OCD Hobbs

Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HOBBS OCD
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RECEIVED

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM096256

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.: ARENA ROJA FED UNIT 15-10 4H (325134)

2. Name of Operator: DEVON ENERGY PRODUCTION COMPANY LP (6137)

9. API Well No.: 30-025-45736

3a. Address: 333 West Sheridan Avenue Oklahoma City OK 73102

3b. Phone No. *(include area code)*: (800)583-3866

10. Field and Pool, or Exploratory: WC-025 G-09 S263504N / WOLFCAMP (98117)

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

At surface: NESE / 2090 FSL / 690 FEL / LAT 32.0417566 / LONG -103.3490608

At proposed prod. zone: NENE / 20 FNL / 360 FEL / LAT 32.0649998 / LONG -103.3480166

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 15 / T26S / R35E / NMP

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

12. County or Parish: LEA

13. State: 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
390 feet	640	240
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**
3064 feet	12335 feet / 20860 feet	FED: CO1104
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3086 feet	06/01/2019	45 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)	Rebecca Deal / Ph: (405)228-8429	09/06/2018
Title: Regulatory Compliance Professional		
Approved by *(Signature)*	**Name *(Printed/Typed)***	**Date**
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	02/22/2019
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.

OCD Rec 03/08/19

APPROVED WITH CONDITIONS

KB 03/14/19

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 02/22/2019

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.

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Additional Operator Remarks

Location of Well

1. SHL: NESE / 2090 FSL / 690 FEL / TWSP: 26S / RANGE: 35E / SECTION: 15 / LAT: 32.0417566 / LONG: -103.3490608 (TVD: 0 feet, MD: 0 feet)
   PPP: NESE / 2542 FNL / 360 FEL / TWSP: 26S / RANGE: 35E / SECTION: 15 / LAT: 32.0435399 / LONG: -103.3479959 (TVD: 12197 feet, MD: 12268 feet)
   BHL: NENE / 20 FNL / 360 FEL / TWSP: 26S / RANGE: 35E / SECTION: 10 / LAT: 32.0649998 / LONG: -103.3480166 (TVD: 12335 feet, MD: 20860 feet)

BLM Point of Contact

Name: Priscilla Perez
Title: Legal Instruments Examiner
Phone: 5752345934
Email: pperez@blm.gov

Review and Appeal Rights

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

PECOS DISTRICT
DRILLING OPERATIONS
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	DEVON ENERGY PRODUCTION COMPANY LP
LEASE NO.:	NMNM096256
WELL NAME & NO.:	ARENA ROJA 15-10 FED UNIT 4H
SURFACE HOLE FOOTAGE:	2090'/S & 690'/E
BOTTOM HOLE FOOTAGE	20'/N & 360'/E
LOCATION:	SECTION 15, T26S, R35E, NMPM
COUNTY:	LEA

Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	
Other	☐4 String Area	☐Capitan Reef	☐WIPP

A. Hydrogen Sulfide

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

B. CASING

1. The **10-3/4"** surface casing shall be set at approximately **1043'** (a minimum of 25' into the Rustler Anhydrite and above the salt) and cemented to surface.
   a. **If cement does not circulate to 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 **6 hours** after pumping cement, ideally between 8-10 hours after completing the cement job.
   b. WOC time for a primary cement job will be a minimum of **8 hours** or **500 psi** compressive strength, whichever is greater. This is to include the lead cement.
   c. If cement falls back, remedial cementing will be done prior to drilling out that string.
   d. WOC time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 psi compressive strength, whichever is greater.

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

2. The minimum required fill of cement behind the **7 5/8"** intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Excess calculates to negative 5% - additional cement might be required.**

Option 2:

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

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

b. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Excess calculates to negative 5% - additional cement might be required**

In case of lost circulation, operator has proposed to pump down 10 3/4" X 7 5/8" annulus. Operator must run a CBL from TD of the 7 5/8'' casing to surface. Submit results to the BLM.

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

- Cement should tie-back at least **200** feet into previous string. Operator shall provide method of verification.

Alternate Casing Design:

4. The **13 3/8"** surface casing shall be set at approximately **1043'** (a minimum of 25' into the Rustler Anhydrite and above the salt) and cemented to surface. **Excess cement calculates to 12% - additional cement might be required.**

   a. **If cement does not circulate to 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 **6 hours** after pumping cement, ideally between 8-10 hours after completing the cement

job.

b. WOC time for a primary cement job will be a minimum of **8 hours** or **500 psi** compressive strength, whichever is greater. This is to include the lead cement.

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

d. WOC time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 psi compressive strength, whichever is greater.

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

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

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Excess calculates to 13% - additional cement might be required.**

Option 2:

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

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

b. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Excess calculates to 13% - additional cement might be required.**

In case of lost circulation, operator has proposed to pump down 13 3/8" X 8 5/8" annulus. Operator must run a CBL from TD of the 8 5/8'' casing to surface. Submit results to the BLM.

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

- Cement should tie-back at least **200** feet into previous casing string. Operator shall provide method of verification. **Excess cement calculates to negative 6% - additional cement might be required.**

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 **5000 (5M)** psi.

ii. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **10,000 (10M)** psi. **Variance approved to use a 5M annular. The annular must be tested to full working pressure (5000 psi).**

Option 2:

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 **10,000 (10M)** psi. **Variance approved to use a 5M annular. The annular must be tested to full working pressure (5000 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.

JJP 1162019

GENERAL REQUIREMENTS

1. 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

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
   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.

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

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

1. 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.

2. 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.:	NMNM096256
WELL NAME & NO.:	4H- ARENA ROJO FED UNIT 15-10
SURFACE HOLE FOOTAGE:	2090'/S & 690'/E
BOTTOM HOLE FOOTAGE	20'/N & 360'/E
LOCATION:	Section. 15.,T26S.,R.35E., NMP
COUNTY:	LEA County, New Mexico

TABLE OF CONTENTS

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

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

IV. NOXIOUS WEEDS

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

V. SPECIAL REQUIREMENT(S)

Build as you go Sub pad only, No grading big pad just sub pad.

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

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

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

Power line Avian Protection

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.

Escape Ramps

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

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

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

Fence 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 fence(s).

Livestock Watering Requirement

Any damage to structures that provide water to livestock throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. 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.

The operator must contact the allotment holder prior to construction to identify the location of the pipeline. The operator must take measures to protect the pipeline from compression or other damages. If the pipeline is 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 pipeline 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

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.

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.

VI. CONSTRUCTION

A. NOTIFICATION

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

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

B. TOPSOIL

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

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

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

F. EXCLOSURE FENCING (CELLARS & PITS)

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

G. ON LEASE ACCESS ROADS

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

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

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

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

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

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

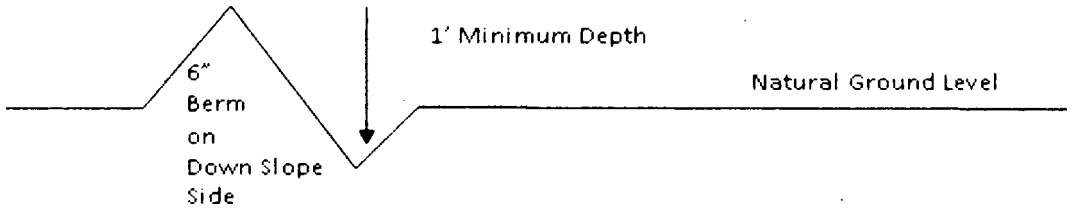
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Cattle guards

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

Fence Requirement

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

Livestock Watering Requirement

Structures that provide water to livestock, such as windmills, pipelines, drinking troughs, and earthen reservoirs, will be avoided by moving the proposed action.

-OR-

Any damage to structures that provide water to livestock throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. 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.

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

Construction Steps

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

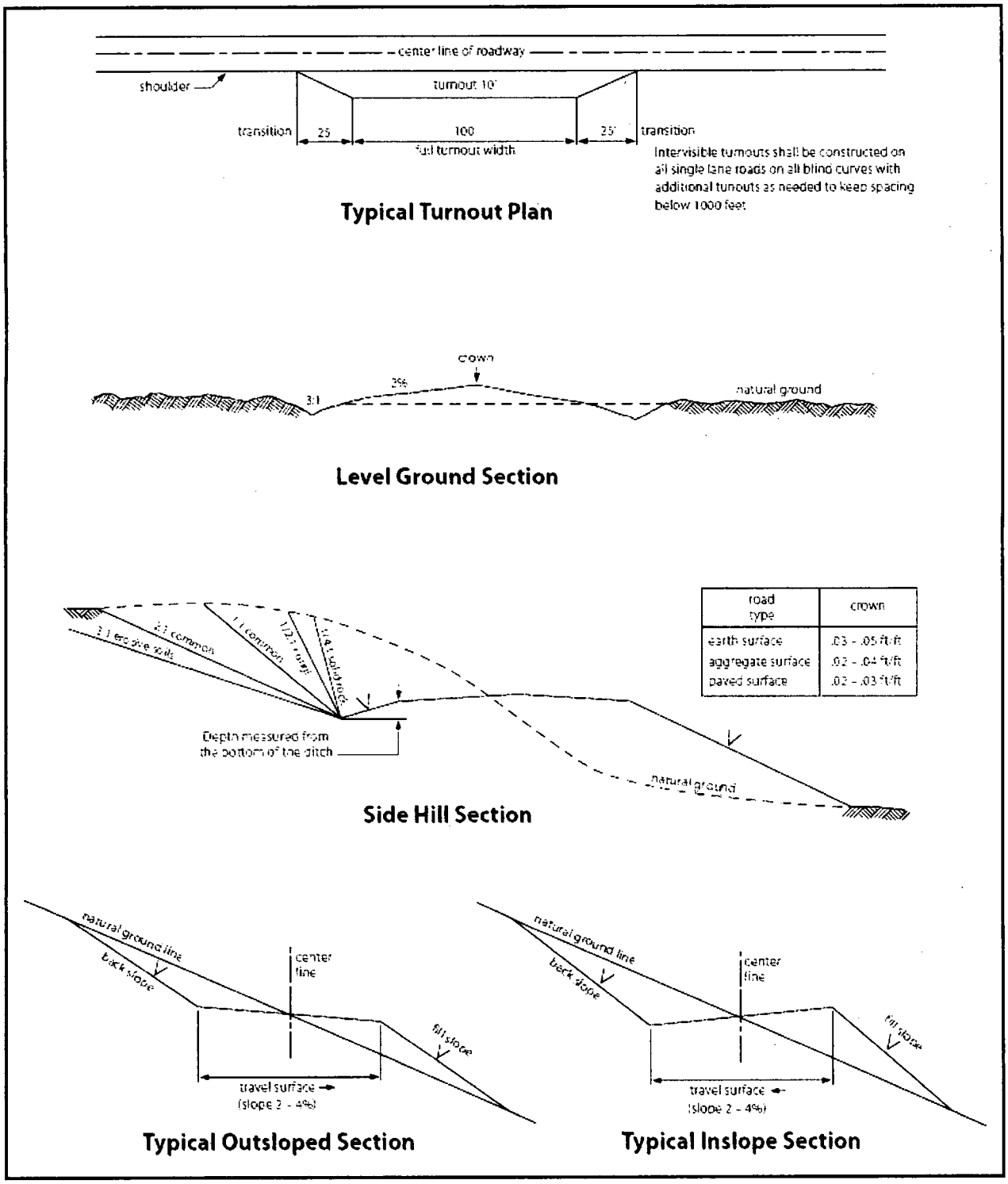


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

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

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

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

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

Containment Structures

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

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

B. PIPELINES

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:

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

19. Special Stipulations:

Lesser Prairie-Chicken

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

C. ELECTRIC LINES

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

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

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

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b.

A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

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

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

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

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

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

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply

with those abandonment procedures as prescribed by the Authorized Officer.

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

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

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

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

VIII. INTERIM RECLAMATION

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

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

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

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

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

IX. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

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

Seed Mixture for LPC Sand/Shinnery Sites

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

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

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

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

*Pounds of pure live seed:

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

AFMSS

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

Operator Certification Data Report

02/25/2019

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: Rebecca Deal Signed on: 09/05/2018

Title: Regulatory Compliance Professional

Street Address: 333 West Sheridan Avenue

City: Oklahoma City State: OK Zip: 73102

Phone: (405)228-8429

Email address: Rebecca.Deal@dvn.com

Representative Name: Travis Phibbs

Street Address: 333 W SHERIDAN AVE

City: OKC State: OK Zip: 73102

Phone: (575)748-9929

Email address: travis.phibbs@dvn.com

AFMSS

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

Application Data Report

02/25/2019

APD ID: 10400033747 Submission Date: 09/06/2018

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ARENA ROJA FED UNIT 15-10 Well Number: 4H

Well Type: OIL WELL Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

APD ID: 10400033747 Tie to previous NOS? Submission Date: 09/06/2018

BLM Office: CARLSBAD User: Rebecca Deal Title: Regulatory Compliance Professional

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

Lease number: NMNM096256 Lease Acres: 640

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 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:

Well in Master Development Plan? NO Mater Development Plan name:

Well in Master SUPO? NO Master SUPO name:

Well in Master Drilling Plan? NO Master Drilling Plan name:

Well Name: ARENA ROJA FED UNIT 15-10 Well Number: 4H Well API Number:

Field/Pool or Exploratory? Field and Pool Field Name: WC-025 G-09 S263504N Pool Name: WOLFCAMP

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ARENA ROJA FED UNIT 15-10 Well Number: 4H

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

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: ARENA ROJA 15 WELLPAD Number: 2

Well Class: HORIZONTAL

Number of Legs: 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: APPRAISAL

Describe sub-type:

Distance to town: Distance to nearest well: 3064 FT Distance to lease line: 390 FT

Reservoir well spacing assigned acres Measurement: 240 Acres

Well plat: Arena_Roja_Fed_Unit_15_10_4H_C_102_RDS2_20180906150936.pdf

Well work start Date: 06/01/2019 Duration: 45 DAYS

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 Vertical Datum: NAVD88

Survey number:

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	2090	FSL	690	FEL	26S	35E	15	Aliquot NESE	32.0417566	-103.3490608	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 096256	3086	0	0
KOP Leg #1	2540	FSL	360	FEL	26S	35E	15	Aliquot NESE	32.042985	-103.347983	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 096256	-8676	11774	11762
PPP Leg #1	2542	FNL	360	FEL	26S	35E	15	Aliquot NESE	32.0435399	-103.3479959	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 096256	-9111	12268	12197

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ARENA ROJA FED UNIT 15-10 Well Number: 4H

	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	FNL	360	FEL	26S	35E	10	Aliquot NENE	32.0649998	-103.3480166	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 096254	-9249	20860	12335
BHL Leg #1	20	FNL	360	FEL	26S	35E	10	Aliquot NENE	32.0649998	-103.3480166	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 096254	-9249	20860	12335

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025-	98117	WC-025 G-09 S263504N;WOLFCAMP

Property Code	Property Name	Well Number
	ARENA ROJA FED UNIT 15-10	4H

OGRID No.	Operator Name	Elevation
6137	DEVON ENERGY PRODUCTION COMPANY, L.P.	3085.8'

Surface Location

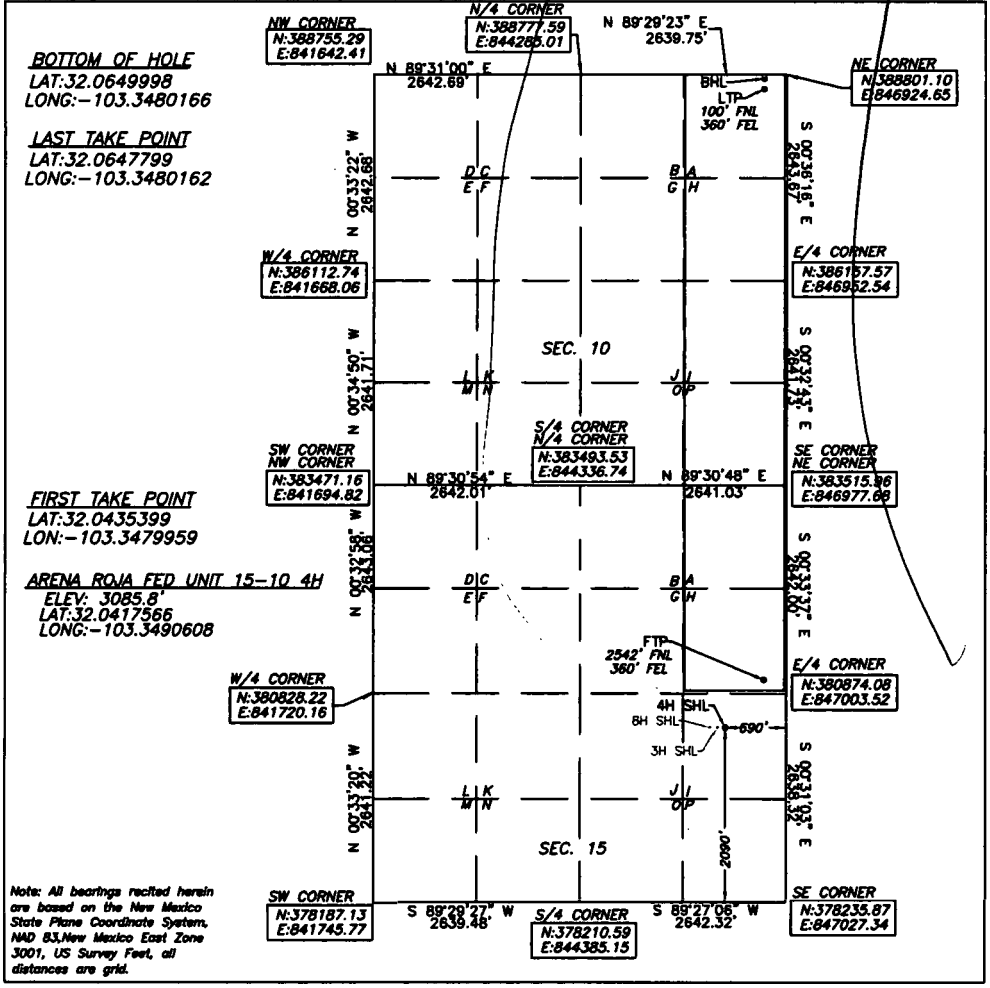
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	15	26-S	35-E	I	2090	SOUTH	690	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	10	26-S	35-E	A	20	NORTH	360	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
240			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



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.

OPERATOR CERTIFICATION

I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

9/6/2018
Signature Date

Rebecca Deal, Regulatory Analyst
Printed Name

rebecca.deal@dvn.com
E-mail Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

07/2018
Date of Survey

Signature & Seal of Professional Surveyor

B. L. LAMAN
NEW MEXICO
22404
PROFESSIONAL SURVEYOR

09/5/18

Certificate No. 22404 B.L. LAMAN
W.O. # DRAWN BY: CM

Intent [x] As Drilled [ ]

API #
30-025-45736

Operator Name:	Property Name:	Well Number
DEVON ENERGY PRODUCTION COMPANY, LP.	ARENA ROJA FED UNIT 15-10	4H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
	15	26S	35E		2540	FSL	360	FEL	LEA

Latitude	Longitude	NAD
32.042985	-103.347983	83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
H	15	26	35		2542	NORTH	360	EAST	LEA

Latitude	Longitude	NAD
32.0435399	103.3479959	83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
A	10	26	35		100	NORTH	360	EAST	LEA

Latitude	Longitude	NAD
32.0647799	103.3480162	83

Is this well the defining well for the Horizontal Spacing Unit? [NO]

Is this well an infill well? [Y]

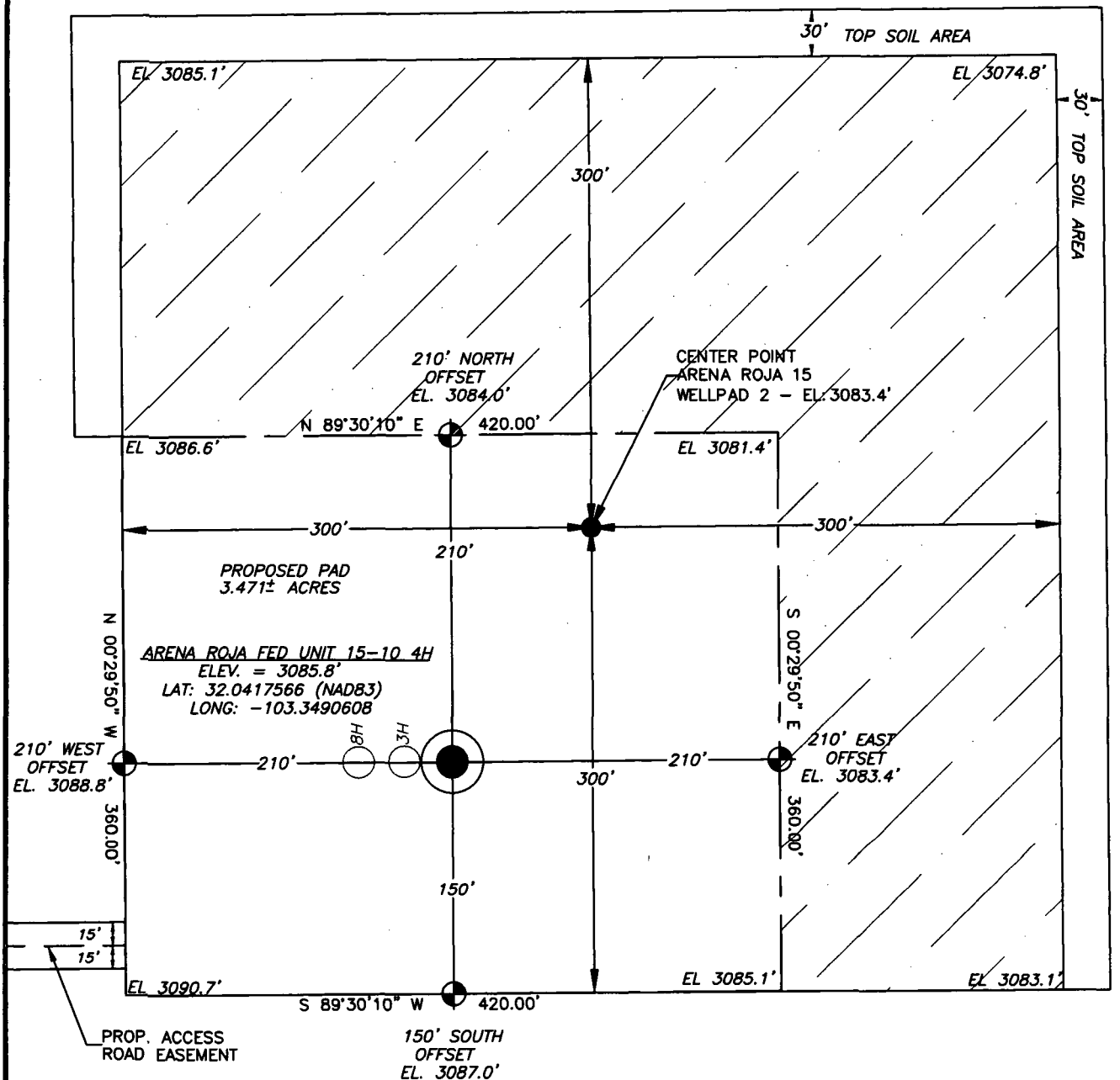
If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #

Operator Name:	Property Name:	Well Number
DEVON ENERGY PROD. CO.	ARENA ROJA FED UNIT 15-10	3H

KZ 06/29/2018

SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
SITE MAP



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.

DEVON ENERGY PRODUCTION COMPANY, L.P.
ARENA ROJA FED UNIT 15-10 4H
LOCATED 2090 FT. FROM THE SOUTH LINE
AND 690 FT. FROM THE EAST LINE OF
SECTION 15, TOWNSHIP 26 SOUTH,
RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

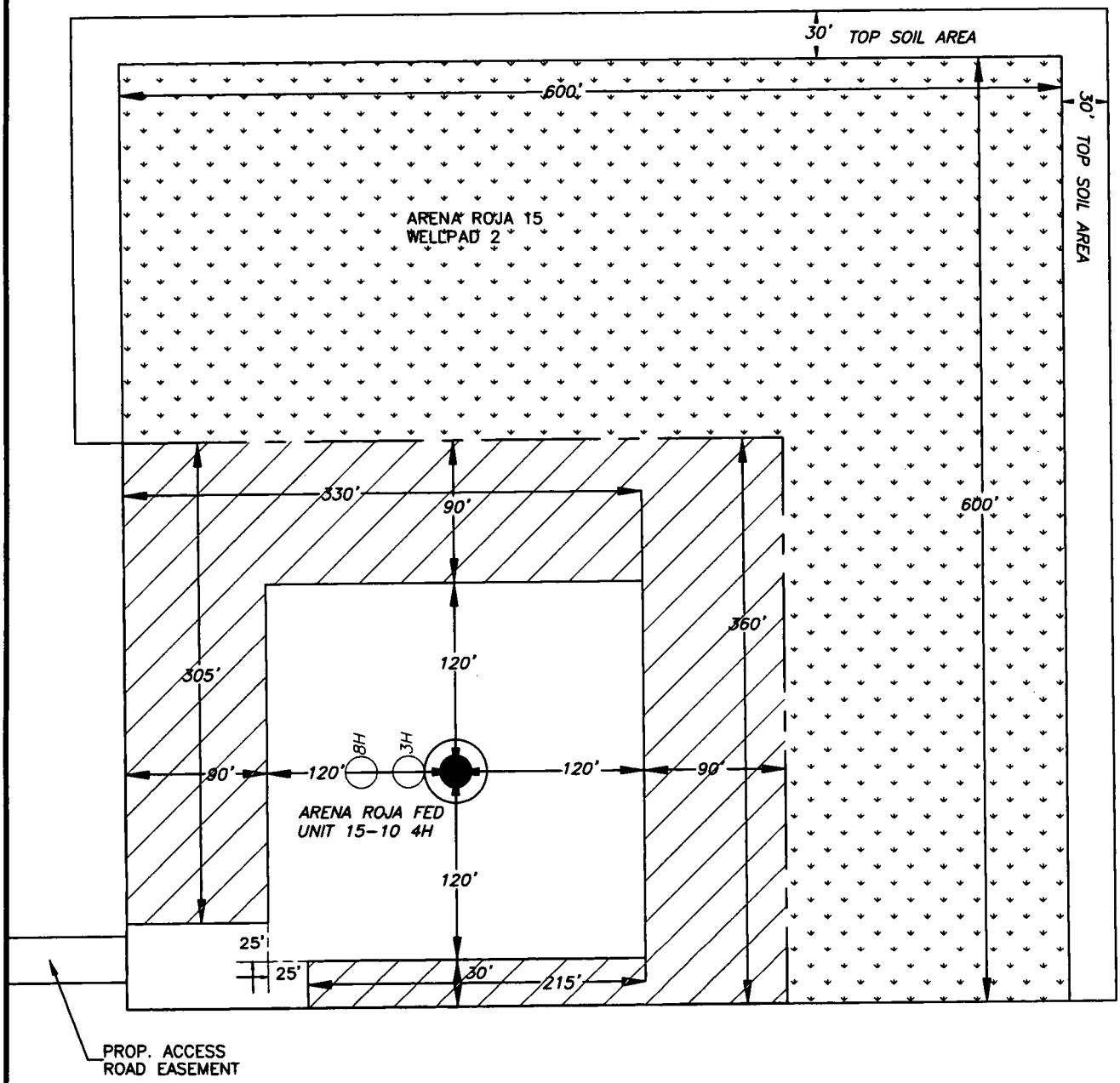
0 100 200

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF J-3 (FRYING PAN ROAD) AND ANTHONY ROAD, HEAD SOUTH ON FRYING PAN ROAD FOR 2.93 MILES. TURN RIGHT ONTO BECKHAM ROAD AND HEAD WEST FOR 5.37 MILES. TURN RIGHT AND CONTINUE NORTH ON AN EXISTING LEASE ROAD FOR 0.97 MILES. TURN RIGHT ONTO AN EXISTING ACCESS ROAD AND HEAD NORTH FOR 1.27 MILES. TURN RIGHT AND HEAD EAST OFF OF THE EXISTING ACCESS ROAD ON THE PROPOSED ACCESS ROAD FOR 0.42 MILES TO THE SOUTHWEST CORNER OF THE PROPOSED ARENA ROJA 15 WELLPAD 2.

HORIZON ROW LLC		Drawn for: devon
DEVON ENERGY PRODUCTION CO., L.P.		
Drawn by: CHRIS MAAS	Date: 05/30/2018 Rev. Date: 8/7/18	

SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
INTERIM SITE BUILD PLAN



DENOTES INTERIM PAD RECLAMATION AREA

DENOTES GRADING SITE RECLAMATION AREA

2.020± ACRES INTERIM PAD RECLAMATION AREA
4.791± ACRES GRADING SITE RECLAMATION AREA
1.453± ACRES NON-RECLAIMED AREA
8.264± ACRES GRADING SITE RECLAMATION AREA

0 100 200

DEVON ENERGY PRODUCTION COMPANY, L.P.
ARENA ROJA FED UNIT 15-10 3H
LOCATED 2090 FT. FROM THE SOUTH LINE
AND 720 FT. FROM THE EAST LINE OF
SECTION 15, TOWNSHIP 26 SOUTH,
RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

HORIZON ROW LLC

DEVON ENERGY PRODUCTION CO., L.P.

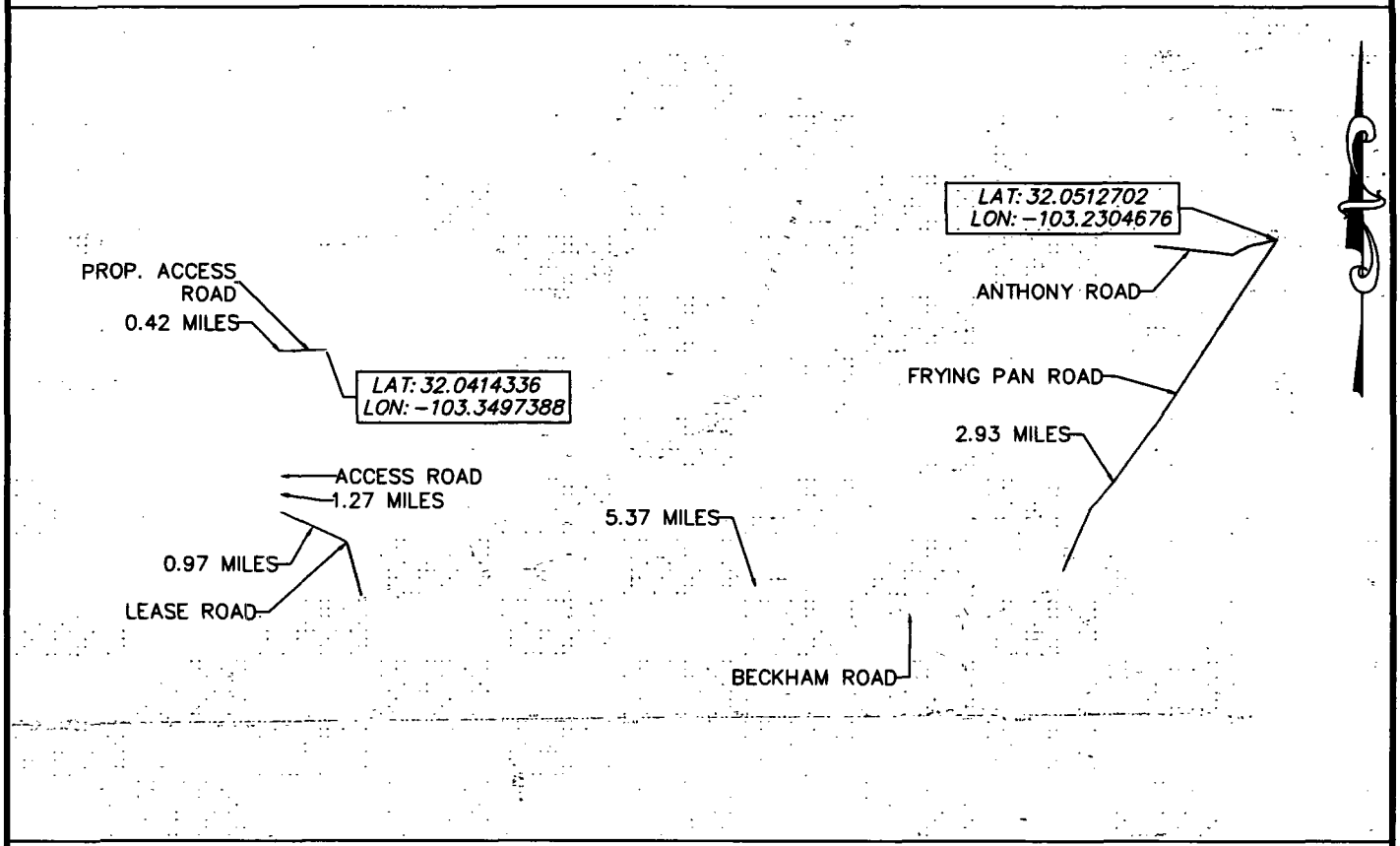
Drawn by: CHRIS MAAS

Date: 05/30/2018
Rev. Date: 8/7/18

Drawn for:

devon

SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
VICINITY MAP



NOT TO SCALE

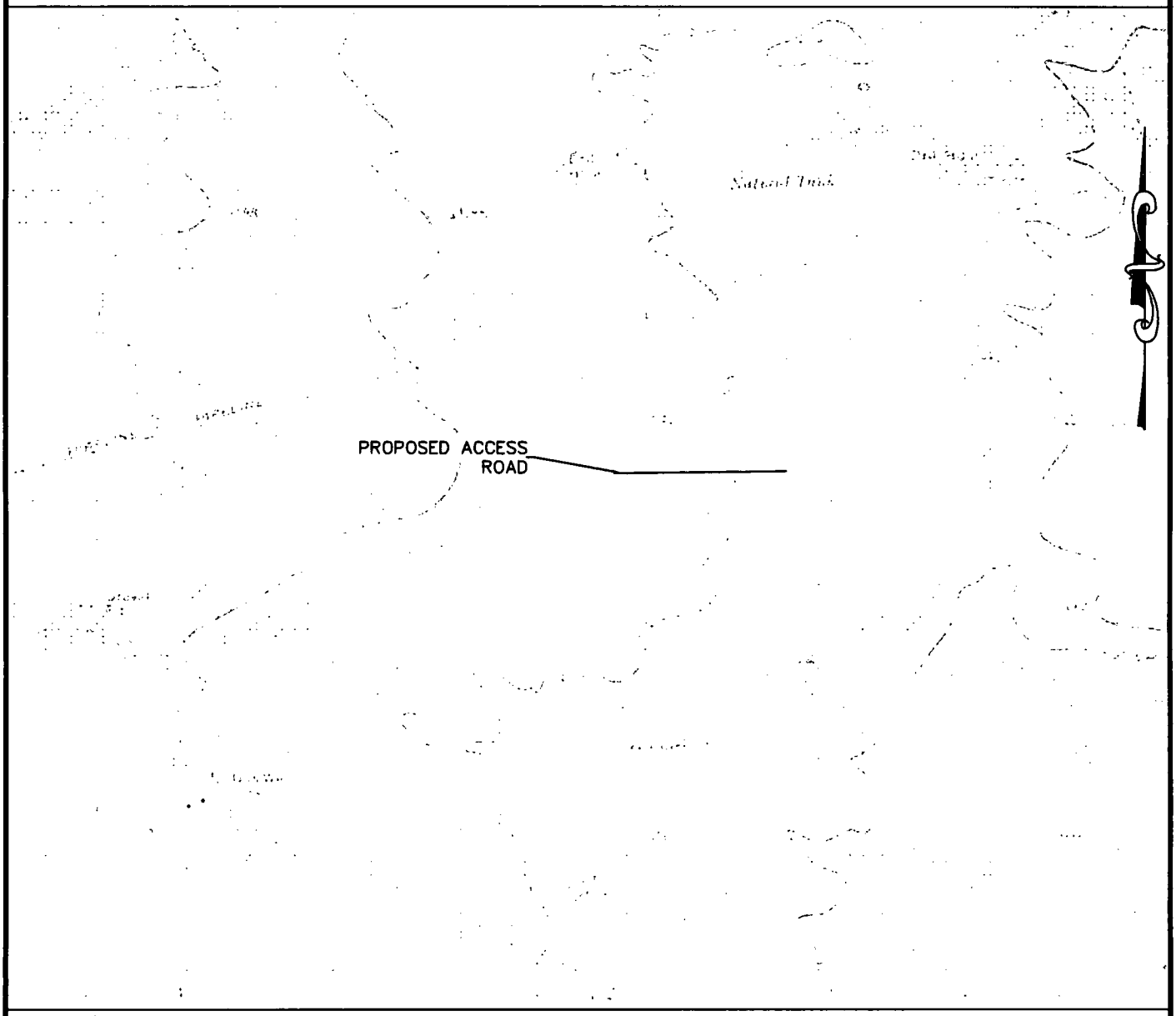
DEVON ENERGY PRODUCTION COMPANY, L.P.
ARENA ROJA FED UNIT 15-10 4H
LOCATED 2090 FT. FROM THE SOUTH LINE
AND 690 FT. FROM THE EAST LINE OF
SECTION 15, TOWNSHIP 26 SOUTH,
RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF J-3 (FRYING PAN ROAD) AND ANTHONY ROAD, HEAD SOUTH ON FRYING PAN ROAD FOR 2.93 MILES. TURN RIGHT ONTO BECKHAM ROAD AND HEAD WEST FOR 5.37 MILES. TURN RIGHT AND CONTINUE NORTH ON AN EXISTING LEASE ROAD FOR 0.97 MILES. TURN RIGHT ONTO AN EXISTING ACCESS ROAD AND HEAD NORTH FOR 1.27 TURN RIGHT AND HEAD EAST OFF OF THE EXISTING ACCESS ROAD ON THE PROPOSED ACCESS ROAD FOR 0.42 MILES TO THE SOUTHWEST CORNER OF THE PROPOSED ARENA ROJA 15 WELLPAD 2.

HORIZON ROW LLC		Drawn for: devon
DEVON ENERGY PRODUCTION CO., L.P.		
Drawn by: CHRIS MAAS	Date: 05/30/2018 Rev. Date: 7/28/18	

SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
LOCATION VERIFICATION MAP



USGS QUAD MAP

DEVON ENERGY PRODUCTION COMPANY, L.P.
ARENA ROJA FED UNIT 15-10 4H
LOCATED 2090 FT. FROM THE SOUTH LINE
AND 690 FT. FROM THE EAST LINE OF
SECTION 15, TOWNSHIP 26 SOUTH,
RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

0 2000 4000

HORIZON ROW LLC

DEVON ENERGY PRODUCTION CO., L.P.

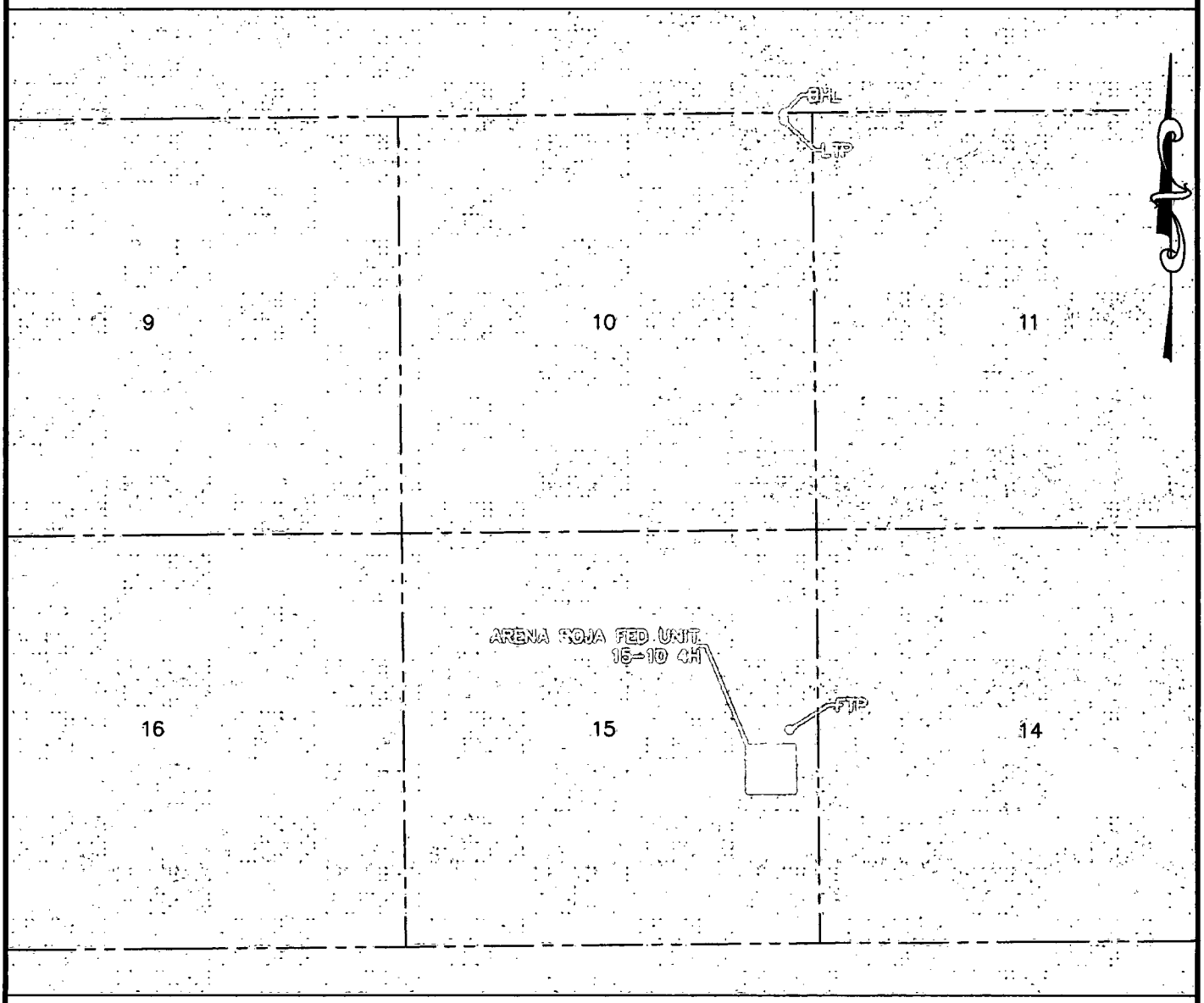
Drawn by: CHRIS MAAS

Date: 05/30/2018
Rev. Date: 7/28/18

Drawn for:

devon

SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
AERIAL PHOTO

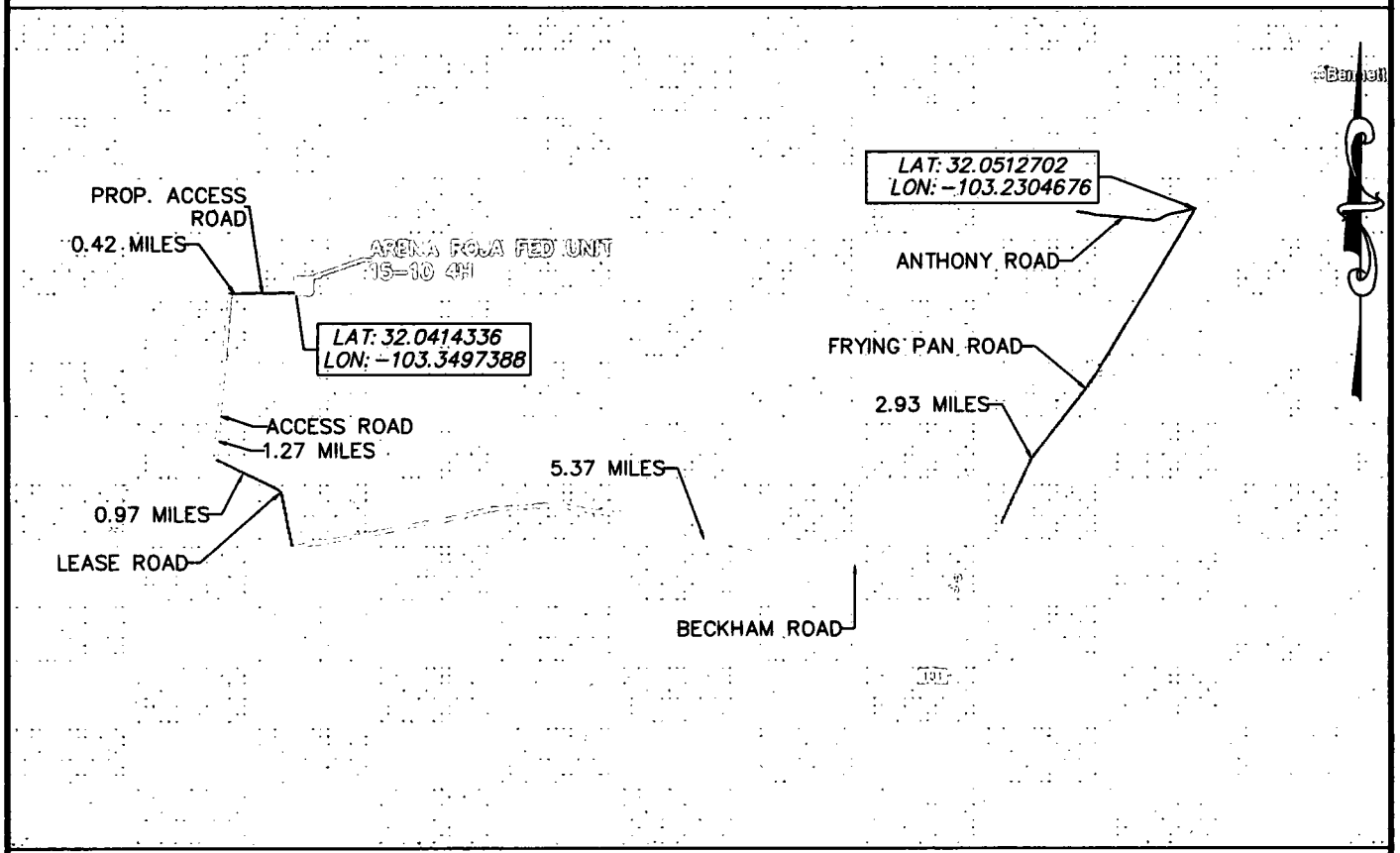


DEVON ENERGY PRODUCTION COMPANY, L.P.
ARENA ROJA FED UNIT 15-10 4H
LOCATED 2090 FT. FROM THE SOUTH LINE
AND 690 FT. FROM THE EAST LINE OF
SECTION 15, TOWNSHIP 26 SOUTH,
RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

0 2000 4000

HORIZON ROW LLC	Drawn for: devon
DEVON ENERGY PRODUCTION CO., L.P.	
Drawn by: CHRIS MAAS	Date: 05/30/2018 Rev. Date: 8/23/18

SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
AERIAL ACCESS ROUTE MAP



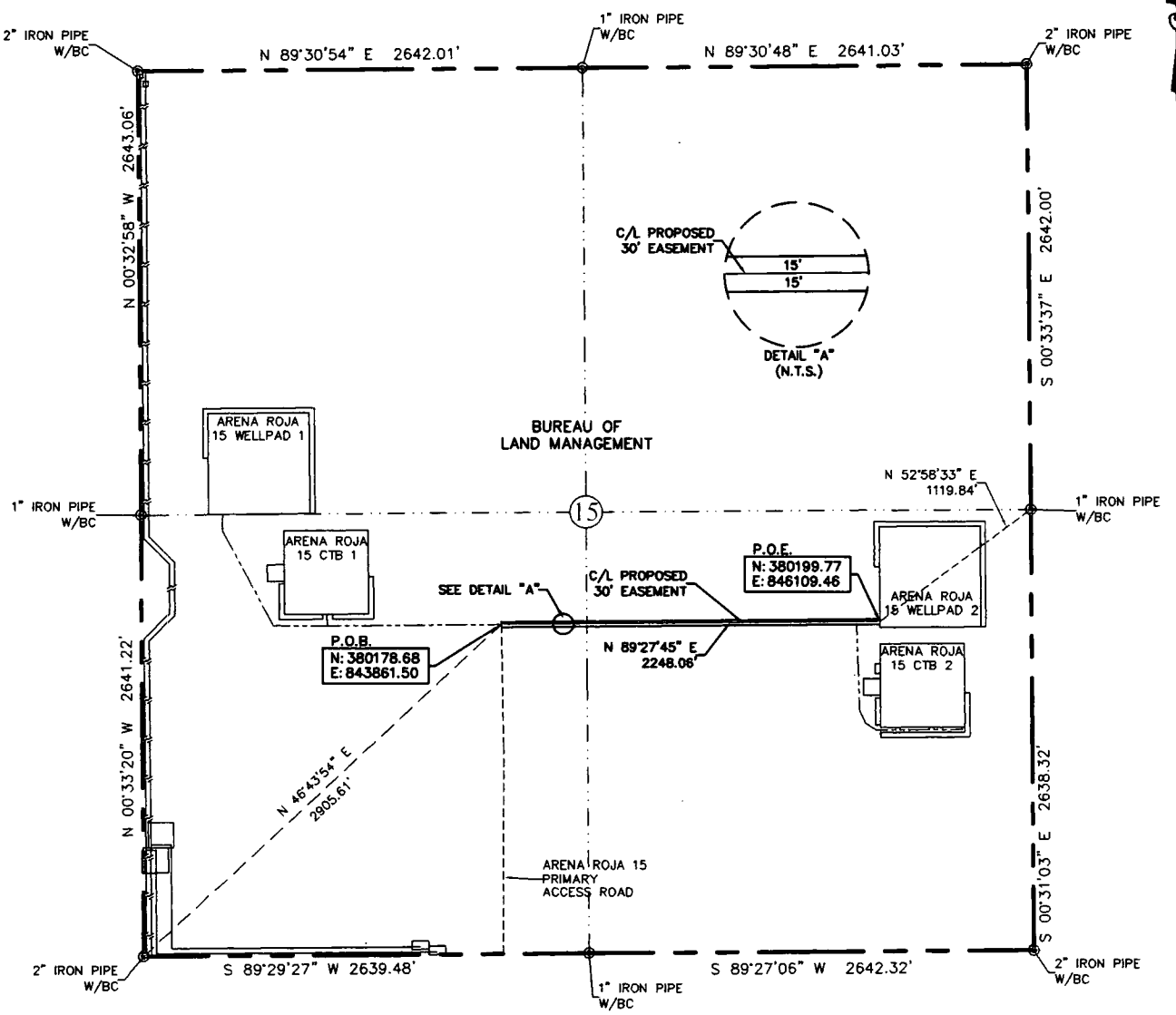
NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.
ARENA ROJA FED UNIT 15-10 4H
LOCATED 2090 FT. FROM THE SOUTH LINE
AND 690 FT. FROM THE EAST LINE OF
SECTION 15, TOWNSHIP 26 SOUTH,
RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

HORIZON ROW LLC		Drawn for: devon
DEVON ENERGY PRODUCTION CO., L.P.		
Drawn by: CHRIS MAAS	Date: 05/30/2018 Rev. Date: 7/28/18	

EXHIBIT "A"
PAGE 9 of 12

ACCESS ROAD PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



0+00.0 P.O.B./ARENA ROJA 15 PRIMARY ACCESS ROAD
21+08.9 ARENA ROJA 15 CTB 2 ACCESS ROAD
22+48.1 P.O.E./ARENA ROJA 15 WELLPAD 2

30' EASEMENT AREA = 1.548 ACRE(S)
2248.06 FEET OR 136.25 RODS

SEE THE ATTACHED LEGAL DESCRIPTION

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

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

B.L. LAMAN NEW MEXICO 22404 PROFESSIONAL SURVEYOR

B.L. Laman PLS #22404
Date Signed: 08-08-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC	DEVON ENERGY PRODUCTION COMPANY, L.P.	LINE NUMBER: 7640128R
Drawn for: devon	ARENA ROJA 15 WELLPAD 2 ACCESS ROAD	WBS NUMBER:
	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 15, T26S–R35E, N.M.P.M.	SCALE: 1" = 1000'
		REVISIONS: 8/3/18 CMAAS
Drawn by: CHRIS MAAS	Date: 05/25/2018	DATE OF SURVEY: 5/19/18

SECTION 15, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southwest quarter (SW ¼) and the southeast quarter (SE ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the southwest corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence N 46°43'54" E a distance of 2905.61' to the **Point of Beginning** of this easement having coordinates of Northing=380178.68, Easting=843861.50 feet and continuing the following courses;

Thence N 89°27'45" E a distance of 2248.06' to the **Point of Ending** having coordinates of Northing=380199.77, Easting=846109.46 feet from said point a 1" iron pipe w/BC for the east quarter corner of Section 15, T26S-R35E bears N 52°58'33" E a distance of 1119.84', covering **2248.06' or 136.25 rods** and having an area of **1.548 acres.**

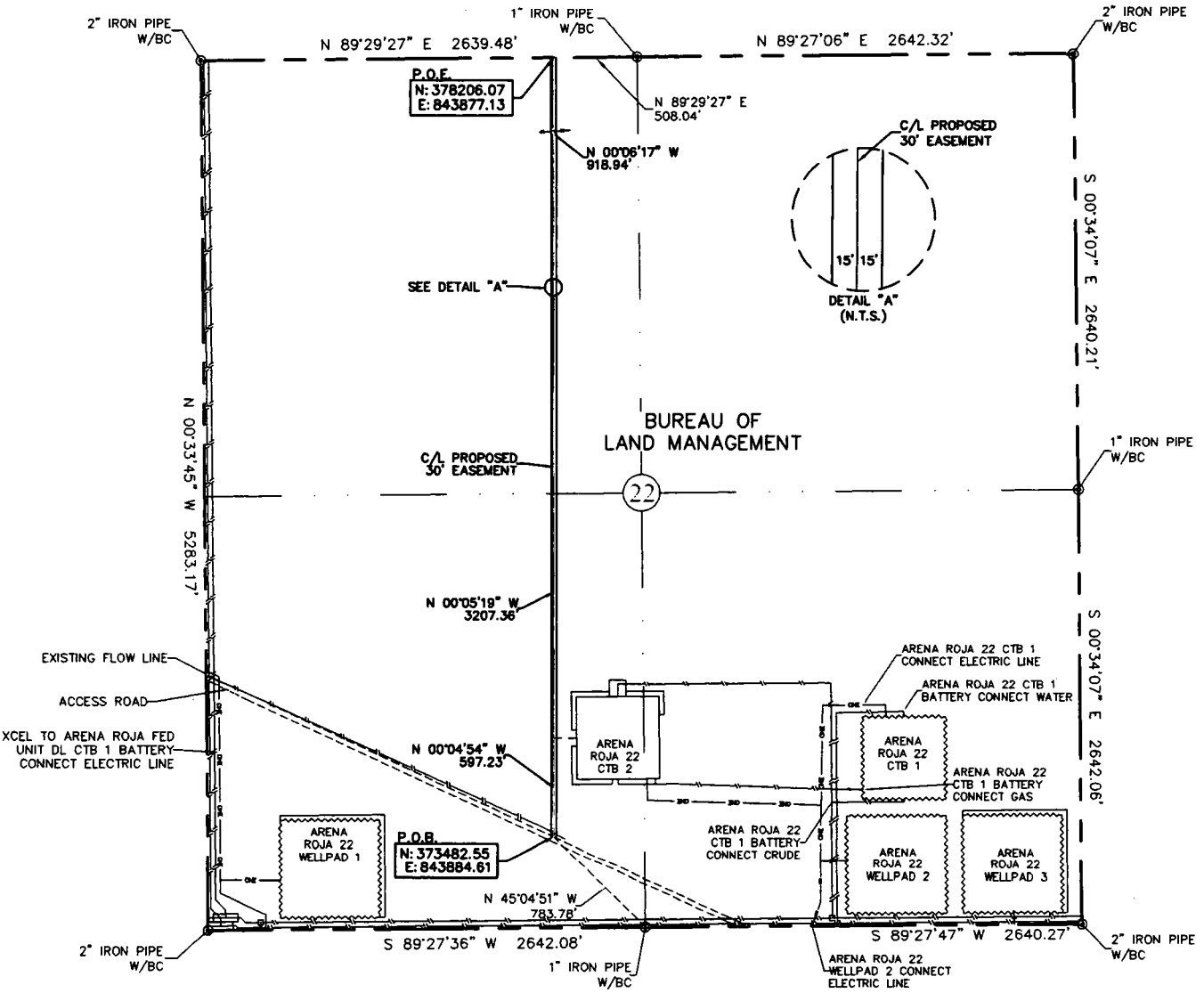
NOTES:

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: 08/06/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 1 of 6
ACCESS ROAD PLAT
SECTION 22, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



30' EASEMENT AREA = 3.253 ACRE(S)
4723.53 FEET OR 286.27 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+00.0 P.O.B./EXISTING ROAD
42+78.9 FENCE/GATE
47+23.5 SECTION LINE

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.

NEW MEXICO 22404 PROFESSIONAL SURVEYOR

B.L. Laman PLS #22404
Date Signed: 08-05-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

HORIZON ROW LLC
Drawn for: devon
Drawn by: CHRIS MAAS
Date: 05/25/2018

DEVON ENERGY PRODUCTION COMPANY, L.P.
ARENA ROJA 15 PRIMARY ACCESS ROAD
PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT
SECTION 22, T26S–R35E, N.M.P.M.

LINE NUMBER: 7640126R
WBS NUMBER:
SCALE: 1" = 1000'
REVISIONS: 8/4/18
DATE OF SURVEY 5/19/18

SECTION 22, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southwest quarter (SW ¼) and the northwest quarter (NW ¼) of Section 22, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the south quarter corner of Section 22, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence N 45°04'51" W a distance of 783.78' to the **Point of Beginning** of this easement having coordinates of Northing=373482.55 feet, Easting=843884.61 feet, and continuing the following courses;

Thence N 00°04'54" W a distance of 597.23' to an angle point;

Thence N 00°05'19" W a distance of 3207.36' to an angle point;

Thence N 00°06'17" W a distance of 918.94' to the **Point of Ending** in the north line of Section 22, having coordinates of Northing=378206.07 feet, Easting=843877.13 feet, from said point a 1" iron pipe w/BC for the north quarter corner of Section 22, T26S-R35E bears N 89°29'27" E a distance of 508.04', covering **4723.53' or 286.27 rods** and having an area of **3.253 acres**.

NOTES:

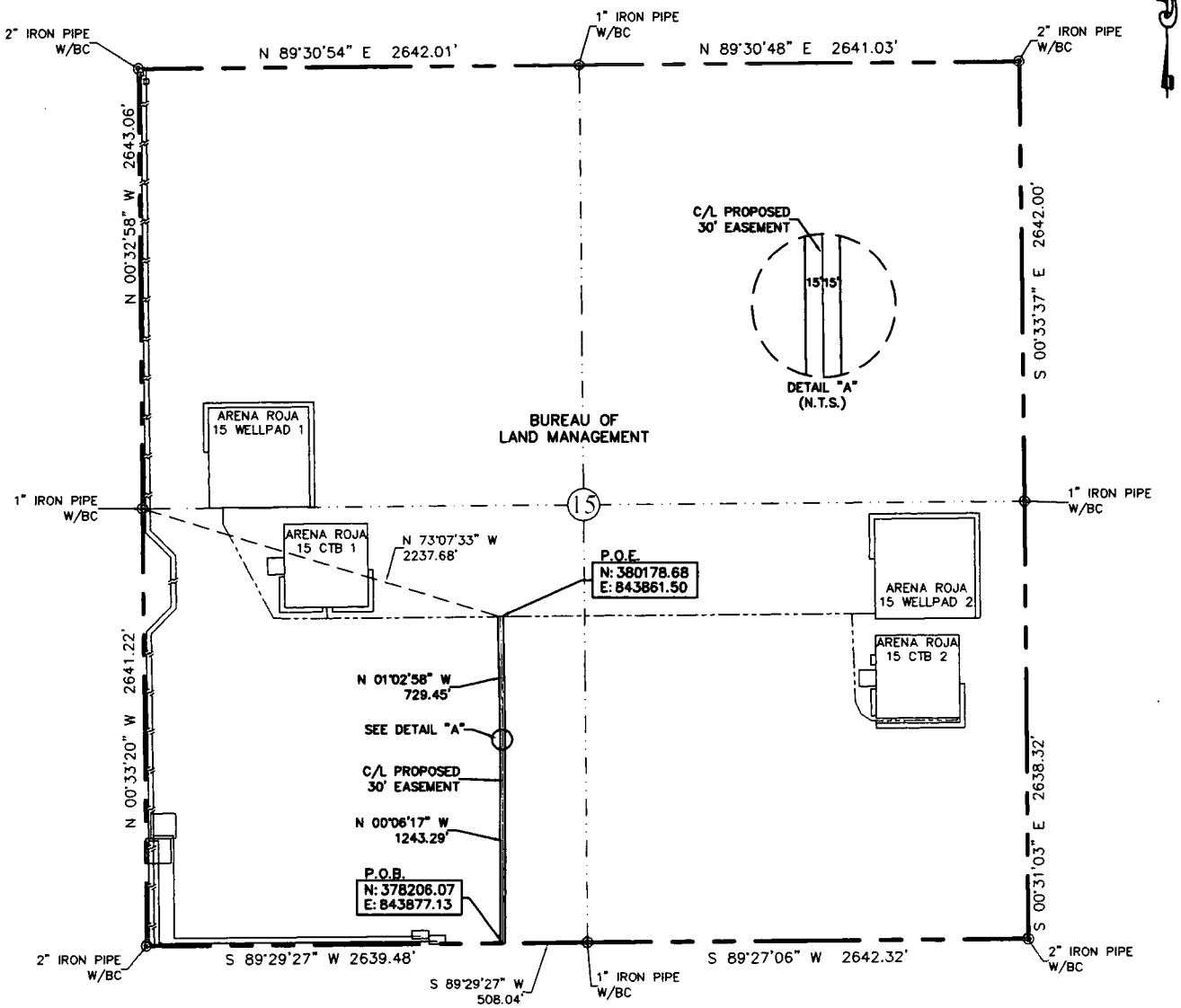
Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

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: 08/05/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 3 of 6

ACCESS ROAD PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



47+23.5 SECTION LINE
66+96.3 P.O.E./ARENA ROJA 15 WELLPAD 1 & 2 ACCESS ROAD

30' EASEMENT AREA = 1.359 ACRE(S)
1972.74 FEET OR 119.56 RODS

SEE THE ATTACHED LEGAL DESCRIPTION

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

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

NEW MEXICO 22404 PROFESSIONAL SURVEYOR

B.L. Laman PLS #22404
Date Signed: 08-05-2018
P.O. Box 548, Dry Creek, La.
(803) 388-3045 70637
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC	DEVON ENERGY PRODUCTION COMPANY, L.P.	LINE NUMBER: 7840128R
Drawn for: devon	ARENA ROJA 15 PRIMARY ACCESS ROAD	WBS NUMBER:
	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 15, T26S–R35E, N.M.P.M.	SCALE: 1" = 1000'
		REVISIONS: 8/4/18 CMAAS
Drawn by: CHRIS MAAS	Date: 05/25/2018	DATE OF SURVEY 5/19/18

SECTION 15, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southwest quarter (SW ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the south quarter corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence S 89°29'27" W a distance of 508.04' to the **Point of Beginning** of this easement in the south line of Section 15, having coordinates of Northing=378206.07, Easting=843877.13 feet and continuing the following courses;

Thence N 00°06'17" W a distance of 1243.29' to an angle point;

Thence N 01°02'58" W a distance of 729.45' to the **Point of Ending** having coordinates of Northing=380178.68, Easting=843861.50 feet from said point a 1" iron pipe w/BC for the west quarter corner of Section 15, T26S-R35E bears N 73°07'33" W a distance of 2237.68', covering **1972.74' or 119.56 rods** and having an area of **1.359 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: 08/05/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 5 of 6

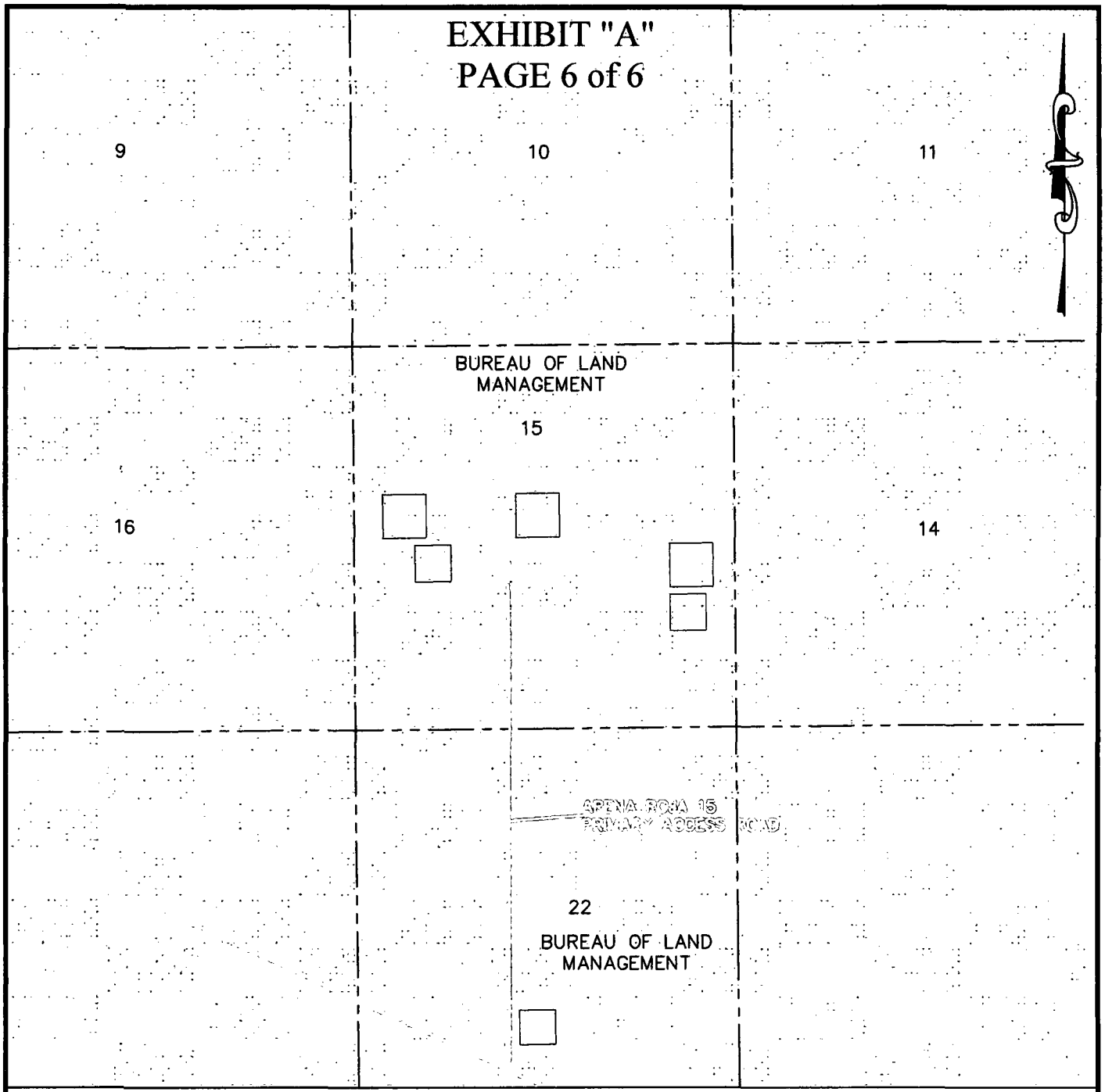
QUAD MAP

SECTION 22, T26S-R35E, N.M.P.M.;
SECTION 15, T26S-R35E, N.M.P.M.;
LEA COUNTY, NEW MEXICO

0 2000 4000

HORIZON ROW LLC		Drawn for:	LINE NUMBER: 7640126R
DEVON ENERGY PRODUCTION CO., L.P.			WBS NUMBER:
PROPOSED 30' EASEMENT			SCALE: 1" = 2000'
Drawn by: CHRIS MAAS	Date: 08/04/2018	devon	REVISIONS:
			DATE OF SURVEY: 05/19/18

EXHIBIT "A"
PAGE 6 of 6



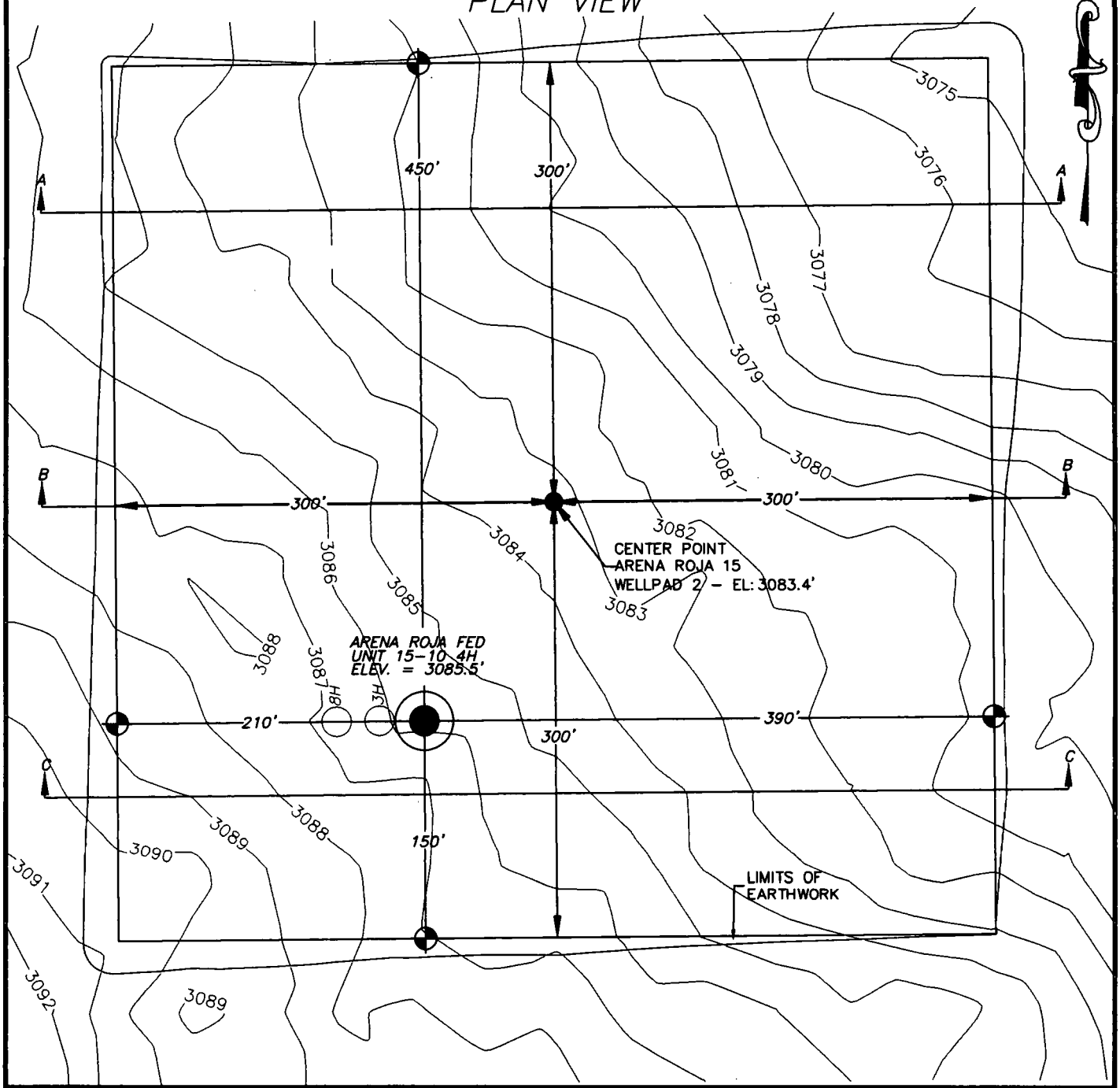
AERIAL MAP

SECTION 22, T26S-R35E, N.M.P.M.;
SECTION 15, T26S-R35E, N.M.P.M.;
LEA COUNTY, NEW MEXICO

0 2000 4000

HORIZON ROW LLC	Drawn for:		LINE NUMBER: 7640126R
DEVON ENERGY PRODUCTION CO., L.P.			WBS NUMBER:
PROPOSED 30' EASEMENT		devon	SCALE: 1" = 2000'
Drawn by: CHRIS MAAS	Date: 08/04/2018		REVISIONS:
			DATE OF SURVEY: 05/19/18

SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
PLAN VIEW



DEVON ENERGY PRODUCTION COMPANY, L.P.
ARENA ROJA FED UNIT 15-10 4H
LOCATED 2090 FT. FROM THE SOUTH LINE
AND 690 FT. FROM THE EAST LINE OF
SECTION 15, TOWNSHIP 26 SOUTH,
RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

0 100 200

EARTHWORK QUANTITIES FOR
ARENA ROJA 15 WELLPAD 2

CUT	FILL	NET
19,935 CY	19,932 CY	3 CY

EARTHWORK QUANTITIES ARE ESTIMATED

HORIZON ROW LLC

DEVON ENERGY PRODUCTION CO., L.P.

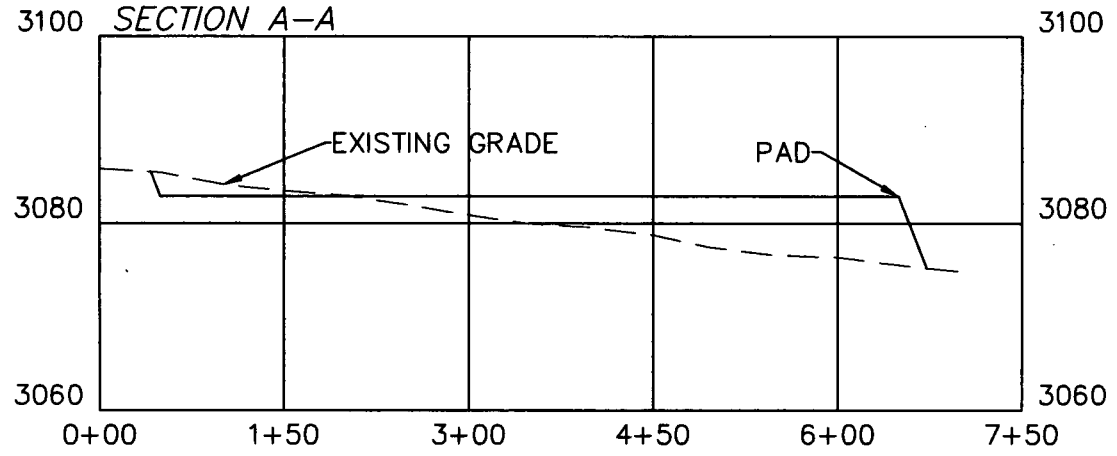
Drawn by: CHRIS MAAS

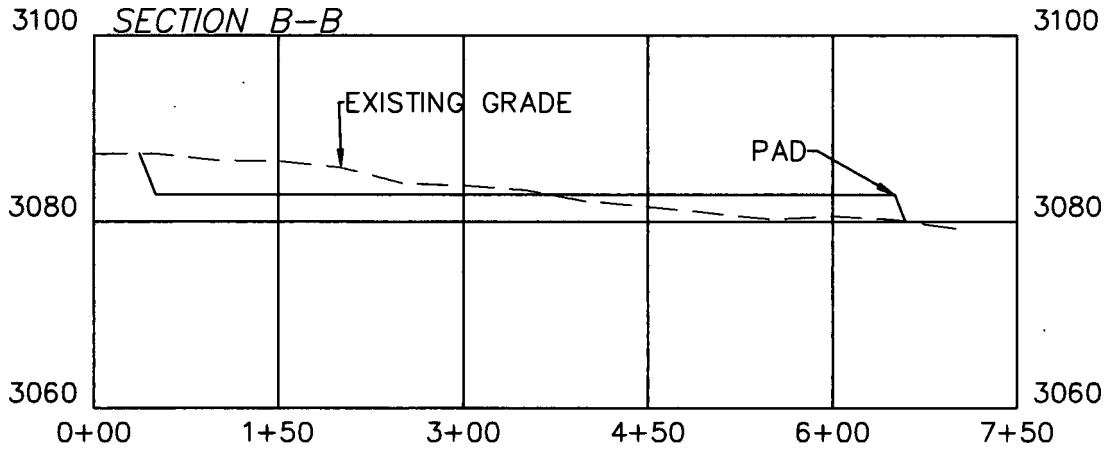
Date: 05/30/2018
Rev. Date: 7/28/18

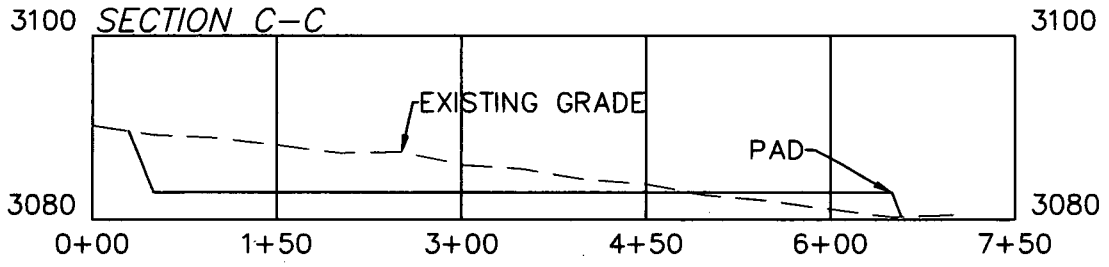
Drawn for:

devon

SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
CROSS SECTIONS







DEVON ENERGY PRODUCTION COMPANY, L.P.
ARENA ROJA FED UNIT 15–10 4H
LOCATED 2090 FT. FROM THE SOUTH LINE
AND 690 FT. FROM THE EAST LINE OF
SECTION 15, TOWNSHIP 26 SOUTH,
RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

SCALE 1" = 150' HORIZONTAL
SCALE 1" = 20' VERTICAL

EARTHWORK QUANTITIES FOR
ARENA ROJA 15 WELLPAD 2

CUT	FILL	NET
19,935 CY	19,932 CY	3 CY

EARTHWORK QUANTITIES ARE ESTIMATED

HORIZON ROW LLC

DEVON ENERGY PRODUCTION CO., L.P.

Drawn by: CHRIS MAAS

Date: 05/28/2018
Rev. Date: 7/28/18

Drawn for: devon

Drilling Plan Data Report

02/25/2019

APD ID: 10400033747 Submission Date: 09/06/2018

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ARENA ROJA FED UNIT 15-10 Well Number: 4H

Well Type: OIL WELL Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	---	3140	0	0	OTHER : Surface	NONE	No
2	RUSTLER	2250	1065	1065	SANDSTONE	NONE	No
3	TOP SALT	1730	1585	1585	SALT	NONE	No
4	BASE OF SALT	-1675	4990	4990	LIMESTONE	NONE	No
5	BELL CANYON	-2030	5345	5345	SANDSTONE	NATURAL GAS,OIL	No
6	CHERRY CANYON	-2995	6310	6310	SANDSTONE	NATURAL GAS,OIL	No
7	BRUSHY CANYON	-4605	7920	7920	SANDSTONE	NATURAL GAS,OIL	No
8	BONE SPRING	-6085	9225	9225	SHALE	NATURAL GAS,OIL	No
9	BONE SPRING 1ST	-7295	10435	10435	SANDSTONE	NATURAL GAS,OIL	No
10	BONE SPRING 2ND	-7715	10855	10855	SANDSTONE	NATURAL GAS,OIL	No
11	BONE SPRING 3RD	-8990	12130	12130	SANDSTONE	NATURAL GAS,OIL	No
12	WOLFCAMP	-9305	12445	12445	SHALE	NATURAL GAS,OIL	Yes
13	STRAWN	-11105	14245	14245	LIMESTONE	NATURAL GAS,OIL	No

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ARENA ROJA FED UNIT 15-10 Well Number: 4H

Pressure Rating (PSI): 10M Rating Depth: 12335

[redacted]

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.

[redacted]

Choke Diagram Attachment:

10M_BOPE_CHK_20180823115134.pdf

BOP Diagram Attachment:

10M_BOPE_CHK_20180823115144.pdf

Pressure Rating (PSI): 5M Rating Depth: 12335

[redacted]

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.

