00	179.92	30.00	10280.00	-6922.70	-9465.43	-36.85	716036.97	393834.23	32.081474	-103.769270	0.00	0.00	0.00	9465.50
19770.00	90.00	179.92	30.00	10280.00	-6922.70	-9495.43	-36.81	716037.01	393804.23	32.081392	-103.769270	0.00	0.00	0.00	9495.50
19800.00	90.00	179.92	30.00	10280.00	-6922.70	-9525.43	-36.77	716037.05	393774.23	32.081309	-103.769270	0.00	0.00	0.00	9525.50
19830.00	90.00	179.92	30.00	10280.00	-6922.70	-9555.43	-36.73	716037.09	393744.23	32.081227	-103.769271	0.00	0.00	0.00	9555.50
19860.00	90.00	179.92	30.00	10280.00	-6922.70	-9585.43	-36.69	716037.14	393714.23	32.081144	-103.769271	0.00	0.00	0.00	9585.50

19890.00	90.00	179.92	30.00	10280.00	-6922.70	-9615.43	-36.65	716037.18	393684.23	32.081062	-103.769271	0.00	0.00	0.00	9615.50
19920.00	90.00	179.92	30.00	10280.00	-6922.70	-9645.43	-36.60	716037.22	393654.23	32.080980	-103.769272	0.00	0.00	0.00	9645.49
19950.00	90.00	179.92	30.00	10280.00	-6922.70	-9675.43	-36.56	716037.26	393624.23	32.080897	-103.769272	0.00	0.00	0.00	9675.49
19980.00	90.00	179.92	30.00	10280.00	-6922.70	-9705.43	-36.52	716037.30	393594.23	32.080815	-103.769273	0.00	0.00	0.00	9705.49
20010.00	90.00	179.92	30.00	10280.00	-6922.70	-9735.43	-36.48	716037.34	393564.23	32.080732	-103.769273	0.00	0.00	0.00	9735.49
20040.00	90.00	179.92	30.00	10280.00	-6922.70	-9765.43	-36.44	716037.38	393534.23	32.080650	-103.769273	0.00	0.00	0.00	9765.49
20070.00	90.00	179.92	30.00	10280.00	-6922.70	-9795.43	-36.40	716037.42	393504.23	32.080567	-103.769274	0.00	0.00	0.00	9795.49
20100.00	90.00	179.92	30.00	10280.00	-6922.70	-9825.43	-36.36	716037.46	393474.23	32.080485	-103.769274	0.00	0.00	0.00	9825.49
20130.00	90.00	179.92	30.00	10280.00	-6922.70	-9855.43	-36.32	716037.50	393444.23	32.080402	-103.769274	0.00	0.00	0.00	9855.49
20160.00	90.00	179.92	30.00	10280.00	-6922.70	-9885.43	-36.28	716037.54	393414.23	32.080320	-103.769275	0.00	0.00	0.00	9885.49
20190.00	90.00	179.92	30.00	10280.00	-6922.70	-9915.43	-36.24	716037.58	393384.23	32.080237	-103.769275	0.00	0.00	0.00	9915.49
20220.00	90.00	179.92	30.00	10280.00	-6922.70	-9945.43	-36.20	716037.62	393354.23	32.080155	-103.769276	0.00	0.00	0.00	9945.49
20250.00	90.00	179.92	30.00	10280.00	-6922.70	-9975.43	-36.16	716037.66	393324.23	32.080072	-103.769276	0.00	0.00	0.00	9975.49
20280.00	90.00	179.92	30.00	10280.00	-6922.70	-10005.43	-36.12	716037.70	393294.23	32.079990	-103.769276	0.00	0.00	0.00	10005.49
20310.00	90.00	179.92	30.00	10280.00	-6922.70	-10035.43	-36.08	716037.75	393264.23	32.079907	-103.769277	0.00	0.00	0.00	10035.49
20340.00	90.00	179.92	30.00	10280.00	-6922.70	-10065.43	-36.04	716037.79	393234.23	32.079825	-103.769277	0.00	0.00	0.00	10065.49
20370.00	90.00	179.92	30.00	10280.00	-6922.70	-10095.43	-35.99	716037.83	393204.23	32.079743	-103.769277	0.00	0.00	0.00	10095.49
20400.00	90.00	179.92	30.00	10280.00	-6922.70	-10125.43	-35.95	716037.87	393174.23	32.079660	-103.769278	0.00	0.00	0.00	10125.49
20430.00	90.00	179.92	30.00	10280.00	-6922.70	-10155.43	-35.91	716037.91	393144.23	32.079578	-103.769278	0.00	0.00	0.00	10155.49
20460.00	90.00	179.92	30.00	10280.00	-6922.70	-10185.43	-35.87	716037.95	393114.23	32.079495	-103.769279	0.00	0.00	0.00	10185.49
20461.36	90.00	179.92	1.36	10280.00	-6922.70	-10186.78	-35.87	716037.95	393112.87	32.079491	-103.769279	0.00	0.00	0.00	10186.84

devon

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.

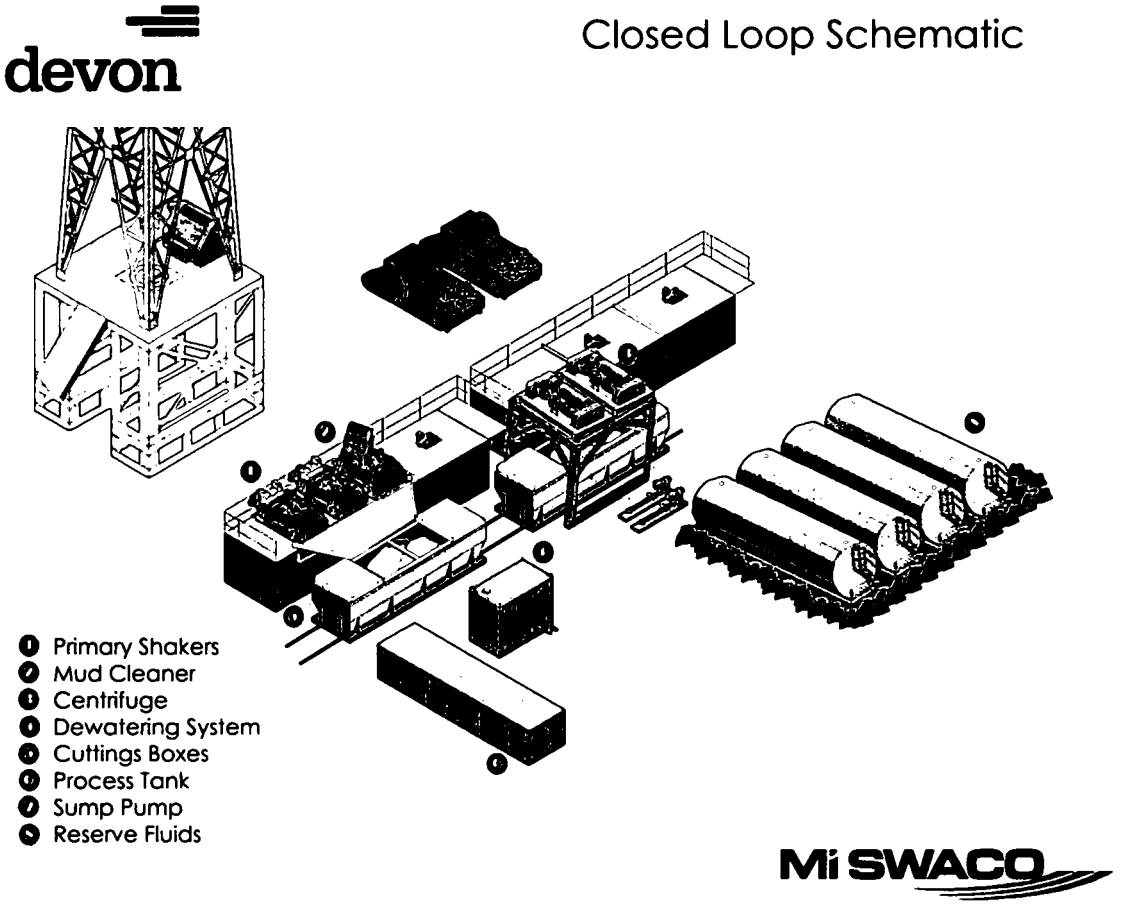
Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

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.



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

dope, or regulated chemicals are removed from soil and sent to landfills approved for these products.

These operations are monitored by Mi Swaco service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the mud storage farm. This data is kept for end of well review to insure performance goals are met. Lessons learned are logged and used to help with continuous improvement.

A MI SWACO field supervisor manages from 3-5 wells. They are responsible for training personnel, supervising installations, and inspecting sites for compliance of MI SWACO safety and operational policy.

III. Closure Plan

A maximum 340' X 340' caliche pad is built per well. All of the trucks and steel tanks fit on this pad. All fluid cuttings go to the steel tanks to be hauled by various trucking companies to an agency approved disposal.

Devon Energy – Lusitano 27-34 Fed Com 233H

1. Geologic Formations

TVD of target	10280	Pilot hole depth	N/A
MD at TD:	20461	Deepest expected fresh water:	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Rustler	862		
Salado	1157		
Base of Salt	4227		
Delaware	4282		
L Brushy Canyon	7992		
Bone Spring	8227		
Leonard 'A'	8332		
Leonard 'B'	8742		
Leonard 'C'	8997		
1st BSPG Sand	9267		
2nd BSPG Lime	9652		
2nd BSPG Sand	9837		
L 2nd BSPG Sand	10267		
Landing Pt	10280		

*H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (PPF)	Grade	Conn.
	From	To				
17.5"	0	887	13.375"	48	H-40	STC
12.25"	0	4382	9.625"	40	J-55	BTC
8.75"	0	TD	5.5"	17	P-110	BTC
BLM Minimum Safety Factor				Collapse: 1.125	Burst: 1.00	Tension: 1.6 Dry 1.8 Wet

- All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h Must have table for contingency casing
- Rustler top will be validated via drilling parameters (i.e. reduction in ROP) and surface casing setting depth revised accordingly if needed.
- Variance is requested for collapse rating on intermediate casing. Operator will keep pipe full while running casing. No losses are expected in subsequent hole section.
- Int casing shoe will be selected based on drilling data, gamma, and flows experienced while drilling. Setting depth with be revised accordingly if needed.
- A variance is requested to wave the centralizer requirement for the intermediate and production casing strings if drilling conditions dictate

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program (3-String Primary Design)

Casing	# Sks	TOC	Wt. (lb/gal)	H_20 (gal/sk)	Yld (ft3/sack)	Slurry Description
Surface	926	Surf	13.2	6.33	1.33	Lead: Class C Cement + additives
Int	688	Surf	9	20.6	1.94	Lead: Class C Cement + additives
	196	500' above shoe	13.2	6.42	1.33	Tail: Class H / C + additives
Production	455	500' tieback	9	20.6	1.94	Lead: Class H / C + additives
	1871	KOP	13.2	5.31	1.6	Tail: Class H / C + additives

If a DV tool is ran the depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. Slurry weights will be adjusted based on estimated fracture gradient of the formation. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet

above current shoe. If cement is not returned to surface during the primary cement job on the surface casing string, a planned top job will be conducted immediately after completion of the primary job.

Casing String	% Excess
Surface	100%
Intermediate	50%
Production	10%

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
Int 1	13-5/8"	3M	Annular	X	50% of rated working pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	X	
			Other*		
Production	13-5/8"	3M	Annular (5M)	X	50% of rated working pressure
			Blind Ram		3M
			Pipe Ram		
			Double Ram	X	
			Other *		
			Annular		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other *		

5. Mud Program

6. Depth		Type	Weight (ppg)	Vis	Water Loss
From	To				
0	887	FW	8.5 – 9.0	28-34	N/C
887	4382	Brine	10 – 10.5	28-34	N/C
4382	TD	WBM	8.5 – 9.0	28-34	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
X	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned		Interval
	Resistivity	
	Density	
X	CBL	Production casing
X	Mud log	KOP to TD

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4811 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H2S is present
Y	H2S Plan attached

8. Other facets of operation

Is this a walking operation? Potentially

1. If operator elects, drilling rig will batch drill the surface holes and run/cement surface casing; walking the rig to next wells on the pad.
2. The drilling rig will then batch drill the intermediate sections and run/cement intermediate casing; the wellbore will be isolated with a blind flange and pressure gauge installed for monitoring the well before walking to the next well.
3. The drilling rig will then batch drill the production hole sections on the wells with OBM, run/cement production casing, and install TA caps or tubing heads for completions.

NOTE: During batch operations the drilling rig will be moved from well to well however, it will not be removed from the pad until all wells have production casing run/cemented.

Will be pre-setting casing? Potentially

1. Spudder rig will move in and drill surface hole.

   a. Rig will utilize fresh water based mud to drill surface hole to TD. Solids control will be handled entirely on a closed loop basis.
2. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
3. The wellhead will be installed and tested once the 10 ¾" surface casing is cut off and the WOC time has been reached.
4. A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
5. Spudder rig operations is expected to take 4-5 days per well on a multi well pad.
6. The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
7. Drilling operations will be performed with the drilling rig. At that time an approved BOP stack will be nippled up and tested on the wellhead before drilling operations commences on each well.
   a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

Attachments
_x_ Directional Plan
___ Other, describe

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.

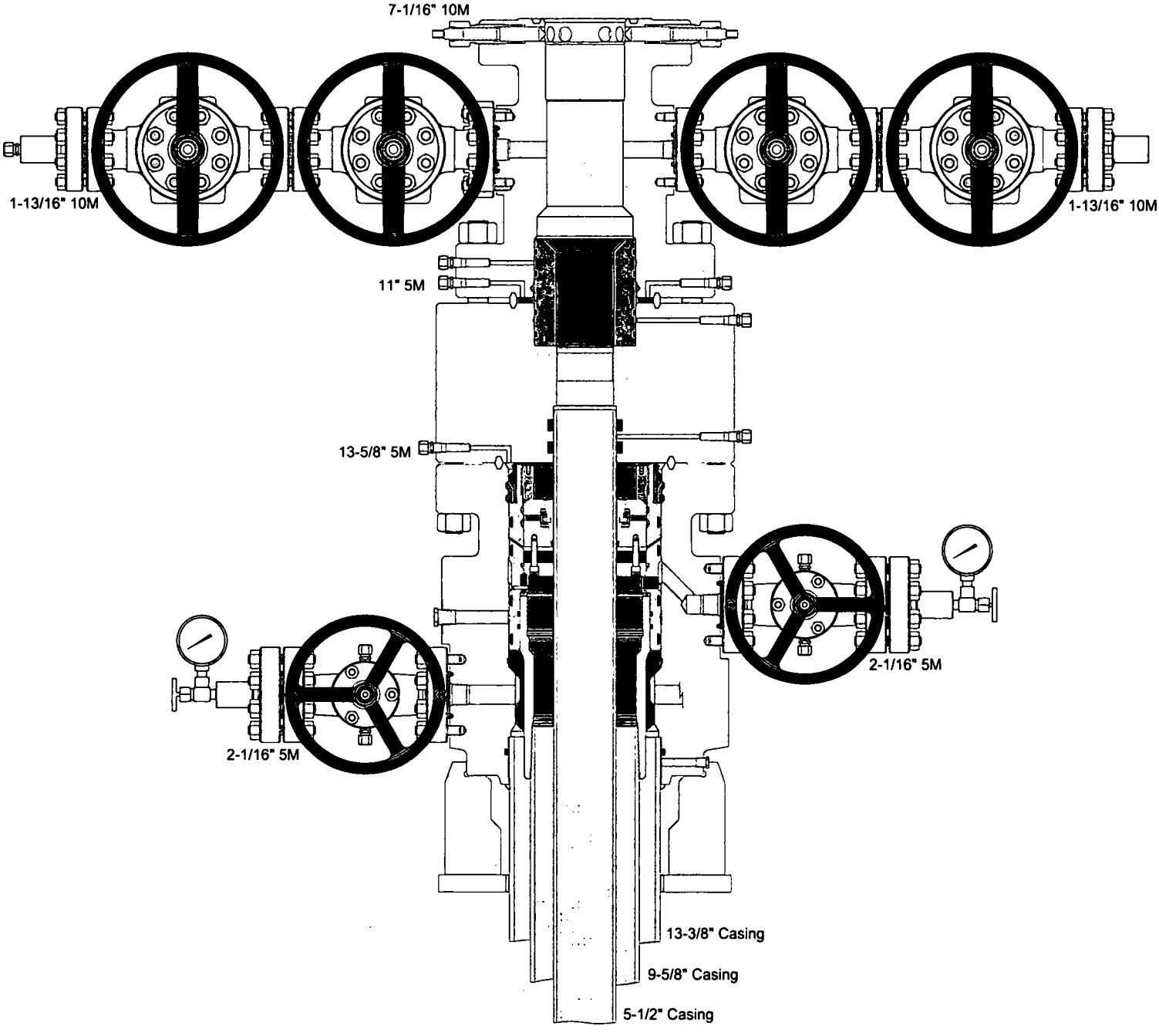
Devon proposes using a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 3000 (3M) psi.

- 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.


7-1/16" 10M
1-13/16" 10M
1-13/16" 10M
11" 5M
13-5/8" 5M
2-1/16" 5M
2-1/16" 5M
13-3/8" Casing
9-5/8" Casing
5-1/2" Casing

Continental CONTITECH

Fluid Technology

ContiTech Beattie Corp.
Website: www.contitechbeattie.com

Monday, June 14, 2010

RE: Drilling & Production Hoses
Lifting & Safety Equipment

To Helmerich & Payne,

A Continental ContiTech hose assembly can perform as intended and suitable for the application regardless of whether the hose is secured or unsecured in its configuration. As a manufacturer of High Pressure Hose Assemblies for use in Drilling & Production, we do offer the corresponding lifting and safety equipment, this has the added benefit of easing the lifting and handling of each hose assembly whilst affording hose longevity by ensuring correct handling methods and procedures as well as securing the hose in the unlikely event of a failure; but in no way does the lifting and safety equipment affect the performance of the hoses providing the hoses have been handled and installed correctly It is good practice to use lifting & safety equipment but not mandatory

Should you have any questions or require any additional information/clarifications then please do not hesitate to contact us.

ContiTech Beattie is part of the Continental AG Corporation and can offer the full support resources associated with a global organization.

Best regards,

Robin Hodgson
Sales Manager
ContiTech Beattie Corp

ContiTech Beattie Corp,
11535 Brittmoore Park Drive,
Houston, TX 77041
Phone: +1 (832) 327-0141
Fax: +1 (832) 327-0148
www.contitechbeattie.com

RIG 212

PHOENIX

QUALITY DOCUMENT

PHOENIX RUBBER INDUSTRIAL LTD.

6728 Szeged, Budapesti út 10. Hungary • H-6701 Szeged, P. O. Box 152
Phone: (3662) 566-737 • Fax: (3662) 568-738

SALES & MARKETING: H-1092 Budapest, Ráday u. 42-44. Hungary • H-1440 Budapest, P. O. Box 26
Phone: (361) 456-4200 · Fax: (361) 217-2872, 456-4273 · www.taurusemerge.hu

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°:	552	
PURCHASER:	Phoenix Beattie Co.			P.O. N°:	1519FA-871	
PHOENIX RUBBER order N°:	170466	HOSE TYPE:	3" ID	Choke and Kill Hose		
HOSE SERIAL N°:	34128	NOMINAL / ACTUAL LENGTH:		11,43 m		
W.P. 68,96 MPa	10000 psi	T.P. 103,4 MPa	15000 psi	Duration:	60	min.

Pressure test with water at ambient temperature

See attachment. (1 page)

↑ 10 mm = 10 Min.

→ 10 mm = 25 MPa

COUPLINGS

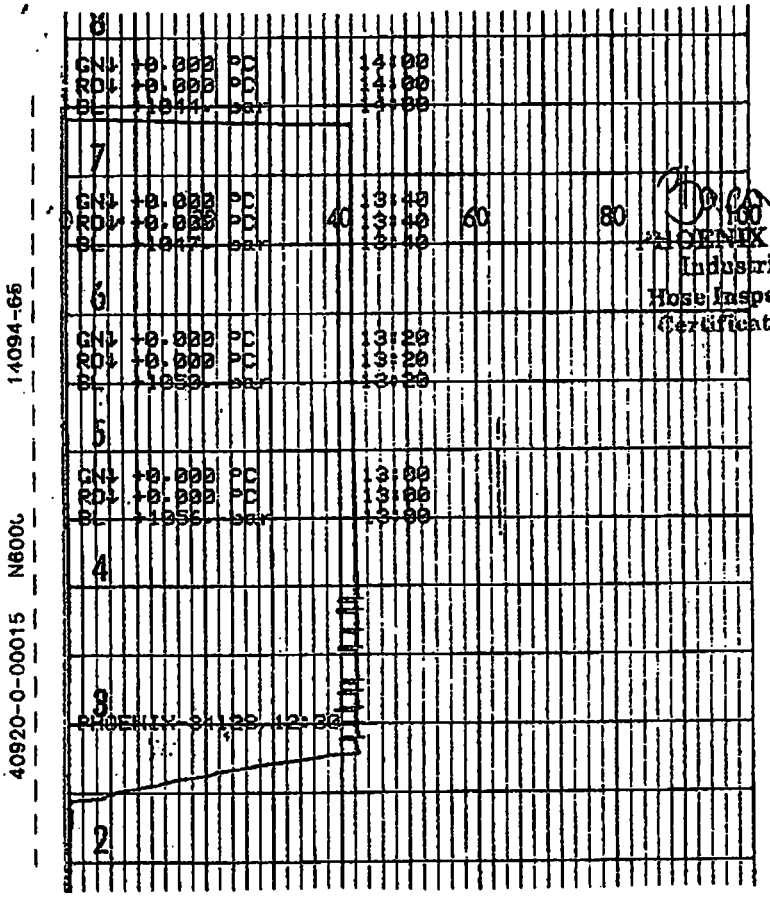
Type	Serial N°	Quality	Heat N°
3" coupling with 4 1/16" Flange end	720 719	AISI 4130 AISI 4130	C7626 47357

API Spec 16 C
Temperature rate:"B"

All metal parts are flawless

WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

Date:	Inspector	Quality Control
29. April. 2002.		PHOENIX RUBBER Industrial Ltd. Hose Inspection and Pressure Test Dept. VERIFIED TRUE COPY PHOENIX RUBBER Q.C.



PHOENIX RUBBER
Industrial Ltd.
Hose Inspection and
Certification Dept.

VERIFIED TRUE CO.
PHOENIX RUBBER Q.C.

APD ID: 10400035075 **Submission Date:** 10/16/2018

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM **Well Number:** 233H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Lusitano_27_34_Fed_Com_233H_Ex_Access_Rd_20181010102909.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_233H_Access_Rds_20181010103100.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:

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_233H_1mile_Map_20181010103153.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

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM **Well Number:** 233H

Water source use type: STIMULATION **Water source type:** RECYCLED

Describe type:

Source latitude: **Source longitude:**

Source datum:

Water source permit type: OTHER

Source land ownership: FEDERAL

Water source transport method: PIPELINE

Source transportation land ownership: FEDERAL

Water source volume (barrels): 230000 **Source volume (acre-feet):** 29.645412

Source volume (gal): 9660000

Water source and transportation map:

Lusitano_27_34_Fed_Com_233H_Wtr_Xfr_Map_20181010103459.pdf

Water source comments: The attached Water Transfer Map is a proposal only and the final route and documentation will be provided by a Devon contractor prior to installation. When available Devon will always follow existing disturbance.
New water well? NO

New Water Well Info

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

Well target aquifer:

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

Aquifer comments:

Aquifer documentation:

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

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

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

Drilling method: **Drill material:**

Grout material: **Grout depth:**

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

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: LUSITANO 27-34 FED COM **Well Number:** 233H

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_233H_Caliche_Pit_20181010103529.pdf

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: WATER BASED CUTTINGS

Amount of waste: 1971 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

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:** 233H

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_233H_Rig_Layout_20181010103723.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_233H_Reclamation_20181010103741.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
Road proposed disturbance (acres): 6.502
Powerline proposed disturbance (acres): 0.621
Pipeline proposed disturbance (acres): 0.185
Other proposed disturbance (acres): 4.219
Total proposed disturbance: 17.147

Well pad interim reclamation (acres): 1.921
Road interim reclamation (acres): 0
Powerline interim reclamation (acres): 0
Pipeline interim reclamation (acres): 0
Other interim reclamation (acres): 0
Total interim reclamation: 1.921

Well pad long term disturbance (acres): 3.699
Road long term disturbance (acres): 6.502
Powerline long term disturbance (acres): 0.621
Pipeline long term disturbance (acres): 0.185
Other long term disturbance (acres): 4.219
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:

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

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: JACOB **Last Name:** OCHOA

Phone: (575)748-9934 **Email:** jacob.ochoa@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:** 233H

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:** 233H

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

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_233H_Electric_20181010104203.pdf

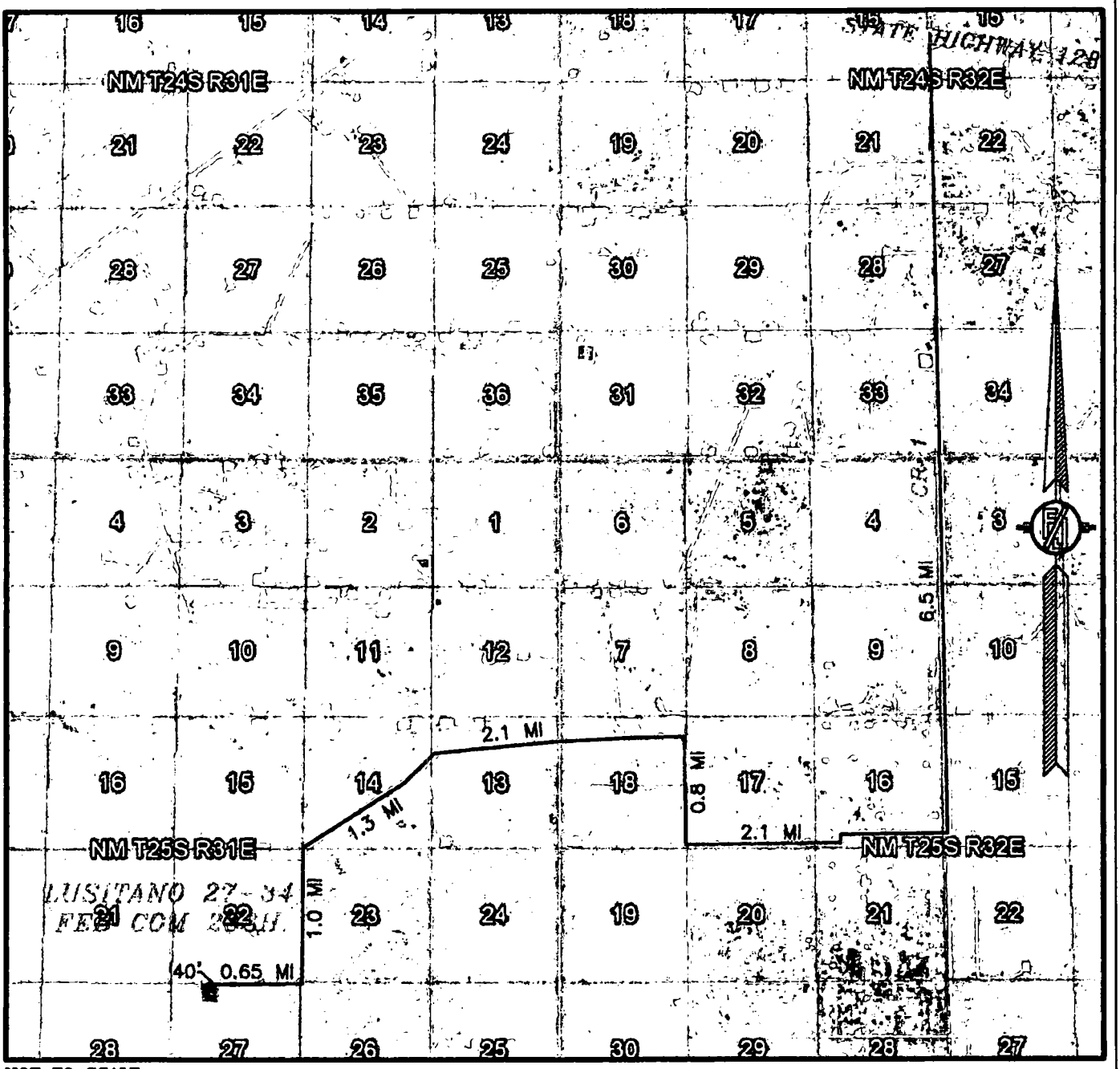
Lusitano_27_34_Fed_Com_233H_Flowline_20181010104233.pdf

Lusitano_27_34_Fed_Com_233H_Gas_Wtr_Battery_Connect_20181010104248.pdf

Lusitano_27_34_Fed_Com_233H_CDU_27_34_CTB_3_20181010104305.pdf

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 233H

LOCATED 385 FT. FROM THE NORTH LINE
AND 1702 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. 6423A

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

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.

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 24 DAY OF SEPTEMBER 2018

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

FILIMON F. JARAMILLO, PLS. 12797

301 SOUTH CANAL
(575) 234-3341

SURVEY NO. 6423A

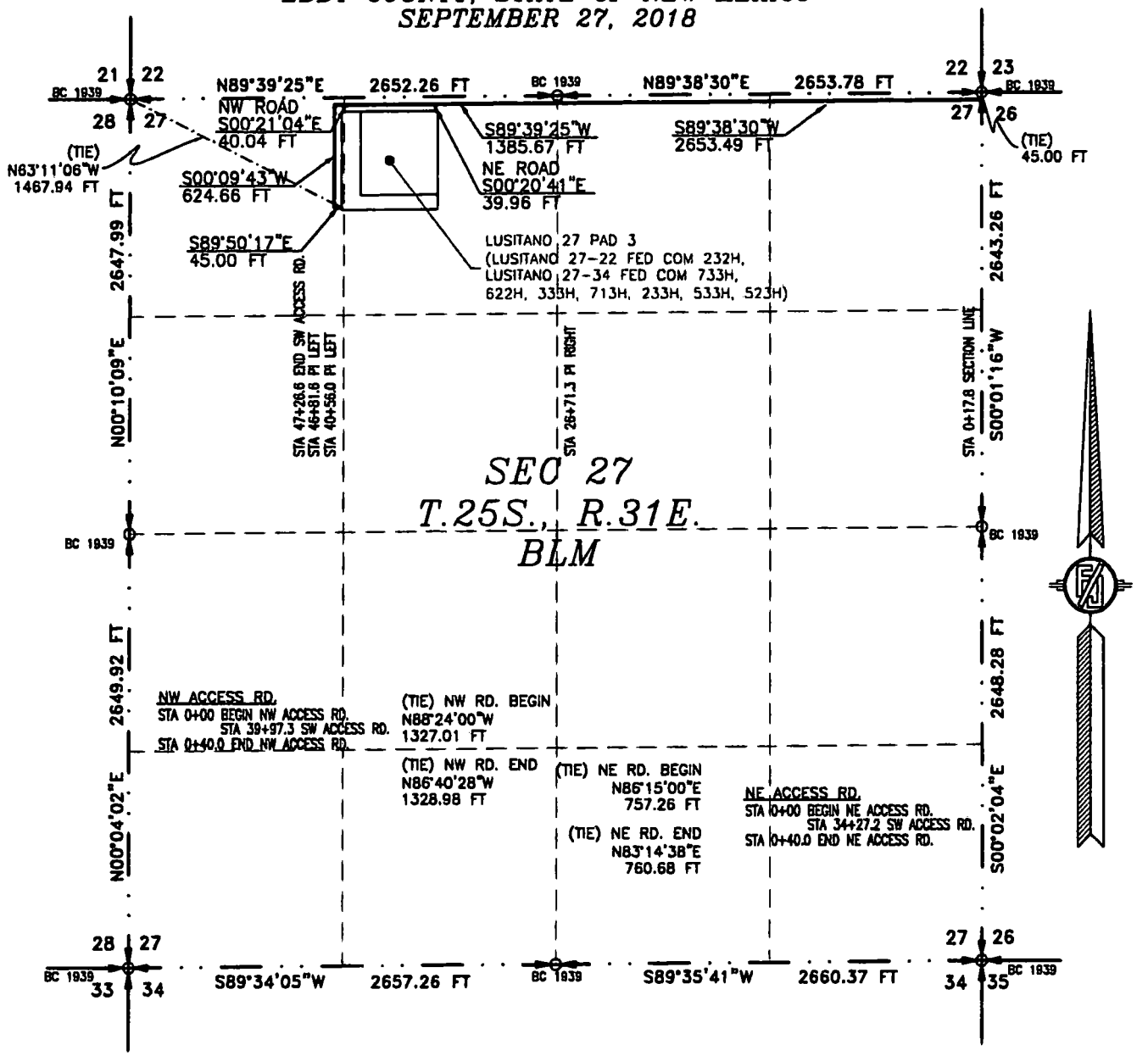
MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

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 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

1000 0 1000
Scale: 1" = 1000'

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.

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 29 DAY OF SEPTEMBER 2018

FILIMON F. JARAMILLO PLS. 12797
301 SOUTH CANAL
(575) 234-3341

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

SHEET: 3-4

SURVEY NO. 6423A

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 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

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.

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 27 DAY OF SEPTEMBER 2018

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

FILIMON F. JARAMILLO PLS 12797

301 SOUTH CANAL
(575) 234-3341

SHEET: 4-4

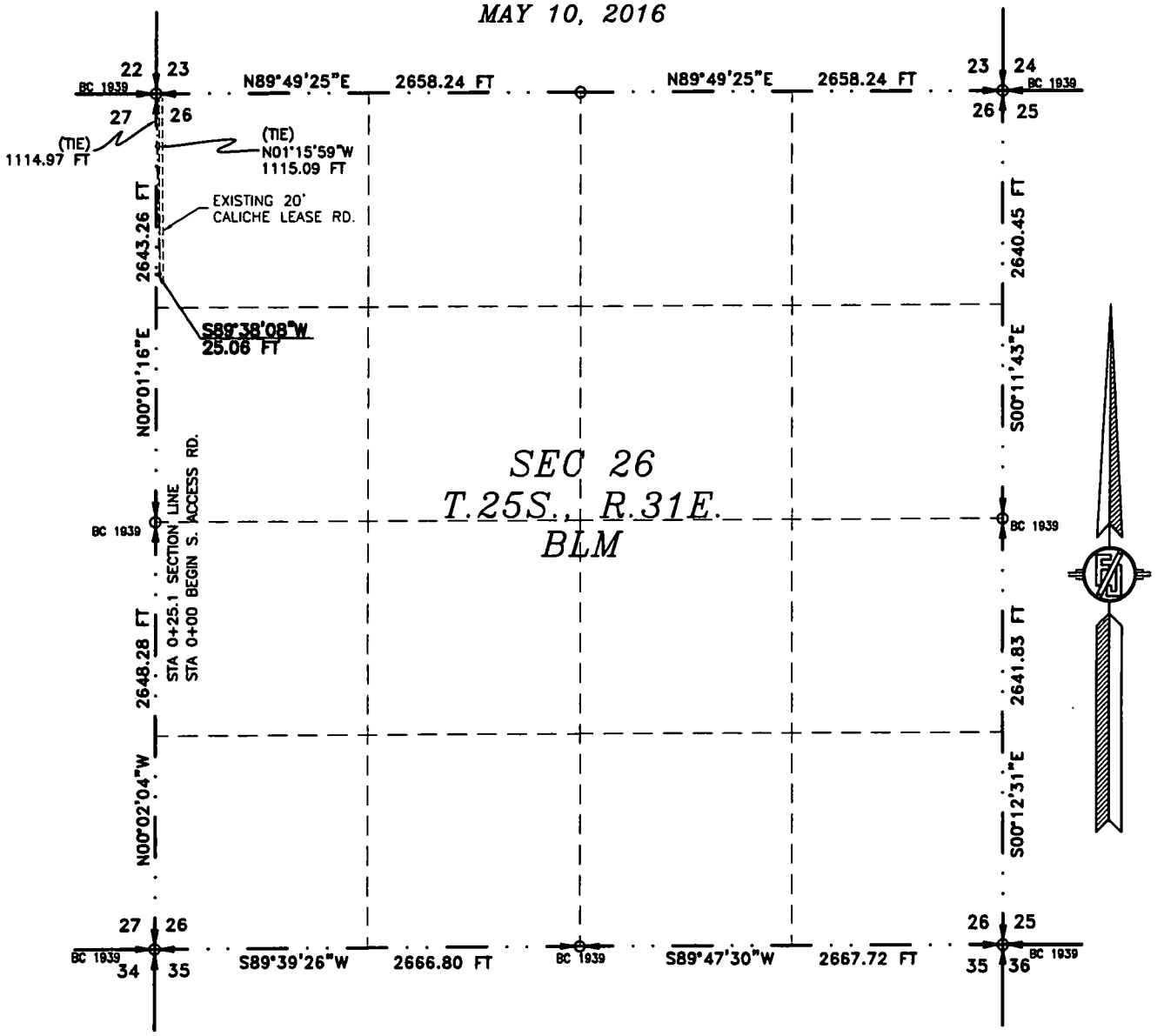
SURVEY NO. 6423A

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

1000 0 1000
Scale: 1" = 1000'

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 PLS 12797

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

SHEET: 1-6

SURVEY NO. 4666

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
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 REGISTERED PROFESSIONAL SURVEYOR

FILIMON F. JARAMILLO, P.S. 12797

301 SOUTH CANAL
(575) 234-3341

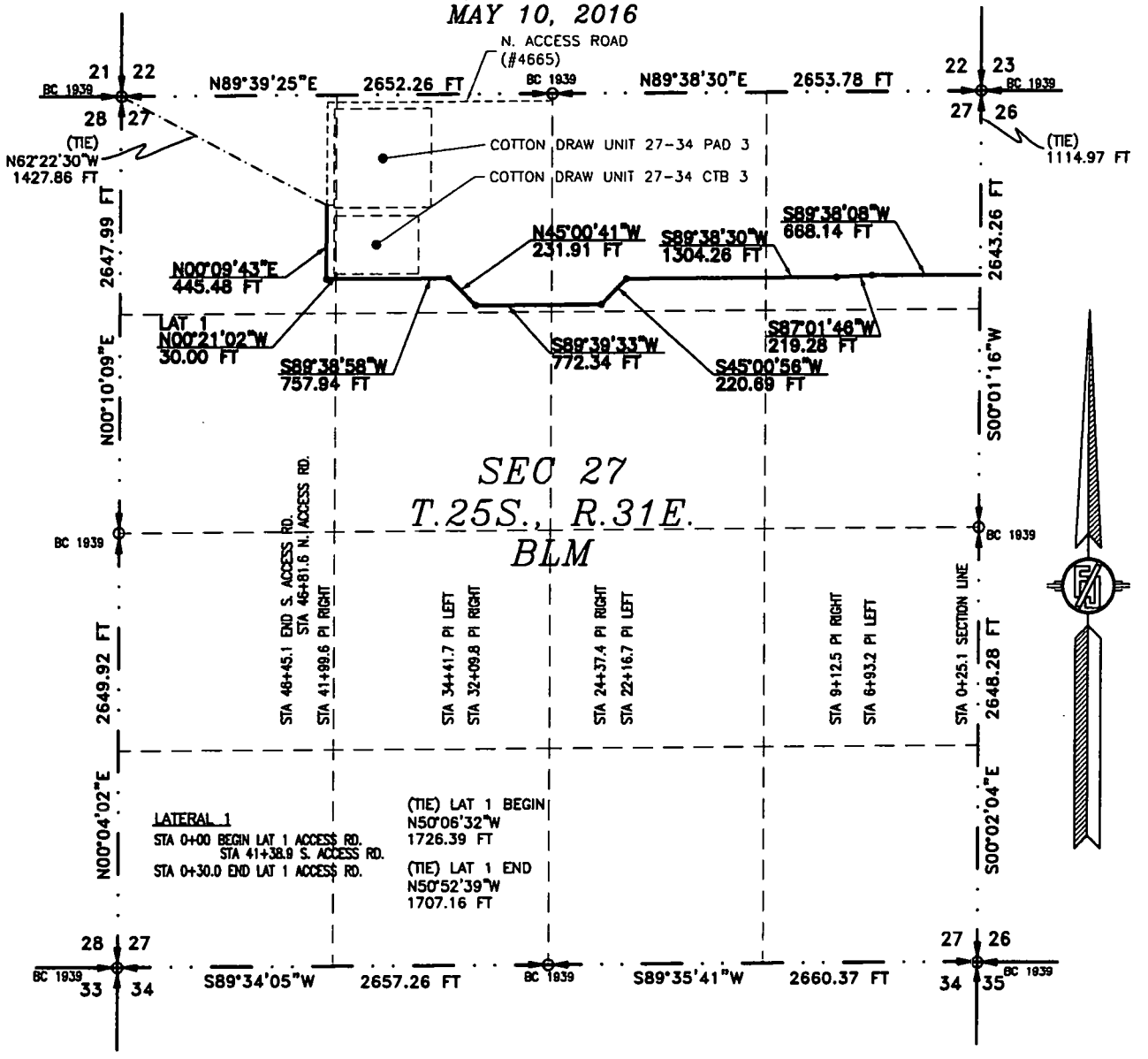
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

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

1000 0 1000
Scale: 1" = 1000'

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 12 DAY OF MAY 2016

FILIMON F. JARAMILLO NEW MEXICO 12797 REGISTERED PROFESSIONAL SURVEYOR

FILIMON F. JARAMILLO, P.S. 12797
301 SOUTH CANAL
(575) 234-3341

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

SHEET: 3-6

SURVEY NO. 4666

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 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

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 17 DAY OF MAY 2016

FILIMON F. JARAMILLO
NEW MEXICO
12797
REGISTERED PROFESSIONAL SURVEYOR

FILIMON F. JARAMILLO, P.L.S. 12797

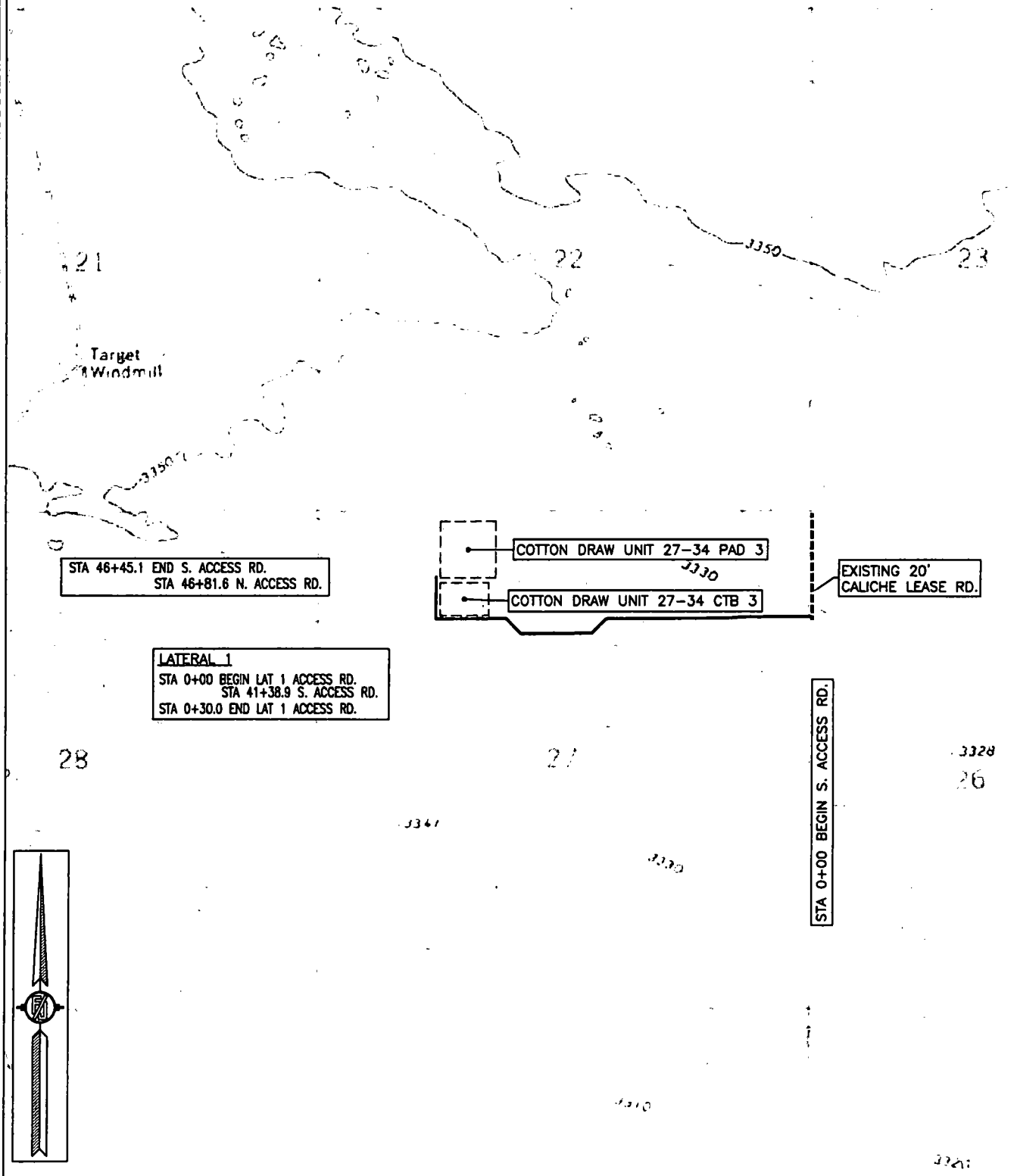
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

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



SHEET: 5-6

SURVEY NO. 4666

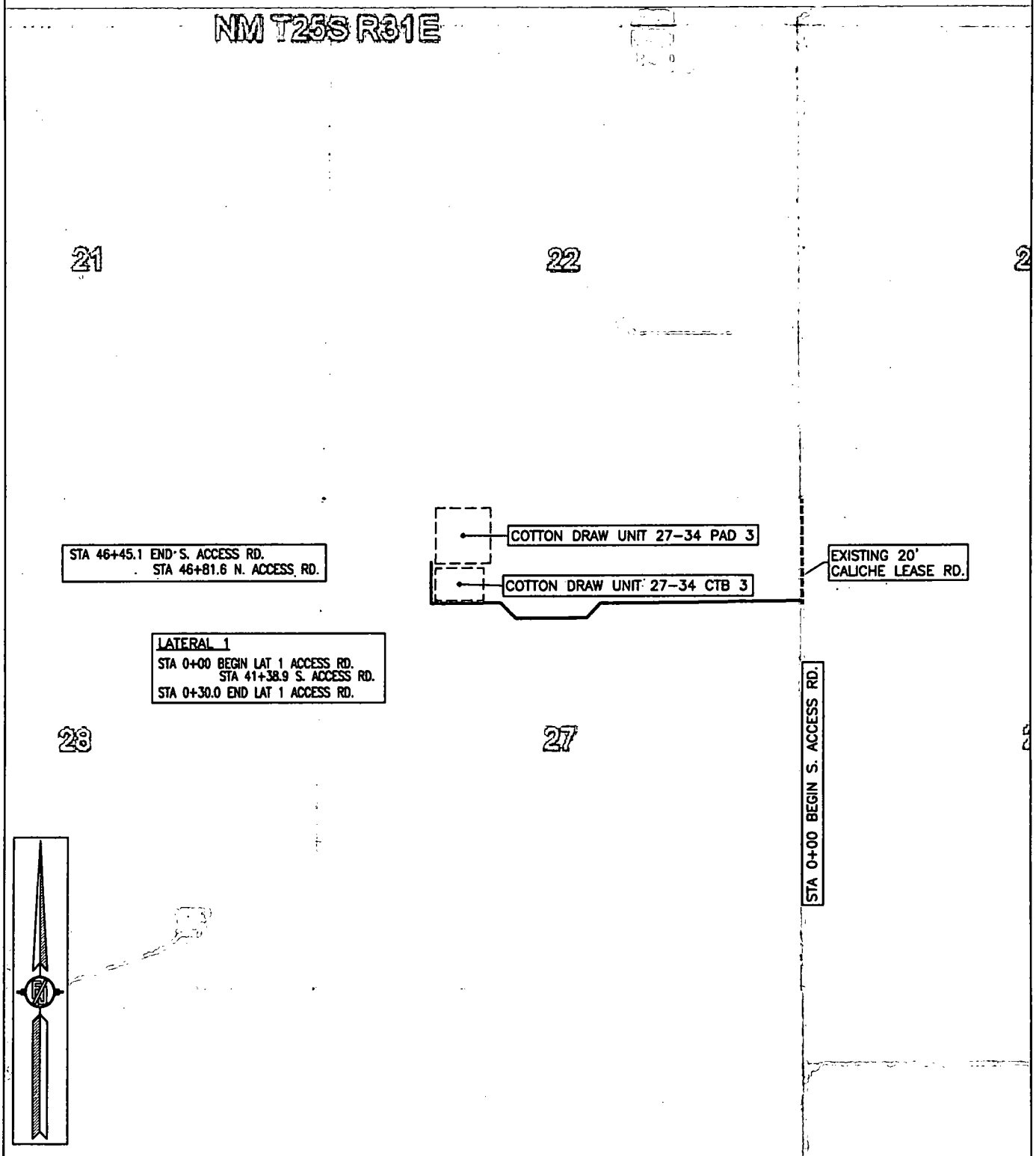
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