[redacted]

Choke Diagram Attachment:

5M_BOPE_CK_20180823115324.pdf

BOP Diagram Attachment:

5M_BOPE_CK_20180823115333.pdf

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ARENA ROJA FED UNIT 15-10 Well Number: 4H

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	14.75	10.75	NEW	API	N	0	1043	0	900			1043	J-55	40.5	STC	1.125	1.25	BUOY	1.6	BUOY	1.6
2	INTERMEDIATE	9.875	7.625	NEW	API	N	0	11773	0	11762			11773	P-110	29.7	OTHER - BTC	1.125	1.25	BUOY	1.6	BUOY	1.6
3	INTERMEDIATE	8.75	7.625	NEW	API	N	11773	12673	11762	12335			900	P-110	29.7	OTHER - FLUSHMAX	1.125	1.25	BUOY	1.6	BUOY	1.6
4	PRODUCTION	6.75	5.5	NEW	API	N	0	20859	0	12335			20859	P-110	20	OTHER - VAM SG	1.125	1.25	BUOY	1.6	BUOY	1.6

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Surf_Csg_Assumpt_20180823115432.pdf

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ARENA ROJA FED UNIT 15-10 Well Number: 4H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Int_Csg_Assumpt_20180823115539.pdf

Casing ID: 3 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Int_Csg_Assumpt_20180823115631.pdf

Casing ID: 4 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Prod_Csg_Assumpt_20180823115705.pdf

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ARENA ROJA FED UNIT 15-10 Well Number: 4H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Lead		0	0	0	0	0	0		SEE DRLG PLAN	N/A
SURFACE	Lead		0	1043	649	1.34	14.8	870	50	CLASS C	1% Calcium Chloride
INTERMEDIATE	Lead		0	8673	740	3.27	9	2419	30	TUNED	Tuned Light
INTERMEDIATE	Tail		8673	12673	614	1.6	13.2	982	30	CLASS H	Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite
PRODUCTION	Lead		12473	20859	657.72	1.33	13.2	875	25	Class H	0.125 lbs/sack Poly-E-Flake

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

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ARENA ROJA FED UNIT 15-10 Well Number: 4H

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	1043	SPUD MUD	8.33	9				2			
1043	12673	SALT SATURATED	9	10				2			
1043	12673	SALT SATURATED	9	10				2			
12673	20859	OIL-BASED MUD	10	12				12			

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

Anticipated Bottom Hole Pressure: 7000 Anticipated Surface Pressure: 4286.3

Anticipated Bottom Hole Temperature(F): 180

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:

Arena_Roja_Fed_Unit_15_10_4H_H2S_PLAN_20180905102353.pdf

Proposed horizontal/directional/multi-lateral plan submission:

Arena_Roja_Fed_Unit_15_10_4H_DIR_SVY_20180905102417.pdf
Arena_Roja_Fed_Unit_15_10_4H_Plot_20180905102419.pdf

Other proposed operations facets description:

MULTI-BOWL VERBIAGE
MULTI-BOWL WELLHEAD - 2 VARIATIONS OF 10M
10M ANNULAR VARIANCE DOC & SCHEMATIC
CLOSED LOOP DESIGN PLAN
DRILLING PLAN
AC REPORT
CO-FLEX HOSE
SPUDDER RIG REQUEST
GCP FORM
SPEC SHEETS - 3

Other proposed operations facets attachment:

MB_Wellhd_5M___WC_20180823120205.pdf
7.625_29.70_P110_Flushmax_20180823120159.pdf
MB_Wellhd_10M_20180823120206.pdf
Spudder_Rig_Info_20180823120206.pdf
5.5_x_20_P110_EC_VAMSG_20180823120158.PDF
Annular_Preventer_Summary_20180823120200.pdf
MB_Wellhd_10M_2_20180823120321.PDF
Clsd_Loop_20180823120203.pdf
8.625_32__P110EC_VAM_FJL_NA_7.875_SD_20180823120159.PDF
Arena_Roja_Fed_Unit_15_10_WP2_GCP_FORM_20180905093356.pdf
Arena_Roja_Fed_Unit_15_10_10M_BOPE_DR_and_CLS_EXC_SCHEM___For_Annular_Exce_20180905093645.pdf
Arena_Roja_Fed_Unit_15_10_4H_AC_Report_20180905102440.pdf
10M_BOPE_DR_CLS_RKL_20181212113730.pdf
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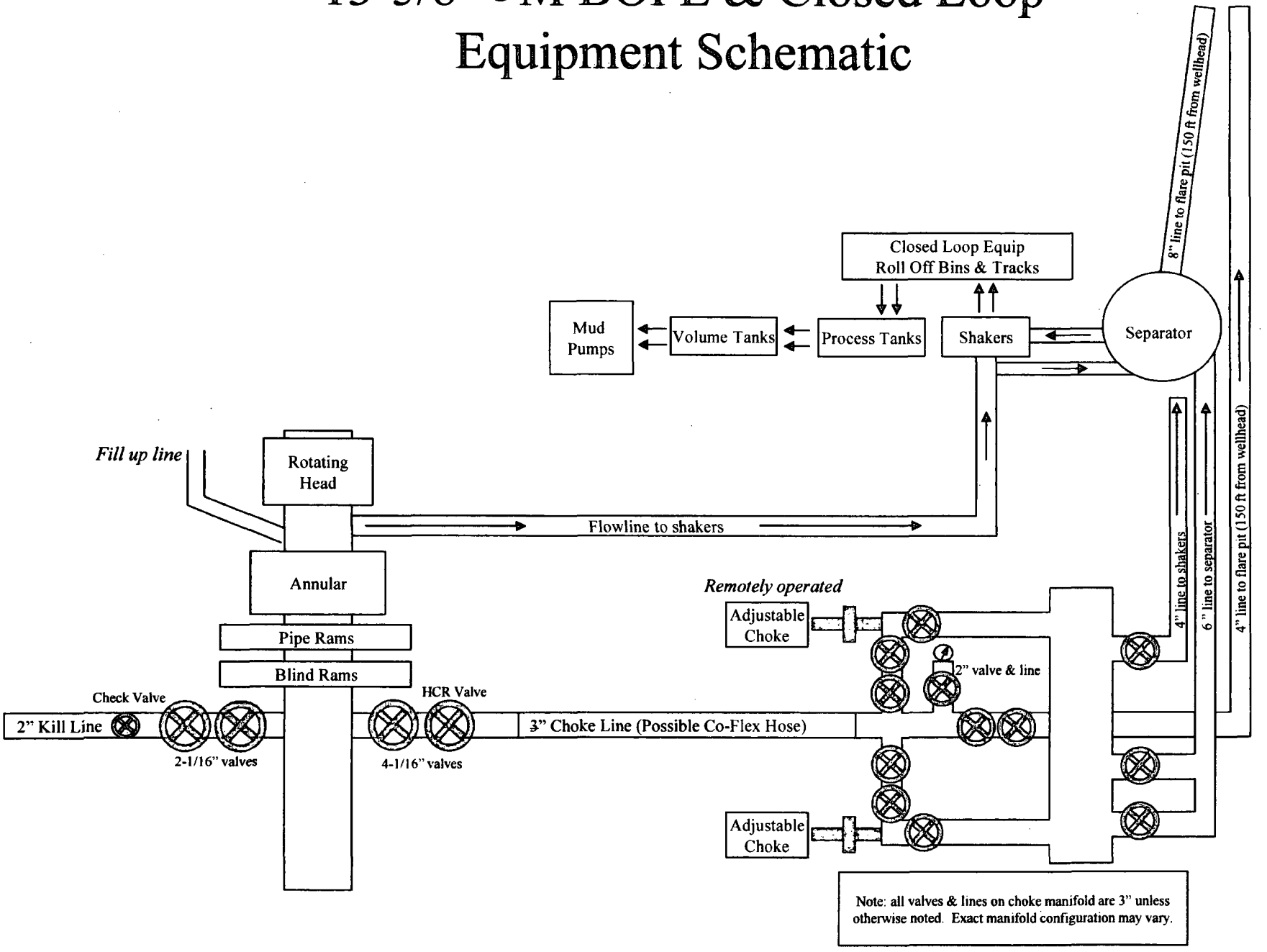
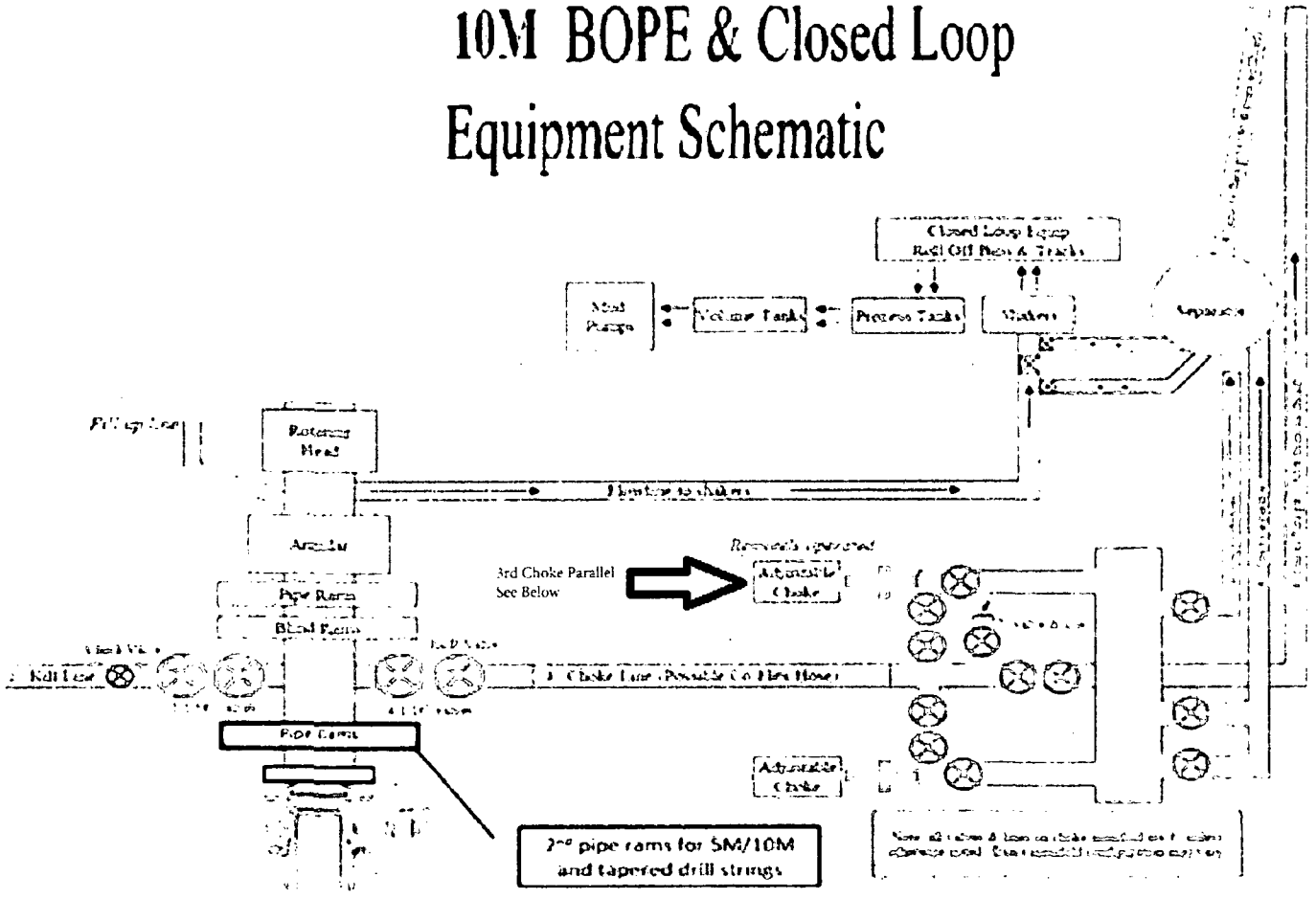
Other Variance attachment:

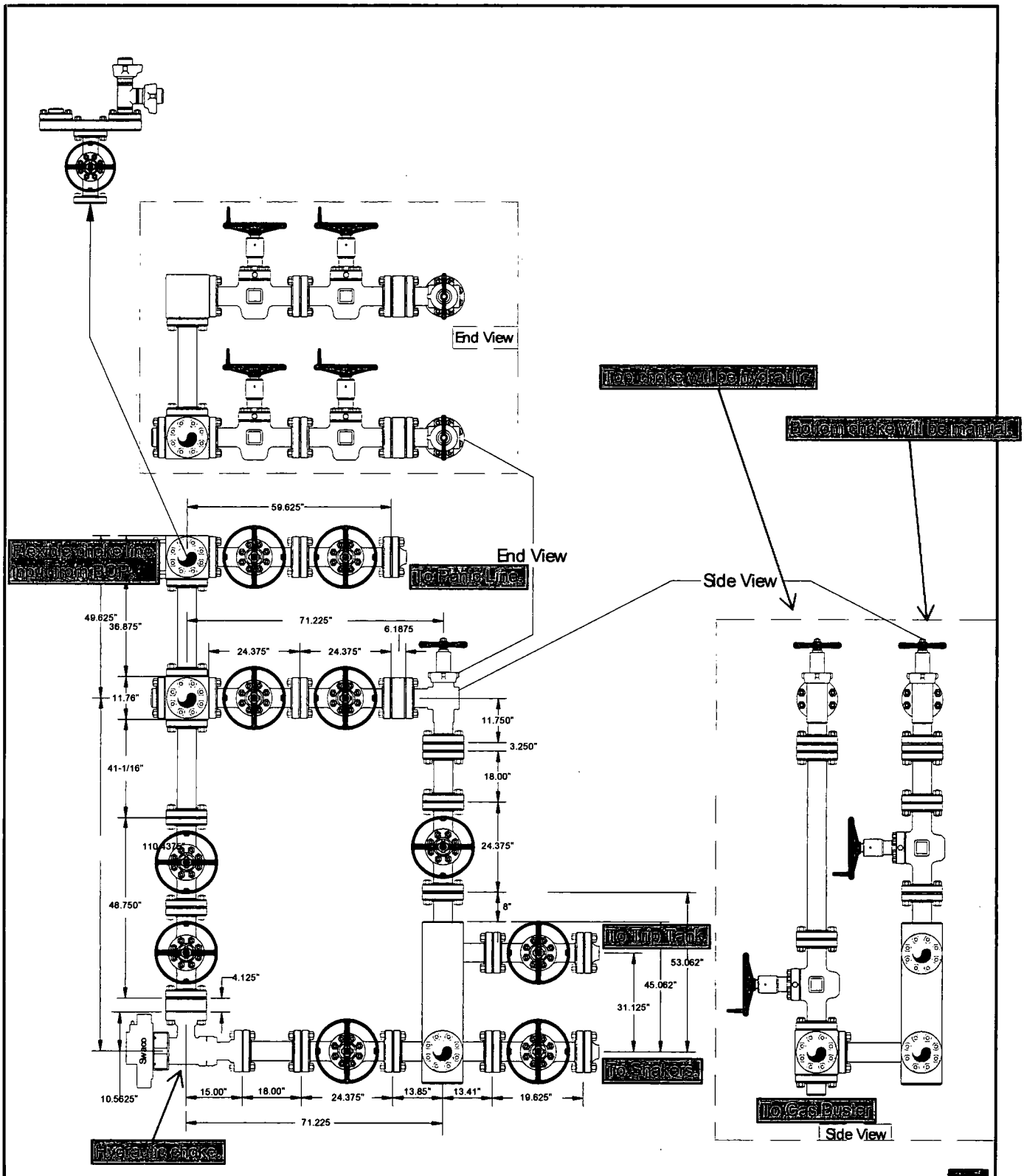
Co_flex_20180823120220.pdf

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



10M BOPE & Closed Loop Equipment Schematic





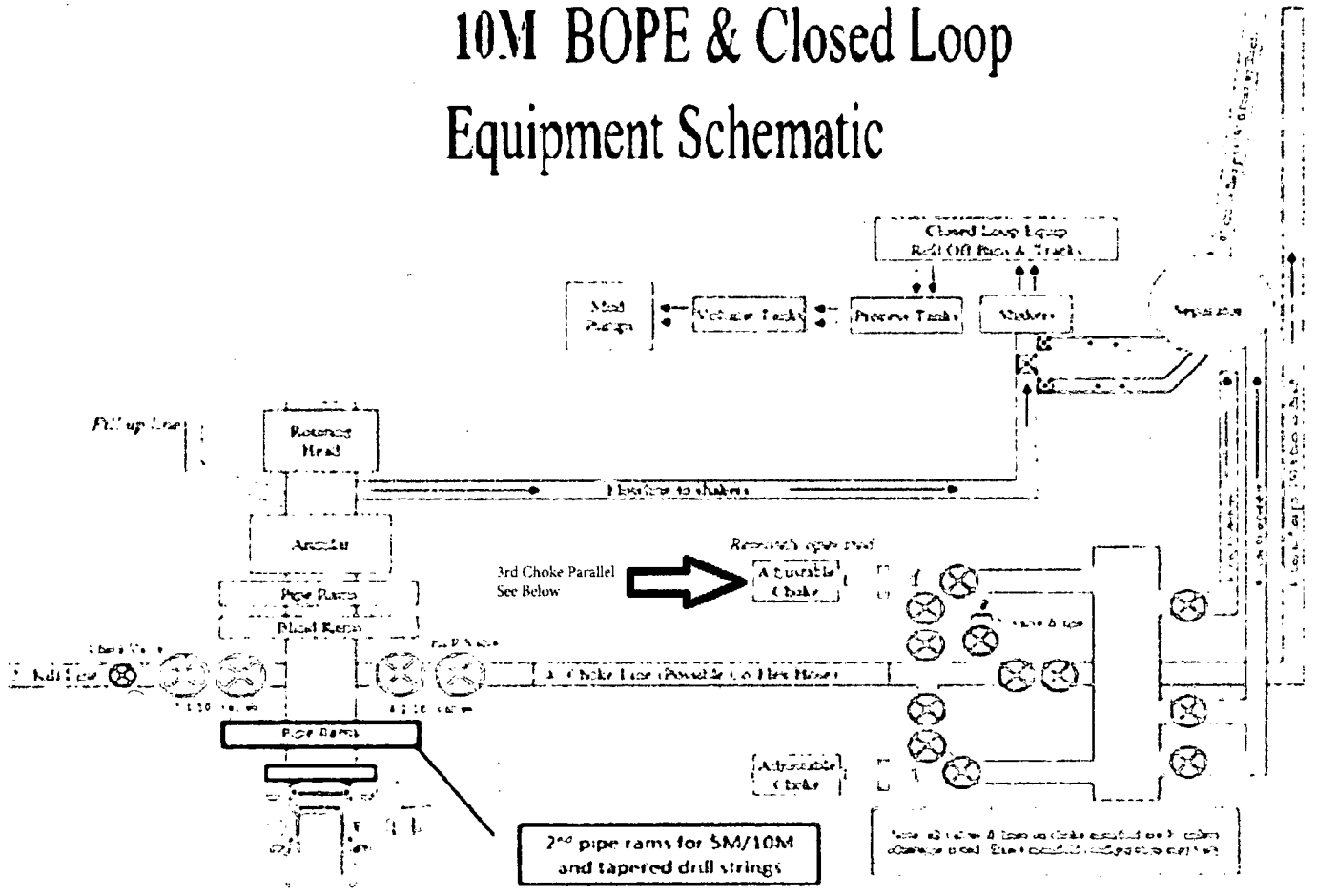
Helmerich & Payne

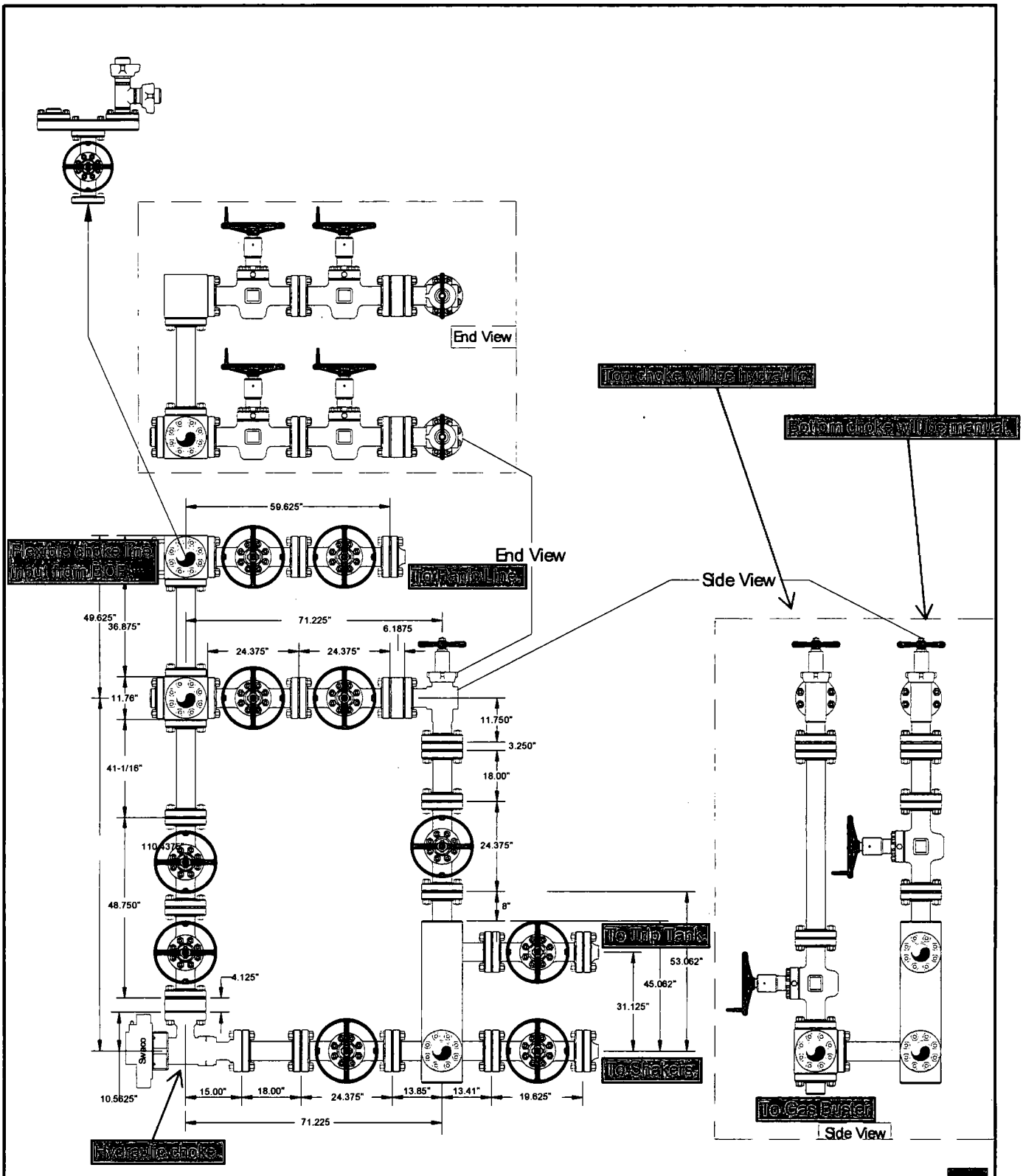
Flex 3 Rig w/ 3 Chokes

devon

Name: Mike Potts	Date: 6-23-2010	Working Pressure: 10M	J-5132-E

10M BOPE & Closed Loop Equipment Schematic





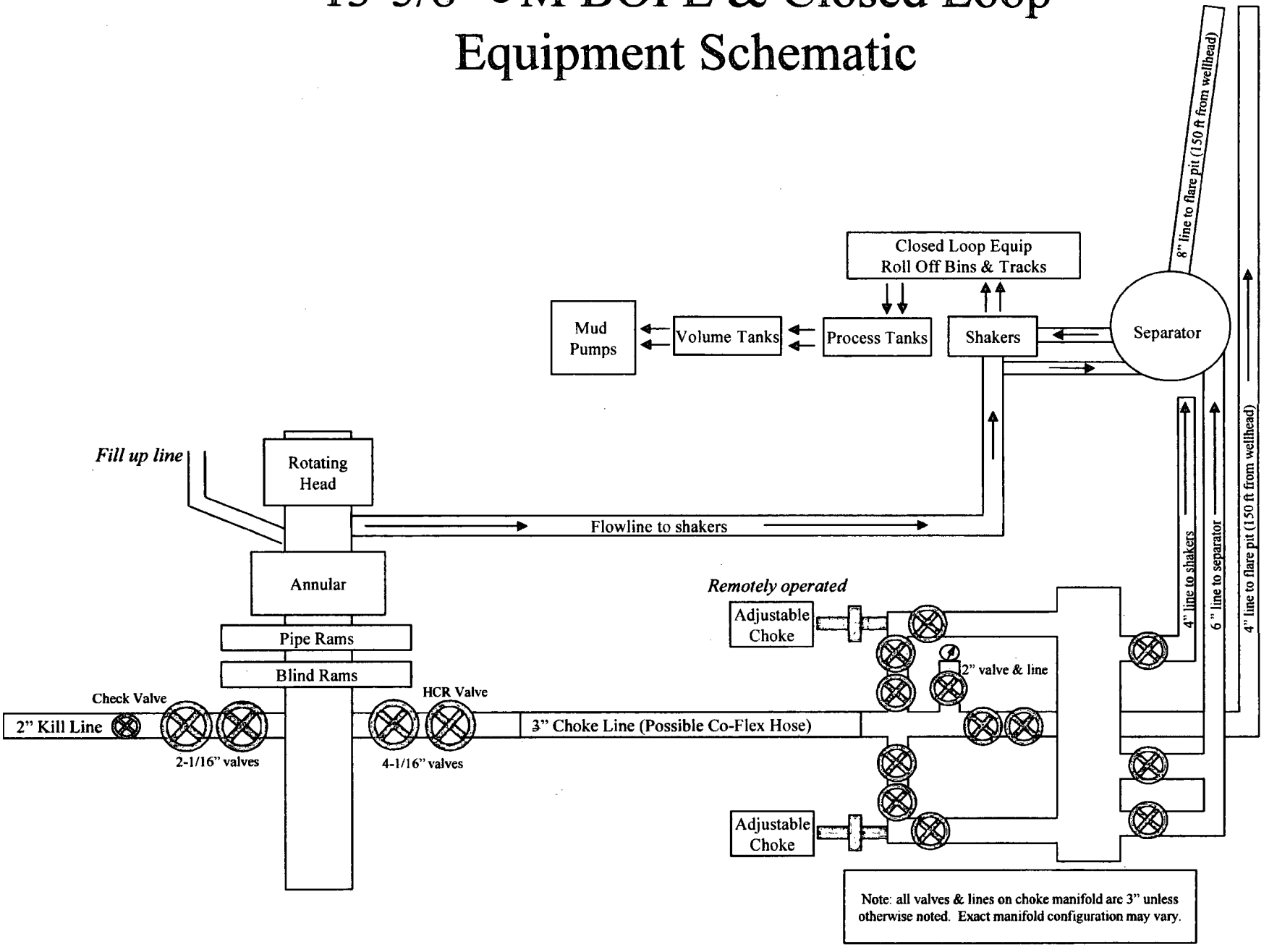
Helmerich & Payne

Flex 3 Rig w/ 3 Chokes

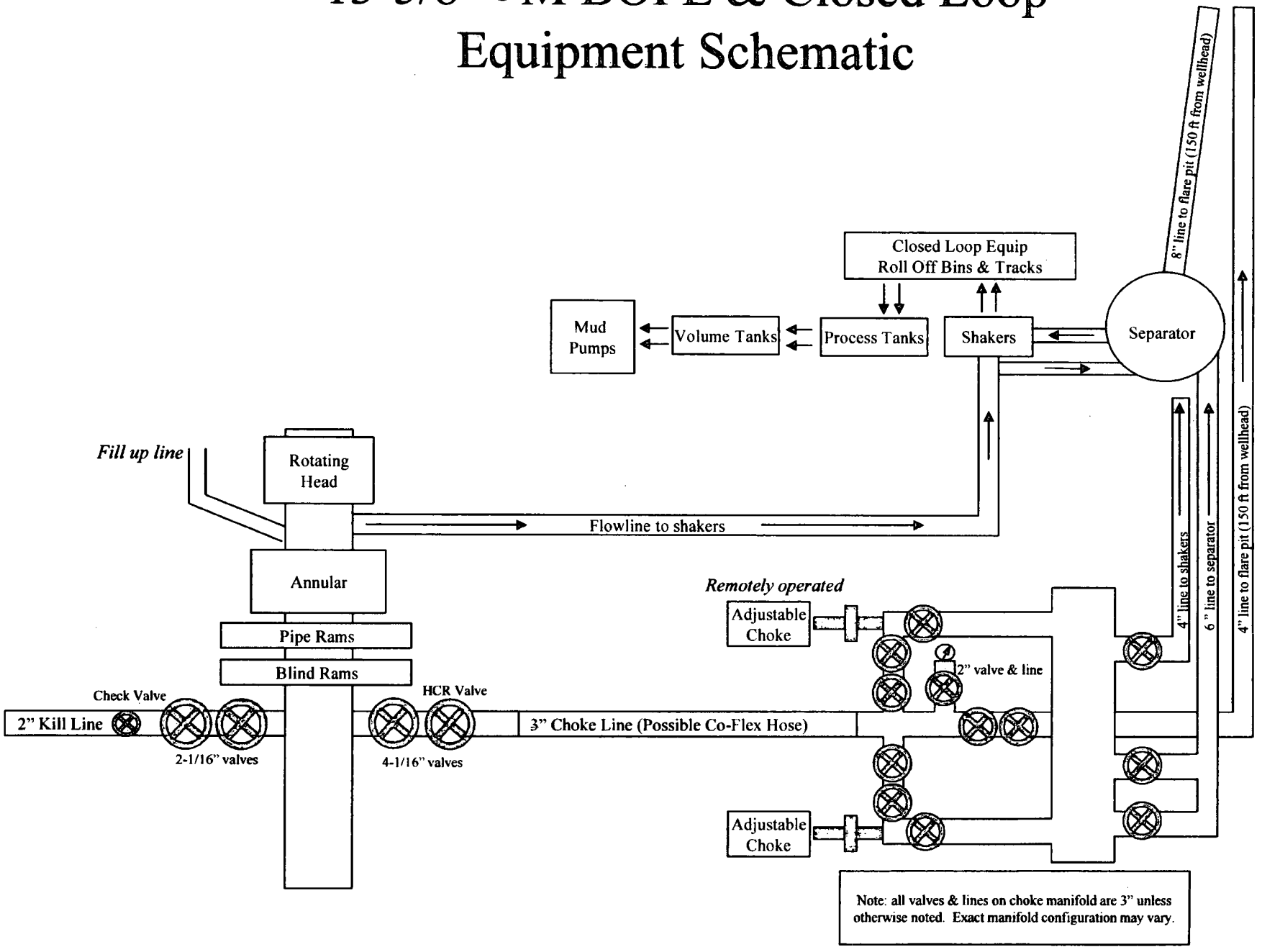
devon

Name	Date	Working Pressure	
Mike Potts	6-23-2010	10M	J-5132-E

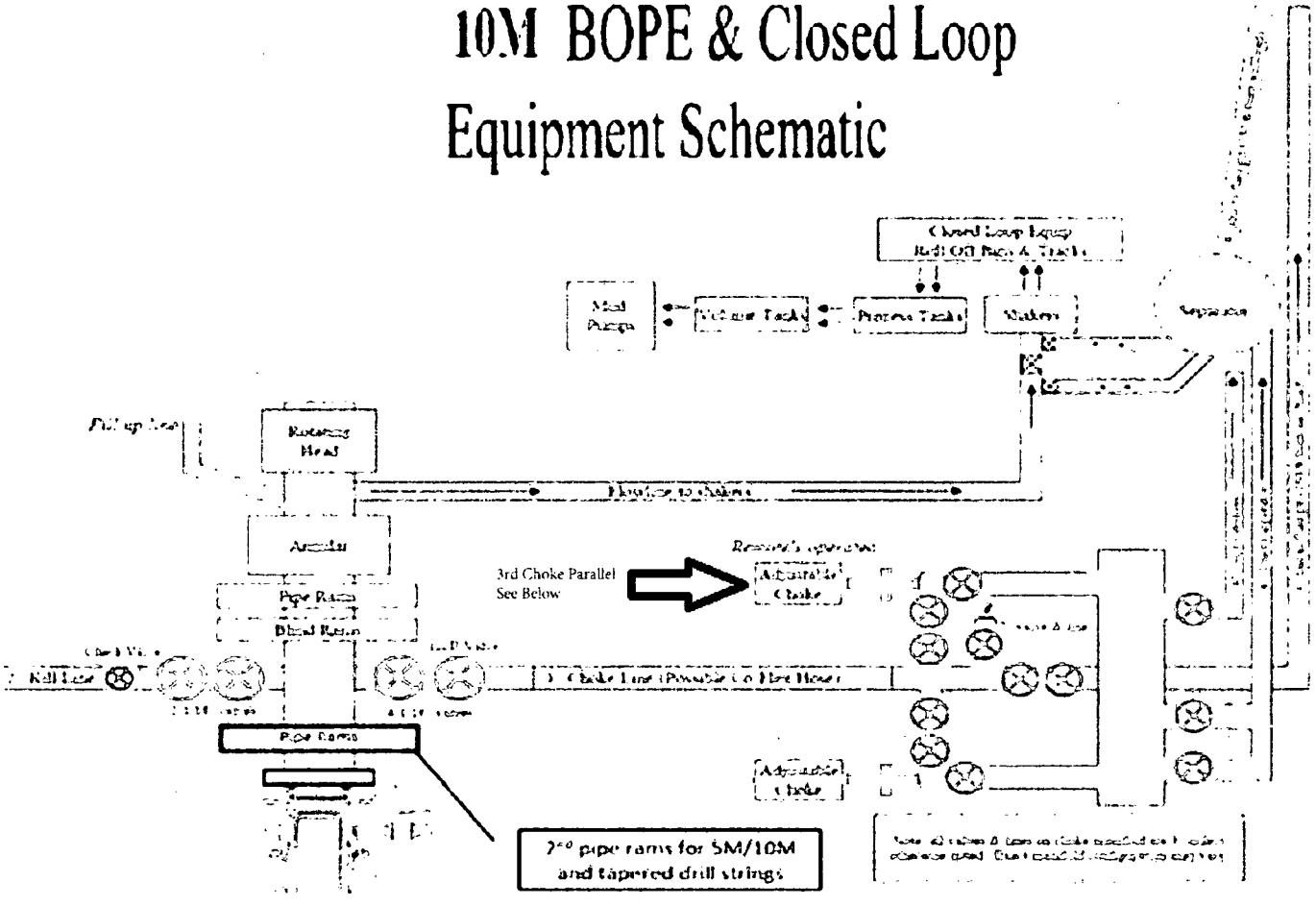
13-5/8" 5M BOPE & Closed Loop Equipment Schematic

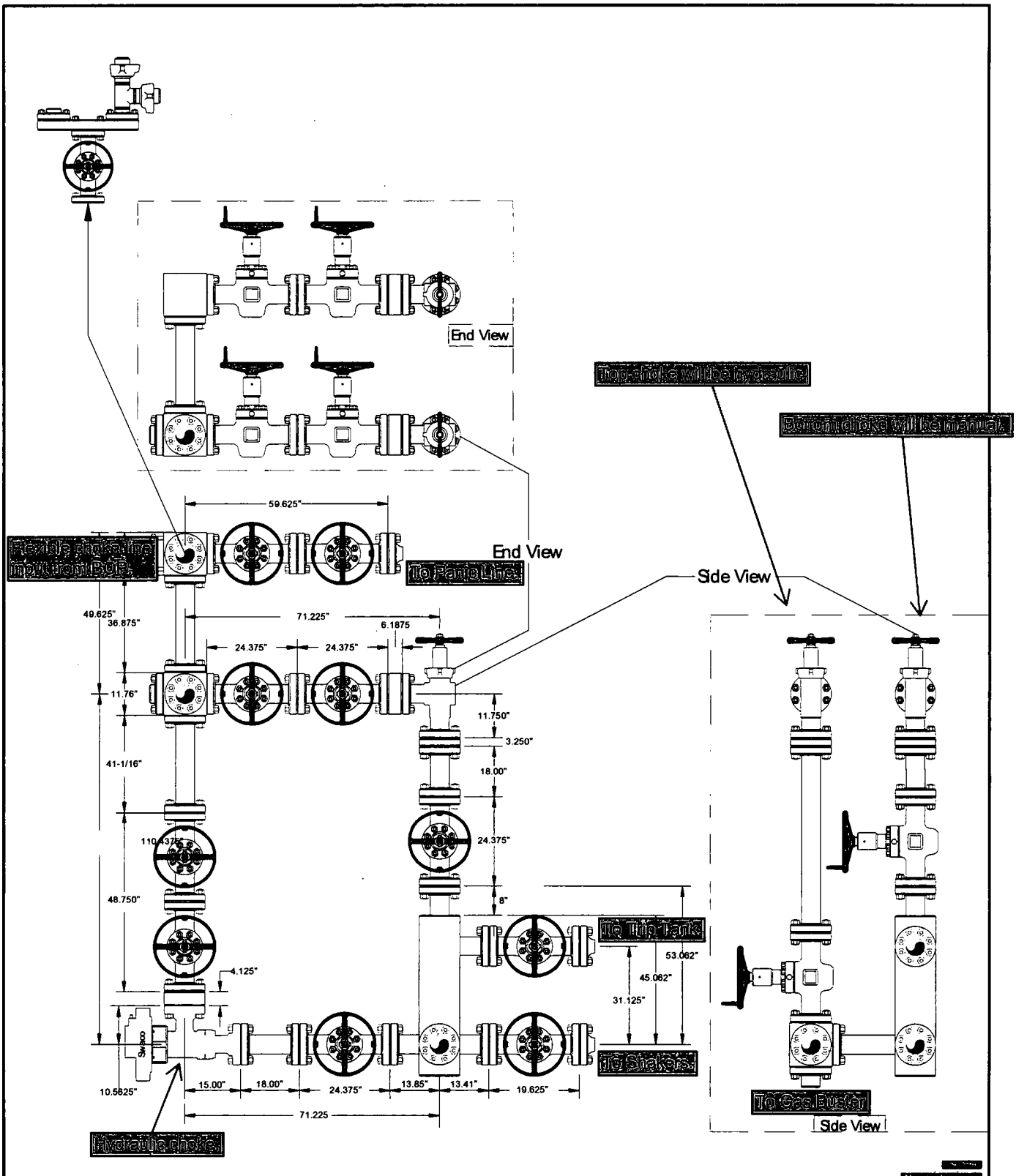


13-5/8" 5M BOPE & Closed Loop Equipment Schematic



10M BOPE & Closed Loop Equipment Schematic





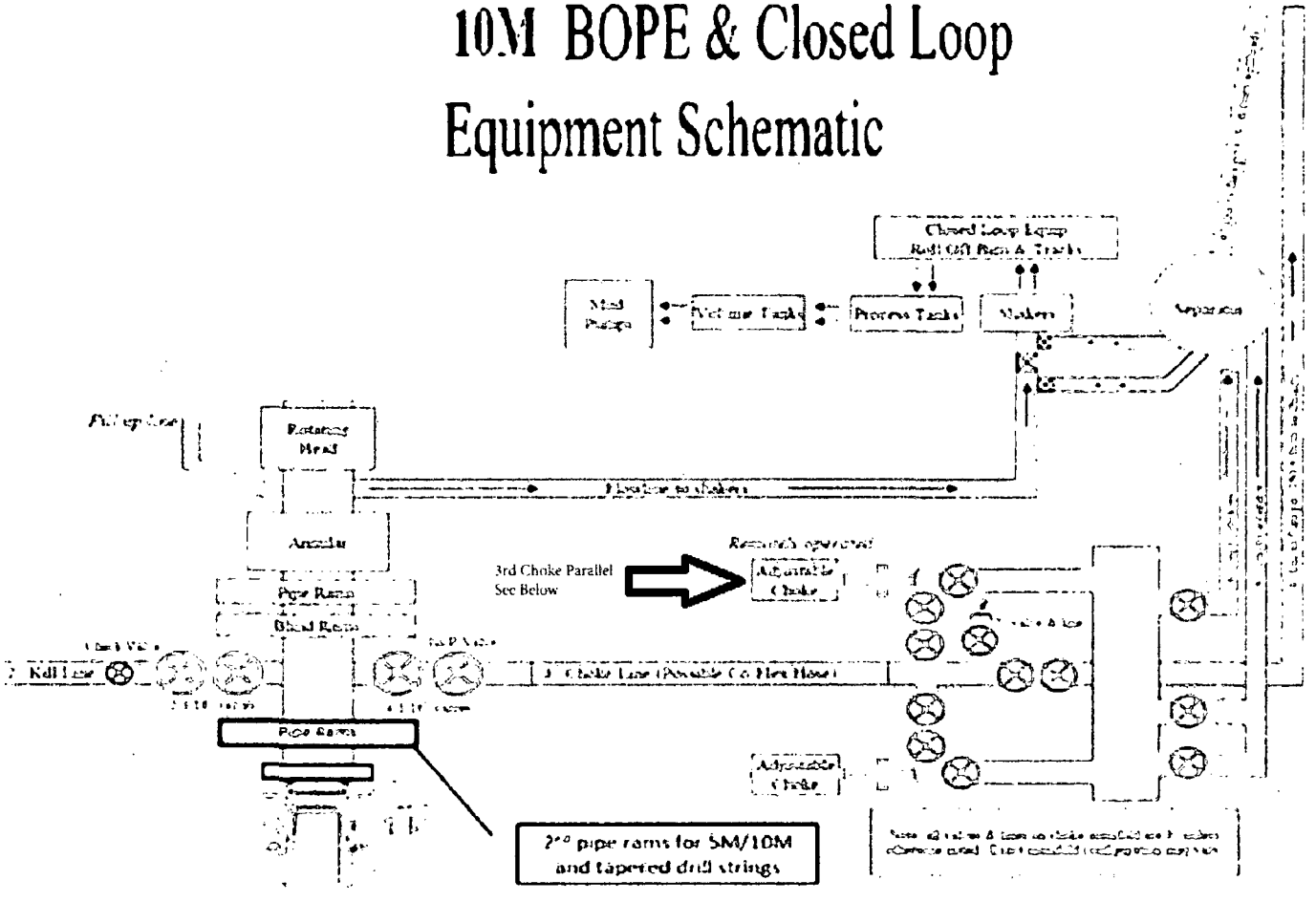
Helmerich & Payne

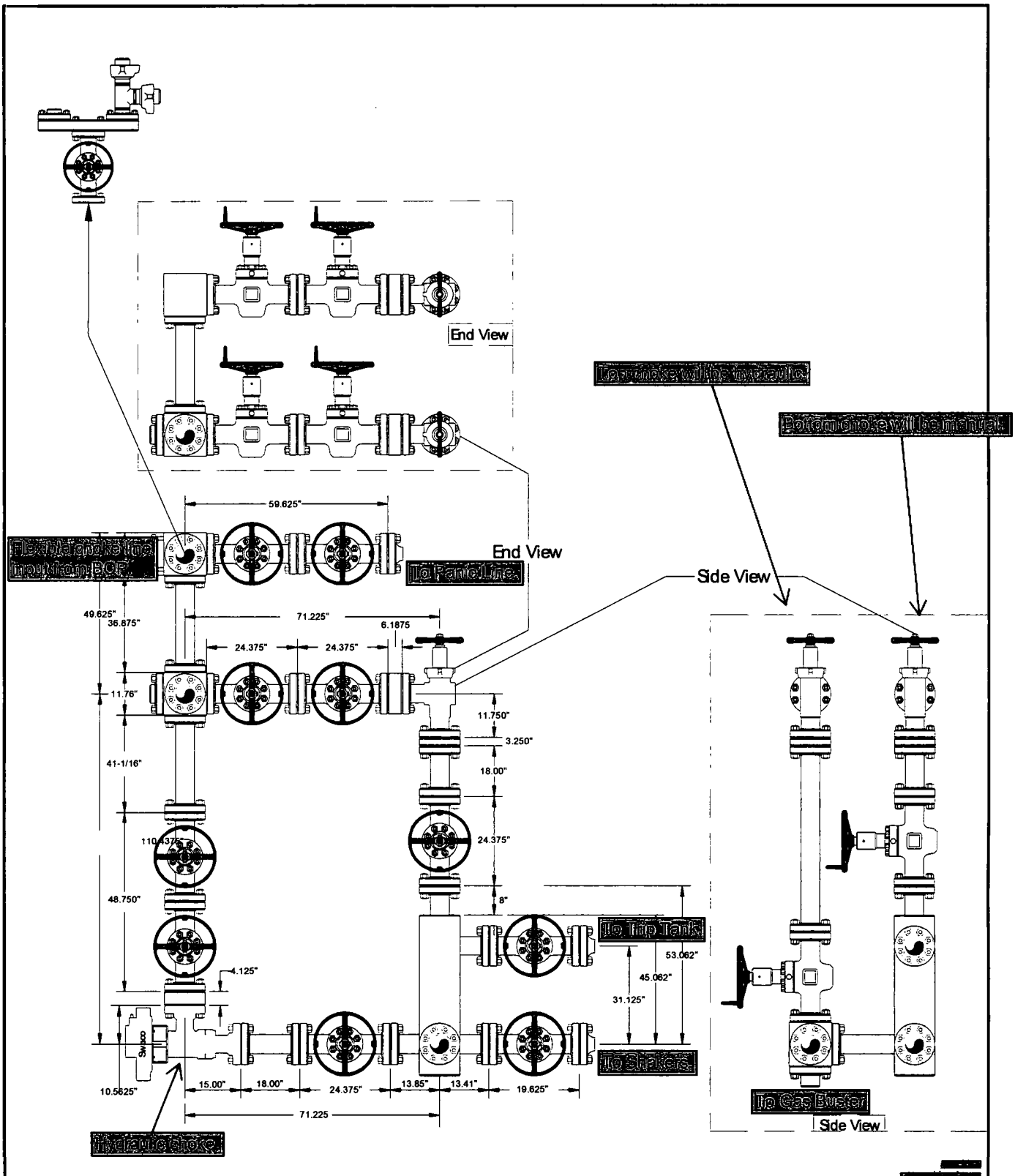
Flex 3 Rig w/ 3 Chokes

devon

Name	Date	Working Pressure	
Mike Potts	6-23-2010	10M	J-5132-E

10M BOPE & Closed Loop Equipment Schematic





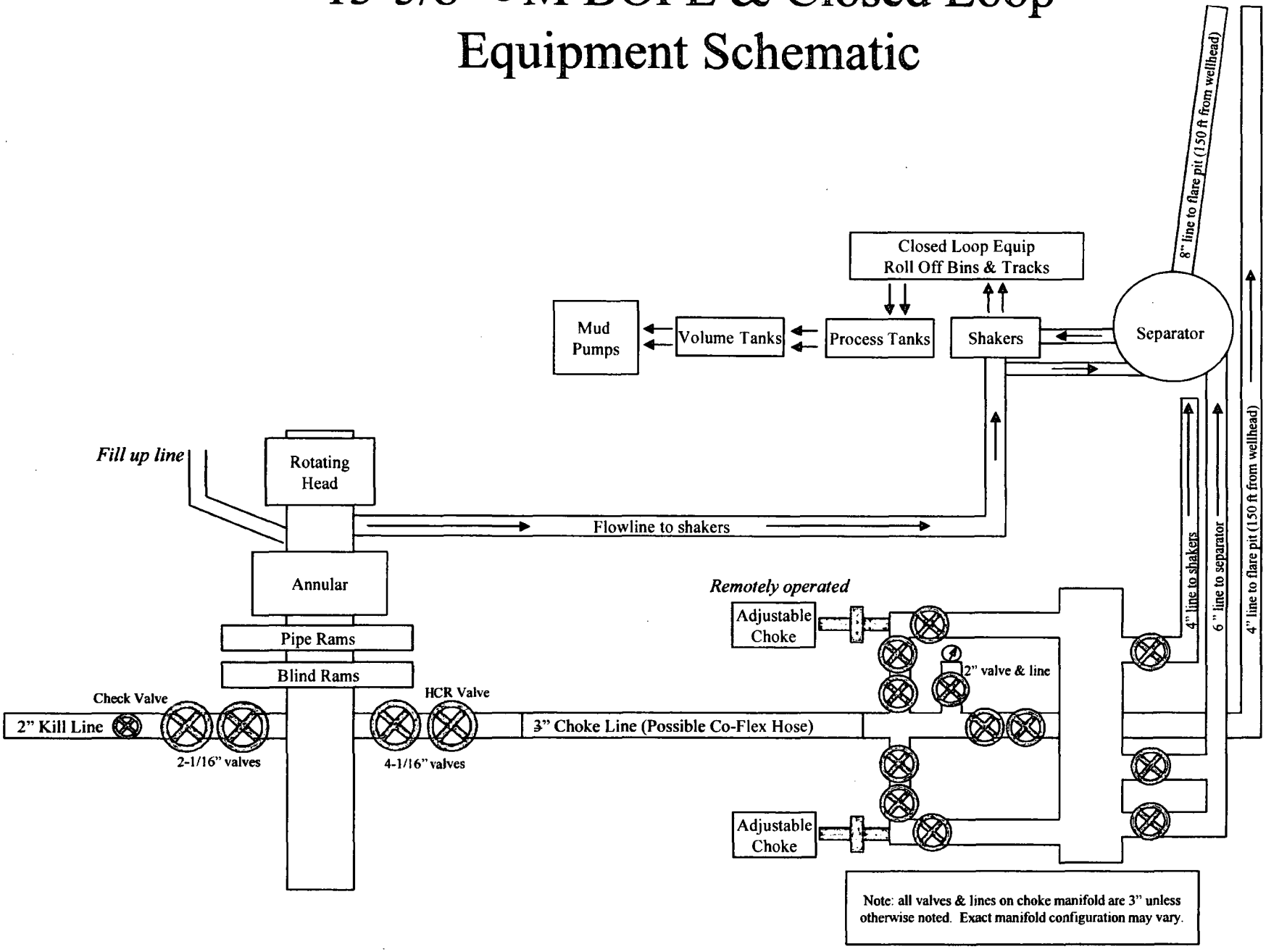
Helmerich & Payne

Flex 3 Rig w/ 3 Chokes

devon

Name	Date	Working Pressure	
Mike Potts	6-23-2010	10M	J-5132-E

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



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

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

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

devon

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

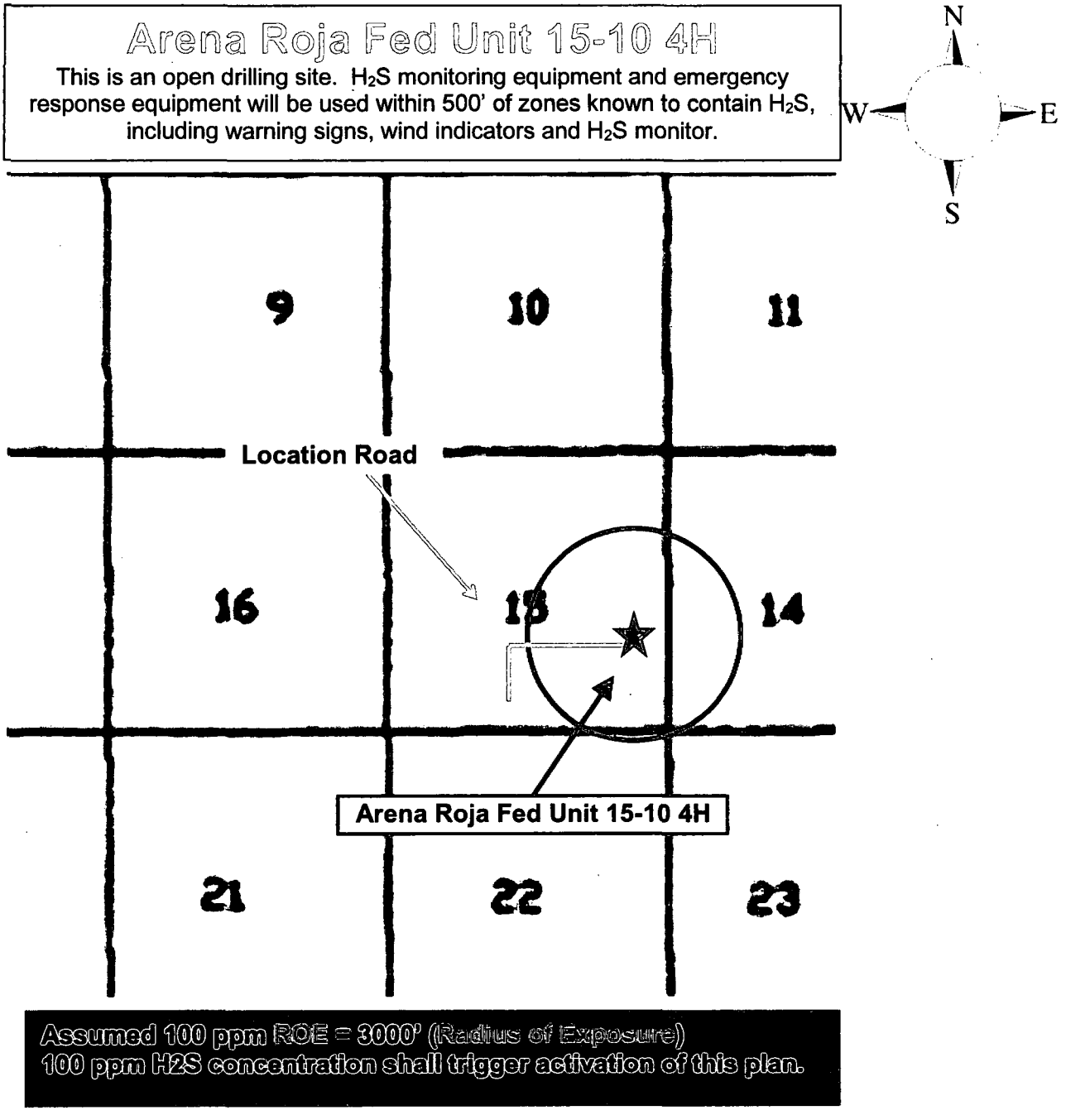
Hydrogen Sulfide (H_2S) Contingency Plan

For

Arena Roja Fed Unit 15-10 4H

Sec-15 T-26S R-35E
2090' FSL & 690 FEL
LAT. = 32.0417566' N (NAD83)
LONG = 103.3490608' W

Lea County NM



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 encomp8assed 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.

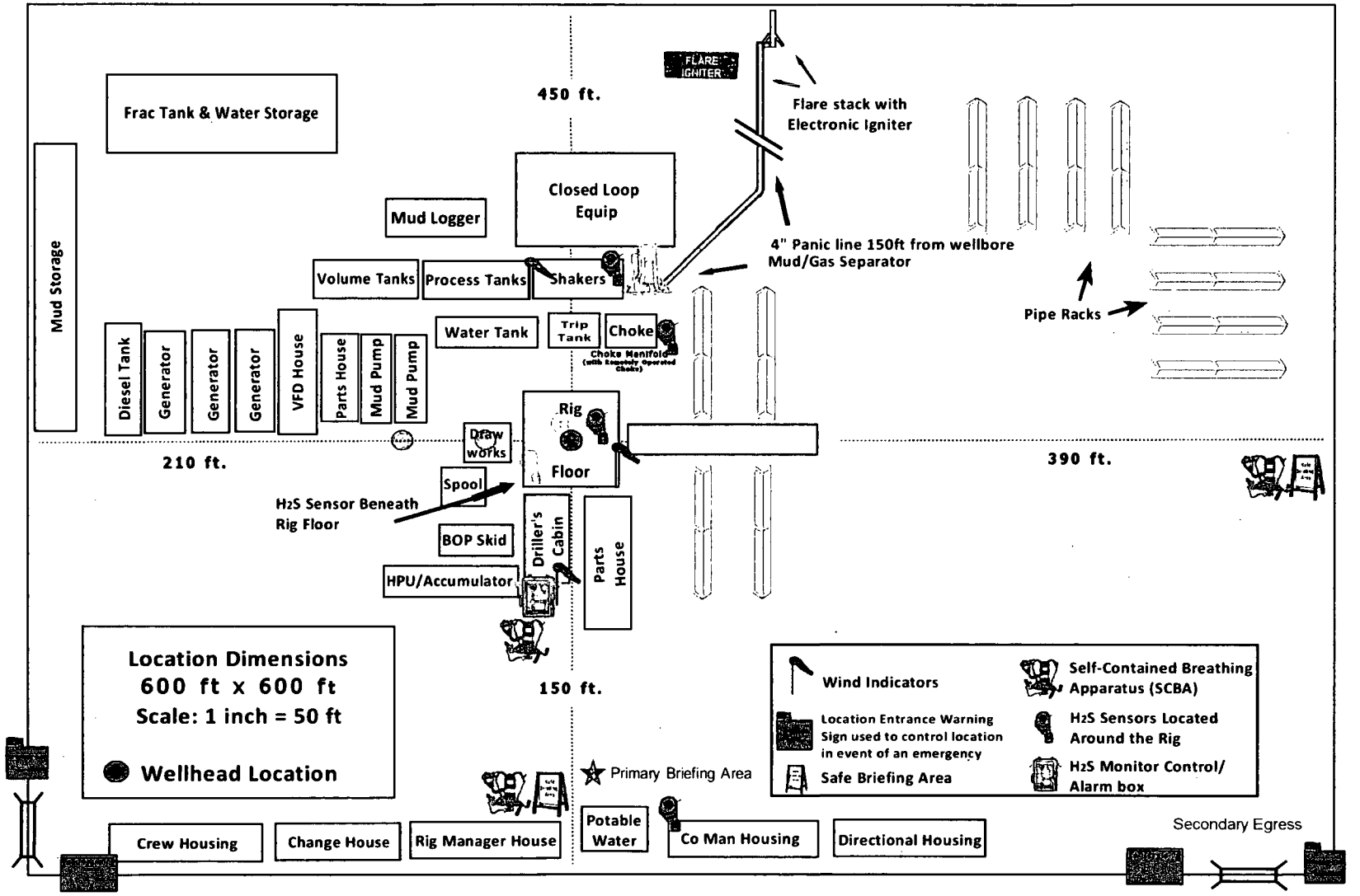
Devon Energy Corp. Company Call List		
Drilling Supervisor – Basin – Jonathan Fisher		405-228-8976
Randy Gladden –	Day 575-748-1805 Cell 575-513-9463	
EHS Professional – Jason Robison		405-541-2841

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 - Well Pad
Rig Location Layout
Safety Equipment Location



WCDSC Permian NM

Lea County (NAD83 New Mexico East)
Sec 15-T26S-R35E
Arena Roja Fed Unit 15-10 4H

Wellbore #1

Plan: Permit Plan 1

Standard Planning Report - Geographic

02 August, 2018

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3110.80ft
Project:	Lea County (NAD83 New Mexico East)	**MD Reference:**	RKB @ 3110.80ft
Site:	Sec 15-T26S-R35E	**North Reference:**	Grid
Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Project	Lea County (NAD83 New Mexico East)		
Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 15-T26S-R35E				
Site Position:		**Northing:**	383,471.16 usft	**Latitude:**	32.050535
From:	None	**Easting:**	841,694.82 usft	**Longitude:**	-103.363890
Position Uncertainty:	0.00 ft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.51 °

Well	Arena Roja Fed Unit 15-10 4H					
Well Position	**+N/-S**	0.00 ft	**Northing:**	380,319.18 usft	**Latitude:**	32.041757
	+E/-W	0.00 ft	**Easting:**	846,318.49 usft	**Longitude:**	-103.349061
Position Uncertainty		0.50 ft	**Wellhead Elevation:**		**Ground Level:**	3,085.80 ft

Wellbore	Wellbore #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	8/2/2018	6.71	59.92	47,739.75592937

Design	Permit Plan 1				
Audit Notes:					
Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD) (ft)**	**+N/-S (ft)**	**+E/-W (ft)**	**Direction (°)**	
	0.00	0.00	0.00	1.67	

Plan Survey Tool Program **Date** 8/2/2018

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	20,859.84	Permit Plan 1 (Wellbore #1)	MWD+HDGM	
				OWSG MWD + HDGM	

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,001.75	3.02	132.27	3,001.61	-5.34	5.88	1.00	1.00	0.00	132.27	
11,222.47	3.02	132.27	11,210.93	-296.44	326.08	0.00	0.00	0.00	0.00	
11,423.63	0.00	0.00	11,412.00	-300.00	330.00	1.50	-1.50	0.00	180.00	
11,773.67	0.00	0.00	11,762.04	-300.00	330.00	0.00	0.00	0.00	0.00	
12,673.67	90.00	359.45	12,335.00	272.93	324.53	10.00	10.00	0.00	359.45	PBHL - Arena Roja Fe
20,859.84	90.00	359.45	12,335.00	8,458.72	246.38	0.00	0.00	0.00	0.00	PBHL - Arena Roja Fe

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3110.80ft
Project:	Lea County (NAD83 New Mexico East)	**MD Reference:**	RKB @ 3110.80ft
Site:	Sec 15-T26S-R35E	**North Reference:**	Grid
Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
100.00	0.00	0.00	100.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
200.00	0.00	0.00	200.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
300.00	0.00	0.00	300.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
400.00	0.00	0.00	400.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
500.00	0.00	0.00	500.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
600.00	0.00	0.00	600.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
700.00	0.00	0.00	700.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
800.00	0.00	0.00	800.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
900.00	0.00	0.00	900.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
1,000.00	0.00	0.00	1,000.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
1,100.00	0.00	0.00	1,100.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
1,200.00	0.00	0.00	1,200.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
1,300.00	0.00	0.00	1,300.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
1,400.00	0.00	0.00	1,400.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
1,500.00	0.00	0.00	1,500.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
1,600.00	0.00	0.00	1,600.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
1,700.00	0.00	0.00	1,700.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
1,800.00	0.00	0.00	1,800.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
1,900.00	0.00	0.00	1,900.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
2,000.00	0.00	0.00	2,000.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
2,100.00	0.00	0.00	2,100.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
2,200.00	0.00	0.00	2,200.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
2,300.00	0.00	0.00	2,300.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
2,400.00	0.00	0.00	2,400.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
2,500.00	0.00	0.00	2,500.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
2,600.00	0.00	0.00	2,600.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
2,700.00	0.00	0.00	2,700.00	0.00	0.00	380,319.18	846,318.49	32.041757	-103.349061
2,800.00	1.00	132.27	2,799.99	-0.59	0.65	380,318.59	846,319.13	32.041755	-103.349059
2,900.00	2.00	132.27	2,899.96	-2.35	2.58	380,316.83	846,321.07	32.041750	-103.349053
3,000.00	3.00	132.27	2,999.86	-5.28	5.81	380,313.90	846,324.30	32.041742	-103.349042
3,001.75	3.02	132.27	3,001.61	-5.34	5.88	380,313.84	846,324.37	32.041742	-103.349042
3,100.00	3.02	132.27	3,099.72	-8.82	9.71	380,310.36	846,328.19	32.041732	-103.349030
3,200.00	3.02	132.27	3,199.59	-12.36	13.60	380,306.81	846,332.09	32.041722	-103.349018
3,300.00	3.02	132.27	3,299.45	-15.90	17.50	380,303.27	846,335.98	32.041713	-103.349005
3,400.00	3.02	132.27	3,399.31	-19.45	21.39	380,299.73	846,339.88	32.041703	-103.348993
3,500.00	3.02	132.27	3,499.17	-22.99	25.29	380,296.19	846,343.77	32.041693	-103.348980
3,600.00	3.02	132.27	3,599.03	-26.53	29.18	380,292.65	846,347.67	32.041683	-103.348968
3,700.00	3.02	132.27	3,698.89	-30.07	33.08	380,289.11	846,351.56	32.041673	-103.348955
3,800.00	3.02	132.27	3,798.75	-33.61	36.97	380,285.57	846,355.46	32.041663	-103.348943
3,900.00	3.02	132.27	3,898.62	-37.15	40.87	380,282.03	846,359.35	32.041654	-103.348930
4,000.00	3.02	132.27	3,998.48	-40.69	44.76	380,278.49	846,363.25	32.041644	-103.348918
4,100.00	3.02	132.27	4,098.34	-44.23	48.66	380,274.95	846,367.14	32.041634	-103.348905
4,200.00	3.02	132.27	4,198.20	-47.77	52.55	380,271.41	846,371.04	32.041624	-103.348893
4,300.00	3.02	132.27	4,298.06	-51.31	56.45	380,267.86	846,374.93	32.041614	-103.348880
4,400.00	3.02	132.27	4,397.92	-54.86	60.34	380,264.32	846,378.83	32.041604	-103.348868
4,500.00	3.02	132.27	4,497.78	-58.40	64.24	380,260.78	846,382.72	32.041595	-103.348855
4,600.00	3.02	132.27	4,597.64	-61.94	68.13	380,257.24	846,386.62	32.041585	-103.348843
4,700.00	3.02	132.27	4,697.51	-65.48	72.03	380,253.70	846,390.51	32.041575	-103.348831
4,800.00	3.02	132.27	4,797.37	-69.02	75.92	380,250.16	846,394.41	32.041565	-103.348818
4,900.00	3.02	132.27	4,897.23	-72.56	79.82	380,246.62	846,398.30	32.041555	-103.348806
5,000.00	3.02	132.27	4,997.09	-76.10	83.71	380,243.08	846,402.20	32.041545	-103.348793
5,100.00	3.02	132.27	5,096.95	-79.64	87.61	380,239.54	846,406.09	32.041536	-103.348781
5,200.00	3.02	132.27	5,196.81	-83.18	91.50	380,236.00	846,409.99	32.041526	-103.348768
5,300.00	3.02	132.27	5,296.67	-86.72	95.40	380,232.45	846,413.88	32.041516	-103.348756

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3110.80ft
Project:	Lea County (NAD83 New Mexico East)	**MD Reference:**	RKB @ 3110.80ft
Site:	Sec 15-T26S-R35E	**North Reference:**	Grid
Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,400.00	3.02	132.27	5,396.54	-90.27	99.29	380,228.91	846,417.78	32.041506	-103.348743
5,500.00	3.02	132.27	5,496.40	-93.81	103.19	380,225.37	846,421.67	32.041496	-103.348731
5,600.00	3.02	132.27	5,596.26	-97.35	107.08	380,221.83	846,425.57	32.041486	-103.348718
5,700.00	3.02	132.27	5,696.12	-100.89	110.98	380,218.29	846,429.46	32.041477	-103.348706
5,800.00	3.02	132.27	5,795.98	-104.43	114.87	380,214.75	846,433.36	32.041467	-103.348693
5,900.00	3.02	132.27	5,895.84	-107.97	118.77	380,211.21	846,437.25	32.041457	-103.348681
6,000.00	3.02	132.27	5,995.70	-111.51	122.66	380,207.67	846,441.15	32.041447	-103.348669
6,100.00	3.02	132.27	6,095.57	-115.05	126.56	380,204.13	846,445.04	32.041437	-103.348656
6,200.00	3.02	132.27	6,195.43	-118.59	130.45	380,200.59	846,448.94	32.041427	-103.348644
6,300.00	3.02	132.27	6,295.29	-122.13	134.35	380,197.04	846,452.83	32.041418	-103.348631
6,400.00	3.02	132.27	6,395.15	-125.68	138.24	380,193.50	846,456.73	32.041408	-103.348619
6,500.00	3.02	132.27	6,495.01	-129.22	142.14	380,189.96	846,460.62	32.041398	-103.348606
6,600.00	3.02	132.27	6,594.87	-132.76	146.03	380,186.42	846,464.52	32.041388	-103.348594
6,700.00	3.02	132.27	6,694.73	-136.30	149.93	380,182.88	846,468.41	32.041378	-103.348581
6,800.00	3.02	132.27	6,794.59	-139.84	153.82	380,179.34	846,472.31	32.041368	-103.348569
6,900.00	3.02	132.27	6,894.46	-143.38	157.72	380,175.80	846,476.20	32.041359	-103.348556
7,000.00	3.02	132.27	6,994.32	-146.92	161.61	380,172.26	846,480.10	32.041349	-103.348544
7,100.00	3.02	132.27	7,094.18	-150.46	165.51	380,168.72	846,484.00	32.041339	-103.348531
7,200.00	3.02	132.27	7,194.04	-154.00	169.40	380,165.18	846,487.89	32.041329	-103.348519
7,300.00	3.02	132.27	7,293.90	-157.54	173.30	380,161.64	846,491.79	32.041319	-103.348506
7,400.00	3.02	132.27	7,393.76	-161.08	177.19	380,158.09	846,495.68	32.041309	-103.348494
7,500.00	3.02	132.27	7,493.62	-164.63	181.09	380,154.55	846,499.58	32.041300	-103.348482
7,600.00	3.02	132.27	7,593.49	-168.17	184.98	380,151.01	846,503.47	32.041290	-103.348469
7,700.00	3.02	132.27	7,693.35	-171.71	188.88	380,147.47	846,507.37	32.041280	-103.348457
7,800.00	3.02	132.27	7,793.21	-175.25	192.77	380,143.93	846,511.26	32.041270	-103.348444
7,900.00	3.02	132.27	7,893.07	-178.79	196.67	380,140.39	846,515.16	32.041260	-103.348432
8,000.00	3.02	132.27	7,992.93	-182.33	200.56	380,136.85	846,519.05	32.041251	-103.348419
8,100.00	3.02	132.27	8,092.79	-185.87	204.46	380,133.31	846,522.95	32.041241	-103.348407
8,200.00	3.02	132.27	8,192.65	-189.41	208.35	380,129.77	846,526.84	32.041231	-103.348394
8,300.00	3.02	132.27	8,292.51	-192.95	212.25	380,126.23	846,530.74	32.041221	-103.348382
8,400.00	3.02	132.27	8,392.38	-196.49	216.14	380,122.68	846,534.63	32.041211	-103.348369
8,500.00	3.02	132.27	8,492.24	-200.04	220.04	380,119.14	846,538.53	32.041201	-103.348357
8,600.00	3.02	132.27	8,592.10	-203.58	223.93	380,115.60	846,542.42	32.041192	-103.348344
8,700.00	3.02	132.27	8,691.96	-207.12	227.83	380,112.06	846,546.32	32.041182	-103.348332
8,800.00	3.02	132.27	8,791.82	-210.66	231.72	380,108.52	846,550.21	32.041172	-103.348320
8,900.00	3.02	132.27	8,891.68	-214.20	235.62	380,104.98	846,554.11	32.041162	-103.348307
9,000.00	3.02	132.27	8,991.54	-217.74	239.51	380,101.44	846,558.00	32.041152	-103.348295
9,100.00	3.02	132.27	9,091.41	-221.28	243.41	380,097.90	846,561.90	32.041142	-103.348282
9,200.00	3.02	132.27	9,191.27	-224.82	247.30	380,094.36	846,565.79	32.041133	-103.348270
9,300.00	3.02	132.27	9,291.13	-228.36	251.20	380,090.82	846,569.69	32.041123	-103.348257
9,400.00	3.02	132.27	9,390.99	-231.90	255.09	380,087.27	846,573.58	32.041113	-103.348245
9,500.00	3.02	132.27	9,490.85	-235.45	258.99	380,083.73	846,577.48	32.041103	-103.348232
9,600.00	3.02	132.27	9,590.71	-238.99	262.89	380,080.19	846,581.37	32.041093	-103.348220
9,700.00	3.02	132.27	9,690.57	-242.53	266.78	380,076.65	846,585.27	32.041083	-103.348207
9,800.00	3.02	132.27	9,790.44	-246.07	270.68	380,073.11	846,589.16	32.041074	-103.348195
9,900.00	3.02	132.27	9,890.30	-249.61	274.57	380,069.57	846,593.06	32.041064	-103.348182
10,000.00	3.02	132.27	9,990.16	-253.15	278.47	380,066.03	846,596.95	32.041054	-103.348170
10,100.00	3.02	132.27	10,090.02	-256.69	282.36	380,062.49	846,600.85	32.041044	-103.348157
10,200.00	3.02	132.27	10,189.88	-260.23	286.26	380,058.95	846,604.74	32.041034	-103.348145
10,300.00	3.02	132.27	10,289.74	-263.77	290.15	380,055.41	846,608.64	32.041024	-103.348133
10,400.00	3.02	132.27	10,389.60	-267.31	294.05	380,051.86	846,612.53	32.041015	-103.348120
10,500.00	3.02	132.27	10,489.46	-270.86	297.94	380,048.32	846,616.43	32.041005	-103.348108
10,600.00	3.02	132.27	10,589.33	-274.40	301.84	380,044.78	846,620.32	32.040995	-103.348095
10,700.00	3.02	132.27	10,689.19	-277.94	305.73	380,041.24	846,624.22	32.040985	-103.348083
10,800.00	3.02	132.27	10,789.05	-281.48	309.63	380,037.70	846,628.11	32.040975	-103.348070

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3110.80ft
Project:	Lea County (NAD83 New Mexico East)	**MD Reference:**	RKB @ 3110.80ft
Site:	Sec 15-T26S-R35E	**North Reference:**	Grid
Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,900.00	3.02	132.27	10,888.91	-285.02	313.52	380,034.16	846,632.01	32.040965	-103.348058
11,000.00	3.02	132.27	10,988.77	-288.56	317.42	380,030.62	846,635.90	32.040956	-103.348045
11,100.00	3.02	132.27	11,088.63	-292.10	321.31	380,027.08	846,639.80	32.040946	-103.348033
11,200.00	3.02	132.27	11,188.49	-295.64	325.21	380,023.54	846,643.69	32.040936	-103.348020
11,222.47	3.02	132.27	11,210.93	-296.44	326.08	380,022.74	846,644.57	32.040934	-103.348018
11,300.00	1.85	132.27	11,288.39	-298.65	328.52	380,020.52	846,647.01	32.040928	-103.348010
11,400.00	0.35	132.27	11,388.37	-299.95	329.95	380,019.23	846,648.43	32.040924	-103.348005
11,423.63	0.00	0.00	11,412.00	-300.00	330.00	380,019.18	846,648.49	32.040924	-103.348005
11,500.00	0.00	0.00	11,488.37	-300.00	330.00	380,019.18	846,648.49	32.040924	-103.348005
11,600.00	0.00	0.00	11,588.37	-300.00	330.00	380,019.18	846,648.49	32.040924	-103.348005
11,700.00	0.00	0.00	11,688.37	-300.00	330.00	380,019.18	846,648.49	32.040924	-103.348005
11,773.67	0.00	0.00	11,762.04	-300.00	330.00	380,019.18	846,648.49	32.040924	-103.348005
KOP @ 11774' MD, 1790' FSL, 360' FEL									
11,800.00	2.63	359.45	11,788.36	-299.40	329.99	380,019.78	846,648.48	32.040925	-103.348005
11,900.00	12.63	359.45	11,887.35	-286.13	329.87	380,033.05	846,648.35	32.040962	-103.348005
12,000.00	22.63	359.45	11,982.53	-255.88	329.58	380,063.30	846,648.07	32.041045	-103.348005
12,100.00	32.63	359.45	12,071.01	-209.56	329.14	380,109.62	846,647.62	32.041172	-103.348005
12,200.00	42.63	359.45	12,150.10	-148.58	328.55	380,170.60	846,647.04	32.041340	-103.348005
12,267.56	49.39	359.45	12,197.00	-100.00	328.09	380,219.18	846,646.58	32.041474	-103.348005
First Take Point @ 12268' MD, 1990' FSL, 360' FEL									
12,300.00	52.63	359.45	12,217.41	-74.79	327.85	380,244.39	846,646.34	32.041543	-103.348005
12,400.00	62.63	359.45	12,270.87	9.56	327.04	380,328.74	846,645.53	32.041775	-103.348005
12,500.00	72.63	359.45	12,308.88	101.92	326.16	380,421.09	846,644.65	32.042029	-103.348006
12,600.00	82.63	359.45	12,330.27	199.47	325.23	380,518.65	846,643.72	32.042297	-103.348006
12,673.67	90.00	359.45	12,335.00	272.93	324.53	380,592.11	846,643.02	32.042499	-103.348006
12,700.00	90.00	359.45	12,335.00	299.26	324.28	380,618.44	846,642.77	32.042571	-103.348006
12,800.00	90.00	359.45	12,335.00	399.26	323.32	380,718.43	846,641.81	32.042846	-103.348006
12,900.00	90.00	359.45	12,335.00	499.25	322.37	380,818.43	846,640.86	32.043121	-103.348006
13,000.00	90.00	359.45	12,335.00	599.25	321.42	380,918.42	846,639.90	32.043396	-103.348006
13,100.00	90.00	359.45	12,335.00	699.24	320.46	381,018.42	846,638.95	32.043671	-103.348006
13,200.00	90.00	359.45	12,335.00	799.24	319.51	381,118.41	846,637.99	32.043945	-103.348007
13,300.00	90.00	359.45	12,335.00	899.23	318.55	381,218.41	846,637.04	32.044220	-103.348007
13,400.00	90.00	359.45	12,335.00	999.23	317.60	381,318.40	846,636.08	32.044495	-103.348007
13,500.00	90.00	359.45	12,335.00	1,099.22	316.64	381,418.40	846,635.13	32.044770	-103.348007
13,600.00	90.00	359.45	12,335.00	1,199.22	315.69	381,518.39	846,634.17	32.045045	-103.348007
13,700.00	90.00	359.45	12,335.00	1,299.21	314.73	381,618.39	846,633.22	32.045320	-103.348007
13,800.00	90.00	359.45	12,335.00	1,399.21	313.78	381,718.39	846,632.27	32.045595	-103.348007
13,900.00	90.00	359.45	12,335.00	1,499.20	312.82	381,818.38	846,631.31	32.045870	-103.348007
14,000.00	90.00	359.45	12,335.00	1,599.20	311.87	381,918.38	846,630.36	32.046144	-103.348008
14,100.00	90.00	359.45	12,335.00	1,699.20	310.91	382,018.37	846,629.40	32.046419	-103.348008
14,200.00	90.00	359.45	12,335.00	1,799.19	309.96	382,118.37	846,628.45	32.046694	-103.348008
14,300.00	90.00	359.45	12,335.00	1,899.19	309.01	382,218.36	846,627.49	32.046969	-103.348008
14,400.00	90.00	359.45	12,335.00	1,999.18	308.05	382,318.36	846,626.54	32.047244	-103.348008
14,500.00	90.00	359.45	12,335.00	2,099.18	307.10	382,418.35	846,625.58	32.047519	-103.348008
14,600.00	90.00	359.45	12,335.00	2,199.17	306.14	382,518.35	846,624.63	32.047794	-103.348008
14,700.00	90.00	359.45	12,335.00	2,299.17	305.19	382,618.34	846,623.67	32.048068	-103.348009
14,800.00	90.00	359.45	12,335.00	2,399.16	304.23	382,718.34	846,622.72	32.048343	-103.348009
14,900.00	90.00	359.45	12,335.00	2,499.16	303.28	382,818.33	846,621.76	32.048618	-103.348009
15,000.00	90.00	359.45	12,335.00	2,599.15	302.32	382,918.33	846,620.81	32.048893	-103.348009
15,100.00	90.00	359.45	12,335.00	2,699.15	301.37	383,018.32	846,619.86	32.049168	-103.348009
15,200.00	90.00	359.45	12,335.00	2,799.15	300.41	383,118.32	846,618.90	32.049443	-103.348009
15,300.00	90.00	359.45	12,335.00	2,899.14	299.46	383,218.31	846,617.95	32.049718	-103.348009
15,400.00	90.00	359.45	12,335.00	2,999.14	298.50	383,318.31	846,616.99	32.049993	-103.348009
15,500.00	90.00	359.45	12,335.00	3,099.13	297.55	383,418.30	846,616.04	32.050267	-103.348010

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3110.80ft
Project:	Lea County (NAD83 New Mexico East)	**MD Reference:**	RKB @ 3110.80ft
Site:	Sec 15-T26S-R35E	**North Reference:**	Grid
Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,600.00	90.00	359.45	12,335.00	3,199.13	296.60	383,518.30	846,615.08	32.050542	-103.348010
15,700.00	90.00	359.45	12,335.00	3,299.12	295.64	383,618.30	846,614.13	32.050817	-103.348010
15,800.00	90.00	359.45	12,335.00	3,399.12	294.69	383,718.29	846,613.17	32.051092	-103.348010
15,900.00	90.00	359.45	12,335.00	3,499.11	293.73	383,818.29	846,612.22	32.051367	-103.348010
16,000.00	90.00	359.45	12,335.00	3,599.11	292.78	383,918.28	846,611.26	32.051642	-103.348010
16,100.00	90.00	359.45	12,335.00	3,699.10	291.82	384,018.28	846,610.31	32.051917	-103.348010
16,200.00	90.00	359.45	12,335.00	3,799.10	290.87	384,118.27	846,609.35	32.052191	-103.348011
16,300.00	90.00	359.45	12,335.00	3,899.10	289.91	384,218.27	846,608.40	32.052466	-103.348011
16,400.00	90.00	359.45	12,335.00	3,999.09	288.96	384,318.26	846,607.45	32.052741	-103.348011
16,500.00	90.00	359.45	12,335.00	4,099.09	288.00	384,418.26	846,606.49	32.053016	-103.348011
16,600.00	90.00	359.45	12,335.00	4,199.08	287.05	384,518.25	846,605.54	32.053291	-103.348011
16,700.00	90.00	359.45	12,335.00	4,299.08	286.09	384,618.25	846,604.58	32.053566	-103.348011
16,800.00	90.00	359.45	12,335.00	4,399.07	285.14	384,718.24	846,603.63	32.053841	-103.348011
16,900.00	90.00	359.45	12,335.00	4,499.07	284.19	384,818.24	846,602.67	32.054116	-103.348012
17,000.00	90.00	359.45	12,335.00	4,599.06	283.23	384,918.23	846,601.72	32.054390	-103.348012
17,100.00	90.00	359.45	12,335.00	4,699.06	282.28	385,018.23	846,600.76	32.054665	-103.348012
17,200.00	90.00	359.45	12,335.00	4,799.05	281.32	385,118.22	846,599.81	32.054940	-103.348012
17,300.00	90.00	359.45	12,335.00	4,899.05	280.37	385,218.22	846,598.85	32.055215	-103.348012
17,400.00	90.00	359.45	12,335.00	4,999.05	279.41	385,318.21	846,597.90	32.055490	-103.348012
17,500.00	90.00	359.45	12,335.00	5,099.04	278.46	385,418.21	846,596.94	32.055765	-103.348012
17,600.00	90.00	359.45	12,335.00	5,199.04	277.50	385,518.20	846,595.99	32.056040	-103.348012
17,700.00	90.00	359.45	12,335.00	5,299.03	276.55	385,618.20	846,595.04	32.056315	-103.348013
17,800.00	90.00	359.45	12,335.00	5,399.03	275.59	385,718.20	846,594.08	32.056589	-103.348013
17,900.00	90.00	359.45	12,335.00	5,499.02	274.64	385,818.19	846,593.13	32.056864	-103.348013
18,000.00	90.00	359.45	12,335.00	5,599.02	273.68	385,918.19	846,592.17	32.057139	-103.348013
18,100.00	90.00	359.45	12,335.00	5,699.01	272.73	386,018.18	846,591.22	32.057414	-103.348013
18,200.00	90.00	359.45	12,335.00	5,799.01	271.78	386,118.18	846,590.26	32.057689	-103.348013
18,300.00	90.00	359.45	12,335.00	5,899.00	270.82	386,218.17	846,589.31	32.057964	-103.348013
18,400.00	90.00	359.45	12,335.00	5,999.00	269.87	386,318.17	846,588.35	32.058239	-103.348014
18,500.00	90.00	359.45	12,335.00	6,099.00	268.91	386,418.16	846,587.40	32.058513	-103.348014
18,600.00	90.00	359.45	12,335.00	6,198.99	267.96	386,518.16	846,586.44	32.058788	-103.348014
18,700.00	90.00	359.45	12,335.00	6,298.99	267.00	386,618.15	846,585.49	32.059063	-103.348014
18,800.00	90.00	359.45	12,335.00	6,398.98	266.05	386,718.15	846,584.53	32.059338	-103.348014
18,900.00	90.00	359.45	12,335.00	6,498.98	265.09	386,818.14	846,583.58	32.059613	-103.348014
19,000.00	90.00	359.45	12,335.00	6,598.97	264.14	386,918.14	846,582.63	32.059888	-103.348014
19,100.00	90.00	359.45	12,335.00	6,698.97	263.18	387,018.13	846,581.67	32.060163	-103.348014
19,200.00	90.00	359.45	12,335.00	6,798.96	262.23	387,118.13	846,580.72	32.060438	-103.348015
19,300.00	90.00	359.45	12,335.00	6,898.96	261.27	387,218.12	846,579.76	32.060712	-103.348015
19,400.00	90.00	359.45	12,335.00	6,998.95	260.32	387,318.12	846,578.81	32.060987	-103.348015
19,500.00	90.00	359.45	12,335.00	7,098.95	259.37	387,418.11	846,577.85	32.061262	-103.348015
19,600.00	90.00	359.45	12,335.00	7,198.95	258.41	387,518.11	846,576.90	32.061537	-103.348015
19,700.00	90.00	359.45	12,335.00	7,298.94	257.46	387,618.10	846,575.94	32.061812	-103.348015
19,800.00	90.00	359.45	12,335.00	7,398.94	256.50	387,718.10	846,574.99	32.062087	-103.348015
19,900.00	90.00	359.45	12,335.00	7,498.93	255.55	387,818.10	846,574.03	32.062362	-103.348016
20,000.00	90.00	359.45	12,335.00	7,598.93	254.59	387,918.09	846,573.08	32.062636	-103.348016
20,100.00	90.00	359.45	12,335.00	7,698.92	253.64	388,018.09	846,572.12	32.062911	-103.348016
20,200.00	90.00	359.45	12,335.00	7,798.92	252.68	388,118.08	846,571.17	32.063186	-103.348016
20,300.00	90.00	359.45	12,335.00	7,898.91	251.73	388,218.08	846,570.22	32.063461	-103.348016
20,400.00	90.00	359.45	12,335.00	7,998.91	250.77	388,318.07	846,569.26	32.063736	-103.348016
20,500.00	90.00	359.45	12,335.00	8,098.90	249.82	388,418.07	846,568.31	32.064011	-103.348016
20,600.00	90.00	359.45	12,335.00	8,198.90	248.86	388,518.06	846,567.35	32.064286	-103.348017
20,700.00	90.00	359.45	12,335.00	8,298.90	247.91	388,618.06	846,566.40	32.064561	-103.348017
20,799.84	90.00	359.45	12,335.00	8,398.73	246.96	388,717.89	846,565.44	32.064835	-103.348017

Last Take Point @ 20800' MD, 100' FNL, 360' FEL

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3110.80ft
Project:	Lea County (NAD83 New Mexico East)	**MD Reference:**	RKB @ 3110.80ft
Site:	Sec 15-T26S-R35E	**North Reference:**	Grid
Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
20,800.00	90.00	359.45	12,335.00	8,398.89	246.96	388,718.05	846,565.44	32.064835	-103.348017
20,859.84	90.00	359.45	12,335.00	8,458.72	246.38	388,777.89	846,564.87	32.065000	-103.348017
PBHL; 20' FNL, 360' FEL									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL - Arena Roja Fed	0.00	0.00	0.00	8,458.72	246.38	388,777.89	846,564.87	32.065000	-103.348017
- plan misses target center by 8462.31ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
11,773.67	11,762.04	-300.00	330.00	KOP @ 11774' MD, 1790' FSL, 360' FEL
12,267.56	12,197.00	-100.00	328.09	First Take Point @ 12268' MD, 1990' FSL, 360' FEL
20,799.84	12,335.00	8,398.73	246.96	Last Take Point @ 20800' MD, 100' FNL, 360' FEL
20,859.84	12,335.00	8,458.72	246.38	PBHL; 20' FNL, 360' FEL

WCDSC Permian NM

WELL DETAILS: Arena Roja Fed Unit 15-10 4H

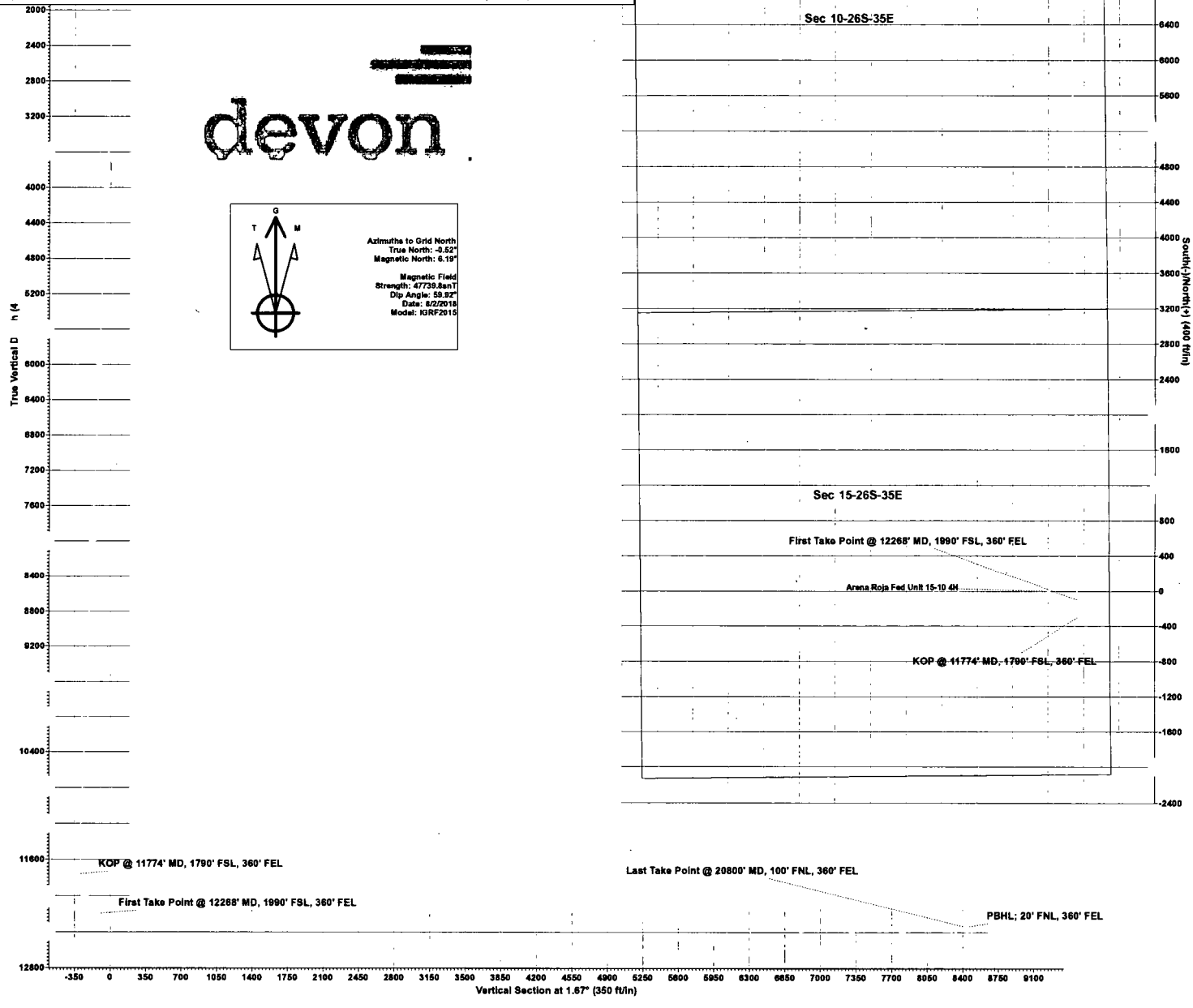
RKB @ 3110.80ft
3085.80

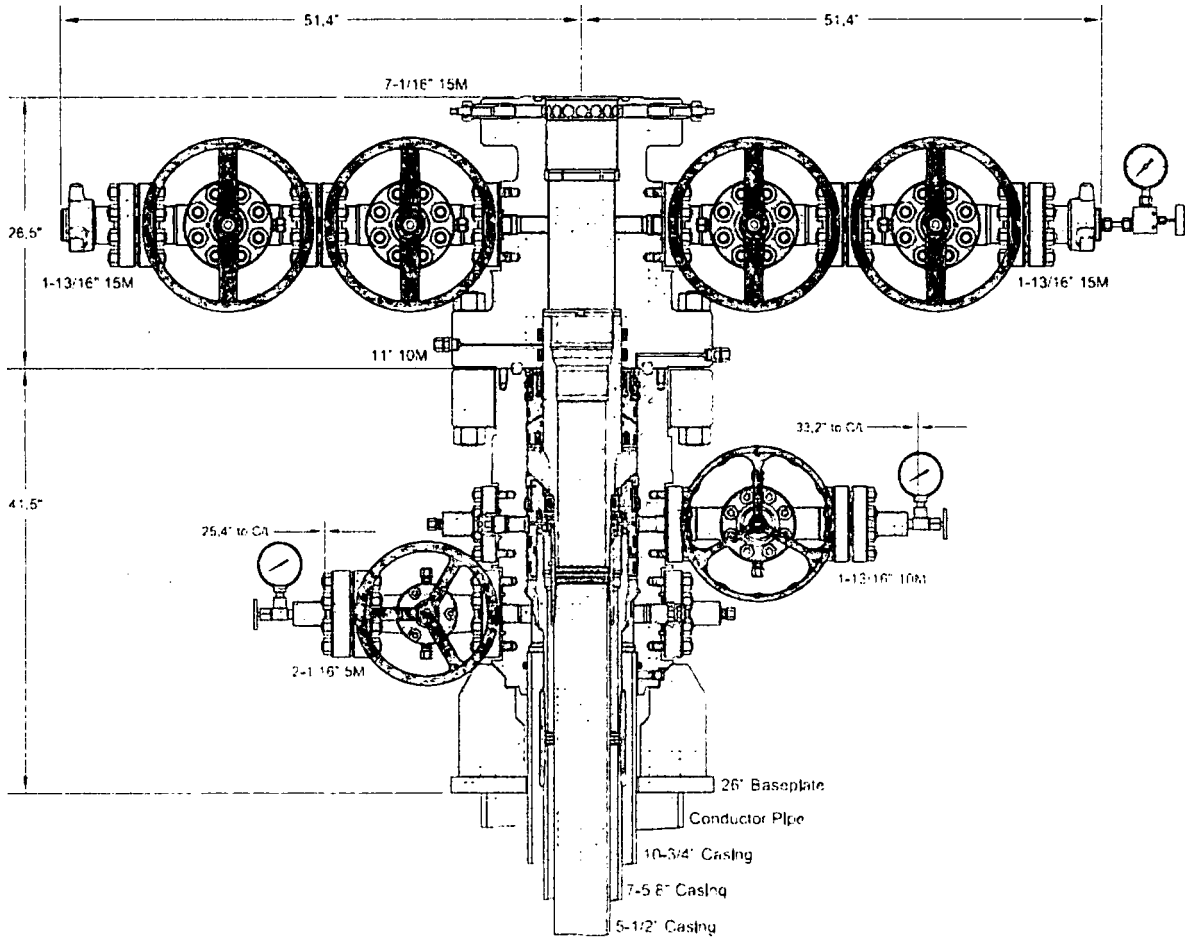
Northing	Easting	Latitude	Longitude
380319.18	846318.49	32.041757	-103.349061

SECTION DETAILS Permit Plan 1

	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect	Annotation
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	2700.00	0.00	0.00	2700.00	0.00	0.00	0.00	0.00	
	3001.75	3.02	132.27	3001.61	-5.34	5.88	1.00	-5.17	
	11222.47	3.02	132.27	11210.93	-296.44	326.08	0.00	-286.82	
5	11423.63	0.00	0.00	11412.00	-300.00	330.00	1.50	-290.26	
6	11773.67	0.00	0.00	11762.04	-300.00	330.00	0.00	-290.26	KOP @ 11774' MD, 1790' FSL, 360' FEL
7	12673.67	90.00	359.45	12335.00	272.93	324.53	10.00	282.27	
8	20859.84	90.00	359.45	12335.00	8458.72	246.38	0.00	8462.31	PBHL; 20' FNL, 360' FEL

devon




51.4"
51.4"
7-1/16" 15M
26.5"
1-13/16" 15M
1-13/16" 15M
11" 10M
33.2" to CA
41.5"
25.4" to CA
1-13/16" 10M
2-1/16" 5M
26" Baseplate
Conductor Pipe
10-3/4" Casing
7-5/8" Casing
5-1/2" Casing

Metal One Corp.	Connection Data Sheet	Page	44-O
Metal One		Date	25-Jan-17
		Rev.	N - 1

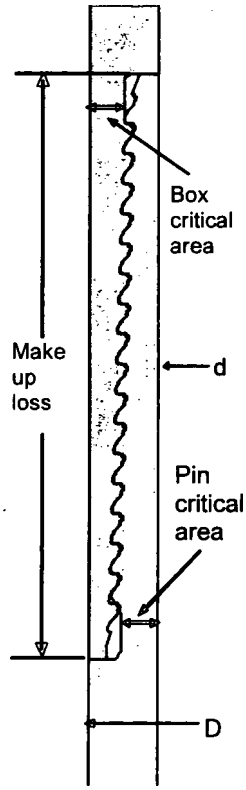
Geometry

Pipe Body

	Imperial		S.I.	
Grade	P110		P110	
Pipe OD (D)	7 5/8	in	193.68	mm
Weight	29.70	lb/ft	44.20	kg/m
Actual weight	29.04		43.21	kg/m
Wall Thickness (t)	0.375	in	9.53	mm
Pipe ID (d)	6.875	in	174.63	mm
Pipe body cross section	8.537	in^2	5508	mm^2
Drift Dia.	6.750	in	171.45	mm

Connection

Box OD (W)	7.625	in	193.68	mm
PIN ID	6.875	in	174.63	mm
Make up Loss	3.040	in	77.22	mm
Box Critical Area	4.424	in^2	2854	mm^2
Joint load efficiency	60	%	60	%
Thread Taper	1 / 16 (3/4" per ft)			
Number of Threads	5 TPI			



Performance

Performance Properties for Pipe Body

S.M.Y.S.	939	Kips	4,177	kN
M.I.Y.P.	9,470	psi	65.31	MPa
Collapse Strength	5,350	psi	36.90	MPa

Note S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body
M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body

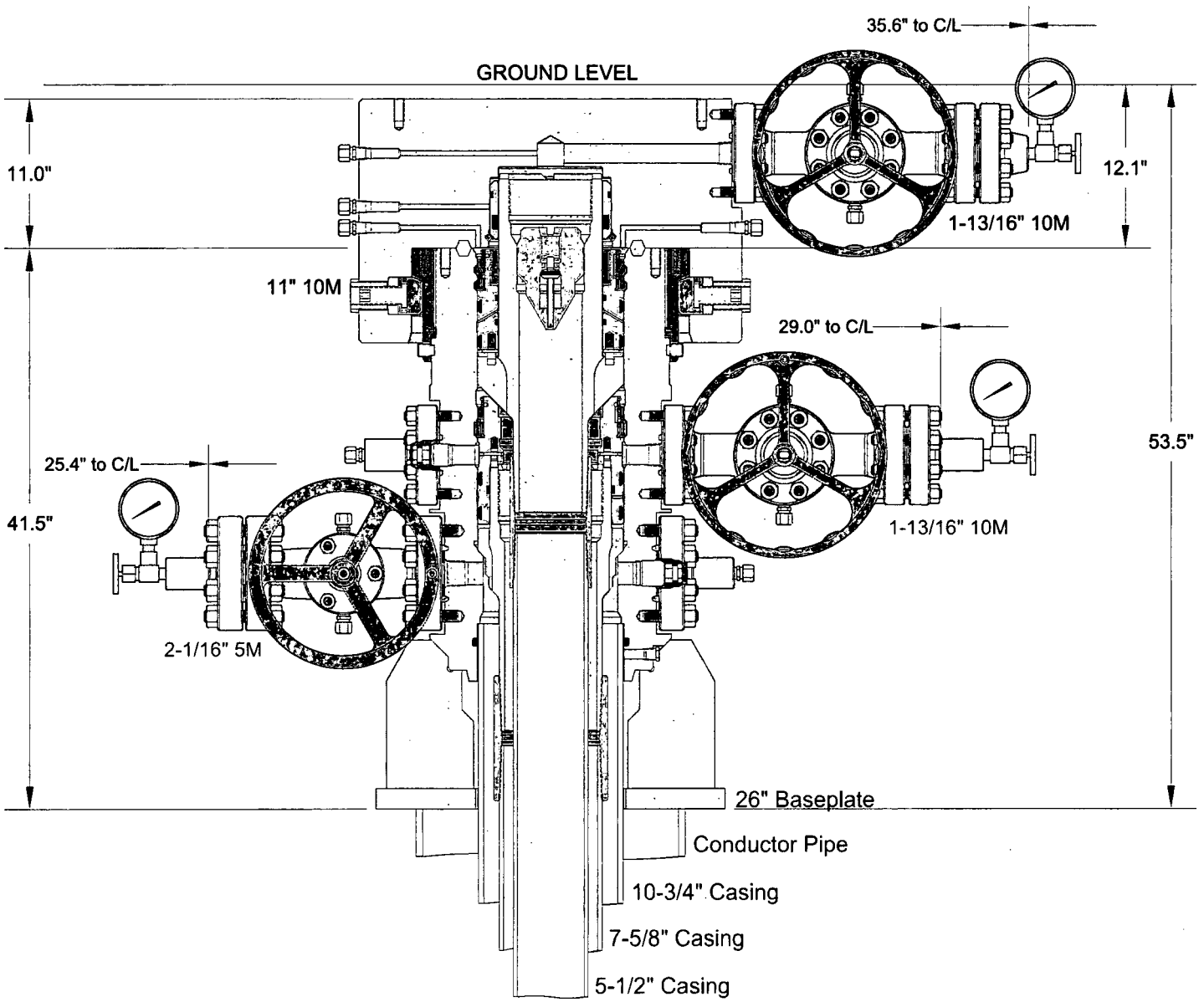
Performance Properties for Connection

Tensile Yield Load	563 Kips (60% of S.M.Y.S.)
Min. Compression Yield	563 kips (60% of S.M.Y.S.)
Internal Pressure	7,580 psi (80% of M.I.Y.P.)
External Pressure	100% of Collapse Strength
Max. DLS (deg. / 100ft)	25

Recommended Torque

Min.	15,500	ft-lb	21,000	N-m
Opti.	17,200	ft-lb	23,300	N-m
Max.	18,900	ft-lb	25,600	N-m
Operational Max.	23,600	ft-lb	32,000	N-m

Note : Operational Max. torque can be applied for high torque application



CACTUS WELLHEAD LLC	DEVON ENERGY CORPORATION		
16" x 11-7/8" x 7-5/8" MBU-T Wellhead Assembly With 7-5/8" & 5-1/2" Pin Bottom Mandrel Casing Hangers And 11" 10M MBU-T-HPS-F TA Cap	DRAWN	DLE	29NOV17
	APPRV		
	DRAWING NO.	OKE0001764	

Devon Energy
APD VARIANCE DATA

OPERATOR NAME: Devon Energy

1. SUMMARY OF Variance:

Devon Energy respectfully requests approval for the following additions to the drilling plan:

1. Potential utilization of a spudder rig to pre-set surface casing.

2. Description of Operations

1. A spudder rig contractor may move in their rig to drill the surface hole section and pre-set surface casing on this well.
    a. After drilling the surface hole section, the rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
    b. Rig will utilize fresh water based mud to drill surface hole to TD.
2. The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
3. A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wingvalves.
    a. A means for intervention will be maintained while the drilling rig is not over the well.
4. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
5. Drilling operation will be performed with the big 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 BLM will be contacted / notified 24 hours before the big rig moves back on to the pad with the pre-set surface casing.
6. Devon Energy will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
7. Once the rig is removed, Devon Energy will secure the wellhead area by placing a guard rail around the cellar area.

Devon Energy Annular Preventer Summary

1. Component and Preventer Compatibility Table

The table below, which covers the drilling and casing of the 10M MASP portion of the well, outlines the tubulars and the compatible preventers in use. This table, combined with the mud program, documents that two barriers to flow can be maintained at all times, independent of the rating of the annular preventer.

6-3/4" Production hole section, 10M requirement

Component	OD	Preventer	RWP
Drillpipe	4.5"	Fixed lower 4.5" Upper 4.5-7" VBR	10M
HWDP	4.5"	Fixed lower 4.5" Upper 4.5-7" VBR	10M
Drill collars and MWD tools	4.75"	Upper 4.5-7" VBR	10M
Mud Motor	4.75"	Upper 4.5-7" VBR	10M
Production casing	5.5"	Upper 4.5-7" VBR	10M
ALL	0-13-5/8"	Annular	5M
Open-hole	-	Blind Rams	10M

VBR = Variable Bore Ram. Compatible range listed in chart.

2. Well Control Procedures

Well control procedures are specific to the rig equipment and the operation at the time the kick occurs. Below are the minimal high-level tasks prescribed to assure a proper shut-in while drilling, tripping, running casing, pipe out of the hole (open hole), and moving the BHA through the BOPs. The pressure at which control is swapped from the annular to another compatible ram is variable, but the operator will document in the submission their operating pressure limit. The operator may chose an operating pressure less than or equal to RWP, but in no case will it exceed the RWP of the annular preventer.

General Procedure While Drilling

1. Sound alarm (alert crew)
2. Space out drill string
3. Shut down pumps (stop pumps and rotary)
4. Shut-in Well (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
    a. SIDPP and SICP
    b. Pit gain
    c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach the RWP of the annular preventer, confirm spacing and swap to the upper pipe ram.

Devon Energy Annular Preventer Summary

General Procedure While Tripping

1. Sound alarm (alert crew)
2. Stab full opening safety valve and close
3. Space out drill string
4. Shut-in (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
    a. SIDPP and SICP
    b. Pit gain
    c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach the RWP of the annular preventer, confirm spacing and swap to the upper pipe ram.

General Procedure While Running Casing

1. Sound alarm (alert crew)
2. Stab crossover and full opening safety valve and close
3. Space out string
4. Shut-in (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
    a. SIDPP and SICP
    b. Pit gain
    c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach the RWP of the annular preventer, confirm spacing and swap to compatible pipe ram.

General Procedure With No Pipe In Hole (Open Hole)

1. Sound alarm (alert crew)
2. Shut-in with blind rams or BSR. (HCR and choke will already be in the closed position.)
3. Confirm shut-in
4. Notify toolpusher/company representative
5. Read and record the following:
    a. SICP
    b. Pit gain
    c. Time
6. Regroup and identify forward plan

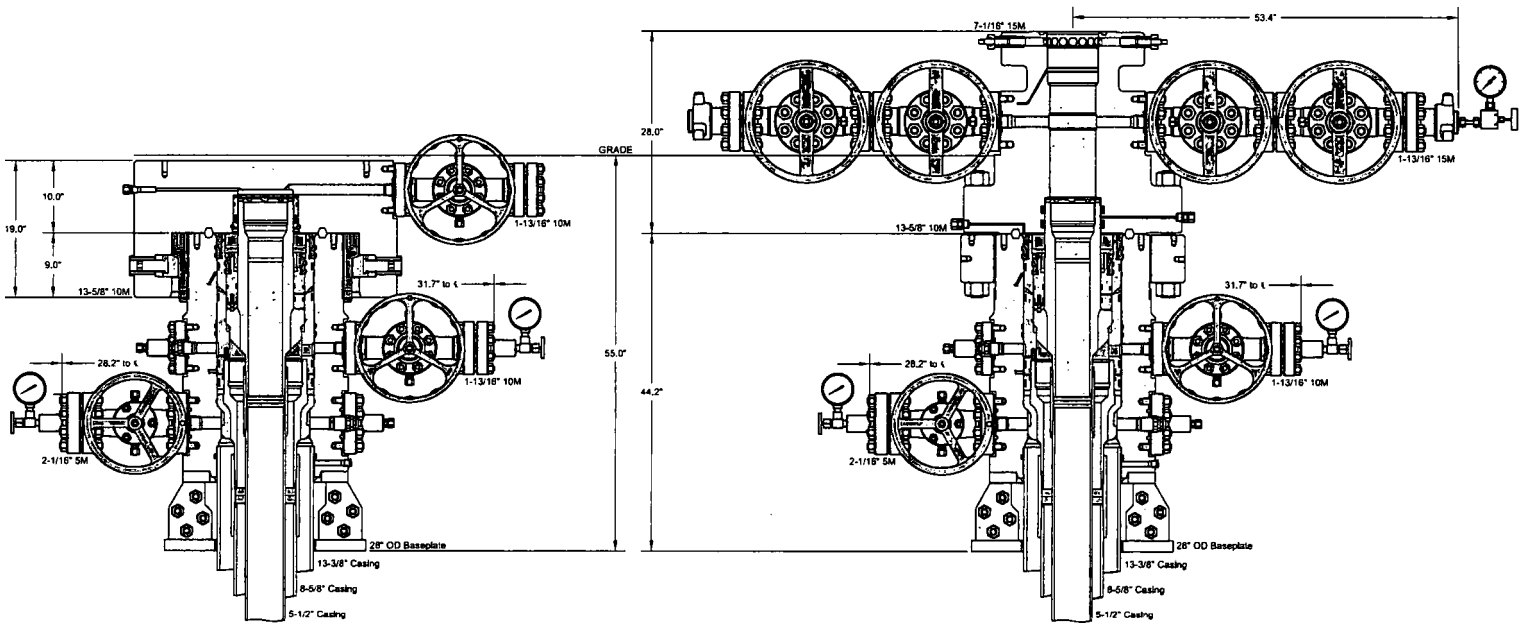
Devon Energy Annular Preventer Summary

General Procedures While Pulling BHA thru Stack

1. PRIOR to pulling last joint of drillpipe thru the stack.
    a. Perform flowcheck, if flowing:
    b. Sound alarm (alert crew)
    c. Stab full opening safety valve and close
    d. Space out drill string with tool joint just beneath the upper pipe ram.
    e. Shut-in using upper pipe ram. (HCR and choke will already be in the closed position.)
    f. Confirm shut-in
    g. Notify toolpusher/company representative
    h. Read and record the following:
        i. SIDPP and SICP
        ii. Pit gain
        iii. Time
    i. Regroup and identify forward plan

2. With BHA in the stack and compatible ram preventer and pipe combo immediately available.
    a. Sound alarm (alert crew)
    b. Stab crossover and full opening safety valve and close
    c. Space out drill string with upset just beneath the compatible pipe ram.
    d. Shut-in using compatible pipe ram. (HCR and choke will already be in the closed position.)
    e. Confirm shut-in
    f. Notify toolpusher/company representative
    g. Read and record the following:
        i. SIDPP and SICP
        ii. Pit gain
        iii. Time
    h. Regroup and identify forward plan

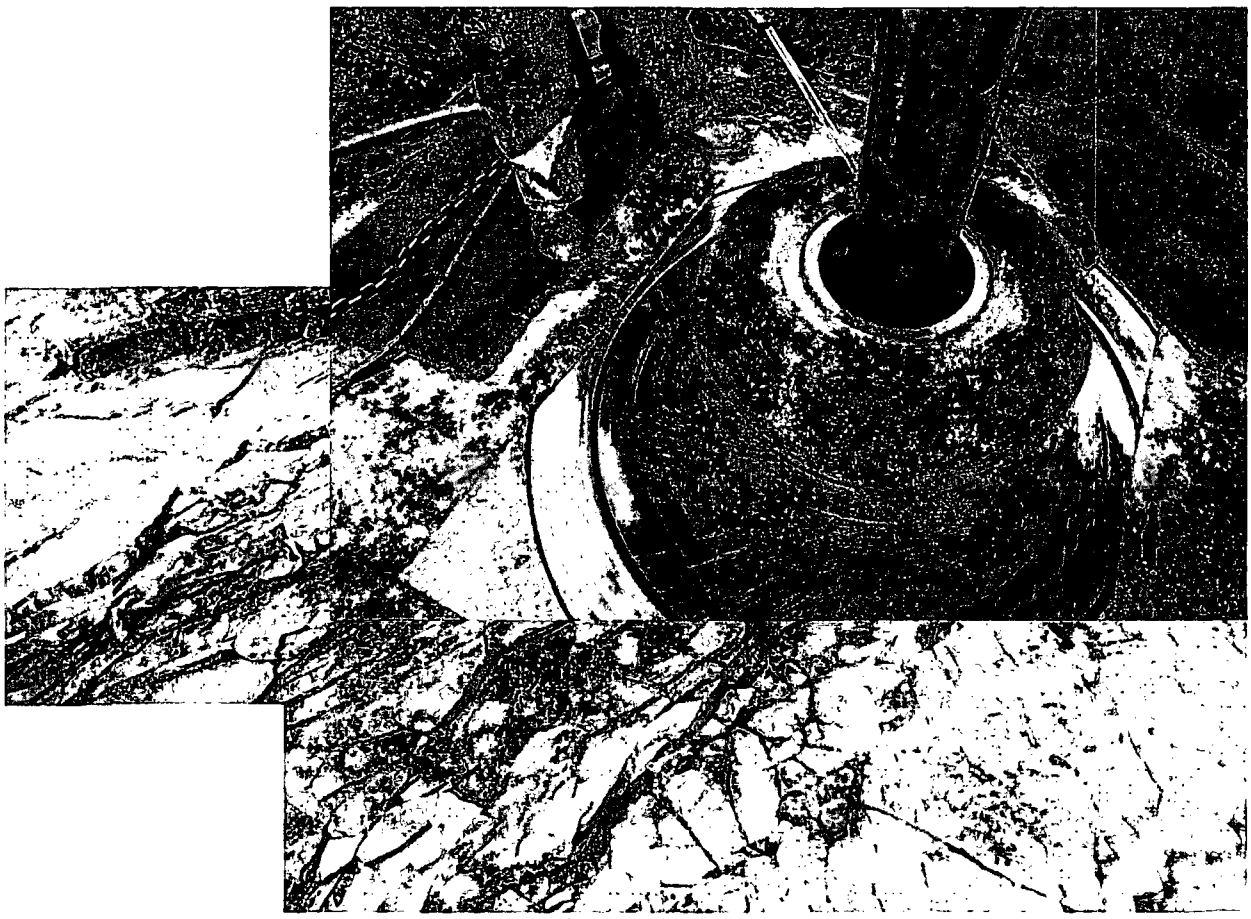
3. With BHA in the stack and NO compatible ram preventer and pipe combo immediately available.
    a. Sound alarm (alert crew)
    b. If possible to pick up high enough, pull string clear of the stack and follow "Open Hole" scenario.
    c. If impossible to pick up high enough to pull the string clear of the stack:
    d. Stab crossover, make up one joint/stand of drillpipe, and full opening safety valve and close
    e. Space out drill string with tooljoint just beneath the upper pipe ram.
    f. Shut-in using upper pipe ram. (HCR and choke will already be in the closed position.)
    g. Confirm shut-in
    h. Notify toolpusher/company representative
    i. Read and record the following:
        i. SIDPP and SICP
        ii. Pit gain
        iii. Time
    j. Regroup and identify forward plan



CACTUS WELLHEAD LLC	DEVON ENERGY CORPORATION		
13-3/8" x 8-5/8" x 5-1/2" 5M MBU-3T Wellhead System With 8-5/8" & 5-1/2" Pin Down Rotating Mandrel Hangers And 13-5/8" 10M x 7-1/16" 15M CTH-P-DBLHPS Tubing Head	DRAWN	DLE	10MAY18
	APPRV		
	DRAWING NO.	ODE0002309	

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.

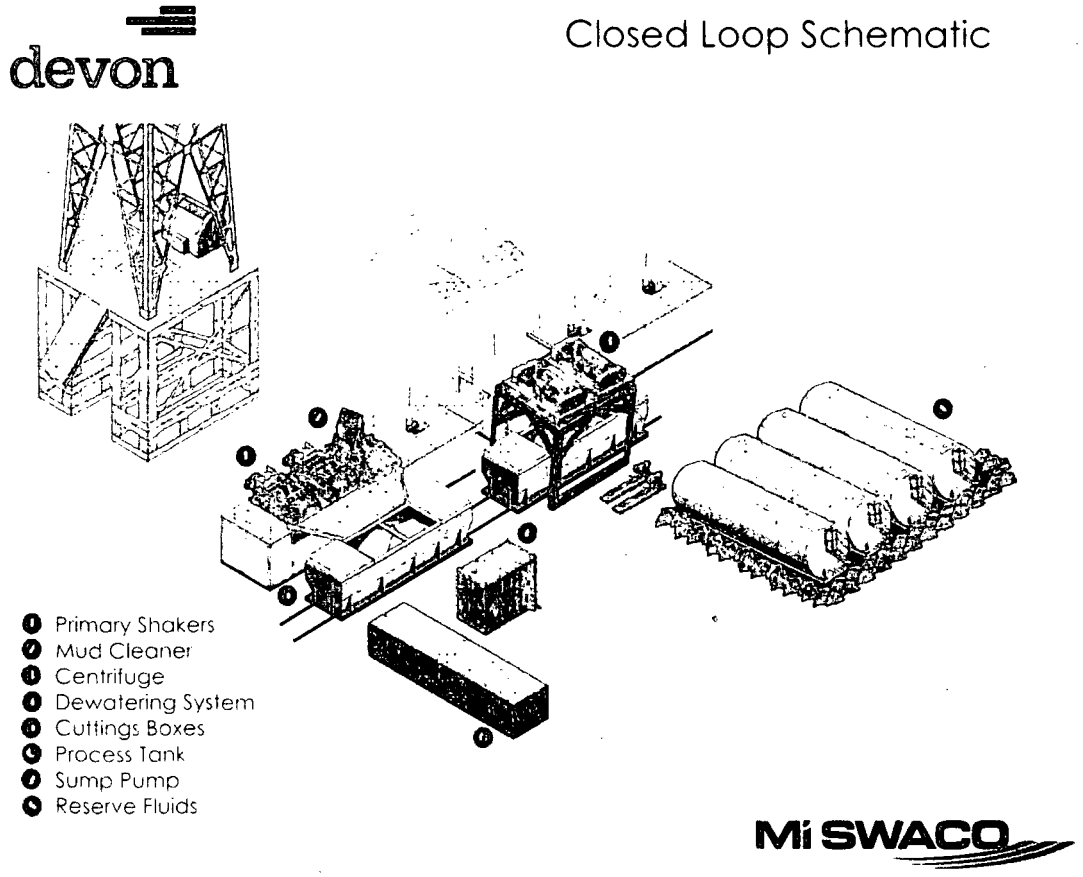
Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

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.

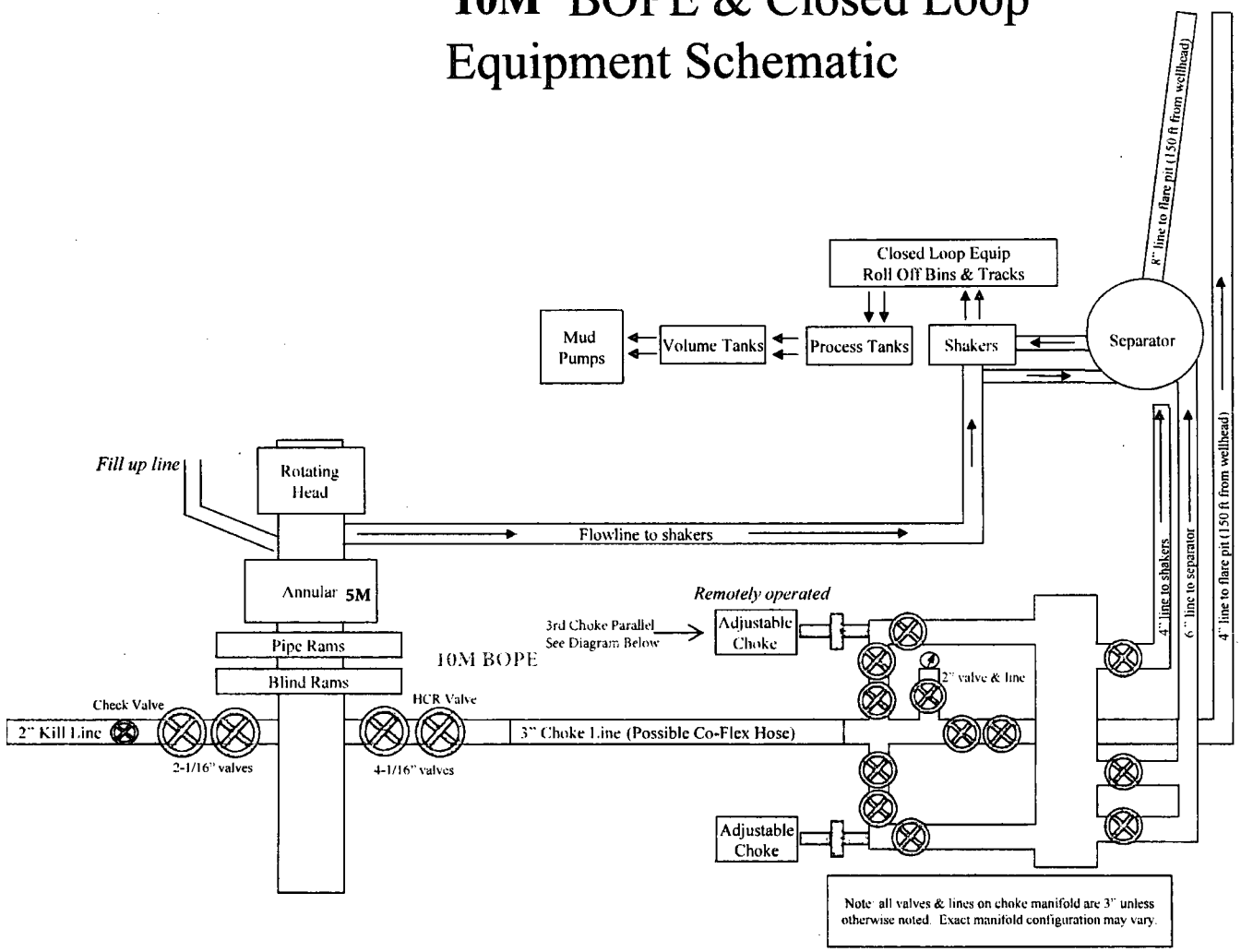
These operations are monitored by Mi Swaco service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the 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.

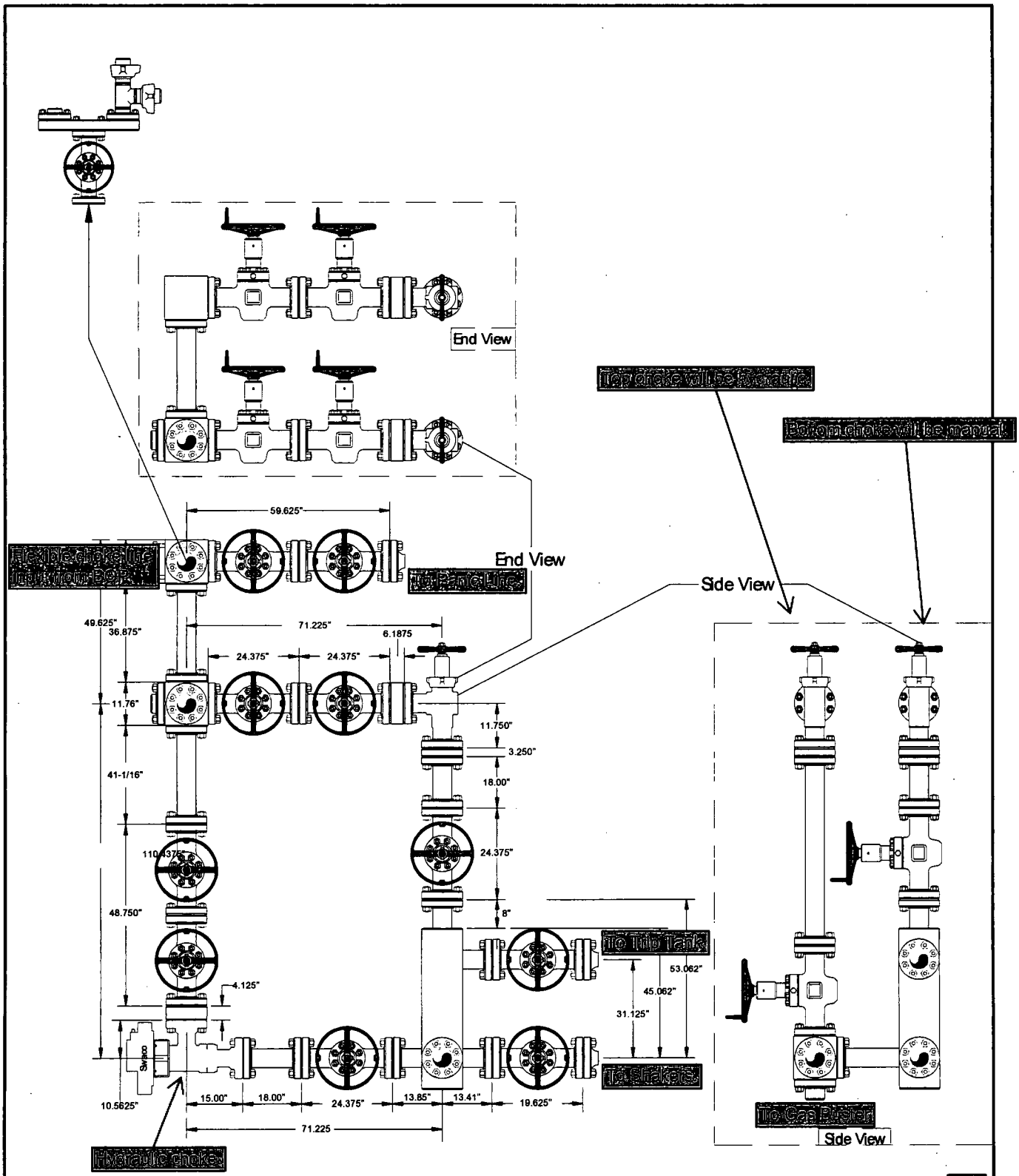
A MI SWACO field supervisor manages from 3-5 wells. They are responsible for training personnel, supervising installations, and inspecting sites for compliance of MI SWACO safety and operational policy.

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.

10M BOPE & Closed Loop Equipment Schematic





Helmerich & Payne

Flex 3 Rig w/ 3 Chokes

devon

Name	Date	Working Pressure	
Mike Potts	6-23-2010	10M	J-5132-E

WCDSC Permian NM

Lea County (NAD83 New Mexico East)
Sec 15-T26S-R35E
Arena Roja Fed Unit 15-10 4H

Wellbore #1
Permit Plan 1

Anticollision Report

02 August, 2018

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Project:	Lea County (NAD83 New Mexico East)	**TVD Reference:**	RKB @ 3110.80ft
Reference Site:	Sec 15-T26S-R35E	**MD Reference:**	RKB @ 3110.80ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Reference	Permit Plan 1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 50.00ft	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,500.00 ft	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 8/2/2018

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	20,859.84	Permit Plan 1 (Wellbore #1)	MWD+HDGM	OWSG MWD + HDGM

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Sec 15-T26S-R35E						
Arena Roja Fed Unit 15-10 1H - Wellbore #1 - Permit Pla						Out of range
Arena Roja Fed Unit 15-10 2H - Wellbore #1 - Permit Pla						Out of range
Arena Roja Fed Unit 15-10 3H - Wellbore #1 - Permit Pla	2,700.00	2,700.20	30.00	11.06	1.584	Minor Risk, CC
Arena Roja Fed Unit 15-10 3H - Wellbore #1 - Permit Pla	2,750.00	2,750.20	30.16	10.87	1.564	Minor Risk, ES
Arena Roja Fed Unit 15-10 3H - Wellbore #1 - Permit Pla	2,800.00	2,800.19	30.64	11.01	1.560	Minor Risk, SF
Arena Roja Fed Unit 15-10 5H - Wellbore #1 - Permit Pla						Out of range
Arena Roja Fed Unit 15-10 8H - Wellbore #1 - Permit Pla	2,500.00	2,501.00	59.99	42.49	3.427	Alert, CC
Arena Roja Fed Unit 15-10 8H - Wellbore #1 - Permit Pla	2,550.00	2,550.50	60.21	42.35	3.372	Alert, ES
Arena Roja Fed Unit 15-10 8H - Wellbore #1 - Permit Pla	2,650.00	2,649.47	61.87	43.32	3.336	Alert, SF

Offset Design Sec 15-T26S-R35E - Arena Roja Fed Unit 15-10 3H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.20	0.20	0.50	0.50	-90.52	-0.27	-30.00	30.00				
50.00	50.00	50.20	50.20	0.50	0.50	-90.52	-0.27	-30.00	30.00	28.99	1.01	29.802	
100.00	100.00	100.20	100.20	0.52	0.52	-90.52	-0.27	-30.00	30.00	28.96	1.04	28.963	
150.00	150.00	150.20	150.20	0.59	0.59	-90.52	-0.27	-30.00	30.00	28.82	1.18	25.402	
200.00	200.00	200.20	200.20	0.70	0.70	-90.52	-0.27	-30.00	30.00	28.59	1.40	21.354	
250.00	250.00	250.20	250.20	0.84	0.84	-90.52	-0.27	-30.00	30.00	28.32	1.68	17.898	
300.00	300.00	300.20	300.20	0.99	0.99	-90.52	-0.27	-30.00	30.00	28.02	1.98	15.186	
350.00	350.00	350.20	350.20	1.15	1.15	-90.52	-0.27	-30.00	30.00	27.70	2.29	13.090	
400.00	400.00	400.20	400.20	1.31	1.31	-90.52	-0.27	-30.00	30.00	27.38	2.62	11.454	
450.00	450.00	450.20	450.20	1.48	1.48	-90.52	-0.27	-30.00	30.00	27.04	2.95	10.157	
500.00	500.00	500.20	500.20	1.65	1.65	-90.52	-0.27	-30.00	30.00	26.70	3.29	9.110	
550.00	550.00	550.20	550.20	1.82	1.82	-90.52	-0.27	-30.00	30.00	26.36	3.64	8.250	
600.00	600.00	600.20	600.20	1.99	1.99	-90.52	-0.27	-30.00	30.00	26.01	3.98	7.533	
650.00	650.00	650.20	650.20	2.16	2.17	-90.52	-0.27	-30.00	30.00	25.67	4.33	6.928	
700.00	700.00	700.20	700.20	2.34	2.34	-90.52	-0.27	-30.00	30.00	25.32	4.68	6.410	
750.00	750.00	750.20	750.20	2.51	2.52	-90.52	-0.27	-30.00	30.00	24.97	5.03	5.963	
800.00	800.00	800.20	800.20	2.69	2.69	-90.52	-0.27	-30.00	30.00	24.61	5.38	5.574	
850.00	850.00	850.20	850.20	2.87	2.87	-90.52	-0.27	-30.00	30.00	24.26	5.73	5.231	

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Project:	Lea County (NAD83 New Mexico East)	**TVD Reference:**	RKB @ 3110.80ft
Reference Site:	Sec 15-T26S-R35E	**MD Reference:**	RKB @ 3110.80ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 15-T26S-R35E - Arena Roja Fed Unit 15-10 3H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
900.00	900.00	900.20	900.20	3.04	3.04	-90.52	-0.27	-30.00	30.00	23.91	6.09	4.927	Alert
950.00	950.00	950.20	950.20	3.22	3.22	-90.52	-0.27	-30.00	30.00	23.55	6.44	4.657	Alert
1,000.00	1,000.00	1,000.20	1,000.20	3.40	3.40	-90.52	-0.27	-30.00	30.00	23.20	6.80	4.414	Alert
1,050.00	1,050.00	1,050.20	1,050.20	3.58	3.58	-90.52	-0.27	-30.00	30.00	22.85	7.15	4.195	Alert
1,100.00	1,100.00	1,100.20	1,100.20	3.75	3.75	-90.52	-0.27	-30.00	30.00	22.49	7.51	3.996	Alert
1,150.00	1,150.00	1,150.20	1,150.20	3.93	3.93	-90.52	-0.27	-30.00	30.00	22.14	7.86	3.816	Alert
1,200.00	1,200.00	1,200.20	1,200.20	4.11	4.11	-90.52	-0.27	-30.00	30.00	21.78	8.22	3.651	Alert
1,250.00	1,250.00	1,250.20	1,250.20	4.29	4.29	-90.52	-0.27	-30.00	30.00	21.42	8.57	3.499	Alert
1,300.00	1,300.00	1,300.20	1,300.20	4.46	4.46	-90.52	-0.27	-30.00	30.00	21.07	8.93	3.359	Alert
1,350.00	1,350.00	1,350.20	1,350.20	4.64	4.64	-90.52	-0.27	-30.00	30.00	20.71	9.29	3.231	Alert
1,400.00	1,400.00	1,400.20	1,400.20	4.82	4.82	-90.52	-0.27	-30.00	30.00	20.35	9.64	3.111	Alert
1,450.00	1,450.00	1,450.20	1,450.20	5.00	5.00	-90.52	-0.27	-30.00	30.00	20.00	10.00	3.000	Alert
1,500.00	1,500.00	1,500.20	1,500.20	5.18	5.18	-90.52	-0.27	-30.00	30.00	19.64	10.36	2.897	Alert
1,550.00	1,550.00	1,550.20	1,550.20	5.36	5.36	-90.52	-0.27	-30.00	30.00	19.28	10.71	2.800	Alert
1,600.00	1,600.00	1,600.20	1,600.20	5.53	5.53	-90.52	-0.27	-30.00	30.00	18.93	11.07	2.710	Alert
1,650.00	1,650.00	1,650.20	1,650.20	5.71	5.71	-90.52	-0.27	-30.00	30.00	18.57	11.43	2.625	Alert
1,700.00	1,700.00	1,700.20	1,700.20	5.89	5.89	-90.52	-0.27	-30.00	30.00	18.21	11.78	2.546	Alert
1,750.00	1,750.00	1,750.20	1,750.20	6.07	6.07	-90.52	-0.27	-30.00	30.00	17.86	12.14	2.471	Minor Risk
1,800.00	1,800.00	1,800.20	1,800.20	6.25	6.25	-90.52	-0.27	-30.00	30.00	17.50	12.50	2.400	Minor Risk
1,850.00	1,850.00	1,850.20	1,850.20	6.43	6.43	-90.52	-0.27	-30.00	30.00	17.14	12.86	2.333	Minor Risk
1,900.00	1,900.00	1,900.20	1,900.20	6.61	6.61	-90.52	-0.27	-30.00	30.00	16.78	13.21	2.270	Minor Risk
1,950.00	1,950.00	1,950.20	1,950.20	6.78	6.79	-90.52	-0.27	-30.00	30.00	16.43	13.57	2.211	Minor Risk
2,000.00	2,000.00	2,000.20	2,000.20	6.96	6.96	-90.52	-0.27	-30.00	30.00	16.07	13.93	2.154	Minor Risk
2,050.00	2,050.00	2,050.20	2,050.20	7.14	7.14	-90.52	-0.27	-30.00	30.00	15.71	14.29	2.100	Minor Risk
2,100.00	2,100.00	2,100.20	2,100.20	7.32	7.32	-90.52	-0.27	-30.00	30.00	15.35	14.64	2.049	Minor Risk
2,150.00	2,150.00	2,150.20	2,150.20	7.50	7.50	-90.52	-0.27	-30.00	30.00	15.00	15.00	2.000	Minor Risk
2,200.00	2,200.00	2,200.20	2,200.20	7.68	7.68	-90.52	-0.27	-30.00	30.00	14.64	15.36	1.953	Minor Risk
2,250.00	2,250.00	2,250.20	2,250.20	7.86	7.86	-90.52	-0.27	-30.00	30.00	14.28	15.72	1.909	Minor Risk
2,300.00	2,300.00	2,300.20	2,300.20	8.04	8.04	-90.52	-0.27	-30.00	30.00	13.92	16.07	1.866	Minor Risk
2,350.00	2,350.00	2,350.20	2,350.20	8.22	8.22	-90.52	-0.27	-30.00	30.00	13.57	16.43	1.826	Minor Risk
2,400.00	2,400.00	2,400.20	2,400.20	8.39	8.39	-90.52	-0.27	-30.00	30.00	13.21	16.79	1.787	Minor Risk
2,450.00	2,450.00	2,450.20	2,450.20	8.57	8.57	-90.52	-0.27	-30.00	30.00	12.85	17.15	1.749	Minor Risk
2,500.00	2,500.00	2,500.20	2,500.20	8.75	8.75	-90.52	-0.27	-30.00	30.00	12.49	17.50	1.714	Minor Risk
2,550.00	2,550.00	2,550.20	2,550.20	8.93	8.93	-90.52	-0.27	-30.00	30.00	12.13	17.86	1.679	Minor Risk
2,600.00	2,600.00	2,600.20	2,600.20	9.11	9.11	-90.52	-0.27	-30.00	30.00	11.78	18.22	1.646	Minor Risk
2,650.00	2,650.00	2,650.20	2,650.20	9.29	9.29	-90.52	-0.27	-30.00	30.00	11.42	18.58	1.615	Minor Risk
2,700.00	2,700.00	2,700.20	2,700.20	9.47	9.47	-90.52	-0.27	-30.00	30.00	11.06	18.94	1.584	Minor Risk, CC
2,750.00	2,750.00	2,750.20	2,750.20	9.64	9.65	137.48	-0.27	-30.00	30.16	10.87	19.29	1.564	Minor Risk, ES
2,800.00	2,799.99	2,800.19	2,800.19	9.81	9.83	138.31	-0.27	-30.00	30.64	11.01	19.64	1.560	Minor Risk, SF
2,850.00	2,849.98	2,850.18	2,850.18	9.98	10.01	139.62	-0.27	-30.00	31.47	11.48	19.98	1.575	Minor Risk
2,900.00	2,899.96	2,900.16	2,900.16	10.14	10.18	141.35	-0.27	-30.00	32.64	12.32	20.32	1.606	Minor Risk
2,950.00	2,949.92	2,950.12	2,950.12	10.31	10.36	143.40	-0.27	-30.00	34.20	13.53	20.67	1.655	Minor Risk
3,000.00	2,999.86	3,000.06	3,000.06	10.47	10.54	145.65	-0.27	-30.00	36.15	15.14	21.01	1.721	Minor Risk
3,050.00	3,049.79	3,049.99	3,049.99	10.64	10.72	147.87	-0.27	-30.00	38.36	17.00	21.36	1.796	Minor Risk
3,100.00	3,099.72	3,100.08	3,099.92	10.81	10.90	149.84	-0.27	-30.00	40.61	18.91	21.70	1.871	Minor Risk
3,150.00	3,149.66	3,149.86	3,149.86	10.97	11.08	151.61	-0.27	-30.00	42.91	20.86	22.05	1.946	Minor Risk
3,200.00	3,199.59	3,200.21	3,199.79	11.14	11.26	153.19	-0.27	-30.00	45.24	22.85	22.39	2.020	Minor Risk
3,250.00	3,249.52	3,249.72	3,249.72	11.31	11.44	154.62	-0.27	-30.00	47.61	24.87	22.74	2.093	Minor Risk
3,300.00	3,299.45	3,300.35	3,299.65	11.48	11.62	155.92	-0.27	-30.00	50.00	26.91	23.09	2.165	Minor Risk
3,350.00	3,349.38	3,349.58	3,349.58	11.65	11.79	157.09	-0.27	-30.00	52.41	28.98	23.43	2.237	Minor Risk
3,400.00	3,399.31	3,400.49	3,399.51	11.82	11.98	158.16	-0.27	-30.00	54.85	31.06	23.78	2.306	Minor Risk
3,450.00	3,449.24	3,449.44	3,449.44	11.99	12.15	159.14	-0.27	-30.00	57.30	33.17	24.13	2.375	Minor Risk

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Project:	Lea County (NAD83 New Mexico East)	**TVD Reference:**	RKB @ 3110.80ft
Reference Site:	Sec 15-T26S-R35E	**MD Reference:**	RKB @ 3110.80ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 15-T26S-R35E - Arena Roja Fed Unit 15-10 3H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
3,500.00	3,499.17	3,500.63	3,499.37	12.16	12.33	160.04	-0.27	-30.00	59.76	35.28	24.48	2.441	Minor Risk
3,550.00	3,549.10	3,549.30	3,549.30	12.33	12.51	160.86	-0.27	-30.00	62.25	37.42	24.83	2.507	Alert
3,600.00	3,599.03	3,600.77	3,599.23	12.50	12.69	161.63	-0.27	-30.00	64.74	39.56	25.18	2.571	Alert
3,650.00	3,648.96	3,649.16	3,649.16	12.67	12.87	162.33	-0.27	-30.00	67.24	41.72	25.52	2.634	Alert
3,700.00	3,698.89	3,700.91	3,699.09	12.85	13.05	162.99	-0.27	-30.00	69.75	43.88	25.88	2.695	Alert
3,750.00	3,748.82	3,749.02	3,749.02	13.02	13.22	163.60	-0.27	-30.00	72.28	46.05	26.22	2.756	Alert
3,800.00	3,798.75	3,801.05	3,798.95	13.19	13.41	164.17	-0.27	-30.00	74.80	48.22	26.58	2.814	Alert
3,850.00	3,848.68	3,848.88	3,848.88	13.36	13.58	164.70	-0.27	-30.00	77.34	50.42	26.92	2.873	Alert
3,900.00	3,898.62	3,901.18	3,898.82	13.54	13.77	165.20	-0.27	-30.00	79.88	52.60	27.28	2.928	Alert
3,950.00	3,948.55	3,948.75	3,948.75	13.71	13.94	165.67	-0.27	-30.00	82.43	54.81	27.62	2.984	Alert
4,000.00	3,998.48	4,001.32	3,998.68	13.88	14.13	166.11	-0.27	-30.00	84.98	57.00	27.98	3.037	Alert
4,050.00	4,048.41	4,048.61	4,048.61	14.06	14.30	166.52	-0.27	-30.00	87.54	59.22	28.32	3.091	Alert
4,100.00	4,098.34	4,101.46	4,098.54	14.23	14.49	166.91	-0.27	-30.00	90.10	61.42	28.69	3.141	Alert
4,150.00	4,148.27	4,148.47	4,148.47	14.41	14.66	167.28	-0.27	-30.00	92.67	63.64	29.03	3.192	Alert
4,200.00	4,198.20	4,201.60	4,198.40	14.58	14.85	167.63	-0.27	-30.00	95.24	65.85	29.39	3.240	Alert
4,250.00	4,248.13	4,248.33	4,248.33	14.76	15.01	167.96	-0.27	-30.00	97.81	68.08	29.73	3.290	Alert
4,300.00	4,298.06	4,301.74	4,298.26	14.93	15.20	168.27	-0.27	-30.00	100.39	70.29	30.09	3.336	Alert
4,350.00	4,347.99	4,348.19	4,348.19	15.11	15.37	168.57	-0.27	-30.00	102.96	72.53	30.43	3.383	Alert
4,400.00	4,397.92	4,401.88	4,398.12	15.28	15.56	168.85	-0.27	-30.00	105.55	74.75	30.80	3.427	Alert
4,450.00	4,447.85	4,448.05	4,448.05	15.46	15.73	169.12	-0.27	-30.00	108.13	76.99	31.14	3.472	Alert
4,500.00	4,497.78	4,502.02	4,497.98	15.63	15.92	169.38	-0.27	-30.00	110.72	79.21	31.51	3.514	Alert
4,550.00	4,547.71	4,547.91	4,547.91	15.81	16.09	169.62	-0.27	-30.00	113.30	81.46	31.84	3.558	Alert
4,600.00	4,597.64	4,602.16	4,597.84	15.99	16.28	169.86	-0.27	-30.00	115.89	83.68	32.21	3.598	Alert
4,650.00	4,647.58	4,647.78	4,647.78	16.16	16.44	170.08	-0.27	-30.00	118.49	85.93	32.55	3.640	Alert
4,700.00	4,697.51	4,702.29	4,697.71	16.34	16.64	170.30	-0.27	-30.00	121.08	88.16	32.92	3.678	Alert
4,750.00	4,747.44	4,747.64	4,747.64	16.51	16.80	170.50	-0.27	-30.00	123.67	90.42	33.26	3.719	Alert
4,800.00	4,797.37	4,802.43	4,797.57	16.69	17.00	170.70	-0.27	-30.00	126.27	92.64	33.63	3.755	Alert
4,850.00	4,847.30	4,847.50	4,847.50	16.87	17.16	170.89	-0.27	-30.00	128.87	94.91	33.96	3.794	Alert
4,900.00	4,897.23	4,902.57	4,897.43	17.04	17.36	171.07	-0.27	-30.00	131.47	97.13	34.34	3.829	Alert
4,950.00	4,947.16	4,947.36	4,947.36	17.22	17.52	171.24	-0.27	-30.00	134.07	99.40	34.67	3.867	Alert
5,000.00	4,997.09	4,997.29	4,997.29	17.40	17.70	171.41	-0.27	-30.00	136.67	101.65	35.02	3.902	Alert
5,050.00	5,047.02	5,046.97	5,046.97	17.58	17.87	171.48	-0.45	-30.16	139.32	103.95	35.37	3.939	Alert
5,100.00	5,096.95	5,096.62	5,096.61	17.75	18.04	171.32	-1.01	-30.70	142.06	106.35	35.71	3.978	Alert
5,150.00	5,146.88	5,146.24	5,146.22	17.93	18.20	170.97	-1.95	-31.62	144.90	108.85	36.05	4.019	Alert
5,200.00	5,196.81	5,195.83	5,195.77	18.11	18.36	170.42	-3.28	-32.90	147.86	111.47	36.39	4.063	Alert
5,250.00	5,246.74	5,245.37	5,245.26	18.29	18.53	169.70	-4.99	-34.56	150.94	114.21	36.72	4.110	Alert
5,300.00	5,296.67	5,294.86	5,294.65	18.47	18.69	168.81	-7.09	-36.58	154.16	117.10	37.06	4.160	Alert
5,350.00	5,346.60	5,344.58	5,344.26	18.64	18.85	167.82	-9.47	-38.89	157.51	120.11	37.40	4.212	Alert
5,400.00	5,396.54	5,394.39	5,393.96	18.82	19.02	166.86	-11.87	-41.21	160.91	123.18	37.74	4.264	Alert
5,450.00	5,446.47	5,444.20	5,443.67	19.00	19.18	165.94	-14.27	-43.53	164.36	126.28	38.08	4.316	Alert
5,500.00	5,496.40	5,505.98	5,493.37	19.18	19.39	165.06	-16.67	-45.84	167.84	129.38	38.46	4.364	Alert
5,550.00	5,546.33	5,543.83	5,543.07	19.36	19.51	164.21	-19.07	-48.16	171.36	132.61	38.76	4.421	Alert
5,600.00	5,596.26	5,606.36	5,592.77	19.54	19.72	163.40	-21.47	-50.48	174.92	135.78	39.14	4.469	Alert
5,650.00	5,646.19	5,643.46	5,642.47	19.71	19.85	162.62	-23.87	-52.80	178.51	139.07	39.44	4.526	Alert
5,700.00	5,696.12	5,706.73	5,692.17	19.89	20.06	161.87	-26.27	-55.12	182.14	142.31	39.83	4.573	Alert
5,750.00	5,746.05	5,743.08	5,741.87	20.07	20.18	161.16	-28.66	-57.44	185.79	145.66	40.13	4.630	Alert
5,800.00	5,795.98	5,807.11	5,791.57	20.25	20.40	160.47	-31.06	-59.76	189.47	148.95	40.52	4.676	Alert
5,850.00	5,845.91	5,842.71	5,841.28	20.43	20.51	159.80	-33.46	-62.08	193.18	152.37	40.81	4.733	Alert
5,900.00	5,895.84	5,892.52	5,890.98	20.61	20.68	159.16	-35.86	-64.40	196.91	155.75	41.16	4.784	Alert
5,950.00	5,945.77	5,942.33	5,940.68	20.79	20.85	158.55	-38.26	-66.72	200.67	159.17	41.50	4.835	Alert
6,000.00	5,995.70	6,007.85	5,990.38	20.97	21.07	157.95	-40.66	-69.03	204.45	162.55	41.90	4.879	Alert
6,050.00	6,045.63	6,041.96	6,040.08	21.15	21.19	157.38	-43.06	-71.35	208.25	166.05	42.19	4.936	Alert

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Project:	Lea County (NAD83 New Mexico East)	**TVD Reference:**	RKB @ 3110.80ft
Reference Site:	Sec 15-T26S-R35E	**MD Reference:**	RKB @ 3110.80ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 15-T26S-R35E - Arena Roja Fed Unit 15-10 3H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
6,100.00	6,095.57	6,091.77	6,089.78	21.32	21.36	156.83	-45.46	-73.67	212.06	169.53	42.54	4.985	Alert
6,150.00	6,145.50	6,141.59	6,139.48	21.50	21.53	156.30	-47.86	-75.99	215.90	173.02	42.88	5.035	
6,200.00	6,195.43	6,208.60	6,189.18	21.68	21.75	155.79	-50.26	-78.31	219.76	176.47	43.29	5.077	
6,250.00	6,245.36	6,241.21	6,238.89	21.86	21.87	155.29	-52.65	-80.63	223.63	180.06	43.58	5.132	
6,300.00	6,295.29	6,308.97	6,288.59	22.04	22.10	154.81	-55.05	-82.95	227.52	183.54	43.98	5.173	
6,350.00	6,345.22	6,340.84	6,338.29	22.22	22.21	154.35	-57.45	-85.27	231.42	187.15	44.27	5.228	
6,400.00	6,395.15	6,409.35	6,387.99	22.40	22.44	153.90	-59.85	-87.59	235.34	190.66	44.68	5.267	
6,450.00	6,445.08	6,440.47	6,437.69	22.58	22.55	153.47	-62.25	-89.91	239.27	194.31	44.96	5.321	
6,500.00	6,495.01	6,509.72	6,487.39	22.76	22.78	153.05	-64.65	-92.23	243.22	197.84	45.38	5.360	
6,550.00	6,544.94	6,540.09	6,537.09	22.94	22.89	152.65	-67.05	-94.54	247.18	201.52	45.66	5.413	
6,600.00	6,594.87	6,589.91	6,586.79	23.12	23.06	152.26	-69.45	-96.86	251.15	205.14	46.01	5.459	
6,650.00	6,644.80	6,639.72	6,636.50	23.30	23.23	151.88	-71.85	-99.18	255.13	208.77	46.36	5.504	
6,700.00	6,694.73	6,689.53	6,686.20	23.48	23.40	151.51	-74.25	-101.50	259.12	212.41	46.71	5.548	
6,750.00	6,744.66	6,739.34	6,735.90	23.66	23.58	151.15	-76.64	-103.82	263.12	216.07	47.06	5.592	
6,800.00	6,794.59	6,789.16	6,785.60	23.84	23.75	150.80	-79.04	-106.14	267.13	219.73	47.40	5.635	
6,850.00	6,844.53	6,838.97	6,835.30	24.02	23.92	150.47	-81.44	-108.46	271.16	223.40	47.75	5.678	
6,900.00	6,894.46	6,888.78	6,885.00	24.20	24.09	150.14	-83.84	-110.78	275.19	227.08	48.10	5.721	
6,950.00	6,944.39	6,938.60	6,934.70	24.38	24.26	149.83	-86.24	-113.10	279.23	230.77	48.45	5.763	
7,000.00	6,994.32	6,988.41	6,984.40	24.56	24.44	149.52	-88.64	-115.42	283.27	234.47	48.80	5.804	
7,050.00	7,044.25	7,038.22	7,034.11	24.74	24.61	149.22	-91.04	-117.73	287.33	238.17	49.16	5.845	
7,100.00	7,094.18	7,088.04	7,083.81	24.92	24.78	148.93	-93.44	-120.05	291.39	241.89	49.51	5.886	
7,150.00	7,144.11	7,137.85	7,133.51	25.10	24.96	148.64	-95.84	-122.37	295.46	245.60	49.86	5.926	
7,200.00	7,194.04	7,187.66	7,183.21	25.28	25.13	148.37	-98.24	-124.69	299.54	249.33	50.21	5.966	
7,250.00	7,243.97	7,237.48	7,232.91	25.46	25.30	148.10	-100.63	-127.01	303.62	253.06	50.56	6.005	
7,300.00	7,293.90	7,287.29	7,282.61	25.64	25.48	147.84	-103.03	-129.33	307.71	256.80	50.91	6.044	
7,350.00	7,343.83	7,337.10	7,332.31	25.83	25.65	147.59	-105.43	-131.65	311.81	260.55	51.26	6.083	
7,400.00	7,393.76	7,386.92	7,382.01	26.01	25.83	147.34	-107.83	-133.97	315.91	264.30	51.61	6.121	
7,450.00	7,443.69	7,436.73	7,431.72	26.19	26.00	147.10	-110.23	-136.29	320.02	268.05	51.97	6.158	
7,500.00	7,493.62	7,486.54	7,481.42	26.37	26.18	146.86	-112.63	-138.61	324.13	271.81	52.32	6.195	
7,550.00	7,543.55	7,536.35	7,531.12	26.55	26.35	146.64	-115.03	-140.92	328.25	275.58	52.67	6.232	
7,600.00	7,593.49	7,586.17	7,580.82	26.73	26.52	146.41	-117.43	-143.24	332.38	279.35	53.02	6.268	
7,650.00	7,643.42	7,635.98	7,630.52	26.91	26.70	146.19	-119.83	-145.56	336.50	283.13	53.38	6.304	
7,700.00	7,693.35	7,685.79	7,680.22	27.09	26.87	145.98	-122.23	-147.88	340.64	286.91	53.73	6.340	
7,750.00	7,743.28	7,735.61	7,729.92	27.27	27.05	145.78	-124.62	-150.20	344.78	290.69	54.08	6.375	
7,800.00	7,793.21	7,785.42	7,779.62	27.45	27.23	145.57	-127.02	-152.52	348.92	294.48	54.44	6.410	
7,850.00	7,843.14	7,835.23	7,829.33	27.63	27.40	145.37	-129.42	-154.84	353.06	298.27	54.79	6.444	
7,900.00	7,893.07	7,885.05	7,879.03	27.81	27.58	145.18	-131.82	-157.16	357.21	302.07	55.14	6.478	
7,950.00	7,943.00	7,934.86	7,928.73	28.00	27.75	144.99	-134.22	-159.48	361.37	305.87	55.50	6.511	
8,000.00	7,992.93	7,984.67	7,978.43	28.18	27.93	144.81	-136.62	-161.80	365.53	309.68	55.85	6.545	
8,050.00	8,042.86	8,034.49	8,028.13	28.36	28.10	144.63	-139.02	-164.12	369.69	313.48	56.21	6.577	
8,100.00	8,092.79	8,084.30	8,077.83	28.54	28.28	144.45	-141.42	-166.43	373.86	317.30	56.56	6.610	
8,150.00	8,142.72	8,134.11	8,127.53	28.72	28.46	144.28	-143.82	-168.75	378.02	321.11	56.91	6.642	
8,200.00	8,192.65	8,183.93	8,177.23	28.90	28.63	144.11	-146.22	-171.07	382.20	324.93	57.27	6.674	
8,250.00	8,242.58	8,233.74	8,226.94	29.08	28.81	143.95	-148.61	-173.39	386.37	328.75	57.62	6.705	
8,300.00	8,292.51	8,283.55	8,276.64	29.26	28.99	143.78	-151.01	-175.71	390.55	332.57	57.98	6.736	
8,350.00	8,342.45	8,333.36	8,326.34	29.44	29.16	143.63	-153.41	-178.03	394.73	336.40	58.33	6.767	
8,400.00	8,392.38	8,383.18	8,376.04	29.63	29.34	143.47	-155.81	-180.35	398.92	340.23	58.69	6.797	
8,450.00	8,442.31	8,432.99	8,425.74	29.81	29.52	143.32	-158.21	-182.67	403.10	344.06	59.04	6.827	
8,500.00	8,492.24	8,482.80	8,475.44	29.99	29.69	143.17	-160.61	-184.99	407.30	347.90	59.40	6.857	
8,550.00	8,542.17	8,532.62	8,525.14	30.17	29.87	143.03	-163.01	-187.31	411.49	351.73	59.75	6.886	
8,600.00	8,592.10	8,582.43	8,574.84	30.35	30.05	142.88	-165.41	-189.62	415.68	355.57	60.11	6.916	
8,650.00	8,642.03	8,632.24	8,624.55	30.53	30.22	142.75	-167.81	-191.94	419.88	359.42	60.46	6.944	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Project:	Lea County (NAD83 New Mexico East)	**TVD Reference:**	RKB @ 3110.80ft
Reference Site:	Sec 15-T26S-R35E	**MD Reference:**	RKB @ 3110.80ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 15-T26S-R35E - Arena Roja Fed Unit 15-10 3H - Wellbore #1 - Permit Plan 1

Survey Program: 0-MWD+HDGM

Offset Site Error: 0.00 ft

Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
8,700.00	8,691.96	8,682.06	8,674.25	30.71	30.40	142.61	-170.21	-194.26	424.08	363.26	60.82	6.973	
8,750.00	8,741.89	8,731.87	8,723.95	30.90	30.58	142.47	-172.60	-196.58	428.28	367.11	61.18	7.001	
8,800.00	8,791.82	8,781.68	8,773.65	31.08	30.76	142.34	-175.00	-198.90	432.49	370.96	61.53	7.029	
8,850.00	8,841.75	8,831.50	8,823.35	31.26	30.93	142.21	-177.40	-201.22	436.70	374.81	61.89	7.056	
8,900.00	8,891.68	8,881.31	8,873.05	31.44	31.11	142.09	-179.80	-203.54	440.91	378.66	62.24	7.084	
8,950.00	8,941.61	8,931.12	8,922.75	31.62	31.29	141.96	-182.20	-205.86	445.12	382.52	62.60	7.111	
9,000.00	8,991.54	8,980.94	8,972.45	31.80	31.47	141.84	-184.60	-208.18	449.33	386.37	62.96	7.137	
9,050.00	9,041.48	9,030.75	9,022.16	31.98	31.64	141.72	-187.00	-210.50	453.55	390.23	63.31	7.164	
9,100.00	9,091.41	9,080.56	9,071.86	32.17	31.82	141.60	-189.40	-212.82	457.76	394.09	63.67	7.190	
9,150.00	9,141.34	9,130.38	9,121.56	32.35	32.00	141.49	-191.80	-215.13	461.98	397.96	64.03	7.216	
9,200.00	9,191.27	9,180.19	9,171.26	32.53	32.18	141.38	-194.20	-217.45	466.20	401.82	64.38	7.241	
9,250.00	9,241.20	9,230.00	9,220.96	32.71	32.36	141.27	-196.59	-219.77	470.43	405.69	64.74	7.267	
9,300.00	9,291.13	9,279.81	9,270.66	32.89	32.54	141.16	-198.99	-222.09	474.65	409.56	65.10	7.292	
9,350.00	9,341.06	9,329.63	9,320.36	33.07	32.71	141.05	-201.39	-224.41	478.88	413.43	65.45	7.316	
9,400.00	9,390.99	9,379.44	9,370.07	33.26	32.89	140.94	-203.79	-226.73	483.11	417.30	65.81	7.341	
9,450.00	9,440.92	9,429.25	9,419.77	33.44	33.07	140.84	-206.19	-229.05	487.34	421.17	66.17	7.365	
9,500.00	9,490.85	9,479.07	9,469.47	33.62	33.25	140.74	-208.59	-231.37	491.57	425.04	66.52	7.389	
9,550.00	9,540.78	9,528.88	9,519.17	33.80	33.43	140.64	-210.99	-233.69	495.80	428.92	66.88	7.413	
9,600.00	9,590.71	9,578.69	9,568.87	33.98	33.61	140.54	-213.39	-236.01	500.03	432.79	67.24	7.437	
9,650.00	9,640.64	9,628.51	9,618.57	34.16	33.79	140.44	-215.79	-238.32	504.27	436.67	67.60	7.460	
9,700.00	9,690.57	9,678.32	9,668.27	34.35	33.96	140.35	-218.19	-240.64	508.51	440.55	67.95	7.483	
9,750.00	9,740.50	9,728.13	9,717.97	34.53	34.14	140.26	-220.58	-242.96	512.74	444.43	68.31	7.506	
9,800.00	9,790.44	9,777.95	9,767.68	34.71	34.32	140.16	-222.98	-245.28	516.98	448.31	68.67	7.529	
9,850.00	9,840.37	9,827.76	9,817.38	34.89	34.50	140.07	-225.38	-247.60	521.22	452.20	69.03	7.551	
9,900.00	9,890.30	9,877.57	9,867.08	35.07	34.68	139.98	-227.78	-249.92	525.47	456.08	69.38	7.573	
9,950.00	9,940.23	9,927.39	9,916.78	35.25	34.86	139.90	-230.18	-252.24	529.71	459.97	69.74	7.595	
10,000.00	9,990.16	9,977.20	9,966.48	35.44	35.04	139.81	-232.58	-254.56	533.95	463.85	70.10	7.617	
10,050.00	10,040.09	10,027.01	10,016.18	35.62	35.22	139.73	-234.98	-256.88	538.20	467.74	70.46	7.639	
10,100.00	10,090.02	10,076.82	10,065.88	35.80	35.40	139.64	-237.38	-259.20	542.45	471.63	70.82	7.660	
10,150.00	10,139.95	10,126.64	10,115.58	35.98	35.58	139.56	-239.78	-261.51	546.69	475.52	71.17	7.681	
10,200.00	10,189.88	10,176.45	10,165.29	36.16	35.76	139.48	-242.18	-263.83	550.94	479.41	71.53	7.702	
10,250.00	10,239.81	10,226.26	10,214.99	36.35	35.94	139.40	-244.57	-266.15	555.19	483.30	71.89	7.723	
10,300.00	10,289.74	10,276.08	10,264.69	36.53	36.12	139.32	-246.97	-268.47	559.45	487.20	72.25	7.743	
10,350.00	10,339.67	10,325.89	10,314.39	36.71	36.30	139.24	-249.37	-270.79	563.70	491.09	72.61	7.764	
10,400.00	10,389.60	10,375.70	10,364.09	36.89	36.48	139.17	-251.77	-273.11	567.95	494.98	72.97	7.784	
10,450.00	10,439.53	10,425.52	10,413.79	37.07	36.65	139.09	-254.17	-275.43	572.21	498.88	73.32	7.804	
10,500.00	10,489.46	10,475.33	10,463.49	37.26	36.83	139.02	-256.57	-277.75	576.46	502.78	73.68	7.823	
10,550.00	10,539.40	10,525.14	10,513.19	37.44	37.01	138.95	-258.97	-280.07	580.72	506.67	74.04	7.843	
10,600.00	10,589.33	10,574.96	10,562.90	37.62	37.19	138.87	-261.37	-282.39	584.97	510.57	74.40	7.862	
10,650.00	10,639.26	10,624.77	10,612.60	37.80	37.37	138.80	-263.77	-284.71	589.23	514.47	74.76	7.882	
10,700.00	10,689.19	10,674.58	10,662.30	37.98	37.55	138.73	-266.17	-287.02	593.49	518.37	75.12	7.901	
10,750.00	10,739.12	10,724.40	10,712.00	38.17	37.73	138.66	-268.56	-289.34	597.75	522.27	75.48	7.920	
10,800.00	10,789.05	10,774.21	10,761.70	38.35	37.91	138.60	-270.96	-291.66	602.01	526.17	75.84	7.938	
10,850.00	10,838.98	10,824.02	10,811.40	38.53	38.09	138.53	-273.36	-293.98	606.27	530.08	76.20	7.957	
10,900.00	10,888.91	10,873.83	10,861.10	38.71	38.28	138.46	-275.76	-296.30	610.53	533.98	76.55	7.975	
10,950.00	10,938.84	10,923.65	10,910.80	38.89	38.46	138.40	-278.16	-298.62	614.80	537.88	76.91	7.993	
11,000.00	10,988.77	10,973.46	10,960.51	39.08	38.64	138.34	-280.56	-300.94	619.06	541.79	77.27	8.011	
11,050.00	11,038.70	11,023.27	11,010.21	39.26	38.82	138.27	-282.96	-303.26	623.33	545.69	77.63	8.029	
11,100.00	11,088.63	11,073.09	11,059.91	39.44	39.00	138.21	-285.36	-305.58	627.59	549.60	77.99	8.047	
11,150.00	11,138.56	11,122.90	11,109.61	39.62	39.18	138.15	-287.76	-307.90	631.86	553.51	78.35	8.064	
11,200.00	11,188.49	11,172.71	11,159.31	39.81	39.36	138.09	-290.16	-310.21	636.12	557.41	78.71	8.082	
11,250.00	11,238.43	11,222.53	11,209.02	39.99	39.54	138.05	-292.55	-312.53	640.32	561.25	79.07	8.098	

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Project:	Lea County (NAD83 New Mexico East)	**TVD Reference:**	RKB @ 3110.80ft
Reference Site:	Sec 15-T26S-R35E	**MD Reference:**	RKB @ 3110.80ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 15-T26S-R35E - Arena Roja Fed Unit 15-10 3H - Wellbore #1 - Permit Plan 1