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



SHEET: 6-6 SURVEY NO. 4666

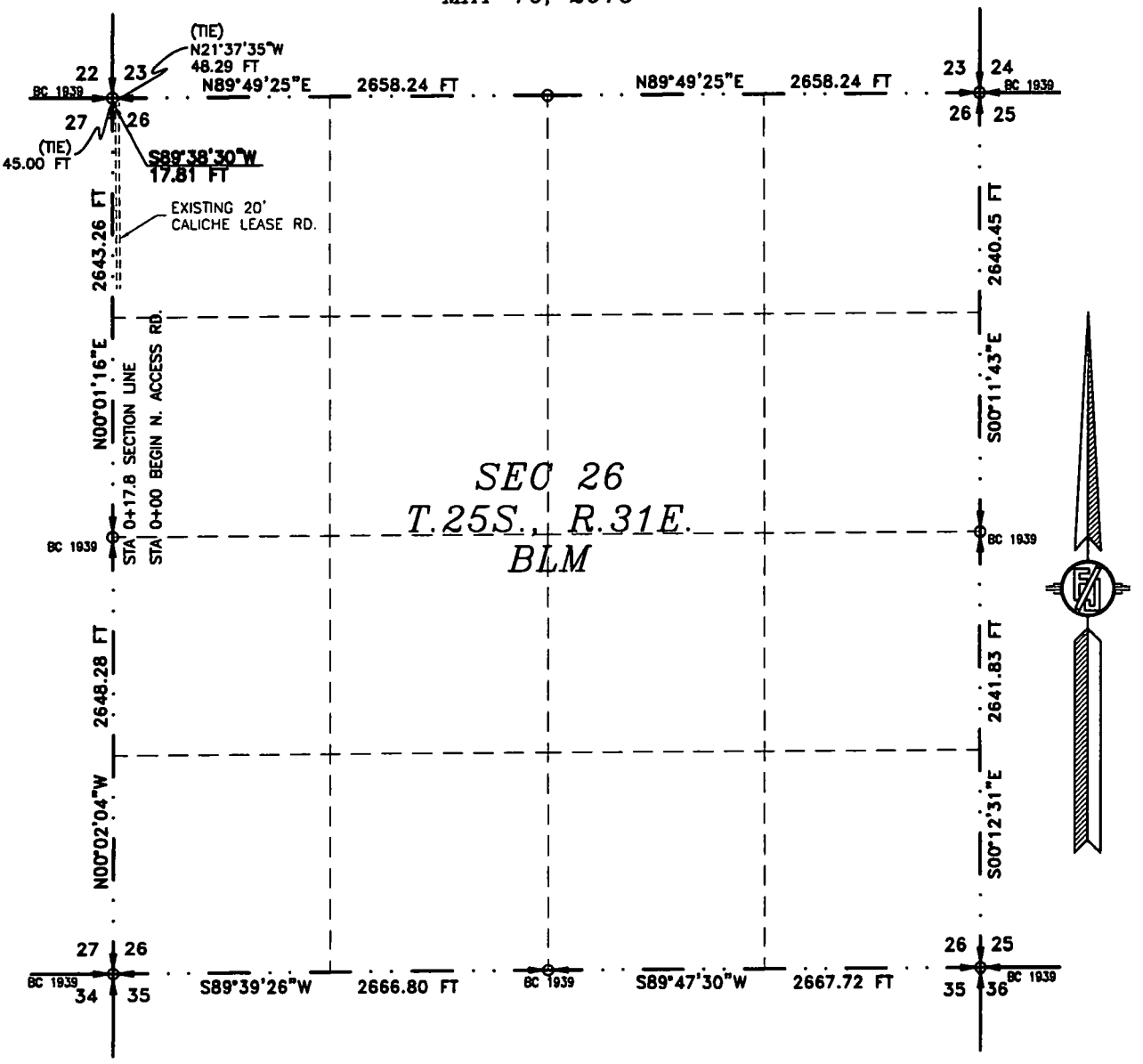
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

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



SEE NEXT SHEET (2-6) FOR DESCRIPTION

1000 0 1000
Scale: 1" = 1000'

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 17 DAY OF MAY, 2016

FILIMON F. JARAMILLO, PLS 12797
301 SOUTH CANAL
(575) 234-3341

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, 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, P.S. 12797

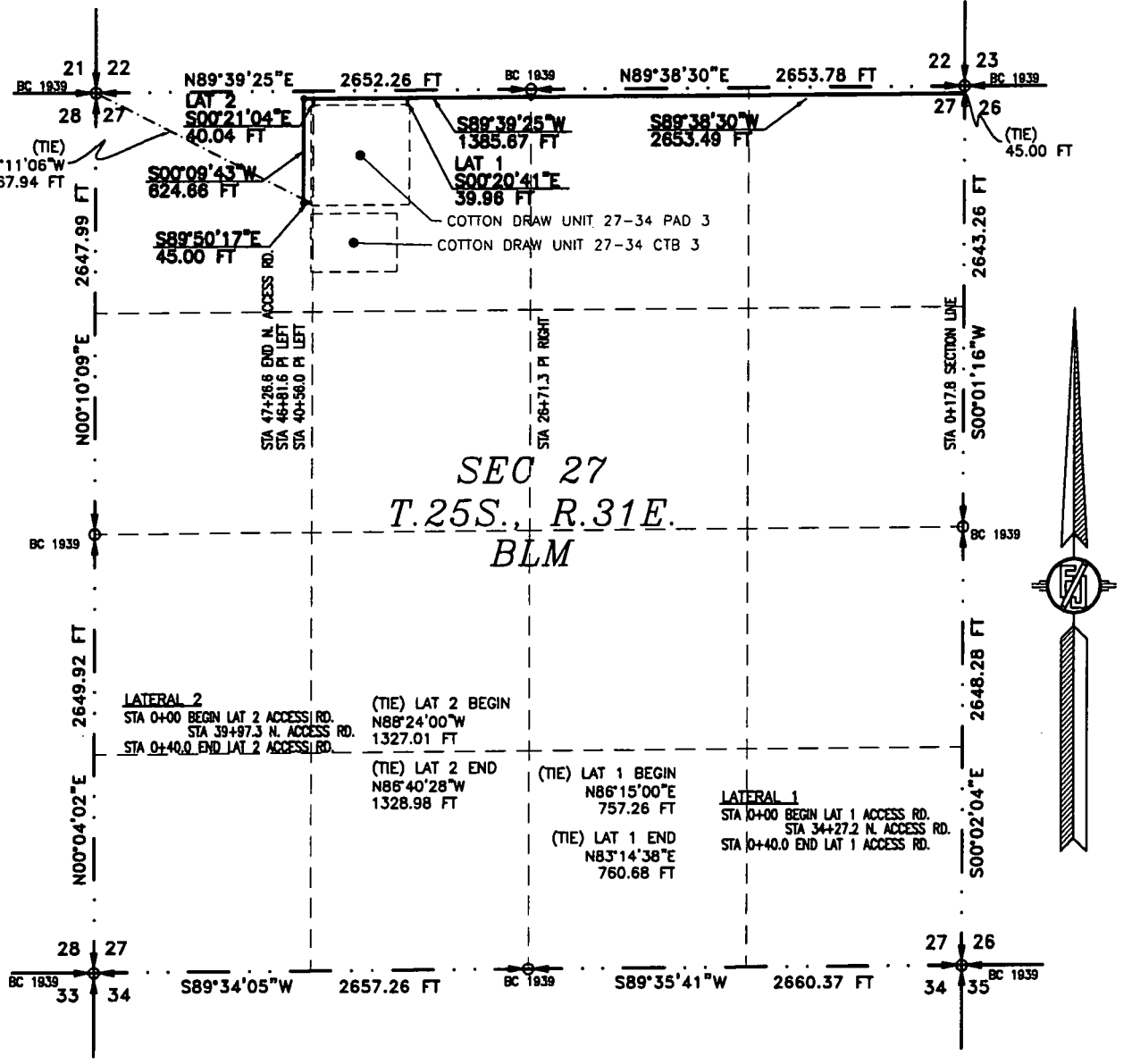
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

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

1000 0 1000
Scale: 1" = 1000'

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 DAY OF MAY 2016

FILIMON F. JARAMILLO NEW MEXICO 12797 REGISTERED PROFESSIONAL SURVEYOR

FILIMON F. JARAMILLO PLS 12797
301 SOUTH CANAL
(575) 234-3341

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

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

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 ____ DAY OF MAY 2016

FILIMON F. JARAMILLO NEW MEXICO 12797 REGISTERED PROFESSIONAL SURVEYOR

FILIMON F. JARAMILLO, PLS 12797

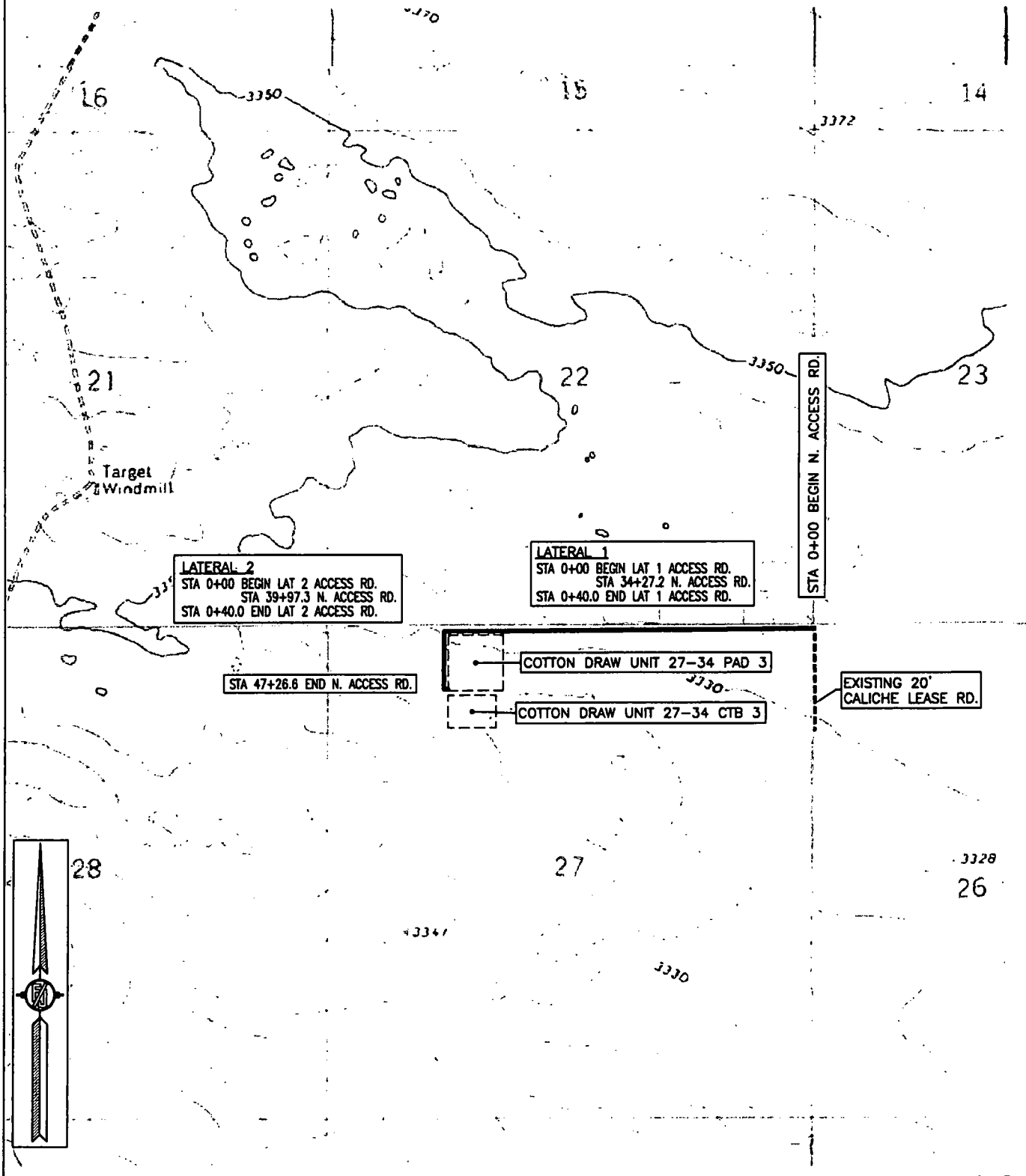
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

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



SHEET: 5-6

SURVEY NO. 4665

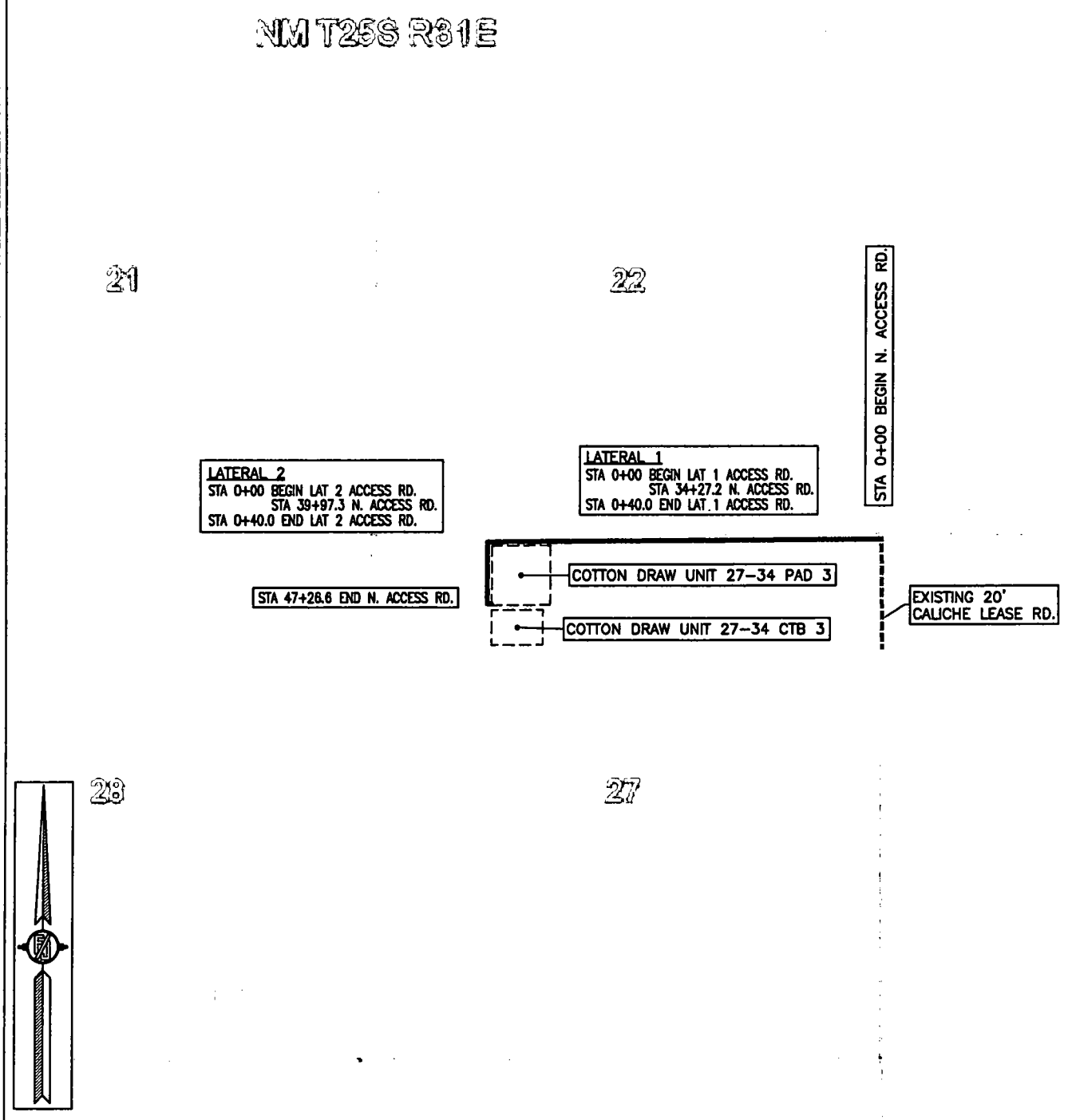
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

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
SECTIONS 26, 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 10, 2016



SHEET: 6-6 SURVEY NO. 4665

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

PLAT

One Mile Radius Map

devon

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.

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

N

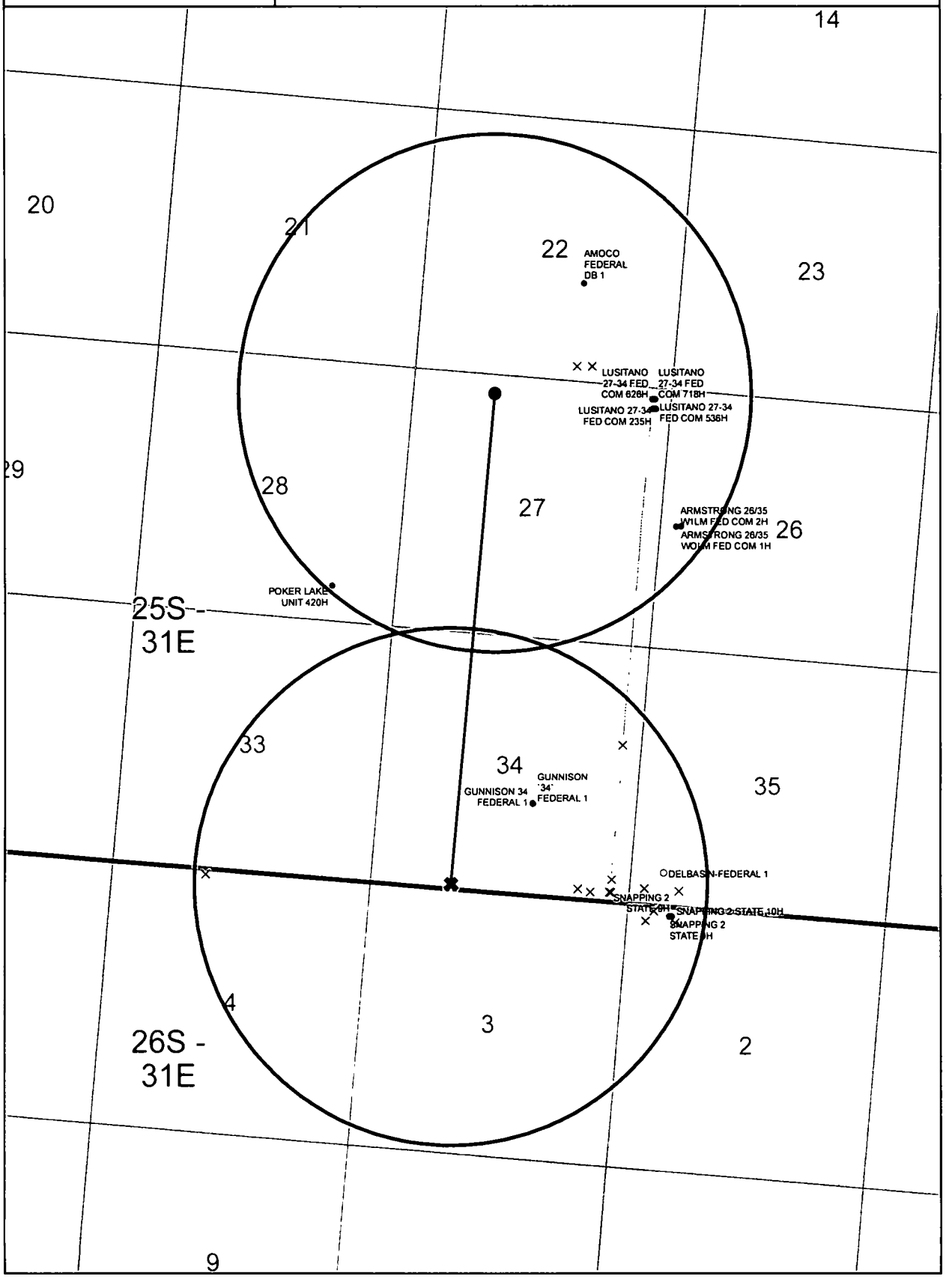
Miles
0 0.3
1 inch = 0.44 miles

LUSITANO 27-34 FED COM 233H
WA017161435

SHIRE 22 FED 1H
Nearest wellbore to SHL: 1775 ft.

LUSITANO 27-34 FED COM 626H
Nearest wellbore to BHL: 2613 ft.