Offset Site Error: 0.00 ft

Survey Program: 0-MWD+HDGM

Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
11,300.00	11,288.39	11,274.71	11,261.08	40.17	39.73	137.98	-295.03	-314.93	644.04	564.60	79.45	8.107	
11,350.00	11,338.37	11,331.23	11,317.51	40.35	39.93	137.90	-297.24	-317.06	646.88	567.04	79.85	8.102	
11,400.00	11,388.37	11,387.84	11,374.08	40.53	40.13	137.82	-298.85	-318.62	648.73	568.49	80.24	8.084	
11,450.00	11,438.37	11,444.51	11,430.74	40.70	40.33	-89.99	-299.86	-319.60	649.64	569.02	80.63	8.058	
11,500.00	11,488.37	11,501.22	11,487.44	40.86	40.53	-90.02	-300.26	-319.99	649.99	568.99	81.00	8.025	
11,550.00	11,538.37	11,552.35	11,538.57	41.03	40.71	-90.02	-300.27	-320.00	650.00	568.65	81.34	7.991	
11,600.00	11,588.37	11,602.35	11,588.57	41.20	40.88	-90.02	-300.27	-320.00	650.00	568.31	81.69	7.957	
11,650.00	11,638.37	11,652.35	11,638.57	41.37	41.05	-90.02	-300.27	-320.00	650.00	567.97	82.03	7.924	
11,700.00	11,688.37	11,702.35	11,688.57	41.54	41.22	-90.02	-300.27	-320.00	650.00	567.63	82.37	7.891	
11,750.00	11,738.37	11,752.35	11,738.57	41.70	41.40	-90.02	-300.27	-320.00	650.00	567.29	82.71	7.859	
11,800.00	11,788.36	11,802.34	11,788.56	41.87	41.57	-89.53	-300.27	-320.00	649.99	566.94	83.05	7.826	
11,850.00	11,838.14	11,852.12	11,838.34	42.04	41.74	-89.93	-300.27	-320.00	649.97	566.58	83.39	7.795	
11,856.19	11,844.27	11,858.25	11,844.47	42.06	41.76	-90.00	-300.27	-320.00	649.97	566.54	83.43	7.791	
11,900.00	11,887.35	11,901.83	11,888.01	42.19	41.91	-90.57	-298.81	-320.01	650.00	566.28	83.72	7.764	
11,950.00	11,935.60	11,952.17	11,938.01	42.34	42.08	-91.21	-293.01	-320.06	650.12	566.08	84.04	7.736	
12,000.00	11,982.53	12,003.19	11,987.95	42.49	42.24	-91.85	-282.68	-320.16	650.32	565.97	84.35	7.710	
12,050.00	12,027.78	12,054.91	12,037.44	42.62	42.40	-92.48	-267.71	-320.31	650.59	565.95	84.64	7.686	
12,100.00	12,071.01	12,107.35	12,086.03	42.74	42.55	-93.10	-248.05	-320.49	650.94	566.02	84.92	7.665	
12,150.00	12,111.89	12,160.49	12,133.24	42.86	42.68	-93.69	-223.68	-320.73	651.35	566.16	85.18	7.646	
12,200.00	12,150.10	12,214.36	12,178.57	42.96	42.81	-94.26	-194.62	-321.00	651.80	566.38	85.42	7.630	
12,250.00	12,185.37	12,268.93	12,221.50	43.06	42.93	-94.80	-160.98	-321.33	652.29	566.64	85.65	7.616	
12,300.00	12,217.41	12,324.18	12,261.52	43.15	43.04	-95.30	-122.91	-321.69	652.80	566.95	85.85	7.604	
12,350.00	12,245.98	12,380.09	12,298.09	43.23	43.14	-95.76	-80.65	-322.09	653.31	567.27	86.04	7.593	
12,400.00	12,270.87	12,436.61	12,330.69	43.32	43.23	-96.18	-34.51	-322.53	653.80	567.58	86.21	7.584	
12,450.00	12,291.89	12,493.69	12,358.85	43.40	43.33	-96.54	15.11	-323.01	654.25	567.88	86.38	7.574	
12,500.00	12,308.88	12,551.25	12,382.10	43.49	43.42	-96.85	67.74	-323.51	654.66	568.12	86.54	7.565	
12,550.00	12,321.70	12,609.24	12,400.06	43.57	43.52	-97.09	122.84	-324.04	654.99	568.30	86.70	7.555	
12,600.00	12,330.27	12,667.55	12,412.42	43.66	43.62	-97.28	179.80	-324.58	655.25	568.39	86.87	7.543	
12,650.00	12,334.51	12,726.09	12,418.95	43.75	43.72	-97.40	237.95	-325.14	655.43	568.38	87.05	7.530	
12,700.00	12,335.00	12,781.22	12,420.00	43.84	43.82	-97.43	293.05	-325.66	655.48	568.25	87.23	7.514	
12,750.00	12,335.00	12,831.22	12,420.00	43.95	43.92	-97.43	343.05	-326.14	655.48	568.04	87.44	7.496	
12,800.00	12,335.00	12,881.22	12,420.00	44.06	44.03	-97.43	393.05	-326.62	655.48	567.82	87.66	7.478	
12,850.00	12,335.00	12,931.22	12,420.00	44.19	44.16	-97.43	443.05	-327.09	655.48	567.56	87.91	7.456	
12,900.00	12,335.00	12,981.22	12,420.00	44.32	44.29	-97.43	493.04	-327.57	655.48	567.30	88.18	7.434	
12,950.00	12,335.00	13,031.22	12,420.00	44.48	44.44	-97.43	543.04	-328.05	655.48	567.00	88.48	7.408	
13,000.00	12,335.00	13,081.22	12,420.00	44.64	44.60	-97.43	593.04	-328.53	655.48	566.69	88.79	7.383	
13,050.00	12,335.00	13,131.22	12,420.00	44.82	44.77	-97.43	643.04	-329.00	655.48	566.35	89.13	7.354	
13,100.00	12,335.00	13,181.22	12,420.00	44.99	44.95	-97.43	693.03	-329.48	655.48	565.99	89.49	7.325	
13,150.00	12,335.00	13,231.22	12,420.00	45.20	45.14	-97.43	743.03	-329.96	655.48	565.61	89.87	7.293	
13,200.00	12,335.00	13,281.22	12,420.00	45.40	45.34	-97.43	793.03	-330.44	655.48	565.21	90.27	7.261	
13,250.00	12,335.00	13,331.22	12,420.00	45.62	45.56	-97.43	843.03	-330.91	655.48	564.78	90.70	7.227	
13,300.00	12,335.00	13,381.22	12,420.00	45.84	45.78	-97.43	893.03	-331.39	655.48	564.34	91.14	7.192	
13,350.00	12,335.00	13,431.22	12,420.00	46.08	46.01	-97.43	943.02	-331.87	655.48	563.87	91.61	7.155	
13,400.00	12,335.00	13,481.22	12,420.00	46.33	46.26	-97.43	993.02	-332.35	655.48	563.39	92.09	7.118	
13,450.00	12,335.00	13,531.22	12,420.00	46.59	46.51	-97.43	1,043.02	-332.82	655.48	562.87	92.61	7.078	
13,500.00	12,335.00	13,581.22	12,420.00	46.85	46.77	-97.43	1,093.02	-333.30	655.48	562.35	93.13	7.039	
13,550.00	12,335.00	13,631.22	12,420.00	47.13	47.05	-97.43	1,143.01	-333.78	655.48	561.80	93.68	6.997	
13,600.00	12,335.00	13,681.22	12,420.00	47.42	47.33	-97.43	1,193.01	-334.26	655.48	561.24	94.24	6.956	
13,650.00	12,335.00	13,731.22	12,420.00	47.72	47.63	-97.43	1,243.01	-334.73	655.48	560.66	94.83	6.912	
13,700.00	12,335.00	13,781.22	12,420.00	48.02	47.93	-97.43	1,293.01	-335.21	655.48	560.06	95.42	6.869	
13,750.00	12,335.00	13,831.22	12,420.00	48.34	48.24	-97.43	1,343.00	-335.69	655.48	559.44	96.05	6.825	
13,800.00	12,335.00	13,881.22	12,420.00	48.65	48.56	-97.43	1,393.00	-336.17	655.48	558.80	96.68	6.780	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Project:	Lea County (NAD83 New Mexico East)	**TVD Reference:**	RKB @ 3110.80ft
Reference Site:	Sec 15-T26S-R35E	**MD Reference:**	RKB @ 3110.80ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 15-T26S-R35E - Arena Roja Fed Unit 15-10 3H - Wellbore #1 - Permit Plan 1

Offset Site Error: 0.00 ft

Survey Program: 0-MWD+HDGM

Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
13,850.00	12,335.00	13,931.22	12,420.00	48.99	48.89	-97.43	1,443.00	-336.64	655.48	558.14	97.34	6.734	
13,900.00	12,335.00	13,981.22	12,420.00	49.33	49.22	-97.43	1,493.00	-337.12	655.48	557.48	98.00	6.688	
13,950.00	12,335.00	14,031.22	12,420.00	49.68	49.57	-97.43	1,543.00	-337.60	655.48	556.79	98.70	6.641	
14,000.00	12,335.00	14,081.22	12,420.00	50.03	49.92	-97.43	1,592.99	-338.08	655.48	556.09	99.40	6.595	
14,050.00	12,335.00	14,131.22	12,420.00	50.40	50.28	-97.43	1,642.99	-338.55	655.48	555.36	100.12	6.547	
14,100.00	12,335.00	14,181.22	12,420.00	50.77	50.65	-97.43	1,692.99	-339.03	655.48	554.63	100.85	6.499	
14,150.00	12,335.00	14,231.22	12,420.00	51.15	51.03	-97.43	1,742.99	-339.51	655.48	553.88	101.61	6.451	
14,200.00	12,335.00	14,281.22	12,420.00	51.53	51.41	-97.43	1,792.98	-339.99	655.48	553.11	102.37	6.403	
14,250.00	12,335.00	14,331.22	12,420.00	51.93	51.80	-97.43	1,842.98	-340.46	655.48	552.33	103.15	6.354	
14,300.00	12,335.00	14,381.22	12,420.00	52.33	52.20	-97.43	1,892.98	-340.94	655.48	551.54	103.94	6.306	
14,350.00	12,335.00	14,431.22	12,420.00	52.74	52.61	-97.43	1,942.98	-341.42	655.48	550.73	104.76	6.257	
14,400.00	12,335.00	14,481.22	12,420.00	53.15	53.02	-97.43	1,992.98	-341.90	655.48	549.91	105.58	6.209	
14,450.00	12,335.00	14,531.22	12,420.00	53.58	53.44	-97.43	2,042.97	-342.37	655.48	549.07	106.41	6.160	
14,500.00	12,335.00	14,581.22	12,420.00	54.00	53.87	-97.43	2,092.97	-342.85	655.48	548.23	107.26	6.111	
14,550.00	12,335.00	14,631.22	12,420.00	54.44	54.30	-97.43	2,142.97	-343.33	655.48	547.36	108.12	6.062	
14,600.00	12,335.00	14,681.22	12,420.00	54.88	54.74	-97.43	2,192.97	-343.81	655.48	546.49	108.99	6.014	
14,650.00	12,335.00	14,731.22	12,420.00	55.33	55.18	-97.43	2,242.96	-344.28	655.49	545.60	109.88	5.965	
14,700.00	12,335.00	14,781.22	12,420.00	55.78	55.63	-97.43	2,292.96	-344.76	655.49	544.71	110.78	5.917	
14,750.00	12,335.00	14,831.22	12,420.00	56.24	56.09	-97.43	2,342.96	-345.24	655.49	543.80	111.69	5.869	
14,800.00	12,335.00	14,881.22	12,420.00	56.70	56.55	-97.43	2,392.96	-345.72	655.49	542.88	112.61	5.821	
14,850.00	12,335.00	14,931.22	12,420.00	57.17	57.02	-97.43	2,442.95	-346.19	655.49	541.95	113.54	5.773	
14,900.00	12,335.00	14,981.22	12,420.00	57.64	57.49	-97.43	2,492.95	-346.67	655.49	541.01	114.48	5.726	
14,950.00	12,335.00	15,031.22	12,420.00	58.12	57.97	-97.43	2,542.95	-347.15	655.49	540.05	115.43	5.679	
15,000.00	12,335.00	15,081.22	12,420.00	58.61	58.45	-97.43	2,592.95	-347.63	655.49	539.09	116.39	5.632	
15,050.00	12,335.00	15,131.22	12,420.00	59.10	58.94	-97.43	2,642.95	-348.10	655.49	538.12	117.37	5.585	
15,100.00	12,335.00	15,181.22	12,420.00	59.59	59.43	-97.43	2,692.94	-348.58	655.49	537.14	118.35	5.539	
15,150.00	12,335.00	15,231.22	12,420.00	60.09	59.93	-97.43	2,742.94	-349.06	655.49	536.15	119.34	5.493	
15,200.00	12,335.00	15,281.22	12,420.00	60.59	60.43	-97.43	2,792.94	-349.54	655.49	535.15	120.34	5.447	
15,250.00	12,335.00	15,331.22	12,420.00	61.11	60.94	-97.43	2,842.94	-350.01	655.49	534.14	121.35	5.402	
15,300.00	12,335.00	15,381.22	12,420.00	61.62	61.45	-97.43	2,892.93	-350.49	655.49	533.12	122.36	5.357	
15,350.00	12,335.00	15,431.22	12,420.00	62.14	61.97	-97.43	2,942.93	-350.97	655.49	532.09	123.39	5.312	
15,400.00	12,335.00	15,481.22	12,420.00	62.65	62.49	-97.43	2,992.93	-351.44	655.49	531.06	124.43	5.268	
15,450.00	12,335.00	15,531.22	12,420.00	63.18	63.01	-97.43	3,042.93	-351.92	655.49	530.02	125.47	5.224	
15,500.00	12,335.00	15,581.22	12,420.00	63.71	63.54	-97.43	3,092.93	-352.40	655.49	528.97	126.52	5.181	
15,550.00	12,335.00	15,631.22	12,420.00	64.24	64.07	-97.43	3,142.92	-352.88	655.49	527.91	127.58	5.138	
15,600.00	12,335.00	15,681.22	12,420.00	64.78	64.60	-97.43	3,192.92	-353.35	655.49	526.84	128.64	5.095	
15,650.00	12,335.00	15,731.22	12,420.00	65.32	65.14	-97.43	3,242.92	-353.83	655.49	525.77	129.72	5.053	
15,700.00	12,335.00	15,781.22	12,420.00	65.86	65.69	-97.43	3,292.92	-354.31	655.49	524.69	130.80	5.011	
15,750.00	12,335.00	15,831.22	12,420.00	66.41	66.23	-97.43	3,342.91	-354.79	655.49	523.60	131.89	4.970	Alert
15,800.00	12,335.00	15,881.22	12,420.00	66.96	66.78	-97.43	3,392.91	-355.26	655.49	522.51	132.98	4.929	Alert
15,850.00	12,335.00	15,931.22	12,420.00	67.52	67.34	-97.43	3,442.91	-355.74	655.49	521.41	134.08	4.889	Alert
15,900.00	12,335.00	15,981.22	12,420.00	68.08	67.89	-97.43	3,492.91	-356.22	655.49	520.30	135.19	4.849	Alert
15,950.00	12,335.00	16,031.22	12,420.00	68.64	68.45	-97.43	3,542.90	-356.70	655.49	519.18	136.31	4.809	Alert
16,000.00	12,335.00	16,081.22	12,420.00	69.20	69.02	-97.43	3,592.90	-357.17	655.49	518.07	137.42	4.770	Alert
16,050.00	12,335.00	16,131.22	12,420.00	69.77	69.58	-97.43	3,642.90	-357.65	655.49	516.94	138.55	4.731	Alert
16,100.00	12,335.00	16,181.22	12,420.00	70.34	70.15	-97.43	3,692.90	-358.13	655.49	515.81	139.68	4.693	Alert
16,150.00	12,335.00	16,231.22	12,420.00	70.91	70.72	-97.43	3,742.90	-358.61	655.49	514.67	140.82	4.655	Alert
16,200.00	12,335.00	16,281.22	12,420.00	71.48	71.30	-97.43	3,792.89	-359.08	655.49	513.53	141.96	4.617	Alert
16,250.00	12,335.00	16,331.22	12,420.00	72.06	71.87	-97.43	3,842.89	-359.56	655.49	512.38	143.11	4.580	Alert
16,300.00	12,335.00	16,381.22	12,420.00	72.64	72.45	-97.43	3,892.89	-360.04	655.49	511.23	144.26	4.544	Alert
16,350.00	12,335.00	16,431.22	12,420.00	73.23	73.04	-97.43	3,942.89	-360.52	655.49	510.06	145.43	4.507	Alert
16,400.00	12,335.00	16,481.22	12,420.00	73.81	73.62	-97.43	3,992.88	-360.99	655.49	508.90	146.59	4.472	Alert

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Project:	Lea County (NAD83 New Mexico East)	**TVD Reference:**	RKB @ 3110.80ft
Reference Site:	Sec 15-T26S-R35E	**MD Reference:**	RKB @ 3110.80ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 15-T26S-R35E - Arena Roja Fed Unit 15-10 3H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
16,450.00	12,335.00	16,531.22	12,420.00	74.40	74.21	-97.43	4,042.88	-361.47	655.49	507.73	147.76	4.436	Alert
16,500.00	12,335.00	16,581.22	12,420.00	74.99	74.80	-97.43	4,092.88	-361.95	655.49	506.56	148.93	4.401	Alert
16,550.00	12,335.00	16,631.22	12,420.00	75.59	75.39	-97.43	4,142.88	-362.43	655.49	505.38	150.11	4.367	Alert
16,600.00	12,335.00	16,681.22	12,420.00	76.18	75.99	-97.43	4,192.88	-362.90	655.49	504.20	151.29	4.333	Alert
16,650.00	12,335.00	16,731.22	12,420.00	76.78	76.58	-97.43	4,242.87	-363.38	655.49	503.01	152.48	4.299	Alert
16,700.00	12,335.00	16,781.22	12,420.00	77.38	77.18	-97.43	4,292.87	-363.86	655.49	501.82	153.67	4.265	Alert
16,750.00	12,335.00	16,831.22	12,420.00	77.98	77.78	-97.43	4,342.87	-364.34	655.49	500.62	154.87	4.232	Alert
16,800.00	12,335.00	16,881.22	12,420.00	78.59	78.39	-97.43	4,392.87	-364.81	655.49	499.42	156.07	4.200	Alert
16,850.00	12,335.00	16,931.22	12,420.00	79.19	78.99	-97.43	4,442.86	-365.29	655.49	498.21	157.28	4.168	Alert
16,900.00	12,335.00	16,981.22	12,420.00	79.80	79.60	-97.43	4,492.86	-365.77	655.49	497.01	158.49	4.136	Alert
16,950.00	12,335.00	17,031.22	12,420.00	80.41	80.21	-97.43	4,542.86	-366.25	655.49	495.79	159.70	4.105	Alert
17,000.00	12,335.00	17,081.22	12,420.00	81.02	80.82	-97.43	4,592.86	-366.72	655.49	494.58	160.92	4.074	Alert
17,050.00	12,335.00	17,131.22	12,420.00	81.64	81.44	-97.43	4,642.85	-367.20	655.49	493.36	162.14	4.043	Alert
17,100.00	12,335.00	17,181.22	12,420.00	82.25	82.05	-97.43	4,692.85	-367.68	655.49	492.13	163.36	4.013	Alert
17,150.00	12,335.00	17,231.22	12,420.00	82.87	82.67	-97.43	4,742.85	-368.16	655.49	490.90	164.59	3.983	Alert
17,200.00	12,335.00	17,281.22	12,420.00	83.49	83.29	-97.43	4,792.85	-368.63	655.49	489.67	165.82	3.953	Alert
17,250.00	12,335.00	17,331.22	12,420.00	84.11	83.91	-97.43	4,842.85	-369.11	655.49	488.44	167.06	3.924	Alert
17,300.00	12,335.00	17,381.22	12,420.00	84.74	84.53	-97.43	4,892.84	-369.59	655.49	487.20	168.29	3.895	Alert
17,350.00	12,335.00	17,431.22	12,420.00	85.36	85.15	-97.43	4,942.84	-370.07	655.49	485.96	169.54	3.866	Alert
17,400.00	12,335.00	17,481.22	12,420.00	85.99	85.78	-97.43	4,992.84	-370.54	655.49	484.72	170.78	3.838	Alert
17,450.00	12,335.00	17,531.22	12,420.00	86.62	86.41	-97.43	5,042.84	-371.02	655.49	483.47	172.03	3.810	Alert
17,500.00	12,335.00	17,581.22	12,420.00	87.24	87.04	-97.43	5,092.83	-371.50	655.49	482.22	173.28	3.783	Alert
17,550.00	12,335.00	17,631.22	12,420.00	87.88	87.67	-97.43	5,142.83	-371.98	655.49	480.96	174.53	3.756	Alert
17,600.00	12,335.00	17,681.22	12,420.00	88.51	88.30	-97.43	5,192.83	-372.45	655.49	479.71	175.79	3.729	Alert
17,650.00	12,335.00	17,731.22	12,420.00	89.14	88.93	-97.43	5,242.83	-372.93	655.49	478.45	177.05	3.702	Alert
17,700.00	12,335.00	17,781.22	12,420.00	89.78	89.57	-97.43	5,292.82	-373.41	655.50	477.19	178.31	3.676	Alert
17,750.00	12,335.00	17,831.22	12,420.00	90.41	90.20	-97.43	5,342.82	-373.89	655.50	475.92	179.58	3.650	Alert
17,800.00	12,335.00	17,881.22	12,420.00	91.05	90.84	-97.43	5,392.82	-374.36	655.50	474.65	180.84	3.625	Alert
17,850.00	12,335.00	17,931.22	12,420.00	91.69	91.48	-97.43	5,442.82	-374.84	655.50	473.38	182.11	3.599	Alert
17,900.00	12,335.00	17,981.22	12,420.00	92.33	92.12	-97.43	5,492.82	-375.32	655.50	472.11	183.39	3.574	Alert
17,950.00	12,335.00	18,031.22	12,420.00	92.97	92.76	-97.43	5,542.81	-375.80	655.50	470.83	184.66	3.550	Alert
18,000.00	12,335.00	18,081.22	12,420.00	93.61	93.40	-97.43	5,592.81	-376.27	655.50	469.56	185.94	3.525	Alert
18,050.00	12,335.00	18,131.22	12,420.00	94.26	94.05	-97.43	5,642.81	-376.75	655.50	468.28	187.22	3.501	Alert
18,100.00	12,335.00	18,181.22	12,420.00	94.90	94.69	-97.43	5,692.81	-377.23	655.50	466.99	188.50	3.477	Alert
18,150.00	12,335.00	18,231.22	12,420.00	95.55	95.34	-97.43	5,742.80	-377.71	655.50	465.71	189.79	3.454	Alert
18,200.00	12,335.00	18,281.22	12,420.00	96.20	95.98	-97.43	5,792.80	-378.18	655.50	464.42	191.08	3.431	Alert
18,250.00	12,335.00	18,331.22	12,420.00	96.85	96.63	-97.43	5,842.80	-378.66	655.50	463.13	192.37	3.408	Alert
18,300.00	12,335.00	18,381.22	12,420.00	97.50	97.28	-97.43	5,892.80	-379.14	655.50	461.84	193.66	3.385	Alert
18,350.00	12,335.00	18,431.22	12,420.00	98.15	97.93	-97.43	5,942.80	-379.62	655.50	460.54	194.95	3.362	Alert
18,400.00	12,335.00	18,481.22	12,420.00	98.80	98.58	-97.43	5,992.79	-380.09	655.50	459.25	196.25	3.340	Alert
18,450.00	12,335.00	18,531.22	12,420.00	99.45	99.24	-97.43	6,042.79	-380.57	655.50	457.95	197.55	3.318	Alert
18,500.00	12,335.00	18,581.22	12,420.00	100.11	99.89	-97.43	6,092.79	-381.05	655.50	456.65	198.85	3.297	Alert
18,550.00	12,335.00	18,631.22	12,420.00	100.76	100.55	-97.43	6,142.79	-381.53	655.50	455.35	200.15	3.275	Alert
18,600.00	12,335.00	18,681.22	12,420.00	101.42	101.20	-97.43	6,192.78	-382.00	655.50	454.04	201.45	3.254	Alert
18,650.00	12,335.00	18,731.22	12,420.00	102.08	101.86	-97.43	6,242.78	-382.48	655.50	452.74	202.76	3.233	Alert
18,700.00	12,335.00	18,781.22	12,420.00	102.73	102.52	-97.43	6,292.78	-382.96	655.50	451.43	204.07	3.212	Alert
18,750.00	12,335.00	18,831.22	12,420.00	103.39	103.17	-97.43	6,342.78	-383.44	655.50	450.12	205.38	3.192	Alert
18,800.00	12,335.00	18,881.22	12,420.00	104.05	103.83	-97.43	6,392.77	-383.91	655.50	448.81	206.69	3.171	Alert
18,850.00	12,335.00	18,931.22	12,420.00	104.71	104.49	-97.43	6,442.77	-384.39	655.50	447.50	208.00	3.151	Alert
18,900.00	12,335.00	18,981.22	12,420.00	105.38	105.16	-97.43	6,492.77	-384.87	655.50	446.18	209.32	3.132	Alert
18,950.00	12,335.00	19,031.22	12,420.00	106.04	105.82	-97.43	6,542.77	-385.35	655.50	444.86	210.63	3.112	Alert
19,000.00	12,335.00	19,081.22	12,420.00	106.70	106.48	-97.43	6,592.77	-385.82	655.50	443.55	211.95	3.093	Alert

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Project:	Lea County (NAD83 New Mexico East)	**TVD Reference:**	RKB @ 3110.80ft
Reference Site:	Sec 15-T26S-R35E	**MD Reference:**	RKB @ 3110.80ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 15-T26S-R35E - Arena Roja Fed Unit 15-10 3H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
19,050.00	12,335.00	19,131.22	12,420.00	107.37	107.14	-97.43	6,642.76	-386.30	655.50	442.23	213.27	3.074	Alert
19,100.00	12,335.00	19,181.22	12,420.00	108.03	107.81	-97.43	6,692.76	-386.78	655.50	440.90	214.59	3.055	Alert
19,150.00	12,335.00	19,231.22	12,420.00	108.70	108.47	-97.43	6,742.76	-387.26	655.50	439.58	215.92	3.036	Alert
19,200.00	12,335.00	19,281.22	12,420.00	109.36	109.14	-97.43	6,792.76	-387.73	655.50	438.26	217.24	3.017	Alert
19,250.00	12,335.00	19,331.22	12,420.00	110.03	109.81	-97.43	6,842.75	-388.21	655.50	436.93	218.57	2.999	Alert
19,300.00	12,335.00	19,381.22	12,420.00	110.70	110.48	-97.43	6,892.75	-388.69	655.50	435.60	219.90	2.981	Alert
19,350.00	12,335.00	19,431.22	12,420.00	111.37	111.14	-97.43	6,942.75	-389.17	655.50	434.27	221.23	2.963	Alert
19,400.00	12,335.00	19,481.22	12,420.00	112.04	111.81	-97.43	6,992.75	-389.64	655.50	432.94	222.56	2.945	Alert
19,450.00	12,335.00	19,531.22	12,420.00	112.71	112.48	-97.43	7,042.75	-390.12	655.50	431.61	223.89	2.928	Alert
19,500.00	12,335.00	19,581.22	12,420.00	113.38	113.15	-97.43	7,092.74	-390.60	655.50	430.28	225.22	2.910	Alert
19,550.00	12,335.00	19,631.22	12,420.00	114.05	113.83	-97.43	7,142.74	-391.08	655.50	428.94	226.56	2.893	Alert
19,600.00	12,335.00	19,681.22	12,420.00	114.72	114.50	-97.43	7,192.74	-391.55	655.50	427.61	227.89	2.876	Alert
19,650.00	12,335.00	19,731.22	12,420.00	115.39	115.17	-97.43	7,242.74	-392.03	655.50	426.27	229.23	2.860	Alert
19,700.00	12,335.00	19,781.22	12,420.00	116.07	115.84	-97.43	7,292.73	-392.51	655.50	424.93	230.57	2.843	Alert
19,750.00	12,335.00	19,831.22	12,420.00	116.74	116.52	-97.43	7,342.73	-392.98	655.50	423.59	231.91	2.827	Alert
19,800.00	12,335.00	19,881.22	12,420.00	117.42	117.19	-97.43	7,392.73	-393.46	655.50	422.25	233.25	2.810	Alert
19,850.00	12,335.00	19,931.22	12,420.00	118.09	117.87	-97.43	7,442.73	-393.94	655.50	420.91	234.60	2.794	Alert
19,900.00	12,335.00	19,981.22	12,420.00	118.77	118.54	-97.43	7,492.72	-394.42	655.50	419.56	235.94	2.778	Alert
19,950.00	12,335.00	20,031.22	12,420.00	119.44	119.22	-97.43	7,542.72	-394.89	655.50	418.22	237.29	2.763	Alert
20,000.00	12,335.00	20,081.22	12,420.00	120.12	119.90	-97.43	7,592.72	-395.37	655.50	416.87	238.63	2.747	Alert
20,050.00	12,335.00	20,131.22	12,420.00	120.80	120.57	-97.43	7,642.72	-395.85	655.50	415.52	239.98	2.731	Alert
20,100.00	12,335.00	20,181.22	12,420.00	121.48	121.25	-97.43	7,692.72	-396.33	655.50	414.18	241.33	2.716	Alert
20,150.00	12,335.00	20,231.22	12,420.00	122.16	121.93	-97.43	7,742.71	-396.80	655.50	412.83	242.68	2.701	Alert
20,200.00	12,335.00	20,281.22	12,420.00	122.84	122.61	-97.43	7,792.71	-397.28	655.50	411.48	244.03	2.686	Alert
20,250.00	12,335.00	20,331.22	12,420.00	123.52	123.29	-97.43	7,842.71	-397.76	655.50	410.12	245.38	2.671	Alert
20,300.00	12,335.00	20,381.22	12,420.00	124.20	123.97	-97.43	7,892.71	-398.24	655.50	408.77	246.73	2.657	Alert
20,350.00	12,335.00	20,431.22	12,420.00	124.88	124.65	-97.43	7,942.70	-398.71	655.50	407.42	248.09	2.642	Alert
20,400.00	12,335.00	20,481.22	12,420.00	125.56	125.33	-97.43	7,992.70	-399.19	655.50	406.06	249.44	2.628	Alert
20,450.00	12,335.00	20,531.22	12,420.00	126.24	126.01	-97.43	8,042.70	-399.67	655.50	404.71	250.80	2.614	Alert
20,500.00	12,335.00	20,581.22	12,420.00	126.92	126.70	-97.43	8,092.70	-400.15	655.50	403.35	252.15	2.600	Alert
20,550.00	12,335.00	20,631.22	12,420.00	127.61	127.38	-97.43	8,142.70	-400.62	655.50	401.99	253.51	2.586	Alert
20,600.00	12,335.00	20,681.22	12,420.00	128.29	128.06	-97.43	8,192.69	-401.10	655.50	400.63	254.87	2.572	Alert
20,650.00	12,335.00	20,731.22	12,420.00	128.97	128.75	-97.43	8,242.69	-401.58	655.50	399.27	256.23	2.558	Alert
20,700.00	12,335.00	20,781.22	12,420.00	129.66	129.43	-97.43	8,292.69	-402.06	655.50	397.91	257.59	2.545	Alert
20,750.00	12,335.00	20,831.22	12,420.00	130.34	130.12	-97.43	8,342.69	-402.53	655.51	396.55	258.95	2.531	Alert
20,800.00	12,335.00	20,881.22	12,420.00	131.03	130.80	-97.43	8,392.68	-403.01	655.51	395.19	260.32	2.518	Alert
20,850.00	12,335.00	20,931.22	12,420.00	131.71	131.49	-97.43	8,442.68	-403.49	655.51	393.83	261.68	2.505	Alert
20,859.84	12,335.00	20,941.05	12,420.00	131.85	131.62	-97.43	8,452.52	-403.58	655.51	393.56	261.95	2.502	Alert

Anticollision Report

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Project:	Lea County (NAD83 New Mexico East)	**TVD Reference:**	RKB @ 3110.80ft
Reference Site:	Sec 15-T26S-R35E	**MD Reference:**	RKB @ 3110.80ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 15-T26S-R35E - Arena Roja Fed Unit 15-10 8H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	1.00	1.00	0.50	0.50	-90.56	-0.58	-59.99	59.99				
50.00	50.00	51.00	51.00	0.50	0.50	-90.56	-0.58	-59.99	59.99	58.99	1.01	59.595	
100.00	100.00	101.00	101.00	0.52	0.52	-90.56	-0.58	-59.99	59.99	58.96	1.04	57.883	
150.00	150.00	151.00	151.00	0.59	0.59	-90.56	-0.58	-59.99	59.99	58.81	1.18	50.739	
200.00	200.00	201.00	201.00	0.70	0.70	-90.56	-0.58	-59.99	59.99	58.59	1.41	42.647	
250.00	250.00	251.00	251.00	0.84	0.84	-90.56	-0.58	-59.99	59.99	58.31	1.68	35.746	
300.00	300.00	301.00	301.00	0.99	0.99	-90.56	-0.58	-59.99	59.99	58.02	1.98	30.334	
350.00	350.00	351.00	351.00	1.15	1.15	-90.56	-0.58	-59.99	59.99	57.70	2.29	26.150	
400.00	400.00	401.00	401.00	1.31	1.31	-90.56	-0.58	-59.99	59.99	57.37	2.62	22.885	
450.00	450.00	451.00	451.00	1.48	1.48	-90.56	-0.58	-59.99	59.99	57.04	2.96	20.295	
500.00	500.00	501.00	501.00	1.65	1.65	-90.56	-0.58	-59.99	59.99	56.70	3.30	18.204	
550.00	550.00	551.00	551.00	1.82	1.82	-90.56	-0.58	-59.99	59.99	56.35	3.64	16.487	
600.00	600.00	601.00	601.00	1.99	1.99	-90.56	-0.58	-59.99	59.99	56.01	3.98	15.056	
650.00	650.00	651.00	651.00	2.16	2.17	-90.56	-0.58	-59.99	59.99	55.66	4.33	13.847	
700.00	700.00	701.00	701.00	2.34	2.34	-90.56	-0.58	-59.99	59.99	55.31	4.68	12.813	
750.00	750.00	751.00	751.00	2.51	2.52	-90.56	-0.58	-59.99	59.99	54.96	5.03	11.920	
800.00	800.00	801.00	801.00	2.69	2.69	-90.56	-0.58	-59.99	59.99	54.61	5.38	11.141	
850.00	850.00	851.00	851.00	2.87	2.87	-90.56	-0.58	-59.99	59.99	54.26	5.74	10.457	
900.00	900.00	901.00	901.00	3.04	3.05	-90.56	-0.58	-59.99	59.99	53.90	6.09	9.850	
950.00	950.00	951.00	951.00	3.22	3.22	-90.56	-0.58	-59.99	59.99	53.55	6.44	9.309	
1,000.00	1,000.00	1,001.00	1,001.00	3.40	3.40	-90.56	-0.58	-59.99	59.99	53.19	6.80	8.824	
1,050.00	1,050.00	1,051.00	1,051.00	3.58	3.58	-90.56	-0.58	-59.99	59.99	52.84	7.15	8.386	
1,100.00	1,100.00	1,101.00	1,101.00	3.75	3.76	-90.56	-0.58	-59.99	59.99	52.48	7.51	7.990	
1,150.00	1,150.00	1,151.00	1,151.00	3.93	3.93	-90.56	-0.58	-59.99	59.99	52.13	7.86	7.629	
1,200.00	1,200.00	1,201.00	1,201.00	4.11	4.11	-90.56	-0.58	-59.99	59.99	51.77	8.22	7.299	
1,250.00	1,250.00	1,251.00	1,251.00	4.29	4.29	-90.56	-0.58	-59.99	59.99	51.42	8.58	6.996	
1,300.00	1,300.00	1,301.00	1,301.00	4.46	4.47	-90.56	-0.58	-59.99	59.99	51.06	8.93	6.717	
1,350.00	1,350.00	1,351.00	1,351.00	4.64	4.65	-90.56	-0.58	-59.99	59.99	50.70	9.29	6.459	
1,400.00	1,400.00	1,401.00	1,401.00	4.82	4.82	-90.56	-0.58	-59.99	59.99	50.35	9.64	6.220	
1,450.00	1,450.00	1,451.00	1,451.00	5.00	5.00	-90.56	-0.58	-59.99	59.99	49.99	10.00	5.999	
1,500.00	1,500.00	1,501.00	1,501.00	5.18	5.18	-90.56	-0.58	-59.99	59.99	49.63	10.36	5.792	
1,550.00	1,550.00	1,551.00	1,551.00	5.36	5.36	-90.56	-0.58	-59.99	59.99	49.28	10.71	5.599	
1,600.00	1,600.00	1,601.00	1,601.00	5.53	5.54	-90.56	-0.58	-59.99	59.99	48.92	11.07	5.419	
1,650.00	1,650.00	1,651.00	1,651.00	5.71	5.72	-90.56	-0.58	-59.99	59.99	48.56	11.43	5.249	
1,700.00	1,700.00	1,701.00	1,701.00	5.89	5.89	-90.56	-0.58	-59.99	59.99	48.21	11.79	5.090	
1,750.00	1,750.00	1,751.00	1,751.00	6.07	6.07	-90.56	-0.58	-59.99	59.99	47.85	12.14	4.940	Alert
1,800.00	1,800.00	1,801.00	1,801.00	6.25	6.25	-90.56	-0.58	-59.99	59.99	47.49	12.50	4.799	Alert
1,850.00	1,850.00	1,851.00	1,851.00	6.43	6.43	-90.56	-0.58	-59.99	59.99	47.14	12.86	4.666	Alert
1,900.00	1,900.00	1,901.00	1,901.00	6.61	6.61	-90.56	-0.58	-59.99	59.99	46.78	13.22	4.540	Alert
1,950.00	1,950.00	1,951.00	1,951.00	6.78	6.79	-90.56	-0.58	-59.99	59.99	46.42	13.57	4.420	Alert
2,000.00	2,000.00	2,001.00	2,001.00	6.96	6.97	-90.56	-0.58	-59.99	59.99	46.06	13.93	4.307	Alert
2,050.00	2,050.00	2,051.00	2,051.00	7.14	7.15	-90.56	-0.58	-59.99	59.99	45.71	14.29	4.199	Alert
2,100.00	2,100.00	2,101.00	2,101.00	7.32	7.32	-90.56	-0.58	-59.99	59.99	45.35	14.65	4.096	Alert
2,150.00	2,150.00	2,151.00	2,151.00	7.50	7.50	-90.56	-0.58	-59.99	59.99	44.99	15.00	3.999	Alert
2,200.00	2,200.00	2,201.00	2,201.00	7.68	7.68	-90.56	-0.58	-59.99	59.99	44.63	15.36	3.906	Alert
2,250.00	2,250.00	2,251.00	2,251.00	7.86	7.86	-90.56	-0.58	-59.99	59.99	44.27	15.72	3.817	Alert
2,300.00	2,300.00	2,301.00	2,301.00	8.04	8.04	-90.56	-0.58	-59.99	59.99	43.92	16.08	3.732	Alert
2,350.00	2,350.00	2,351.00	2,351.00	8.22	8.22	-90.56	-0.58	-59.99	59.99	43.56	16.43	3.651	Alert
2,400.00	2,400.00	2,401.00	2,401.00	8.39	8.40	-90.56	-0.58	-59.99	59.99	43.20	16.79	3.573	Alert
2,450.00	2,450.00	2,451.00	2,451.00	8.57	8.58	-90.56	-0.58	-59.99	59.99	42.84	17.15	3.498	Alert
2,500.00	2,500.00	2,501.00	2,501.00	8.75	8.76	-90.56	-0.58	-59.99	59.99	42.49	17.51	3.427	Alert, CC
2,550.00	2,550.00	2,550.50	2,550.49	8.93	8.93	-90.62	-0.65	-60.20	60.21	42.35	17.86	3.372	Alert, ES

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Project:	Lea County (NAD83 New Mexico East)	**TVD Reference:**	RKB @ 3110.80ft
Reference Site:	Sec 15-T26S-R35E	**MD Reference:**	RKB @ 3110.80ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 15-T26S-R35E - Arena Roja Fed Unit 15-10 8H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,600.00	2,600.00	2,599.99	2,599.99	9.11	9.10	-90.81	-0.86	-60.82	60.83	42.63	18.21	3.341	Alert
2,650.00	2,650.00	2,649.47	2,649.46	9.29	9.26	-91.11	-1.19	-61.84	61.87	43.32	18.55	3.336	Alert, SF
2,700.00	2,700.00	2,698.93	2,698.89	9.47	9.43	-91.51	-1.66	-63.27	63.33	44.44	18.89	3.353	Alert
2,750.00	2,750.00	2,748.36	2,748.28	9.64	9.60	135.85	-2.27	-65.10	65.35	46.13	19.22	3.400	Alert
2,800.00	2,799.99	2,797.73	2,797.60	9.81	9.76	135.65	-3.00	-67.34	68.11	48.56	19.55	3.483	Alert
2,850.00	2,849.98	2,847.03	2,846.82	9.98	9.93	135.61	-3.87	-69.97	71.59	51.71	19.88	3.602	Alert
2,900.00	2,899.96	2,896.25	2,895.93	10.14	10.10	135.70	-4.87	-73.00	75.79	55.59	20.20	3.752	Alert
2,950.00	2,949.92	2,945.36	2,944.91	10.31	10.27	135.91	-6.00	-76.42	80.71	60.19	20.52	3.933	Alert
3,000.00	2,999.86	2,994.35	2,993.74	10.47	10.44	136.20	-7.26	-80.23	86.36	65.52	20.84	4.144	Alert
3,050.00	3,049.79	3,043.23	3,042.42	10.64	10.61	136.51	-8.64	-84.43	92.58	71.42	21.16	4.375	Alert
3,100.00	3,099.72	3,092.01	3,090.96	10.81	10.77	136.71	-10.15	-89.01	99.21	77.73	21.48	4.619	Alert
3,150.00	3,149.66	3,140.68	3,139.35	10.97	10.94	136.82	-11.79	-93.97	106.24	84.44	21.80	4.874	Alert
3,200.00	3,199.59	3,189.96	3,188.31	11.14	11.12	136.87	-13.53	-99.27	113.54	91.42	22.13	5.131	
3,250.00	3,249.52	3,239.42	3,237.45	11.31	11.29	136.91	-15.29	-104.60	120.86	98.40	22.46	5.380	
3,300.00	3,299.45	3,288.88	3,286.59	11.48	11.46	136.95	-17.05	-109.93	128.18	105.38	22.80	5.622	
3,350.00	3,349.38	3,338.34	3,335.73	11.65	11.64	136.98	-18.80	-115.26	135.50	112.36	23.14	5.856	
3,400.00	3,399.31	3,387.80	3,384.88	11.82	11.82	137.01	-20.56	-120.58	142.81	119.34	23.48	6.083	
3,450.00	3,449.24	3,437.27	3,434.02	11.99	11.99	137.04	-22.32	-125.91	150.13	126.31	23.82	6.303	
3,500.00	3,499.17	3,486.73	3,483.16	12.16	12.17	137.07	-24.07	-131.24	157.45	133.29	24.16	6.518	
3,550.00	3,549.10	3,536.19	3,532.30	12.33	12.35	137.09	-25.83	-136.57	164.77	140.27	24.50	6.725	
3,600.00	3,599.03	3,585.65	3,581.45	12.50	12.52	137.11	-27.58	-141.89	172.08	147.24	24.84	6.928	
3,650.00	3,648.96	3,635.11	3,630.59	12.67	12.70	137.13	-29.34	-147.22	179.40	154.22	25.18	7.124	
3,700.00	3,698.89	3,684.57	3,679.73	12.85	12.88	137.15	-31.10	-152.55	186.72	161.19	25.53	7.315	
3,750.00	3,748.82	3,734.04	3,728.87	13.02	13.06	137.16	-32.85	-157.88	194.04	168.17	25.87	7.501	
3,800.00	3,798.75	3,783.50	3,778.02	13.19	13.24	137.18	-34.61	-163.21	201.36	175.14	26.21	7.682	
3,850.00	3,848.68	3,832.96	3,827.16	13.36	13.42	137.19	-36.37	-168.53	208.67	182.12	26.56	7.858	
3,900.00	3,898.62	3,882.42	3,876.30	13.54	13.60	137.20	-38.12	-173.86	215.99	189.09	26.90	8.029	
3,950.00	3,948.55	3,931.88	3,925.44	13.71	13.78	137.22	-39.88	-179.19	223.31	196.06	27.25	8.196	
4,000.00	3,998.48	3,981.34	3,974.59	13.88	13.96	137.23	-41.64	-184.52	230.63	203.03	27.59	8.358	
4,050.00	4,048.41	4,030.81	4,023.73	14.06	14.14	137.24	-43.39	-189.84	237.94	210.00	27.94	8.516	
4,100.00	4,098.34	4,080.27	4,072.87	14.23	14.33	137.25	-45.15	-195.17	245.26	216.98	28.29	8.671	
4,150.00	4,148.27	4,129.73	4,122.01	14.41	14.51	137.26	-46.91	-200.50	252.58	223.95	28.63	8.821	
4,200.00	4,198.20	4,179.19	4,171.16	14.58	14.69	137.27	-48.66	-205.83	259.90	230.92	28.98	8.968	
4,250.00	4,248.13	4,228.65	4,220.30	14.76	14.87	137.28	-50.42	-211.16	267.22	237.89	29.33	9.111	
4,300.00	4,298.06	4,278.11	4,269.44	14.93	15.06	137.28	-52.17	-216.48	274.53	244.86	29.68	9.250	
4,350.00	4,347.99	4,327.57	4,318.58	15.11	15.24	137.29	-53.93	-221.81	281.85	251.82	30.03	9.387	
4,400.00	4,397.92	4,377.04	4,367.73	15.28	15.42	137.30	-55.69	-227.14	289.17	258.79	30.38	9.520	
4,450.00	4,447.85	4,426.50	4,416.87	15.46	15.61	137.31	-57.44	-232.47	296.49	265.76	30.73	9.650	
4,500.00	4,497.78	4,475.96	4,466.01	15.63	15.79	137.31	-59.20	-237.79	303.80	272.73	31.07	9.777	
4,550.00	4,547.71	4,525.42	4,515.15	15.81	15.98	137.32	-60.96	-243.12	311.12	279.70	31.43	9.900	
4,600.00	4,597.64	4,574.88	4,564.30	15.99	16.16	137.32	-62.71	-248.45	318.44	286.66	31.78	10.022	
4,650.00	4,647.58	4,624.34	4,613.44	16.16	16.34	137.33	-64.47	-253.78	325.76	293.63	32.13	10.140	
4,700.00	4,697.51	4,673.81	4,662.58	16.34	16.53	137.34	-66.23	-259.11	333.08	300.60	32.48	10.256	
4,750.00	4,747.44	4,723.27	4,711.72	16.51	16.72	137.34	-67.98	-264.43	340.39	307.56	32.83	10.369	
4,800.00	4,797.37	4,772.73	4,760.86	16.69	16.90	137.35	-69.74	-269.76	347.71	314.53	33.18	10.479	
4,850.00	4,847.30	4,822.19	4,810.01	16.87	17.09	137.35	-71.49	-275.09	355.03	321.50	33.53	10.588	
4,900.00	4,897.23	4,871.65	4,859.15	17.04	17.27	137.36	-73.25	-280.42	362.35	328.46	33.88	10.694	
4,950.00	4,947.16	4,921.11	4,908.29	17.22	17.46	137.36	-75.01	-285.74	369.66	335.43	34.24	10.797	
5,000.00	4,997.09	4,970.58	4,957.43	17.40	17.64	137.36	-76.76	-291.07	376.98	342.39	34.59	10.899	
5,050.00	5,047.02	5,020.04	5,006.58	17.58	17.83	137.37	-78.52	-296.40	384.30	349.36	34.94	10.998	
5,100.00	5,096.95	5,069.50	5,055.72	17.75	18.02	137.37	-80.28	-301.73	391.62	356.32	35.30	11.095	
5,150.00	5,146.88	5,118.96	5,104.86	17.93	18.20	137.38	-82.03	-307.05	398.94	363.29	35.65	11.191	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Project:	Lea County (NAD83 New Mexico East)	**TVD Reference:**	RKB @ 3110.80ft
Reference Site:	Sec 15-T26S-R35E	**MD Reference:**	RKB @ 3110.80ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 15-T26S-R35E - Arena Roja Fed Unit 15-10 8H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.00	5,196.81	5,168.42	5,154.00	18.11	18.39	137.38	-83.79	-312.38	406.25	370.25	36.00	11.284	
5,250.00	5,246.74	5,217.88	5,203.15	18.29	18.58	137.38	-85.55	-317.71	413.57	377.22	36.36	11.376	
5,300.00	5,296.67	5,267.34	5,252.29	18.47	18.77	137.39	-87.30	-323.04	420.89	384.18	36.71	11.465	
5,350.00	5,346.60	5,316.81	5,301.43	18.64	18.95	137.39	-89.06	-328.37	428.21	391.14	37.06	11.553	
5,400.00	5,396.54	5,366.27	5,350.57	18.82	19.14	137.39	-90.82	-333.69	435.53	398.11	37.42	11.639	
5,450.00	5,446.47	5,415.73	5,399.72	19.00	19.33	137.40	-92.57	-339.02	442.84	405.07	37.77	11.724	
5,500.00	5,496.40	5,465.19	5,448.86	19.18	19.52	137.40	-94.33	-344.35	450.16	412.03	38.13	11.807	
5,550.00	5,546.33	5,514.65	5,498.00	19.36	19.70	137.40	-96.08	-349.68	457.48	419.00	38.48	11.888	
5,600.00	5,596.26	5,564.11	5,547.14	19.54	19.89	137.40	-97.84	-355.00	464.80	425.96	38.84	11.968	
5,650.00	5,646.19	5,613.58	5,596.29	19.71	20.08	137.41	-99.60	-360.33	472.11	432.92	39.19	12.046	
5,700.00	5,696.12	5,663.04	5,645.43	19.89	20.27	137.41	-101.35	-365.66	479.43	439.88	39.55	12.123	
5,750.00	5,746.05	5,712.50	5,694.57	20.07	20.46	137.41	-103.11	-370.99	486.75	446.85	39.90	12.198	
5,800.00	5,795.98	5,761.96	5,743.71	20.25	20.64	137.41	-104.87	-376.32	494.07	453.81	40.26	12.272	
5,850.00	5,845.91	5,811.42	5,792.86	20.43	20.83	137.42	-106.62	-381.64	501.39	460.77	40.62	12.345	
5,900.00	5,895.84	5,860.88	5,842.00	20.61	21.02	137.42	-108.38	-386.97	508.70	467.73	40.97	12.416	
5,950.00	5,945.77	5,910.35	5,891.14	20.79	21.21	137.42	-110.14	-392.30	516.02	474.69	41.33	12.486	
6,000.00	5,995.70	5,959.81	5,940.28	20.97	21.40	137.42	-111.89	-397.63	523.34	481.66	41.68	12.555	
6,050.00	6,045.63	6,009.27	5,989.43	21.15	21.59	137.43	-113.65	-402.95	530.66	488.62	42.04	12.623	
6,100.00	6,095.57	6,058.73	6,038.57	21.32	21.78	137.43	-115.40	-408.28	537.97	495.58	42.40	12.689	
6,150.00	6,145.50	6,108.19	6,087.71	21.50	21.97	137.43	-117.16	-413.61	545.29	502.54	42.75	12.754	
6,200.00	6,195.43	6,157.65	6,136.85	21.68	22.16	137.43	-118.92	-418.94	552.61	509.50	43.11	12.818	
6,250.00	6,245.36	6,207.11	6,186.00	21.86	22.34	137.43	-120.67	-424.27	559.93	516.46	43.47	12.882	
6,300.00	6,295.29	6,256.58	6,235.14	22.04	22.53	137.44	-122.43	-429.59	567.25	523.42	43.82	12.944	
6,350.00	6,345.22	6,306.04	6,284.28	22.22	22.72	137.44	-124.19	-434.92	574.56	530.38	44.18	13.005	
6,400.00	6,395.15	6,355.50	6,333.42	22.40	22.91	137.44	-125.94	-440.25	581.88	537.34	44.54	13.065	
6,450.00	6,445.08	6,404.96	6,382.57	22.58	23.10	137.44	-127.70	-445.58	589.20	544.30	44.90	13.124	
6,500.00	6,495.01	6,454.42	6,431.71	22.76	23.29	137.44	-129.46	-450.90	596.52	551.26	45.25	13.182	
6,550.00	6,544.94	6,503.88	6,480.85	22.94	23.48	137.44	-131.21	-456.23	603.84	558.22	45.61	13.239	
6,600.00	6,594.87	6,553.35	6,529.99	23.12	23.67	137.45	-132.97	-461.56	611.15	565.18	45.97	13.295	
6,650.00	6,644.80	6,602.81	6,579.13	23.30	23.86	137.45	-134.73	-466.89	618.47	572.14	46.33	13.350	
6,700.00	6,694.73	6,652.27	6,628.28	23.48	24.05	137.45	-136.48	-472.22	625.79	579.10	46.69	13.404	
6,750.00	6,744.66	6,701.73	6,677.42	23.66	24.24	137.45	-138.24	-477.54	633.11	586.06	47.04	13.458	
6,800.00	6,794.59	6,751.19	6,726.56	23.84	24.43	137.45	-139.99	-482.87	640.42	593.02	47.40	13.511	
6,850.00	6,844.53	6,800.65	6,775.70	24.02	24.62	137.45	-141.75	-488.20	647.74	599.98	47.76	13.562	
6,900.00	6,894.46	6,850.12	6,824.85	24.20	24.81	137.45	-143.51	-493.53	655.06	606.94	48.12	13.614	
6,950.00	6,944.39	6,899.58	6,873.99	24.38	25.00	137.46	-145.26	-498.85	662.38	613.90	48.48	13.664	
7,000.00	6,994.32	6,949.04	6,923.13	24.56	25.19	137.46	-147.02	-504.18	669.70	620.86	48.84	13.713	
7,050.00	7,044.25	7,001.50	6,972.27	24.74	25.40	137.46	-148.78	-509.51	677.01	627.81	49.20	13.759	
7,100.00	7,094.18	7,047.96	7,021.42	24.92	25.57	137.46	-150.53	-514.84	684.33	634.78	49.55	13.810	
7,150.00	7,144.11	7,102.58	7,070.56	25.10	25.78	137.46	-152.29	-520.16	691.65	641.72	49.93	13.852	
7,200.00	7,194.04	7,146.89	7,119.70	25.28	25.96	137.46	-154.05	-525.49	698.97	648.70	50.27	13.904	
7,250.00	7,243.97	7,196.35	7,168.84	25.46	26.15	137.46	-155.80	-530.82	706.29	655.66	50.63	13.950	
7,300.00	7,293.90	7,245.81	7,217.99	25.64	26.34	137.46	-157.56	-536.15	713.60	662.62	50.99	13.995	
7,350.00	7,343.83	7,304.73	7,267.13	25.83	26.56	137.47	-159.31	-541.48	720.92	669.54	51.38	14.031	
7,400.00	7,393.76	7,344.73	7,316.27	26.01	26.72	137.47	-161.07	-546.80	728.24	676.53	51.71	14.084	
7,450.00	7,443.69	7,405.81	7,365.41	26.19	26.95	137.47	-162.83	-552.13	735.56	683.45	52.11	14.116	
7,500.00	7,493.62	7,443.65	7,414.56	26.37	27.10	137.47	-164.58	-557.46	742.88	690.45	52.43	14.170	
7,550.00	7,543.55	7,506.88	7,463.70	26.55	27.34	137.47	-166.34	-562.79	750.19	697.36	52.84	14.199	
7,600.00	7,593.49	7,542.58	7,512.84	26.73	27.48	137.47	-168.10	-568.11	757.51	704.37	53.14	14.254	
7,650.00	7,643.42	7,592.04	7,561.98	26.91	27.67	137.47	-169.85	-573.44	764.83	711.32	53.50	14.295	
7,700.00	7,693.35	7,641.50	7,611.13	27.09	27.86	137.47	-171.61	-578.77	772.15	718.28	53.86	14.335	
7,750.00	7,743.28	7,709.04	7,660.27	27.27	28.13	137.47	-173.37	-584.10	779.46	725.17	54.29	14.357	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Project:	Lea County (NAD83 New Mexico East)	**TVD Reference:**	RKB @ 3110.80ft
Reference Site:	Sec 15-T26S-R35E	**MD Reference:**	RKB @ 3110.80ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 15-T26S-R35E - Arena Roja Fed Unit 15-10 8H - Wellbore #1 - Permit Plan 1

Offset Site Error: 0.00 ft

Survey Program: 0-MWD+HDGM

Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,800.00	7,793.21	7,740.42	7,709.41	27.45	28.25	137.47	-175.12	-589.43	786.78	732.20	54.58	14.414	
7,850.00	7,843.14	7,789.89	7,758.55	27.63	28.44	137.48	-176.88	-594.75	794.10	739.16	54.94	14.453	
7,900.00	7,893.07	7,839.35	7,807.70	27.81	28.63	137.48	-178.64	-600.08	801.42	746.11	55.30	14.491	
7,950.00	7,943.00	7,888.81	7,856.84	28.00	28.82	137.48	-180.39	-605.41	808.74	753.07	55.66	14.529	
8,000.00	7,992.93	7,938.27	7,905.98	28.18	29.01	137.48	-182.15	-610.74	816.05	760.03	56.02	14.566	
8,050.00	8,042.86	7,987.73	7,955.12	28.36	29.20	137.48	-183.90	-616.06	823.37	766.99	56.38	14.603	
8,100.00	8,092.79	8,037.19	8,004.27	28.54	29.39	137.48	-185.66	-621.39	830.69	773.95	56.74	14.639	
8,150.00	8,142.72	8,086.66	8,053.41	28.72	29.59	137.48	-187.42	-626.72	838.01	780.90	57.10	14.675	
8,200.00	8,192.65	8,136.12	8,102.55	28.90	29.78	137.48	-189.17	-632.05	845.33	787.86	57.46	14.710	
8,250.00	8,242.58	8,185.58	8,151.69	29.08	29.97	137.48	-190.93	-637.38	852.64	794.82	57.82	14.745	
8,300.00	8,292.51	8,235.04	8,200.84	29.26	30.16	137.48	-192.69	-642.70	859.96	801.78	58.19	14.780	
8,350.00	8,342.45	8,284.50	8,249.98	29.44	30.35	137.48	-194.44	-648.03	867.28	808.73	58.55	14.814	
8,400.00	8,392.38	8,333.96	8,299.12	29.63	30.54	137.49	-196.20	-653.36	874.60	815.69	58.91	14.847	
8,450.00	8,442.31	8,383.42	8,348.26	29.81	30.74	137.49	-197.96	-658.69	881.91	822.65	59.27	14.880	
8,500.00	8,492.24	8,432.89	8,397.41	29.99	30.93	137.49	-199.71	-664.01	889.23	829.61	59.63	14.913	
8,550.00	8,542.17	8,482.35	8,446.55	30.17	31.12	137.49	-201.47	-669.34	896.55	836.56	59.99	14.945	
8,600.00	8,592.10	8,531.81	8,495.69	30.35	31.31	137.49	-203.22	-674.67	903.87	843.52	60.35	14.977	
8,650.00	8,642.03	8,581.27	8,544.83	30.53	31.50	137.49	-204.98	-680.00	911.19	850.48	60.71	15.009	
8,700.00	8,691.96	8,630.73	8,593.97	30.71	31.69	137.49	-206.74	-685.33	918.50	857.43	61.07	15.040	
8,750.00	8,741.89	8,680.19	8,643.12	30.90	31.89	137.49	-208.49	-690.65	925.82	864.39	61.43	15.071	
8,800.00	8,791.82	8,729.66	8,692.26	31.08	32.08	137.49	-210.25	-695.98	933.14	871.35	61.79	15.101	
8,850.00	8,841.75	8,779.12	8,741.40	31.26	32.27	137.49	-212.01	-701.31	940.46	878.30	62.15	15.131	
8,900.00	8,891.68	8,828.58	8,790.54	31.44	32.46	137.49	-213.76	-706.64	947.78	885.26	62.51	15.161	
8,950.00	8,941.61	8,878.04	8,839.69	31.62	32.65	137.49	-215.52	-711.96	955.09	892.22	62.88	15.190	
9,000.00	8,991.54	8,927.50	8,888.83	31.80	32.85	137.49	-217.28	-717.29	962.41	899.17	63.24	15.219	
9,050.00	9,041.48	8,976.96	8,937.97	31.98	33.04	137.49	-219.03	-722.62	969.73	906.13	63.60	15.248	
9,100.00	9,091.41	9,026.43	8,987.11	32.17	33.23	137.49	-220.79	-727.95	977.05	913.09	63.96	15.276	
9,150.00	9,141.34	9,075.89	9,036.26	32.35	33.42	137.50	-222.55	-733.27	984.36	920.04	64.32	15.304	
9,200.00	9,191.27	9,125.35	9,085.40	32.53	33.61	137.50	-224.30	-738.60	991.68	927.00	64.68	15.332	
9,250.00	9,241.20	9,174.81	9,134.54	32.71	33.81	137.50	-226.06	-743.93	999.00	933.96	65.04	15.359	
9,300.00	9,291.13	9,224.27	9,183.68	32.89	34.00	137.50	-227.81	-749.26	1,006.32	940.91	65.40	15.386	
9,350.00	9,341.06	9,273.73	9,232.83	33.07	34.19	137.50	-229.57	-754.59	1,013.64	947.87	65.77	15.413	
9,400.00	9,390.99	9,323.20	9,281.97	33.26	34.38	137.50	-231.33	-759.91	1,020.95	954.83	66.13	15.439	
9,450.00	9,440.92	9,372.66	9,331.11	33.44	34.58	137.50	-233.08	-765.24	1,028.27	961.78	66.49	15.465	
9,500.00	9,490.85	9,422.12	9,380.25	33.62	34.77	137.50	-234.84	-770.57	1,035.59	968.74	66.85	15.491	
9,550.00	9,540.78	9,471.58	9,429.40	33.80	34.96	137.50	-236.60	-775.90	1,042.91	975.69	67.21	15.517	
9,600.00	9,590.71	9,521.04	9,478.54	33.98	35.15	137.50	-238.35	-781.22	1,050.23	982.65	67.57	15.542	
9,650.00	9,640.64	9,570.50	9,527.68	34.16	35.34	137.50	-240.11	-786.55	1,057.54	989.61	67.94	15.567	
9,700.00	9,690.57	9,619.96	9,576.82	34.35	35.54	137.50	-241.87	-791.88	1,064.86	996.56	68.30	15.591	
9,750.00	9,740.50	9,669.43	9,625.97	34.53	35.73	137.50	-243.62	-797.21	1,072.18	1,003.52	68.66	15.616	
9,800.00	9,790.44	9,718.89	9,675.11	34.71	35.92	137.50	-245.38	-802.54	1,079.50	1,010.48	69.02	15.640	
9,850.00	9,840.37	9,768.35	9,724.25	34.89	36.11	137.50	-247.13	-807.86	1,086.81	1,017.43	69.38	15.664	
9,900.00	9,890.30	9,817.81	9,773.39	35.07	36.31	137.50	-248.89	-813.19	1,094.13	1,024.39	69.75	15.688	
9,950.00	9,940.23	9,867.27	9,822.54	35.25	36.50	137.50	-250.65	-818.52	1,101.45	1,031.34	70.11	15.711	
10,000.00	9,990.16	9,916.73	9,871.68	35.44	36.69	137.50	-252.40	-823.85	1,108.77	1,038.30	70.47	15.734	
10,050.00	10,040.09	9,966.20	9,920.82	35.62	36.88	137.51	-254.16	-829.17	1,116.09	1,045.25	70.83	15.757	
10,100.00	10,090.02	10,015.66	9,969.96	35.80	37.08	137.51	-255.92	-834.50	1,123.40	1,052.21	71.19	15.780	
10,150.00	10,139.95	10,065.12	10,019.11	35.98	37.27	137.51	-257.67	-839.83	1,130.72	1,059.17	71.56	15.802	
10,200.00	10,189.88	10,114.58	10,068.25	36.16	37.46	137.51	-259.43	-845.16	1,138.04	1,066.12	71.92	15.824	
10,250.00	10,239.81	10,164.04	10,117.39	36.35	37.65	137.51	-261.19	-850.49	1,145.36	1,073.08	72.28	15.846	
10,300.00	10,289.74	10,213.50	10,166.53	36.53	37.85	137.51	-262.94	-855.81	1,152.68	1,080.03	72.64	15.868	
10,350.00	10,339.67	10,262.97	10,215.68	36.71	38.04	137.51	-264.70	-861.14	1,159.99	1,086.99	73.00	15.889	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Project:	Lea County (NAD83 New Mexico East)	**TVD Reference:**	RKB @ 3110.80ft
Reference Site:	Sec 15-T26S-R35E	**MD Reference:**	RKB @ 3110.80ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 15-T26S-R35E - Arena Roja Fed Unit 15-10 8H - Wellbore #1 - Permit Plan 1

Offset Site Error: 0.00 ft

Survey Program: 0-MWD+HDGM

Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,400.00	10,389.60	10,312.43	10,264.82	36.89	38.23	137.51	-266.46	-866.47	1,167.31	1,093.94	73.37	15.911	
10,450.00	10,439.53	10,361.89	10,313.96	37.07	38.42	137.51	-268.21	-871.80	1,174.63	1,100.90	73.73	15.932	
10,500.00	10,489.46	10,411.35	10,363.10	37.26	38.62	137.51	-269.97	-877.12	1,181.95	1,107.86	74.09	15.953	
10,550.00	10,539.40	10,460.81	10,412.24	37.44	38.81	137.51	-271.72	-882.45	1,189.27	1,114.81	74.45	15.973	
10,600.00	10,589.33	10,510.27	10,461.39	37.62	39.00	137.51	-273.48	-887.78	1,196.58	1,121.77	74.82	15.994	
10,650.00	10,639.26	10,559.73	10,510.53	37.80	39.20	137.51	-275.24	-893.11	1,203.90	1,128.72	75.18	16.014	
10,700.00	10,689.19	10,609.20	10,559.67	37.98	39.39	137.51	-276.99	-898.43	1,211.22	1,135.68	75.54	16.034	
10,750.00	10,739.12	10,658.66	10,608.81	38.17	39.58	137.51	-278.75	-903.76	1,218.54	1,142.63	75.90	16.054	
10,800.00	10,789.05	10,708.12	10,657.96	38.35	39.77	137.51	-280.51	-909.09	1,225.85	1,149.59	76.27	16.073	
10,850.00	10,838.98	10,757.58	10,707.10	38.53	39.97	137.51	-282.26	-914.42	1,233.17	1,156.54	76.63	16.093	
10,900.00	10,888.91	10,807.04	10,756.24	38.71	40.16	137.51	-284.02	-919.75	1,240.49	1,163.50	76.99	16.112	
10,950.00	10,938.84	10,856.50	10,805.38	38.89	40.35	137.51	-285.78	-925.07	1,247.81	1,170.45	77.35	16.131	
11,000.00	10,988.77	10,905.97	10,854.53	39.08	40.54	137.51	-287.53	-930.40	1,255.13	1,177.41	77.72	16.150	
11,050.00	11,038.70	10,955.43	10,903.67	39.26	40.74	137.51	-289.29	-935.73	1,262.44	1,184.36	78.08	16.169	
11,100.00	11,088.63	11,004.89	10,952.81	39.44	40.93	137.51	-291.04	-941.06	1,269.76	1,191.32	78.44	16.187	
11,150.00	11,138.56	11,054.35	11,001.95	39.62	41.12	137.51	-292.80	-946.38	1,277.08	1,198.27	78.81	16.205	
11,200.00	11,188.49	11,126.16	11,073.37	39.81	41.40	137.52	-295.15	-953.51	1,283.98	1,204.67	79.32	16.188	
11,250.00	11,238.43	11,199.18	11,146.12	39.99	41.68	137.58	-297.11	-959.46	1,289.92	1,210.10	79.82	16.161	
11,300.00	11,288.39	11,272.54	11,219.32	40.17	41.94	137.64	-298.64	-964.09	1,294.51	1,214.21	80.30	16.121	
11,350.00	11,338.37	11,346.17	11,292.86	40.35	42.21	137.69	-299.73	-967.41	1,297.72	1,216.95	80.76	16.068	
11,400.00	11,388.37	11,419.97	11,366.63	40.53	42.47	137.70	-300.38	-969.37	1,299.52	1,218.32	81.20	16.004	
11,450.00	11,438.37	11,493.84	11,440.50	40.70	42.72	-90.03	-300.58	-969.99	1,299.99	1,218.38	81.61	15.929	
11,452.44	11,440.81	11,497.45	11,444.10	40.70	42.73	-90.03	-300.58	-969.98	1,299.99	1,218.36	81.63	15.925	
11,500.00	11,488.37	11,542.71	11,489.37	40.86	42.88	-90.03	-300.58	-969.99	1,299.99	1,218.05	81.94	15.864	
11,550.00	11,538.37	11,607.29	11,539.37	41.03	43.09	-90.03	-300.58	-969.99	1,299.99	1,217.66	82.33	15.790	
11,600.00	11,588.37	11,642.71	11,589.37	41.20	43.20	-90.03	-300.58	-969.99	1,299.99	1,217.37	82.62	15.735	
11,650.00	11,638.37	11,707.29	11,639.37	41.37	43.41	-90.03	-300.58	-969.99	1,299.99	1,216.99	83.00	15.662	
11,700.00	11,688.37	11,742.71	11,689.37	41.54	43.53	-90.03	-300.58	-969.99	1,299.99	1,216.70	83.29	15.608	
11,750.00	11,738.37	11,792.71	11,739.37	41.70	43.69	-90.03	-300.58	-969.99	1,299.99	1,216.36	83.63	15.545	
11,800.00	11,788.36	11,842.70	11,789.36	41.87	43.86	-89.51	-300.58	-969.99	1,299.98	1,216.02	83.96	15.483	
11,850.00	11,838.14	11,891.74	11,838.33	42.04	44.01	-89.60	-298.28	-970.01	1,299.97	1,215.68	84.29	15.423	
11,900.00	11,887.35	11,941.01	11,887.15	42.19	44.17	-89.70	-291.77	-970.07	1,299.95	1,215.35	84.60	15.365	
11,950.00	11,935.60	11,990.46	11,935.40	42.34	44.31	-89.80	-281.04	-970.18	1,299.94	1,215.04	84.91	15.310	
12,000.00	11,982.53	12,040.10	11,982.74	42.49	44.45	-89.90	-266.13	-970.32	1,299.94	1,214.74	85.20	15.258	
12,047.75	12,025.78	12,087.70	12,026.75	42.61	44.57	-90.00	-248.03	-970.49	1,299.94	1,214.47	85.46	15.211	
12,050.00	12,027.78	12,089.95	12,028.79	42.62	44.58	-90.00	-247.09	-970.50	1,299.94	1,214.46	85.47	15.208	
12,100.00	12,071.01	12,140.00	12,073.19	42.74	44.70	-90.10	-224.02	-970.72	1,299.94	1,214.20	85.74	15.162	
12,150.00	12,111.89	12,190.25	12,115.57	42.86	44.80	-90.21	-197.04	-970.98	1,299.95	1,213.96	85.99	15.117	
12,200.00	12,150.10	12,240.71	12,155.58	42.96	44.89	-90.31	-166.33	-971.27	1,299.96	1,213.73	86.23	15.076	
12,250.00	12,185.37	12,291.38	12,192.89	43.06	44.96	-90.41	-132.07	-971.60	1,299.97	1,213.51	86.46	15.036	
12,300.00	12,217.41	12,342.25	12,227.15	43.15	45.02	-90.50	-94.50	-971.96	1,299.99	1,213.31	86.67	14.999	
12,350.00	12,245.98	12,393.31	12,258.05	43.23	45.07	-90.59	-53.87	-972.35	1,300.01	1,213.13	86.88	14.963	
12,400.00	12,270.87	12,444.57	12,285.32	43.32	45.10	-90.68	-10.49	-972.76	1,300.03	1,212.95	87.08	14.929	
12,450.00	12,291.89	12,496.00	12,308.67	43.40	45.12	-90.76	35.32	-973.20	1,300.05	1,212.78	87.28	14.896	
12,500.00	12,308.88	12,547.61	12,327.88	43.49	45.13	-90.84	83.20	-973.66	1,300.08	1,212.61	87.47	14.864	
12,550.00	12,321.70	12,599.38	12,342.74	43.57	45.13	-90.91	132.77	-974.13	1,300.10	1,212.45	87.65	14.833	
12,600.00	12,330.27	12,651.30	12,353.09	43.66	45.13	-90.97	183.63	-974.62	1,300.13	1,212.29	87.83	14.802	
12,650.00	12,334.51	12,703.35	12,358.80	43.75	45.14	-91.03	235.34	-975.11	1,300.15	1,212.14	88.01	14.773	
12,700.00	12,335.00	12,754.88	12,360.00	43.84	45.15	-91.06	286.84	-975.60	1,300.16	1,211.98	88.19	14.743	
12,750.00	12,335.00	12,804.88	12,360.00	43.95	45.17	-91.06	336.84	-976.08	1,300.16	1,211.78	88.38	14.710	
12,800.00	12,335.00	12,854.88	12,360.00	44.06	45.21	-91.06	386.84	-976.56	1,300.16	1,211.56	88.60	14.675	
12,850.00	12,335.00	12,904.88	12,360.00	44.19	45.28	-91.06	436.83	-977.03	1,300.16	1,211.32	88.84	14.635	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Project:	Lea County (NAD83 New Mexico East)	**TVD Reference:**	RKB @ 3110.80ft
Reference Site:	Sec 15-T26S-R35E	**MD Reference:**	RKB @ 3110.80ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 15-T26S-R35E - Arena Roja Fed Unit 15-10 8H - Wellbore #1 - Permit Plan 1

Offset Site Error: 0.00 ft

Survey Program: 0-MWD+HDGM

Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
12,900.00	12,335.00	12,954.88	12,360.00	44.32	45.37	-91.06	486.83	-977.51	1,300.16	1,211.06	89.10	14.592	
12,950.00	12,335.00	13,004.88	12,360.00	44.48	45.48	-91.06	536.83	-977.99	1,300.16	1,210.78	89.39	14.545	
13,000.00	12,335.00	13,054.88	12,360.00	44.64	45.62	-91.06	586.83	-978.47	1,300.16	1,210.47	89.69	14.496	
13,050.00	12,335.00	13,104.88	12,360.00	44.82	45.77	-91.06	636.83	-978.95	1,300.16	1,210.14	90.03	14.442	
13,100.00	12,335.00	13,154.88	12,360.00	44.99	45.94	-91.06	686.82	-979.42	1,300.16	1,209.79	90.38	14.386	
13,150.00	12,335.00	13,204.88	12,360.00	45.20	46.11	-91.06	736.82	-979.90	1,300.16	1,209.41	90.75	14.327	
13,200.00	12,335.00	13,254.88	12,360.00	45.40	46.31	-91.06	786.82	-980.38	1,300.17	1,209.02	91.15	14.265	
13,250.00	12,335.00	13,304.88	12,360.00	45.62	46.51	-91.06	836.82	-980.86	1,300.17	1,208.60	91.57	14.199	
13,300.00	12,335.00	13,354.88	12,360.00	45.84	46.73	-91.06	886.81	-981.33	1,300.17	1,208.16	92.00	14.132	
13,350.00	12,335.00	13,404.88	12,360.00	46.08	46.95	-91.06	936.81	-981.81	1,300.17	1,207.70	92.46	14.062	
13,400.00	12,335.00	13,454.88	12,360.00	46.33	47.19	-91.06	986.81	-982.29	1,300.17	1,207.23	92.94	13.989	
13,450.00	12,335.00	13,504.88	12,360.00	46.59	47.44	-91.06	1,036.81	-982.77	1,300.17	1,206.73	93.44	13.914	
13,500.00	12,335.00	13,554.88	12,360.00	46.85	47.70	-91.06	1,086.81	-983.24	1,300.17	1,206.21	93.96	13.837	
13,550.00	12,335.00	13,604.88	12,360.00	47.13	47.96	-91.06	1,136.80	-983.72	1,300.17	1,205.67	94.50	13.758	
13,600.00	12,335.00	13,654.88	12,360.00	47.42	48.24	-91.06	1,186.80	-984.20	1,300.17	1,205.11	95.06	13.678	
13,650.00	12,335.00	13,704.88	12,360.00	47.72	48.52	-91.06	1,236.80	-984.68	1,300.17	1,204.53	95.64	13.595	
13,700.00	12,335.00	13,754.88	12,360.00	48.02	48.82	-91.06	1,286.80	-985.15	1,300.17	1,203.94	96.23	13.511	
13,750.00	12,335.00	13,804.88	12,360.00	48.34	49.12	-91.06	1,336.79	-985.63	1,300.17	1,203.32	96.84	13.425	
13,800.00	12,335.00	13,854.88	12,360.00	48.65	49.44	-91.06	1,386.79	-986.11	1,300.17	1,202.69	97.48	13.338	
13,850.00	12,335.00	13,904.88	12,360.00	48.99	49.75	-91.06	1,436.79	-986.59	1,300.17	1,202.04	98.12	13.250	
13,900.00	12,335.00	13,954.88	12,360.00	49.33	50.09	-91.06	1,486.79	-987.07	1,300.17	1,201.38	98.79	13.161	
13,950.00	12,335.00	14,004.88	12,360.00	49.68	50.42	-91.06	1,536.78	-987.54	1,300.17	1,200.70	99.47	13.070	
14,000.00	12,335.00	14,054.88	12,360.00	50.03	50.77	-91.06	1,586.78	-988.02	1,300.17	1,200.00	100.17	12.979	
14,050.00	12,335.00	14,104.88	12,360.00	50.40	51.12	-91.06	1,636.78	-988.50	1,300.17	1,199.28	100.89	12.887	
14,100.00	12,335.00	14,154.88	12,360.00	50.77	51.48	-91.06	1,686.78	-988.98	1,300.17	1,198.55	101.62	12.795	
14,150.00	12,335.00	14,204.88	12,360.00	51.15	51.84	-91.06	1,736.78	-989.45	1,300.17	1,197.81	102.36	12.701	
14,200.00	12,335.00	14,254.88	12,360.00	51.53	52.22	-91.06	1,786.77	-989.93	1,300.17	1,197.04	103.13	12.607	
14,250.00	12,335.00	14,304.88	12,360.00	51.93	52.60	-91.06	1,836.77	-990.41	1,300.17	1,196.27	103.90	12.513	
14,300.00	12,335.00	14,354.88	12,360.00	52.33	53.00	-91.06	1,886.77	-990.89	1,300.17	1,195.48	104.69	12.419	
14,350.00	12,335.00	14,404.88	12,360.00	52.74	53.39	-91.06	1,936.77	-991.36	1,300.17	1,194.67	105.50	12.324	
14,400.00	12,335.00	14,454.88	12,360.00	53.15	53.80	-91.06	1,986.76	-991.84	1,300.17	1,193.86	106.32	12.229	
14,450.00	12,335.00	14,504.88	12,360.00	53.58	54.20	-91.06	2,036.76	-992.32	1,300.17	1,193.02	107.15	12.134	
14,500.00	12,335.00	14,554.88	12,360.00	54.00	54.62	-91.06	2,086.76	-992.80	1,300.17	1,192.18	108.00	12.039	
14,550.00	12,335.00	14,604.88	12,360.00	54.44	55.04	-91.06	2,136.76	-993.27	1,300.17	1,191.32	108.85	11.944	
14,600.00	12,335.00	14,654.88	12,360.00	54.88	55.47	-91.06	2,186.76	-993.75	1,300.17	1,190.45	109.72	11.849	
14,650.00	12,335.00	14,704.88	12,360.00	55.33	55.91	-91.06	2,236.75	-994.23	1,300.17	1,189.57	110.61	11.755	
14,700.00	12,335.00	14,754.88	12,360.00	55.78	56.35	-91.06	2,286.75	-994.71	1,300.18	1,188.67	111.50	11.661	
14,750.00	12,335.00	14,804.88	12,360.00	56.24	56.80	-91.06	2,336.75	-995.18	1,300.18	1,187.77	112.41	11.566	
14,800.00	12,335.00	14,854.88	12,360.00	56.70	57.25	-91.06	2,386.75	-995.66	1,300.18	1,186.85	113.33	11.473	
14,850.00	12,335.00	14,904.88	12,360.00	57.17	57.71	-91.06	2,436.74	-996.14	1,300.18	1,185.92	114.26	11.380	
14,900.00	12,335.00	14,954.88	12,360.00	57.64	58.17	-91.06	2,486.74	-996.62	1,300.18	1,184.98	115.20	11.287	
14,950.00	12,335.00	15,004.88	12,360.00	58.12	58.64	-91.06	2,536.74	-997.10	1,300.18	1,184.03	116.15	11.194	
15,000.00	12,335.00	15,054.88	12,360.00	58.61	59.11	-91.06	2,586.74	-997.57	1,300.18	1,183.07	117.11	11.103	
15,050.00	12,335.00	15,104.88	12,360.00	59.10	59.59	-91.06	2,636.73	-998.05	1,300.18	1,182.10	118.08	11.011	
15,100.00	12,335.00	15,154.88	12,360.00	59.59	60.08	-91.06	2,686.73	-998.53	1,300.18	1,181.12	119.06	10.921	
15,150.00	12,335.00	15,204.88	12,360.00	60.09	60.56	-91.06	2,736.73	-999.01	1,300.18	1,180.13	120.05	10.830	
15,200.00	12,335.00	15,254.88	12,360.00	60.59	61.06	-91.06	2,786.73	-999.48	1,300.18	1,179.13	121.05	10.741	
15,250.00	12,335.00	15,304.88	12,360.00	61.11	61.56	-91.06	2,836.73	-999.96	1,300.18	1,178.12	122.06	10.652	
15,300.00	12,335.00	15,354.88	12,360.00	61.62	62.06	-91.06	2,886.72	-1,000.44	1,300.18	1,177.10	123.07	10.564	
15,350.00	12,335.00	15,404.88	12,360.00	62.14	62.56	-91.06	2,936.72	-1,000.92	1,300.18	1,176.08	124.10	10.477	
15,400.00	12,335.00	15,454.88	12,360.00	62.65	63.08	-91.06	2,986.72	-1,001.39	1,300.18	1,175.04	125.14	10.390	
15,450.00	12,335.00	15,504.88	12,360.00	63.18	63.59	-91.06	3,036.72	-1,001.87	1,300.18	1,174.00	126.18	10.304	

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Project:	Lea County (NAD83 New Mexico East)	**TVD Reference:**	RKB @ 3110.80ft
Reference Site:	Sec 15-T26S-R35E	**MD Reference:**	RKB @ 3110.80ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 15-T26S-R35E - Arena Roja Fed Unit 15-10 8H - Wellbore #1 - Permit Plan 1

Offset Site Error: 0.00 ft

Survey Program: 0-MWD+HDGM

Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
15,500.00	12,335.00	15,554.88	12,360.00	63.71	64.11	-91.06	3,086.71	-1,002.35	1,300.18	1,172.95	127.23	10.219	
15,550.00	12,335.00	15,604.88	12,360.00	64.24	64.63	-91.06	3,136.71	-1,002.83	1,300.18	1,171.89	128.29	10.135	
15,600.00	12,335.00	15,654.88	12,360.00	64.78	65.16	-91.06	3,186.71	-1,003.30	1,300.18	1,170.83	129.36	10.051	
15,650.00	12,335.00	15,704.88	12,360.00	65.32	65.69	-91.06	3,236.71	-1,003.78	1,300.18	1,169.75	130.43	9.968	
15,700.00	12,335.00	15,754.88	12,360.00	65.86	66.23	-91.06	3,286.70	-1,004.26	1,300.18	1,168.67	131.51	9.886	
15,750.00	12,335.00	15,804.88	12,360.00	66.41	66.76	-91.06	3,336.70	-1,004.74	1,300.18	1,167.58	132.60	9.805	
15,800.00	12,335.00	15,854.88	12,360.00	66.96	67.31	-91.06	3,386.70	-1,005.22	1,300.18	1,166.49	133.70	9.725	
15,850.00	12,335.00	15,904.88	12,360.00	67.52	67.85	-91.06	3,436.70	-1,005.69	1,300.18	1,165.38	134.80	9.645	
15,900.00	12,335.00	15,954.88	12,360.00	68.08	68.40	-91.06	3,486.70	-1,006.17	1,300.18	1,164.28	135.91	9.567	
15,950.00	12,335.00	16,004.88	12,360.00	68.64	68.95	-91.06	3,536.69	-1,006.65	1,300.18	1,163.16	137.02	9.489	
16,000.00	12,335.00	16,054.88	12,360.00	69.20	69.51	-91.06	3,586.69	-1,007.13	1,300.18	1,162.04	138.14	9.412	
16,050.00	12,335.00	16,104.88	12,360.00	69.77	70.07	-91.06	3,636.69	-1,007.60	1,300.18	1,160.91	139.27	9.336	
16,100.00	12,335.00	16,154.88	12,360.00	70.34	70.63	-91.06	3,686.69	-1,008.08	1,300.18	1,159.78	140.40	9.260	
16,150.00	12,335.00	16,204.88	12,360.00	70.91	71.19	-91.06	3,736.68	-1,008.56	1,300.18	1,158.64	141.54	9.186	
16,200.00	12,335.00	16,254.88	12,360.00	71.48	71.76	-91.06	3,786.68	-1,009.04	1,300.18	1,157.50	142.69	9.112	
16,250.00	12,335.00	16,304.88	12,360.00	72.06	72.33	-91.06	3,836.68	-1,009.51	1,300.19	1,156.34	143.84	9.039	
16,300.00	12,335.00	16,354.88	12,360.00	72.64	72.90	-91.06	3,886.68	-1,009.99	1,300.19	1,155.19	145.00	8.967	
16,350.00	12,335.00	16,404.88	12,360.00	73.23	73.48	-91.06	3,936.68	-1,010.47	1,300.19	1,154.03	146.16	8.896	
16,400.00	12,335.00	16,454.88	12,360.00	73.81	74.05	-91.06	3,986.67	-1,010.95	1,300.19	1,152.86	147.32	8.825	
16,450.00	12,335.00	16,504.88	12,360.00	74.40	74.63	-91.06	4,036.67	-1,011.42	1,300.19	1,151.69	148.50	8.756	
16,500.00	12,335.00	16,554.88	12,360.00	74.99	75.22	-91.06	4,086.67	-1,011.90	1,300.19	1,150.51	149.67	8.687	
16,550.00	12,335.00	16,604.88	12,360.00	75.59	75.80	-91.06	4,136.67	-1,012.38	1,300.19	1,149.33	150.86	8.619	
16,600.00	12,335.00	16,654.88	12,360.00	76.18	76.39	-91.06	4,186.66	-1,012.86	1,300.19	1,148.15	152.04	8.552	
16,650.00	12,335.00	16,704.88	12,360.00	76.78	76.98	-91.06	4,236.66	-1,013.34	1,300.19	1,146.96	153.23	8.485	
16,700.00	12,335.00	16,754.88	12,360.00	77.38	77.57	-91.06	4,286.66	-1,013.81	1,300.19	1,145.76	154.43	8.419	
16,750.00	12,335.00	16,804.88	12,360.00	77.98	78.17	-91.06	4,336.66	-1,014.29	1,300.19	1,144.56	155.63	8.355	
16,800.00	12,335.00	16,854.88	12,360.00	78.59	78.77	-91.06	4,386.65	-1,014.77	1,300.19	1,143.36	156.83	8.290	
16,850.00	12,335.00	16,904.88	12,360.00	79.19	79.37	-91.06	4,436.65	-1,015.25	1,300.19	1,142.15	158.04	8.227	
16,900.00	12,335.00	16,954.88	12,360.00	79.80	79.97	-91.06	4,486.65	-1,015.72	1,300.19	1,140.94	159.25	8.164	
16,950.00	12,335.00	17,004.88	12,360.00	80.41	80.57	-91.06	4,536.65	-1,016.20	1,300.19	1,139.72	160.47	8.102	
17,000.00	12,335.00	17,054.88	12,360.00	81.02	81.18	-91.06	4,586.65	-1,016.68	1,300.19	1,138.50	161.69	8.041	
17,050.00	12,335.00	17,104.88	12,360.00	81.64	81.78	-91.06	4,636.64	-1,017.16	1,300.19	1,137.28	162.91	7.981	
17,100.00	12,335.00	17,154.88	12,360.00	82.25	82.39	-91.06	4,686.64	-1,017.63	1,300.19	1,136.05	164.14	7.921	
17,150.00	12,335.00	17,204.88	12,360.00	82.87	83.00	-91.06	4,736.64	-1,018.11	1,300.19	1,134.82	165.37	7.862	
17,200.00	12,335.00	17,254.88	12,360.00	83.49	83.62	-91.06	4,786.64	-1,018.59	1,300.19	1,133.58	166.61	7.804	
17,250.00	12,335.00	17,304.88	12,360.00	84.11	84.23	-91.06	4,836.63	-1,019.07	1,300.19	1,132.35	167.85	7.746	
17,300.00	12,335.00	17,354.88	12,360.00	84.74	84.85	-91.06	4,886.63	-1,019.54	1,300.19	1,131.10	169.09	7.689	
17,350.00	12,335.00	17,404.88	12,360.00	85.36	85.47	-91.06	4,936.63	-1,020.02	1,300.19	1,129.86	170.33	7.633	
17,400.00	12,335.00	17,454.88	12,360.00	85.99	86.09	-91.06	4,986.63	-1,020.50	1,300.19	1,128.61	171.58	7.578	
17,450.00	12,335.00	17,504.88	12,360.00	86.62	86.71	-91.06	5,036.63	-1,020.98	1,300.19	1,127.36	172.83	7.523	
17,500.00	12,335.00	17,554.88	12,360.00	87.24	87.33	-91.06	5,086.62	-1,021.45	1,300.19	1,126.10	174.09	7.469	
17,550.00	12,335.00	17,604.88	12,360.00	87.88	87.96	-91.06	5,136.62	-1,021.93	1,300.19	1,124.85	175.35	7.415	
17,600.00	12,335.00	17,654.88	12,360.00	88.51	88.58	-91.06	5,186.62	-1,022.41	1,300.19	1,123.59	176.61	7.362	
17,650.00	12,335.00	17,704.88	12,360.00	89.14	89.21	-91.06	5,236.62	-1,022.89	1,300.19	1,122.32	177.87	7.310	
17,700.00	12,335.00	17,754.88	12,360.00	89.78	89.84	-91.06	5,286.61	-1,023.37	1,300.19	1,121.06	179.14	7.258	
17,750.00	12,335.00	17,804.88	12,360.00	90.41	90.47	-91.06	5,336.61	-1,023.84	1,300.20	1,119.79	180.41	7.207	
17,800.00	12,335.00	17,854.88	12,360.00	91.05	91.10	-91.06	5,386.61	-1,024.32	1,300.20	1,118.51	181.68	7.156	
17,850.00	12,335.00	17,904.88	12,360.00	91.69	91.74	-91.06	5,436.61	-1,024.80	1,300.20	1,117.24	182.96	7.107	
17,900.00	12,335.00	17,954.88	12,360.00	92.33	92.37	-91.06	5,486.60	-1,025.28	1,300.20	1,115.96	184.23	7.057	
17,950.00	12,335.00	18,004.88	12,360.00	92.97	93.01	-91.06	5,536.60	-1,025.75	1,300.20	1,114.68	185.51	7.009	
18,000.00	12,335.00	18,054.88	12,360.00	93.61	93.65	-91.06	5,586.60	-1,026.23	1,300.20	1,113.40	186.80	6.960	
18,050.00	12,335.00	18,104.88	12,360.00	94.26	94.29	-91.06	5,636.60	-1,026.71	1,300.20	1,112.11	188.08	6.913	

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

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Project:	Lea County (NAD83 New Mexico East)	**TVD Reference:**	RKB @ 3110.80ft
Reference Site:	Sec 15-T26S-R35E	**MD Reference:**	RKB @ 3110.80ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Offset Design Sec 15-T26S-R35E - Arena Roja Fed Unit 15-10 8H - Wellbore #1 - Permit Plan 1

Offset Site Error: 0.00 ft

Survey Program: 0-MWD+HDGM

Offset Well Error: 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
18,100.00	12,335.00	18,154.88	12,360.00	94.90	94.93	-91.06	5,686.60	-1,027.19	1,300.20	1,110.83	189.37	6.866	
18,150.00	12,335.00	18,204.88	12,360.00	95.55	95.57	-91.06	5,736.59	-1,027.66	1,300.20	1,109.54	190.66	6.819	
18,200.00	12,335.00	18,254.88	12,360.00	96.20	96.21	-91.06	5,786.59	-1,028.14	1,300.20	1,108.25	191.95	6.774	
18,250.00	12,335.00	18,304.88	12,360.00	96.85	96.85	-91.06	5,836.59	-1,028.62	1,300.20	1,106.95	193.25	6.728	
18,300.00	12,335.00	18,354.88	12,360.00	97.50	97.50	-91.06	5,886.59	-1,029.10	1,300.20	1,105.65	194.54	6.683	
18,350.00	12,335.00	18,404.88	12,360.00	98.15	98.14	-91.06	5,936.58	-1,029.57	1,300.20	1,104.35	195.84	6.639	
18,400.00	12,335.00	18,454.88	12,360.00	98.80	98.79	-91.06	5,986.58	-1,030.05	1,300.20	1,103.05	197.15	6.595	
18,450.00	12,335.00	18,504.88	12,360.00	99.45	99.44	-91.06	6,036.58	-1,030.53	1,300.20	1,101.75	198.45	6.552	
18,500.00	12,335.00	18,554.88	12,360.00	100.11	100.09	-91.06	6,086.58	-1,031.01	1,300.20	1,100.45	199.75	6.509	
18,550.00	12,335.00	18,604.88	12,360.00	100.76	100.74	-91.06	6,136.57	-1,031.49	1,300.20	1,099.14	201.06	6.467	
18,600.00	12,335.00	18,654.88	12,360.00	101.42	101.39	-91.06	6,186.57	-1,031.96	1,300.20	1,097.83	202.37	6.425	
18,650.00	12,335.00	18,704.88	12,360.00	102.08	102.04	-91.06	6,236.57	-1,032.44	1,300.20	1,096.52	203.68	6.383	
18,700.00	12,335.00	18,754.88	12,360.00	102.73	102.70	-91.06	6,286.57	-1,032.92	1,300.20	1,095.20	205.00	6.343	
18,750.00	12,335.00	18,804.88	12,360.00	103.39	103.35	-91.06	6,336.57	-1,033.40	1,300.20	1,093.89	206.31	6.302	
18,800.00	12,335.00	18,854.88	12,360.00	104.05	104.01	-91.06	6,386.56	-1,033.87	1,300.20	1,092.57	207.63	6.262	
18,850.00	12,335.00	18,904.88	12,360.00	104.71	104.66	-91.06	6,436.56	-1,034.35	1,300.20	1,091.25	208.95	6.223	
18,900.00	12,335.00	18,954.88	12,360.00	105.38	105.32	-91.06	6,486.56	-1,034.83	1,300.20	1,089.93	210.27	6.184	
18,950.00	12,335.00	19,004.88	12,360.00	106.04	105.98	-91.06	6,536.56	-1,035.31	1,300.20	1,088.61	211.59	6.145	
19,000.00	12,335.00	19,054.88	12,360.00	106.70	106.64	-91.06	6,586.55	-1,035.78	1,300.20	1,087.29	212.92	6.107	
19,050.00	12,335.00	19,104.88	12,360.00	107.37	107.30	-91.06	6,636.55	-1,036.26	1,300.20	1,085.96	214.24	6.069	
19,100.00	12,335.00	19,154.88	12,360.00	108.03	107.96	-91.06	6,686.55	-1,036.74	1,300.20	1,084.63	215.57	6.031	
19,150.00	12,335.00	19,204.88	12,360.00	108.70	108.62	-91.06	6,736.55	-1,037.22	1,300.20	1,083.31	216.90	5.995	
19,200.00	12,335.00	19,254.88	12,360.00	109.36	109.28	-91.06	6,786.55	-1,037.69	1,300.20	1,081.98	218.23	5.958	
19,250.00	12,335.00	19,304.88	12,360.00	110.03	109.95	-91.06	6,836.54	-1,038.17	1,300.20	1,080.64	219.56	5.922	
19,300.00	12,335.00	19,354.88	12,360.00	110.70	110.61	-91.06	6,886.54	-1,038.65	1,300.21	1,079.31	220.90	5.886	
19,350.00	12,335.00	19,404.88	12,360.00	111.37	111.28	-91.06	6,936.54	-1,039.13	1,300.21	1,077.97	222.23	5.851	
19,400.00	12,335.00	19,454.88	12,360.00	112.04	111.94	-91.06	6,986.54	-1,039.61	1,300.21	1,076.64	223.57	5.816	
19,450.00	12,335.00	19,504.88	12,360.00	112.71	112.61	-91.06	7,036.53	-1,040.08	1,300.21	1,075.30	224.91	5.781	
19,500.00	12,335.00	19,554.88	12,360.00	113.38	113.28	-91.06	7,086.53	-1,040.56	1,300.21	1,073.96	226.25	5.747	
19,550.00	12,335.00	19,604.88	12,360.00	114.05	113.94	-91.06	7,136.53	-1,041.04	1,300.21	1,072.62	227.59	5.713	
19,600.00	12,335.00	19,654.88	12,360.00	114.72	114.61	-91.06	7,186.53	-1,041.52	1,300.21	1,071.28	228.93	5.680	
19,650.00	12,335.00	19,704.88	12,360.00	115.39	115.28	-91.06	7,236.52	-1,041.99	1,300.21	1,069.93	230.27	5.646	
19,700.00	12,335.00	19,754.88	12,360.00	116.07	115.95	-91.06	7,286.52	-1,042.47	1,300.21	1,068.59	231.62	5.614	
19,750.00	12,335.00	19,804.88	12,360.00	116.74	116.62	-91.06	7,336.52	-1,042.95	1,300.21	1,067.24	232.96	5.581	
19,800.00	12,335.00	19,854.88	12,360.00	117.42	117.29	-91.06	7,386.52	-1,043.43	1,300.21	1,065.90	234.31	5.549	
19,850.00	12,335.00	19,904.88	12,360.00	118.09	117.97	-91.06	7,436.52	-1,043.90	1,300.21	1,064.55	235.66	5.517	
19,900.00	12,335.00	19,954.88	12,360.00	118.77	118.64	-91.06	7,486.51	-1,044.38	1,300.21	1,063.20	237.01	5.486	
19,950.00	12,335.00	20,004.88	12,360.00	119.44	119.31	-91.06	7,536.51	-1,044.86	1,300.21	1,061.85	238.36	5.455	
20,000.00	12,335.00	20,054.88	12,360.00	120.12	119.99	-91.06	7,586.51	-1,045.34	1,300.21	1,060.49	239.71	5.424	
20,050.00	12,335.00	20,104.88	12,360.00	120.80	120.66	-91.06	7,636.51	-1,045.81	1,300.21	1,059.14	241.07	5.394	
20,100.00	12,335.00	20,154.88	12,360.00	121.48	121.34	-91.06	7,686.50	-1,046.29	1,300.21	1,057.79	242.42	5.363	
20,150.00	12,335.00	20,204.88	12,360.00	122.16	122.01	-91.06	7,736.50	-1,046.77	1,300.21	1,056.43	243.78	5.334	
20,200.00	12,335.00	20,254.88	12,360.00	122.84	122.69	-91.06	7,786.50	-1,047.25	1,300.21	1,055.07	245.14	5.304	
20,250.00	12,335.00	20,304.88	12,360.00	123.52	123.36	-91.06	7,836.50	-1,047.72	1,300.21	1,053.72	246.50	5.275	
20,300.00	12,335.00	20,354.88	12,360.00	124.20	124.04	-91.06	7,886.50	-1,048.20	1,300.21	1,052.36	247.85	5.246	
20,350.00	12,335.00	20,404.88	12,360.00	124.88	124.72	-91.06	7,936.49	-1,048.68	1,300.21	1,051.00	249.22	5.217	
20,400.00	12,335.00	20,454.88	12,360.00	125.56	125.40	-91.06	7,986.49	-1,049.16	1,300.21	1,049.64	250.58	5.189	
20,450.00	12,335.00	20,504.88	12,360.00	126.24	126.08	-91.06	8,036.49	-1,049.64	1,300.21	1,048.27	251.94	5.161	
20,500.00	12,335.00	20,554.88	12,360.00	126.92	126.76	-91.06	8,086.49	-1,050.11	1,300.21	1,046.91	253.30	5.133	
20,550.00	12,335.00	20,604.88	12,360.00	127.61	127.44	-91.06	8,136.48	-1,050.59	1,300.21	1,045.55	254.67	5.106	
20,600.00	12,335.00	20,654.88	12,360.00	128.29	128.12	-91.06	8,186.48	-1,051.07	1,300.21	1,044.18	256.03	5.078	
20,650.00	12,335.00	20,704.88	12,360.00	128.97	128.80	-91.06	8,236.48	-1,051.55	1,300.21	1,042.82	257.40	5.051	

Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Project:	Lea County (NAD83 New Mexico East)	**TVD Reference:**	RKB @ 3110.80ft
Reference Site:	Sec 15-T26S-R35E	**MD Reference:**	RKB @ 3110.80ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

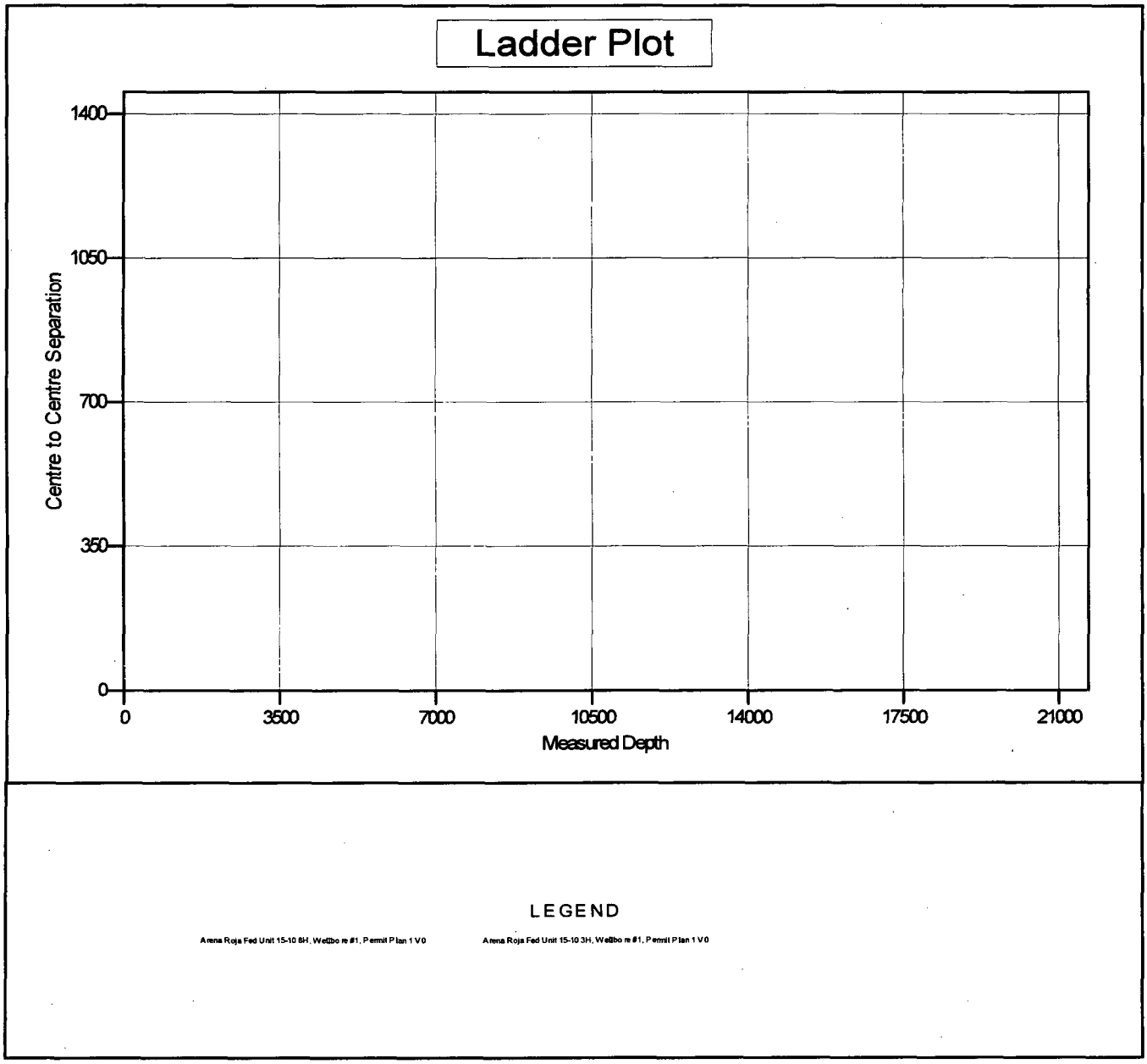
Offset Design Sec 15-T26S-R35E - Arena Roja Fed Unit 15-10 8H - Wellbore #1 - Permit Plan 1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-MWD+HDGM — **Offset Well Error:** 0.50 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
20,700.00	12,335.00	20,754.88	12,360.00	129.66	129.48	-91.06	8,286.48	-1,052.02	1,300.21	1,041.45	258.77	5.025	
20,750.00	12,335.00	20,804.88	12,360.00	130.34	130.16	-91.06	8,336.47	-1,052.50	1,300.21	1,040.08	260.13	4.998	Alert
20,800.00	12,335.00	20,854.88	12,360.00	131.03	130.85	-91.06	8,386.47	-1,052.98	1,300.22	1,038.71	261.50	4.972	Alert
20,850.00	12,335.00	20,904.88	12,360.00	131.71	131.53	-91.06	8,436.47	-1,053.46	1,300.22	1,037.34	262.87	4.946	Alert
20,859.84	12,335.00	20,914.71	12,360.00	131.85	131.66	-91.06	8,446.30	-1,053.55	1,300.22	1,037.07	263.14	4.941	Alert

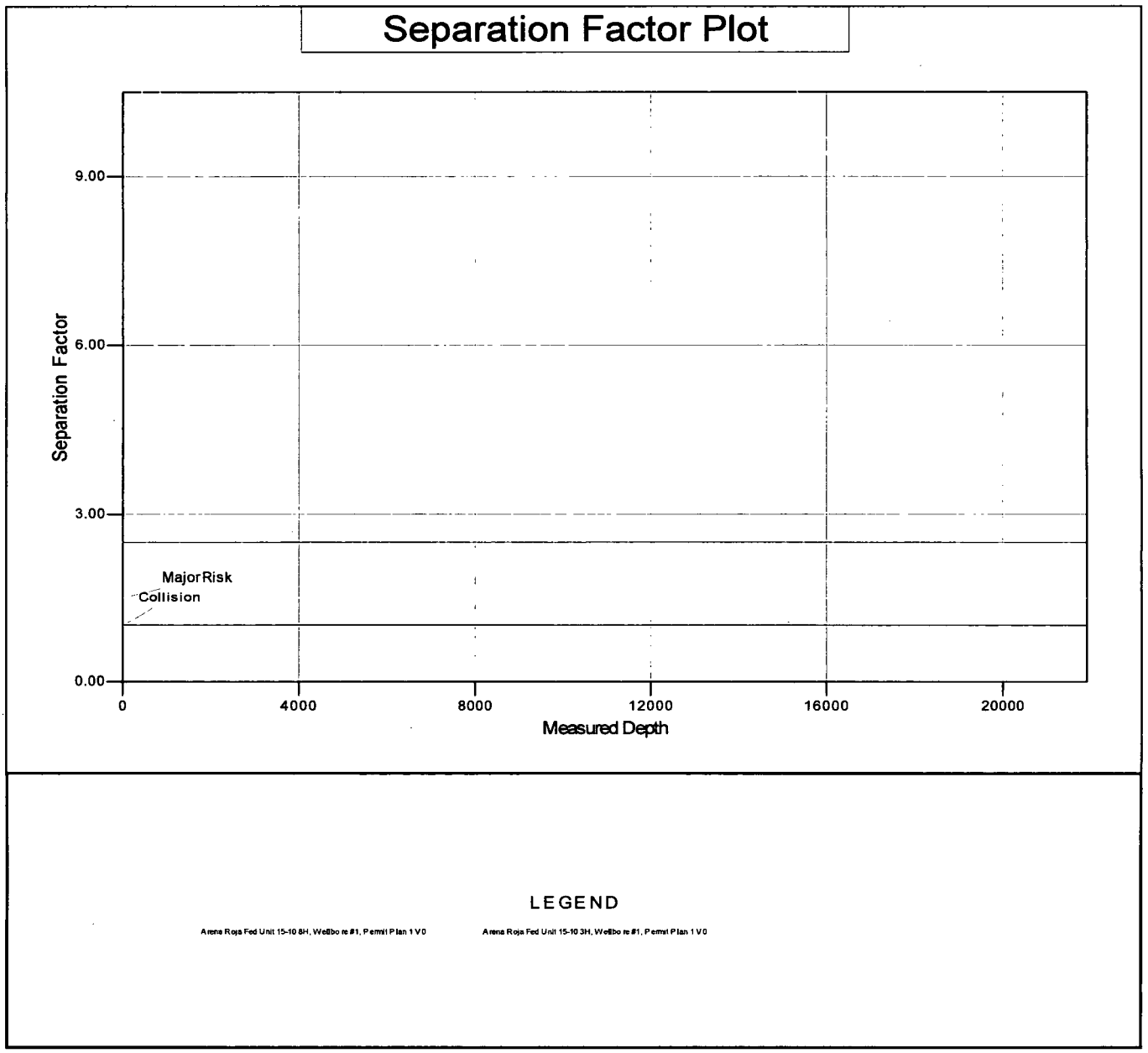
Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Project:	Lea County (NAD83 New Mexico East)	**TVD Reference:**	RKB @ 3110.80ft
Reference Site:	Sec 15-T26S-R35E	**MD Reference:**	RKB @ 3110.80ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	*Permit Plan 1*	***Offset TVD Reference:***	*Offset Datum*

Reference Depths are relative to RKB @ 3110.80ft	Coordinates are relative to: Arena Roja Fed Unit 15-10 4H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Central Meridian is -104.333334	Grid Convergence at Surface is: 0.52°

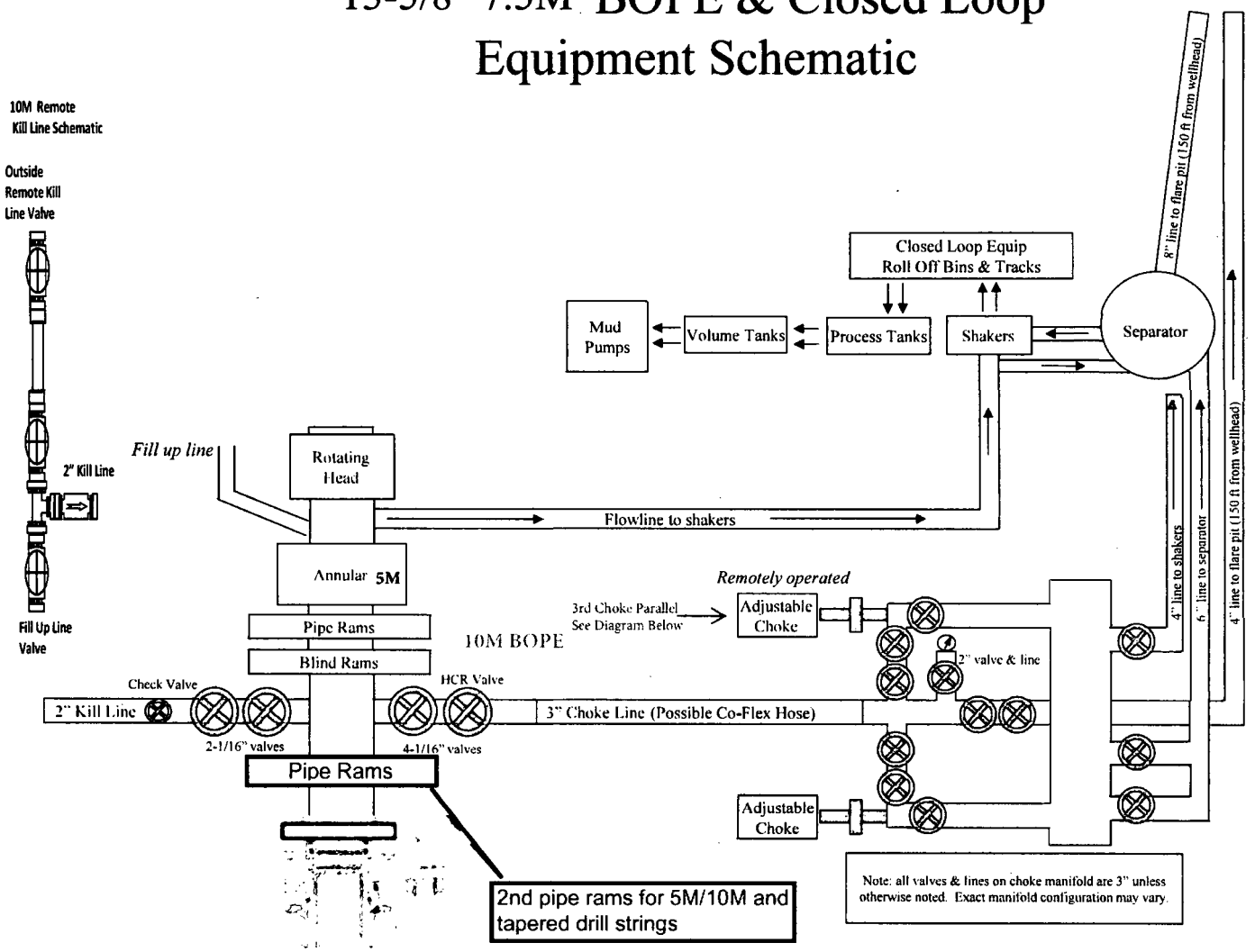


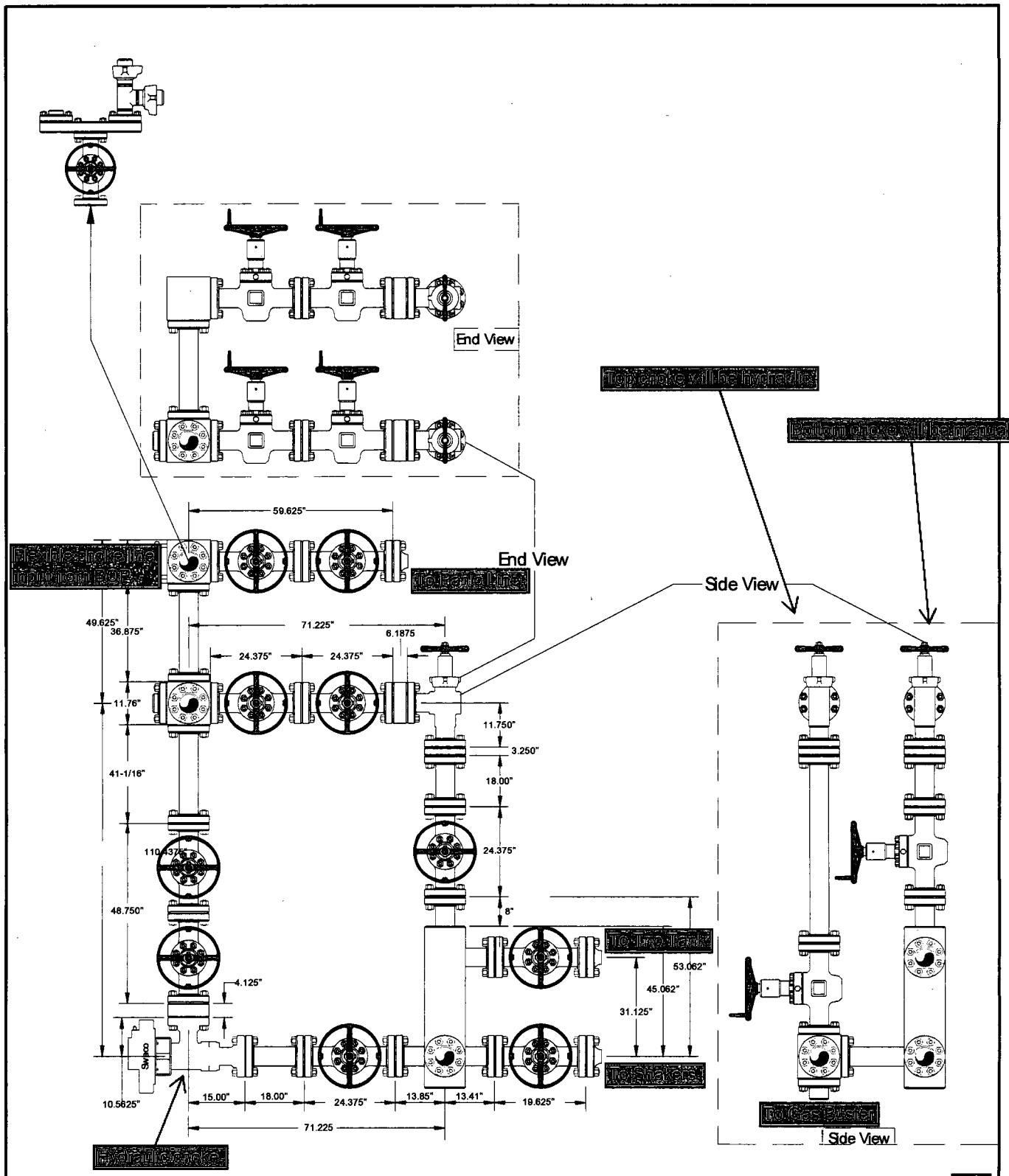
Company:	WCDSC Permian NM	**Local Co-ordinate Reference:**	Well Arena Roja Fed Unit 15-10 4H
Project:	Lea County (NAD83 New Mexico East)	**TVD Reference:**	RKB @ 3110.80ft
Reference Site:	Sec 15-T26S-R35E	**MD Reference:**	RKB @ 3110.80ft
Site Error:	0.00 ft	**North Reference:**	Grid
Reference Well:	Arena Roja Fed Unit 15-10 4H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.50 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	Wellbore #1	**Database:**	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to RKB @ 3110.80ft	Coordinates are relative to: Arena Roja Fed Unit 15-10 4H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Central Meridian is -104.333334	Grid Convergence at Surface is: 0.52°



13-5/8" 7.5M BOPE & Closed Loop Equipment Schematic





Helmerich & Payne

Flex 3 Rig w/ 3 Chokes

devon

Name:	Date:	Working Pressure:	
Mike Potts	6-23-2010	10M	J-5132-E

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 5000 (5M) 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 5M, 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 surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 5M will be installed on the wellhead system and will undergo a 250 psi low pressure test followed by a 5,000 psi high pressure test. The 5,000 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 intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 5M 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 5,000 psi WP.

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

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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 5000 (5M) 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 5M, 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 surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 5M will be installed on the wellhead system and will undergo a 250 psi low pressure test followed by a 5,000 psi high pressure test. The 5,000 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 intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 10M will be installed and tested, with 5M annular being tested to 100% of rated working pressure.

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 10,000 psi WP.

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

CASING PERFORMANCE Data Sheet

Minimum Yield Strength:	125	ksi
Maximum Yield Strength:	140	ksi
Minimum Tensile Strength:	135	ksi

Geometry

Nominal ID:	7.921	inch
Wall:	0.352	inch
Min. Wall % (API = 87.5%):	87.5	%
API Drift:	7.796	inch
Special Drift*:	7.875	inch

Performance

Pipe Body Yield Strength:	1,144	kips
Collapse Resistance:	3,470	psi
Internal Yield Pressure (*API Historical*):	8,930	psi
SC Internal Pressure:	8,930	psi
SC Joint Strength:	793	kips
LC Internal Pressure:	8,930	psi
LC Joint Strength:	887	kips
BC Internal Pressure:	8,930	psi
BC Joint Strength:	1,121	kips

minimum:	5,950	optimum:	7,933	maximum:	9,916
minimum:	6,651	optimum:	8,868	maximum:	11,085

*Special drift must be ordered or API drift will be used for actual drifting of product.

**If above API connections do not suit your needs, VAM® premium connections are available up to 100% of pipe body ratings.

1. Geologic Formations

TVD of target	12,335'	Pilot hole depth	N/A
MD at TD:	20,859'	Deepest expected fresh water:	1043'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Rustler	1043		
Salado	1403		
Base of Salt	5296		
Delaware	5328		
1st BSPG Lime	9212		
1st BSPG Sand	10415		
2nd BSPG Lime	10517		
2nd BSPG Sand	10825		
3rd BSPG Lime	11492		
3rd BSPG Sand	12084		
Wolfcamp	12413		

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

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
14.75"	0	1043'	10.75"	40.5	J-55	STC	1.125	1.25	1.6
9.875"	0	11,773'	7.625"	29.7	P110	BTC	1.125	1.25	1.6
8.75"	11,773'	12,335'	7.625"	29.7	P110	Flushmax III	1.125	1.25	1.6
6.75"	0	20,859'	5.5"	20	P110	Vam SG	1.125	1.25	1.6

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Rustler top will be validated via drilling parameters (i.e. reduction in ROP) and surface casing setting depth revised accordingly if needed.

A variance is requested to wave the centralizer requirement for the 7-5/8" flush casing in the 8-3/4" hole and the 5-1/2" SF/Flush casing in the 6-3/4" hole.

Casing Program (Alternate Design)

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
17.5"	0	1043' (TVD)	13.375"	48	H-40	STC	1.125	1.25	1.6
10.625"	0	5000' (TVD)	8.625"	32	P110EC	BTC	1.125	1.25	1.6
9.875"	5000'	12,335' (TVD)	8.625"	32	P110EC	VAM FJL	1.125	1.25	1.6
7.875"	0	TVD at TD	5.5"	20	P110	Vam SG	1.125	1.25	1.6

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Rustler top will be validated via drilling parameters (i.e. reduction in ROP) and surface casing setting depth revised accordingly if needed.

A variance is requested to wave the centralizer requirement for the 8-5/8" flush casing in the 9-7/8" hole and the 5-1/2" SF/Flush casing in the 7-7/8" hole.

8-5/8" Intermediate casing will be kept fluid filled.

	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 (Primary Design)

Casing	# Sks	Wt. lb/ gal	H_20 gal/sk	Yld ft3/ sack	Slurry Description
Surface	See AFMSS	See AFMSS	See AFMSS	See AFMSS	See AFMSS
Int	See AFMSS	See AFMSS	See AFMSS	See AFMSS	See AFMSS
	See AFMSS	See AFMSS	See AFMSS	See AFMSS	See AFMSS
Intermediate Two-Stage (Bradenhead)	See AFMSS	See AFMSS	See AFMSS	See AFMSS	See AFMSS
	See AFMSS	See AFMSS	See AFMSS	See AFMSS	See AFMSS
Production	See AFMSS	See AFMSS	See AFMSS	See AFMSS	See AFMSS

If a DV tool is used, depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
10-3/4" Surface	0'	50%
7-5/8" Intermediate	0'	30%
5-1/2" Production Casing	200' Tie-Back to intermediate	25%

Cementing Program (Alternate Design)

Casing	# Sks	Wt. lb/ gal	H_20 gal/sk	Yld ft3/ sack	Slurry Description
Surface	649	14.8	6.34	1.34	Tail: Class C Cement + 1% Calcium Chloride
Int	457	9	13.5	3.27	Lead: Tuned Light® Cement
	405	13.2	5.31	1.6	Tail: (50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite
Intermediate Two-Stage (Bradenhead)	1000	14.8	6.32	1.33	Class C Cement + 0.125 lbs/sack Poly-E-Flake
	405	13.2	5.31	1.6	Tail: (50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite
Production	1028	14.8	6.32	1.33	Class H Cement + 0.125 lbs/sack Poly-E-Flake

If a DV tool is used, depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
13-3/8" Surface	0'	50%
8-5/8" Intermediate	0'	30%
5-1/2" Production Casing	200' Tie-Back to intermediate	25%

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
Intermediate	13-5/8"	5M	Annular	X	50% of rated working pressure
			Blind Ram	X	5M
			Pipe Ram	X	
			Double Ram	X	
			Other*		
Production	13-5/8"	10M	Annular (5M)	X	100% of rated working pressure
			Blind Ram	X	10M
			Pipe Ram	X	
			Double Ram	X	
			Other*		
			Annular		
			Blind Ram		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or 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. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.	
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.	
	Y	Are anchors required by manufacturer?

Y	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 5000 (5M) 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 surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 5M will be installed on the wellhead system and will undergo a 250 psi low pressure test followed by a 5,000 psi high pressure test. The 5,000 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. 13-5/8" BOP/BOPE system will have been tested to 10M rating prior to drilling out intermediate casing. 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 5,000 psi WP. Devon's proposed wellhead manufactures will be FMC Technologies, Cactus Wellhead, or Cameron.

	Devon requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line). The line will be kept as straight as possible with minimal turns.

5. Mud Program

Depth		Type	Weight (ppg)	Visco sity	Water Loss
From	To				
0	Surface Casing Shoe	FW Gel	8.6-8.8	28-34	N/C
Surface Casing Shoe	Intermediate Casing Shoe	DBE/Brine	9-10	34-65	N/C - 6
Intermediate Casing Shoe	TD	Oil Based Mud	10-12	45-65	N/C - 6

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 fromTD 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	Int. shoe to KOP
	Density	Int. shoe to KOP
X	CBL	Production casing
X	Mud log	Intermediate shoe to TD
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	7000 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. In the event the spudder rig is unable to drill the surface holes the 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 with either OBM or cut brine 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 14 ¾" 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 10-3/4" 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

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) 217-2972, 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

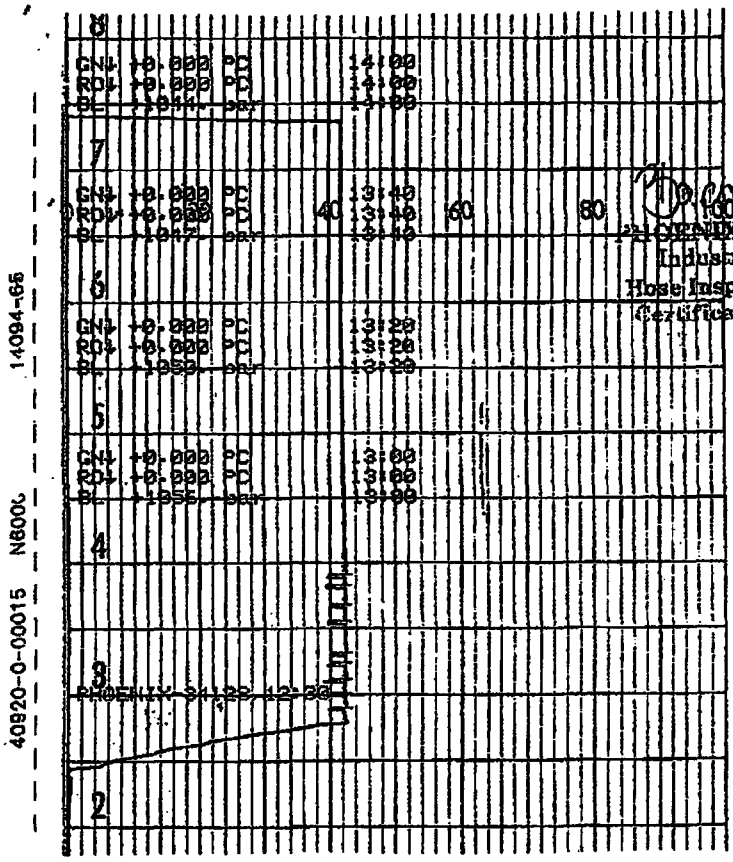
API Spec 16 C
Temperature rate:"B"

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 Certification Dept.

CERTIFIED TRUE COPY
PHOENIX RUBBER Q.C.



PHOENIX RUBBER
Industrial Ltd.
Hose Inspection and
Certification Dept.

VERIFIED TRUE CO
PHOENIX RUBBER C.C.

APD ID: 10400033747 Submission Date: 09/06/2018

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ARENA ROJA FED UNIT 15-10 Well Number: 4H

Well Type: OIL WELL Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Will existing roads be used? YES

Existing Road Map:

Arena_Roja_Fed_Unit_15_10_4H_ACCESS_RD_20180905102458.pdf

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

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:

Will new roads be needed? YES

New Road Map:

ARENA_ROJA_15_ALL_ROADS_20180905093726.pdf

New road type: LOCAL

Length: 12256.3 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: 14

New road access erosion control: Water Drainage Ditch

New road access plan or profile prepared? YES

New road access plan attachment:

ARENA_ROJA_15_ALL_ROADS_20180905093752.pdf

Access road engineering design? YES

Access road engineering design attachment:

ARENA_ROJA_15_ALL_ROADS_20180905093805.pdf

Access surfacing type: NONE

Access topsoil source: OFFSITE

Access surfacing type description: caliche

Access onsite topsoil source depth:

Offsite topsoil source description: caliche

Onsite topsoil removal process:

Access other construction information:

Access miscellaneous information:

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

New road drainage crossing: OTHER

Drainage Control comments: Water Drainage Ditch

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

Road Drainage Control Structures (DCS) attachment:

Additional Attachment(s):

Existing Wells Map? YES

Attach Well map:

Arena_Roja_Fed_Unit_15_10_4H_OneMileBuffer_20180905102539.pdf

Existing Wells description:

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: 5 ATTACHMENTS - WELL ON ARENA ROJA WELLPAD 2 & GOING TO CTB 2 - WELLPAD PLAT, MULTIPLE ELECTRIC PLAT ATTACHMENT, MULTIPLE ROAD PLAT ATTACHMENT, CTB PLAT, FLOWLINE PLAT. CONNECTS HANDLED BY THIRD PARTY

Production Facilities map:

ARENA_ROJA_15_CTB_2_P_20180905093931.PDF

ARENA_ROJA_15_WP_2_P_20180905093932.PDF

ARENA_ROJA_15_ALL_ROADS_20180905093931.pdf

ARENA_ROJA_15_ALL_ELECTRIC_20180905093922.PDF
ARENA_ROJA_15_WP_2_TO_ARENA_ROJA_15_CTB_1_FL_20180905093938.PDF

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): 350000
Source volume (acre-feet): 45.112583
Source volume (gal): 14700000

Water source and transportation map:

ARENA_ROJA_FED_UNIT_15_10_3H_4H_Water_Map_20180905094008.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

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:

Construction Materials description: Dirt fill and caliche will be used to construct well pad. See attached map.

Construction Materials source location attachment:

Arena_Roja_WP2_Caliche_Map_20180905094031.pdf

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: Average produced BWPD over the first year of production.

Amount of waste: 1200 barrels

Waste disposal frequency : Daily

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: OFF-LEASE INJECTION Disposal location ownership: STATE

Disposal type description:

Disposal location description: Produced water will be primarily disposed of at our Rattlesnake 16 SWD. At certain times during the year, some of the water will be recycled and used for stimulations (recycle facility is at the same location as the SWD). Surplus produced water will be sent to third party suppliers for disposal.

Waste type: FLOWBACK

Waste content description: Average produced BWPD over the flowback period (first 30 days of production).

Amount of waste: 4000 barrels

Waste disposal frequency : Daily

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: OFF-LEASE INJECTION Disposal location ownership: STATE

Disposal type description:

Disposal location description: Produced water will be primarily disposed of at our Rattlesnake 16 SWD. At certain times during the year, some of the water will be recycled and used for stimulations (recycle facility is at the same location as the SWD). Surplus produced water will be sent to third party suppliers for disposal.

Waste type: DRILLING

Waste content description: Water Based and Oil Based Cuttings

Amount of waste: 1740 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 disposed of at R360, Sundance, or equivalent.

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 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

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: ARENA ROJA FED UNIT 15-10 Well Number: 4H

Cuttings area liner specifications and installation description

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Well Site Layout Diagram:

Arena_Roja_Fed_Unit_15_10_4H_WELL_LAYOUT_20180905102612.pdf

Comments:

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: ARENA ROJA 15 WELLPAD

Multiple Well Pad Number: 2

Recontouring attachment:

Arena_Roja_Fed_Unit_15_10_4H_Int_Recl_20180905102706.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): 8.264	Well pad interim reclamation (acres): 6.811	Well pad long term disturbance (acres): 1.453
Road proposed disturbance (acres): 8.441	Road interim reclamation (acres): 0	Road long term disturbance (acres): 8.441
Powerline proposed disturbance (acres): 7.73	Powerline interim reclamation (acres): 0	Powerline long term disturbance (acres): 7.73
Pipeline proposed disturbance (acres): 2.92	Pipeline interim reclamation (acres): 0	Pipeline long term disturbance (acres): 2.92
Other proposed disturbance (acres): 0	Other interim reclamation (acres): 0	Other long term disturbance (acres): 0
Total proposed disturbance: 27.355	Total interim reclamation: 6.811	Total long term disturbance: 20.544

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: Shinnery, yucca, grasses and mesquite.

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: Shinnery, yucca, grasses and mesquite.

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: Shinnery, yucca, grasses and mesquite.

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: Shinnery, yucca, grasses and mesquite.

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 type: Seed source:

Seed name:

Source name: Source address:

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre: Proposed seeding season:

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation attachment:

First Name: Travis Last Name: Phibbs

Phone: (575)748-9929 Email: travis.phibbs@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:

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: USFS Ranger District:

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: PIPELINE

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: USFS Ranger District:

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: USFS Ranger District:

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

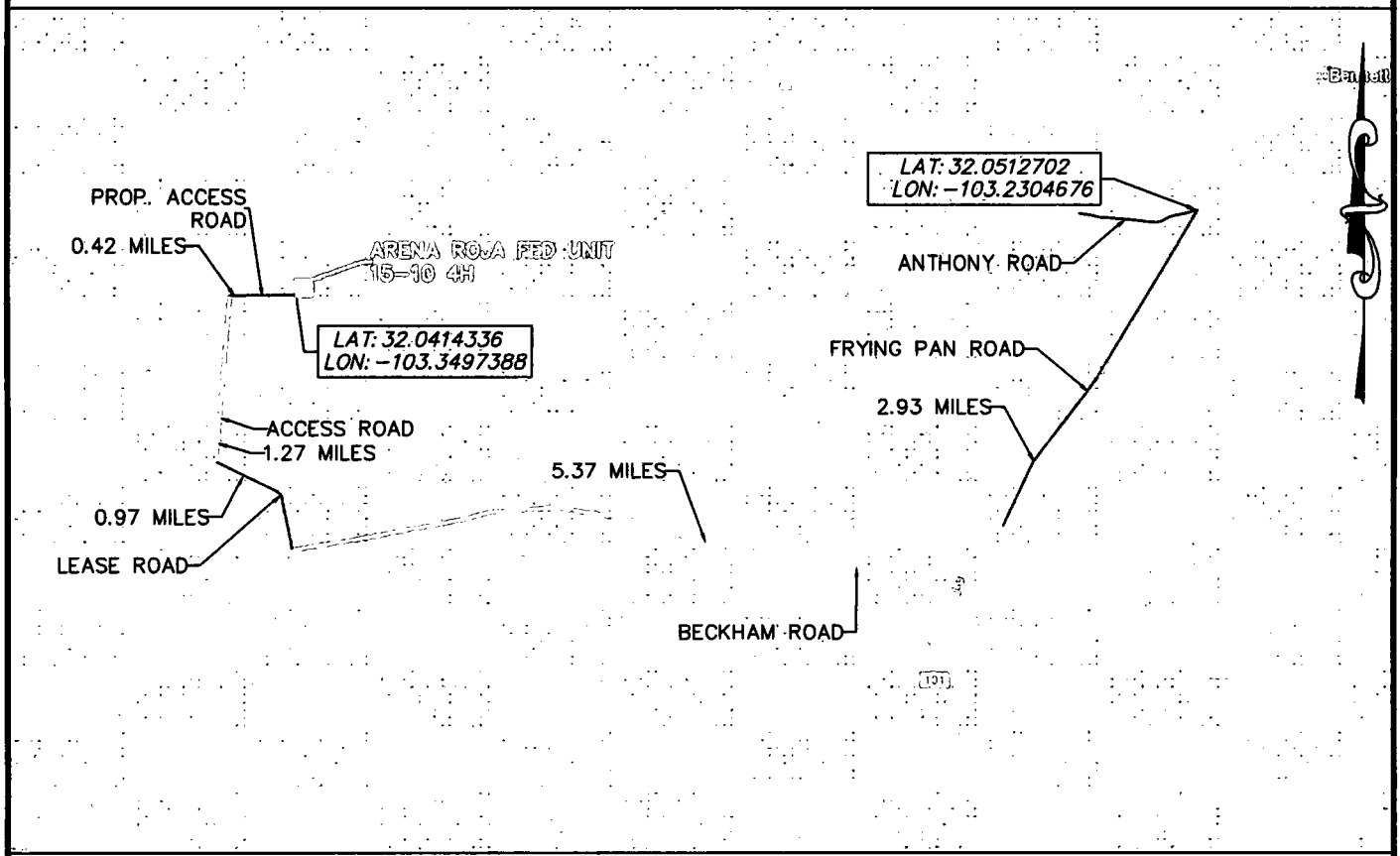
ROW Type(s): 281001 ROW - ROADS,288100 ROW – O&G Pipeline,FLPMA (Powerline),Other

SUPO Additional Information: See Section 4 for 5 Facility & Infrastructure Plats. See C-102 for grading plats.

Use a previously conducted onsite? YES

Previous Onsite information: 5/1/18

SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
AERIAL ACCESS ROUTE MAP

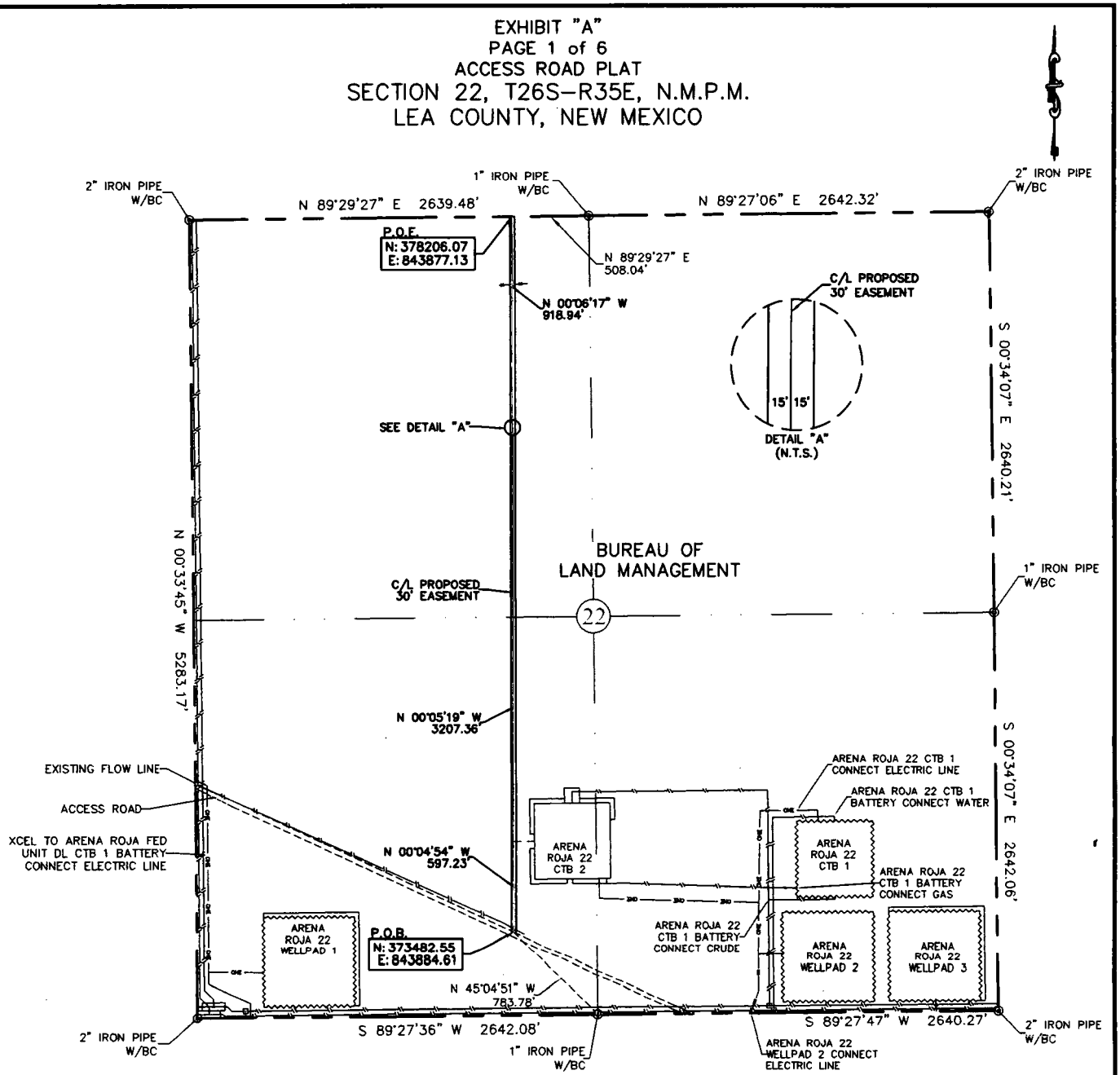


NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.
ARENA ROJA FED UNIT 15-10 4H
LOCATED 2090 FT. FROM THE SOUTH LINE
AND 690 FT. FROM THE EAST LINE OF
SECTION 15, TOWNSHIP 26 SOUTH,
RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

HORIZON ROW LLC		Drawn for: devon
DEVON ENERGY PRODUCTION CO., L.P.		
Drawn by: CHRIS MAAS	Date: 05/30/2018 Rev. Date: 7/28/18	

EXHIBIT "A"
PAGE 1 of 6
ACCESS ROAD PLAT
SECTION 22, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



30' EASEMENT AREA = 3.253 ACRE(S)
4723.53 FEET OR 286.27 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+00.0 P.O.B./EXISTING ROAD
42+78.9 FENCE/GATE
47+23.5 SECTION LINE

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: 08-05-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

HORIZON ROW LLC Drawn for: devon	DEVON ENERGY PRODUCTION COMPANY, L.P. ARENA ROJA 15 PRIMARY ACCESS ROAD	LINE NUMBER: 7640126R WBS NUMBER:	
Drawn by: CHRIS MAAS	Date: 05/25/2018	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 22, T26S–R35E, N.M.P.M.	SCALE: 1" = 1000' REVISIONS: 8/4/18 DATE OF SURVEY 5/19/18

SECTION 22, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southwest quarter (SW ¼) and the northwest quarter (NW ¼) of Section 22, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the south quarter corner of Section 22, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence N 45°04'51" W a distance of 783.78' to the **Point of Beginning** of this easement having coordinates of Northing=373482.55 feet, Easting=843884.61 feet, and continuing the following courses;

Thence N 00°04'54" W a distance of 597.23' to an angle point;

Thence N 00°05'19" W a distance of 3207.36' to an angle point;

Thence N 00°06'17" W a distance of 918.94' to the **Point of Ending** in the north line of Section 22, having coordinates of Northing=378206.07 feet, Easting=843877.13 feet, from said point a 1" iron pipe w/BC for the north quarter corner of Section 22, T26S-R35E bears N 89°29'27" E a distance of 508.04', covering **4723.53' or 286.27 rods** and having an area of **3.253 acres**.

NOTES:

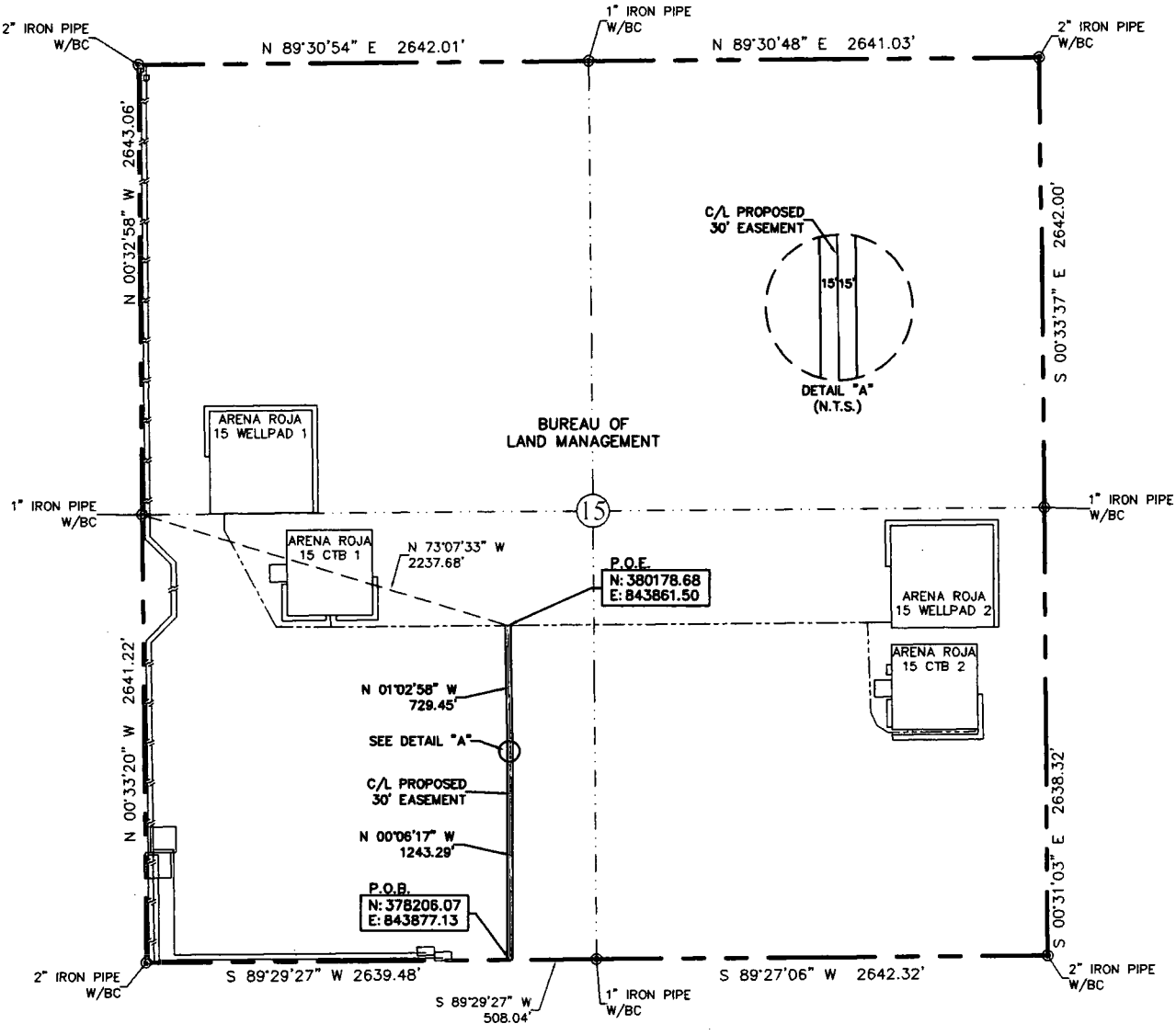
Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

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: 08/05/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 3 of 6

ACCESS ROAD PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



47+23.5 SECTION LINE
66+96.3 P.O.E./ARENA ROJA 15 WELLPAD 1 & 2 ACCESS ROAD

30' EASEMENT AREA = 1.359 ACRE(S)
1972.74 FEET OR 119.56 RODS

SEE THE ATTACHED LEGAL DESCRIPTION

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

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

B.L. LAMAN
NEW MEXICO
22404
PROFESSIONAL SURVEYOR

B.L. Laman PLS #22404
Date Signed: 08-05-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC	DEVON ENERGY PRODUCTION COMPANY, L.P.	LINE NUMBER: 7640128R
Drawn for: devon	ARENA ROJA 15 PRIMARY ACCESS ROAD	WBS NUMBER:
	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 15, T26S–R35E, N.M.P.M.	SCALE: 1" = 1000'
		REVISIONS: 8/4/18 CMAAS
Drawn by: CHRIS MAAS	Date: 05/25/2018	DATE OF SURVEY 5/19/18

SECTION 15, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southwest quarter (SW ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the south quarter corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence S 89°29'27" W a distance of 508.04' to the **Point of Beginning** of this easement in the south line of Section 15, having coordinates of Northing=378206.07, Easting=843877.13 feet and continuing the following courses;

Thence N 00°06'17" W a distance of 1243.29' to an angle point;

Thence N 01°02'58" W a distance of 729.45' to the **Point of Ending** having coordinates of Northing=380178.68, Easting=843861.50 feet from said point a 1" iron pipe w/BC for the west quarter corner of Section 15, T26S-R35E bears N 73°07'33" W a distance of 2237.68', covering **1972.74' or 119.56 rods** and having an area of **1.359 acres**.

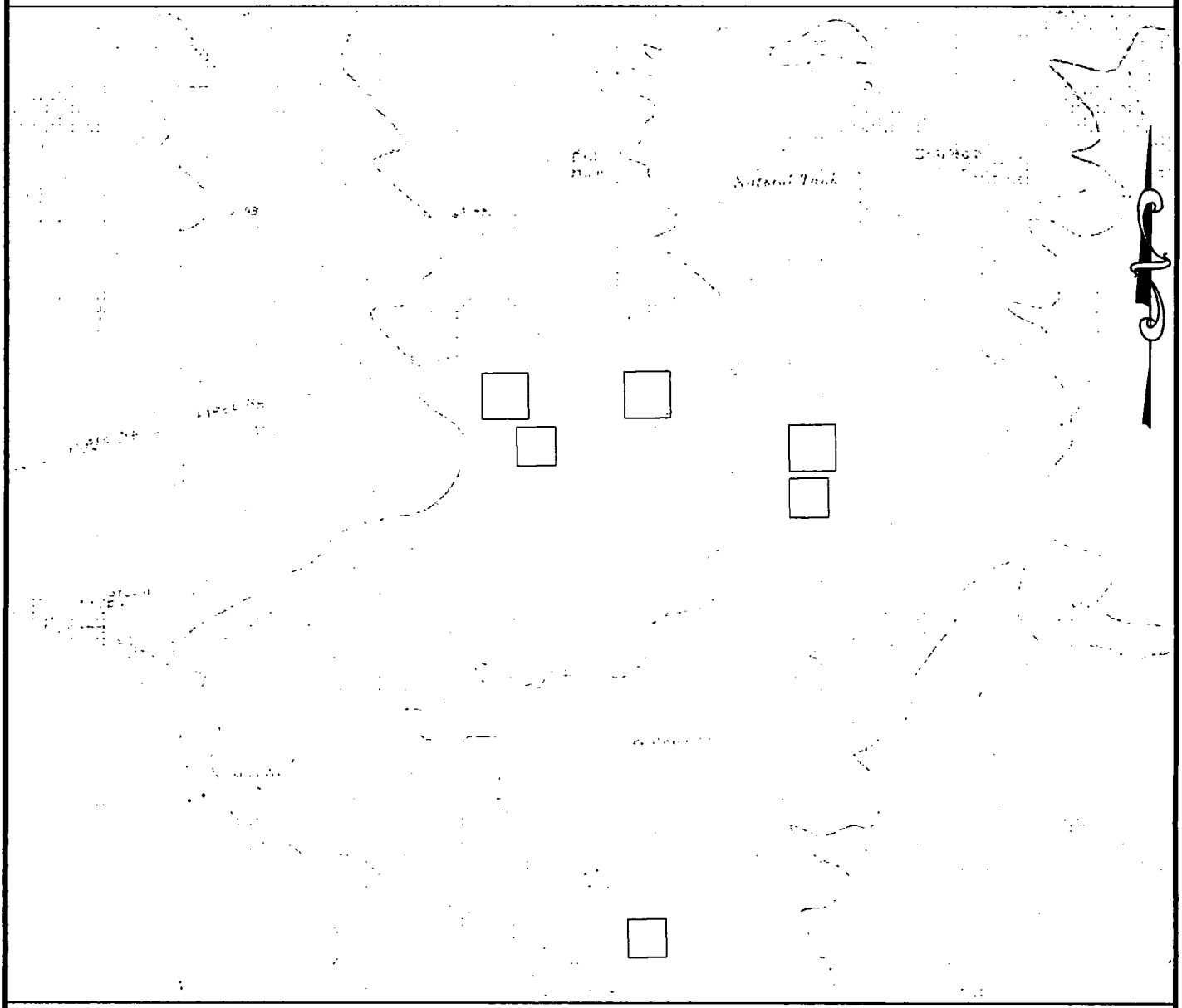
NOTES:

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: 08/05/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 5 of 6



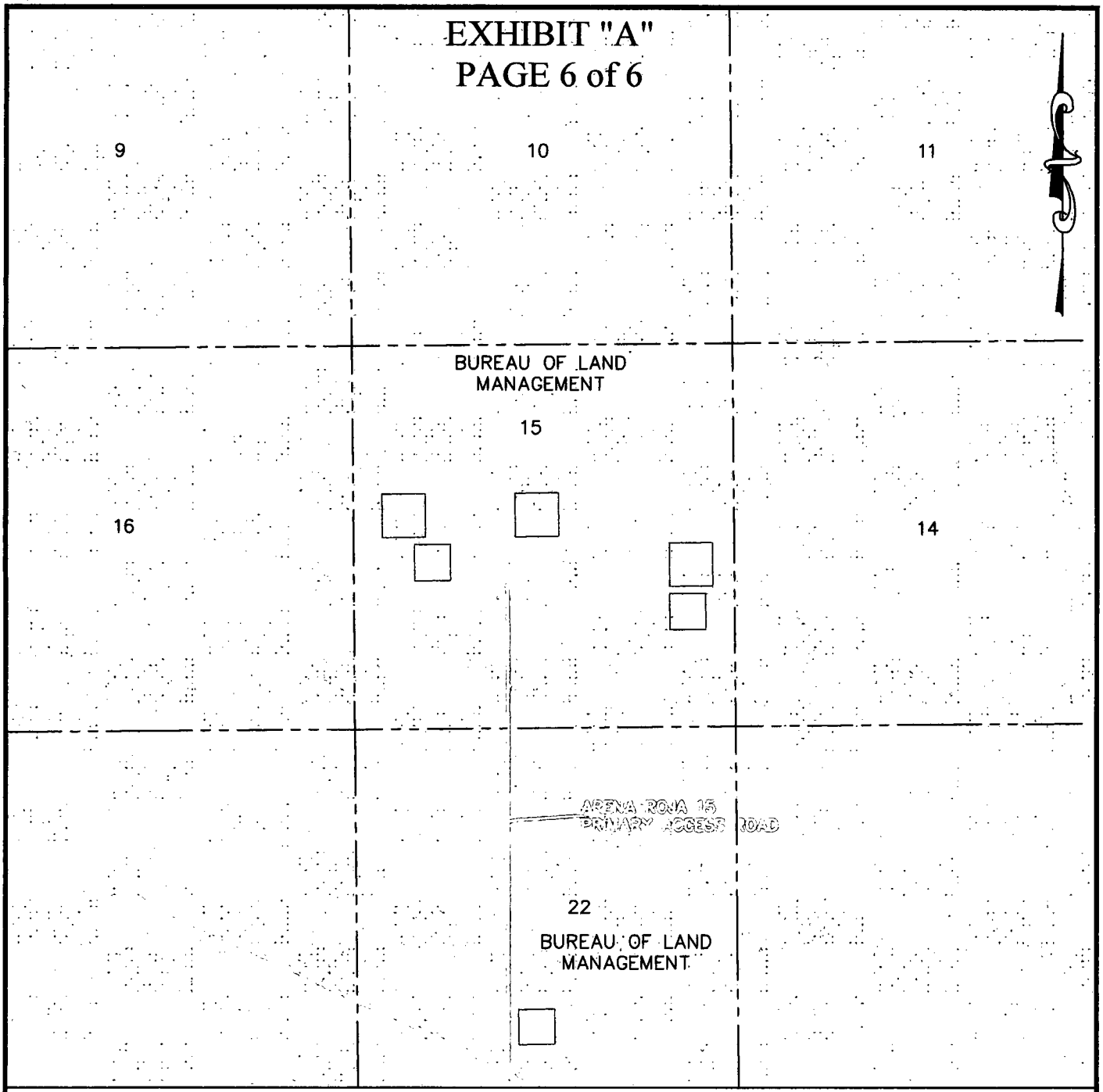
QUAD MAP

SECTION 22, T26S-R35E, N.M.P.M.;
SECTION 15, T26S-R35E, N.M.P.M.;
LEA COUNTY, NEW MEXICO

0 2000 4000

HORIZON ROW LLC		Drawn for: devon	LINE NUMBER: 7640126R
DEVON ENERGY PRODUCTION CO., L.P.			WBS NUMBER:
PROPOSED 30' EASEMENT			SCALE: 1" = 2000'
Drawn by: CHRIS MAAS	Date: 08/04/2018		REVISIONS:
			DATE OF SURVEY: 05/19/18

EXHIBIT "A"
PAGE 6 of 6



AERIAL MAP

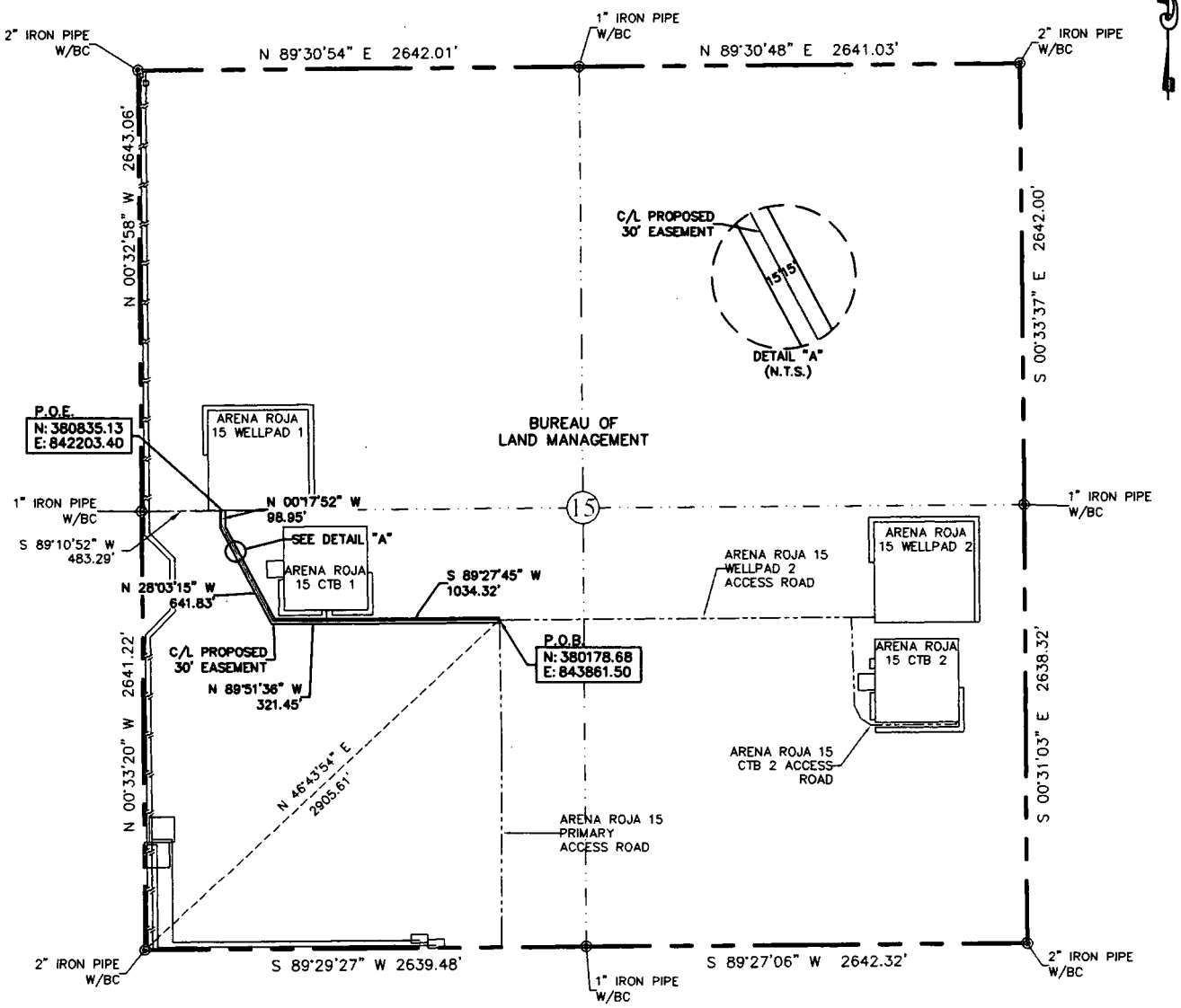
SECTION 22, T26S-R35E, N.M.P.M.;
SECTION 15, T26S-R35E, N.M.P.M.;
LEA COUNTY, NEW MEXICO

0 2000 4000

HORIZON ROW LLC		Drawn for: devon	LINE NUMBER: 7640126R
DEVON ENERGY PRODUCTION CO., L.P.			WBS NUMBER:
PROPOSED 30' EASEMENT			SCALE: 1" = 2000'
Drawn by: CHRIS MAAS	Date: 08/04/2018		REVISIONS:
			DATE OF SURVEY: 05/19/18

EXHIBIT "A"
PAGE 9 of 12

ACCESS ROAD PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



30' EASEMENT AREA = 1.444 ACRE(S)
2096.55 FEET OR 127.06 RODS

0+00.0 P.O.B./ARENA ROJA 15 PRIMARY ACCESS ROAD
7+15.3 P.O.E./ARENA ROJA 15 CTB 1 ELECTRIC LINE
10+34.3 ARENA ROJA 15 CTB 1 ACCESS ROAD
20+96.5 P.O.E./ARENA ROJA 15 WELLPAD 1

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: 08-05-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC
Drawn for: devon
Drawn by: CHRIS MAAS
Date: 05/22/2018

DEVON ENERGY PRODUCTION COMPANY, L.P.
ARENA ROJA 15
WELLPAD 1 ACCESS ROAD
PROPOSED 30' EASEMENT
ON THE PROPERTY OF
BUREAU OF LAND MANAGEMENT
SECTION 15, T26S–R35E, N.M.P.M.

LINE NUMBER: 7640127R
WBS NUMBER:
SCALE: 1" = 1000'
REVISIONS: 8/3/18 CMAAS
DATE OF SURVEY: 5/19/2018

SECTION 15, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southwest quarter (SW ¼) and the northwest quarter (NW ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the southwest corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence N 46°43'54" E a distance of 2905.61' to the **Point of Beginning** of this easement having coordinates of Northing=380178.68, Easting=843861.50 feet and continuing the following courses;

Thence S 89°27'45" W a distance of 1034.32' to an angle point;

Thence N 89°51'36" W a distance of 321.45' to an angle point;

Thence N 28°03'15" W a distance of 641.83' to an angle point;

Thence N 00°17'52" W a distance of 98.95' to the **Point of Ending** having coordinates of Northing=380835.13, Easting=842203.40 feet from said point a 1" iron pipe w/BC for the west quarter corner of Section 15, T26S-R35E bears S 89°10'52" W a distance of 483.29', covering **2096.55' or 127.06 rods** and having an area of **1.444 acres**.

NOTES:

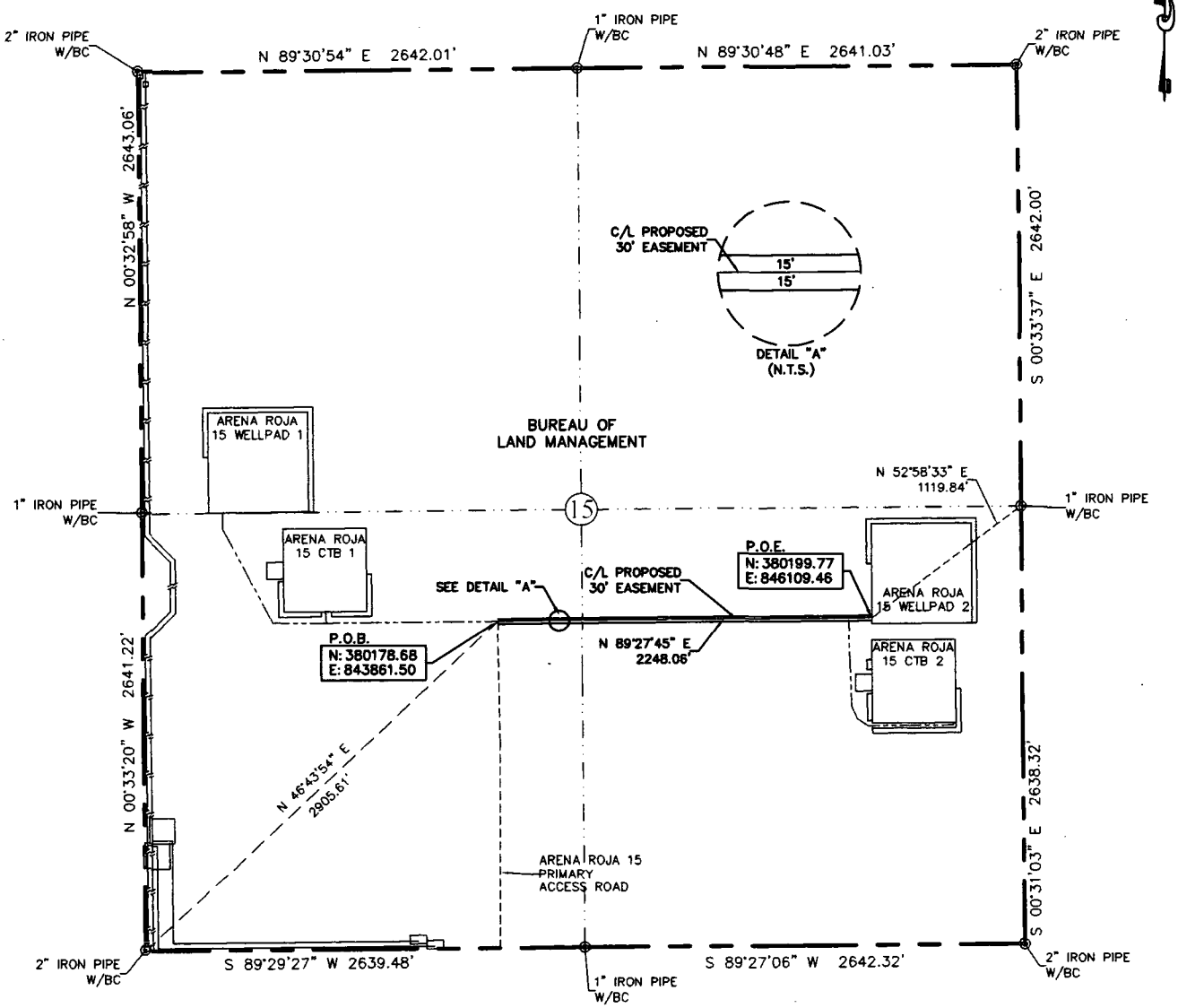
Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

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: 08/05/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 9 of 12

ACCESS ROAD PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



0+00.0 P.O.B./ARENA ROJA 15 PRIMARY ACCESS ROAD
21+08.9 ARENA ROJA 15 CTB 2 ACCESS ROAD
22+48.1 P.O.E./ARENA ROJA 15 WELLPAD 2

30' EASEMENT AREA = 1.548 ACRE(S)
2248.06 FEET OR 136.25 RODS

SEE THE ATTACHED LEGAL DESCRIPTION

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

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

NEW MEXICO 22404 PROFESSIONAL SURVEYOR

B.L. Laman PLS #22404
Date Signed: 08-06-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC Drawn for:	DEVON ENERGY PRODUCTION COMPANY, L.P. ARENA ROJA 15 WELLPAD 2 ACCESS ROAD	LINE NUMBER: 7640128R WBS NUMBER:
devon	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 15, T26S–R35E, N.M.P.M.	SCALE: 1" = 1000' REVISIONS: 8/3/18 CMAAS DATE OF SURVEY: 5/19/18
Drawn by: CHRIS MAAS Date: 05/25/2018		

SECTION 15, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southwest quarter (SW ¼) and the southeast quarter (SE ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the southwest corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence N 46°43'54" E a distance of 2905.61' to the **Point of Beginning** of this easement having coordinates of Northing=380178.68, Easting=843861.50 feet and continuing the following courses;

Thence N 89°27'45" E a distance of 2248.06' to the **Point of Ending** having coordinates of Northing=380199.77, Easting=846109.46 feet from said point a 1" iron pipe w/BC for the east quarter corner of Section 15, T26S-R35E bears N 52°58'33" E a distance of 1119.84', covering **2248.06' or 136.25 rods** and having an area of **1.548 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.