- ○ Unknown SHL
- • Active SHL
- ○ Inactive SHL
- × BHL



LUSITANO 27-34 FED COM

233H/533H

devon

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

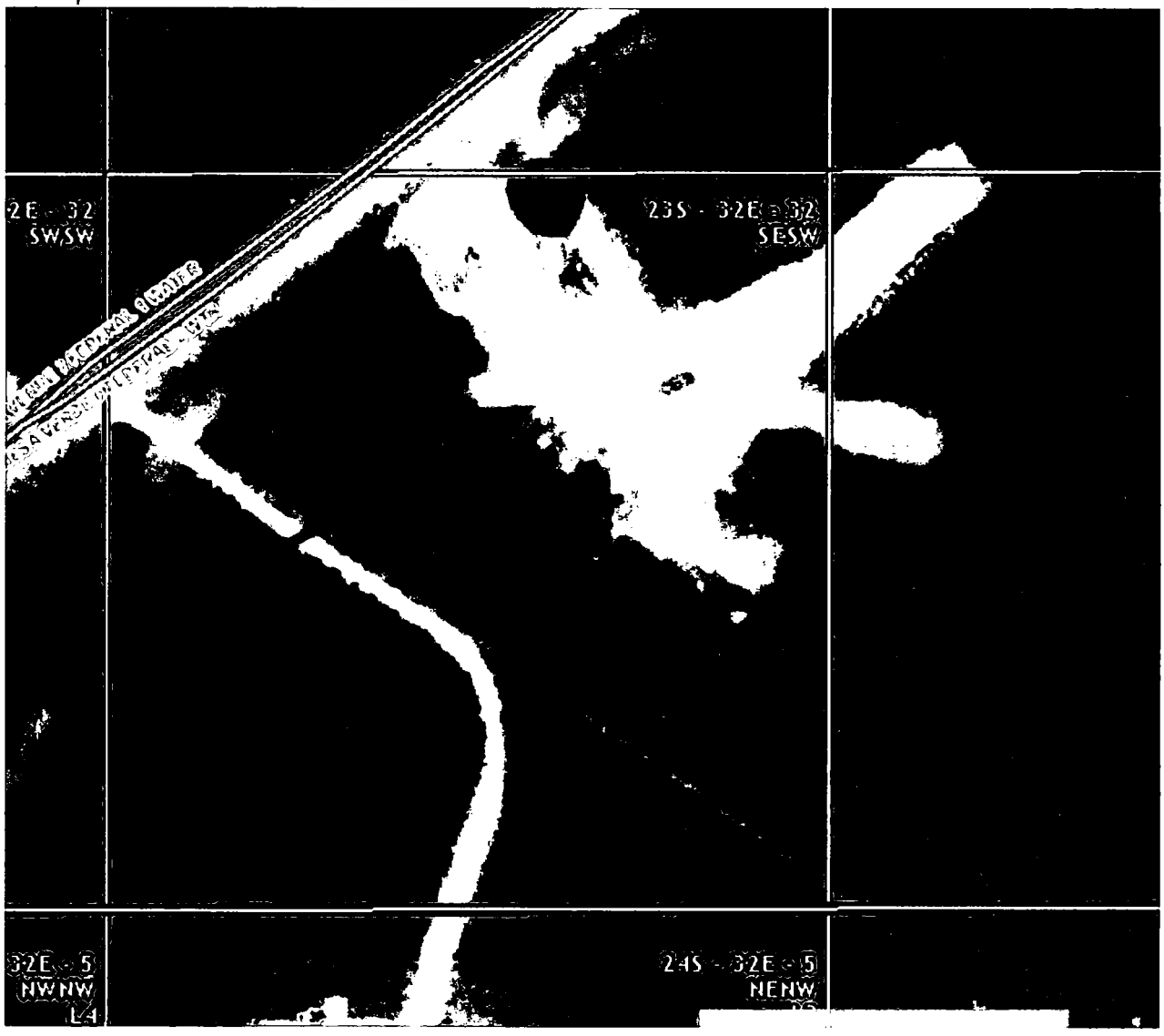
WGS_1984_Web_Mercator_Auxiliary_Sphere
Prepared by: _User
Map is current as of: 09-Oct-2018

N

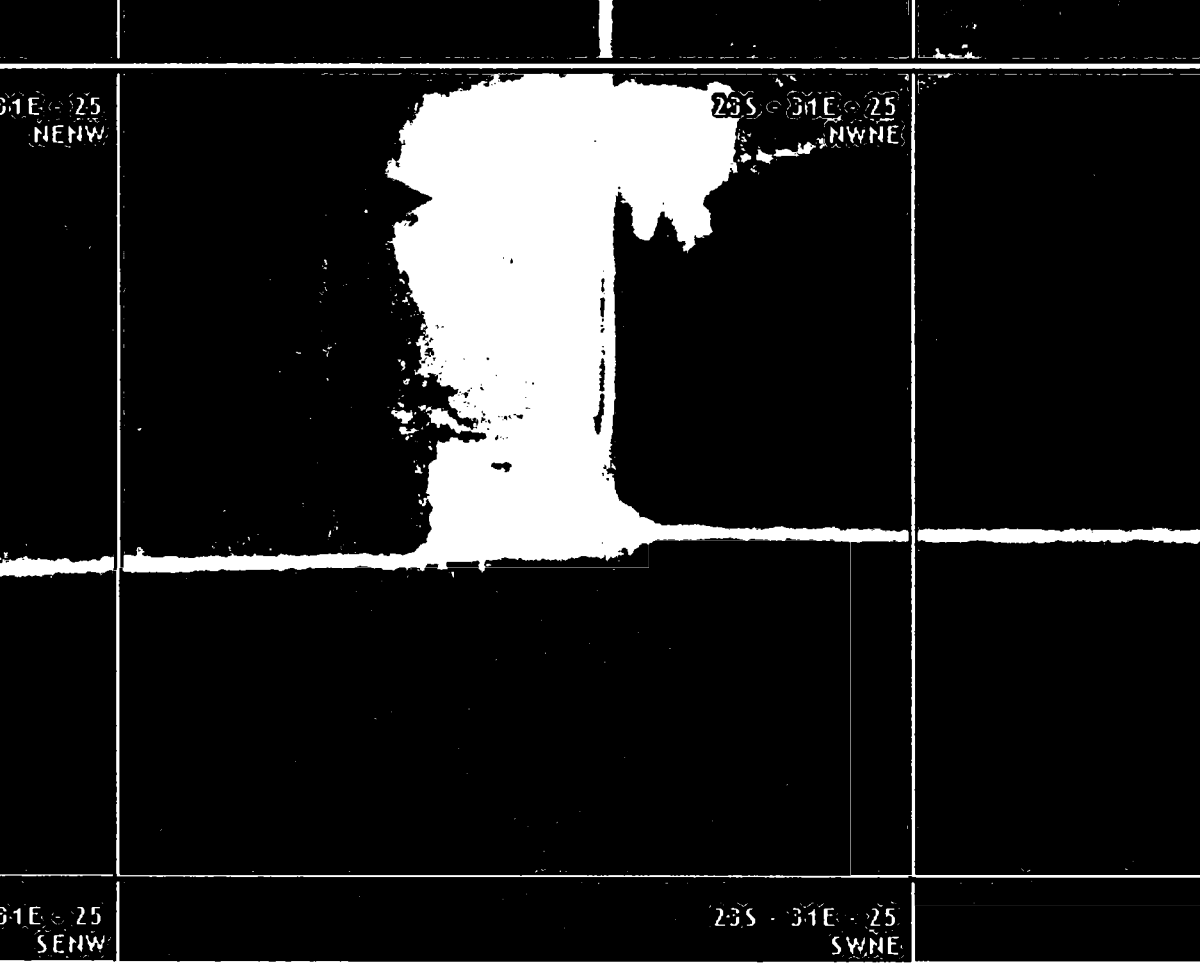
Miles
0 0.14 0.28 0.56 1: 28,457

- DVN Currently Drilling
- DVN Currently Frac'ing

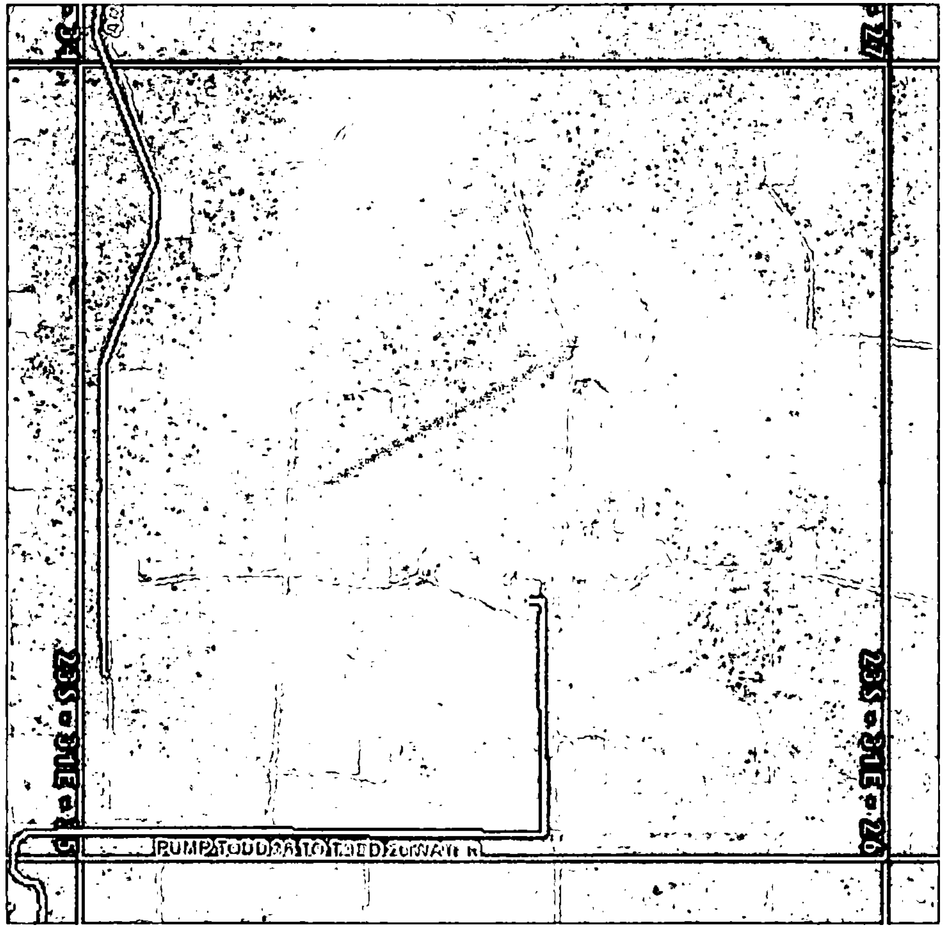
- State pit 616 and 617 32- 23S- 32E



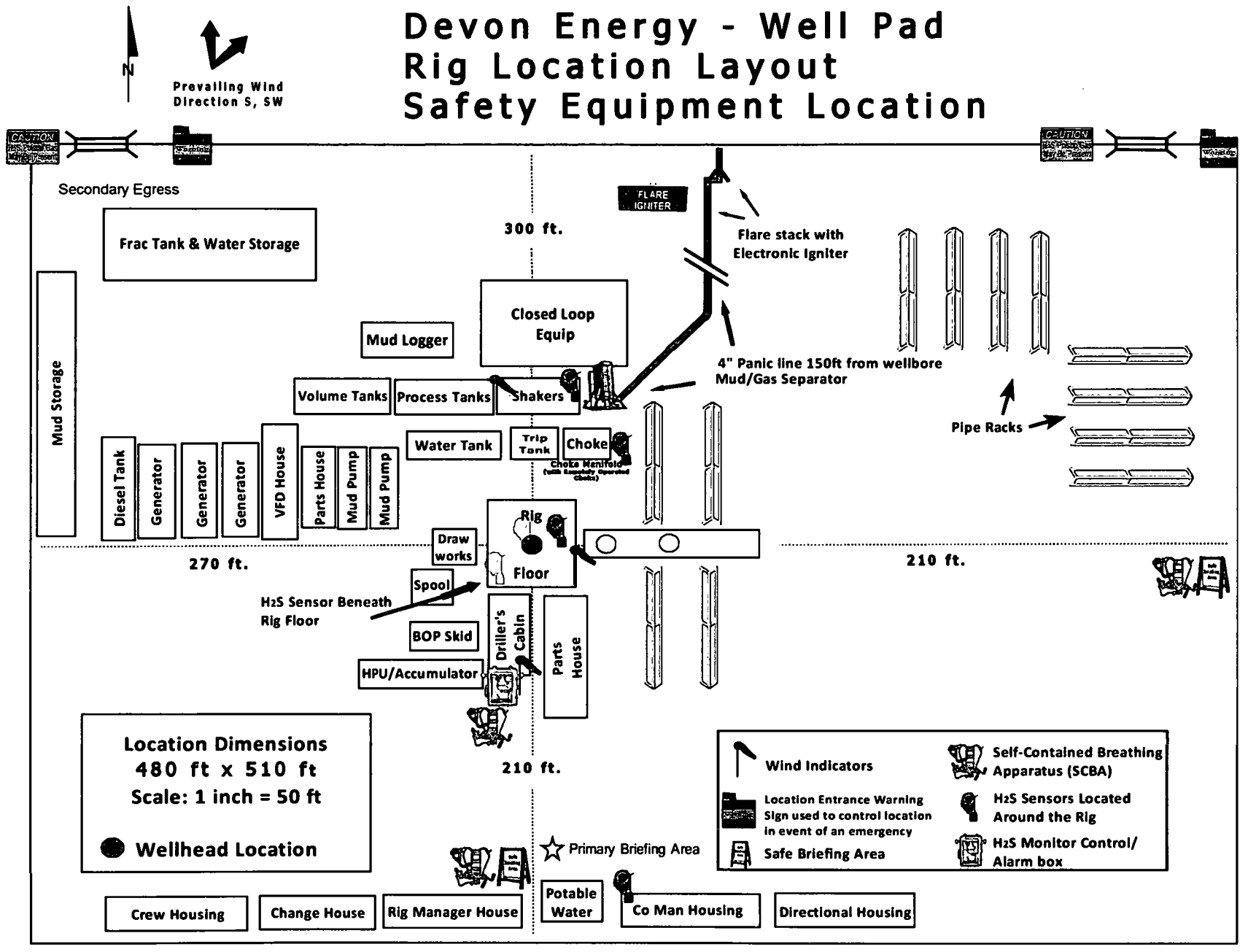
- Fed pit 25- 23S- 31E



- Private pit 26- 23S- 31E


28S • 31E • 26

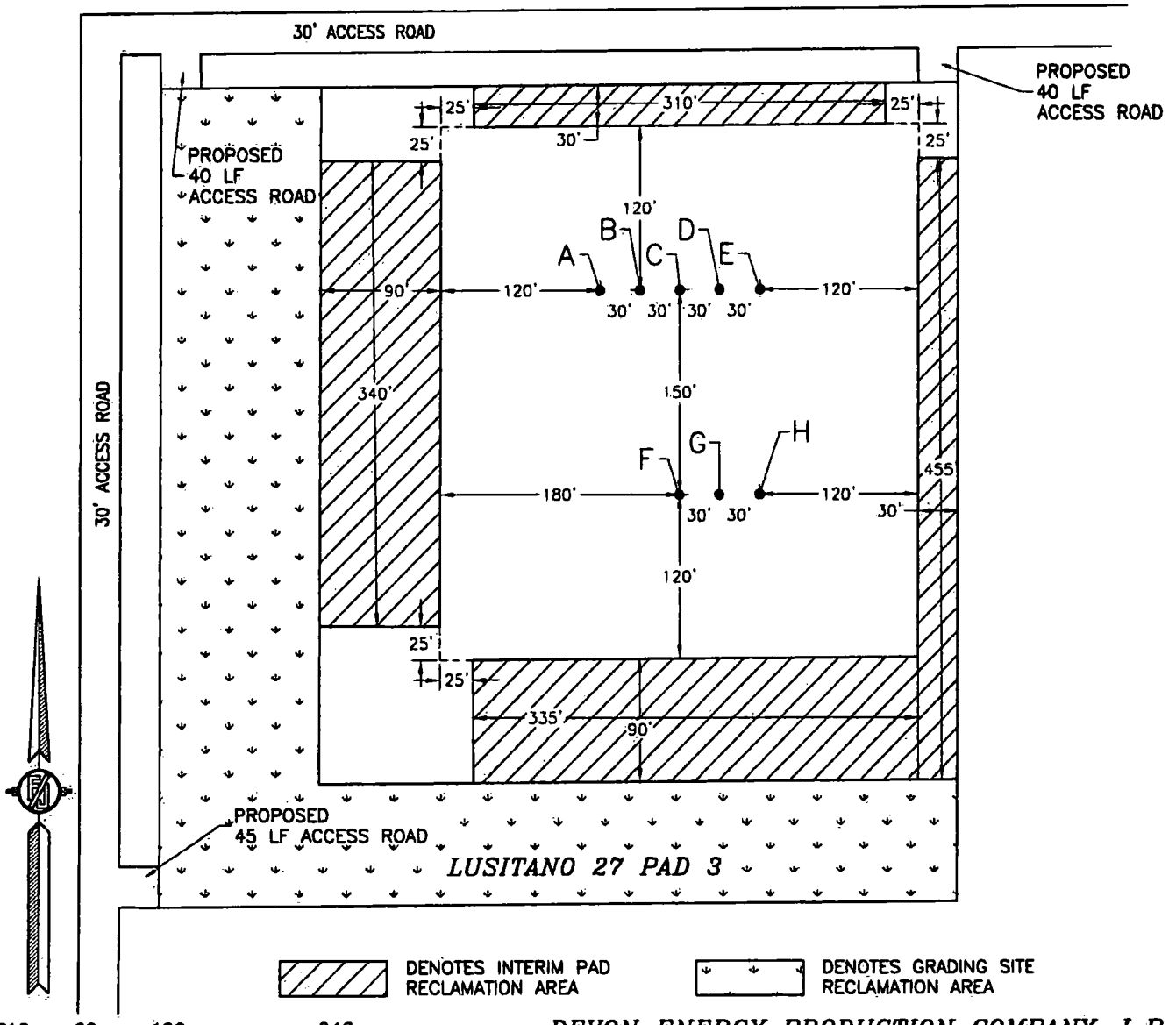
Devon Energy - Well Pad
Rig Location Layout
Safety Equipment Location



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
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

SEC. 22
SEC. 27



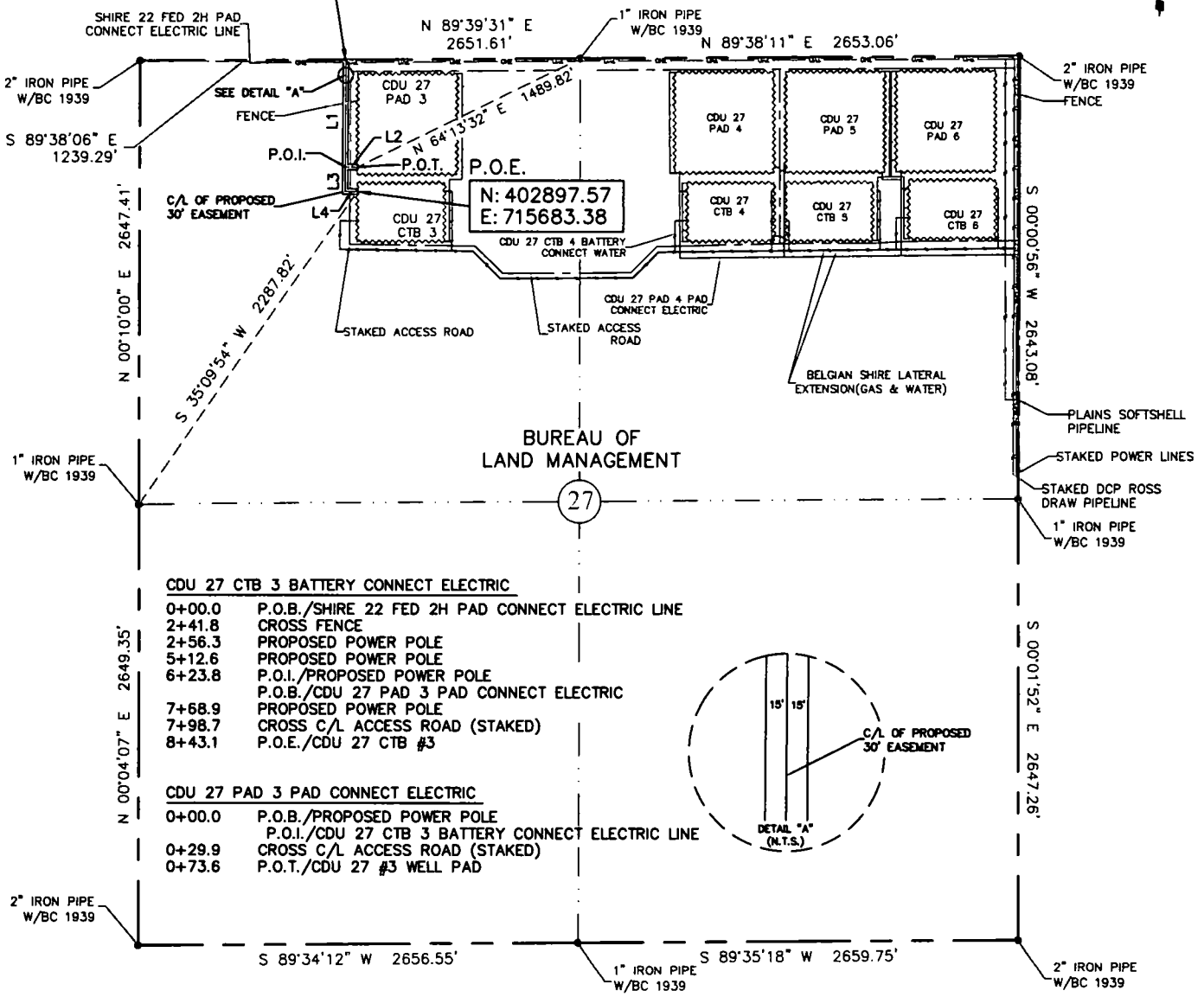
1.921± ACRES INTERIM PAD RECLAMATION AREA
2.646± ACRES GRADING SITE RECLAMATION AREA
3.699± ACRES NON–RECLAIMED AREA
8.266± ACRES LUSITANO 27 PAD 3

DEVON ENERGY PRODUCTION COMPANY, L.P.
LUSITANO 27–34 FED COM 233H
LOCATED 385 FT. FROM THE NORTH LINE AND 1702 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. 6423A

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

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



CDU 27 CTB 3 BATTERY CONNECT ELECTRIC

0+00.0	P.O.B./SHIRE 22 FED 2H PAD CONNECT ELECTRIC LINE
2+41.8	CROSS FENCE
2+56.3	PROPOSED POWER POLE
5+12.6	PROPOSED POWER POLE
6+23.8	P.O.I./PROPOSED POWER POLE
	P.O.B./CDU 27 PAD 3 PAD CONNECT ELECTRIC
7+68.9	PROPOSED POWER POLE
7+98.7	CROSS C/L ACCESS ROAD (STAKED)
8+43.1	P.O.E./CDU 27 CTB #3

CDU 27 PAD 3 PAD CONNECT ELECTRIC

0+00.0	P.O.B./PROPOSED POWER POLE
	P.O.I./CDU 27 CTB 3 BATTERY CONNECT ELECTRIC LINE
0+29.9	CROSS C/L ACCESS ROAD (STAKED)
0+73.6	P.O.T./CDU 27 #3 WELL PAD

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

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'

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.

0 1000 2000

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
NEW MEXICO
22404
PROFESSIONAL SURVEYOR

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

	WBS NUMBER:	LINE NUMBER:
CDU 27 CTB 3 BATTERY CONNECT ELECTRIC LINE	CC-112971.AL	EL7794
CDU 27 PAD 3 PAD CONNECT ELECTRIC LINE	CC-112971.AL	EL7800

HORIZON ROW LLC
Drawn for: devon

DEVON ENERGY PRODUCTION COMPANY, L.P.
CDU 27 CTB 3 BATTERY CONNECT AND CDU 27 PAD 3 PAD CONNECT ELECTRIC LINES

SCALE: 1" = 1000'
REVISIONS:
SHEET: 1 OF 17

Drawn by: WAYNE BEETS
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**.

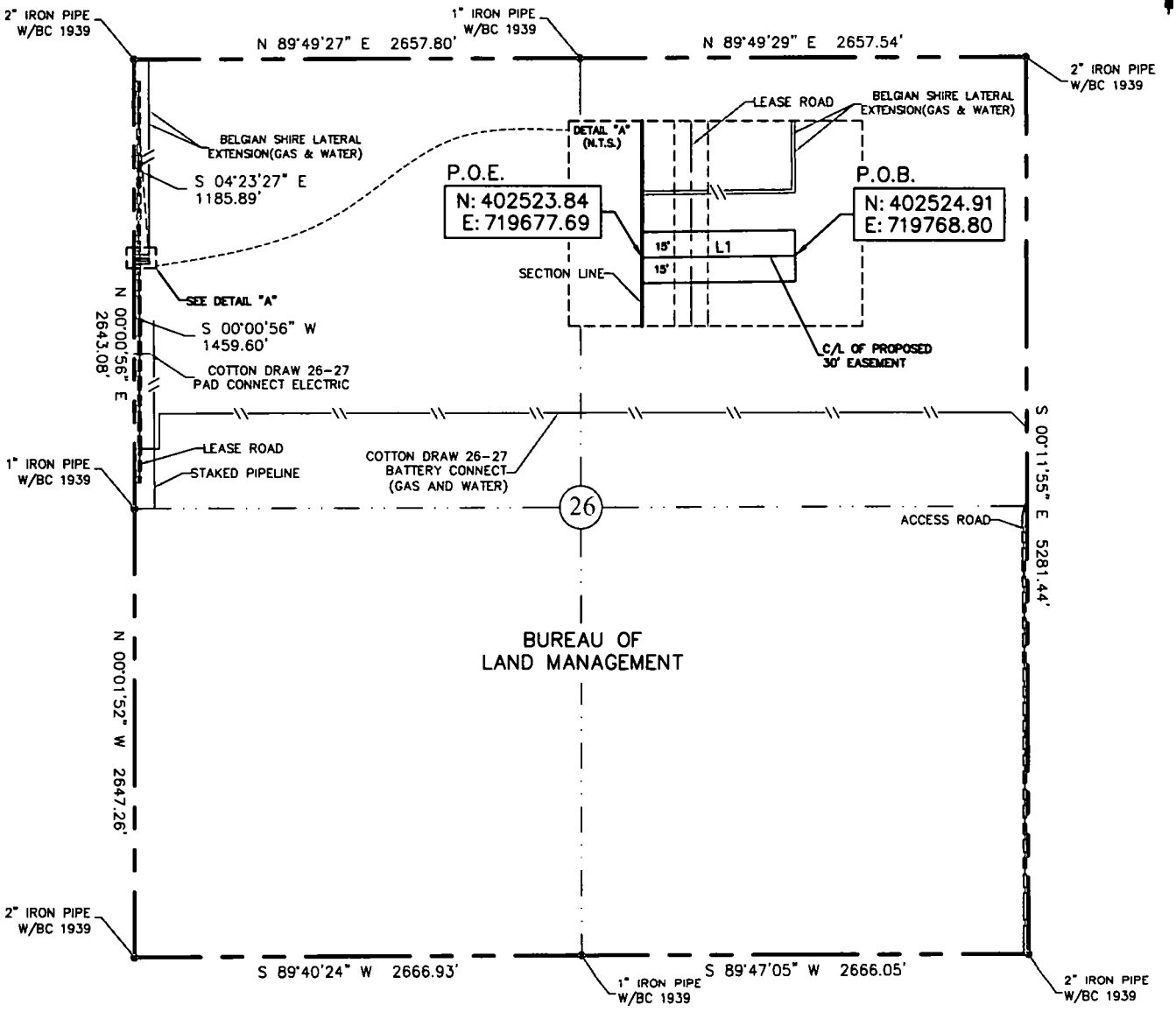
NOTES:

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 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.

NEW MEXICO 22404 LAMAN PROFESSIONAL SURVEYOR

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

HORIZON ROW LLC
Drawn for: devon

Drawn by: WAYNE BEETS
Date: 05/05/2016

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**.

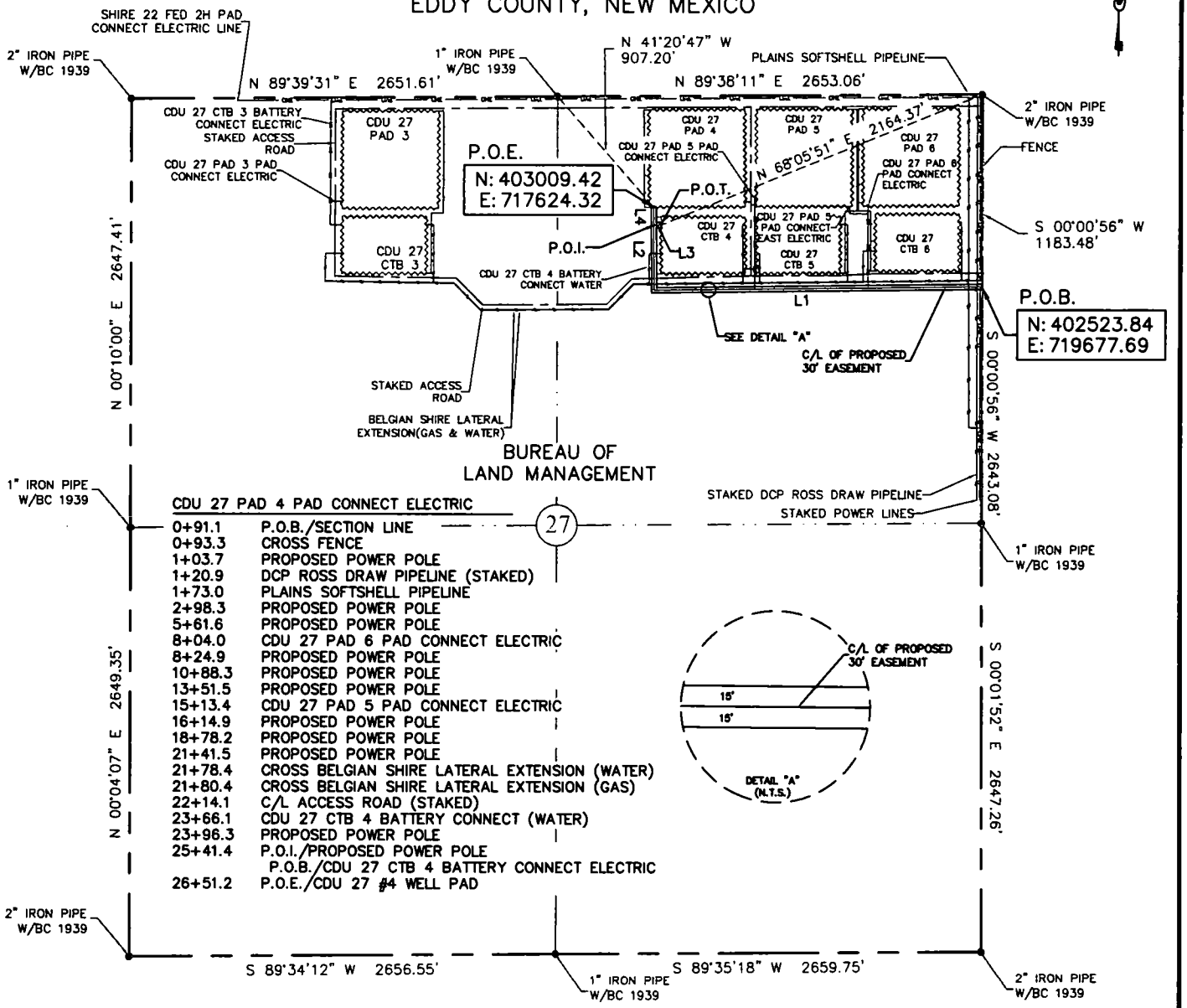
NOTES:

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
26+51.2	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

LINE	BEARING	DISTANCE
L1	S 89°19'37" W	2050.37'
L2	N 00°21'11" W	399.93'
L3	N 89°39'00" E	44.87'
L4	N 00°21'11" W	109.74'

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.

0 1000 2000

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.

LAMAN NEW MEXICO 22404 PROFESSIONAL SURVEYOR

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

	WBS NUMBER:	LINE NUMBER:
CDU 27 PAD 4 PAD CONNECT ELECTRIC LINE	CC-112971.AL	EL7801
CDU 27 CTB 4 BATTERY CONNECT ELECTRIC LINE	CC-112971.AL	EL7795

HORIZON ROW LLC
Drawn for: devon
Drawn by: WAYNE BEETS
Date: 05/09/2016

DEVON ENERGY PRODUCTION COMPANY, L.P.
CDU 27 PAD 4 PAD CONNECT AND CDU 27 CTB 4 BATTERY CONNECT ELECTRIC LINES

SCALE: 1" = 1000'
REVISIONS:
SHEET: 6 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 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**.

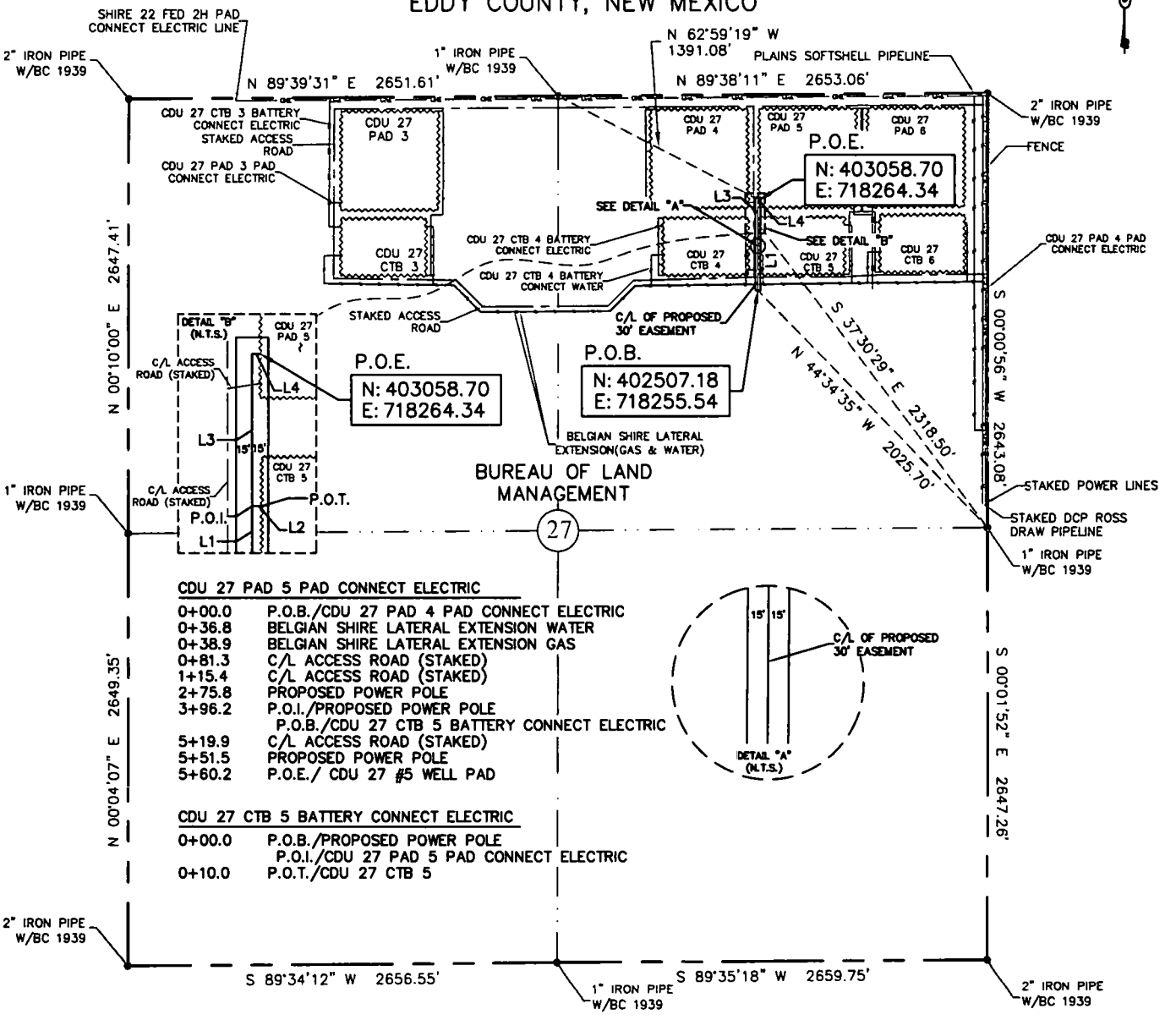
NOTES:

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



CDU 27 PAD 5 PAD CONNECT ELECTRIC

0+00.0	P.O.B./CDU 27 PAD 4 PAD CONNECT ELECTRIC
0+36.8	BELGIAN SHIRE LATERAL EXTENSION WATER
0+38.9	BELGIAN SHIRE LATERAL EXTENSION GAS
0+81.3	C/L ACCESS ROAD (STAKED)
1+15.4	C/L ACCESS ROAD (STAKED)
2+75.8	PROPOSED POWER POLE
3+96.2	P.O.I./PROPOSED POWER POLE P.O.B./CDU 27 CTB 5 BATTERY CONNECT ELECTRIC
5+19.9	C/L ACCESS ROAD (STAKED)
5+51.5	PROPOSED POWER POLE
5+60.2	P.O.E./ CDU 27 #5 WELL PAD

CDU 27 CTB 5 BATTERY CONNECT ELECTRIC

0+00.0	P.O.B./PROPOSED POWER POLE P.O.I./CDU 27 PAD 5 PAD CONNECT ELECTRIC
0+10.0	P.O.T./CDU 27 CTB 5

LINE	BEARING	DISTANCE
L1	N 00°00'59" E	396.22'
L2	N 89°50'02" E	9.97'
L3	N 00°00'59" E	155.30'
L4	N 89°59'36" E	8.65'

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

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.

NEW MEXICO 22404 PROFESSIONAL SURVEYOR

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

	WBS NUMBER:	LINE NUMBER:
CDU 27 PAD 5 PAD CONNECT ELECTRIC LINE	CC-112971.AL	EL7802
CDU 27 CTB 5 BATTERY CONNECT ELECTRIC LINE	CC-112971.AL	EL7796

HORIZON ROW LLC
Drawn for: devon
Drawn by: WAYNE BEETS
Date: 05/09/2016

DEVON ENERGY PRODUCTION COMPANY, L.P.
CDU 27 PAD 5 PAD CONNECT AND CDU 27 CTB 5 BATTERY CONNECT ELECTRIC LINES

SCALE: 1" = 1000'
REVISIONS:
SHEET: 9 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 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**.

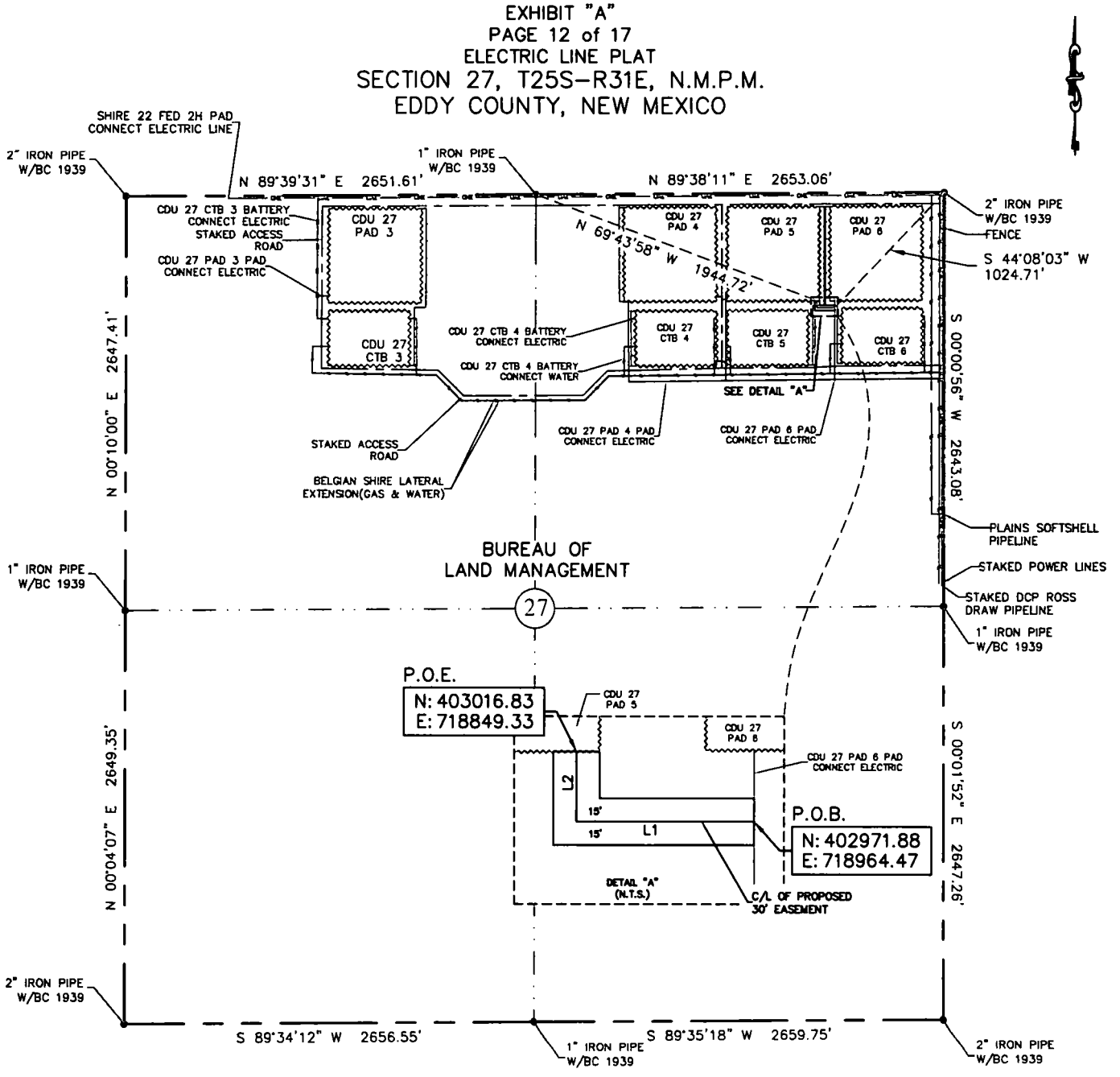
NOTES:

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	P.O.B./CDU 27 PAD 6 PAD CONNECT ELECTRIC
1+15.2	PROPOSED POWER POLE
1+60.2	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	45.02'

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.

B.L. LAMAN NEW MEXICO 22404 PROFESSIONAL SURVEYOR

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

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

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**.

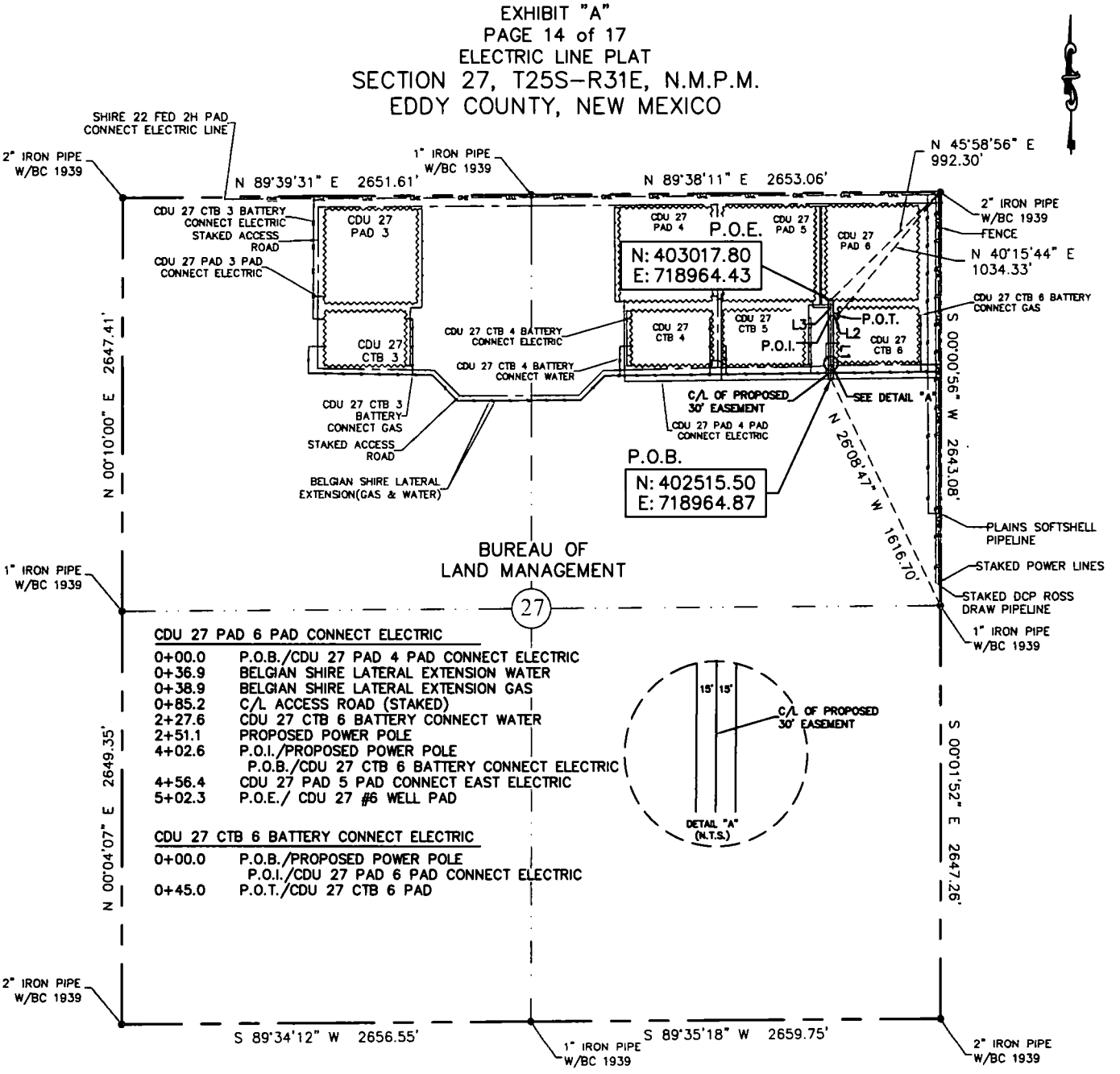
NOTES:

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



CDU 27 PAD 6 PAD CONNECT ELECTRIC

0+00.0	P.O.B./CDU 27 PAD 4 PAD CONNECT ELECTRIC
0+36.9	BELGIAN SHIRE LATERAL EXTENSION WATER
0+38.9	BELGIAN SHIRE LATERAL EXTENSION GAS
0+85.2	C/L ACCESS ROAD (STAKED)
2+27.6	CDU 27 CTB 6 BATTERY CONNECT WATER
2+51.1	PROPOSED POWER POLE
4+02.6	P.O.I./PROPOSED POWER POLE P.O.B./CDU 27 CTB 6 BATTERY CONNECT ELECTRIC
4+56.4	CDU 27 PAD 5 PAD CONNECT EAST ELECTRIC
5+02.3	P.O.E./ CDU 27 #6 WELL PAD

CDU 27 CTB 6 BATTERY CONNECT ELECTRIC

0+00.0	P.O.B./PROPOSED POWER POLE P.O.I./CDU 27 PAD 6 PAD CONNECT ELECTRIC
0+45.0	P.O.T./CDU 27 CTB 6 PAD

LINE	BEARING	DISTANCE
L1	N 00°03'00" W	402.56'
L2	S 89°58'05" E	45.02'
L3	N 00°03'00" W	99.74'

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

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.

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

	WBS NUMBER:	LINE NUMBER:
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

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;

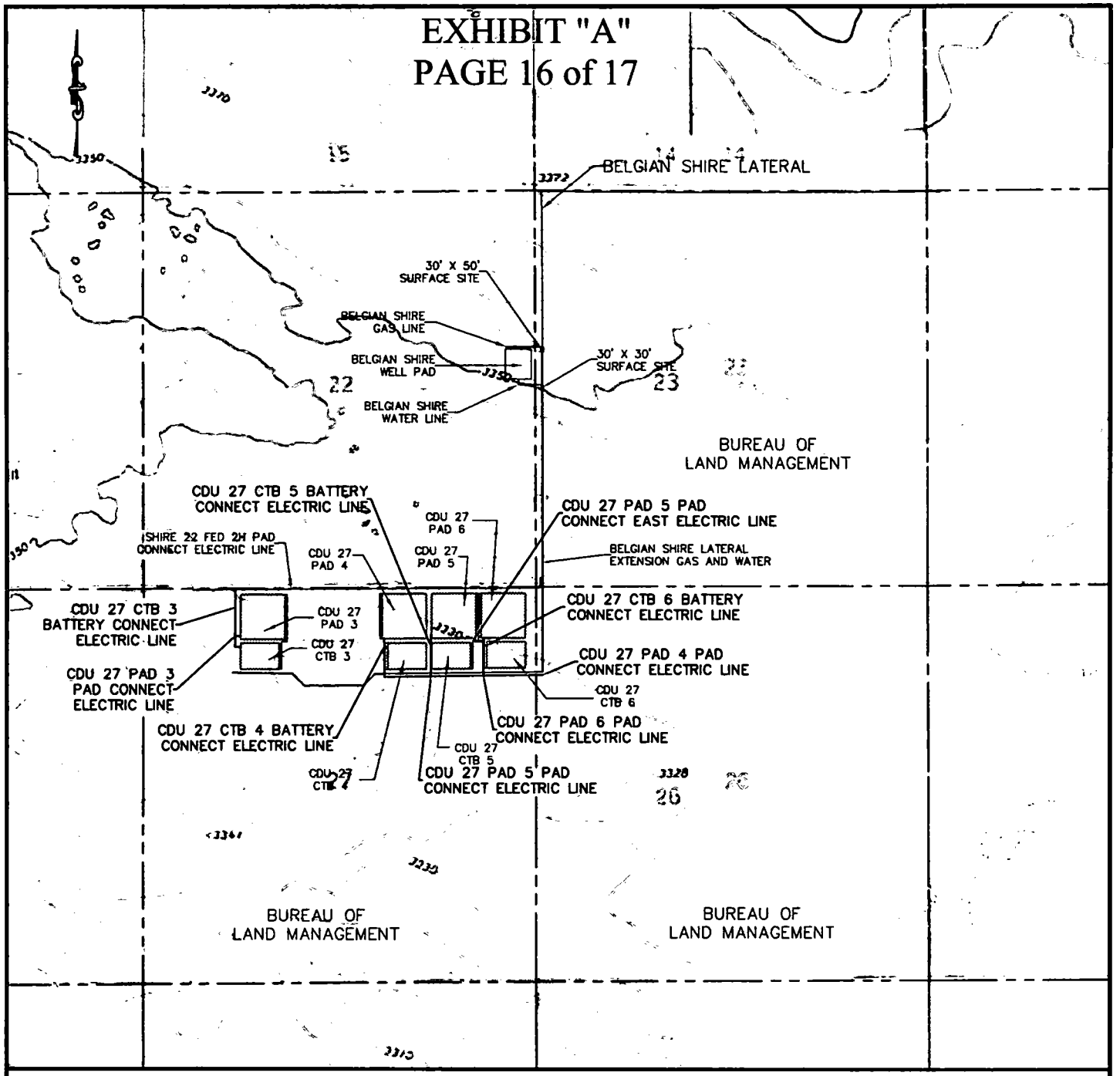
Thence N 00°03'00" W, a distance of 99.74' to the **Point of Ending** having coordinates of Northing=403017.80 feet, Easting=718964.43 feet, from said point a 2" iron pipe w/ BC1939 found for the northeast corner of Section 27, T25S-R31E, N.M.P.M., Eddy County, New Mexico bears N 45°58'56" E a distance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



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-112971.AL	EL7794
CDU 27 PAD 3 PAD CONNECT-ELECTRIC LINE	CC-112971.AL	EL7800
CDU 27 PAD 4 PAD CONNECT-ELECTRIC LINE	CC-112971.AL	EL7801
CDU 27 CTB 4 BATTERY CONNECT-ELECTRIC LINE	CC-112971.AL	EL7795
CDU 27 PAD 5 PAD CONNECT EAST-ELECTRIC LINE	CC-112971.AL	EL7814
CDU 27 PAD 5 PAD CONNECT-ELECTRIC LINE	CC-112971.AL	EL7802
CDU 27 CTB 5 BATTERY CONNECT-ELECTRIC LINE	CC-112971.AL	EL7796
CDU 27 PAD 6 PAD CONNECT-ELECTRIC LINE	CC-112971.AL	EL7803
CDU 27 CTB 6 BATTERY CONNECT-ELECTRIC LINE	CC-112971.AL	EL7797

Drawn for: devon — DEVON ENERGY PRODUCTION COMPANY, L.P.