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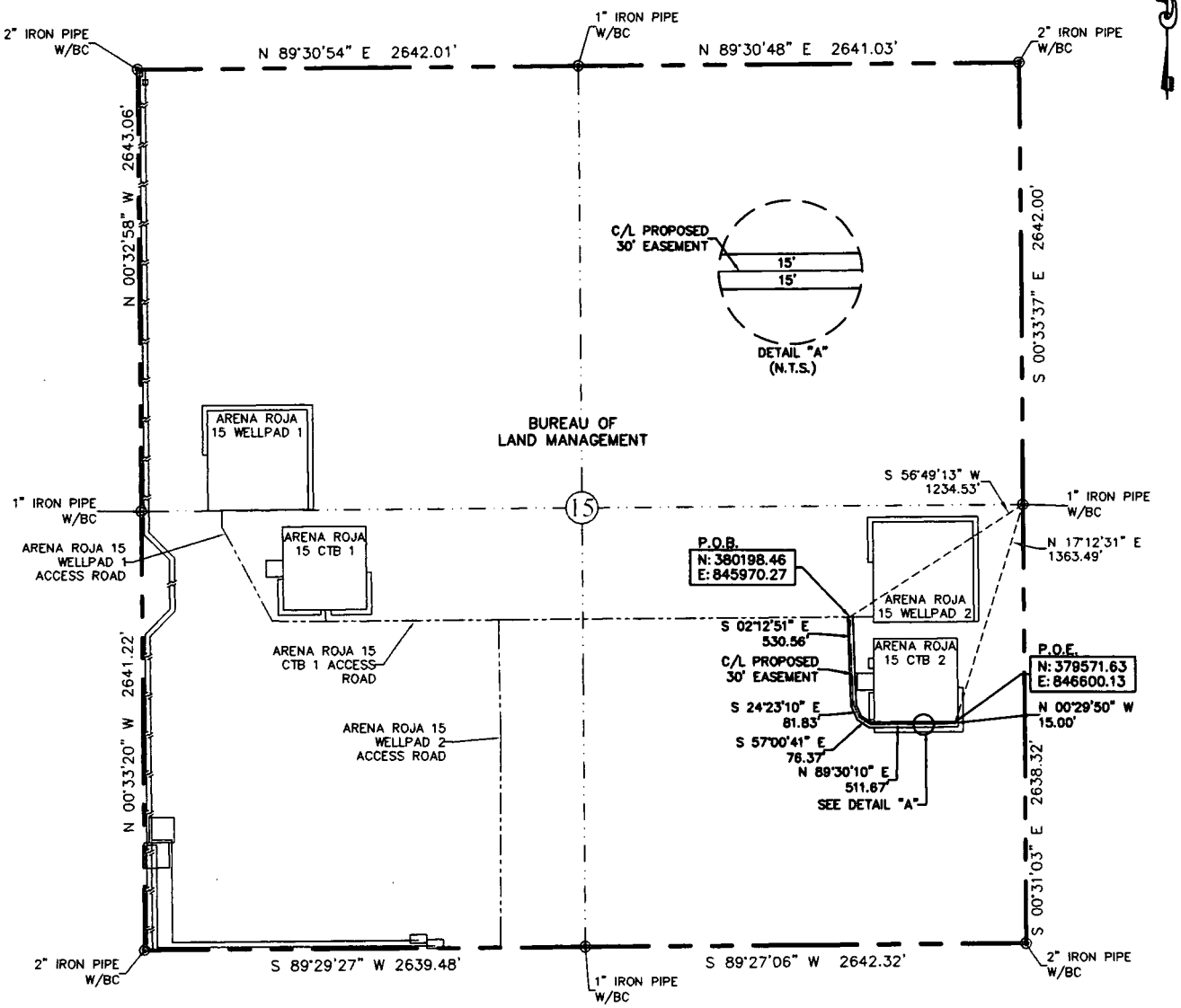
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 3 of 6

ACCESS ROAD PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



30' EASEMENT AREA = 0.837 ACRE(S)
1215.43 FEET OR 73.66 RODS

0+00.0 P.O.B./ARENA ROJA 15 WELLPAD 2 ACCESS ROAD
12+15.4 P.O.E./ARENA ROJA 15 CTB 2

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: 06-12-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC Drawn for: devon	DEVON ENERGY PRODUCTION COMPANY, L.P. ARENA ROJA 15 CTB 2 ACCESS ROAD	LINE NUMBER: 7640130R WBS NUMBER: SCALE: 1" = 1000'
Drawn by: CHRIS MAAS Date: 05/24/2018	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 15, T26S–R35E, N.M.P.M.	REVISIONS: SHEET: 3 OF 6

SECTION 15, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southeast quarter (SE ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the east quarter corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence S 56°49'13" W a distance of 1234.53' to the **Point of Beginning** of this easement having coordinates of Northing=380198.46, Easting=845970.27 feet and continuing the following courses;

Thence S 02°12'51" E a distance of 530.56' to an angle point;

Thence S 24°23'10" E a distance of 81.83' to an angle point;

Thence S 57°00'41" E a distance of 76.37' to an angle point;

Thence N 89°30'10" E a distance of 511.67' to an angle point;

Thence N 00°29'50" W a distance of 15.00' to the **Point of Ending** having coordinates of Northing=379571.63, Easting=846600.13 feet from said point a 1" iron pipe w/BC for the east quarter corner of Section 15, T26S-R35E bears N 17°12'31" E a distance of 1363.49', covering **1215.43' or 73.66 rods** and having an area of **0.837 acres**.

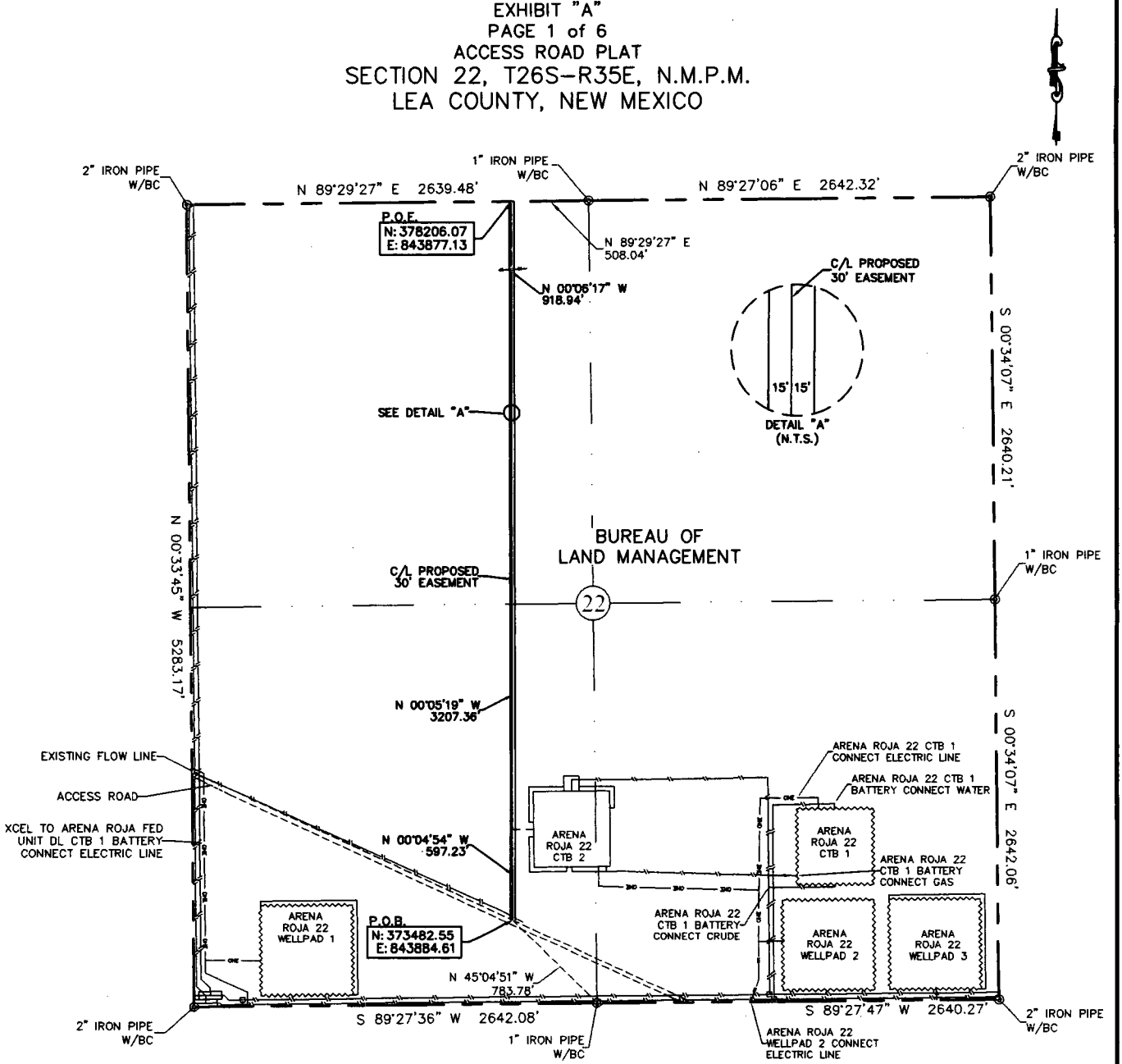
NOTES:

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: 06/12/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 1 of 6
ACCESS ROAD PLAT
SECTION 22, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



30' EASEMENT AREA = 3.253 ACRE(S)
4723.53 FEET OR 286.27 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+00.0 P.O.B./EXISTING ROAD
42+78.9 FENCE/GATE
47+23.5 SECTION LINE

0 1000 2000

I, B.L. Laman, New Mexico PLS No. 22404, hereby certify this survey to represent 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: 08-05-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

HORIZON ROW LLC Drawn for: devon	DEVON ENERGY PRODUCTION COMPANY, L.P. ARENA ROJA 15 PRIMARY ACCESS ROAD	LINE NUMBER: 7640126R	
		WBS NUMBER:	
	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 22, T26S–R35E, N.M.P.M.	SCALE: 1" = 1000'	
		REVISIONS: 8/4/18	
Drawn by: CHRIS MAAS	Date: 05/25/2018	DATE OF SURVEY 5/19/18	

SECTION 22, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southwest quarter (SW ¼) and the northwest quarter (NW ¼) of Section 22, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the south quarter corner of Section 22, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence N 45°04'51" W a distance of 783.78' to the **Point of Beginning** of this easement having coordinates of Northing=373482.55 feet, Easting=843884.61 feet, and continuing the following courses;

Thence N 00°04'54" W a distance of 597.23' to an angle point;

Thence N 00°05'19" W a distance of 3207.36' to an angle point;

Thence N 00°06'17" W a distance of 918.94' to the **Point of Ending** in the north line of Section 22, having coordinates of Northing=378206.07 feet, Easting=843877.13 feet, from said point a 1" iron pipe w/BC for the north quarter corner of Section 22, T26S-R35E bears N 89°29'27" E a distance of 508.04', covering **4723.53' or 286.27 rods** and having an area of **3.253 acres**.

NOTES:

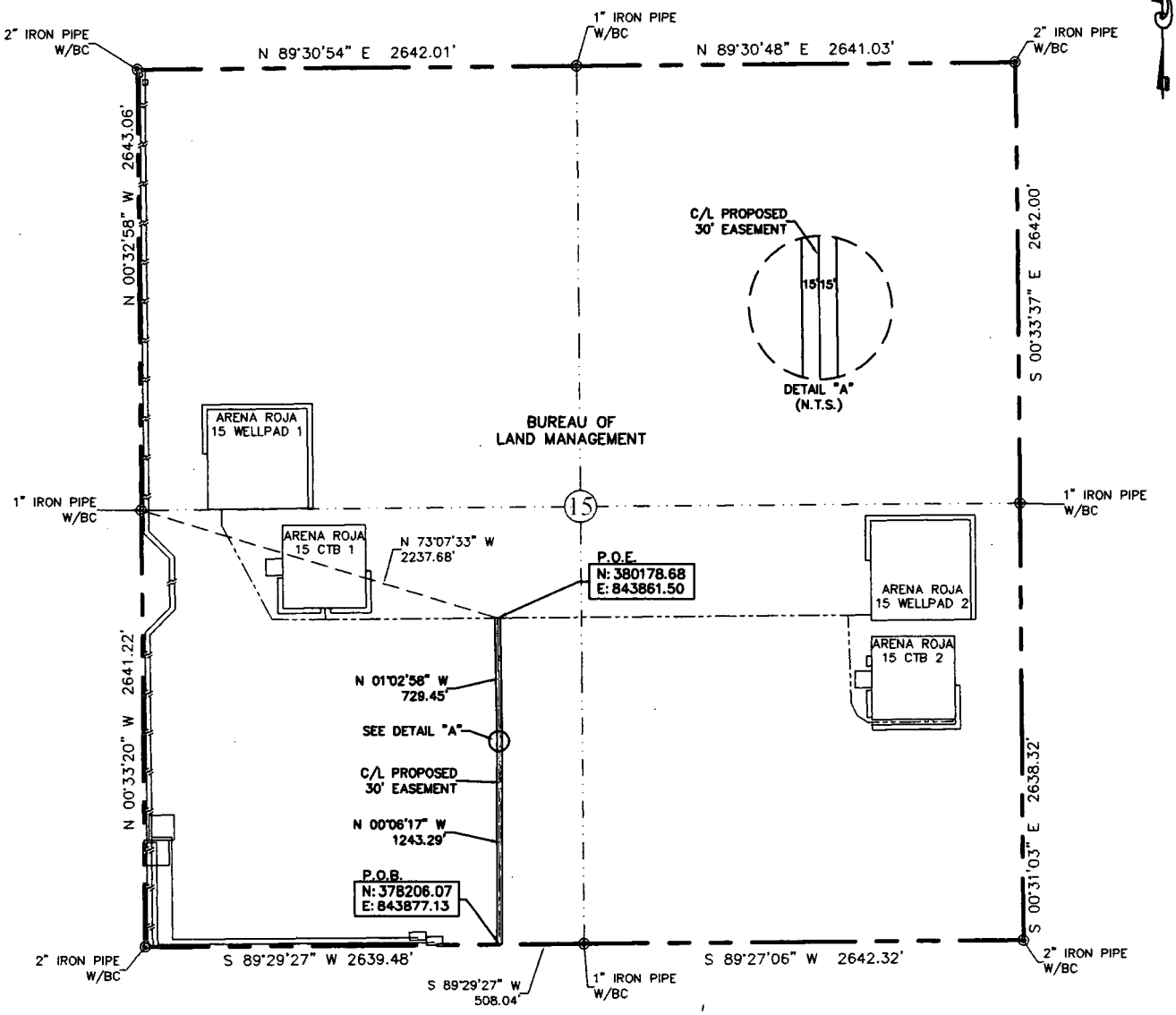
Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

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: 08/05/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 3 of 6

ACCESS ROAD PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



47+23.5 SECTION LINE
66+96.3 P.O.E./ARENA ROJA 15 WELLPAD 1 & 2 ACCESS ROAD

30' EASEMENT AREA = 1.359 ACRE(S)
1972.74 FEET OR 119.56 RODS

SEE THE ATTACHED LEGAL DESCRIPTION

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

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

B.L. LAMAN NEW MEXICO 22404 PROFESSIONAL SURVEYOR

B.L. Laman PLS #22404
Date Signed: 08-05-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC Drawn for: devon	DEVON ENERGY PRODUCTION COMPANY, L.P. ARENA ROJA 15 PRIMARY ACCESS ROAD	LINE NUMBER: 7640128R WBS NUMBER:
Drawn by: CHRIS MAAS Date: 05/25/2018	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 15, T26S–R35E, N.M.P.M.	SCALE: 1" = 1000' REVISIONS: 8/4/18 CMAAS DATE OF SURVEY 5/19/18

SECTION 15, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southwest quarter (SW ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the south quarter corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence S 89°29'27" W a distance of 508.04' to the **Point of Beginning** of this easement in the south line of Section 15, having coordinates of Northing=378206.07, Easting=843877.13 feet and continuing the following courses;

Thence N 00°06'17" W a distance of 1243.29' to an angle point;

Thence N 01°02'58" W a distance of 729.45' to the **Point of Ending** having coordinates of Northing=380178.68, Easting=843861.50 feet from said point a 1" iron pipe w/BC for the west quarter corner of Section 15, T26S-R35E bears N 73°07'33" W a distance of 2237.68', covering **1972.74' or 119.56 rods** and having an area of **1.359 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: 08/05/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 5 of 6

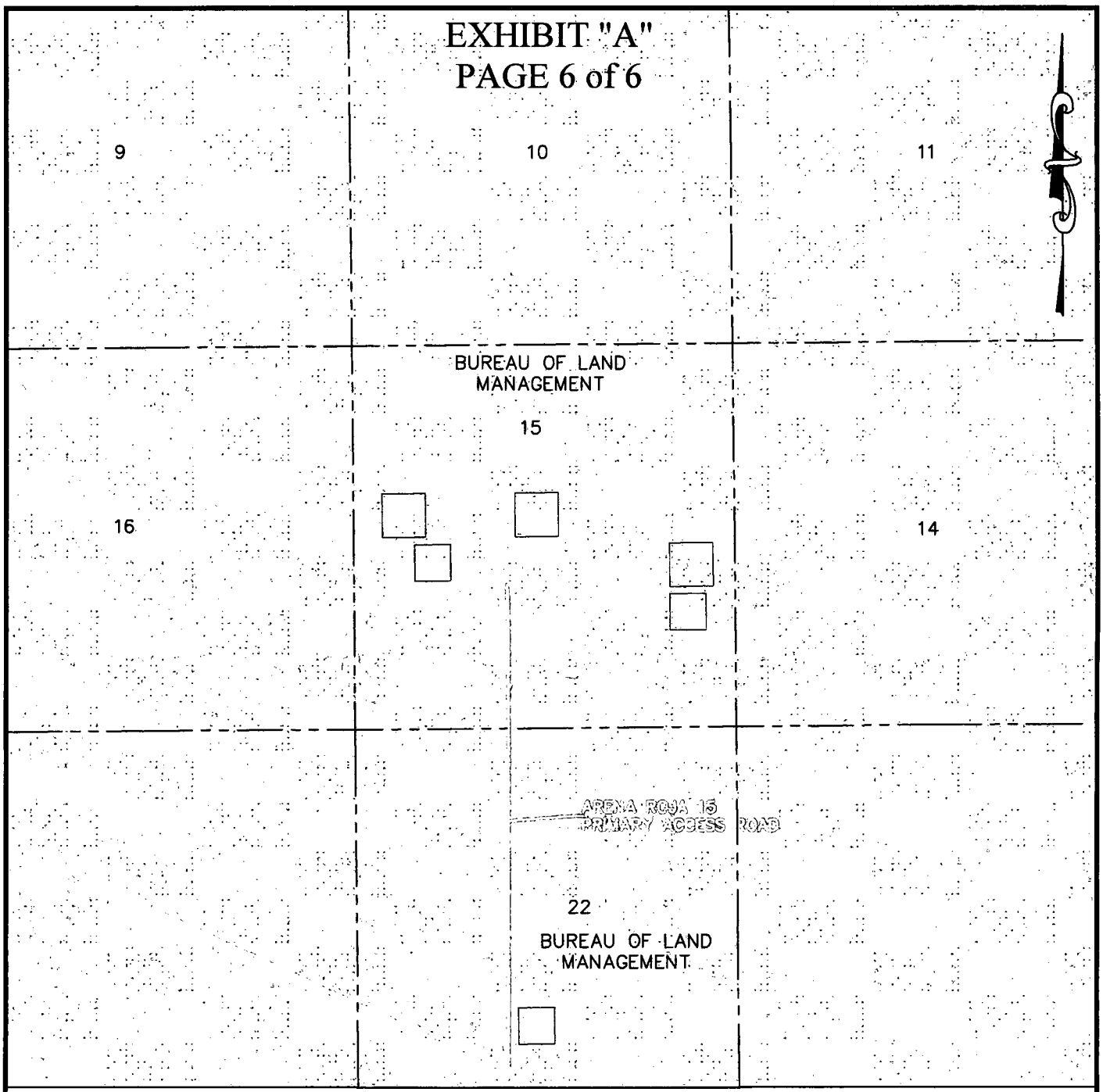
QUAD MAP

SECTION 22, T26S-R35E, N.M.P.M.;
SECTION 15, T26S-R35E, N.M.P.M.;
LEA COUNTY, NEW MEXICO

0 2000 4000

HORIZON ROW LLC	Drawn for: devon	LINE NUMBER: 7840126R
DEVON ENERGY PRODUCTION CO., L.P.		WBS NUMBER:
PROPOSED 30' EASEMENT		SCALE: 1" = 2000'
Drawn by: CHRIS MAAS / Date: 08/04/2018		REVISIONS: / DATE OF SURVEY: 05/19/18

EXHIBIT "A"
PAGE 6 of 6



AERIAL MAP

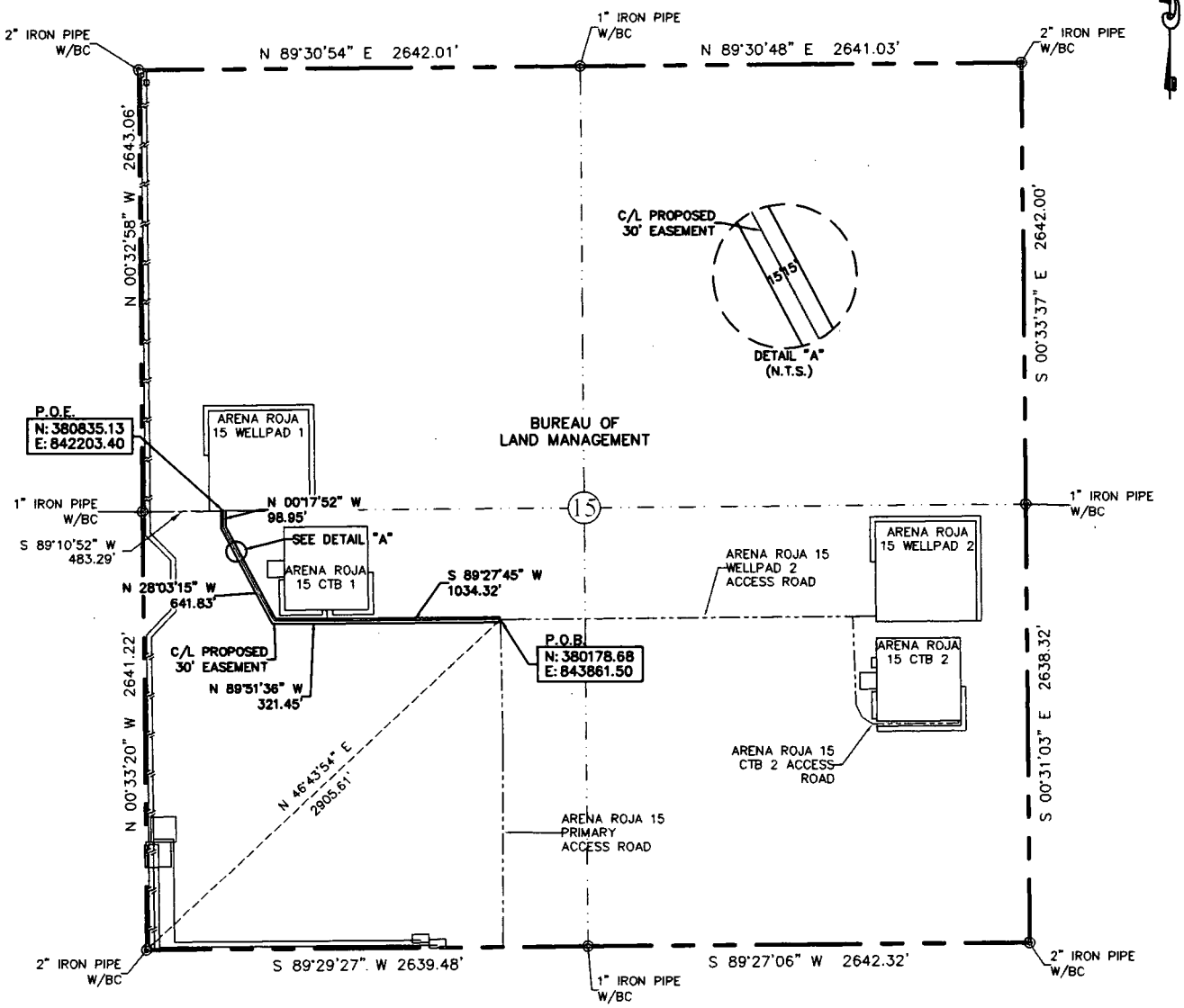
SECTION 22, T26S-R35E, N.M.P.M.;
SECTION 15, T26S-R35E, N.M.P.M.;
LEA COUNTY, NEW MEXICO

0 2000 4000

HORIZON ROW LLC		Drawn for: devon	LINE NUMBER: 7640126R
DEVON ENERGY PRODUCTION CO., L.P.			WBS NUMBER:
PROPOSED 30' EASEMENT			SCALE: 1" = 2000'
Drawn by: CHRIS MAAS	Date: 08/04/2018		REVISIONS:
			DATE OF SURVEY: 05/19/18

EXHIBIT "A"
PAGE 9 of 12

ACCESS ROAD PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



30' EASEMENT AREA = 1.444 ACRE(S)
2096.55 FEET OR 127.06 RODS

0+00.0 P.O.B./ARENA ROJA 15 PRIMARY ACCESS ROAD
7+15.3 P.O.E./ARENA ROJA 15 CTB 1 ELECTRIC LINE
10+34.3 ARENA ROJA 15 CTB 1 ACCESS ROAD
20+96.5 P.O.E./ARENA ROJA 15 WELLPAD 1

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: 08-05-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC	DEVON ENERGY PRODUCTION COMPANY, L.P.	LINE NUMBER: 7640127R
Drawn for: devon	ARENA ROJA 15 WELLPAD 1 ACCESS ROAD	WBS NUMBER:
	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 15, T26S–R35E, N.M.P.M.	SCALE: 1" = 1000'
		REVISIONS: 8/3/18 CMAAS
Drawn by: CHRIS MAAS	Date: 05/22/2018	DATE OF SURVEY: 5/19/2018

SECTION 15, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southwest quarter (SW ¼) and the northwest quarter (NW ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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:

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Thence N 46°43'54" E a distance of 2905.61' to the **Point of Beginning** of this easement having coordinates of Northing=380178.68, Easting=843861.50 feet and continuing the following courses;

Thence S 89°27'45" W a distance of 1034.32' to an angle point;

Thence N 89°51'36" W a distance of 321.45' to an angle point;

Thence N 28°03'15" W a distance of 641.83' to an angle point;

Thence N 00°17'52" W a distance of 98.95' to the **Point of Ending** having coordinates of Northing=380835.13, Easting=842203.40 feet from said point a 1" iron pipe w/BC for the west quarter corner of Section 15, T26S-R35E bears S 89°10'52" W a distance of 483.29', covering **2096.55' or 127.06 rods** and having an area of **1.444 acres**.

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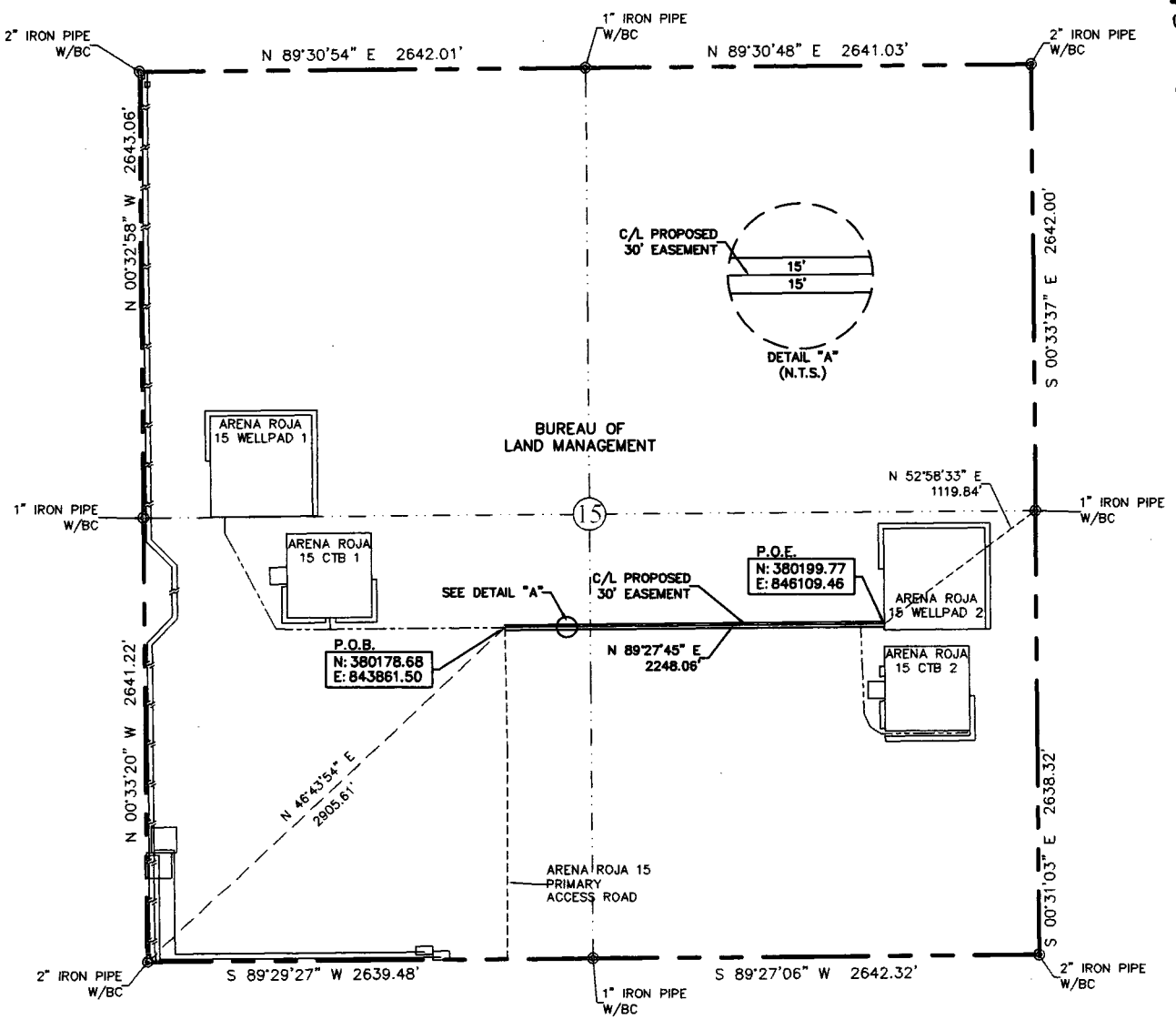
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 9 of 12

ACCESS ROAD PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



0+00.0 P.O.B./ARENA ROJA 15 PRIMARY ACCESS ROAD
21+08.9 ARENA ROJA 15 CTB 2 ACCESS ROAD
22+48.1 P.O.E./ARENA ROJA 15 WELLPAD 2

30' EASEMENT AREA = 1.548 ACRE(S)
2248.06 FEET OR 136.25 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.

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NEW MEXICO 22404 PROFESSIONAL SURVEYOR

B.L. Laman PLS #22404
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(903) 388-3045 70637
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC	DEVON ENERGY PRODUCTION COMPANY, L.P.	LINE NUMBER: 7640128R
Drawn for: devon	ARENA ROJA 15 WELLPAD 2 ACCESS ROAD	WBS NUMBER:
	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 15, T26S–R35E, N.M.P.M.	SCALE: 1" = 1000'
		REVISIONS: 8/3/18 CMAAS
Drawn by: CHRIS MAAS	Date: 05/25/2018	DATE OF SURVEY: 5/19/18

SECTION 15, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southwest quarter (SW ¼) and the southeast quarter (SE ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the southwest corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence N 46°43'54" E a distance of 2905.61' to the **Point of Beginning** of this easement having coordinates of Northing=380178.68, Easting=843861.50 feet and continuing the following courses;

Thence N 89°27'45" E a distance of 2248.06' to the **Point of Ending** having coordinates of Northing=380199.77, Easting=846109.46 feet from said point a 1" iron pipe w/BC for the east quarter corner of Section 15, T26S-R35E bears N 52°58'33" E a distance of 1119.84', covering **2248.06' or 136.25 rods** and having an area of **1.548 acres.**

NOTES:

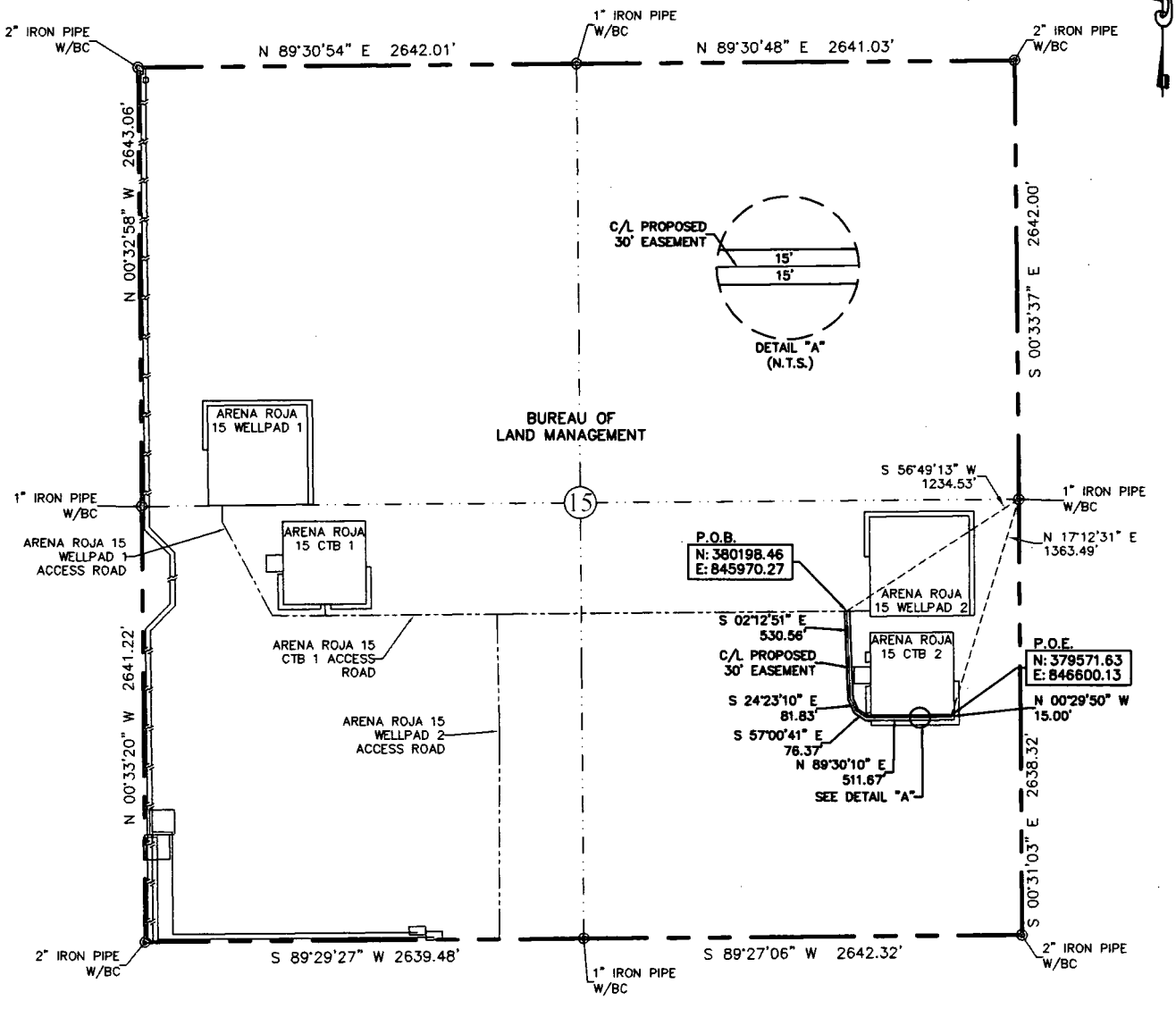
Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

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: 08/06/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 3 of 6

ACCESS ROAD PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



30' EASEMENT AREA = 0.837 ACRE(S)
1215.43 FEET OR 73.66 RODS

0+00.0 P.O.B./ARENA ROJA 15 WELLPAD 2 ACCESS ROAD
12+15.4 P.O.E./ARENA ROJA 15 CTB 2

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: 06-12-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC	DEVON ENERGY PRODUCTION COMPANY, L.P.	LINE NUMBER: 7640130R
Drawn for: devon	ARENA ROJA 15 CTB 2 ACCESS ROAD	WBS NUMBER:
	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 15, T26S–R35E, N.M.P.M.	SCALE: 1" = 1000'
		REVISIONS:
Drawn by: CHRIS MAAS Date: 05/24/2018		SHEET: 3 OF 6

SECTION 15, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southeast quarter (SE ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the east quarter corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence S 56°49'13" W a distance of 1234.53' to the **Point of Beginning** of this easement having coordinates of Northing=380198.46, Easting=845970.27 feet and continuing the following courses;

Thence S 02°12'51" E a distance of 530.56' to an angle point;

Thence S 24°23'10" E a distance of 81.83' to an angle point;

Thence S 57°00'41" E a distance of 76.37' to an angle point;

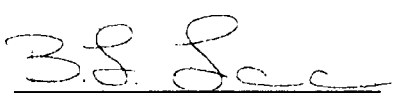
Thence N 89°30'10" E a distance of 511.67' to an angle point;

Thence N 00°29'50" W a distance of 15.00' to the **Point of Ending** having coordinates of Northing=379571.63, Easting=846600.13 feet from said point a 1" iron pipe w/BC for the east quarter corner of Section 15, T26S-R35E bears N 17°12'31" E a distance of 1363.49', covering **1215.43' or 73.66 rods** and having an area of **0.837 acres**.

NOTES:

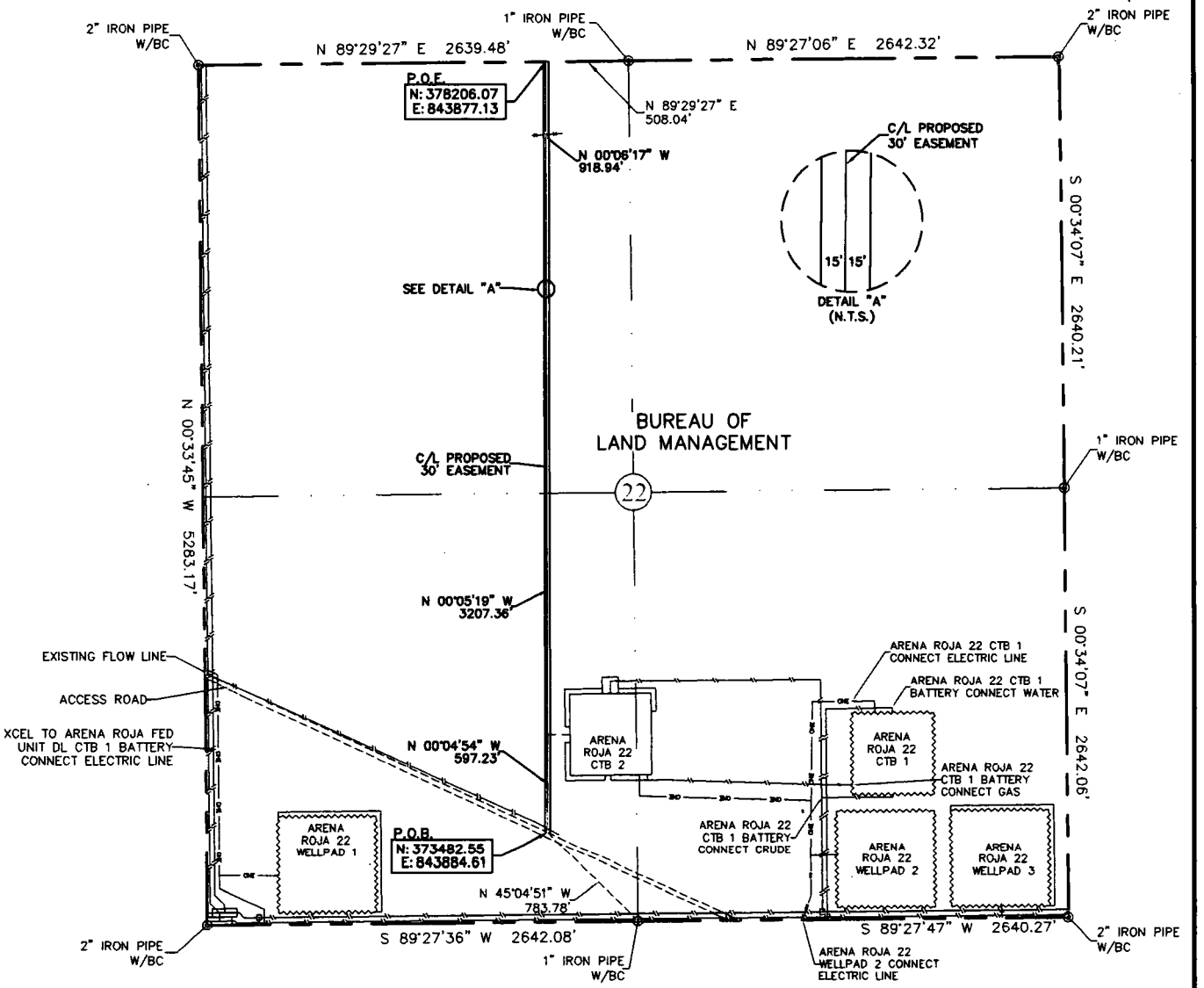
Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

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: 06/12/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 1 of 6
ACCESS ROAD PLAT
SECTION 22, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



30' EASEMENT AREA = 3.253 ACRE(S)
4723.53 FEET OR 286.27 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+00.0 P.O.B./EXISTING ROAD
42+78.9 FENCE/GATE
47+23.5 SECTION LINE

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: 08-05-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC Drawn for: devon		DEVON ENERGY PRODUCTION COMPANY, L.P. ARENA ROJA 15 PRIMARY ACCESS ROAD	LINE NUMBER: 7640126R WBS NUMBER: SCALE: 1" = 1000'
Drawn by: CHRIS MAAS	Date: 05/25/2018	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 22, T26S–R35E, N.M.P.M.	REVISIONS: 8/4/18 DATE OF SURVEY 5/19/18

SECTION 22, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southwest quarter (SW ¼) and the northwest quarter (NW ¼) of Section 22, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the south quarter corner of Section 22, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence N 45°04'51" W a distance of 783.78' to the **Point of Beginning** of this easement having coordinates of Northing=373482.55 feet, Easting=843884.61 feet, and continuing the following courses;

Thence N 00°04'54" W a distance of 597.23' to an angle point;

Thence N 00°05'19" W a distance of 3207.36' to an angle point;

Thence N 00°06'17" W a distance of 918.94' to the **Point of Ending** in the north line of Section 22, having coordinates of Northing=378206.07 feet, Easting=843877.13 feet, from said point a 1" iron pipe w/BC for the north quarter corner of Section 22, T26S-R35E bears N 89°29'27" E a distance of 508.04', covering **4723.53' or 286.27 rods** and having an area of **3.253 acres**.

NOTES:

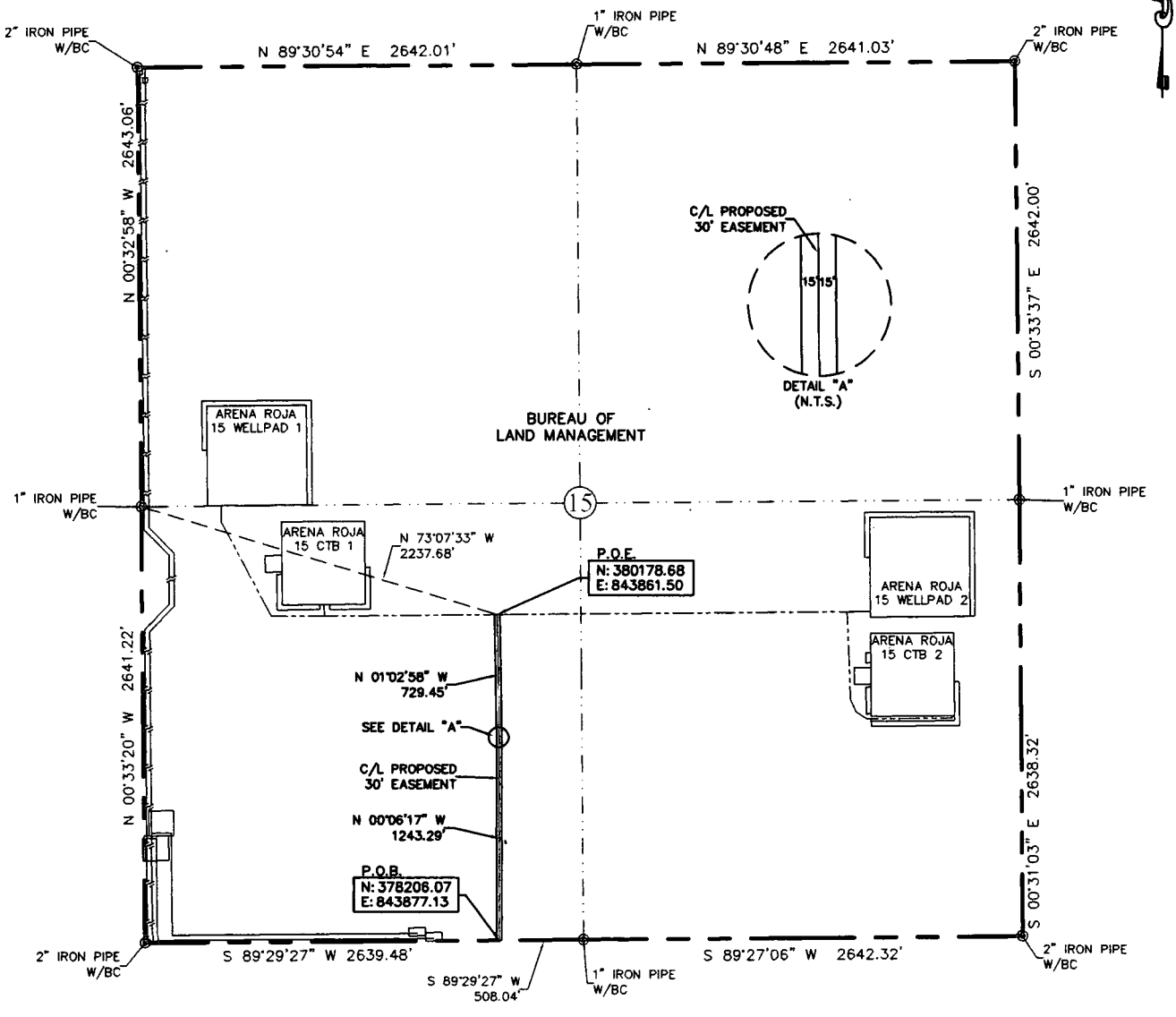
Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

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: 08/05/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 3 of 6

ACCESS ROAD PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



47+23.5 SECTION LINE
66+96.3 P.O.E./ARENA ROJA 15 WELLPAD 1 & 2 ACCESS ROAD

30' EASEMENT AREA = 1.359 ACRE(S)
1972.74 FEET OR 119.56 RODS

SEE THE ATTACHED LEGAL DESCRIPTION

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

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

NEW MEXICO 22404 PROFESSIONAL SURVEYOR

B.L. Laman PLS #22404
Date Signed: 08-05-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC Drawn for:	DEVON ENERGY PRODUCTION COMPANY, L.P. ARENA ROJA 15 PRIMARY ACCESS ROAD	LINE NUMBER: 7640128R WBS NUMBER:
devon	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 15, T26S–R35E, N.M.P.M.	SCALE: 1" = 1000' REVISIONS: 8/4/18 CMAAS
Drawn by: CHRIS MAAS Date: 05/25/2018		DATE OF SURVEY 5/19/18

SECTION 15, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southwest quarter (SW ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the south quarter corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence S 89°29'27" W a distance of 508.04' to the **Point of Beginning** of this easement in the south line of Section 15, having coordinates of Northing=378206.07, Easting=843877.13 feet and continuing the following courses;

Thence N 00°06'17" W a distance of 1243.29' to an angle point;

Thence N 01°02'58" W a distance of 729.45' to the **Point of Ending** having coordinates of Northing=380178.68, Easting=843861.50 feet from said point a 1" iron pipe w/BC for the west quarter corner of Section 15, T26S-R35E bears N 73°07'33" W a distance of 2237.68', covering **1972.74' or 119.56 rods** and having an area of **1.359 acres**.

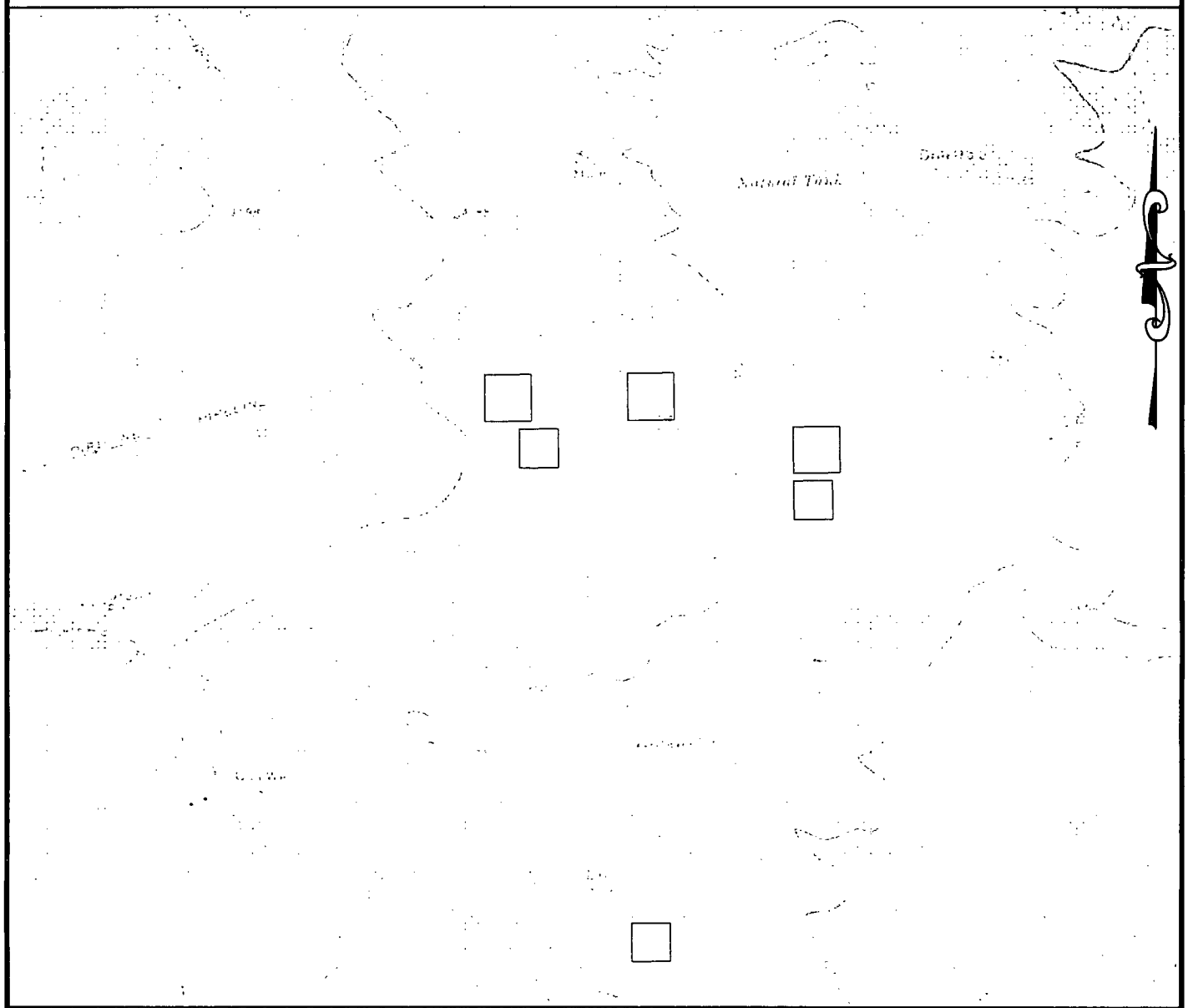
NOTES:

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: 08/05/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 5 of 6



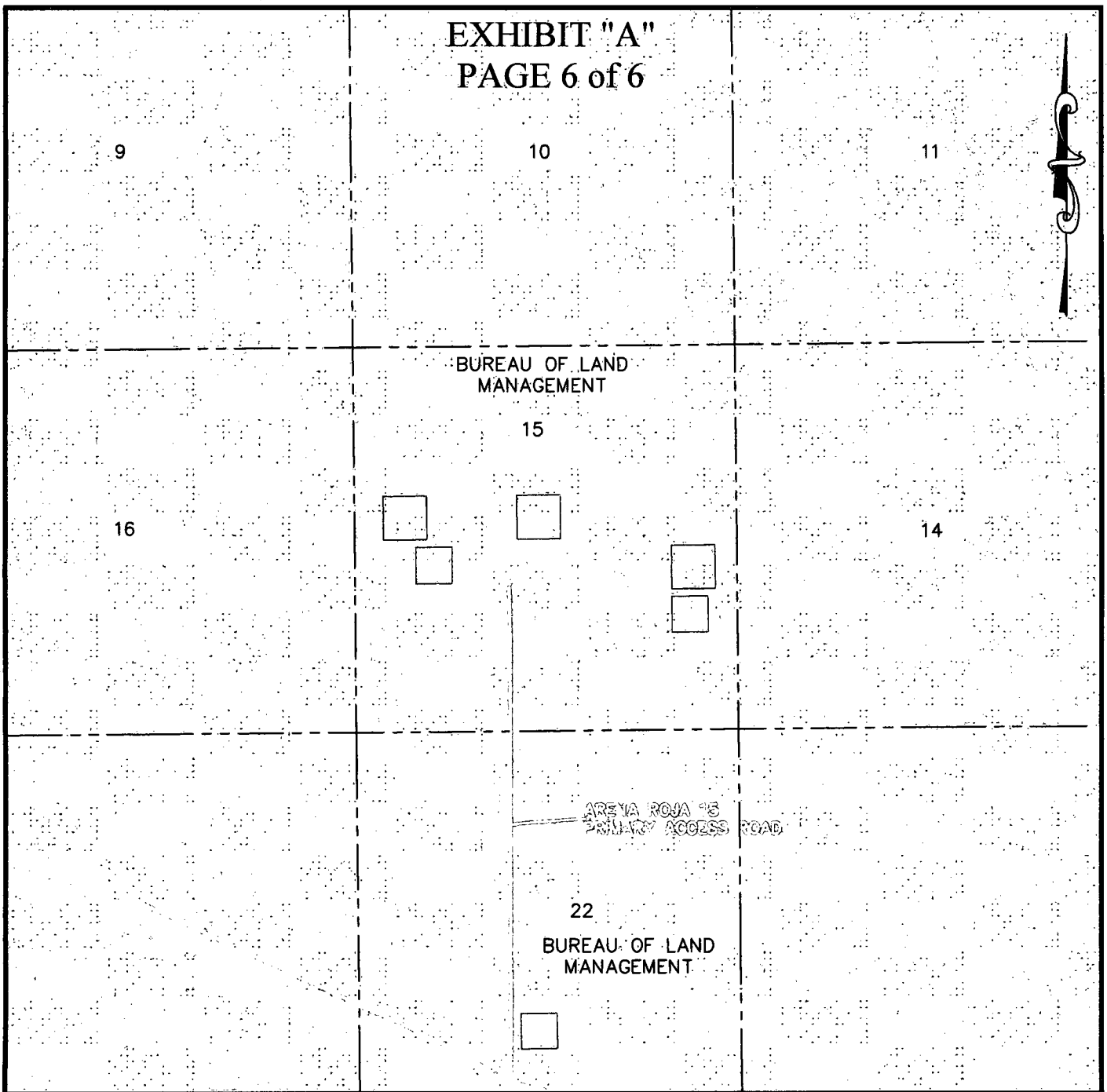
QUAD MAP

SECTION 22, T26S-R35E, N.M.P.M.;
SECTION 15, T26S-R35E, N.M.P.M.;
LEA COUNTY, NEW MEXICO

0 2000 4000

HORIZON ROW LLC	Drawn for:		LINE NUMBER: 7640126R
DEVON ENERGY PRODUCTION CO., L.P.			WBS NUMBER:
PROPOSED 30' EASEMENT		devon	SCALE: 1" = 2000'
Drawn by: CHRIS MAAS / Date: 08/04/2018			REVISIONS:
			DATE OF SURVEY: 05/19/18

EXHIBIT "A"
PAGE 6 of 6



AERIAL MAP

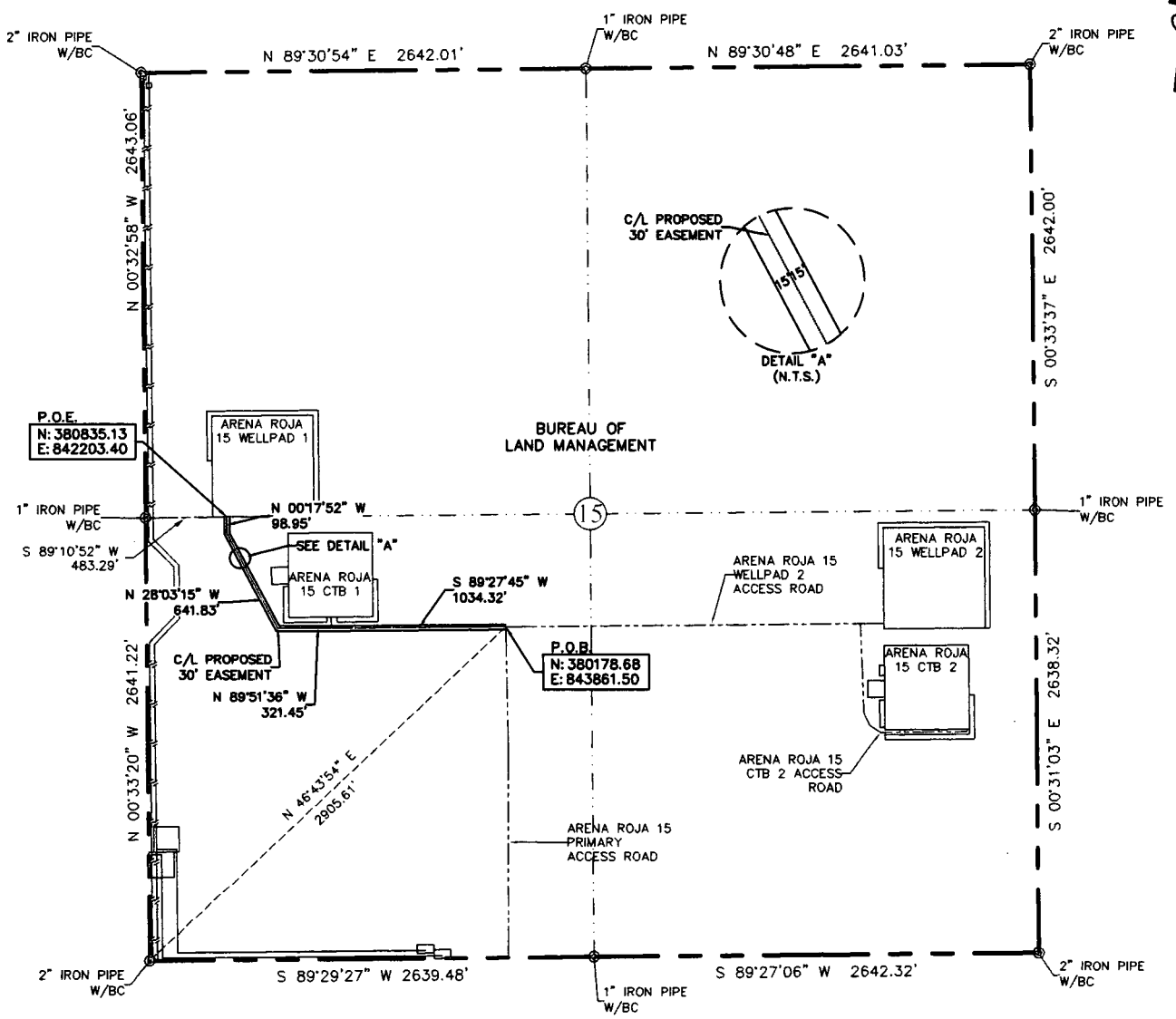
SECTION 22, T26S-R35E, N.M.P.M.;
SECTION 15, T26S-R35E, N.M.P.M.;
LEA COUNTY, NEW MEXICO

0 2000 4000

HORIZON ROW LLC	Drawn for: devon		LINE NUMBER: 7640126R
DEVON ENERGY PRODUCTION CO., L.P.			WBS NUMBER:
PROPOSED 30' EASEMENT			SCALE: 1" = 2000'
Drawn by: CHRIS MAAS	Date: 08/04/2018		REVISIONS:
			DATE OF SURVEY: 05/19/18

EXHIBIT "A"
PAGE 9 of 12

ACCESS ROAD PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



30' EASEMENT AREA = 1.444 ACRE(S)
2096.55 FEET OR 127.06 RODS

0+00.0 P.O.B./ARENA ROJA 15 PRIMARY ACCESS ROAD
7+15.3 P.O.E./ARENA ROJA 15 CTB 1 ELECTRIC LINE
10+34.3 ARENA ROJA 15 CTB 1 ACCESS ROAD
20+96.5 P.O.E./ARENA ROJA 15 WELLPAD 1

SEE THE ATTACHED LEGAL DESCRIPTION

Note: All bearings recited hereon 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: 08-05-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC Drawn for: devon	DEVON ENERGY PRODUCTION COMPANY, L.P. ARENA ROJA 15 WELLPAD 1 ACCESS ROAD	LINE NUMBER: 7640127R WBS NUMBER:
Drawn by: CHRIS MAAS Date: 05/22/2018	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 15, T26S–R35E, N.M.P.M.	SCALE: 1" = 1000' REVISIONS: 8/3/18 CMAAS DATE OF SURVEY: 5/19/2018

SECTION 15, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southwest quarter (SW ¼) and the northwest quarter (NW ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the southwest corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence N 46°43'54" E a distance of 2905.61' to the **Point of Beginning** of this easement having coordinates of Northing=380178.68, Easting=843861.50 feet and continuing the following courses;

Thence S 89°27'45" W a distance of 1034.32' to an angle point;

Thence N 89°51'36" W a distance of 321.45' to an angle point;

Thence N 28°03'15" W a distance of 641.83' to an angle point;

Thence N 00°17'52" W a distance of 98.95' to the **Point of Ending** having coordinates of Northing=380835.13, Easting=842203.40 feet from said point a 1" iron pipe w/BC for the west quarter corner of Section 15, T26S-R35E bears S 89°10'52" W a distance of 483.29', covering **2096.55' or 127.06 rods** and having an area of **1.444 acres**.

NOTES:

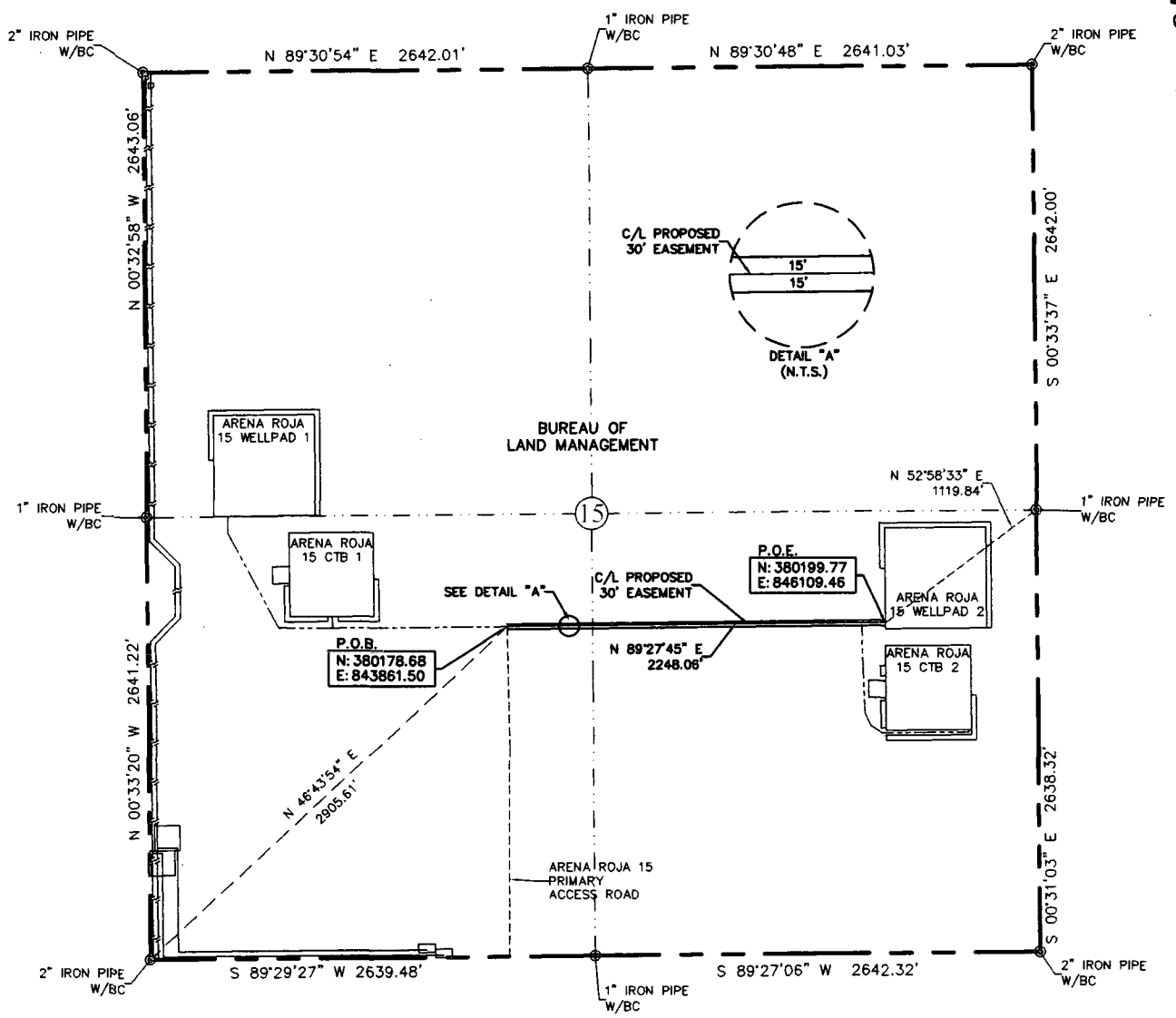
Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

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: 08/05/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 9 of 12

ACCESS ROAD PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



0+00.0 P.O.B./ARENA ROJA 15 PRIMARY ACCESS ROAD
21+08.9 ARENA ROJA 15 CTB 2 ACCESS ROAD
22+48.1 P.O.E./ARENA ROJA 15 WELLPAD 2

30' EASEMENT AREA = 1.548 ACRE(S)
2248.06 FEET OR 136.25 RODS

SEE THE ATTACHED LEGAL DESCRIPTION

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

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

0 1000 2000

B.L. Laman PLS #22404
Date Signed: 08-06-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

HORIZON ROW LLC
Drawn for: devon
Drawn by: CHRIS MAAS
Date: 05/25/2018

DEVON ENERGY PRODUCTION COMPANY, L.P.
ARENA ROJA 15
WELLPAD 2 ACCESS ROAD
PROPOSED 30' EASEMENT
ON THE PROPERTY OF
BUREAU OF LAND MANAGEMENT
SECTION 15, T26S–R35E, N.M.P.M.

LINE NUMBER: 7640128R
WBS NUMBER:
SCALE: 1" = 1000'
REVISIONS: 8/3/18 CMAAS
DATE OF SURVEY: 5/19/18

SECTION 15, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southwest quarter (SW ¼) and the southeast quarter (SE ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the southwest corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence N 46°43'54" E a distance of 2905.61' to the **Point of Beginning** of this easement having coordinates of Northing=380178.68, Easting=843861.50 feet and continuing the following courses;

Thence N 89°27'45" E a distance of 2248.06' to the **Point of Ending** having coordinates of Northing=380199.77, Easting=846109.46 feet from said point a 1" iron pipe w/BC for the east quarter corner of Section 15, T26S-R35E bears N 52°58'33" E a distance of 1119.84', covering **2248.06' or 136.25 rods** and having an area of **1.548 acres**.

NOTES:

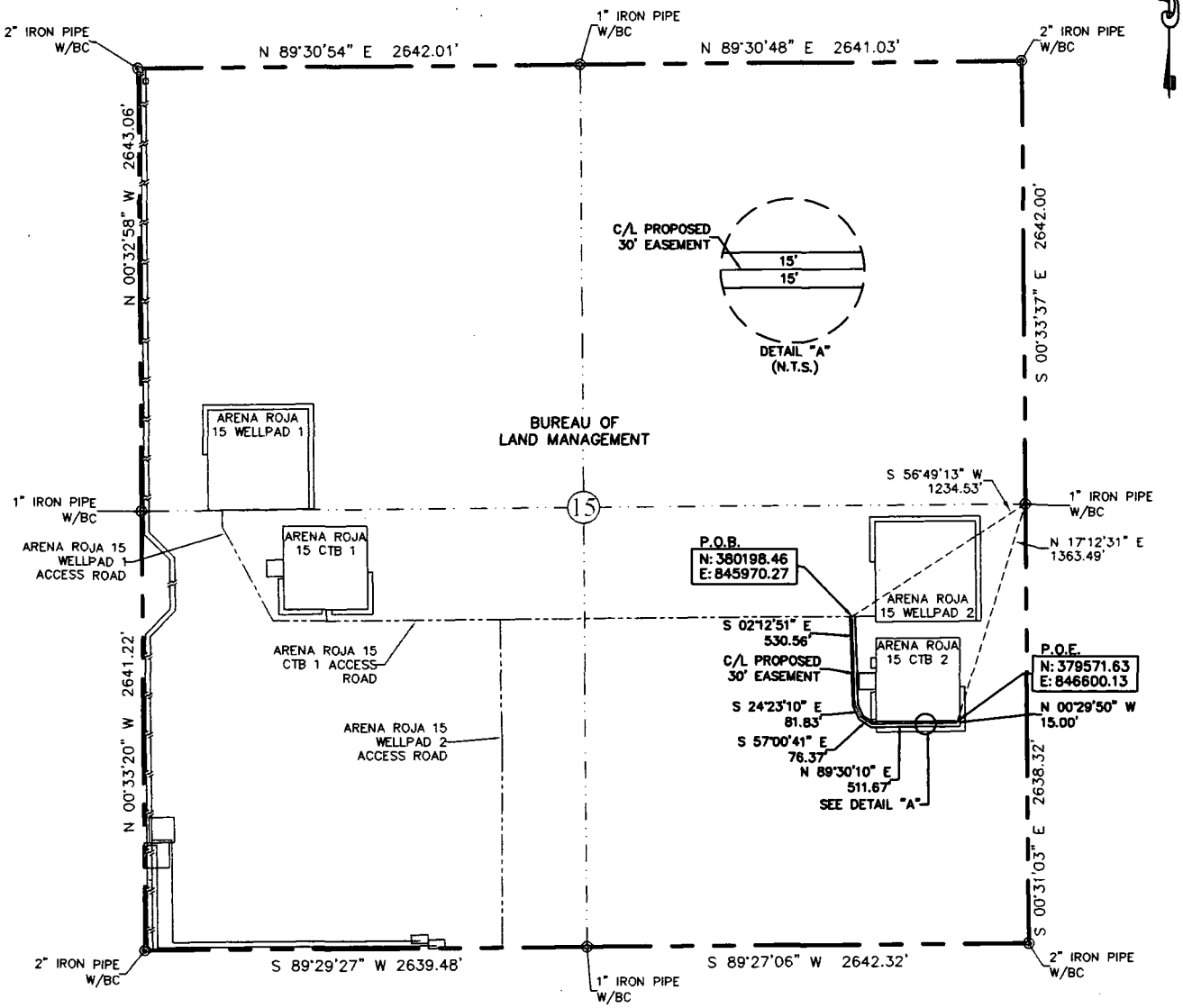
Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

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: 08/06/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 3 of 6

ACCESS ROAD PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



30' EASEMENT AREA = 0.837 ACRE(S)
1215.43 FEET OR 73.66 RODS

0+00.0 P.O.B./ARENA ROJA 15 WELLPAD 2 ACCESS ROAD
12+15.4 P.O.E./ARENA ROJA 15 CTB 2

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: 06-12-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC Drawn for: [redacted] devon	DEVON ENERGY PRODUCTION COMPANY, L.P. ARENA ROJA 15 CTB 2 ACCESS ROAD	LINE NUMBER: 7640130R WBS NUMBER:	
		SCALE: 1" = 1000'	
Drawn by: CHRIS MAAS	Date: 05/24/2018	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 15, T26S–R35E, N.M.P.M.	REVISIONS:
			SHEET: 3 OF 6

SECTION 15, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southeast quarter (SE ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the east quarter corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence S 56°49'13" W a distance of 1234.53' to the **Point of Beginning** of this easement having coordinates of Northing=380198.46, Easting=845970.27 feet and continuing the following courses;

Thence S 02°12'51" E a distance of 530.56' to an angle point;

Thence S 24°23'10" E a distance of 81.83' to an angle point;

Thence S 57°00'41" E a distance of 76.37' to an angle point;

Thence N 89°30'10" E a distance of 511.67' to an angle point;

Thence N 00°29'50" W a distance of 15.00' to the **Point of Ending** having coordinates of Northing=379571.63, Easting=846600.13 feet from said point a 1" iron pipe w/BC for the east quarter corner of Section 15, T26S-R35E bears N 17°12'31" E a distance of 1363.49', covering **1215.43' or 73.66 rods** and having an area of **0.837 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: 06/12/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

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 7/11/2018

N

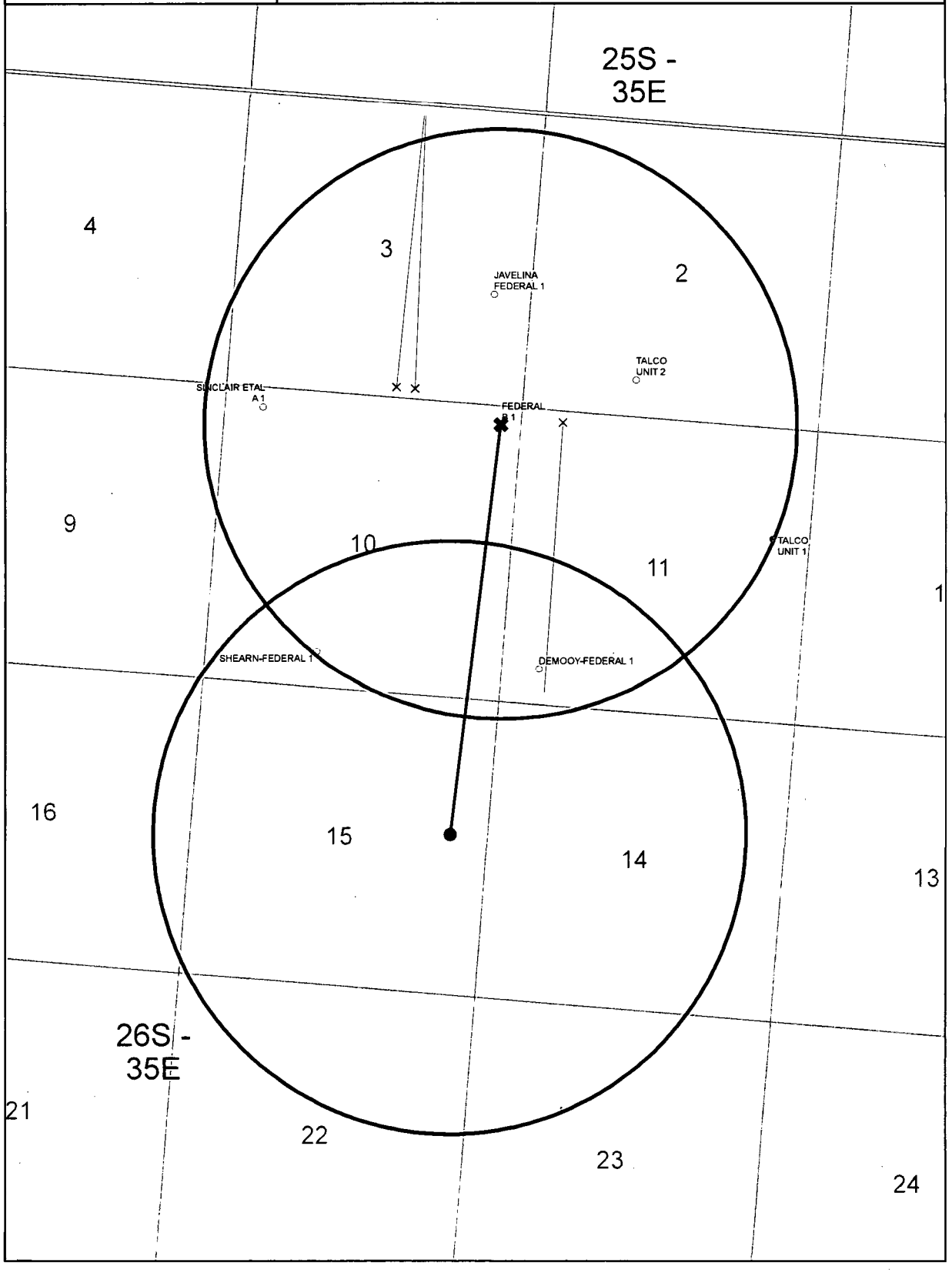
Miles 0 0.3 1 inch = 0.38 miles

ARENA ROJA FED UNIT 15-10 4H
WA017252525

TATANKA FEDERAL 001H
Nearest wellbore to SHL: 3064 ft.

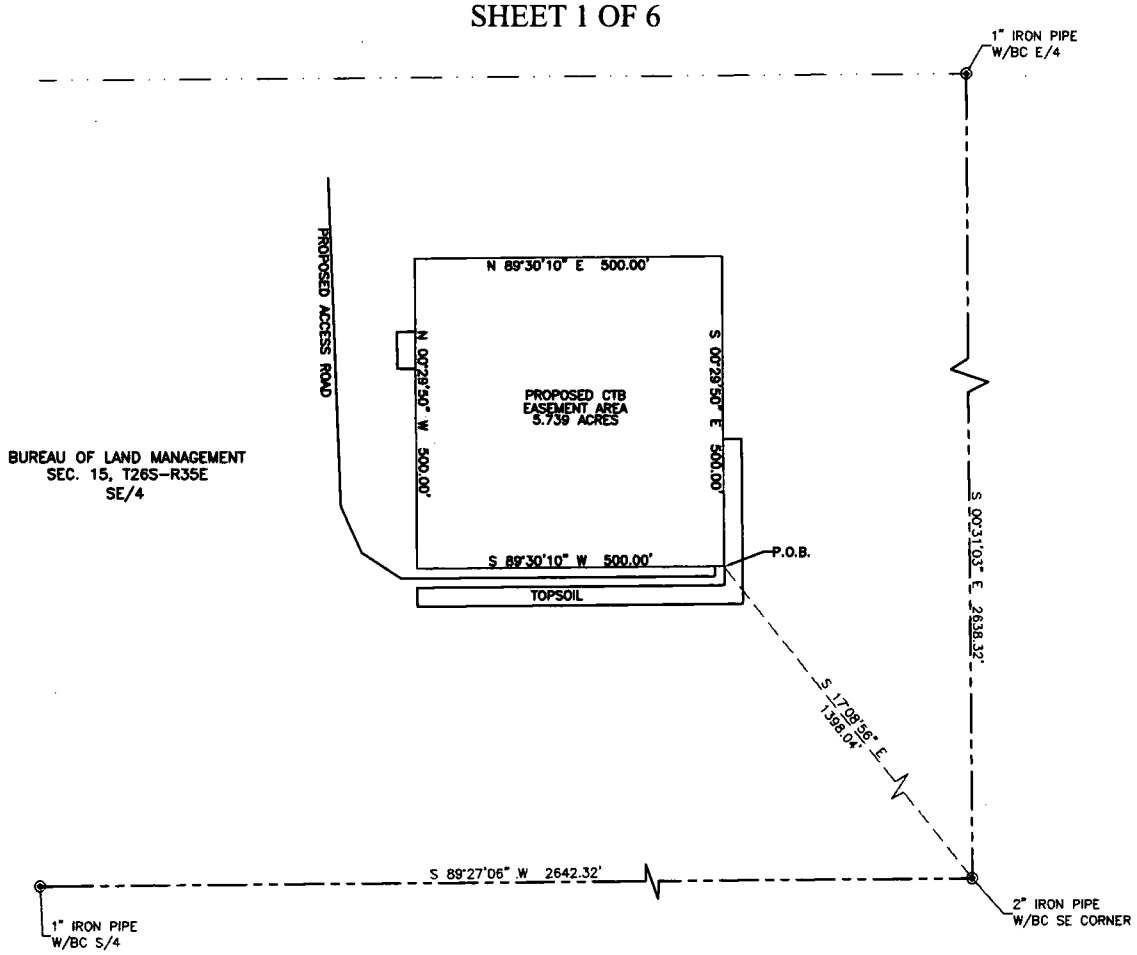
TATANKA FEDERAL 001H
Nearest wellbore to BHL: 1102 ft.

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



ARENA ROJA 15 CTB 2

DEVON ENERGY PRODUCTION COMPANY, L.P.
IN THE SOUTHEAST QUARTER (SE/4)
SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, NEW MEXICO
SHEET 1 OF 6



DESCRIPTION

BEING A SURFACE SITE EASEMENT LYING IN THE SOUTHEAST QUARTER (SE/4) OF SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST N.M.P.M., LEA COUNTY, NEW MEXICO.

BEGINNING AT THE SOUTHEAST CORNER OF SAID SITE EASEMENT, WHERE A 2" IRON PIPE W/BC FOR THE SOUTHEAST CORNER OF SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST N.M.P.M. BEARS S 17°08'56" E, A DISTANCE 1398.04';

THENCE S 89°30'10" W, A DISTANCE 500.00 FEET TO THE SOUTHWEST CORNER OF THIS EASEMENT;
THENCE N 00°29'50" W, A DISTANCE 500.00 FEET TO THE NORTHWEST CORNER OF THIS EASEMENT;
THENCE N 89°30'10" E, A DISTANCE 500.00 FEET TO THE NORTHEAST CORNER OF THIS EASEMENT;
THENCE S 00°29'50" E, A DISTANCE 500.00 FEET TO THE SOUTHEAST CORNER OF THIS EASEMENT,
TO THE POINT OF BEGINNING; CONTAINING 5.739 ACRES.

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF J-3 (FRYING PAN ROAD) AND ANTHONY ROAD, HEAD SOUTH ON FRYING PAN ROAD FOR 2.93 MILES. TURN RIGHT ONTO BECKHAM ROAD AND HEAD WEST FOR 5.37 MILES. TURN RIGHT AND CONTINUE NORTH ON AN EXISTING LEASE ROAD FOR 0.97 MILES. TURN RIGHT ONTO AN EXISTING ACCESS ROAD AND HEAD NORTH FOR 1.27 MILES. TURN RIGHT AND HEAD EAST OFF OF THE EXISTING ACCESS ROAD ON THE PROPOSED ACCESS ROAD FOR 0.40 MILES. TURN RIGHT AND HEAD SOUTH AND THEN EAST FOR 1213' DOWN TO THE SOUTHEAST CORNER OF THE PROPOSED ARENA ROJA 15 CTB 2.

GENERAL NOTES:

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

2.) 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
Horizonrow, LLC
Date Signed: 06-12-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

B. L. LAMAN NEW MEXICO 22404 PROFESSIONAL SURVEYOR

0 300 600

HORIZON ROW LLC

Drawn for: devon

Drawn by: CHRIS MAAS

Date: 05/11/2018

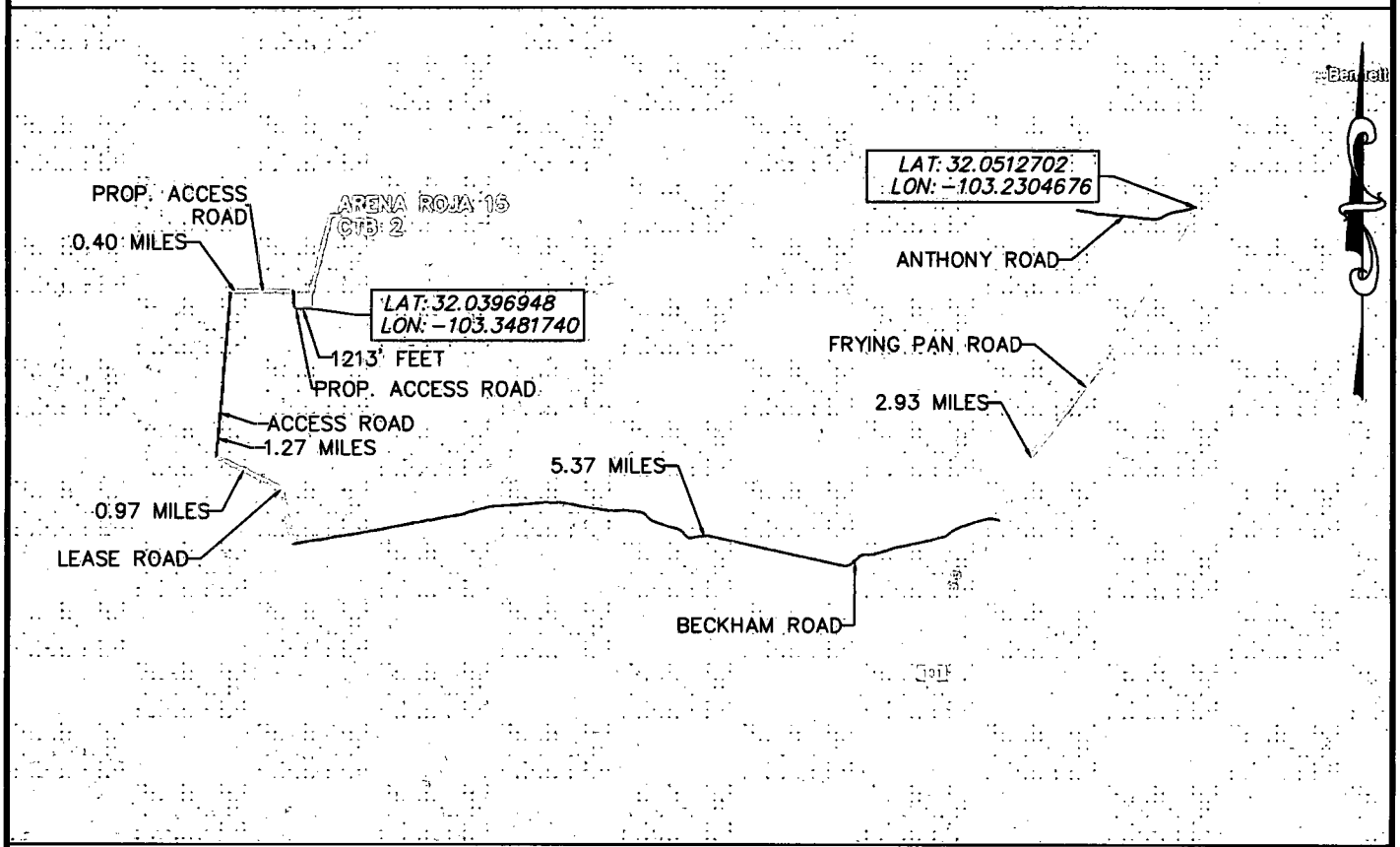
DEVON ENERGY PRODUCTION COMPANY, L.P.

ARENA ROJA 15 CTB 2

SURVEY PLAT SHOWING
A CTB
ON THE PROPERTY OF THE
BUREAU OF LAND MANAGEMENT

SITE NUMBER: AA000179606
WBS NUMBER:
SCALE: 1" = 300'
REVISIONS:
SHEET: 1 OF 6

SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
AERIAL ACCESS ROUTE MAP



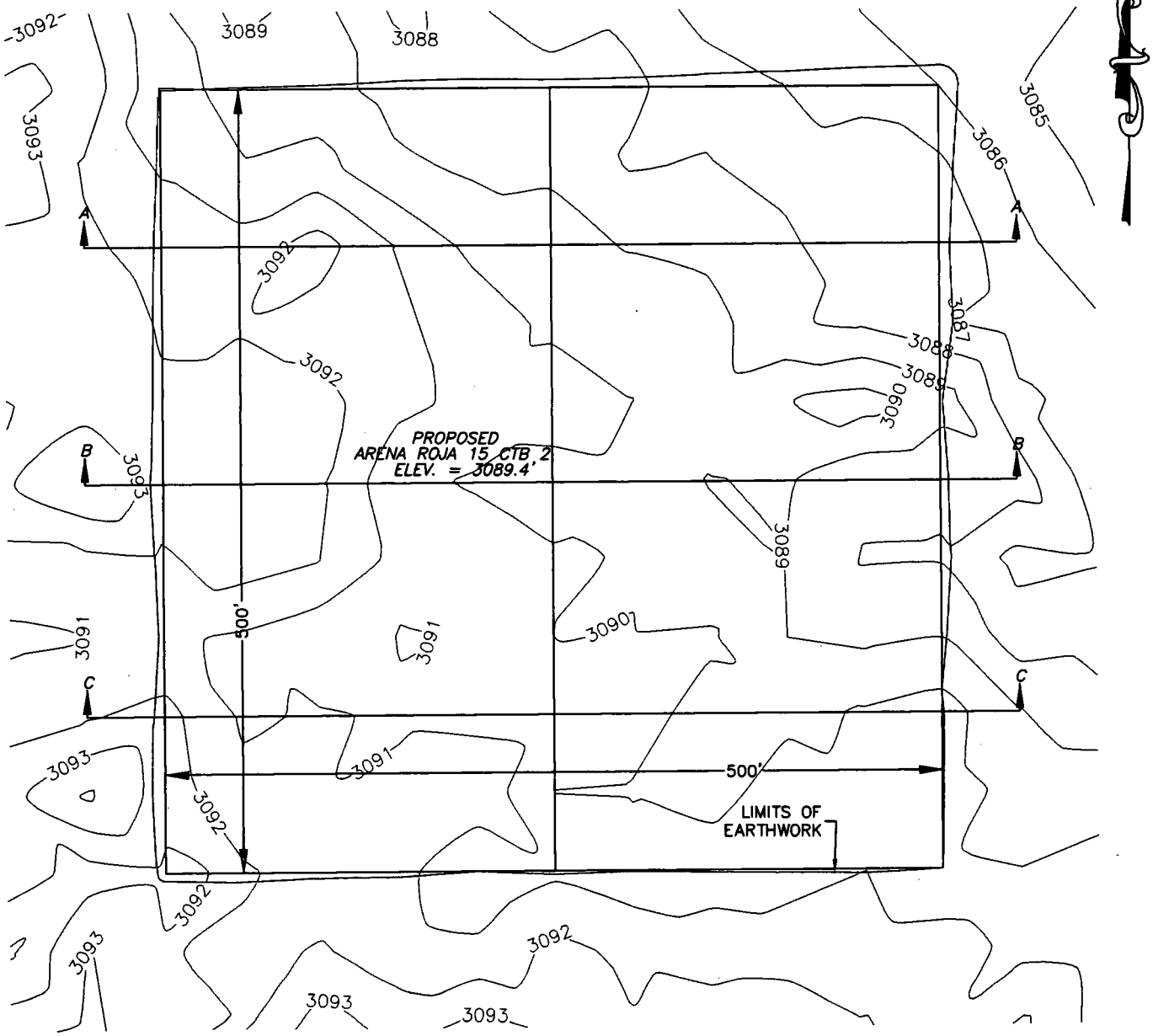
NOT TO SCALE

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF J-3 (FRYING PAN ROAD) AND ANTHONY ROAD, HEAD SOUTH ON FRYING PAN ROAD FOR 2.93 MILES. TURN RIGHT ONTO BECKHAM ROAD AND HEAD WEST FOR 5.37 MILES. TURN RIGHT AND CONTINUE NORTH ON AN EXISTING LEASE ROAD FOR 0.97 MILES. TURN RIGHT ONTO AN EXISTING ACCESS ROAD AND HEAD NORTH FOR 1.27 MILES. TURN RIGHT AND HEAD EAST OFF OF THE EXISTING ACCESS ROAD ON THE PROPOSED ACCESS ROAD FOR 0.40 MILES. TURN RIGHT AND HEAD SOUTH AND THEN EAST FOR 1213' DOWN TO THE SOUTHEAST CORNER OF THE PROPOSED ARENA ROJA 15 CTB 2.

HORIZON ROW LLC		Drawn for: devon
DEVON ENERGY PRODUCTION CO., L.P.		
Drawn by: CHRIS MAAS	Date: 05/11/2018	

SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
PLAN VIEW



0 100 200

SHEET 5 OF 6

EARTHWORK QUANTITIES FOR
ARENA ROJA 15 CTB 2

CUT	FILL	NET
5,127 CY	5,118 CY	-9 CY

EARTHWORK QUANTITIES ARE ESTIMATED

HORIZON ROW LLC

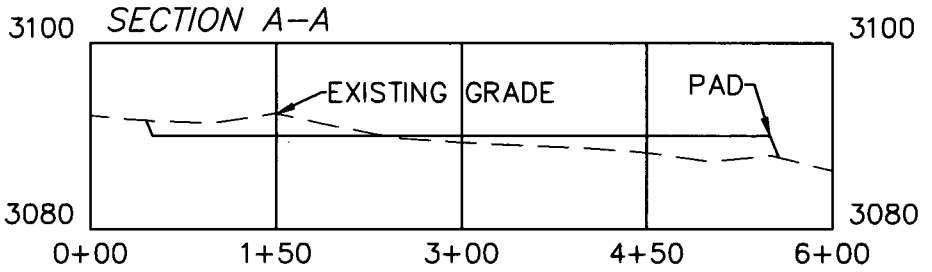
DEVON ENERGY PRODUCTION CO., L.P.

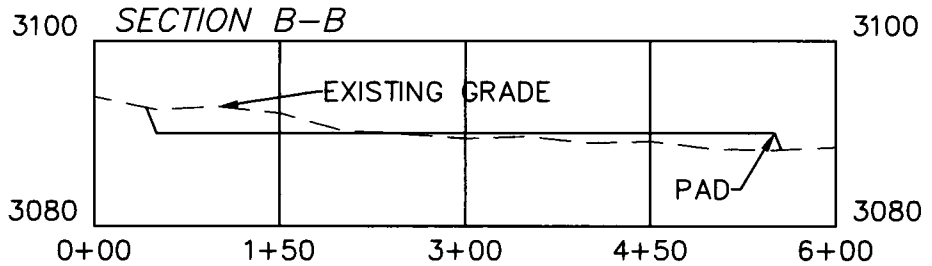
Drawn by: CHRIS MAAS

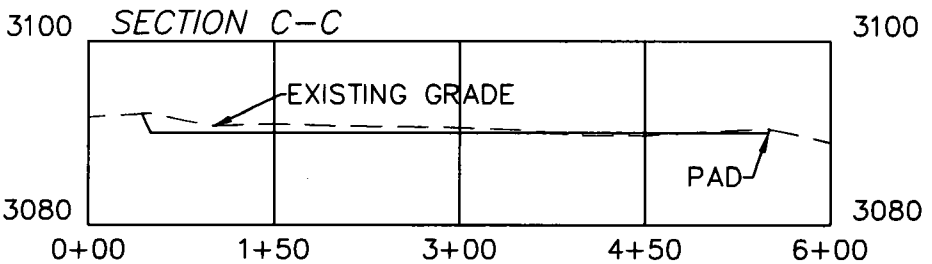
Date: 05/25/2018

Drawn for: devon

SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
CROSS SECTIONS







SCALE 1" = 150' HORIZONTAL
SCALE 1" = 20' VERTICAL

SHEET 6 OF 6

EARTHWORK QUANTITIES FOR
ARENA ROJA 15 CTB 2

CUT	FILL	NET
5,127 CY	5,118 CY	-9 CY

EARTHWORK QUANTITIES ARE ESTIMATED

HORIZON ROW LLC

DEVON ENERGY PRODUCTION CO., L.P.

Drawn by: CHRIS MAAS

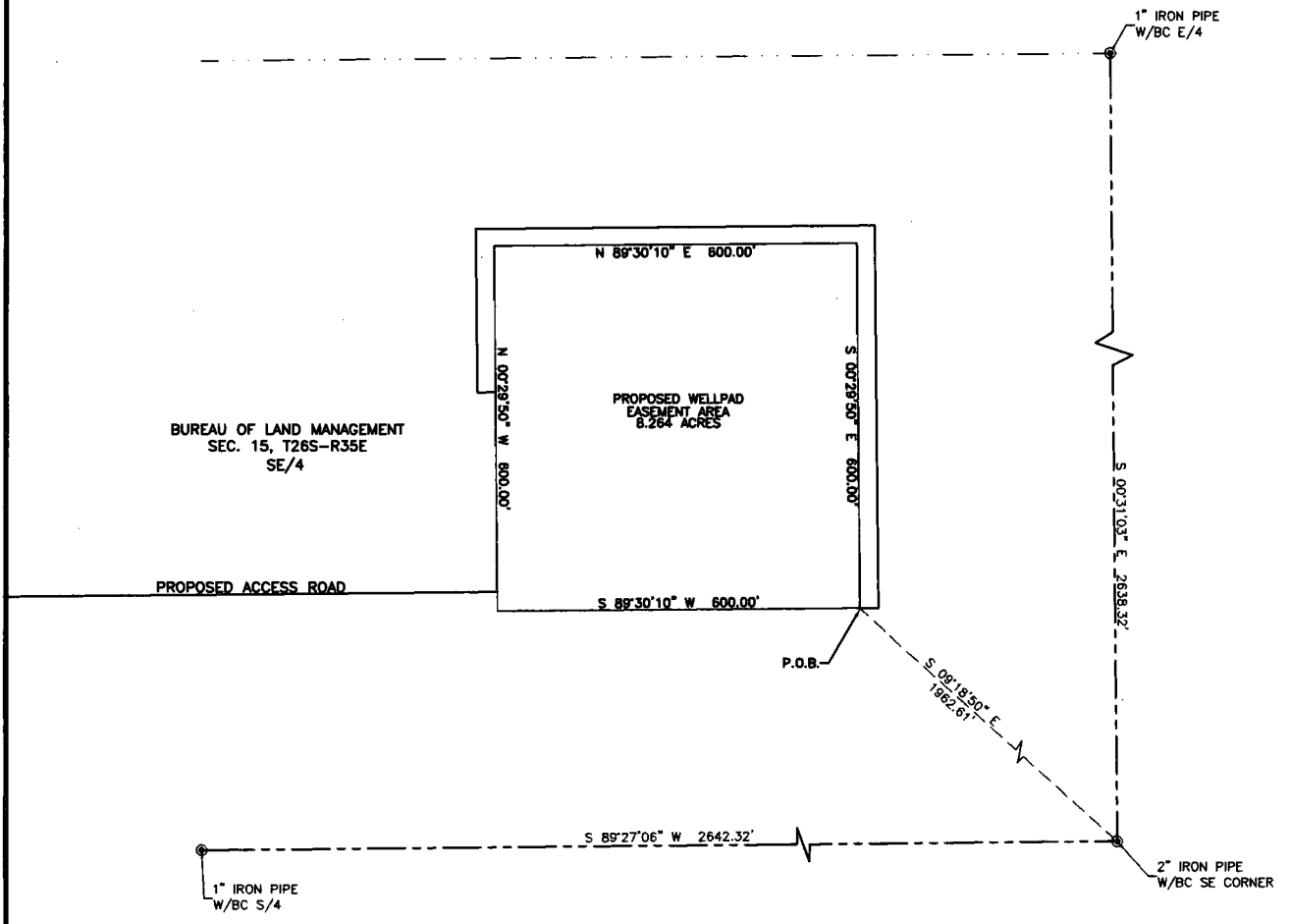
Date: 05/25/2018

Drawn for:

devon

ARENA ROJA 15 WELLPAD 2

DEVON ENERGY PRODUCTION COMPANY, L.P.
IN THE SOUTHEAST QUARTER (SE/4)
SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, NEW MEXICO
SHEET 1 OF 8



DESCRIPTION

BEING A SURFACE SITE EASEMENT LYING IN THE SOUTHEAST QUARTER (SE/4) OF SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST N.M.P.M., LEA COUNTY, NEW MEXICO.

BEGINNING AT THE SOUTHEAST CORNER OF SAID SITE EASEMENT, WHERE A 2" IRON PIPE W/BC FOR THE SOUTHEAST CORNER OF SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST N.M.P.M. BEARS S 09°18'50" E, A DISTANCE 1962.61';

THENCE S 89°30'10" W, A DISTANCE 600.00 FEET TO THE SOUTHWEST CORNER OF THIS EASEMENT;
THENCE N 00°29'50" W, A DISTANCE 600.00 FEET TO THE NORTHWEST CORNER OF THIS EASEMENT;
THENCE N 89°30'10" E, A DISTANCE 600.00 FEET TO THE NORTHEAST CORNER OF THIS EASEMENT;
THENCE S 00°29'50" E, A DISTANCE 600.00 FEET TO THE SOUTHEAST CORNER OF THIS EASEMENT,
TO THE POINT OF BEGINNING; CONTAINING 8.264 ACRES.

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF J-3 (FRYING PAN ROAD) AND ANTHONY ROAD, HEAD SOUTH ON FRYING PAN ROAD FOR 2.93 MILES. TURN RIGHT ONTO BECKHAM ROAD AND HEAD WEST FOR 5.37 MILES. TURN RIGHT AND CONTINUE NORTH ON AN EXISTING LEASE ROAD FOR 0.97 MILES. TURN RIGHT ONTO AN EXISTING ACCESS ROAD AND HEAD NORTH FOR 1.27 MILES. TURN RIGHT AND HEAD EAST OFF OF THE EXISTING ACCESS ROAD ON THE PROPOSED ACCESS ROAD FOR 0.42 MILES TO THE SOUTHWEST CORNER OF THE PROPOSED ARENA ROJA 15 WELLPAD 2.

GENERAL NOTES:

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

2.) 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
Horizonrow, LLC
Date Signed: 08-12-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

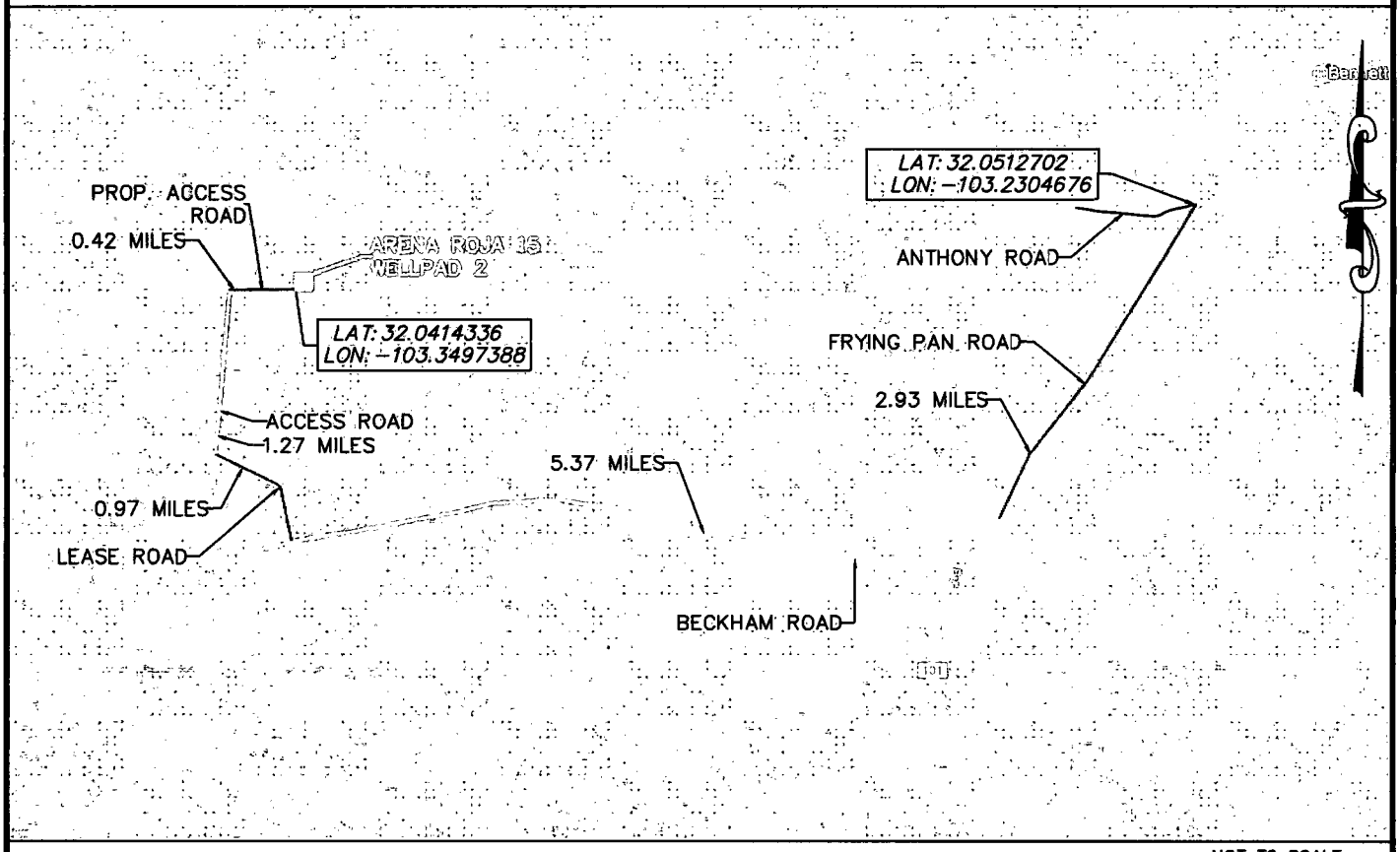
0 300 600

HORIZON ROW LLC
Drawn for: [redacted]
devon
Drawn by: CHRIS MAAS
Date: 05/11/2018

DEVON ENERGY PRODUCTION COMPANY, L.P.
ARENA ROJA 15 WELLPAD 2
SURVEY PLAT SHOWING
A WELLPAD
ON THE PROPERTY OF THE
BUREAU OF LAND MANAGEMENT

SITE NUMBER: AA000179604
WBS NUMBER:
SCALE: 1" = 300'
REVISIONS:
SHEET: 1 OF 8

SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
AERIAL ACCESS ROUTE MAP



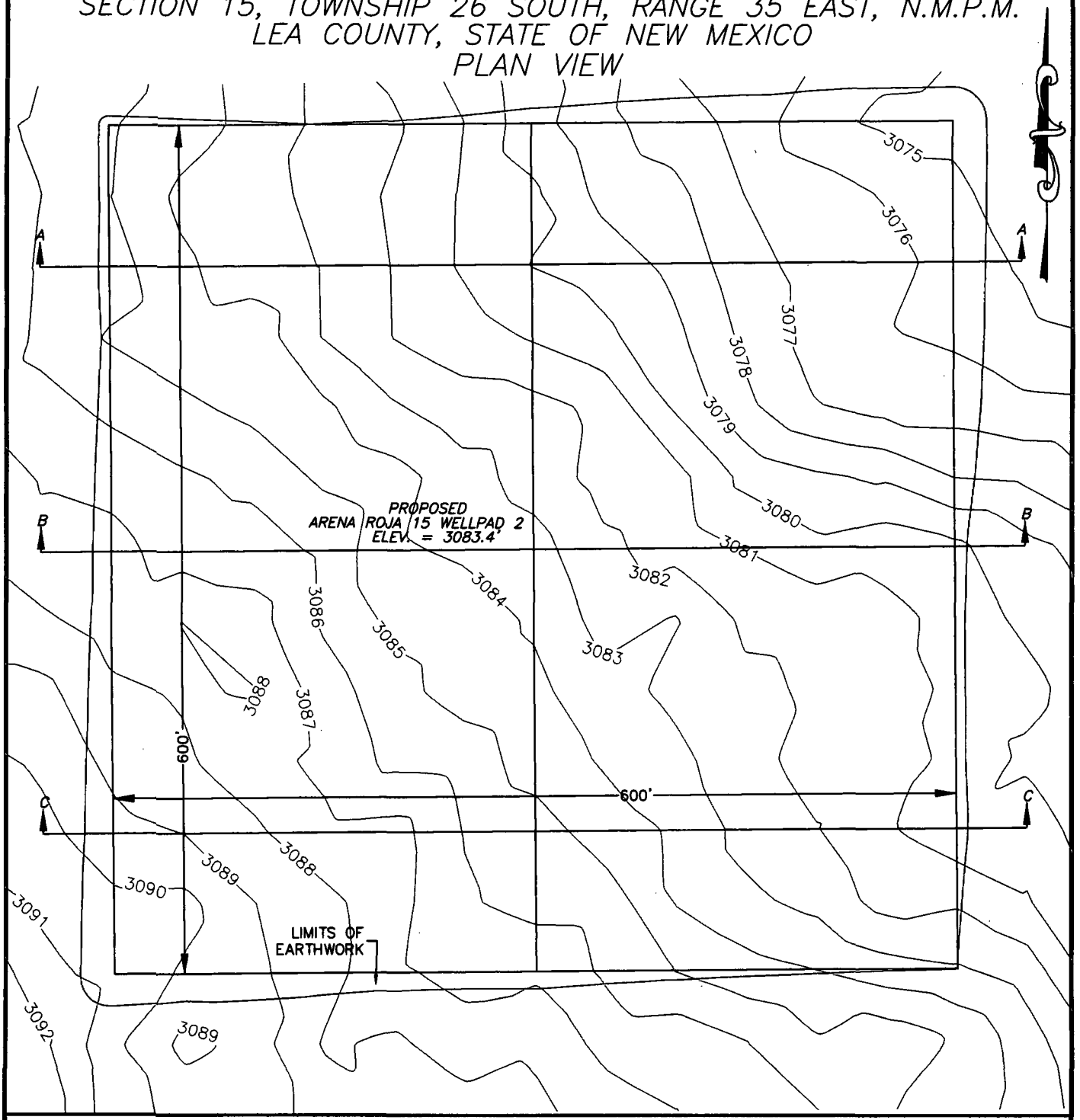
NOT TO SCALE

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF J-3 (FRYING PAN ROAD) AND ANTHONY ROAD, HEAD SOUTH ON FRYING PAN ROAD FOR 2.93 MILES. TURN RIGHT ONTO BECKHAM ROAD AND HEAD WEST FOR 5.37 MILES. TURN RIGHT AND CONTINUE NORTH ON AN EXISTING LEASE ROAD FOR 0.97 MILES. TURN RIGHT ONTO AN EXISTING ACCESS ROAD AND HEAD NORTH FOR 1.27 MILES. TURN RIGHT AND HEAD EAST OFF OF THE EXISTING ACCESS ROAD ON THE PROPOSED ACCESS ROAD FOR 0.42 MILES TO THE SOUTHWEST CORNER OF THE PROPOSED ARENA ROJA 15 WELLPAD 2.

HORIZON ROW LLC	Drawn for: devon
DEVON ENERGY PRODUCTION CO., L.P.	
Drawn by: CHRIS MAAS	Date: 05/12/2018

SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
PLAN VIEW



0 100 200

SHEET 7 OF 8

EARTHWORK QUANTITIES FOR
ARENA ROJA 15 WELLPAD 2

CUT	FILL	NET
19,935 CY	19,932 CY	3 CY

EARTHWORK QUANTITIES ARE ESTIMATED

HORIZON ROW LLC

DEVON ENERGY PRODUCTION CO., L.P.

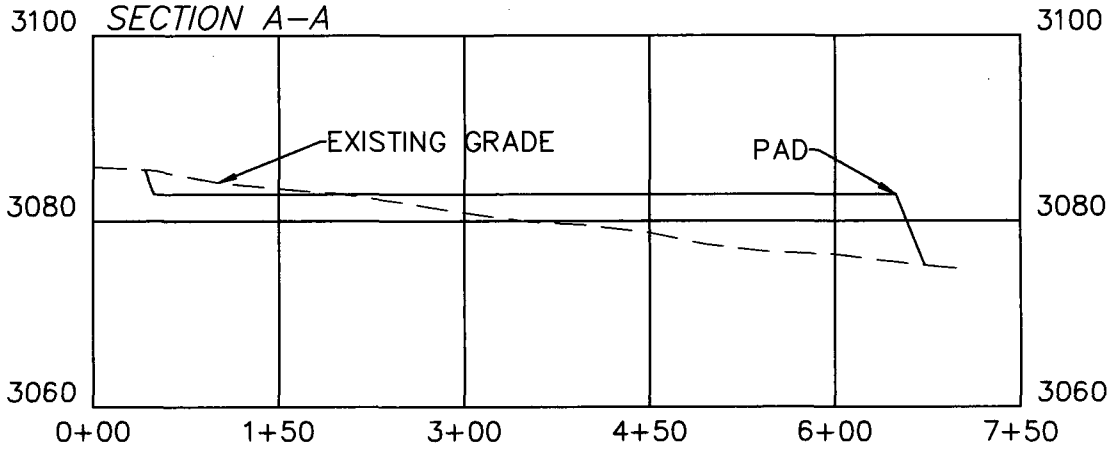
Drawn by: CHRIS MAAS

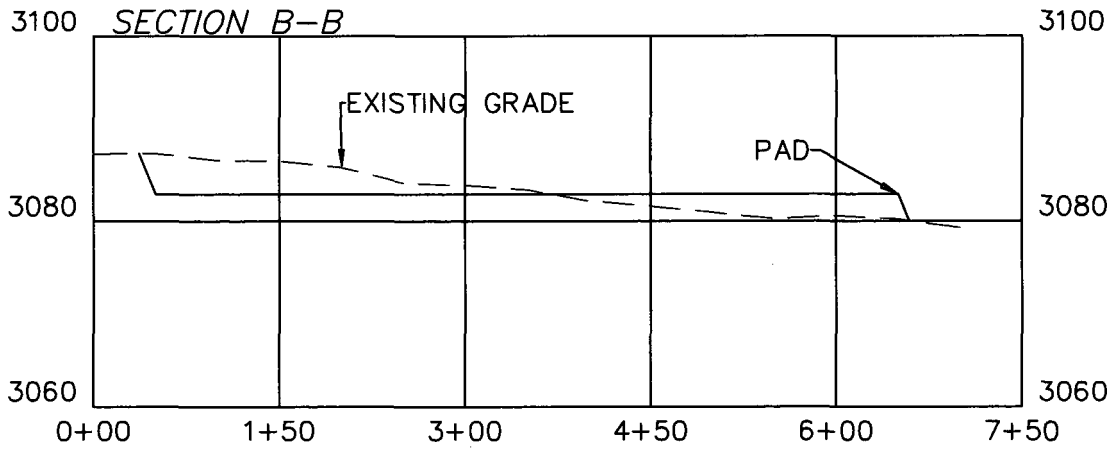
Date: 05/26/2018

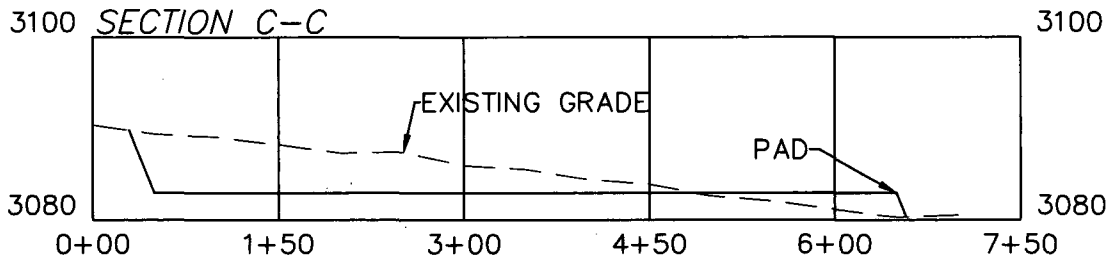
Drawn for:

devon

SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
CROSS SECTIONS







SCALE 1" = 150' HORIZONTAL
SCALE 1" = 20' VERTICAL

SHEET 8 OF 8

EARTHWORK QUANTITIES FOR
ARENA ROJA 15 WELLPAD 2

CUT	FILL	NET
19,935 CY	19,932 CY	3 CY

EARTHWORK QUANTITIES ARE ESTIMATED

HORIZON ROW LLC

DEVON ENERGY PRODUCTION CO., L.P.

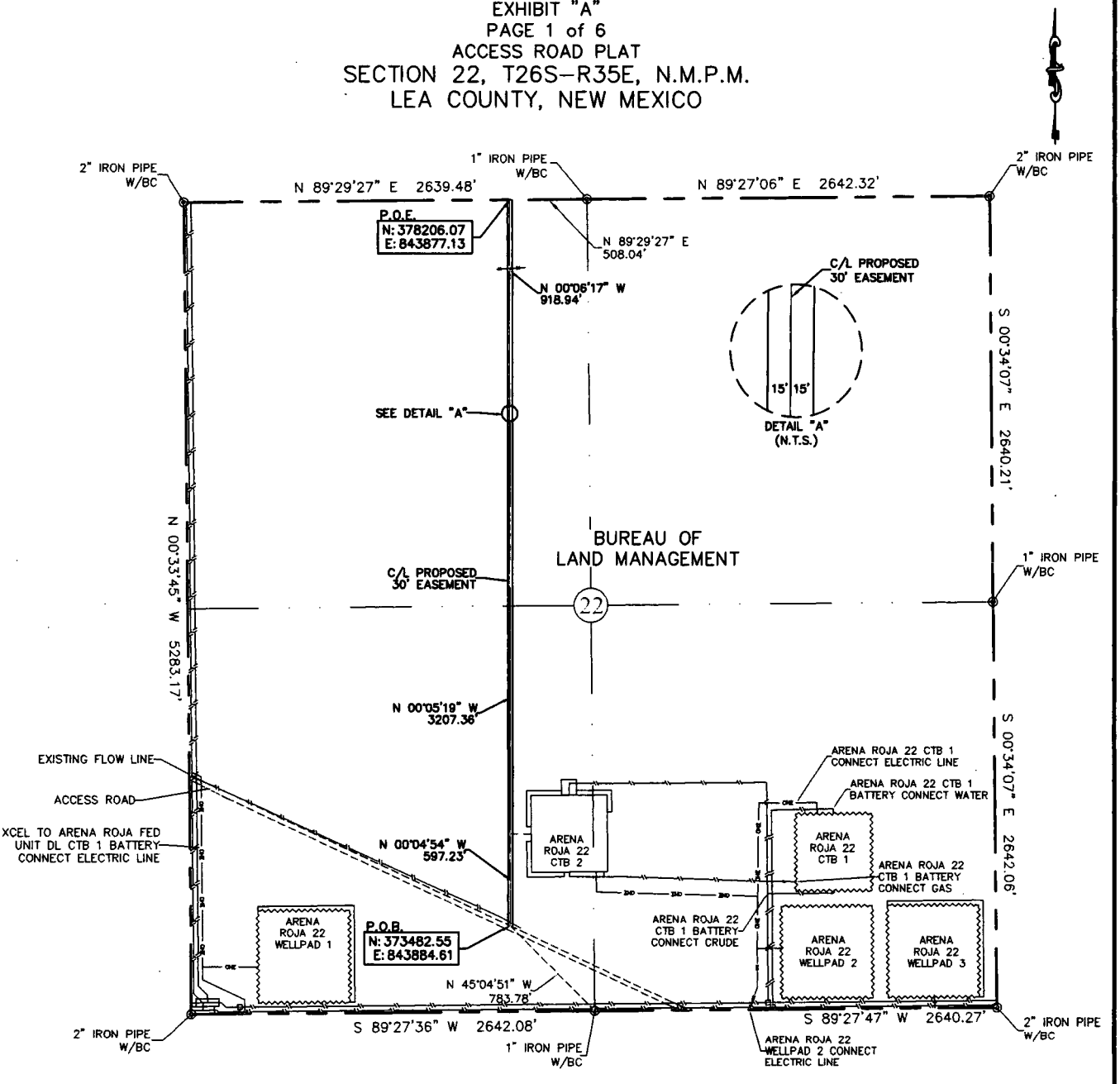
Drawn by: CHRIS MAAS

Date: 05/26/2018

Drawn for:

devon

EXHIBIT "A"
PAGE 1 of 6
ACCESS ROAD PLAT
SECTION 22, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



30' EASEMENT AREA = 3.253 ACRE(S)
4723.53 FEET OR 286.27 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+00.0 P.O.B./EXISTING ROAD
42+78.9 FENCE/GATE
47+23.5 SECTION LINE

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: 08-05-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC Drawn for: devon	DEVON ENERGY PRODUCTION COMPANY, L.P. ARENA ROJA 15 PRIMARY ACCESS ROAD PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 22, T26S–R35E, N.M.P.M.	LINE NUMBER: 7640126R WBS NUMBER: SCALE: 1" = 1000' REVISIONS: 8/4/18 DATE OF SURVEY 5/19/18
Drawn by: CHRIS MAAS Date: 05/25/2018		

SECTION 22, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southwest quarter (SW ¼) and the northwest quarter (NW ¼) of Section 22, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the south quarter corner of Section 22, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence N 45°04'51" W a distance of 783.78' to the **Point of Beginning** of this easement having coordinates of Northing=373482.55 feet, Easting=843884.61 feet, and continuing the following courses;

Thence N 00°04'54" W a distance of 597.23' to an angle point;

Thence N 00°05'19" W a distance of 3207.36' to an angle point;

Thence N 00°06'17" W a distance of 918.94' to the **Point of Ending** in the north line of Section 22, having coordinates of Northing=378206.07 feet, Easting=843877.13 feet, from said point a 1" iron pipe w/BC for the north quarter corner of Section 22, T26S-R35E bears N 89°29'27" E a distance of 508.04', covering **4723.53' or 286.27 rods** and having an area of **3.253 acres**.

NOTES:

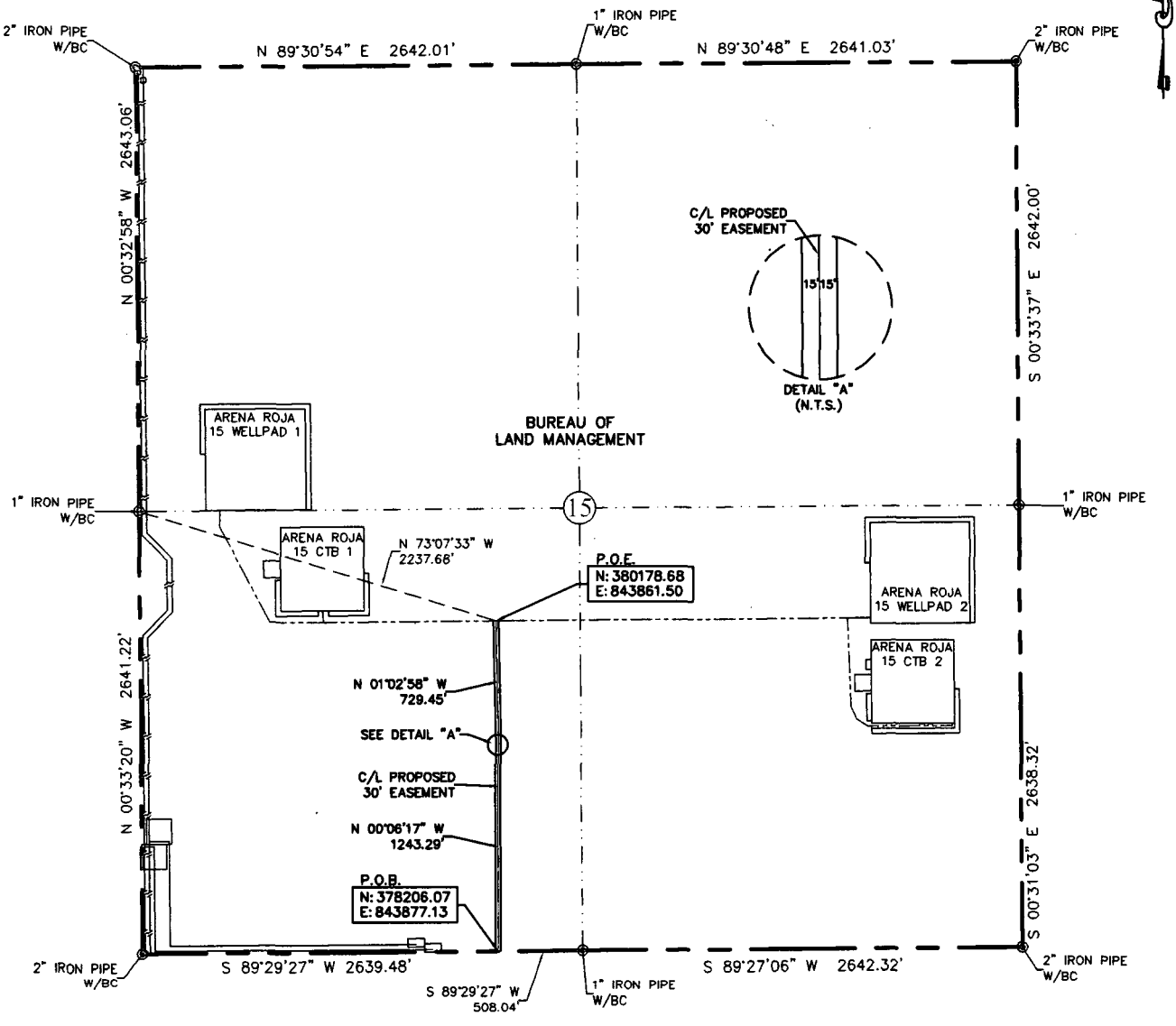
Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

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: 08/05/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 3 of 6

ACCESS ROAD PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



47+23.5 SECTION LINE
66+96.3 P.O.E./ARENA ROJA 15 WELLPAD 1 & 2 ACCESS ROAD

30' EASEMENT AREA = 1.359 ACRE(S)
1972.74 FEET OR 119.56 RODS

SEE THE ATTACHED LEGAL DESCRIPTION

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

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

B.L. LAMAN
NEW MEXICO
22404
PROFESSIONAL SURVEYOR

B.L. Laman PLS #22404
Date Signed: 08-05-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC Drawn for: devon	DEVON ENERGY PRODUCTION COMPANY, L.P. ARENA ROJA 15 PRIMARY ACCESS ROAD	LINE NUMBER: 7640128R WBS NUMBER:	
	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 15, T26S–R35E, N.M.P.M.	SCALE: 1" = 1000' REVISIONS: 8/4/18 CMAAS DATE OF SURVEY 5/19/18	
Drawn by: CHRIS MAAS	Date: 05/25/2018		

SECTION 15, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southwest quarter (SW ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the south quarter corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence S 89°29'27" W a distance of 508.04' to the **Point of Beginning** of this easement in the south line of Section 15, having coordinates of Northing=378206.07, Easting=843877.13 feet and continuing the following courses;

Thence N 00°06'17" W a distance of 1243.29' to an angle point;

Thence N 01°02'58" W a distance of 729.45' to the **Point of Ending** having coordinates of Northing=380178.68, Easting=843861.50 feet from said point a 1" iron pipe w/BC for the west quarter corner of Section 15, T26S-R35E bears N 73°07'33" W a distance of 2237.68', covering **1972.74' or 119.56 rods** and having an area of **1.359 acres**.

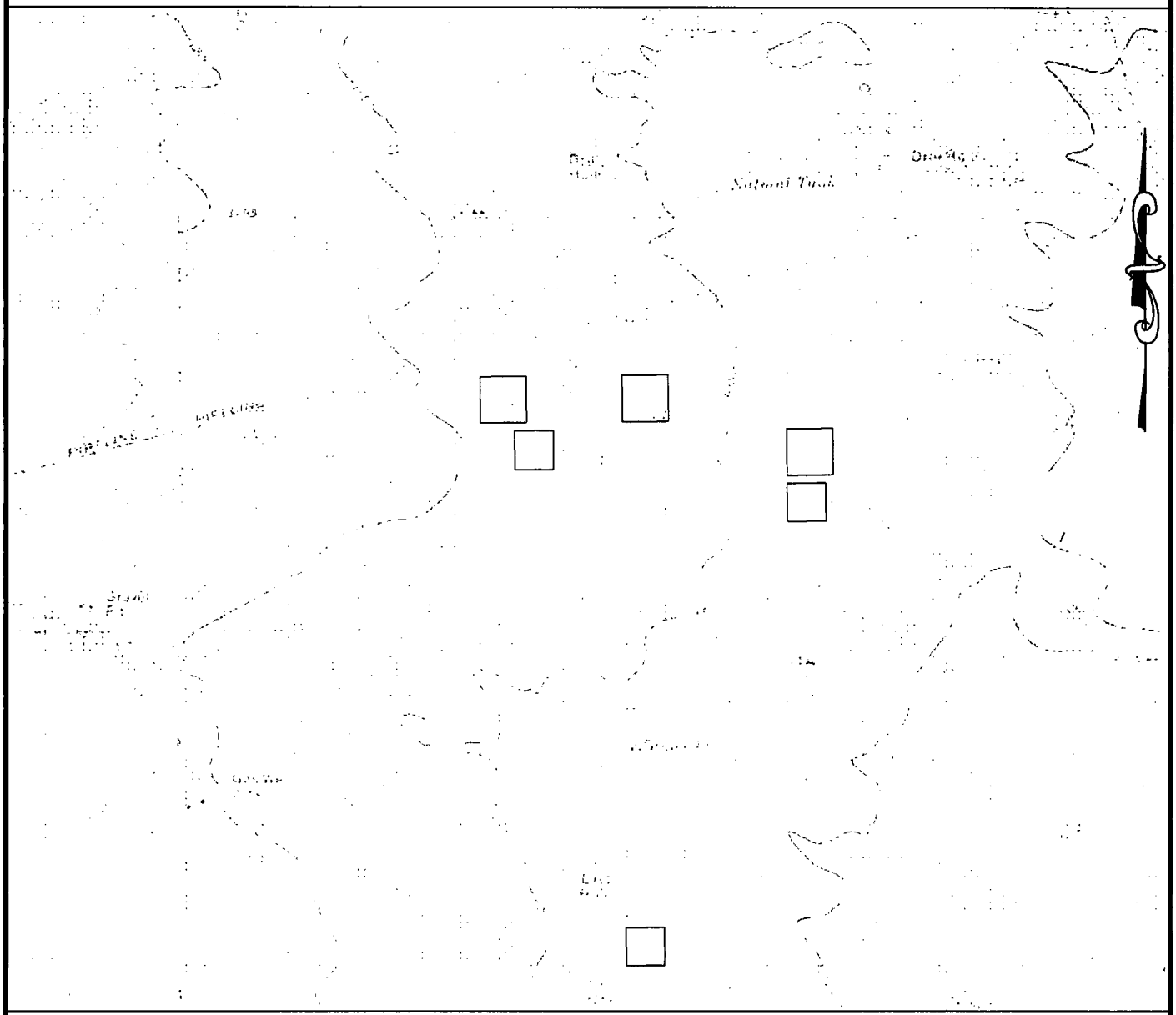
NOTES:

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: 08/05/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 5 of 6



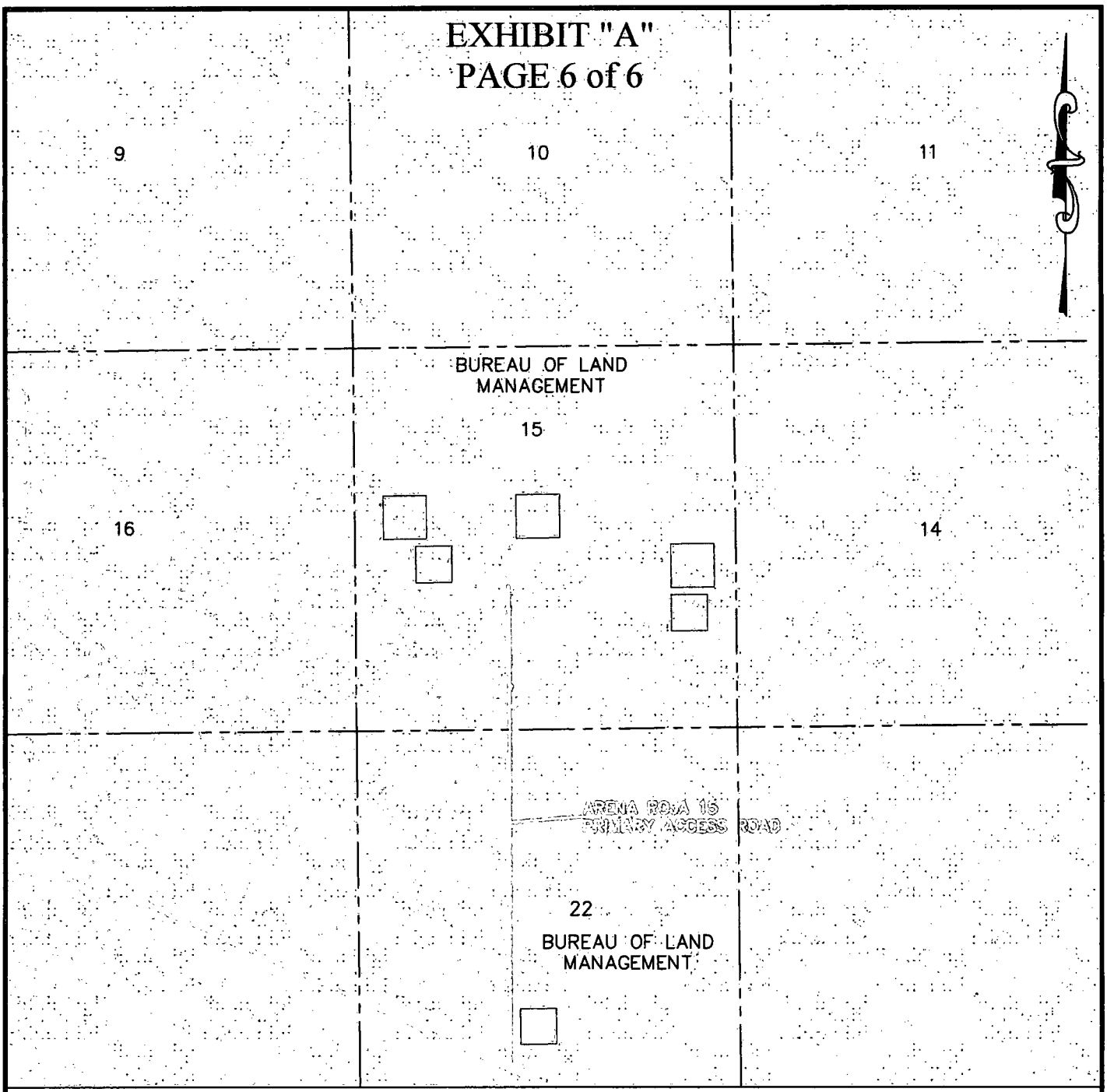
QUAD MAP

SECTION 22, T26S-R35E, N.M.P.M.;
SECTION 15, T26S-R35E, N.M.P.M.;
LEA COUNTY, NEW MEXICO

0 2000 4000

HORIZON ROW LLC	Drawn for: devon	LINE NUMBER: 7640126R
DEVON ENERGY PRODUCTION CO., L.P.		WBS NUMBER:
PROPOSED 30' EASEMENT		SCALE: 1" = 2000'
Drawn by: CHRIS MAAS / Date: 08/04/2018		REVISIONS:
		DATE OF SURVEY: 05/19/18

EXHIBIT "A"
PAGE 6 of 6



AERIAL MAP

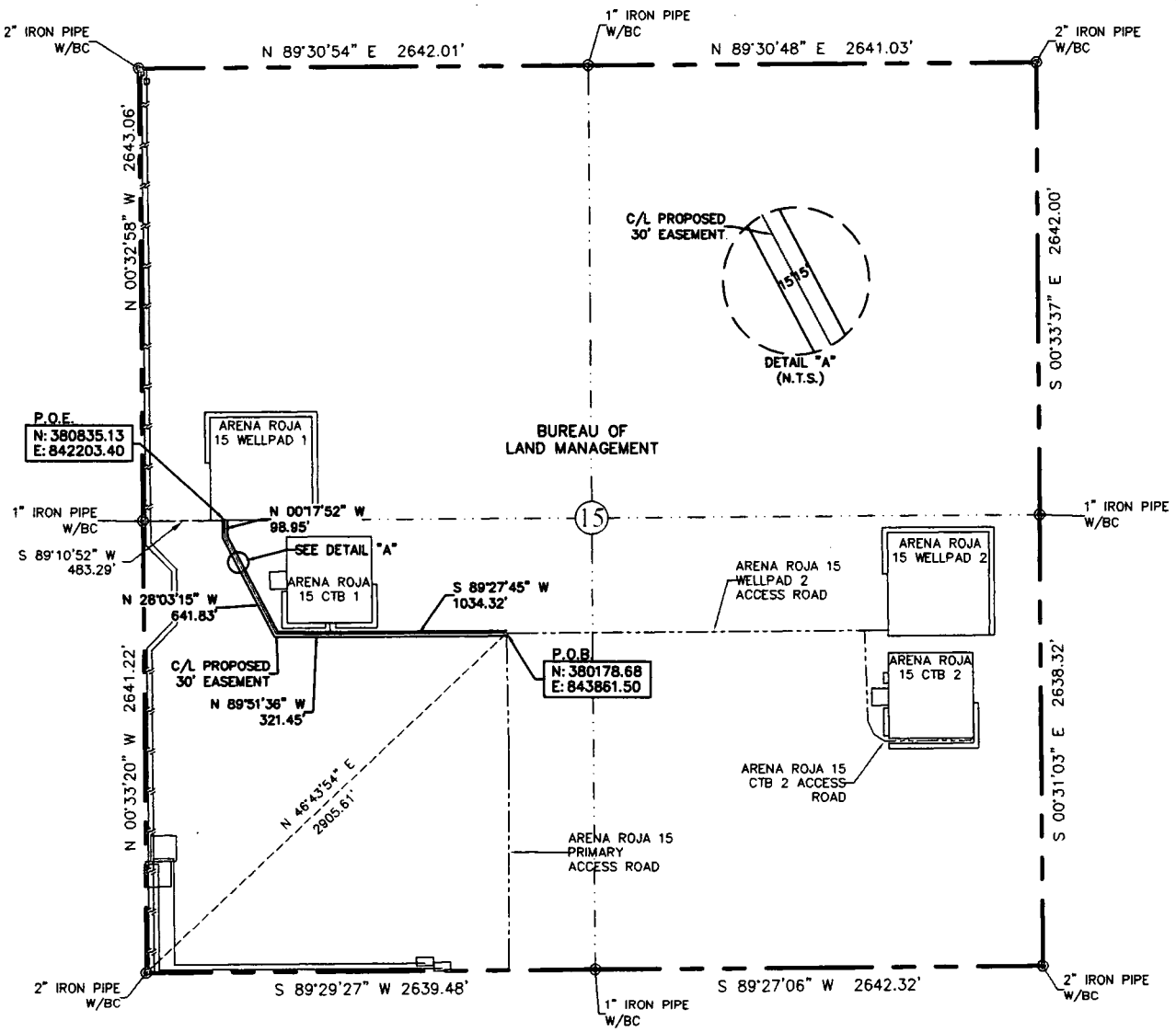
SECTION 22, T26S-R35E, N.M.P.M.;
SECTION 15, T26S-R35E, N.M.P.M.;
LEA COUNTY, NEW MEXICO

0 2000 4000

HORIZON ROW LLC	Drawn for: devon		LINE NUMBER: 7640126R
DEVON ENERGY PRODUCTION CO., L.P.			WBS NUMBER:
PROPOSED 30' EASEMENT			SCALE: 1" = 2000'
Drawn by: CHRIS MAAS	Date: 08/04/2018		REVISIONS:
			DATE OF SURVEY: 05/19/18

EXHIBIT "A"
PAGE 9 of 12

ACCESS ROAD PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



30' EASEMENT AREA = 1.444 ACRE(S)
2096.55 FEET OR 127.06 RODS

0+00.0 P.O.B./ARENA ROJA 15 PRIMARY ACCESS ROAD
7+15.3 P.O.E./ARENA ROJA 15 CTB 1 ELECTRIC LINE
10+34.3 ARENA ROJA 15 CTB 1 ACCESS ROAD
20+96.5 P.O.E./ARENA ROJA 15 WELLPAD 1

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: 08-05-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC Drawn for: devon	DEVON ENERGY PRODUCTION COMPANY, L.P. ARENA ROJA 15 WELLPAD 1 ACCESS ROAD	LINE NUMBER: 7640127R WBS NUMBER: SCALE: 1" = 1000'
Drawn by: CHRIS MAAS Date: 05/22/2018	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 15, T26S–R35E, N.M.P.M.	REVISIONS: 8/3/18 CMAAS DATE OF SURVEY: 5/19/2018

SECTION 15, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southwest quarter (SW ¼) and the northwest quarter (NW ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the southwest corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence N 46°43'54" E a distance of 2905.61' to the **Point of Beginning** of this easement having coordinates of Northing=380178.68, Easting=843861.50 feet and continuing the following courses;

Thence S 89°27'45" W a distance of 1034.32' to an angle point;

Thence N 89°51'36" W a distance of 321.45' to an angle point;

Thence N 28°03'15" W a distance of 641.83' to an angle point;

Thence N 00°17'52" W a distance of 98.95' to the **Point of Ending** having coordinates of Northing=380835.13, Easting=842203.40 feet from said point a 1" iron pipe w/BC for the west quarter corner of Section 15, T26S-R35E bears S 89°10'52" W a distance of 483.29', covering **2096.55' or 127.06 rods** and having an area of **1.444 acres**.

NOTES:

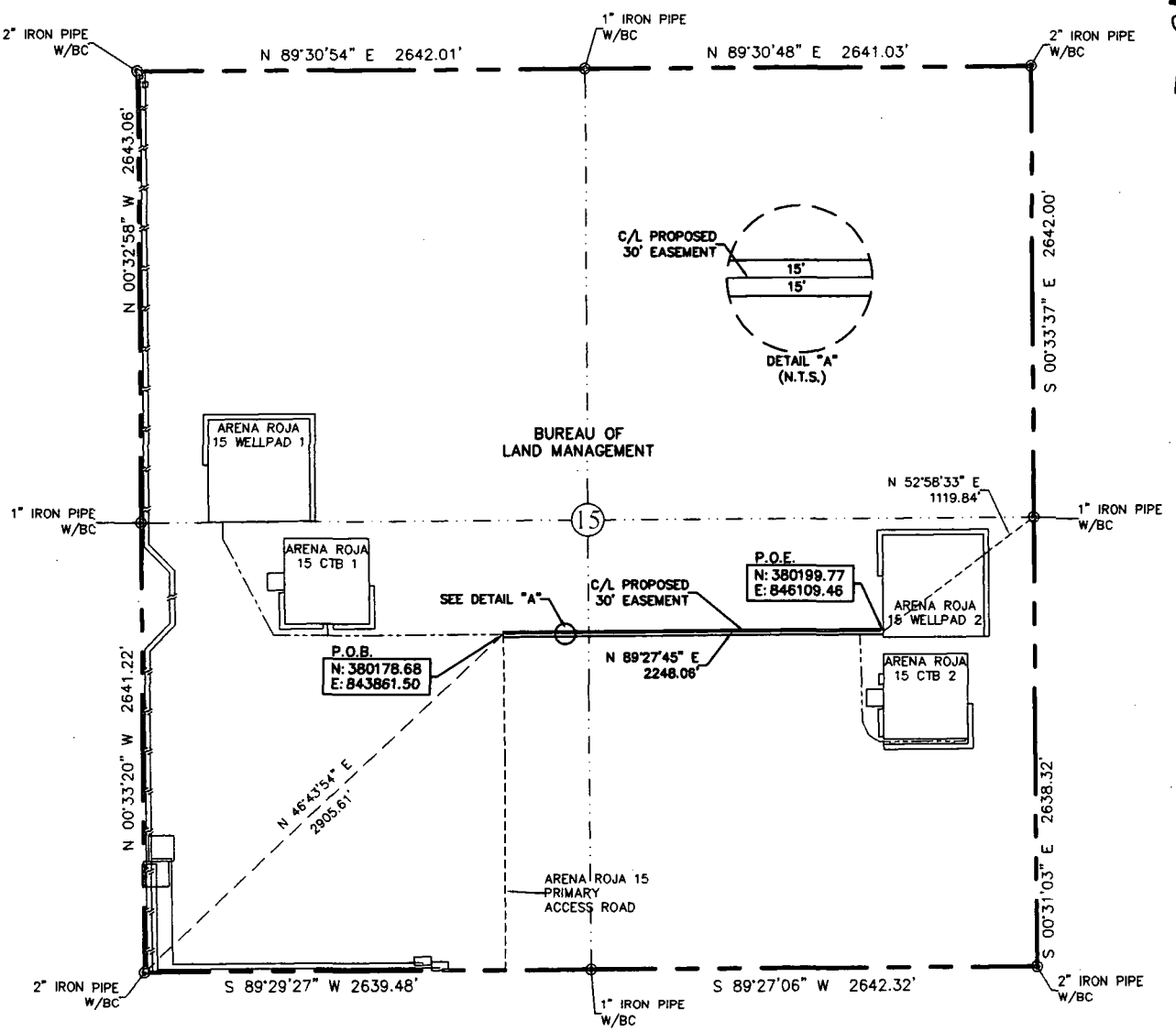
Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

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: 08/05/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 9 of 12

ACCESS ROAD PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



0+00.0 P.O.B./ARENA ROJA 15 PRIMARY ACCESS ROAD
21+08.9 ARENA ROJA 15 CTB 2 ACCESS ROAD
22+48.1 P.O.E./ARENA ROJA 15 WELLPAD 2

30' EASEMENT AREA = 1.548 ACRE(S)
2248.06 FEET OR 136.25 RODS

SEE THE ATTACHED LEGAL DESCRIPTION

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

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

B.L. LAMAN NEW MEXICO 22404 PROFESSIONAL SURVEYOR

B.L. Laman PLS #22404
Date Signed: 08-06-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC Drawn for: devon	DEVON ENERGY PRODUCTION COMPANY, L.P. ARENA ROJA 15 WELLPAD 2 ACCESS ROAD		LINE NUMBER: 7640128R
			WBS NUMBER:
	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 15, T26S–R35E, N.M.P.M.		SCALE: 1" = 1000'
			REVISIONS: 8/3/18 CMAAS
Drawn by: CHRIS MAAS	Date: 05/25/2018		DATE OF SURVEY: 5/19/18

SECTION 15, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southwest quarter (SW ¼) and the southeast quarter (SE ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the southwest corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence N 46°43'54" E a distance of 2905.61' to the **Point of Beginning** of this easement having coordinates of Northing=380178.68, Easting=843861.50 feet and continuing the following courses;

Thence N 89°27'45" E a distance of 2248.06' to the **Point of Ending** having coordinates of Northing=380199.77, Easting=846109.46 feet from said point a 1" iron pipe w/BC for the east quarter corner of Section 15, T26S-R35E bears N 52°58'33" E a distance of 1119.84', covering **2248.06' or 136.25 rods** and having an area of **1.548 acres**.

NOTES:

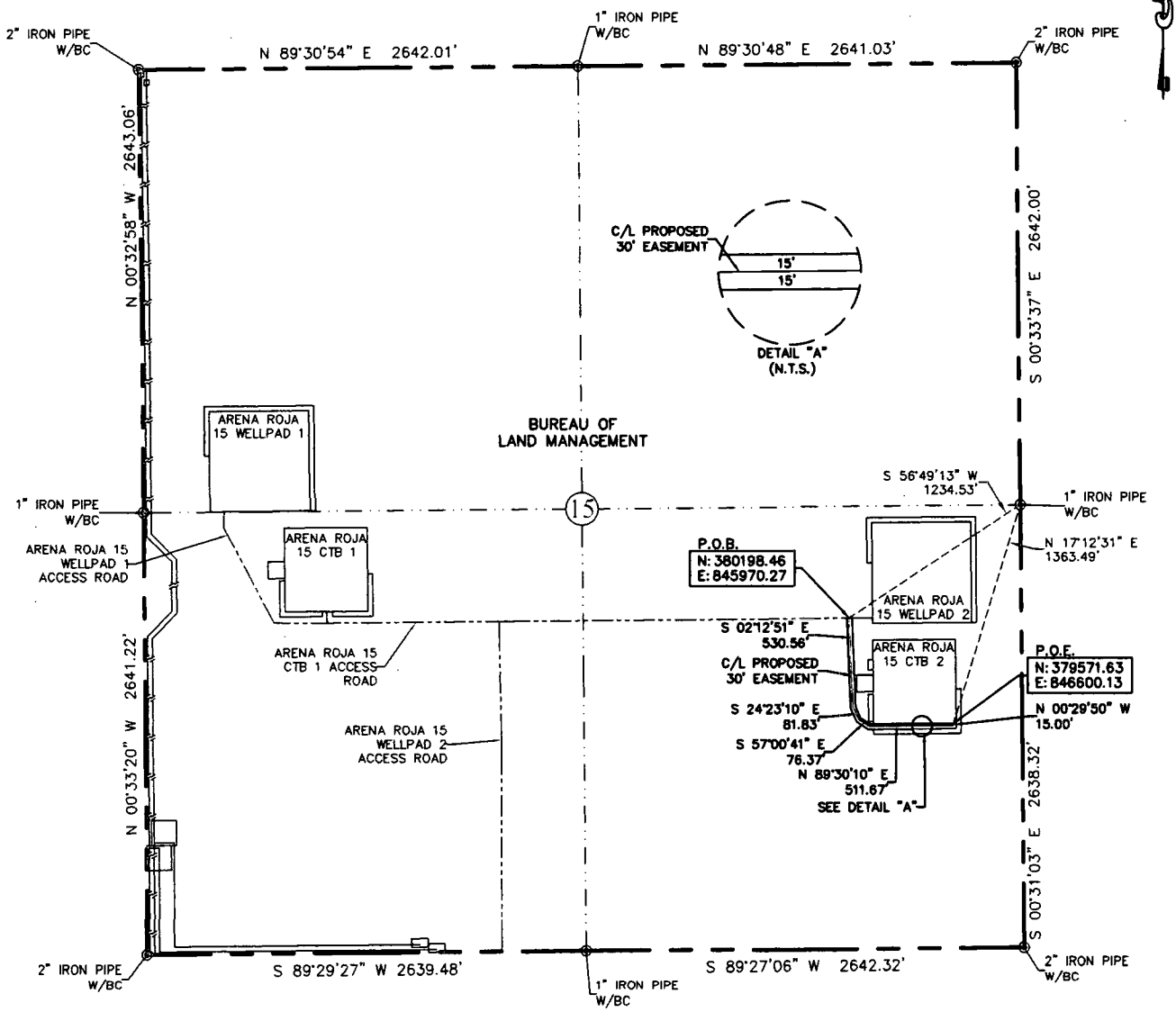
Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

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: 08/06/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 3 of 6

ACCESS ROAD PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



30' EASEMENT AREA = 0.837 ACRE(S)
1215.43 FEET OR 73.66 RODS

0+00.0 P.O.B./ARENA ROJA 15 WELLPAD 2 ACCESS ROAD
12+15.4 P.O.E./ARENA ROJA 15 CTB 2

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: 06-12-2018
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC	DEVON ENERGY PRODUCTION COMPANY, L.P.	LINE NUMBER: 7640130R	
Drawn for: devon	ARENA ROJA 15 CTB 2 ACCESS ROAD	WBS NUMBER:	
	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 15, T26S–R35E, N.M.P.M.	SCALE: 1" = 1000'	
		REVISIONS:	
Drawn by: CHRIS MAAS	Date: 05/24/2018	SHEET: 3 OF 6	

SECTION 15, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ACCESS ROAD 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 southeast quarter (SE ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the east quarter corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence S 56°49'13" W a distance of 1234.53' to the **Point of Beginning** of this easement having coordinates of Northing=380198.46, Easting=845970.27 feet and continuing the following courses;

Thence S 02°12'51" E a distance of 530.56' to an angle point;

Thence S 24°23'10" E a distance of 81.83' to an angle point;

Thence S 57°00'41" E a distance of 76.37' to an angle point;

Thence N 89°30'10" E a distance of 511.67' to an angle point;

Thence N 00°29'50" W a distance of 15.00' to the **Point of Ending** having coordinates of Northing=379571.63, Easting=846600.13 feet from said point a 1" iron pipe w/BC for the east quarter corner of Section 15, T26S-R35E bears N 17°12'31" E a distance of 1363.49', covering **1215.43' or 73.66 rods** and having an area of **0.837 acres**.

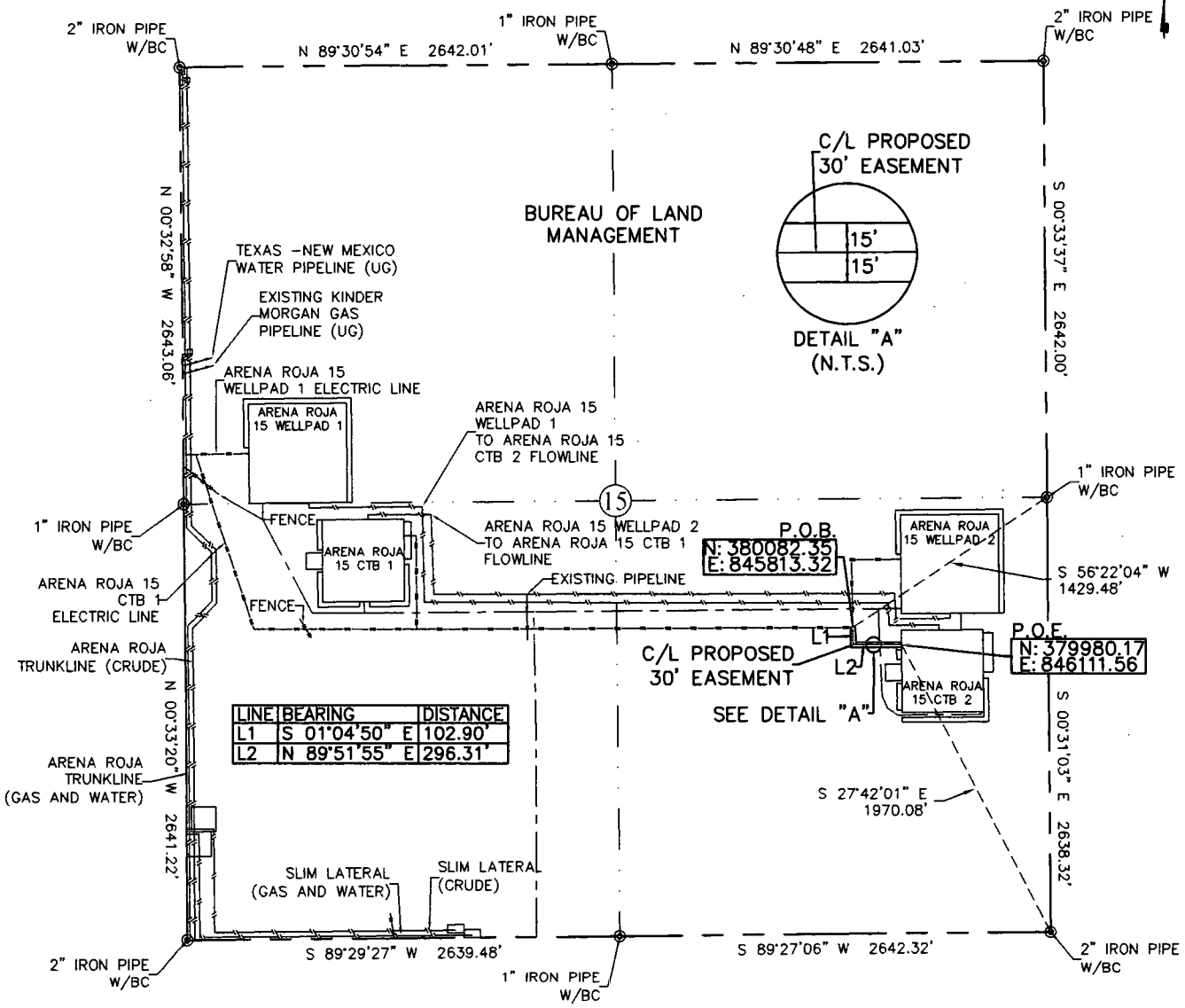
NOTES:

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: 06/12/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 1 of 4
ELECTRIC LINE PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



LINE	BEARING	DISTANCE
L1	S 01°04'50" E	102.90'
L2	N 89°51'55" E	296.31'

30' EASEMENT AREA = 0.275 ACRE(S)
399.21 FEET OR 24.19 RODS

0+00	P.O.B./ARENA ROJA 15 WELLPAD 2 ELECTRIC LINE
2+66.4	C/L PROPOSED ACCESS ROAD
3+99.2	P.O.E./ARENA ROJA 15 CTB 2

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: 06-17-2018
Horizonrow, LLC
P.O. BOX 548, DRY CREEK, LA.
(903) 388-3045 70837
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC
Drawn for: devon
Drawn by: JEANNIE PERRY
Date: 06/06/2018

DEVON ENERGY PRODUCTION COMPANY, L.P.
ARENA ROJA 15 CTB 2
ELECTRIC LINE
PROPOSED 30' EASEMENT
ON THE PROPERTY OF
BUREAU OF LAND MANAGEMENT
SECTION 15, T26S–R35E, N.M.P.M.

LINE NUMBER: EL8204
WBS NUMBER:
SCALE: 1" = 1000'
REVISIONS:
SHEET: 1 OF 4

SECTION 15, T26S-R35E, N.M.P.M.,
LEA 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 southeast quarter (SE ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the east quarter corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence S 56°22'04" W a distance of 1429.48' to the **Point of Beginning** of this easement having coordinates of Northing=380082.35, Easting=845813.32 feet and continuing the following courses;

Thence S 01°04'50" E a distance of 102.90' to an angle point;

Thence N 89°51'55" E a distance of 296.31' to the **Point of Ending** having coordinates of Northing=379980.17, Easting=846111.56 feet from said point a 2" iron pipe w/BC for the southeast corner of Section 15, T26S-R35E bears S 27°42'01" E a distance of 1970.08', covering **399.21' or 24.19 rods** and having an area of **0.275 acres**.

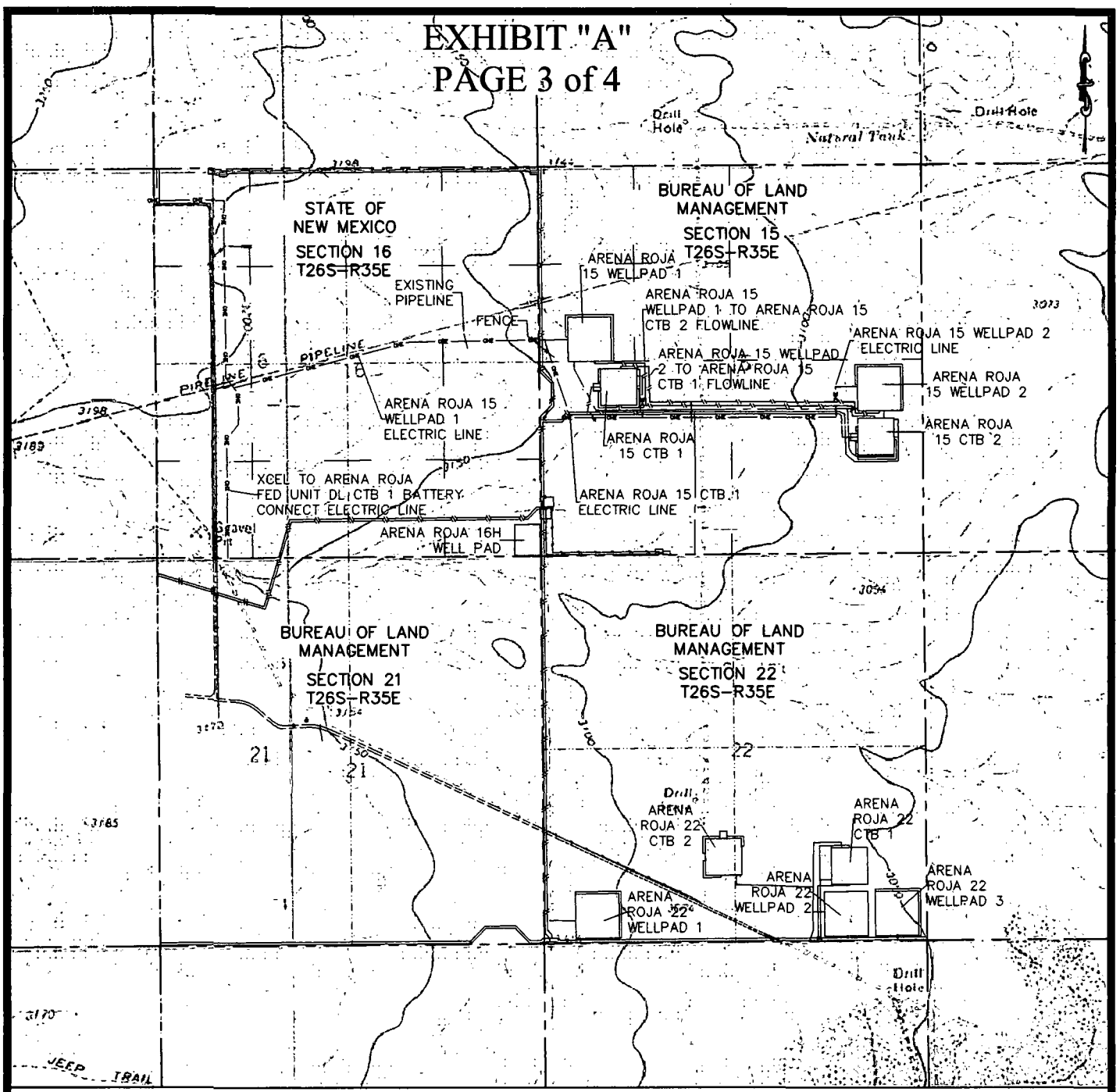
NOTES:

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: 06/17/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 3 of 4

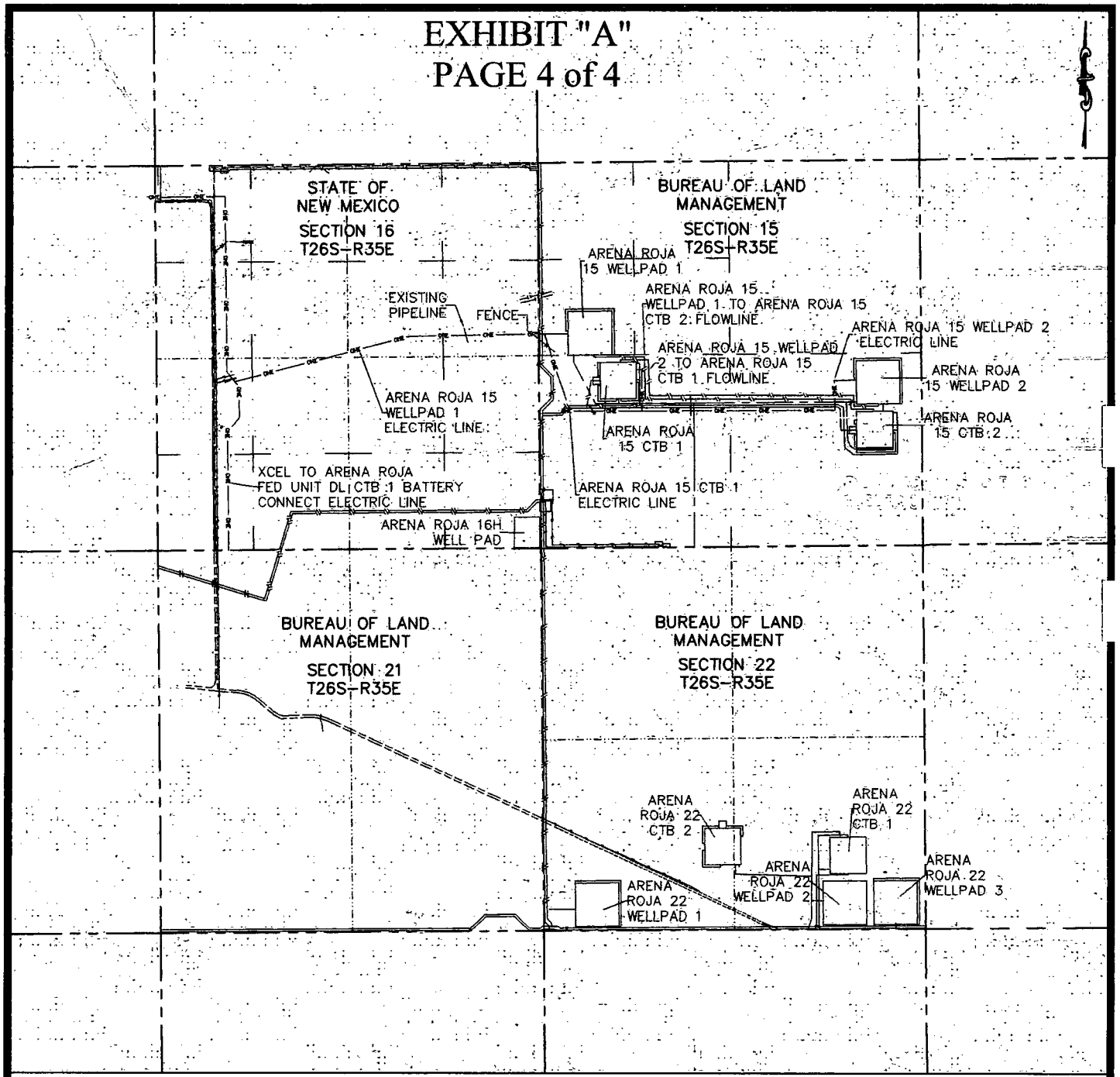


QUAD MAP

SECTION 15, T26S-R35E, N.M.P.M.;
LEA COUNTY, NEW MEXICO

HORIZON ROW LLC		Drawn for: devon	LINE NUMBER: EL8204
DEVON ENERGY PRODUCTION CO., L.P.			WBS NUMBER:
PROPOSED 30' EASEMENT			SCALE: 1" = 2000'
Drawn by: JEANNIE PERRY	Date: 06/06/2018		REVISIONS:
			SHEET: 3 OF 4

EXHIBIT "A"
PAGE 4 of 4

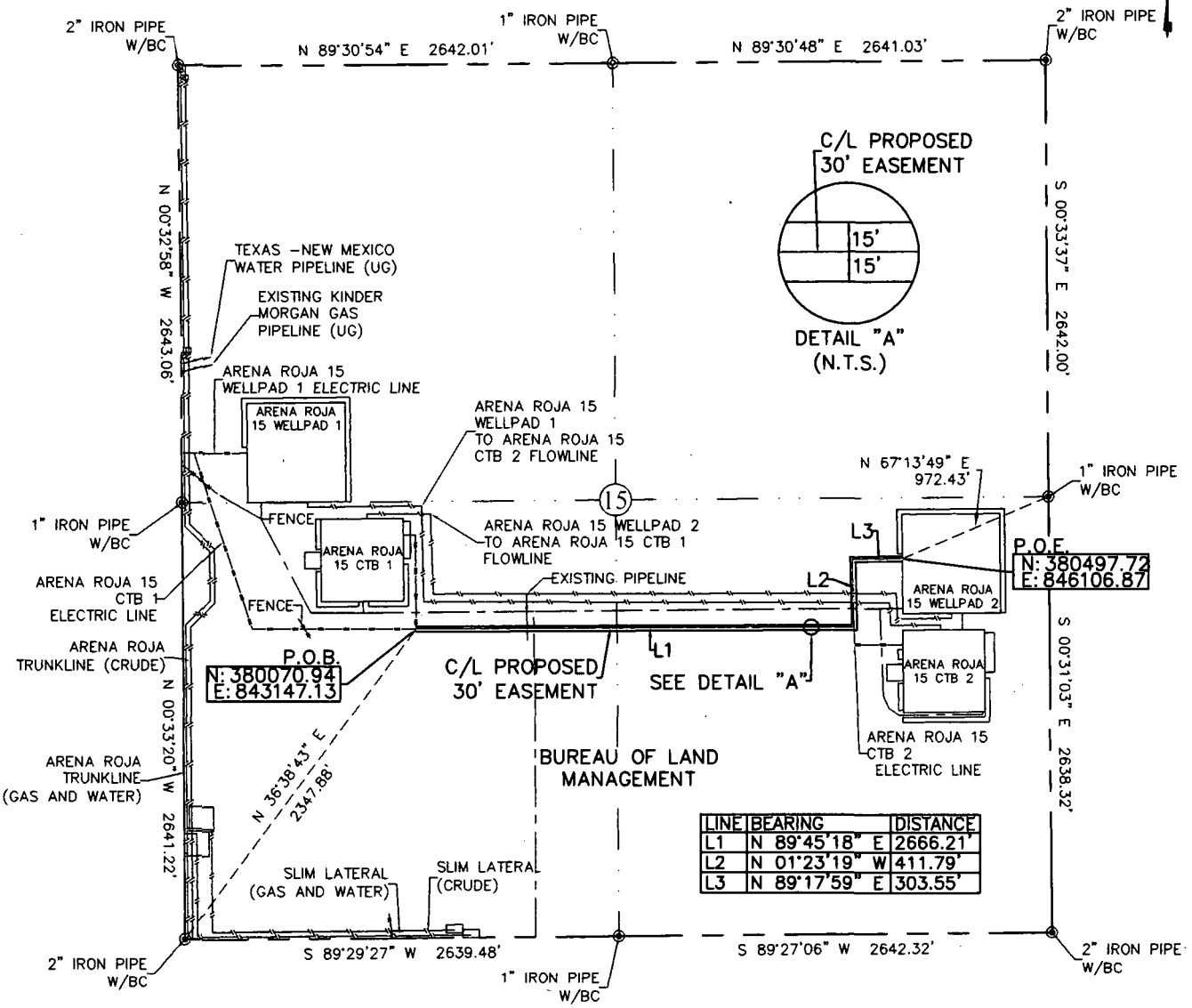


AERIAL MAP

SECTION 15, T26S-R35E, N.M.P.M.;
LEA COUNTY, NEW MEXICO

HORIZON ROW LLC		Drawn for:	LINE NUMBER: EL8204
DEVON ENERGY PRODUCTION CO., L.P.			WBS NUMBER:
PROPOSED 30' EASEMENT		devon	SCALE: 1" = 2000'
Drawn by: JEANNIE PERRY	Date: 06/06/2018		REVISIONS:
			SHEET: 4 OF 4

EXHIBIT "A"
PAGE 1 of 4
ELECTRIC LINE PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



LINE	BEARING	DISTANCE
L1	N 89°45'18" E	2666.21'
L2	N 01°23'19" W	411.79'
L3	N 89°17'59" E	303.55'

0+00	P.O.B./ARENA ROJA 15 CTB 1 ELECTRIC LINE
6+76.4	EXISTING PIPELINE
7+11.6	EDGE OF ROAD
7+16.7	C/L ROAD
7+21.7	EDGE OF ROAD
26+66.2	ARENA ROJA 15 CTB 2 ELECTRIC LINE
27+80.9	C/L ROAD
28+17.5	ARENA ROJA 15 WELLPAD 1 TO ARENA ROJA 15 CTB 2 FLOWLINE
28+73.8	ARENA ROJA 15 WELLPAD 2 TO ARENA ROJA 15 CTB 1 FLOWLINE
33+81.6	P.O.E./ARENA ROJA 15 WELLPAD 2

30' EASEMENT AREA = 2.33 ACRE(S)
3381.55 FEET OR 204.94 RODS

0 1000 2000

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: 06-17-2018
Horizonrow, LLC
P.O. BOX 548, DRY CREEK, LA.
(903) 388-3045 70637
Employee of Horizonrow, LLC

HORIZON ROW LLC
Drawn for: devon
Drawn by: JEANNIE PERRY
Date: 06/06/2018

DEVON ENERGY PRODUCTION COMPANY, L.P.
ARENA ROJA 15 WELLPAD 2
ELECTRIC LINE
PROPOSED 30' EASEMENT
ON THE PROPERTY OF
BUREAU OF LAND MANAGEMENT
SECTION 15, T26S–R35E, N.M.P.M.

LINE NUMBER: EL8202
WBS NUMBER:
SCALE: 1" = 1000'
REVISIONS:
SHEET: 1 OF 4

SECTION 15, T26S-R35E, N.M.P.M.,
LEA 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 southwest quarter (SW ¼) and the southeast quarter (SE ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the southwest corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence N 36°38'43" E a distance of 2347.88' to the **Point of Beginning** of this easement having coordinates of Northing=380070.94, Easting=843147.13 feet and continuing the following courses;

Thence N 89°45'18" E a distance of 2666.21' to an angle point;

Thence N 01°23'19" W a distance of 411.79' to an angle point;

Thence N 89°17'59" E a distance of 303.55' to the **Point of Ending** having coordinates of Northing=380497.72, Easting=846106.87 feet from said point a 1" iron pipe w/BC for the east quarter corner of Section 15, T26S-R35E bears N 67°13'49" E a distance of 972.43', covering **3381.55' or 204.94 rods** and having an area of **2.33 acres**.

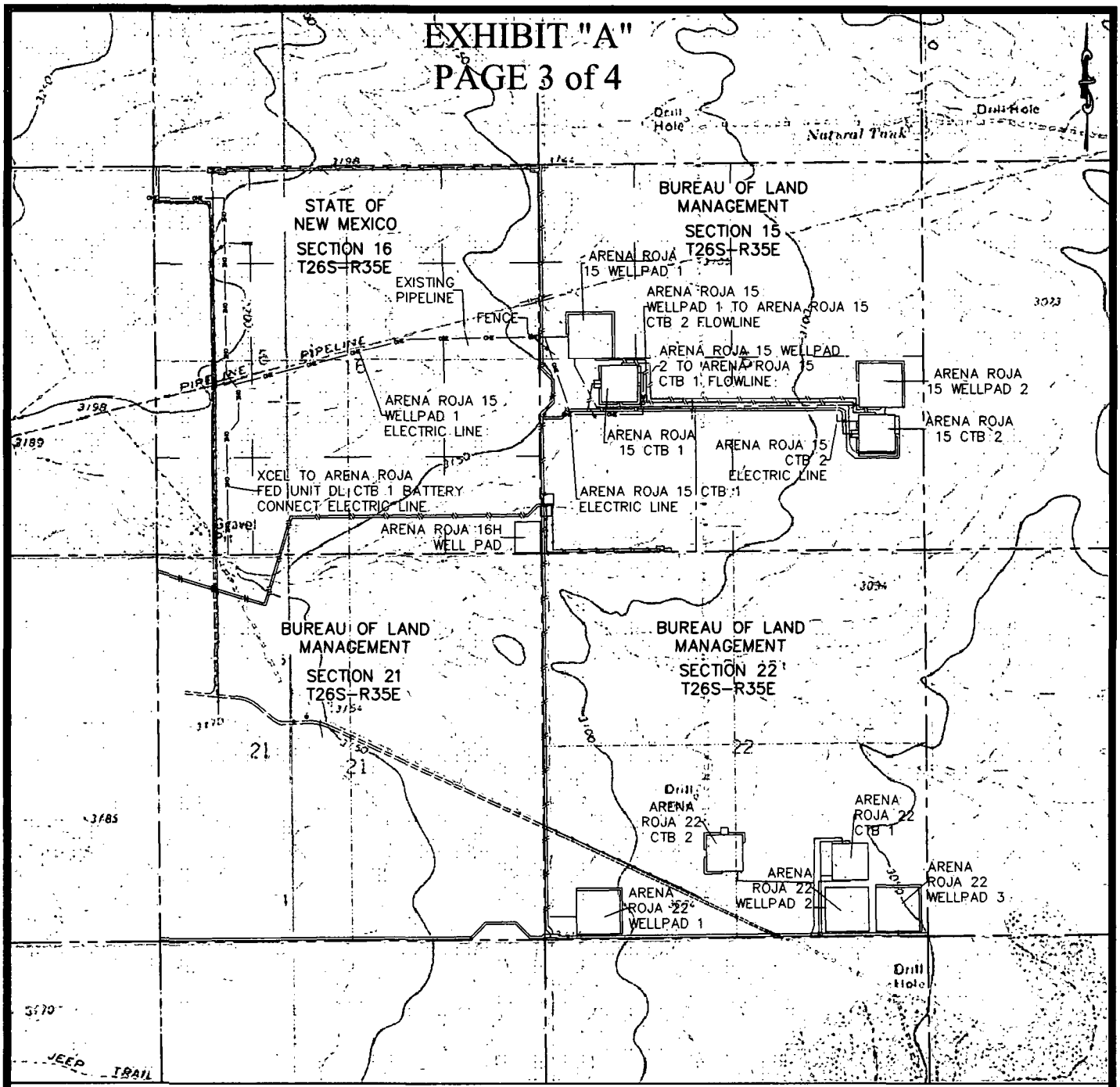
NOTES:

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: 06/17/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 3 of 4

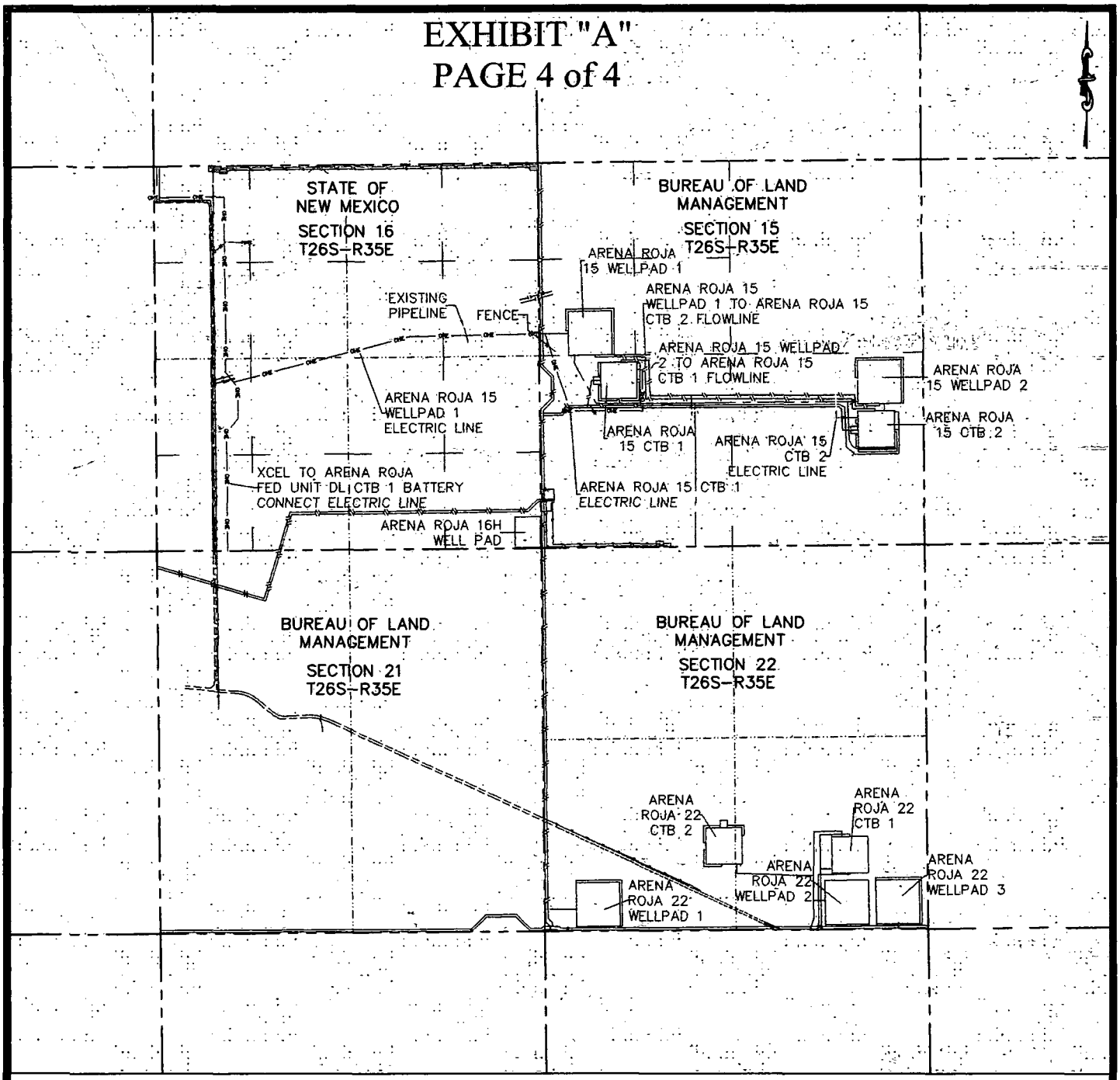


QUAD MAP

SECTION 15, T26S-R35E, N.M.P.M.;
LEA COUNTY, NEW MEXICO

HORIZON ROW LLC	Drawn for: devon		LINE NUMBER: EL8202
DEVON ENERGY PRODUCTION CO., L.P.			WBS NUMBER:
PROPOSED 30' EASEMENT			SCALE: 1" = 2000'
Drawn by: JEANNIE PERRY	Date: 06/06/2018		REVISIONS:
			SHEET: 3 OF 4

EXHIBIT "A"
PAGE 4 of 4

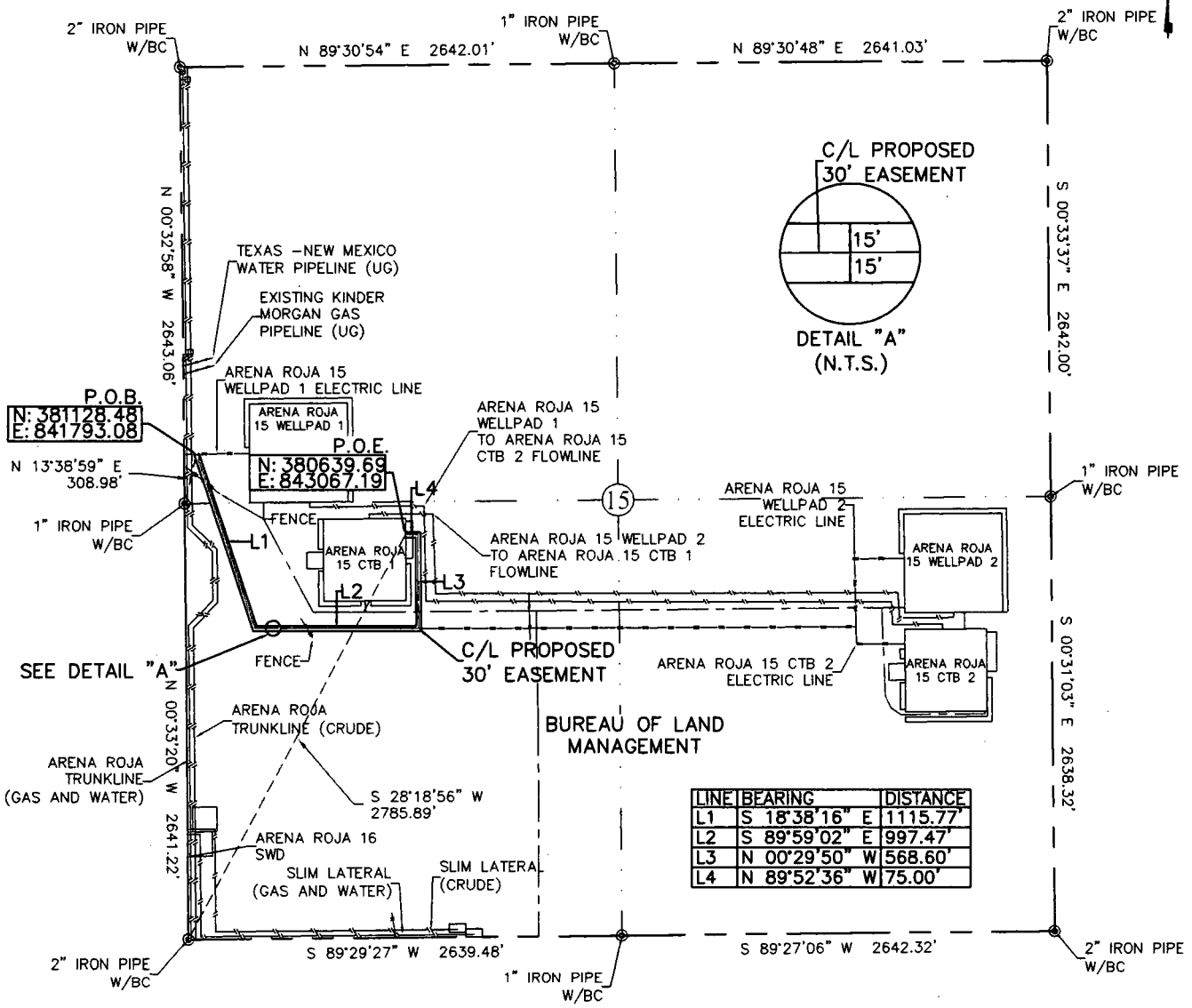


AERIAL MAP

SECTION 15, T26S-R35E, N.M.P.M.; LEA COUNTY, NEW MEXICO

HORIZON ROW LLC		Drawn for: devon	LINE NUMBER: EL8202
DEVON ENERGY PRODUCTION CO., L.P.			WBS NUMBER:
PROPOSED 30' EASEMENT			SCALE: 1" = 2000'
Drawn by: JEANNIE PERRY	Date: 06/06/2018		REVISIONS:
			SHEET: 4 OF 4

EXHIBIT "A"
PAGE 1 of 4
ELECTRIC LINE PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



LINE	BEARING	DISTANCE
L1	S 18°38'16" E	1115.77'
L2	S 89°59'02" E	997.47'
L3	N 00°29'50" W	568.60'
L4	N 89°52'36" W	75.00'

30' EASEMENT AREA = 1.90 ACRE(S)
2756.84 FEET OR 167.08 RODS

0+00	P.O.B./ARENA ROJA 15 WELLPAD 1 ELECTRIC LINE
1+85.8	FENCE
14+34.9	FENCE
21+13.2	ARENA ROJA 15 WELLPAD 2 ELECTRIC LINE
22+14.3	ACCESS ROAD
27+56.8	ARENA ROJA 15 CTB 1

0 1000 2000

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: 06-17-2018
Horizonrow, LLC
P.O. BOX 548, DRY CREEK, LA.
(903) 388-3045 70637
Employee of Horizonrow, LLC

HORIZON ROW LLC
Drawn for:
devon
Drawn by: JEANNIE PERRY
Date: 06/06/2018

DEVON ENERGY PRODUCTION COMPANY, L.P.
ARENA ROJA 15 CTB 1
ELECTRIC LINE
PROPOSED 30' EASEMENT
ON THE PROPERTY OF
BUREAU OF LAND MANAGEMENT
SECTION 15, T26S–R35E, N.M.P.M.

LINE NUMBER: EL8203
WBS NUMBER:
SCALE: 1" = 1000'
REVISIONS:
SHEET: 1 OF 4

SECTION 15, T26S-R35E, N.M.P.M.,
LEA 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) and the southwest quarter (SW ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the west quarter corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence N 13°38'59" E a distance of 308.98' to the **Point of Beginning** of this easement having coordinates of Northing=381128.48, Easting=841793.08 feet and continuing the following courses;

Thence S 18°38'16" E a distance of 1115.77' to an angle point;

Thence S 89°59'02" E a distance of 997.47' to an angle point;

Thence N 00°29'50" W a distance of 568.60' to an angle point;

Thence N 89°52'36" W a distance of 75.00' to the **Point of Ending** having coordinates of Northing=380639.69, Easting=843067.19 feet from said point a 2" iron pipe w/BC for the southwest corner of Section 15, T26S-R35E bears S 28°18'56" W a distance of 2785.89', covering **2756.84' or 167.08 rods** and having an area of **1.90 acres**.

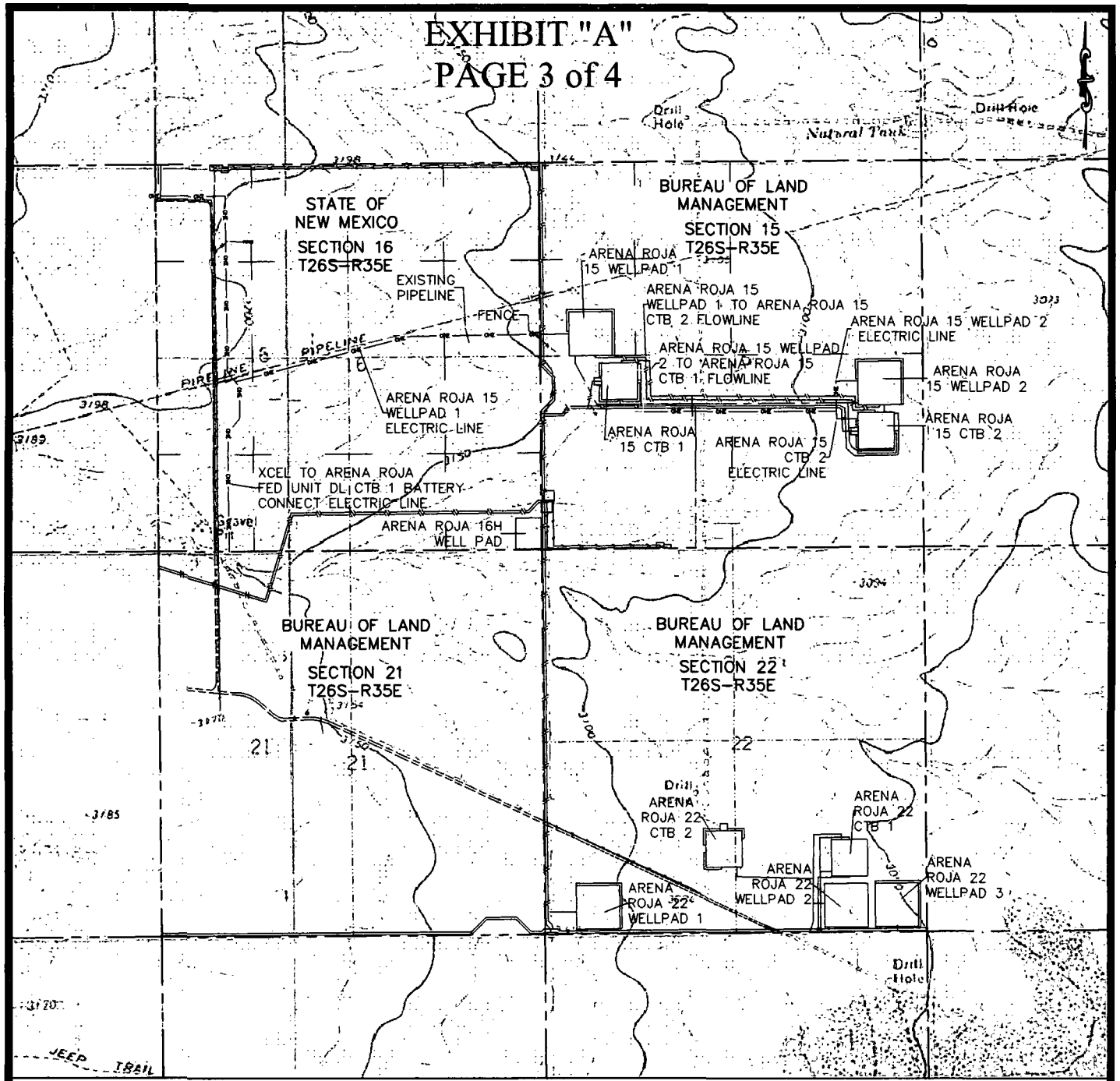
NOTES:

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: 06/17/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 3 of 4

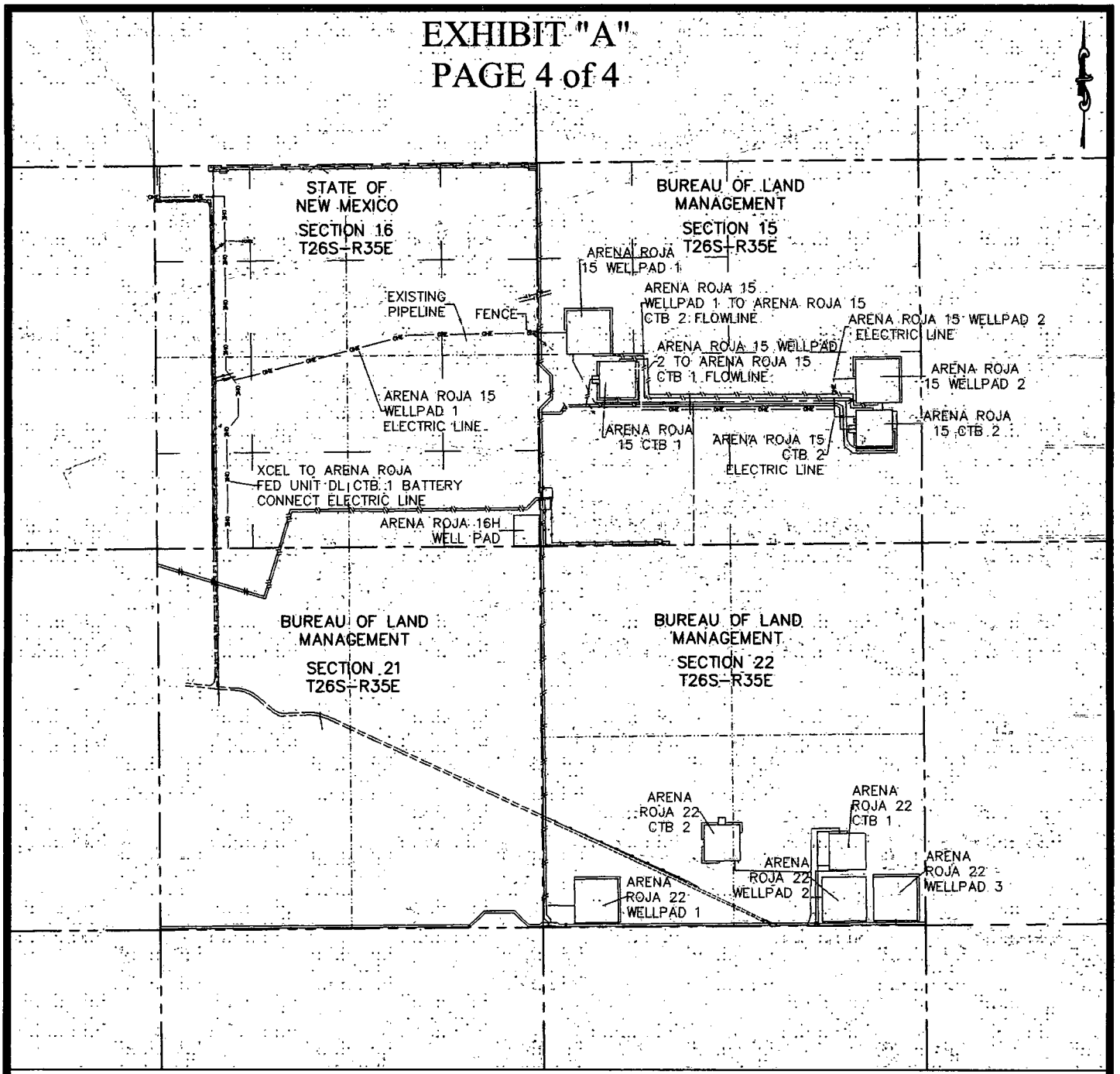


QUAD MAP

SECTION 15, T26S-R35E, N.M.P.M.;
LEA COUNTY, NEW MEXICO

HORIZON ROW LLC	Drawn for: devon	LINE NUMBER: EL8203	
DEVON ENERGY PRODUCTION CO., L.P.		WBS NUMBER:	
PROPOSED 30' EASEMENT		SCALE: 1" = 2000'	
Drawn by: JEANNIE PERRY	Date: 06/06/2018	REVISIONS:	
		SHEET: 3 OF 4	

EXHIBIT "A"
PAGE 4 of 4

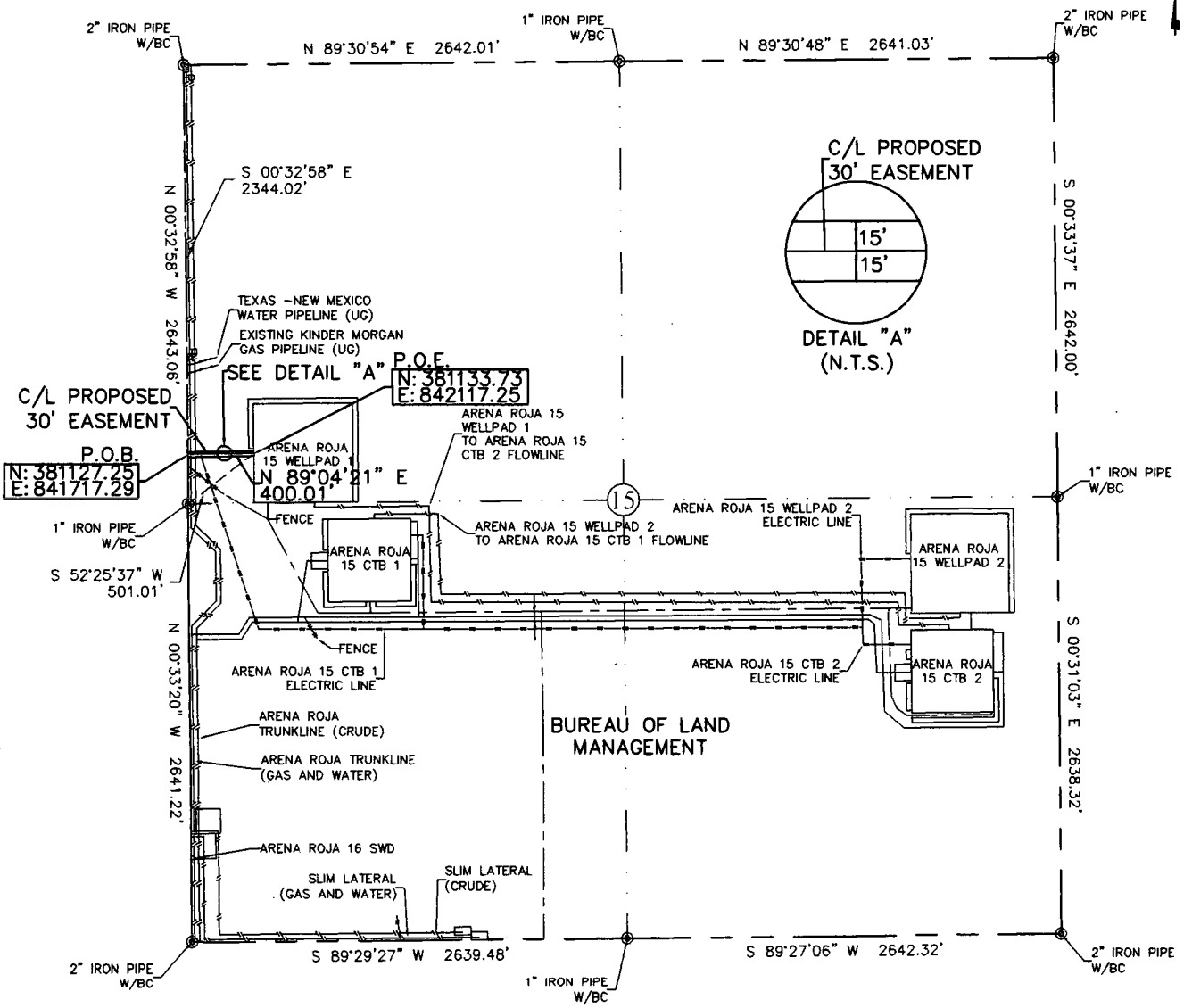


AERIAL MAP

SECTION 15, T26S-R35E, N.M.P.M.;
LEA COUNTY, NEW MEXICO

HORIZON ROW LLC	Drawn for: devon		LINE NUMBER: EL8203
DEVON ENERGY PRODUCTION CO., L.P.			WBS NUMBER:
PROPOSED 30' EASEMENT			SCALE: 1" = 2000'
Drawn by: JEANNIE PERRY	Date: 06/06/2018		REVISIONS:
			SHEET: 4 OF 4

EXHIBIT "A"
PAGE 1 of 4
ELECTRIC LINE PLAT
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



30' EASEMENT AREA = 0.275 ACRE(S)
400.01 FEET OR 24.24 RODS

42+78.1	SECTION LINE
42+93.7	ARENA ROJA TRUNKLINE (GAS AND WATER)
43+23.7	ARENA ROJA TRUNKLINE (CRUDE)
43+53.9	ARENA ROJA 15 CTB 1 ELECTRIC LINE
46+78.1	P.O.E./ARENA ROJA 15 WELLPAD 1

0 1000 2000

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: 06-17-2018
Horizonrow, LLC
P.O. BOX 548, DRY CREEK, LA. 70637
(903) 388-3045
Employee of Horizonrow, LLC

NEW MEXICO 22404 B.L. LAMAN PROFESSIONAL SURVEYOR

HORIZON ROW LLC
Drawn for: devon
Drawn by: JEANNIE PERRY
Date: 06/06/2018

DEVON ENERGY PRODUCTION COMPANY, L.P.
ARENA ROJA 15 WELLPAD 1
ELECTRIC LINE
PROPOSED 30' EASEMENT
ON THE PROPERTY OF
BUREAU OF LAND MANAGEMENT
SECTION 15, T26S–R35E, N.M.P.M.

LINE NUMBER: EL8201
WBS NUMBER:
SCALE: 1" = 1000'
REVISIONS:
SHEET: 1 OF 4

SECTION 15, T26S-R35E, N.M.P.M.,
LEA 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 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the northwest corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence S 00°32'58" E a distance of 2344.02' to the **Point of Beginning** of this easement, being in the west line of Section 15 and having coordinates of Northing=381127.25, Easting=841717.29 feet and continuing the following courses;

Thence N 89°04'21" E a distance of 400.01' to the **Point of Ending** having coordinates of Northing=381133.73, Easting=84217.25 feet from said point a 1" iron pipe w/BC for the west quarter corner of Section 15, T26S-R35E bears S 52°25'37" W a distance of 501.01', covering **400.01' or 24.24 rods** and having an area of **0.275 acres**.

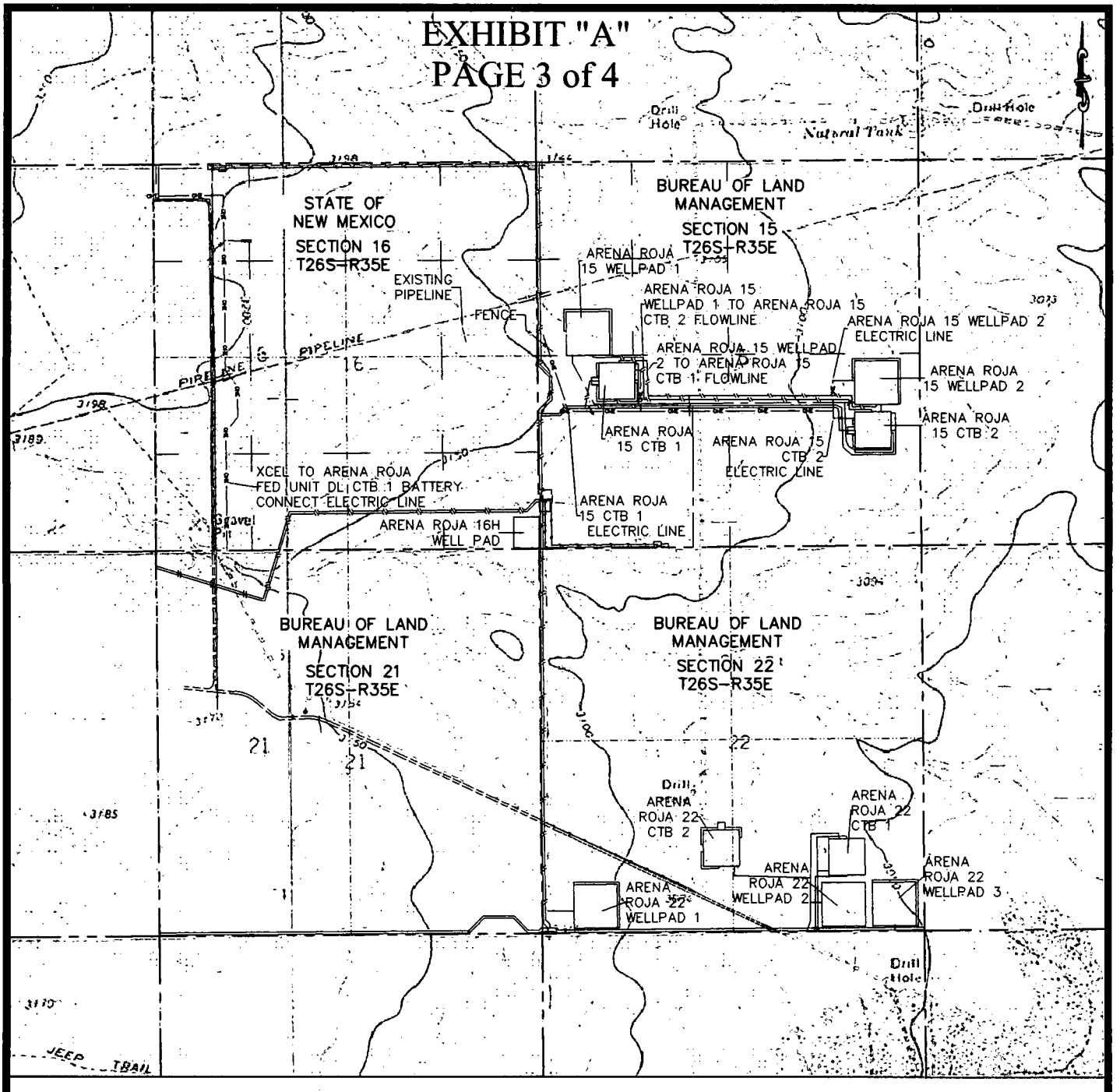
NOTES:

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: 06/17/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 3 of 4

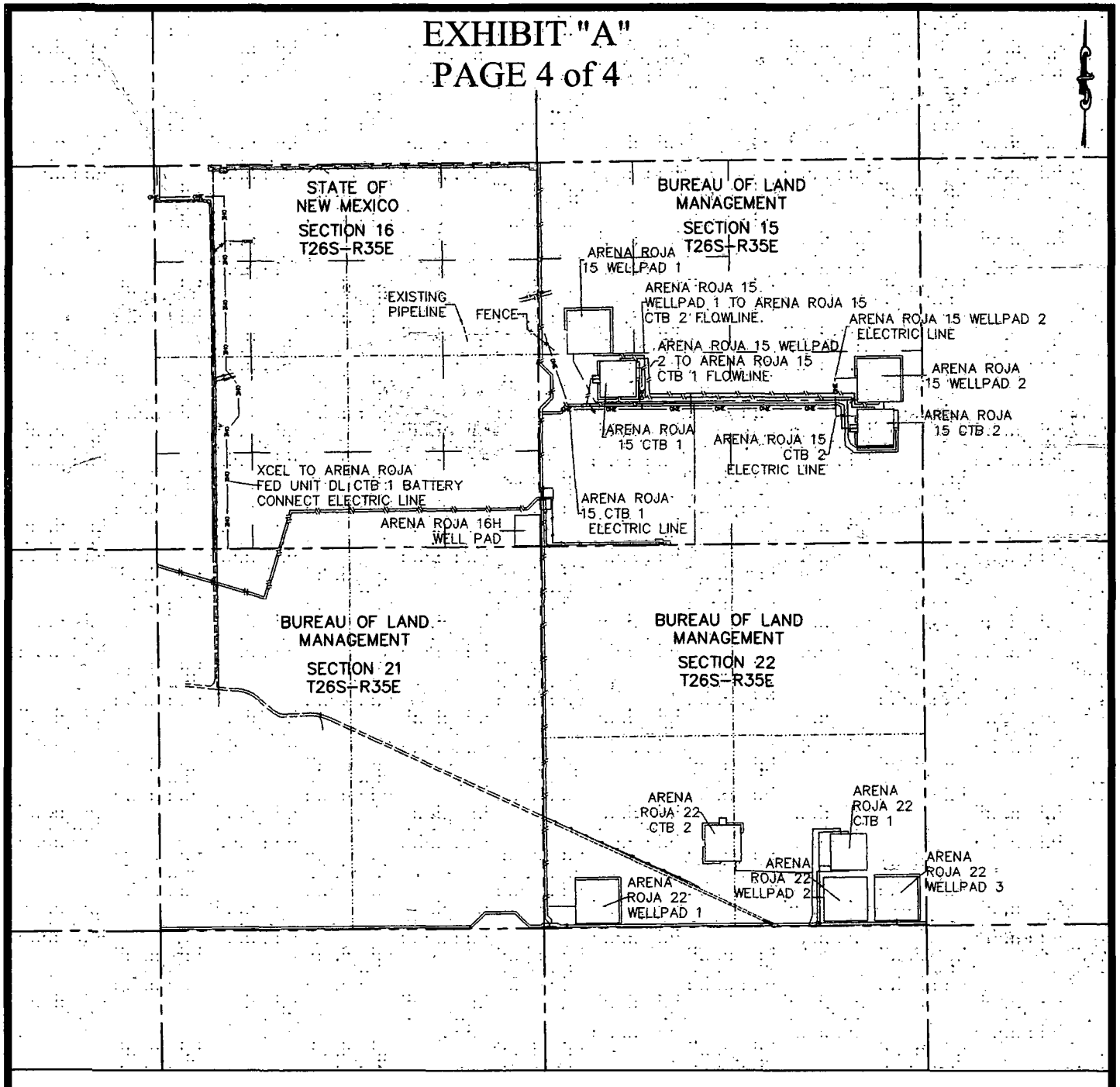


QUAD MAP

SECTION 15, T26S-R35E, N.M.P.M.;
SECTION 16, T26S-R35E, N.M.P.M.;
LEA COUNTY, NEW MEXICO

HORIZON ROW LLC		Drawn for: devon	LINE NUMBER: EL8201
DEVON ENERGY PRODUCTION CO., L.P.			WBS NUMBER:
PROPOSED 30' EASEMENT			SCALE: 1" = 2000'
Drawn by: JEANNIE PERRY	Date: 06/06/2018		REVISIONS:
			SHEET: 3 OF 4

EXHIBIT "A"
PAGE 4 of 4



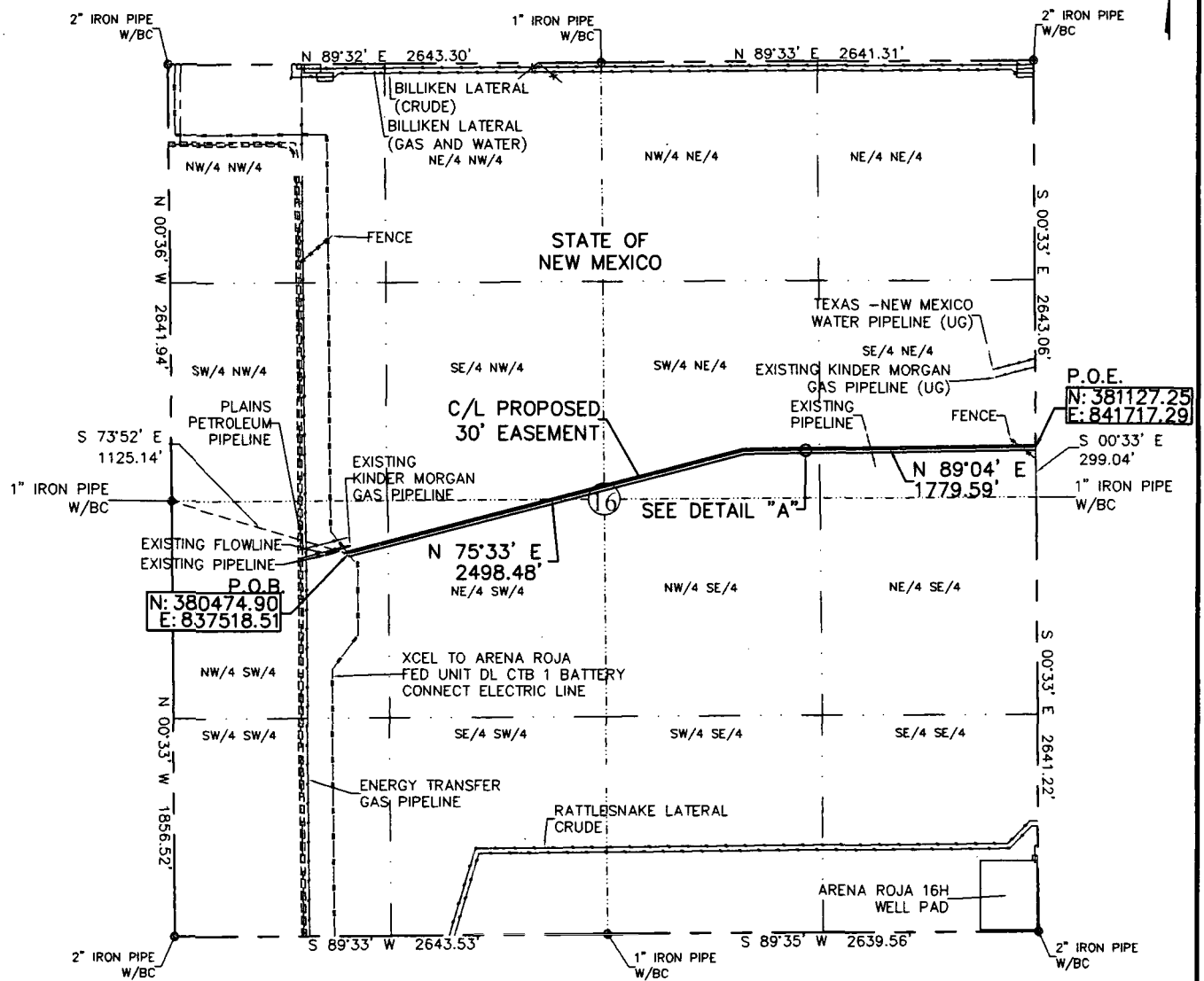
AERIAL MAP

SECTION 15, T26S-R35E, N.M.P.M.;
SECTION 16, T26S-R35E, N.M.P.M.;
LEA COUNTY, NEW MEXICO

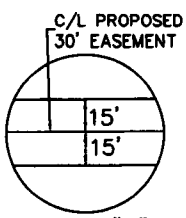
HORIZON ROW LLC		Drawn for:	LINE NUMBER: EL8201
DEVON ENERGY PRODUCTION CO., L.P.			WBS NUMBER:
PROPOSED 30' EASEMENT			SCALE: 1" = 2000'
		devon	REVISIONS:
Drawn by: JEANNIE PERRY	Date: 06/06/2018		SHEET: 4 OF 4

EXHIBIT "A"
PAGE 1 of 2

ELECTRIC LINE PLAT
SECTION 16, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



QUARTER/QUARTER	30' ESMT. AREA	FEET	RODS
NW/4 OF SW/4	0.17 ACRES	250.80	15.20
NE/4 OF SW/4	0.74 ACRES	1075.22	65.16
SE/4 OF NW/4	0.20 ACRES	285.73	17.32
SW/4 OF NE/4	0.93 ACRES	1344.46	81.48
SE/4 OF NE/4	0.91 ACRES	1321.86	80.11
TOTAL:	2.95 ACRES	4278.07	259.27



DETAIL "A"
(N.T.S.)

0+00	P.O.B./XCEL TO ARENA ROJA FED UNIT DL CTB 1 BATTERY CONNECT ELECTRIC LINE
32+70.8	EXISTING KINDER MORGAN GAS PIPELINE
41+92.3	EXISTING FENCE
42+78.1	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.

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

0 1000 2000

B.L. Laman PLS #22404
Date Signed: 06-17-2018
Horizonrow, LLC
P.O. BOX 548, DRY CREEK, LA. 70637
(903) 388-3045
Employee of Horizonrow, LLC

NEW MEXICO 22404 PROFESSIONAL SURVEYOR

HORIZON ROW LLC

Drawn for: devon

Drawn by: JEANNIE PERRY

Date: 06/06/2018

DEVON ENERGY PRODUCTION COMPANY, L.P.
ARENA ROJA 15 WELLPAD 1
ELECTRIC LINE

PROPOSED 30' EASEMENT
ON THE PROPERTY OF
STATE OF NEW MEXICO
SECTION 16, T26S–R35E, N.M.P.M.

LINE NUMBER: EL8201
WBS NUMBER:
SCALE: 1" = 1000'
REVISIONS:
SHEET: 1 OF 2

SECTION 16, T26S-R35E, N.M.P.M.,
LEA COUNTY, NEW MEXICO

ELECTRIC LINE PLAT

LEGAL DESCRIPTION

FOR

DEVON ENERGY PRODUCTION COMPANY, L.P.

STATE OF NEW MEXICO

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 of the southwest quarter (NW ¼ SW ¼) and the northeast quarter of the southwest quarter (NE ¼ SW ¼) and the southeast quarter of the northwest quarter (SE ¼ NW ¼) and the southwest quarter of the northeast quarter (SW ¼ NE ¼) and the southeast quarter of the northeast quarter (SE ¼ NE ¼) of Section 16, Township 26 South, Range 35 East, N.M.P.M., Lea County, New Mexico, and being out of a parcel of land owned by the State of New Mexico. Said centerline of easement being more particularly described as follows:

Commencing from a 1" iron pipe found for the west quarter corner of Section 16, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence S 73°52' E, a distance of 1125.14' to the **Point of Beginning** of this easement having coordinates of Northing=380474.92 feet, Easting=837518.51 feet and continuing the following courses;

Thence N 75°33' E, a distance of 2498.48' to an angle point;

Thence N 89°04' E, a distance of 1779.59' to the **Point of Ending** having coordinates of Northing=381127.25 feet, Easting=841717.29 feet, in the east line of Section 16, from said point a 1" iron pipe w/BC for the east quarter corner of Section 16, T26S-R35E, N.M.P.M., Lea County, New Mexico bears S 00°33' E a distance of 299.04', covering **4278.07' or 259.27 rods** and having an area of **2.95 acres**.

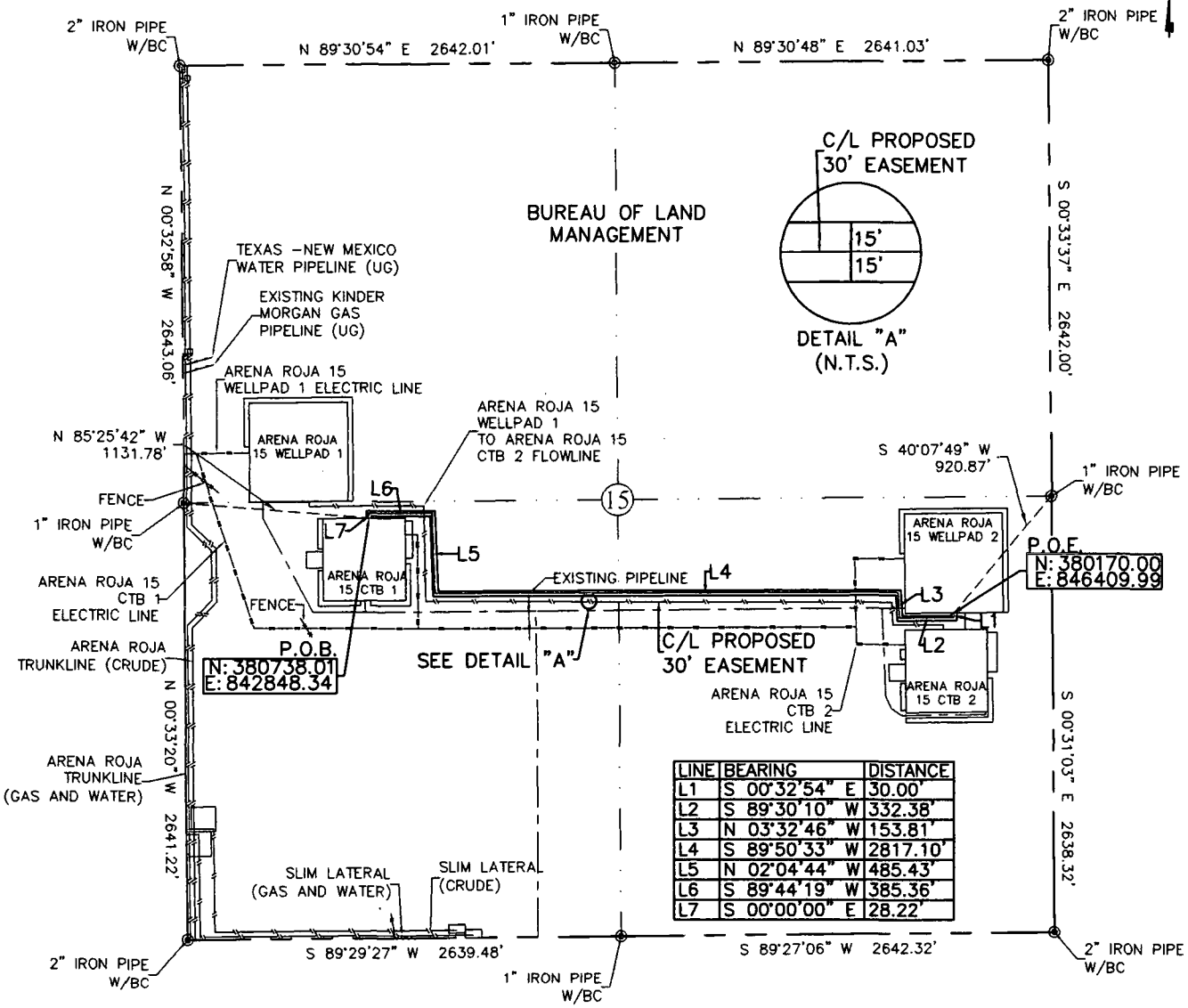
NOTES:

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: 06/17/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, LA
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 1 of 4
SECTION 15, T26S–R35E, N.M.P.M.
LEA COUNTY, NEW MEXICO



LINE	BEARING	DISTANCE
L1	S 00°32'54" E	30.00'
L2	S 89°30'10" W	332.38'
L3	N 03°32'46" W	153.81'
L4	S 89°50'33" W	2817.10'
L5	N 02°04'44" W	485.43'
L6	S 89°44'19" W	385.36'
L7	S 00°00'00" E	28.22'

30' EASEMENT AREA = 2.92 ACRE(S)
4232.30 FEET OR 256.50 RODS

0+00	P.O.B./ARENA ROJA 15 WELLPAD 2
4+24.8	C/L ROAD
7+76.3	ARENA ROJA 15 WELLPAD 2 ELECTRIC LINE
27+65.7	EXISTING PIPELINE
38+71.4	ARENA ROJA 15 WELLPAD 1 TO ARENA ROJA 15 CTB 2 FLOWLINE
42+32.3	P.O.E./ ARENA ROJA 15 CTB 1

0 1000 2000

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: 06-22-2018
Horizonrow, LLC
P.O. BOX 548, DRY CREEK, LA.
(903) 388-3045 70637
Employee of Horizonrow, LLC

HORIZON ROW LLC
Drawn for: devon
Drawn by: JEANNIE PERRY
Date: 06/06/2018

DEVON ENERGY PRODUCTION COMPANY, L.P.
ARENA ROJA 15 WELLPAD 2 TO ARENA ROJA 15 CTB 1 FLOWLINE
PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT
SECTION 15, T26S–R35E, N.M.P.M.

LINE NUMBER: 7640124F
WBS NUMBER:
SCALE: 1" = 1000'
REVISIONS:
SHEET: 1 OF 4

SECTION 15, T26S-R35E, N.M.P.M.,
LEA 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 southwest quarter (SW ¼) and southeast quarter (SE ¼) of Section 15, Township 26 South, Range 35 East, N.M.P.M., Lea 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 for the east quarter corner of Section 15, T26S-R35E, N.M.P.M., Lea County, New Mexico;

Thence S 40°07'49" W a distance of 920.87' to the **Point of Beginning** of this easement having coordinates of Northing=380170.00, Easting=846409.99 feet and continuing the following courses;

Thence S 00°32'54" E a distance of 30.00' to an angle point;

Thence S 89°30'10" W a distance of 332.38' to an angle point;

Thence N 03°32'46" W a distance of 153.81' to an angle point;

Thence S 89°50'33" W a distance of 2817.10' to an angle point;

Thence N 02°04'44" W a distance of 485.43' to an angle point;

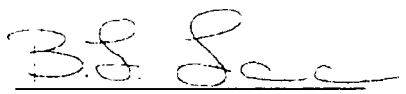
Thence S 89°44'19" W a distance of 385.36' to an angle point;

Thence S 00°00'00" E a distance of 28.22' to the **Point of Ending** having coordinates of Northing=380738.01, Easting=842848.34 feet from said point a 1" iron pipe w/BC for the west quarter corner of Section 15, T26S-R35E bears N 85°25'42" W a distance of 1131.78', covering **4232.30' or 256.50 rods** and having an area of **2.92 acres**.

NOTES:

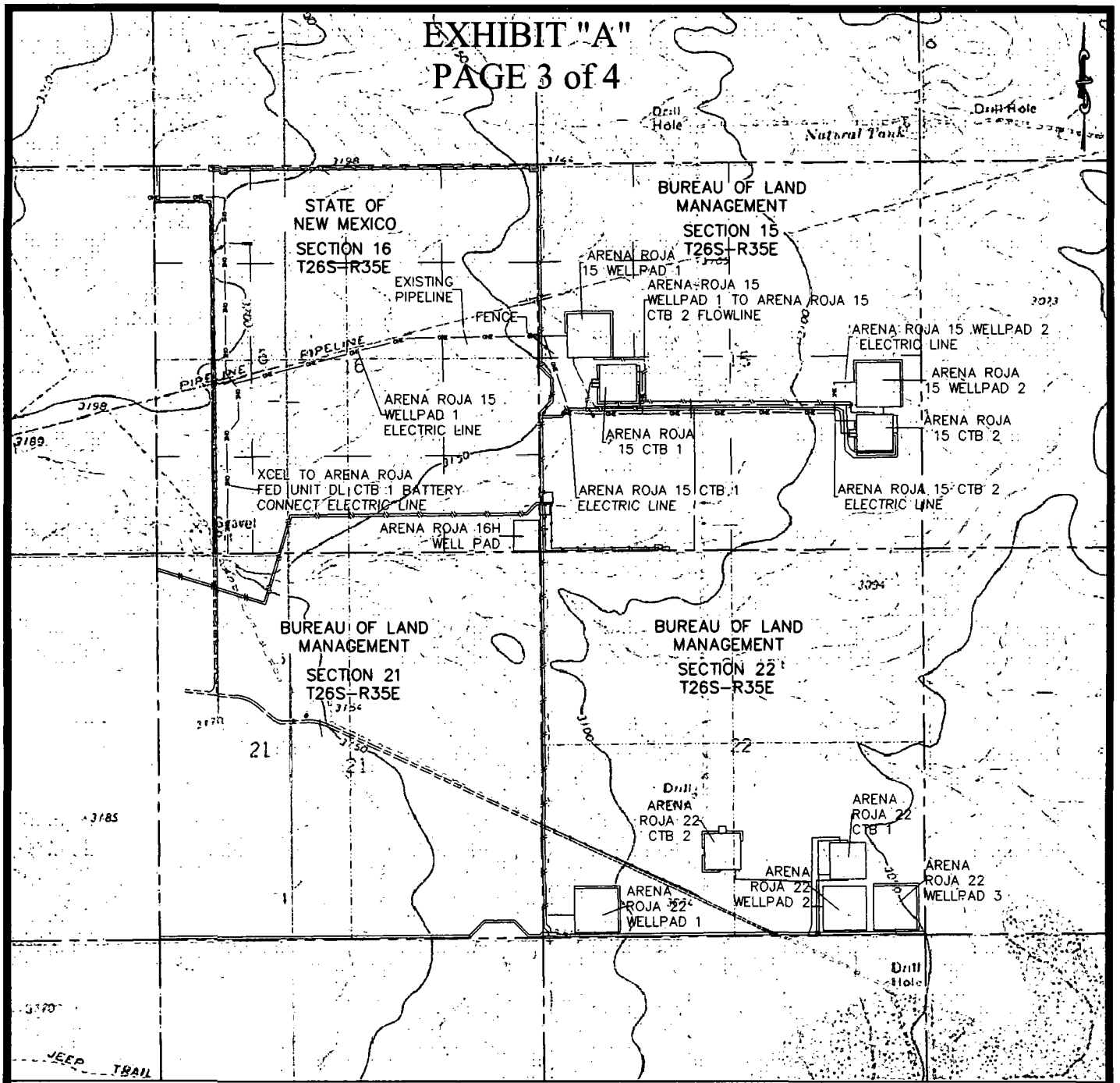
Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

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: 06/22/2018
Horizon Row, LLC
P.O. Box 548, Dry Creek, La.
(903) 388-3045 70637
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 3 of 4

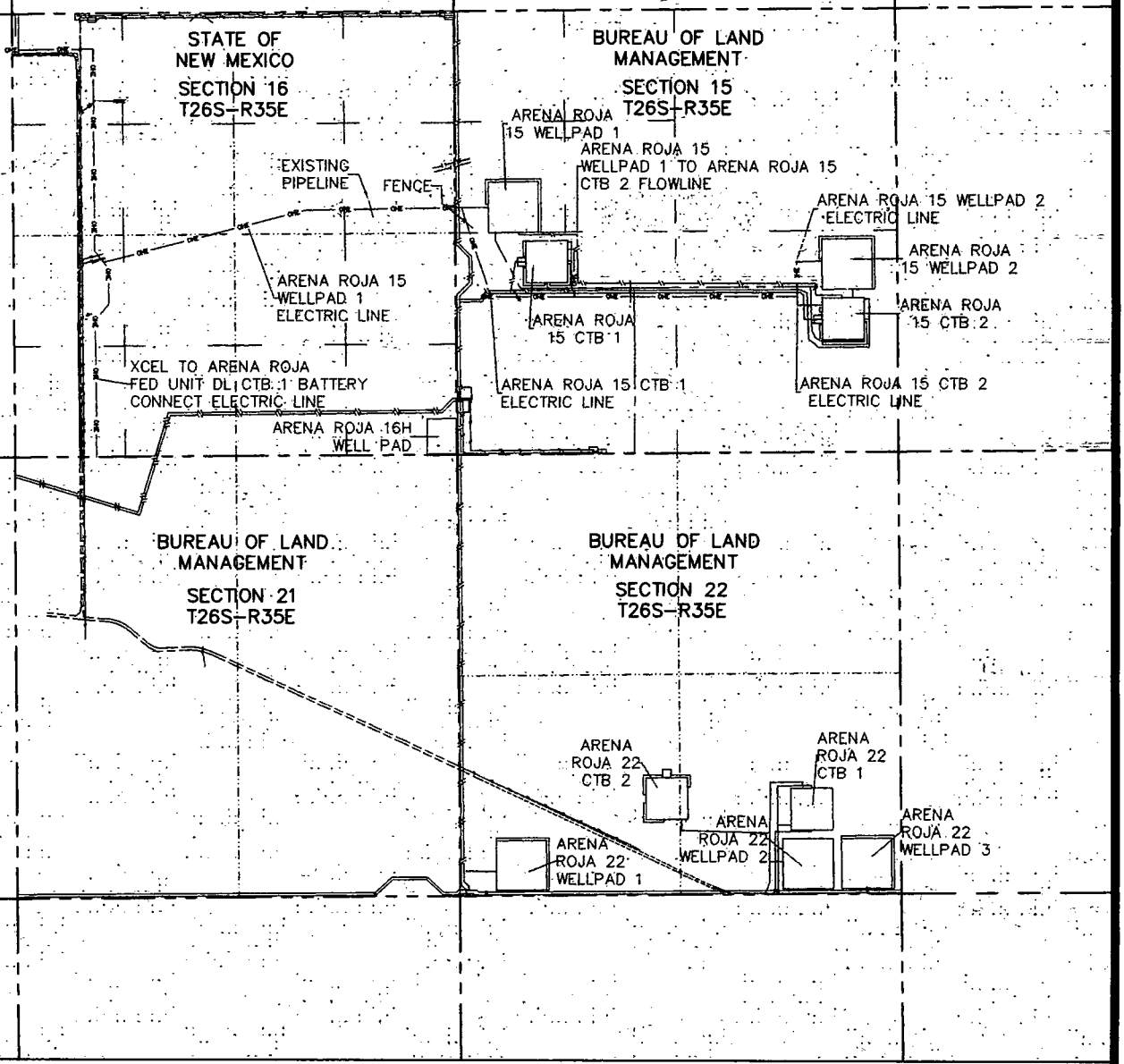


QUAD MAP

SECTION 15, T26S-R35E, N.M.P.M.;
LEA COUNTY, NEW MEXICO

HORIZON ROW LLC		Drawn for: devon	LINE NUMBER: 7640124F
DEVON ENERGY PRODUCTION CO., L.P.			WBS NUMBER:
PROPOSED 30' EASEMENT			SCALE: 1" = 2000'
Drawn by: JEANNIE PERRY	Date: 06/06/2018		REVISIONS:
			SHEET: 3 OF 4

EXHIBIT "A"
PAGE 4 of 4



AERIAL MAP

SECTION 15, T26S-R35E, N.M.P.M.;
LEA COUNTY, NEW MEXICO

HORIZON ROW LLC	Drawn for: devon	LINE NUMBER: 7640124F
DEVON ENERGY PRODUCTION CO., L.P.		WBS NUMBER:
PROPOSED 30' EASEMENT		SCALE: 1" = 2000'
Drawn by: JEANNIE PERRY / Date: 06/06/2018		REVISIONS:
		SHEET: 4 OF 4

AFMSS

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

Bond Info Data Report

02/25/2019

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:

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:

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:

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:

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:

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:

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

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?

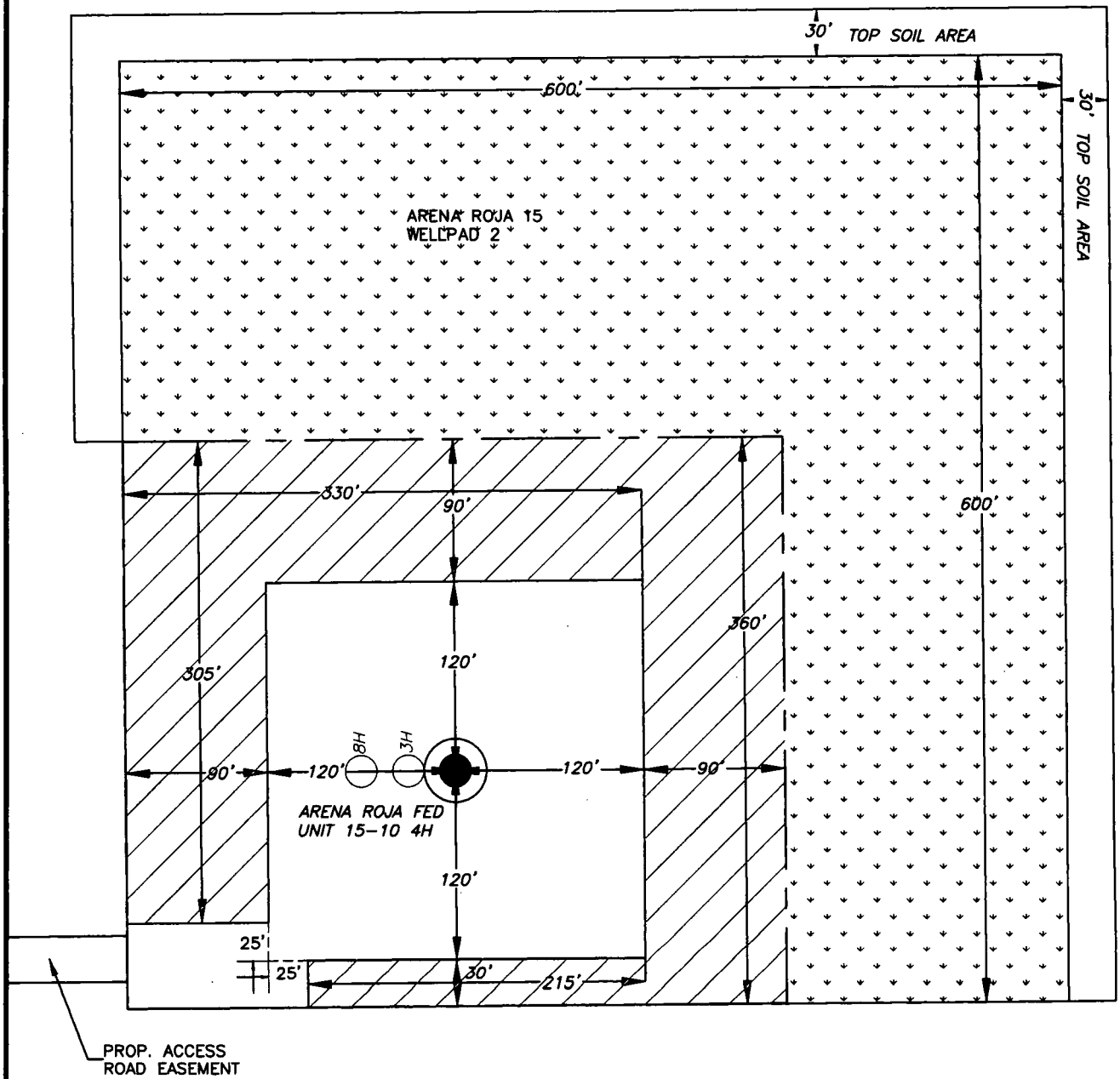
Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

SECTION 15, TOWNSHIP 26 SOUTH, RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
INTERIM SITE BUILD PLAN



DENOTES INTERIM PAD RECLAMATION AREA

DENOTES GRADING SITE RECLAMATION AREA

2.020± ACRES INTERIM PAD RECLAMATION AREA
4.791± ACRES GRADING SITE RECLAMATION AREA
1.453± ACRES NON-RECLAIMED AREA
8.264± ACRES GRADING SITE RECLAMATION AREA

0 100 200

DEVON ENERGY PRODUCTION COMPANY, L.P.
ARENA ROJA FED UNIT 15-10 3H
LOCATED 2090 FT. FROM THE SOUTH LINE
AND 720 FT. FROM THE EAST LINE OF
SECTION 15, TOWNSHIP 26 SOUTH,
RANGE 35 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

HORIZON ROW LLC

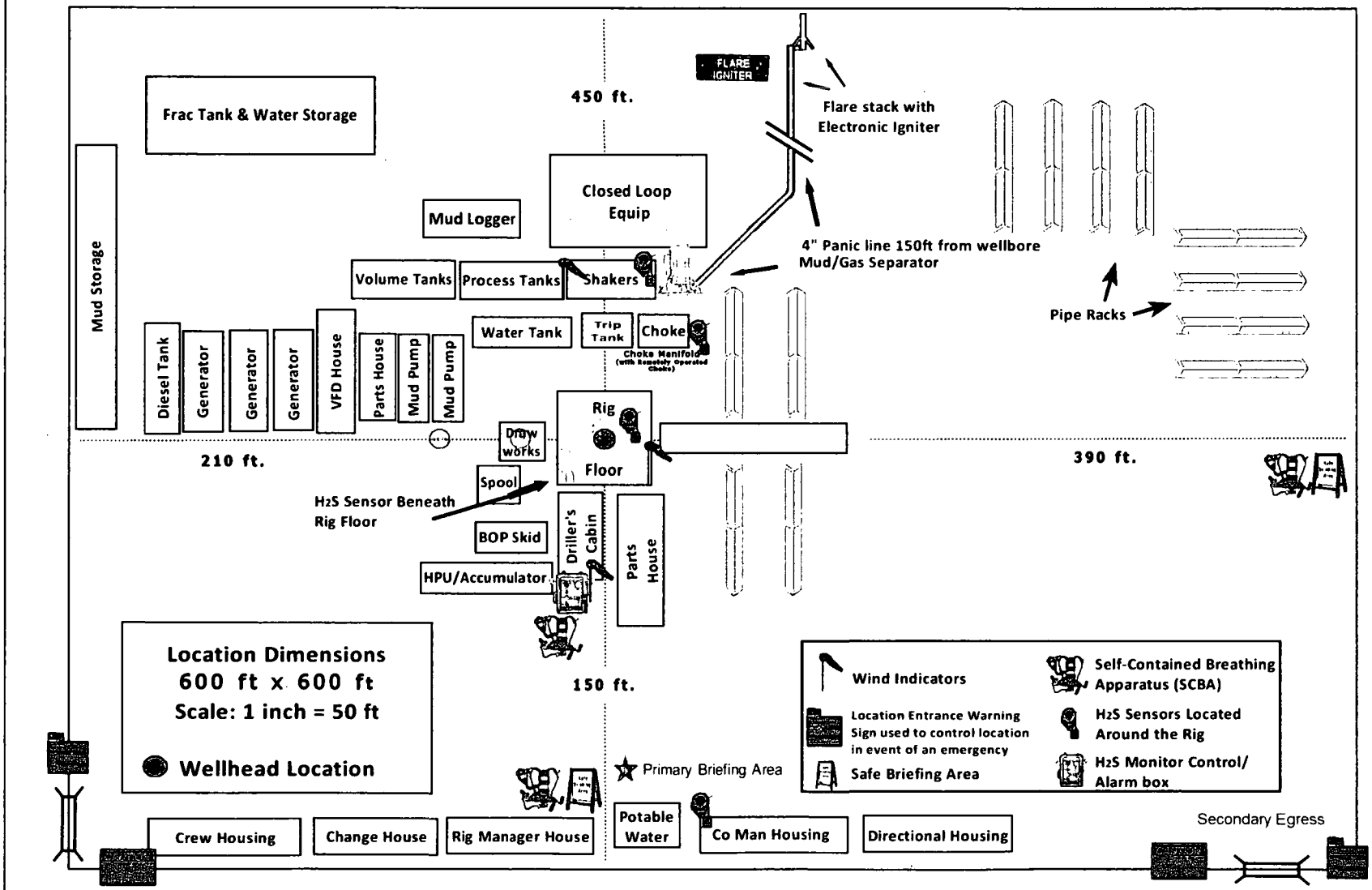
DEVON ENERGY PRODUCTION CO., L.P.

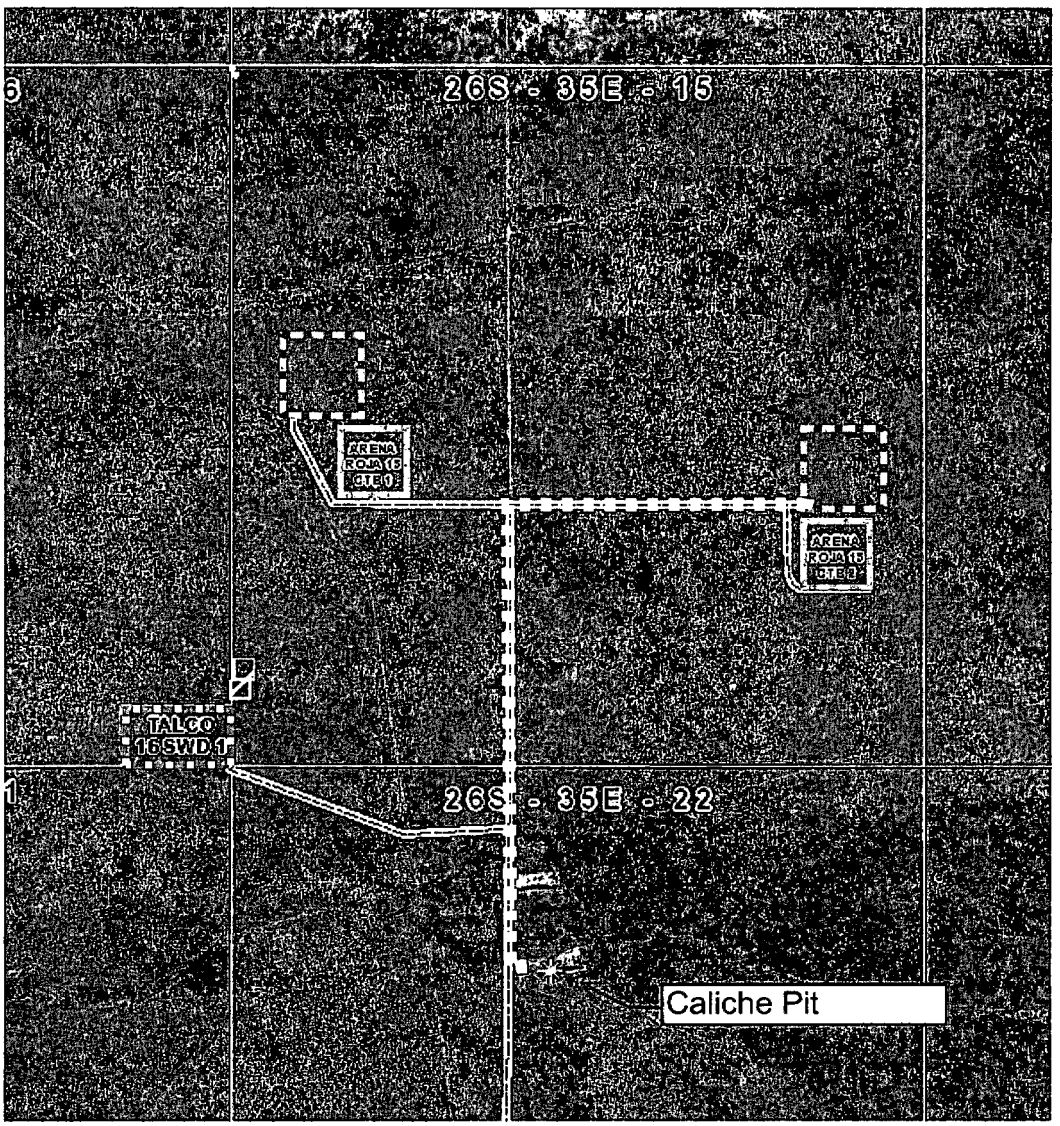
Drawn by: CHRIS MAAS

Date: 05/30/2018
Rev. Date: 8/7/18

Drawn for: devon

Devon Energy - Well Pad
Rig Location Layout
Safety Equipment Location




26S - 35E - 15
ARENA ROJA 15 CTB 0
ARENA ROJA 15 CTB 1
TALCO 16 SWD 1
26S - 35E - 22
Caliche Pit


ARENA ROJA FED UNIT 15-10 3H & ARENA ROJA FED UNIT 15-10 4H
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: 19-Jul-2018
N
Miles
0 0.28 0.56 1.12
1:56,913
RATTLESNAKE TW POND
ARENA ROJA FED UNIT 15-10 3H
ARENA ROJA FED UNIT 15-10 4H
ARENA ROJA FW POND
FW LINE: 25,563'
DURATION: 30 DAYS INSTALL PRIOR TO COMPLETION
DEVON WILL CONTACT BLM IF ADDITIONAL TIME IS NEEDED
DISTURBANCE: EXISTING
CONTENTS: TREATED WATER & FRESH WATER
TYPE OF PIPE: LAY FLAT
SIZE OF PIPE: 10" OR 12"
LENGTH OF PIPE: 53,000' FOR TW & 25,563' FOR FW

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.