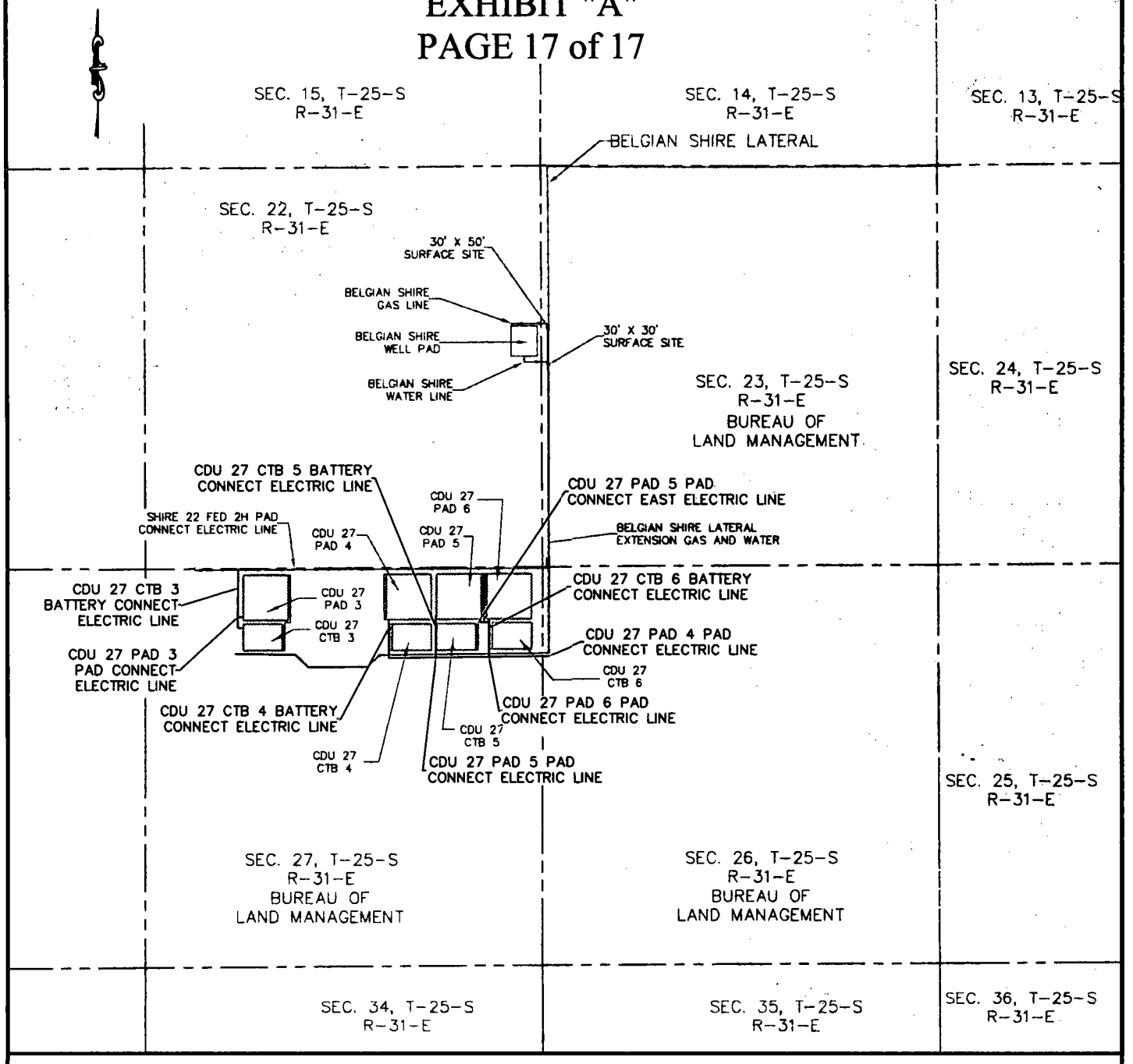
Drawn by: WAYNE SEETS — Date: 05/10/2016

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:
CDU 27 CTB 3 BATTERY CONNECT-ELECTRIC LINE	CC-112971.AL	EL7794
CDU 27 PAD 3 PAD CONNECT-ELECTRIC LINE	CC-112971.AL	EL7800
CDU 27 PAD 4 PAD CONNECT-ELECTRIC LINE	CC-112971.AL	EL7801
CDU 27 CTB 4 BATTERY CONNECT-ELECTRIC LINE	CC-112971.AL	EL7795
CDU 27 PAD 5 PAD CONNECT EAST-ELECTRIC LINE	CC-112971.AL	EL7814
CDU 27 PAD 5 PAD CONNECT-ELECTRIC LINE	CC-112971.AL	EL7802
CDU 27 CTB 5 BATTERY CONNECT-ELECTRIC LINE	CC-112971.AL	EL7796
CDU 27 PAD 6 PAD CONNECT-ELECTRIC LINE	CC-112971.AL	EL7803
CDU 27 CTB 6 BATTERY CONNECT-ELECTRIC LINE	CC-112971.AL	EL7797

Drawn for: devon

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

Drawn by: WAYNE SEETS
Date: 09/10/2018

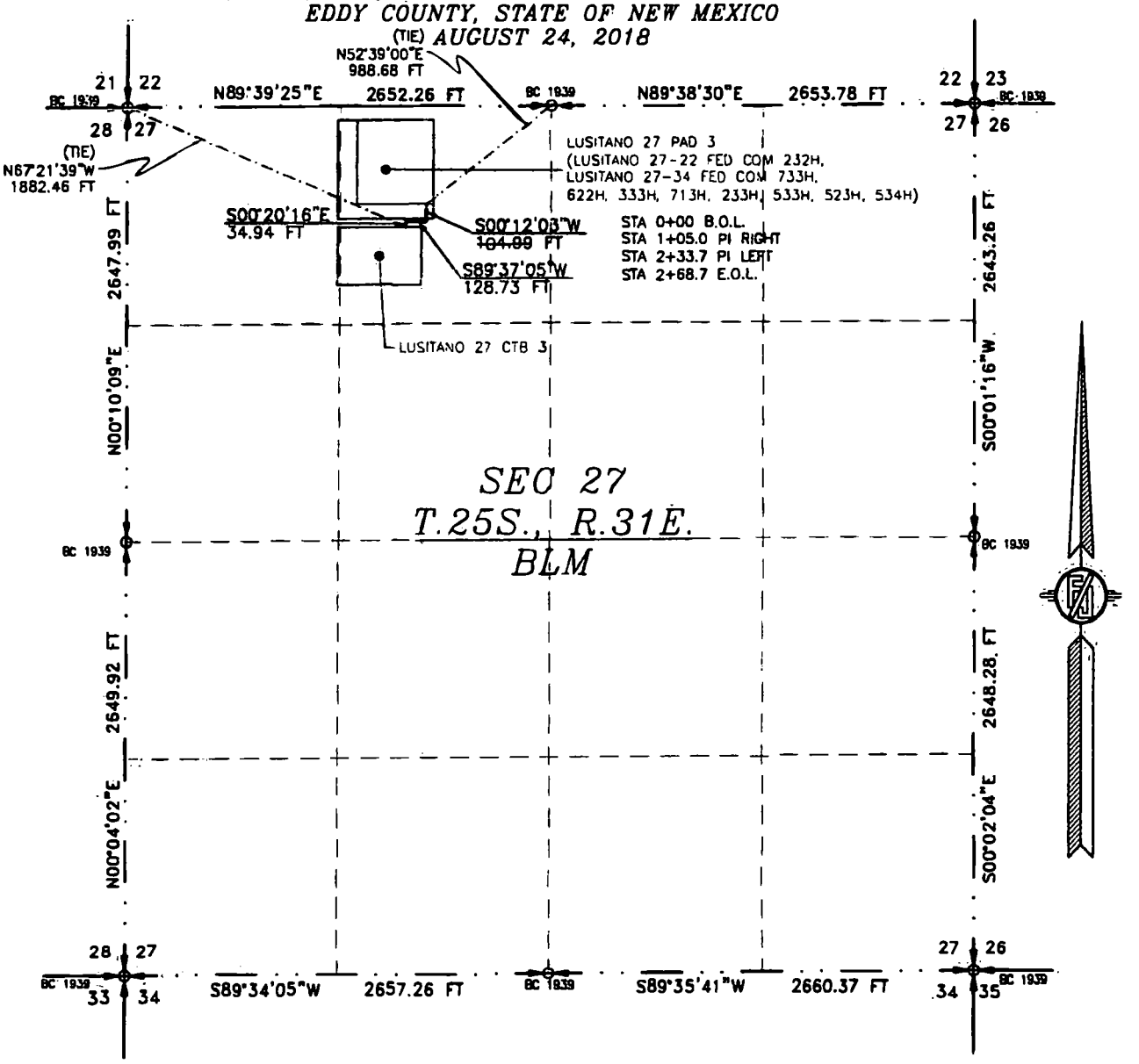
HORIZON ROW LLC

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

1000 0 1000
Scale: 1" = 1000'

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.

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 24 DAY OF AUGUST 2018

FILIMON F. JARAMILLO, NM 12797
301 SOUTH CANAL
(575) 234-3341

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

SHEET: 1-4

SURVEY NO. 6504

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

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

GENERAL NOTES

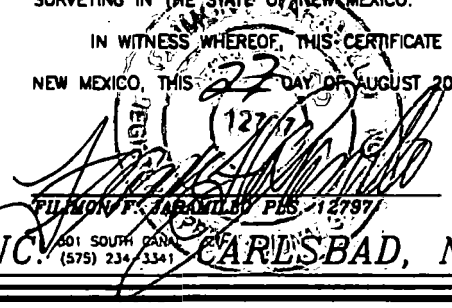
1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

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.

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 22 DAY OF AUGUST 2018



FILIMON F. JARAMILLO PLS 12797

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

SHEET: 2-4

SURVEY NO. 6504

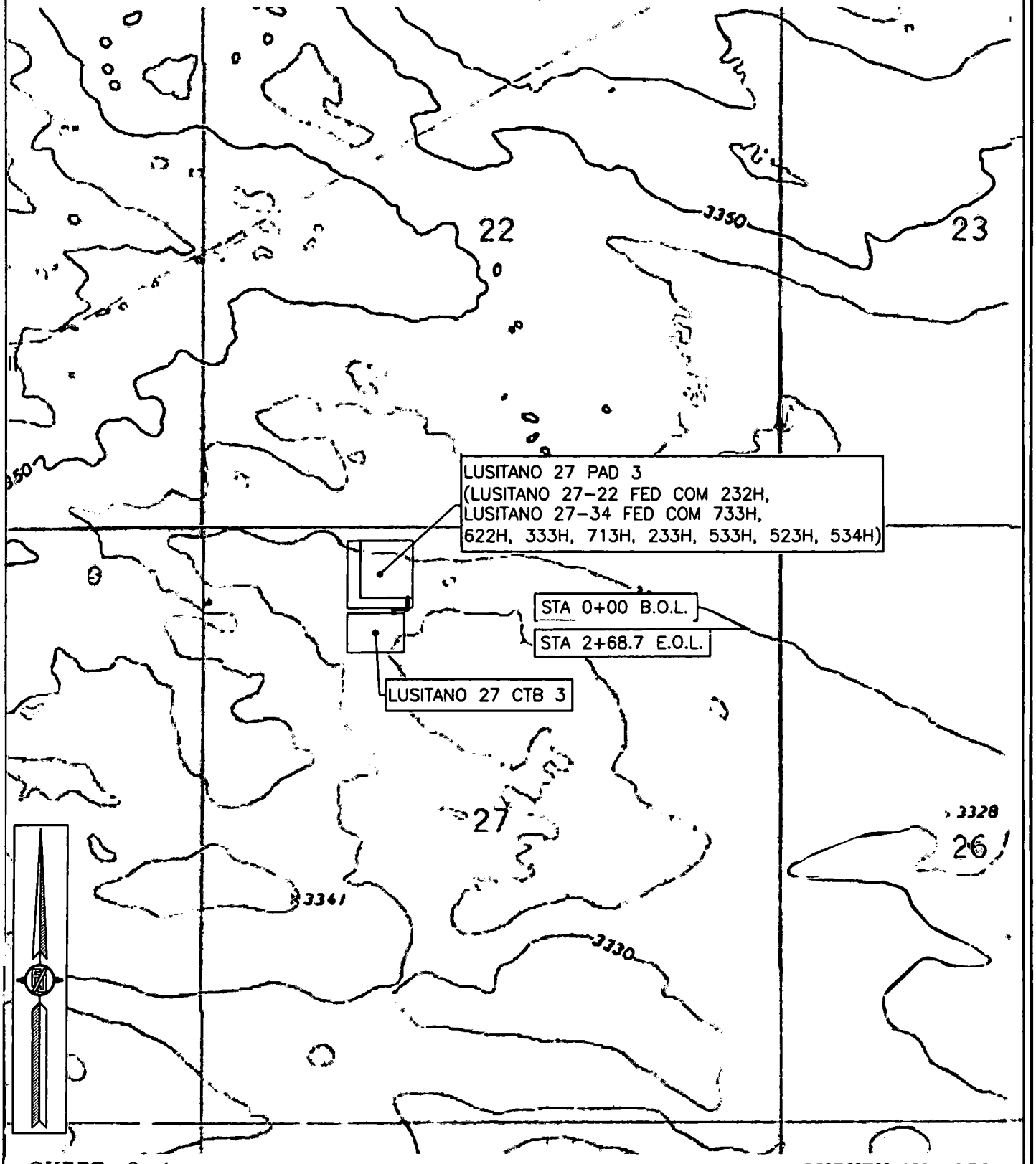
MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

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

SURVEY NO. 6504

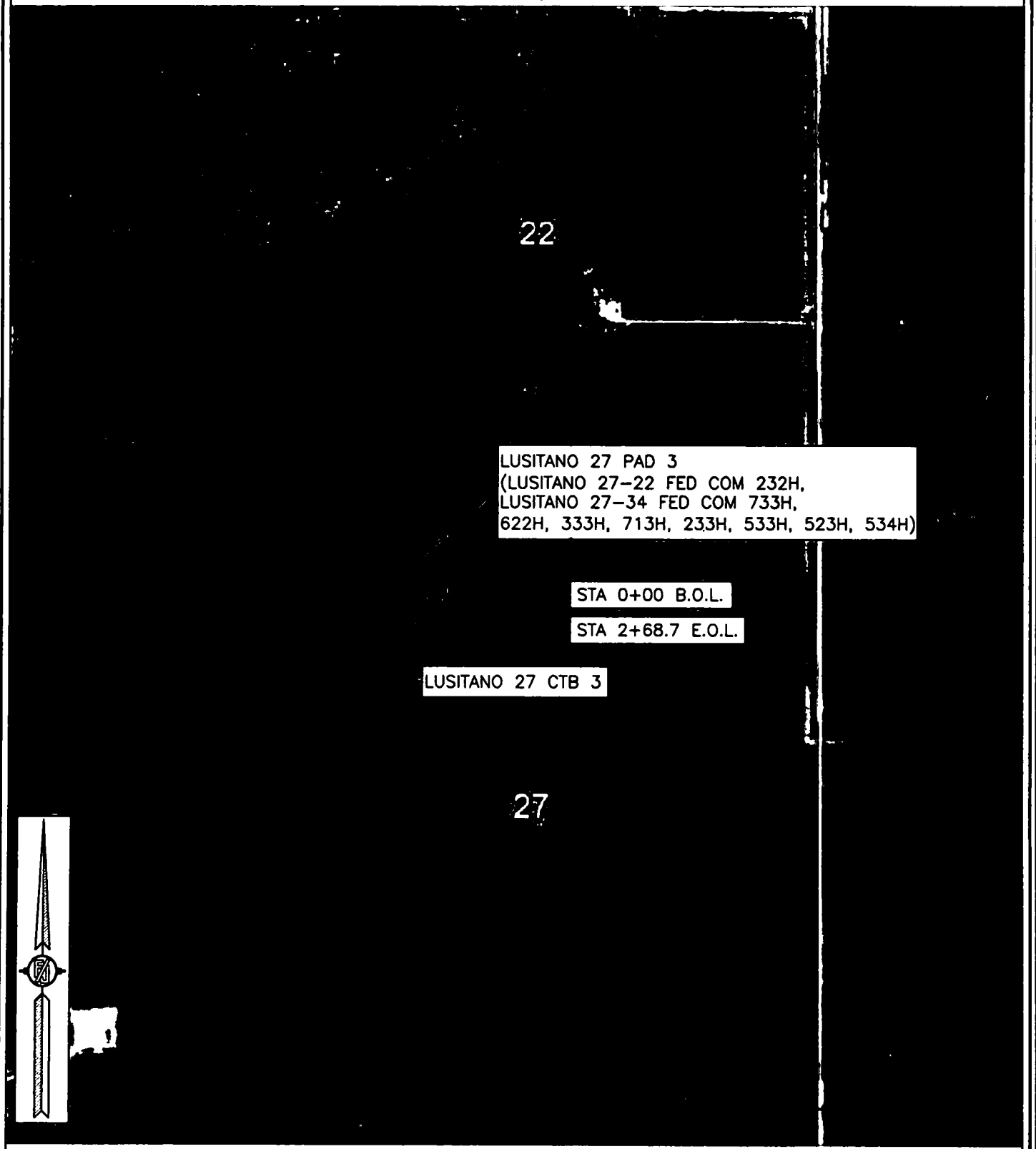
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

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

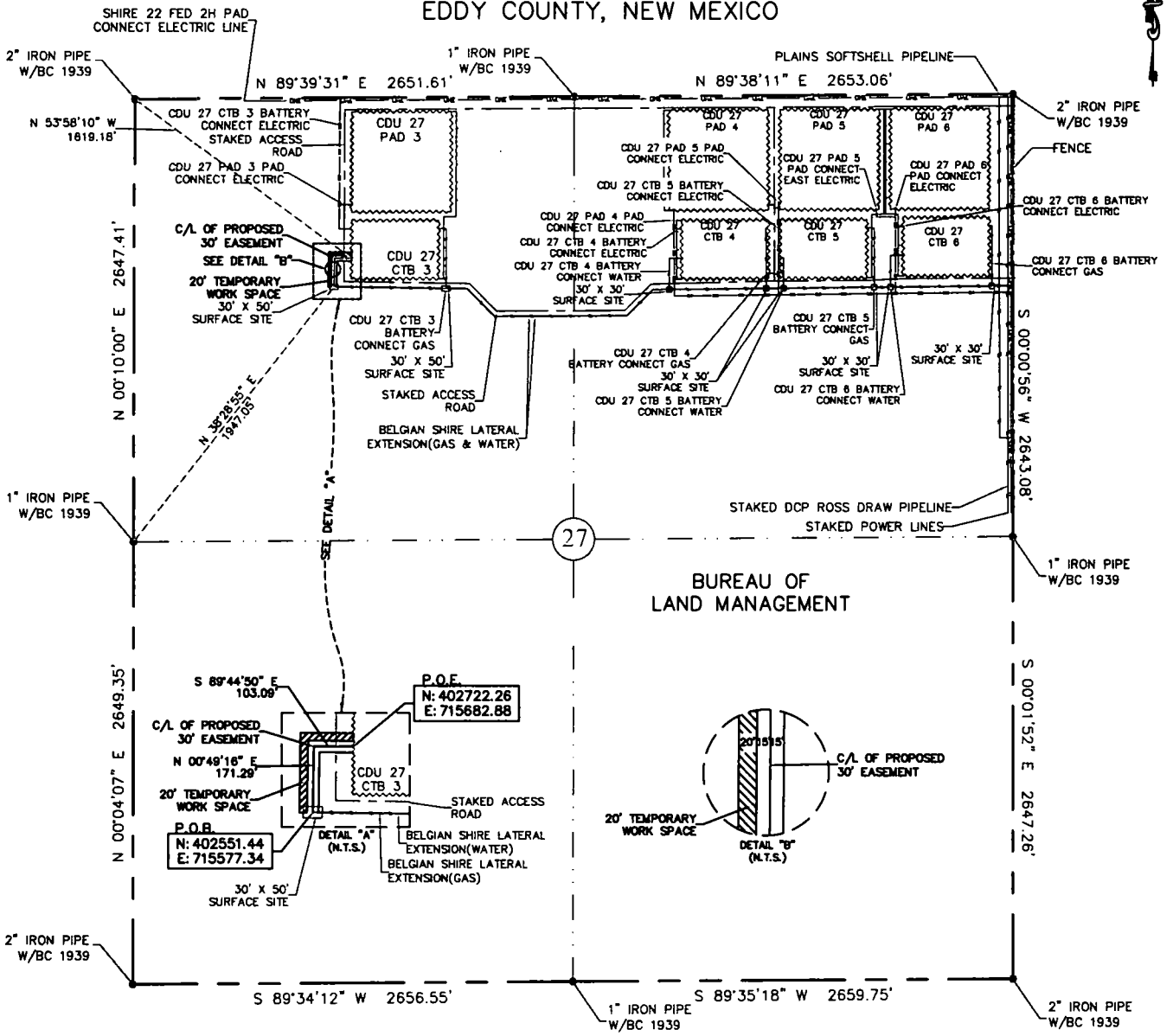


SHEET: 4-4

SURVEY NO. 6504

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

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: 05-12-2016
Horizonrow, LLC
571 State Street Jasper, TX.
(409) 202-5111 75951
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC Drawn for: devon	DEVON ENERGY PRODUCTION COMPANY, L.P. CDU 27 CTB 3 BATTERY CONNECT (WATER)	LINE NUMBER: 7600872 WBS NUMBER: CC-110133.03 SCALE: 1" = 1000'	
Drawn by: CHRIS MAAS Date: 05/03/2016	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 27, T25S-R31E, N.M.P.M.	REVISIONS: SHEET: 1 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 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.**

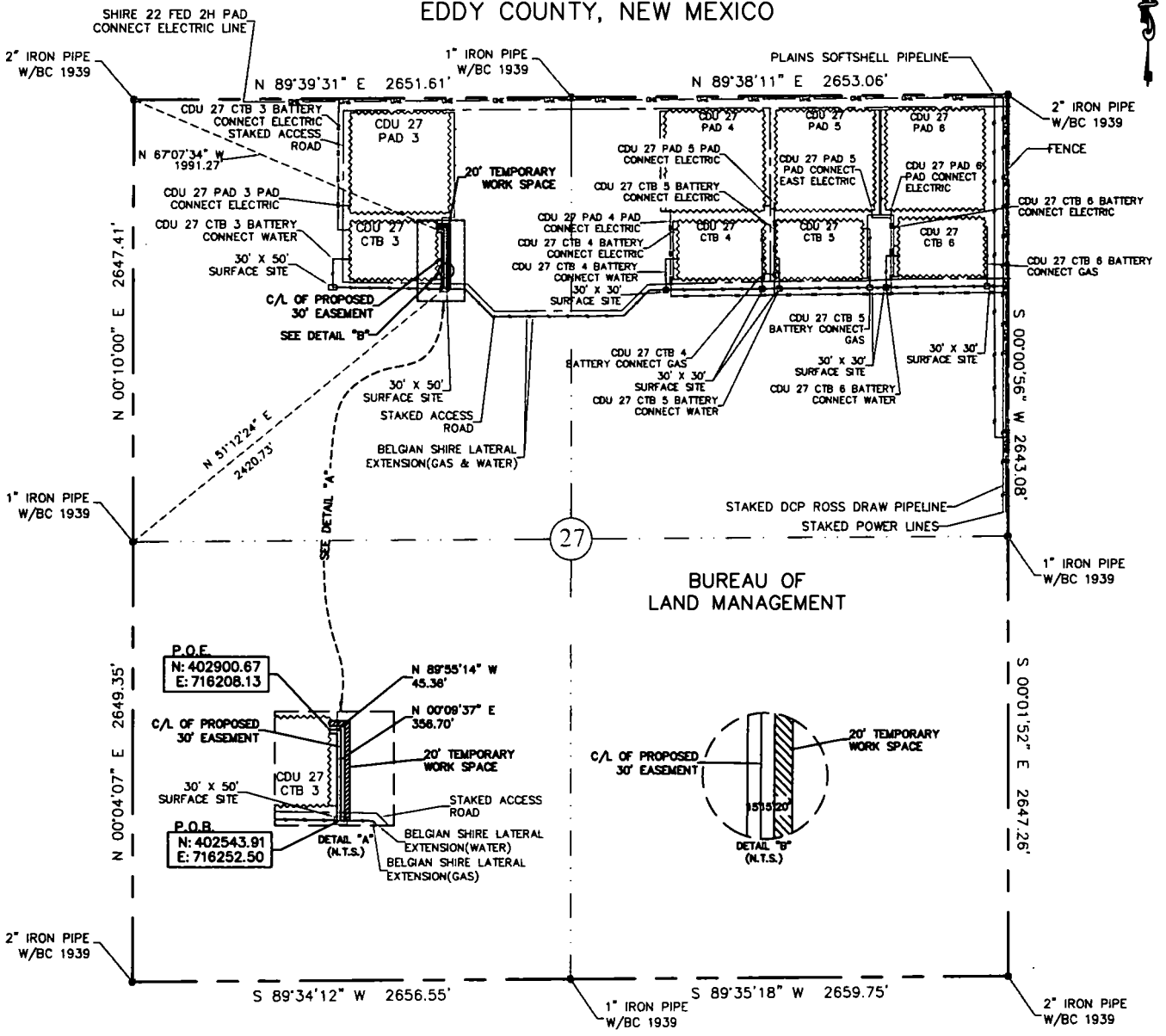
NOTES:

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 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
Horizonrow, LLC
571 State Street Jasper, TX.
(409) 202-5111 75951
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC Drawn for: devon	DEVON ENERGY PRODUCTION COMPANY, L.P. CDU 27 CTB 3 BATTERY CONNECT (GAS)	LINE NUMBER: 760087X WBS NUMBER: CC-110133.01 SCALE: 1" = 1000'	
Drawn by: CHRIS MAAS Date: 05/03/2016	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 27, T25S-R31E, N.M.P.M.	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.**

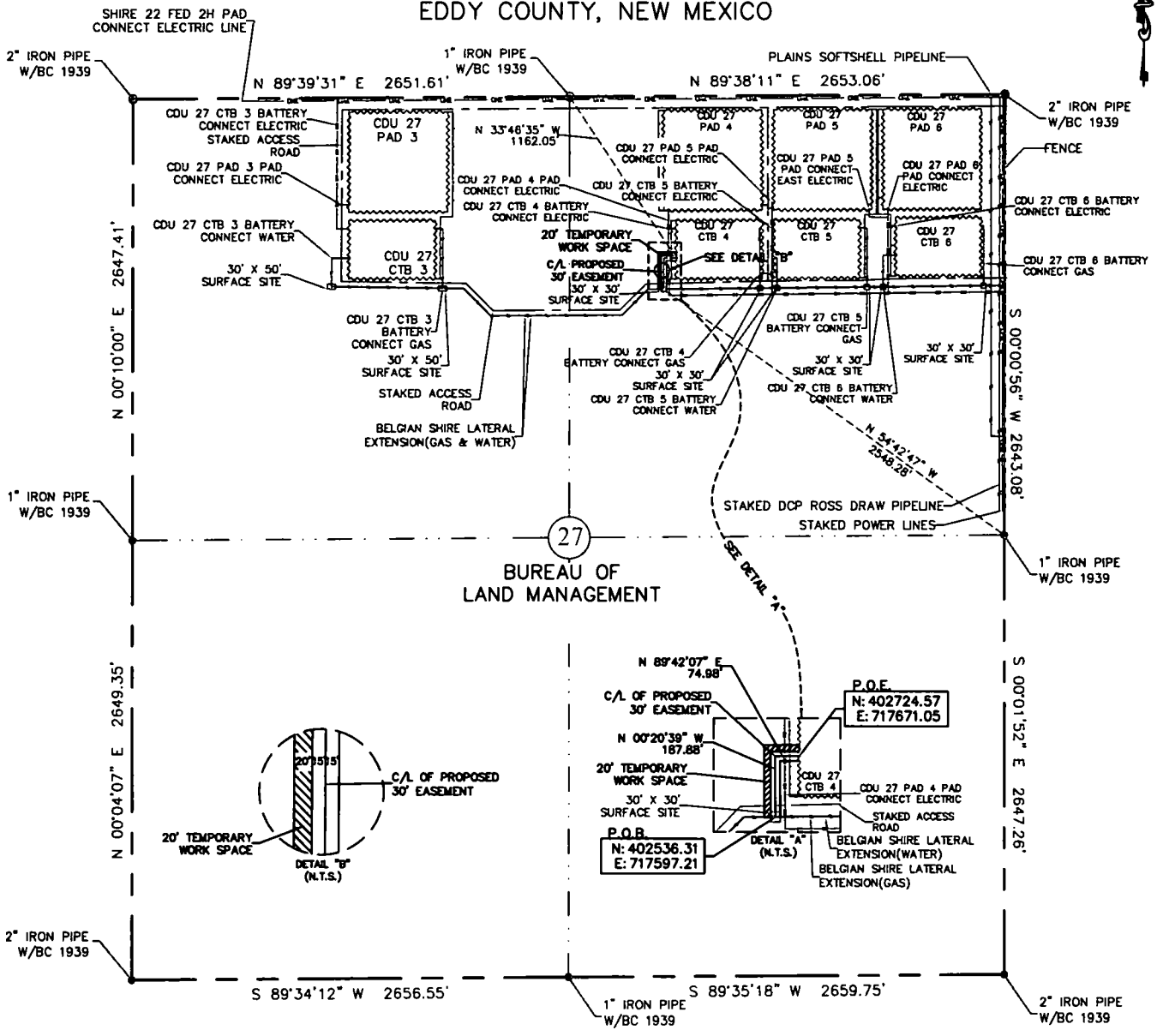
NOTES:

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 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 NEW MEXICO 22404 PROFESSIONAL SURVEYOR

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

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: 760068Z
WBS NUMBER: CC-110133.03
SCALE: 1" = 1000'
REVISIONS:
SHEET: 5 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 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.**

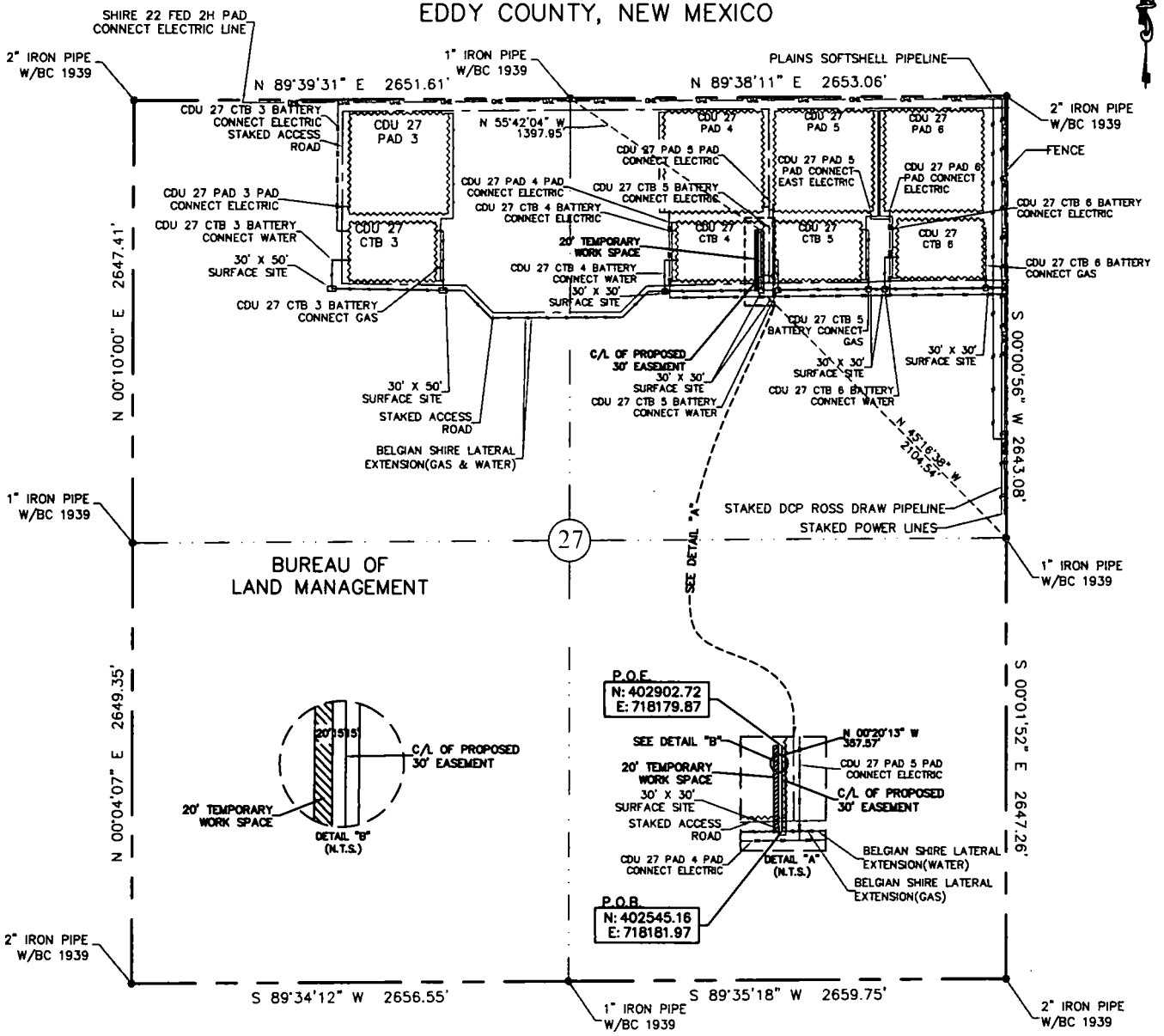
NOTES:

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.

B.L. LAMAN NEW MEXICO 22404 PROFESSIONAL SURVEYOR

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

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 (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.**

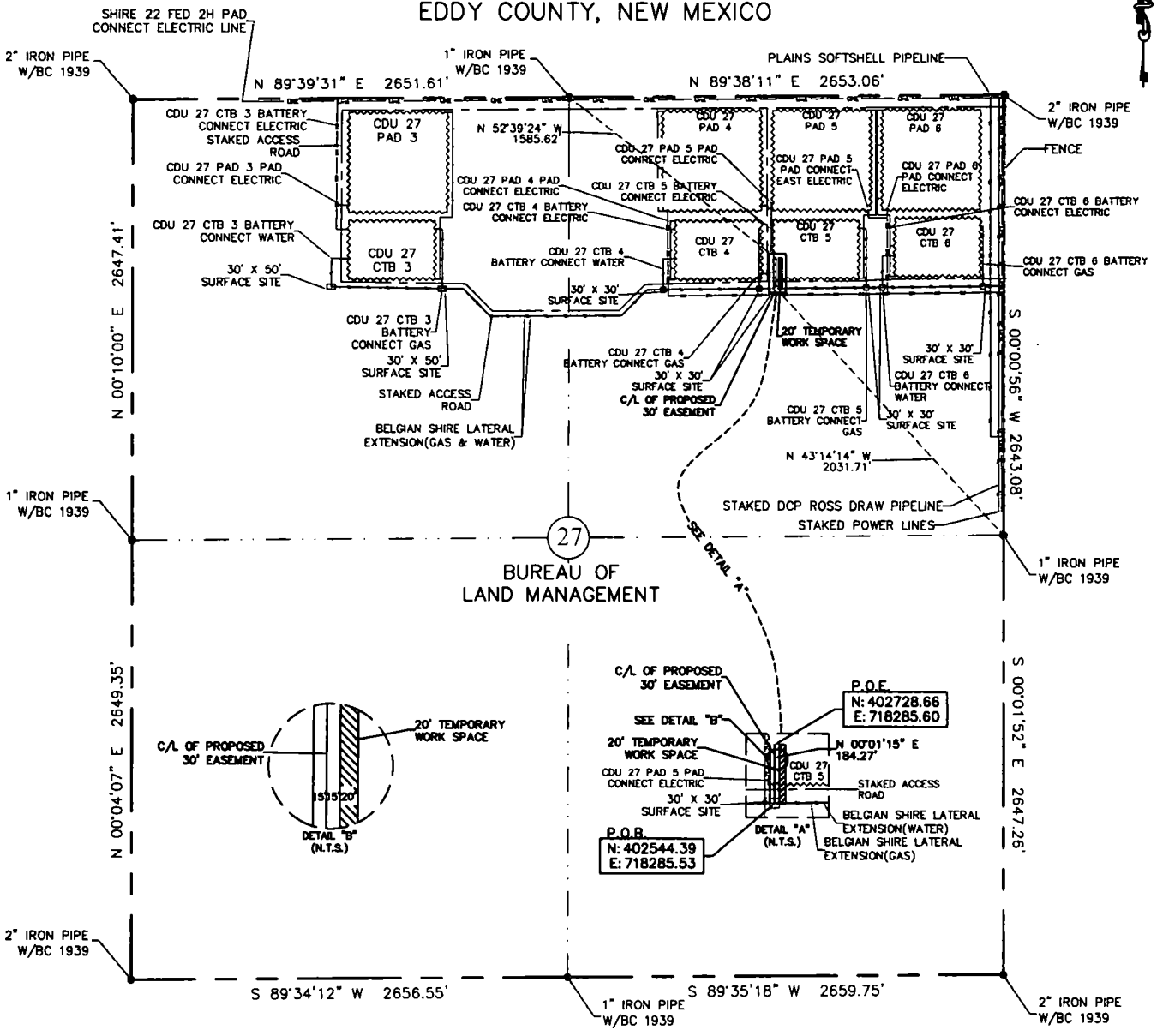
NOTES:

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 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
Horizonrow, LLC
571 State Street Jasper, TX.
(409) 202-5111 75951
Employee of Horizonrow, LLC

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 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: 7600692
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.**

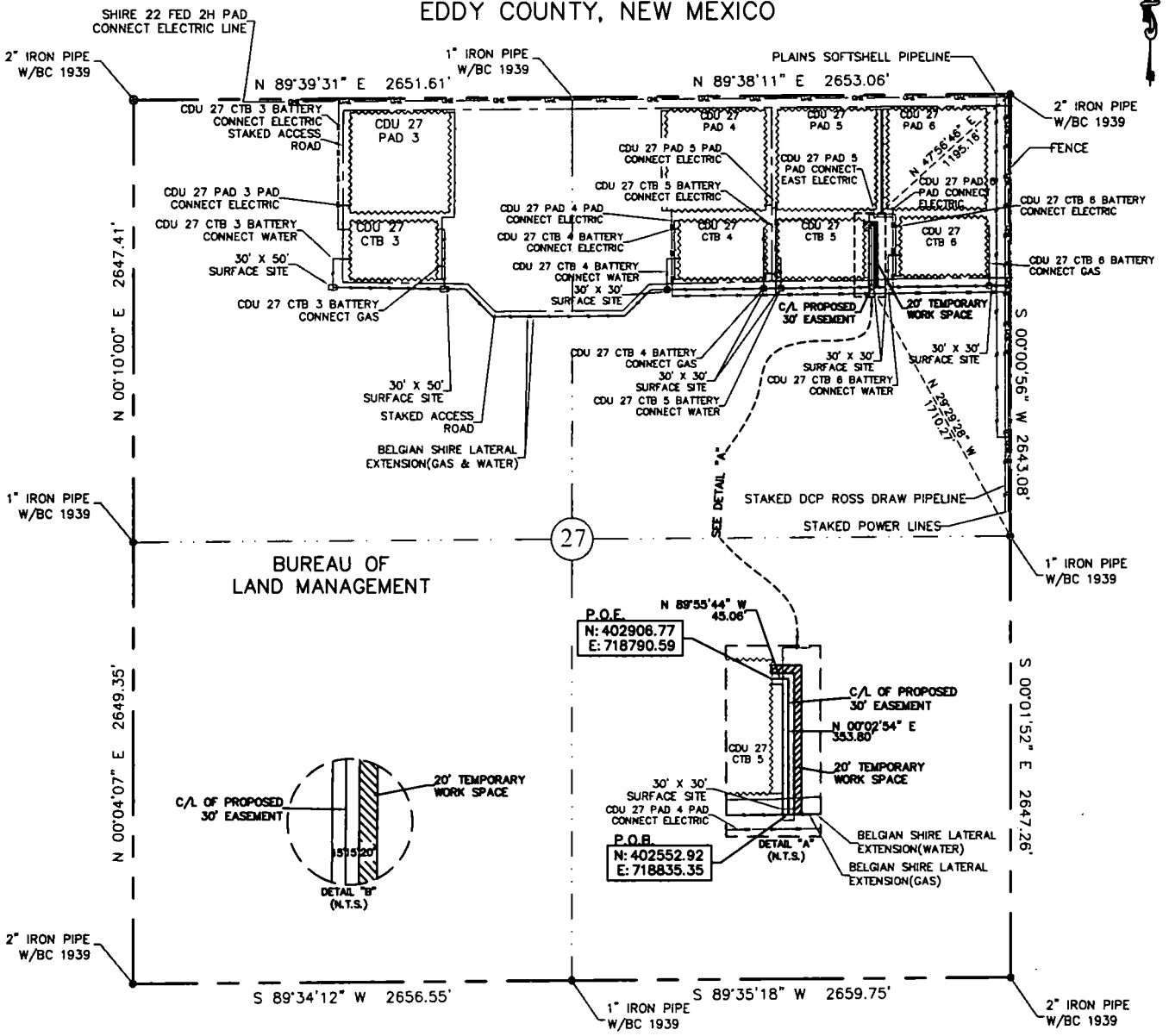
NOTES:

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

EXHIBIT "A"
PAGE 11 of 18
SECTION 27, T25S–R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



30' EASEMENT AREA = 0.275 ACRE(S)
20' TEMPORARY WORK SPACE AREA = 0.206 ACRE(S)
398.86 FEET OR 24.17 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
3+98.9 P.O.E./CDU 27 CTB 5

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 NEW MEXICO 22404 PROFESSIONAL SURVEYOR

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

0 1000 2000

HORIZON ROW LLC Drawn for: devon	DEVON ENERGY PRODUCTION COMPANY, L.P. CDU 27 CTB 5 BATTERY CONNECT (GAS)		LINE NUMBER: 760069X
			WBS NUMBER: CC-110133.01
			SCALE: 1" = 1000'
Drawn by: CHRIS MAAS	Date: 05/03/2016	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 27, T25S–R31E, N.M.P.M.	REVISIONS:
			SHEET: 11 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 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.**

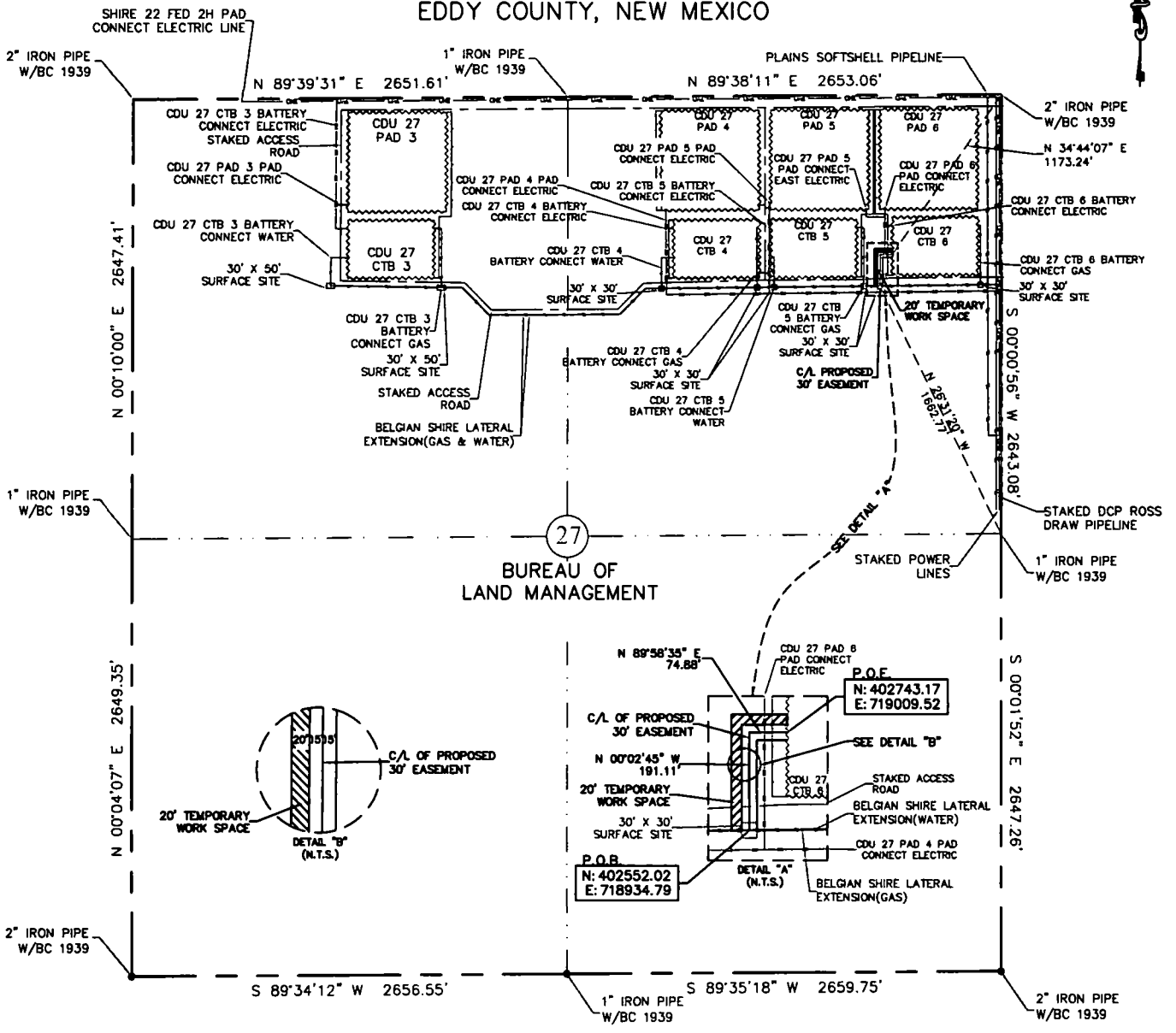
NOTES:

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

EXHIBIT "A"
PAGE 13 of 18
SECTION 27, T25S-R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



30' EASEMENT AREA = 0.183 ACRE(S)
20' TEMPORARY WORK SPACE AREA = 0.145 ACRE(S)
265.99 FEET OR 16.12 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+47.1 C/L STAKED ACCESS ROAD
2+21.1 CDU 27 PAD 6 PAD CONNECT ELECTRIC LINE
2+66.0 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: 05-12-2016
Horizonrow, LLC
571 State Street Jasper, TX.
(409) 202-5111 75951
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC
Drawn for: devon
Drawn by: CHRIS MAAS
Date: 05/04/2016

DEVON ENERGY PRODUCTION COMPANY, L.P.
CDU 27 CTB 6 BATTERY CONNECT (WATER)
PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT
SECTION 27, T25S-R31E, N.M.P.M.

LINE NUMBER: 760070Z
WBS NUMBER: CC-110133.03
SCALE: 1" = 1000'
REVISIONS:
SHEET: 13 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 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.**

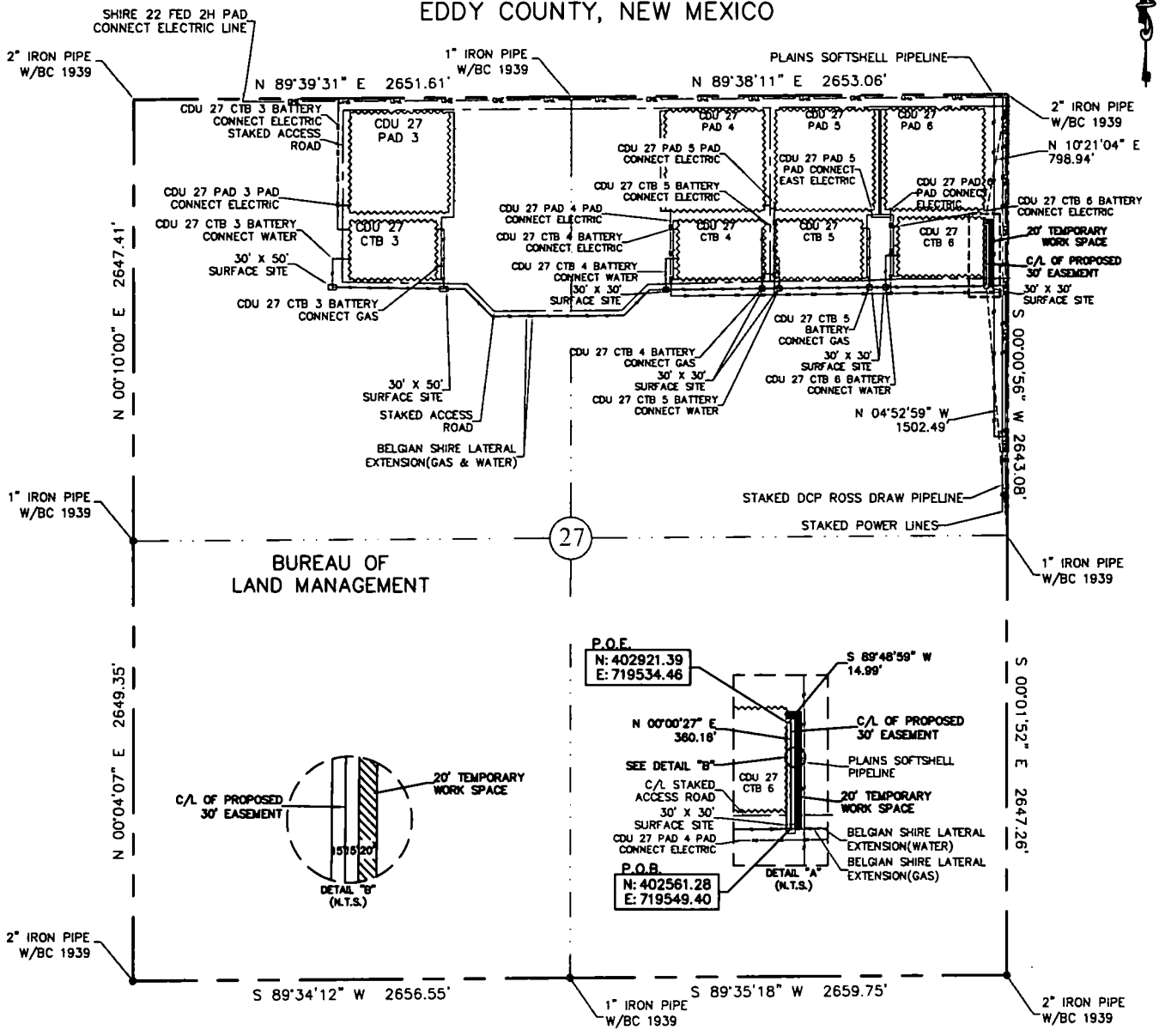
NOTES:

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 NEW MEXICO 22404 PROFESSIONAL SURVEYOR

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

0 1000 2000

HORIZON ROW LLC Drawn for: devon	DEVON ENERGY PRODUCTION COMPANY, L.P. CDU 27 CTB 6 BATTERY CONNECT (GAS)	LINE NUMBER: 760070X WBS NUMBER: CC-110133.01 SCALE: 1" = 1000'	
Drawn by: CHRIS MAAS Date: 05/04/2016	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 27, T25S–R31E, N.M.P.M.	REVISIONS: SHEET: 15 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 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:

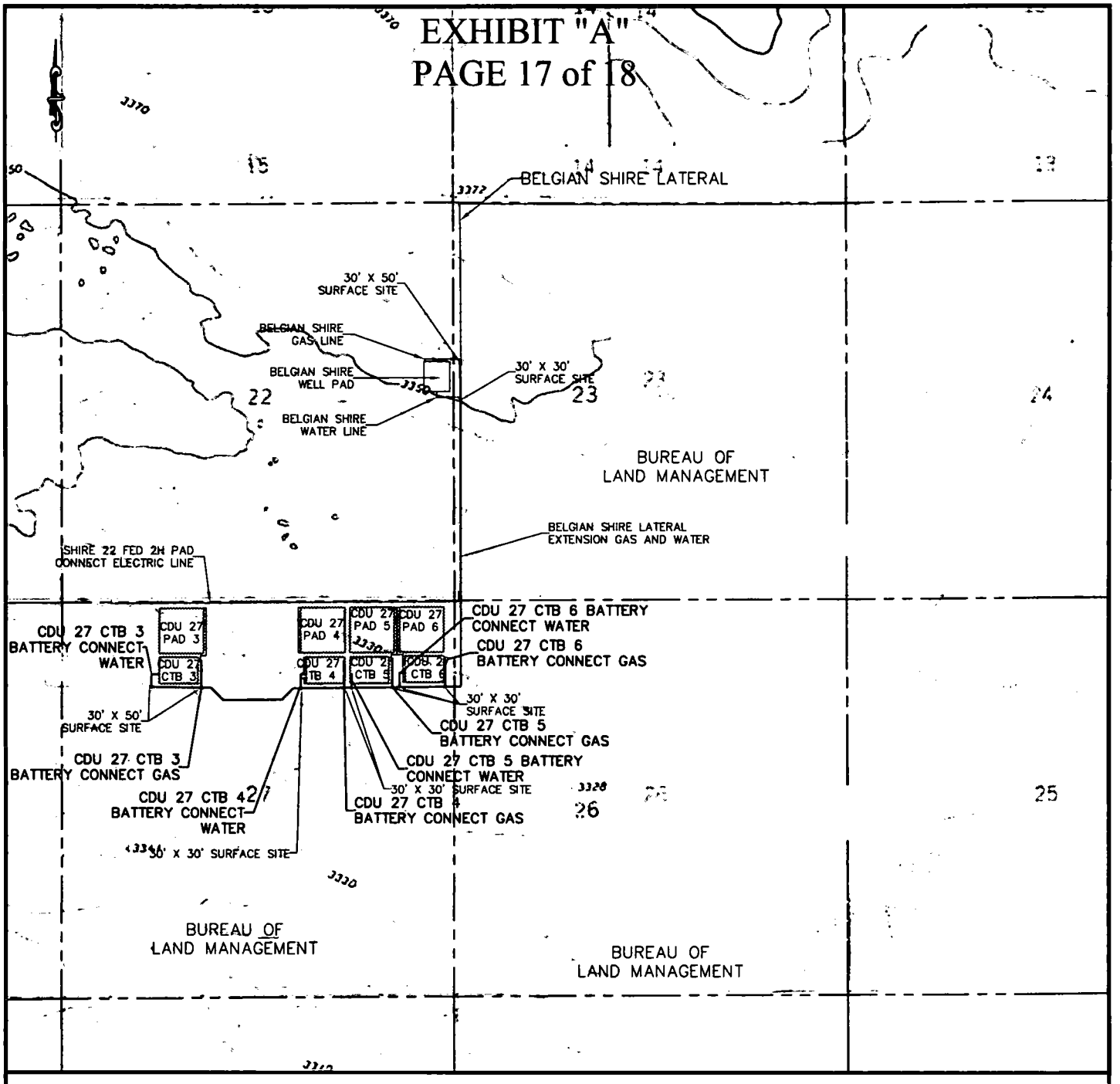
Being a temporary work space twenty (20) feet in width lying on the right side and adjoining the right side of the above described thirty (30) feet easement, having a total area of **0.195 acres.**

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



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)	CC-110133.01	760067X.Z
CDU 27 CTB 4 BATTERY CONNECT (GAS & WATER)	CC-110133.01	760068X.Z
CDU 27 CTB 5 BATTERY CONNECT (GAS & WATER)	CC-110133.01	760069X.Z
CDU 27 CTB 6 BATTERY CONNECT (GAS & WATER)	CC-110133.01	760070X.Z

Drawn for: devon

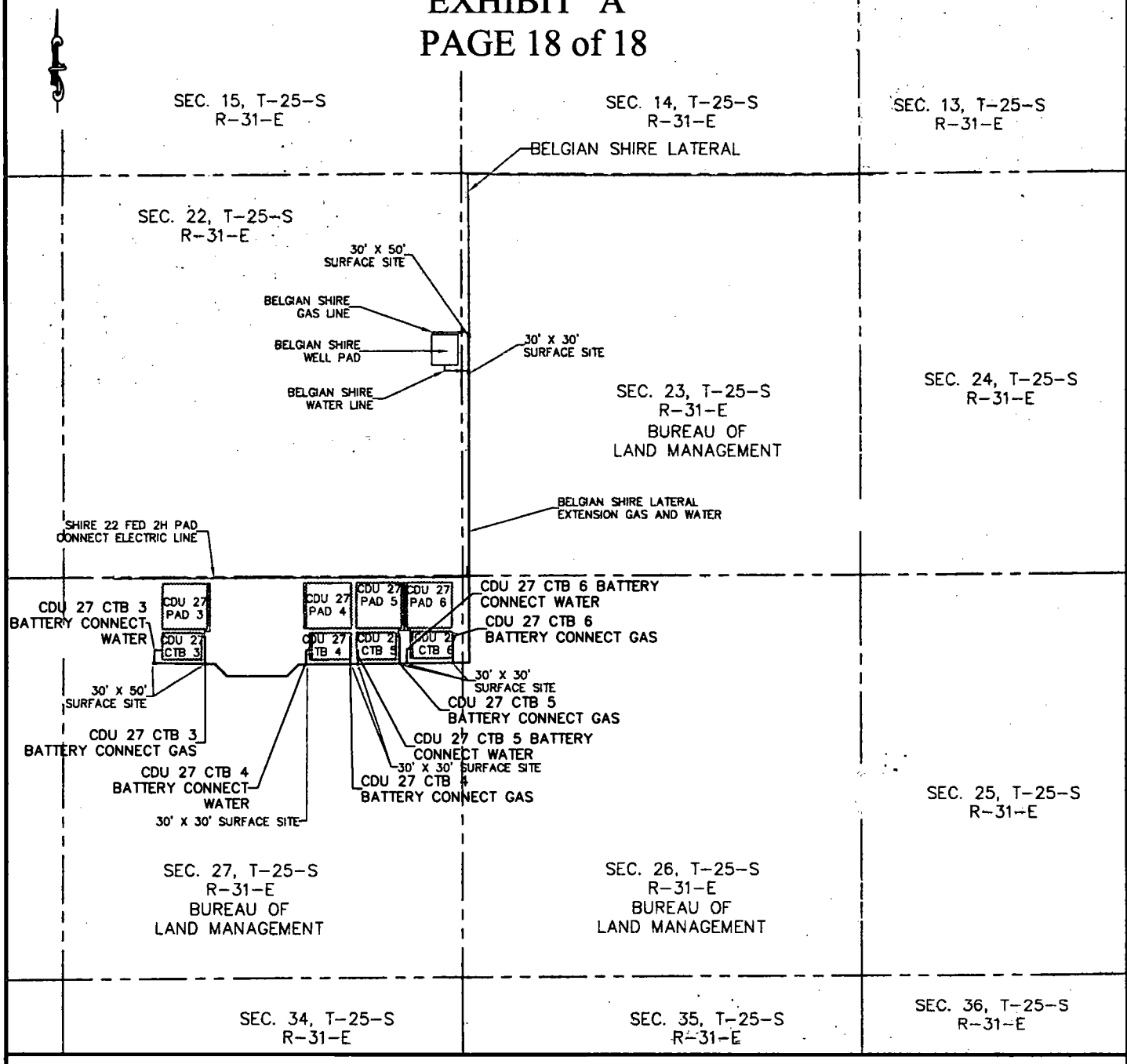
DEVON ENERGY PRODUCTION COMPANY, L.P.

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

SCALE: 1" = 2000'
REVISIONS:
SHEET: 17 OF 18

Drawn by: CHRIS MAAS
Date: 05/04/2016

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)	CC-110133.01	760067X2
CDU 27 CTB 4 BATTERY CONNECT (GAS & WATER)	CC-110133.01	760068X2
CDU 27 CTB 5 BATTERY CONNECT (GAS & WATER)	CC-110133.01	760069X2
CDU 27 CTB 6 BATTERY CONNECT (GAS & WATER)	CC-110133.01	760070X2

Drawn for: devon

DEVON ENERGY PRODUCTION COMPANY, L.P.

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

SCALE: 1" = 2000'

REVISIONS:

SHEET: 18 OF 18

Drawn by: CHRIS MAAS

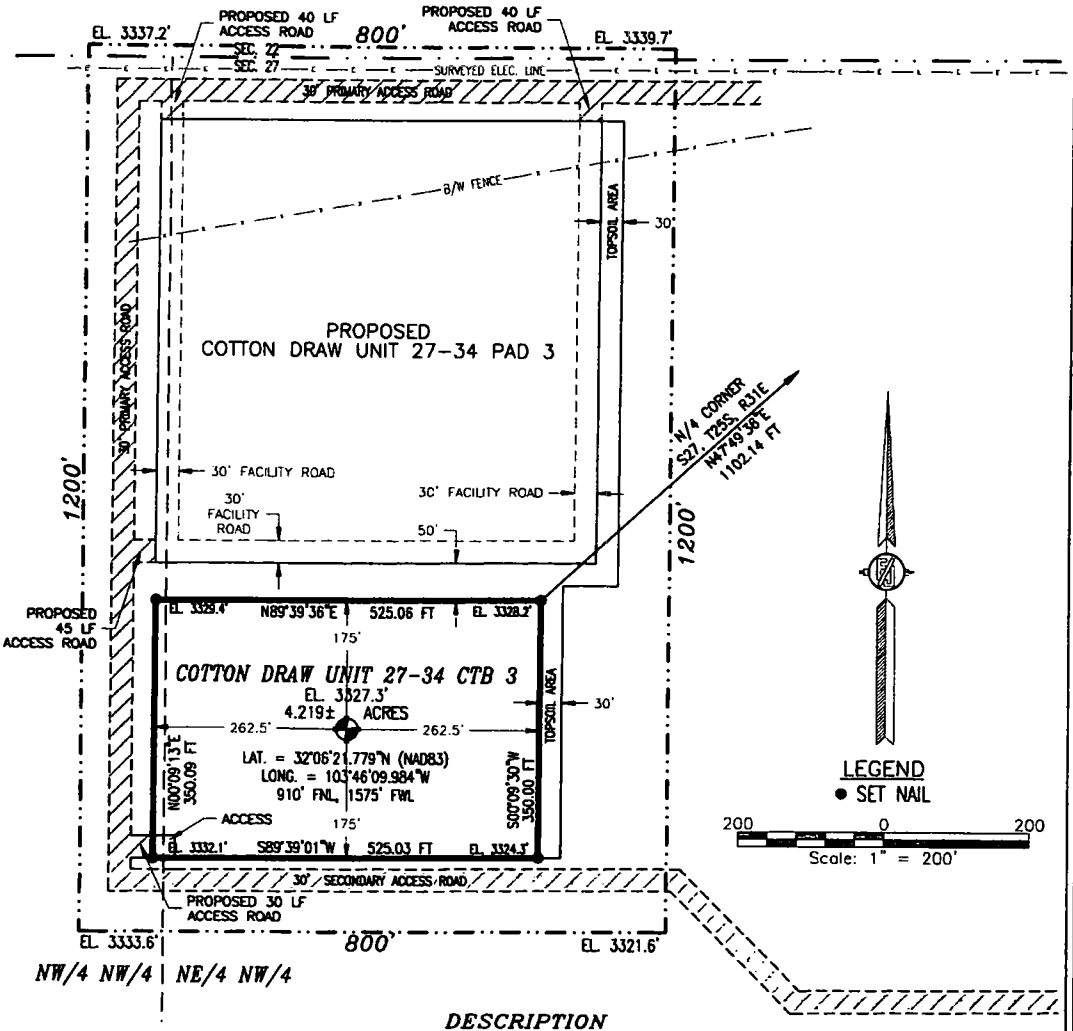
Date: 05/04/2016

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



DESCRIPTION

A CERTAIN PIECE OR PARCEL OF LAND AND REAL ESTATE LYING 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, NEW MEXICO.

BEGINNING AT THE NORTHEAST CORNER OF THE PARCEL, WHENCE THE NORTH QUARTER CORNER OF SECTION 27, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N47°49'36"E, A DISTANCE OF 1102.14 FEET;
THENCE S00°09'30"W A DISTANCE OF 350.00 FEET TO THE SOUTHEAST CORNER OF THE PARCEL;
THENCE S89°39'01"W A DISTANCE OF 525.03 FEET TO THE SOUTHWEST CORNER OF THE PARCEL;
THENCE N00°09'13"E A DISTANCE OF 350.09 FEET TO THE NORTHWEST CORNER OF THE PARCEL;
THENCE N89°39'36"E A DISTANCE OF 525.06 FEET TO THE NORTHEAST CORNER OF THE PARCEL, TO THE POINT OF BEGINNING;
CONTAINING 4.104 ACRES IN THE NE/4 NW/4 & 0.115 ACRES IN THE NW/4 NW/4 FOR A TOTAL 4.219 ACRES MORE OR LESS.

GENERAL NOTES

1.) THE INTENT OF THIS SURVEY IS TO ACQUIRE A BUSINESS LEASE FOR THE PURPOSE OF BUILDING A CENTRAL TANK BATTERY

2.) BASIS OF BEARING IS NEW MEXICO STATE PLANE EAST ZONE MODIFIED TO THE SURFACE (NAD83)

DRIVING DIRECTION: 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 1.2 MILE TO BEGIN ROAD SURVEY, GO WEST 178' TO THE SOUTHEAST CORNER FOR CDU "27-27" CTB 6, FROM SOUTHWEST CORNER GO WEST 631' TO THE SOUTHEAST CORNER FOR CDU "27-27" CTB 5, FROM SOUTHWEST CORNER GO WEST APPROX. 360' TO THE SOUTHEAST CORNER FOR CDU "27-27" CTB 4, THEN GO WEST 0.36 MILE, GO NORTH 30' TO THE SOUTHWEST CORNER FOR THIS LOCATION.

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 17th DAY OF JUNE 2016

FILIMON F. JARAMILLO, PLS 12797
301 SOUTH CANAL
(575) 234-3341

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

SHEET: 1-3

SURVEY NO. 4494B

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

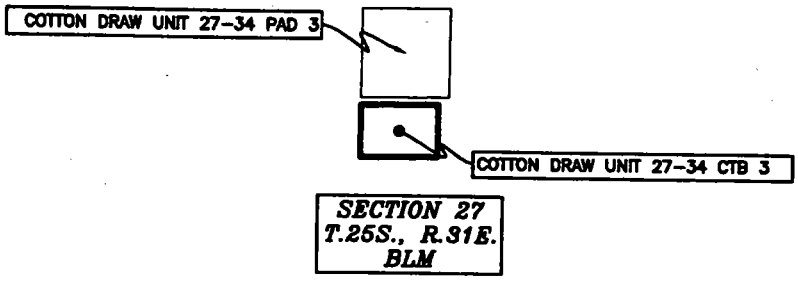
COTTON DRAW UNIT 27-34 CTB 3 (AA000056029)

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



SURVEY NO. 4494B

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

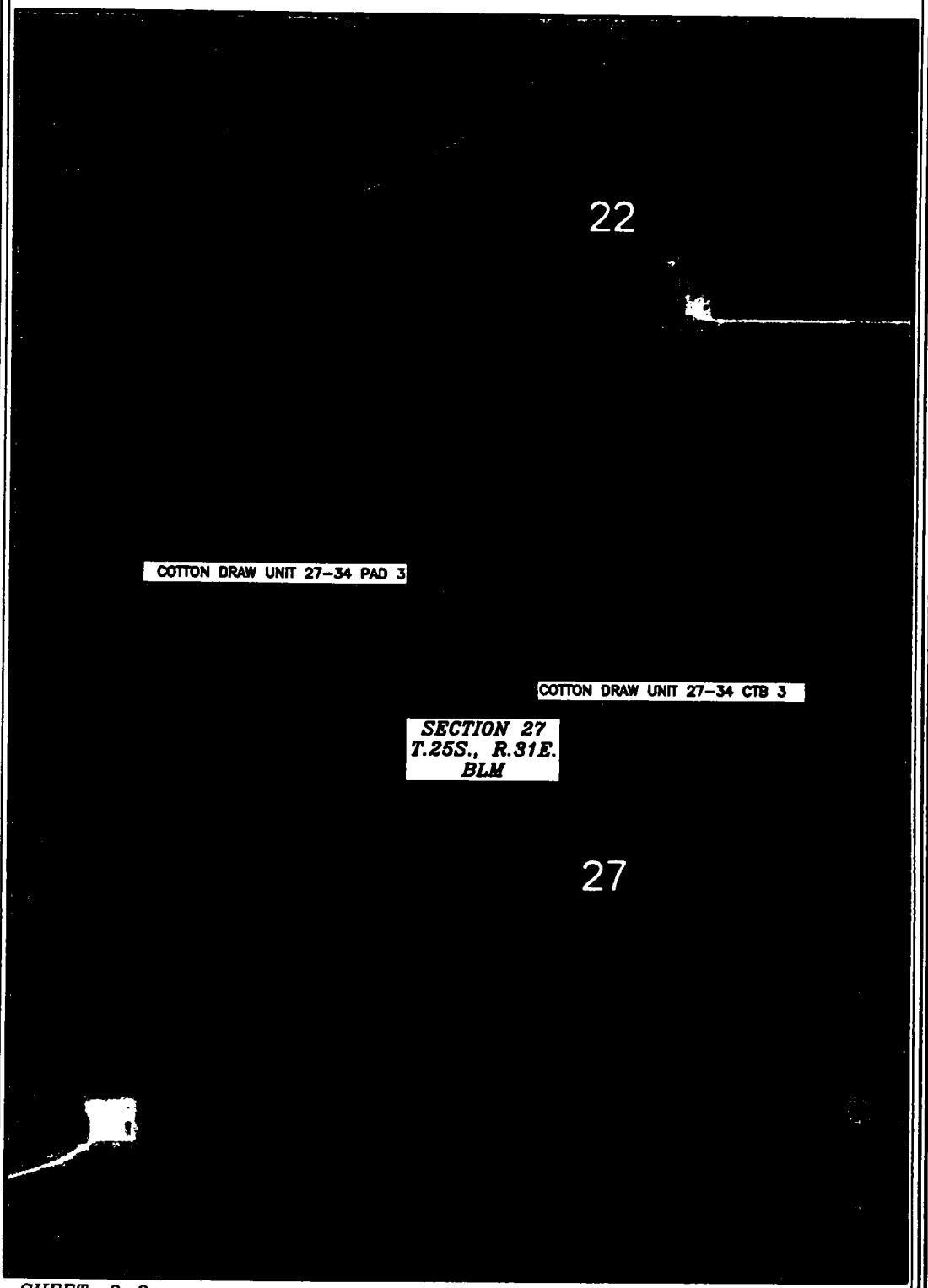
COTTON DRAW UNIT 27-34 CTB 3 (AA000056029)

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

AERIAL PHOTO



SHEET: 3-3

SURVEY NO. 4494B

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

Section 1 - General

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

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

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

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

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

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

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

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

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

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

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

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

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

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

Bond Info Data Report

01/11/2019

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: