16-789

Form 3160-3
(March 2012)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM22080

6. If Indian, Allotee or Tribe Name:

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

8. Lease Name and Well No.: TOMB RAIDER 1-12 FED 523H 316874

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

9. API Well No.: 30-015-44583

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

3b. Phone No. *(include area code)*: (405)552-6571

10. Field and Pool, or Exploratory: LIVINGSTON RIDGE / BONE SPRING

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

At surface: NENW / 360 FNL / 1959 FWL / LAT 32.340718 / LONG -103.731504

At proposed prod. zone: SESW / 290 FSL / 2200 FWL / LAT 32.3116989 / LONG -103.7314958

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 1 / T23S / R31E / NMP

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

12. County or Parish: EDDY

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 360 feet

16. No. of acres in lease: 1280

17. Spacing Unit dedicated to this well: 320

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 1146 feet

19. Proposed Depth: 9100 feet / 18859 feet

20. BLM/BIA Bond No. on file: FED: NMB000801

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3467 feet

22. Approximate date work will start*: 08/15/2017

23. Estimated duration: 45 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Chance Bland / Ph: (405)228-8593	12/09/2016

Title: Regulatory Compliance Professional

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	11/10/2017
Title	**Office**	
Supervisor Multiple Resources	CARLSBAD	

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

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

(Continued on page 2)

*(Instructions on page 2)

APPROVED WITH CONDITIONS

Approval Date: 11/10/2017

RP 12-01-17

OCD Artesia 16-789

AFMSS

Application for Permit to Drill

U.S. Department of the Interior
Bureau of Land Management

APD Package Report

Date Printed: 11/17/2017 10:36 AM

APD ID: 10400008905	Well Status: AAPD
APD Received Date: 12/09/2016 07:32 AM	Well Name: TOMB RAIDER 1-12 FED
Operator: DEVON ENERGY PRODUCTION CC	Well Number: 523H

APD Package Report Contents

SECRETARY'S POTASH

- Form 3160-3
- Operator Certification Report
- Application Report
- Application Attachments
  -- Well Plat: 1 file(s)
- Drilling Plan Report
- Drilling Plan Attachments
  -- Blowout Prevention Choke Diagram Attachment: 2 file(s)
  -- Blowout Prevention BOP Diagram Attachment: 2 file(s)
  -- Casing Design Assumptions and Worksheet(s): 3 file(s)
  -- Hydrogen sulfide drilling operations plan: 1 file(s)
  -- Proposed horizontal/directional/multi-lateral plan submission: 1 file(s)
  -- Other Facets: 4 file(s)
  -- Other Variances: 1 file(s)
- SUPO Report
- SUPO Attachments
  -- Existing Road Map: 1 file(s)
  -- New Road Map: 1 file(s)
  -- Attach Well map: 1 file(s)
  -- Water source and transportation map: 1 file(s)
  -- Well Site Layout Diagram: 1 file(s)
  -- Recontouring attachment: 1 file(s)
  -- Other SUPO Attachment: 4 file(s)
- PWD Report
- PWD Attachments
  -- None
- Bond Report

NM OIL CONSERVATION
ARTESIA DISTRICT
NOV 22 2017
RECEIVED

PECOS DISTRICT
DRILLING OPERATIONS
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Co
LEASE NO.:	NM22080
WELL NAME & NO.:	Tomb Raider 1 12 Fed – 523H
SURFACE HOLE FOOTAGE:	360'/FNL & 1959'/FWL
BOTTOM HOLE FOOTAGE	290'/FSL & 2200'/FWL
LOCATION:	Sec. 1, T. 23 S, R. 31 E
COUNTY:	Eddy County

I. SPECIAL REQUIREMENT(S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

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.

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

I.DRILLING OPERATIONS REQUIREMENTS

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

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

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

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

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

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

4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

II.CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

The initial wellhead installed on the well will remain on the well with spools used as needed.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) for 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.

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

Secretary's Potash
Possible water flows in the Salado and Castile.
Possible lost circulation in the Red Beds, Rustler, and Delaware.
Abnormal pressures may be encountered upon penetrating the 3rd Bone Spring Sandstone and all subsequent formations.

A. The **13-3/8** inch surface casing shall be set at approximately **753** feet (**in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, and if salt is encountered, set casing at least 25 feet above the salt** a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
    1. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    2. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**
    3. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
    4. If cement falls back, remedial cementing will be done prior to drilling out that string.

Intermediate casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

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

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

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

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

☒ Cement should tie-back at least **500** feet into previous casing string. Operator shall provide method of verification. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.**

D. 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.

III.PRESSURE CONTROL

A. 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 53.

B. Variance approved to use flex line from BOP to choke manifold. 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.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

C. **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 3000 (3M) psi.**
   a. **Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.**
   b. **If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.**
   c. **Manufacturer representative shall install the test plug for the initial BOP test.**

d. **Operator shall perform the 13-3/8'' and 9-5/8" casing integrity tests to 70% of the casing burst. This will test the multi-bowl seals.**
e. **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.**

D. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
   1. 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.
   2. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.
   3. 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.
   4. The results of the test shall be reported to the appropriate BLM office.
   5. 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.**
   6. 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 if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

IV.DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

V.WASTE MATERIAL AND FLUIDS

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

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

CLN 10282017

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Prod Co
LEASE NO.:	NM22080
WELL NAME & NO.:	Tomb Raider 1 12 Fed - 523H
SURFACE HOLE FOOTAGE:	360'/N & 1959'/W
BOTTOM HOLE FOOTAGE	290'/S & 2200'/W
LOCATION:	Section 1, T. 23 S., R. 31 E., NMPM
COUNTY:	Eddy County, New Mexico

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

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

☐ **Interim Reclamation**
☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

IV. NOXIOUS WEEDS

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

V. SPECIAL REQUIREMENT(S)

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

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

The proposed action occurs within one-half mile of the WIPP and Mills lesser prairie-chicken Habitat Evaluation Areas (HEA) as described in the 2008 Special Status Species Resource Management Plan Amendment. Therefore, according to the prescriptions set forth in the RMPA for management of HEAs, non-emergency exceptions to the Timing Limitation Condition-of-Approval will not be granted to afford the species protection during its breeding season.

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.

Raptor Nest Mitigation

- A BLM Wildlife Biologist must be contacted by the operator prior to construction activities to determine if the raptor nests/burrows are active.
- Raptor nests on special, natural habitat features, such as trees, large brush, cliff faces and escarpments, will be protected by not allowing surface disturbance within up to 200 meters of nests or by delaying activity for up to 90 days, or a combination of both. Exceptions to this requirement for raptor nests will be considered if the nests expected to be disturbed are inactive, the proposed activity is of short duration (e.g. habitat enhancement projects, fences, pipelines), and will not result in continuing activity in proximity to the nest.
- 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.

Temporary Fencing Requirement

For the following proposed locations, the BLM would require temporary fencing be installed before construction begins. This fencing would remain in place and be maintained throughout the life of the well pads and CTB pads to protect nearby dune land habitat from harm.

- Todd Apache 6-6 Pad 2
- Todd Apache 6-6 CTB 2
- Todd Apache 8-5 CTB 2

Temporary Fencing Requirement

For the following proposed locations, the BLM would require temporary fencing be installed before construction begins. This fencing would remain in place and be maintained throughout the life of the well pads and CTB pads to protect nearby dune land habitat from harm.

- Todd Apache 6-6 Pad 2
- Todd Apache 6-6 CTB 2
- Todd Apache 8-5 CTB 2

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

Cattle Guard Requirement
Where entry is granted across a fence line for an access road, the fence must be braced and tied off on both sides of the passageway with H-braces prior to cutting. Once the work is completed, the fence will be restored to its prior condition with an appropriately sized cattle guard sufficient to carry out the project. Any new or existing cattle guards on the access route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations. Once the road is abandoned, the fence would be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Livestock Watering Requirement
The operator must contact the allotment holder prior to construction to identify the location of the pipelines. The operator must take measures to protect the pipelines from compression or other damages. If the pipelines are damaged or compromised in any way near the proposed project as a result of oil and gas activity, the operator is responsible for repairing the pipelines immediately. The operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

During construction, the proponent shall minimize disturbance to existing fences, water lines, troughs, windmills, and other improvements on public lands. The proponent is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the grazing permittee/allottee prior to disturbing any range improvement projects. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

Interim reclamation will be conducted on all disturbed areas not needed for active support of production operations, and if caliche is used as a surfacing material it will be removed at time of reclamation to enhance re-establishment of vegetation.

Temporary Fencing Requirement
For the following proposed locations, the BLM would require temporary fencing be installed before construction begins. This fencing would remain in place and be maintained throughout the life of the well pads and CTB pads to protect nearby dune land habitat from harm.

- Todd Apache 6-6 Pad 2
- Todd Apache 6-6 CTB 2
- Todd Apache 8-5 CTB 2

Devon would need to avoid the two identified archaeology sites by ensuring that infrastructure and vehicles maintain a minimum distance of 100 feet from these sites.

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

Permitted Exceptions for Drilling in the Designated Potash Area

1. It is the intent of the Department of the Interior to administer oil and gas operations throughout the Designated Potash Area in a manner which promotes safe, orderly co-development of oil, gas, and potash resources. It is the policy of the Department of the Interior to deny approval of most applications for permits to drill oil and gas wells from surface locations within the Designated Potash Area. Three exceptions to this policy will be permitted if the drilling will occur under the following conditions from:

    a. A Drilling Island associated with a Development Area established under this Order or a Drilling Island established under a prior Order;

    b. A Barren Area and the Authorized Officer determines that such operations will not adversely affect active or planned potash mining operations in the immediate vicinity of the proposed drill-site; or

    c. A Drilling Island, not covered by (a) above or single well site established under this Order by the approval and in the sole discretion of the Authorized Officer, provided that such site was jointly recommended to the Authorized Officer by the oil and gas lessee(s) and the nearest potash lessee(s).

Development Areas

2. When processing an application for permit to drill (APD) an oil or gas well in the Designated Potash Area that complies with regulatory requirements, the Authorized Officer will determine whether to establish a Development Area in connection with the application, and if so, will determine the boundaries of the Development Area and the location within the Development Area of one or more Drilling Islands from which drilling will be permitted. The BLM may also designate a Development Area outside of the APD process based on information in its possession, and may modify the boundaries of a Development Area. Existing wells may be included within the boundaries of a Development Area. A Development Area may include Federal oil and gas leases and other Federal and non-Federal lands.

    a. After designating or modifying a Development Area, the BLM will issue a Notice to Lessees, consistent with its authorities under 43 CFR Subpart 3105 and part 3180, information lessees that future drilling on lands under an oil and gas lease within that Development Area will:

        i. occur, under most circumstances, from a Barren Area or A Drilling Island within the Development Area; and
        ii. be managed under a unit or communitization agreement, generally by a single operator, consistent with BLM regulations and this Order. Unit and communitization agreements will be negotiated among lessees. The BLM will consider whether a specific plan of development is necessary or advisable for a particular Drilling Island.

    b. The Authorized Officer reserves the right to approve an operator or successor operator of a Development Area and/or a Drilling Island, if applicable, to ensure that the operator has the resources to operate and extract the oil and gas resources consistent with the requirements of this Order and all applicable laws and regulations, and has provided financial assurance in the amount required by the Authorized Officer.

c. The Authorized Officer will determine the appropriate designation of a Development Area in terms of location, shape and size. In most cases, a single Drilling Island will be established for each Development Area. In establishing the location, shape and size of a Development Area and an associated Drilling Island, the Authorized Officer will consider:

   i. the appropriate location, shape, and size of a Development Area and associated Drillings Island to allow effective extraction of oil and gas resources while managing the impact on potash resources;
   ii. the application of available oil and gas drilling and production technology in the Permian Basin;
   iii. the applicable geology of the Designated Potash Area and optimal locations to minimize loss of potash ore while considering co-development of both resources;
   iv. any long term exploration and/or mining plans provided by the potash industry;
   v. whether a Barren Area may be the most appropriate area for a Drilling Island;
   vi. the requirements of this Order; and
   vii. any other relevant factors

d. As the Authorized Officer establishes a Development Area, the Authorized Officer will more strictly apply the factors listed in Section 6.e.(2)(d), especially the appropriate application of the available oil and gas drilling and production technology in the Permian Basin, when closer to current traditional (non-solution) potash mining operations. Greater flexibility in the application of the factors listed in Section 6.e(2)(d) will be applied further from current and near-term traditional (non-solution) potash mining operations. No Drilling Islands will be established within one mile of any area where approved potash mining operations will be conducted within 3 years consistent with the 3-year mine plan referenced above (Section 6.d.(8)) without the consent of the affected potash lessee(s).

e. The Authorized Officer may establish a Development Area associated with a well or wells drilled from a Barren Area as appropriate and necessary.

f. As part of the consideration for establishing Development Areas and Drilling Islands, the BLM will consider input from the potash lessees and the oil and gas lessees or mineral right owner who would be potentially subject to a unitization agreement supporting the Development Are, provided that the input is given timely.

Buffer Zones

3. Buffer Zones of ¼ mile for oil wells and ½ mile for gas wells are hereby established. These Buffer Zones will stay in effect until such time as revised distances are adopted by the BLM Director or other BLM official, as delegated. However, the Authorized Officer may adjust the Buffer Zones in an individual case, when the facts and circumstances demonstrate that such adjustment would enhance conservation and would not compromise safety. The Director will base revised Buffer Zones on science, engineering, and new technology and will consider comments and reports from the Joint Industry Technical Committee and other interested parties in adopting any revisions.

Unitization and Communitization

4. To more properly conserve the potash, oil, and gas resources in the Designated Potash Area, and to adequately protect the rights of all parties in interest, including the United States, it is the policy of the Department of the Interior that all Federal oil and gas leases within a Development Area should be unitized or subject to an approved communitization agreement unless there is a compelling reason for another operating system. The Authorized Officer will make full use of his/her authorities wherever necessary or advisable to require unitization and/or communitization pursuant to the regulations in 43 CFR Subparts 3105 and 3180. The Authorized Officer will use his/her discretion to the fullest extent possible to assure that any communitization agreement and any unit plan of operations hereafter approved or prescribed within the Designated Potash Area will adhere to the provisions of this Order. The Authorized Officer will work with Federal lessees, and with the State Of New Mexico as provided below, to include non-Federal mineral rights owners in unit or communitization agreements to the extent possible.

5. Coordination with the State of New Mexico.

    a. If the effective operation of any Development Area requires that the New Mexico Oil Conservation Division (NMOCD) revise the State's mandatory well spacing requirements, the BLM will participate as needed in such a process. The BLM may adopt the NMOCD spacing requirements and require lessees to enter into communitization agreements based on those requirements.

    b. The BLM will cooperate with the NMOCD in the implementation of that agency's rules and regulations.

    c. In taking any action under Section 6.e. of this Order, the Authorized Officer will take into consideration the applicable rules and regulations of the NMOCD.

To minimize impacts to potash resources, the proposed well is confined within the boundaries of the established Tomb Raider Drill Island (See Potash Memo and Map in attached file for Drill Island description).

VI. CONSTRUCTION

A. NOTIFICATION

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

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

B. TOPSOIL

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

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

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

F. EXCLOSURE FENCING (CELLARS & PITS)

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

G. ON LEASE ACCESS ROADS

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

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

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

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

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

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

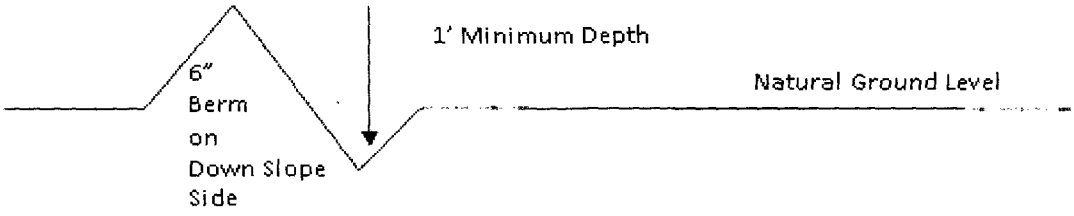
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Cattle guards

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

Fence Requirement

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

Public Access

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

Construction Steps

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

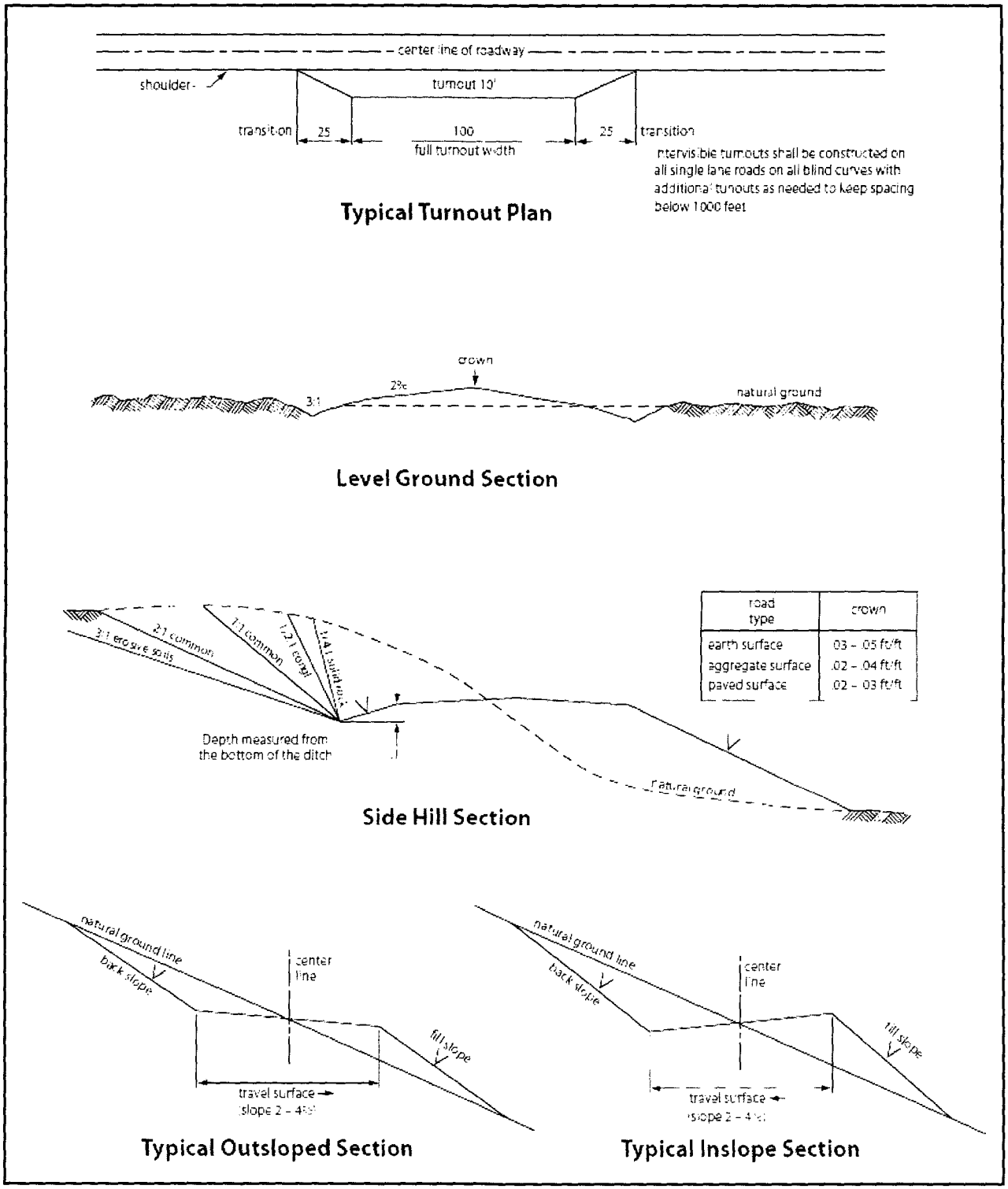


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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:

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.

19. Special Stipulations:

Lesser Prairie-Chicken

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

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

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

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

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

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

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on

facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

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

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

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

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

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

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up

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

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

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

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

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

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

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**,

Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

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

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

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

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

17. Surface pipelines must be less than or equal to 4 inches and a working pressure below 125 psi.

18. Special Stipulations:

a. **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 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.

b. 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.

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.

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.

VIII. INTERIM RECLAMATION

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

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

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

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

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

IX. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

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

Seed Mixture 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

Operator Certification

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

NAME: Chance Bland **Signed on:** 12/09/2016

Title: Regulatory Compliance Professional

Street Address: 333 West Sheridan Avenue

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

Phone: (405)228-8593

Email address: Chance.Bland@dvn.com

Field Representative

Representative Name: Cole Metcalf

Street Address: Po Box 250

City: Artesia **State:** NM **Zip:** 88211

Phone: (575)748-1872

Email address: cole.metcalf@dvn.com

APD ID: 10400008905 **Submission Date:** 12/09/2016

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 523H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400008905 **Tie to previous NOS?** **Submission Date:** 12/09/2016

BLM Office: CARLSBAD **User:** Chance Bland **Title:** Regulatory Compliance Professional

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

Lease number: NMNM22080 **Lease Acres:** 1280

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? NO **Federal or Indian agreement:**

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO **APD Operator:** DEVON ENERGY PRODUCTION COMPANY LP

Operator letter of designation:

Operator Info

Operator Organization Name: DEVON ENERGY PRODUCTION COMPANY LP

Operator Address: 333 West Sheridan Avenue **Zip:** 73102

Operator PO Box:

Operator City: Oklahoma City **State:** OK

Operator Phone: (405)552-6571

Operator Internet Address: aletha.dewbre@dvn.com

Section 2 - Well Information

Well in Master Development Plan? EXISTING **Mater Development Plan name:** Todd-Apache MDP 1

Well in Master SUPO? NO **Master SUPO name:**

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

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 523H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** LIVINGSTON RIDGE **Pool Name:** BONE SPRING

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 523H

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

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:** TODD-APACHE 1-1 PAD **Number:** 1

Well Class: HORIZONTAL **Number of Legs:**

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:** 1146 FT **Distance to lease line:** 360 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: TR 1-12 FED 523H_C102 Signed_12-09-2016.pdf

Well work start Date: 08/15/2017 **Duration:** 45 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 5052A

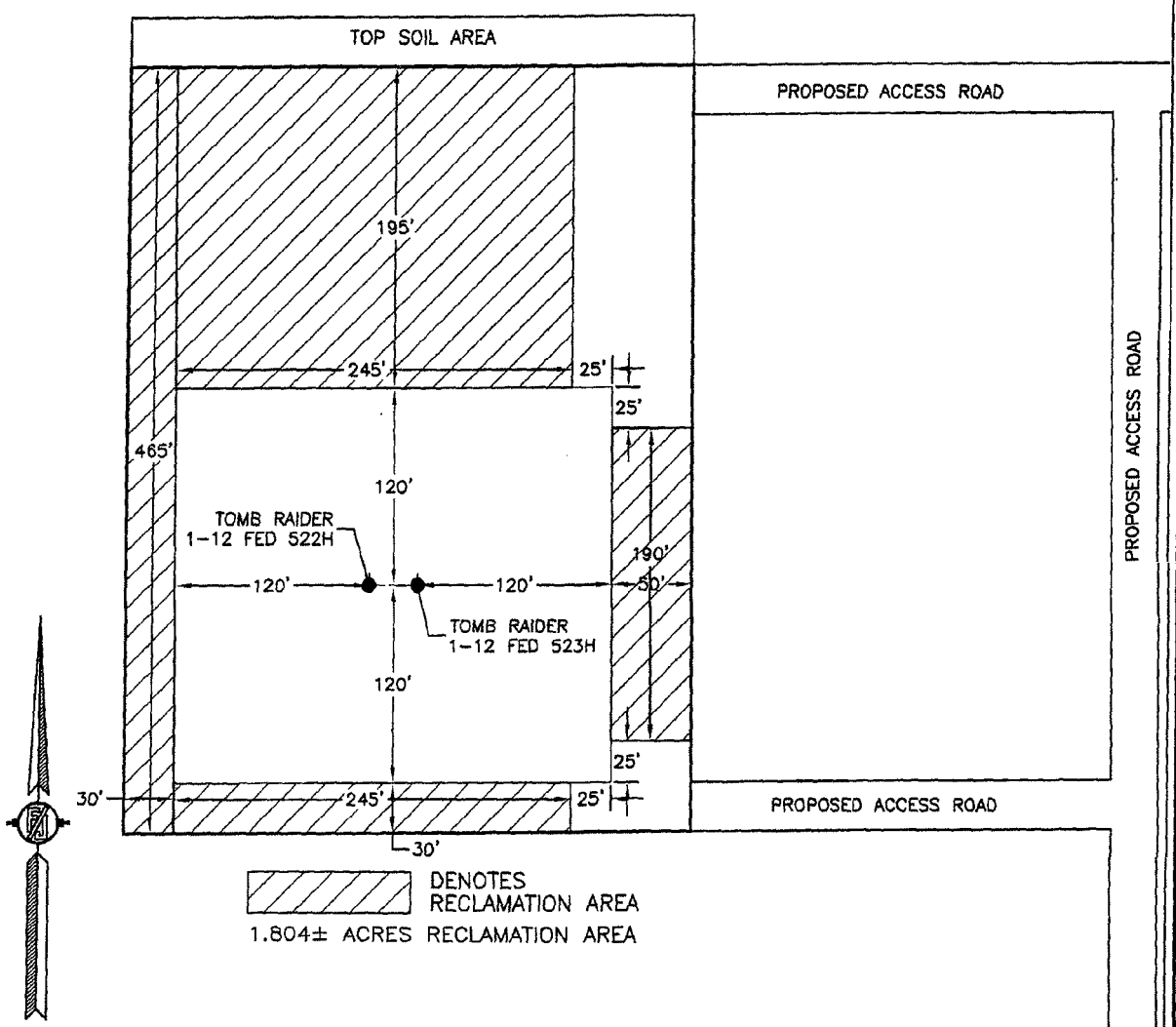
	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	360	FNL	1959	FWL	23S	31E	1	Aliquot NENW	32.340718	-103.731504	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 22080	3467	0	0
KOP Leg #1	360	FNL	2233	FWL	23S	31E	1	Aliquot NENW	32.340718	-103.731504	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 22080	-5095	8576	8562
PPP Leg #1	525	FNL	1960	FWL	23S	31E	1	Aliquot NENW	32.340718	-103.731504	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 22080	-4891	8358	8358

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 523H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
EXIT Leg #1	290	FSL	2200	FWL	23S	31E	12	Aliquot SESW	32.3116989	-103.7314958	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 22080	-5633	18859	9100
BHL Leg #1	290	FSL	2200	FWL	23S	31E	12	Aliquot SESW	32.3116989	-103.7314958	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 22080	-5633	18859	9100

SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
INTERIM SITE RECLAMATION



010 50 100 200
SCALE 1" = 100'

DEVON ENERGY PRODUCTION COMPANY, L.P.

TOMB RAIDER 1-12 FED 523H

LOCATED 360 FT. FROM THE NORTH LINE AND 1959 FT. FROM THE WEST LINE OF SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. EDDY COUNTY, STATE OF NEW MEXICO

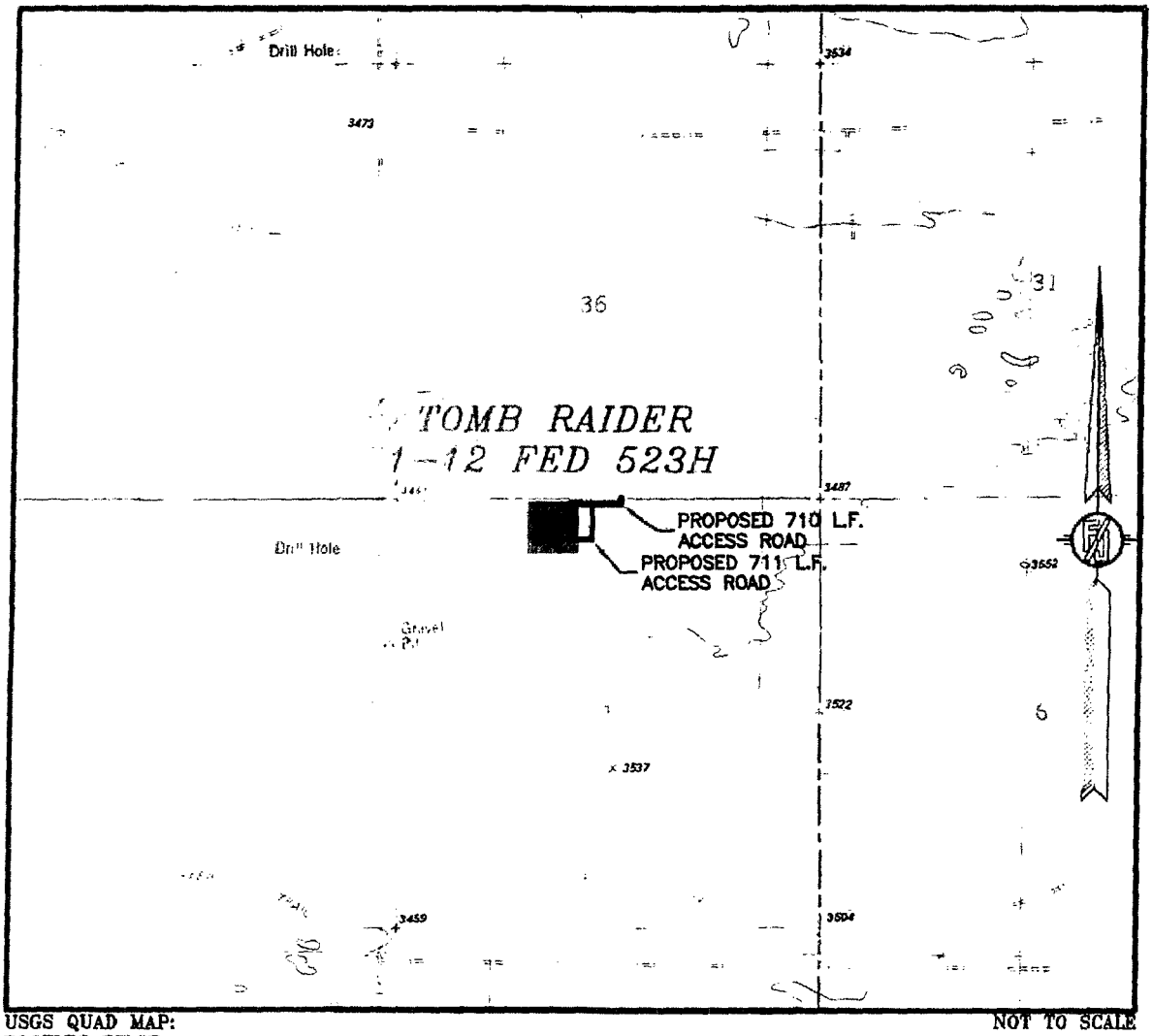
NOVEMBER 9, 2016

SURVEY NO. 5052A

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

SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

LOCATION VERIFICATION MAP



USGS QUAD MAP:
BOOTLEG RIDGE

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.
TOMB RAIDER 1-12 FED 523H
LOCATED 360 FT. FROM THE NORTH LINE
AND 1959 FT. FROM THE WEST LINE OF
SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

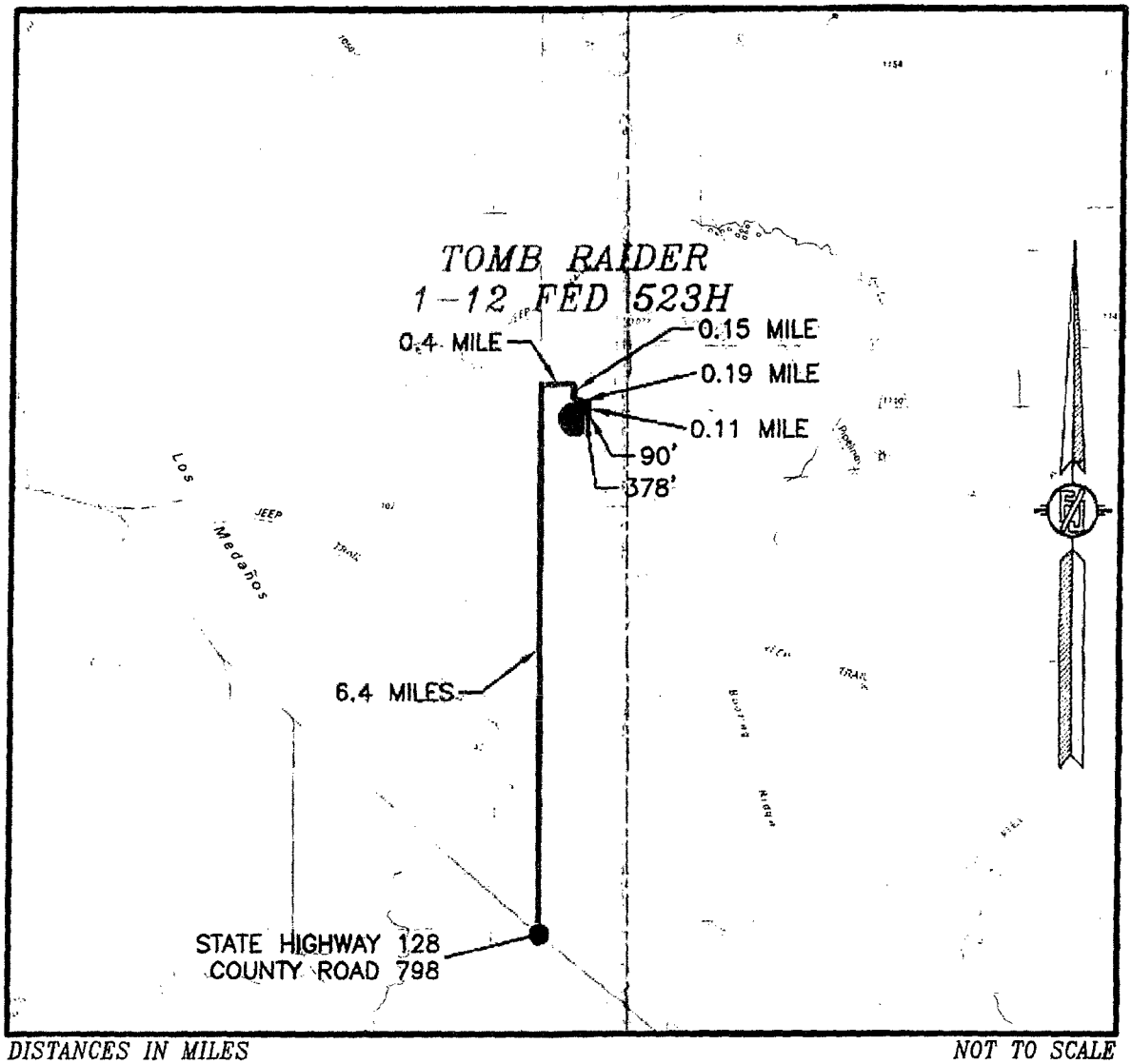
NOVEMBER 9, 2016

SURVEY NO. 5052A

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

SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DIRECTIONS TO LOCATION
FROM STATE HIGHWAY 128 AND CR 798 (RED ROAD) GO NORTH ON CR 798 6.4 MILES, TURN RIGHT ON CALICHE ROAD AND GO EAST 0.4 OF A MILE, BEND RIGHT AND GO SOUTH 0.15 OF A MILE, BEND LEFT AND GO SOUTHEAST 0.19 OF A MILE, TURN RIGHT AND GO SOUTH 0.11 OF A MILE TO A PROPOSED ROAD SURVEY WHERE ROAD BENDS LEFT. FOLLOW FLAGS SOUTH 90', THEN WEST 378' TO THE NORTHEAST PAD CORNER FOR THIS LOCATION.

DEVON ENERGY PRODUCTION COMPANY, L.P.
TOMB RAIDER 1-12 FED 523H
LOCATED 360 FT. FROM THE NORTH LINE AND 1959 FT. FROM THE WEST LINE OF SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. EDDY COUNTY, STATE OF NEW MEXICO

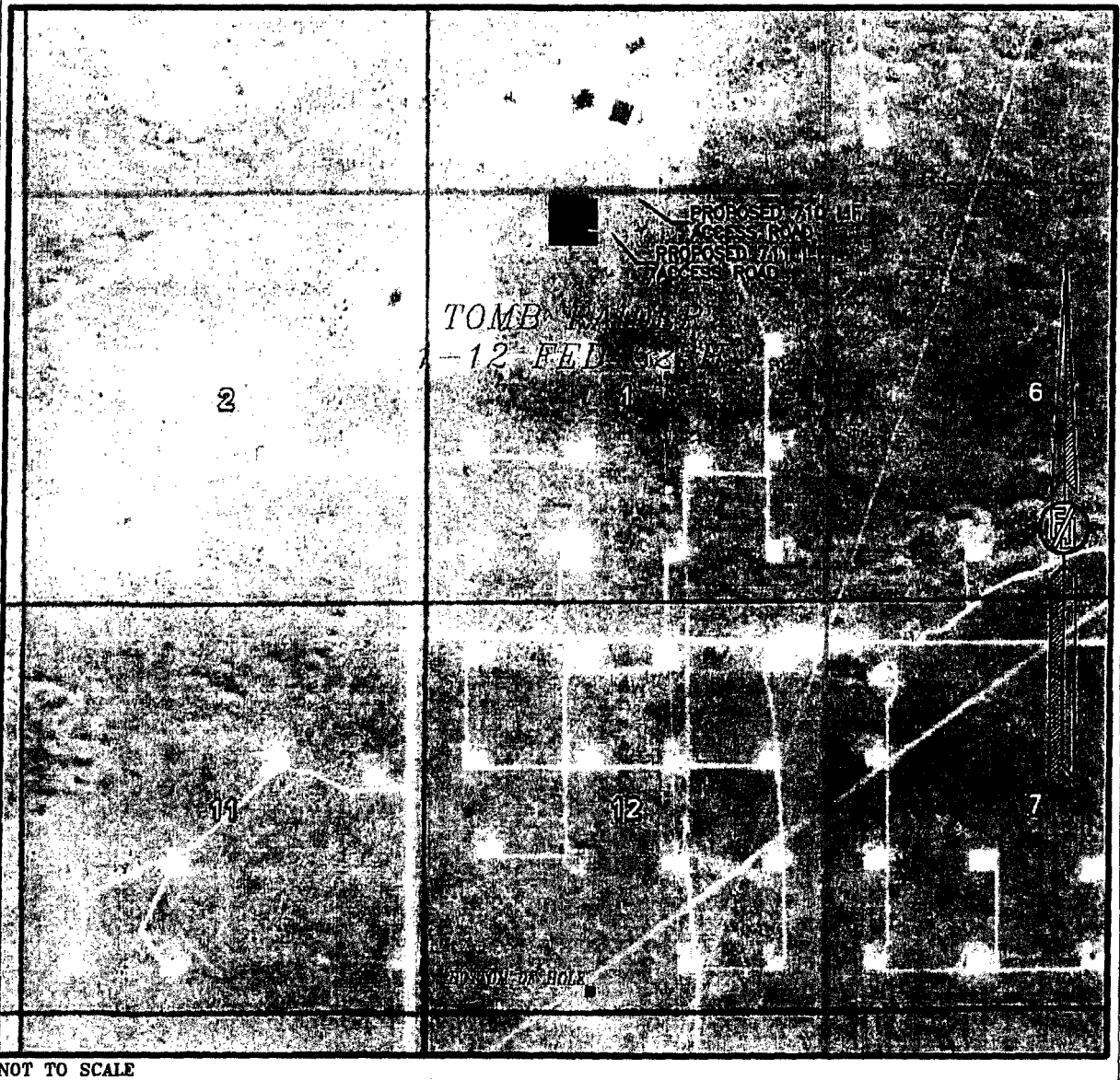
NOVEMBER 9, 2016

SURVEY NO. 5052A

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

SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
FEB. 2014

DEVON ENERGY PRODUCTION COMPANY, L.P.

TOMB RAIDER 1-12 FED 523H

LOCATED 360 FT. FROM THE NORTH LINE
AND 1959 FT. FROM THE WEST LINE OF
SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

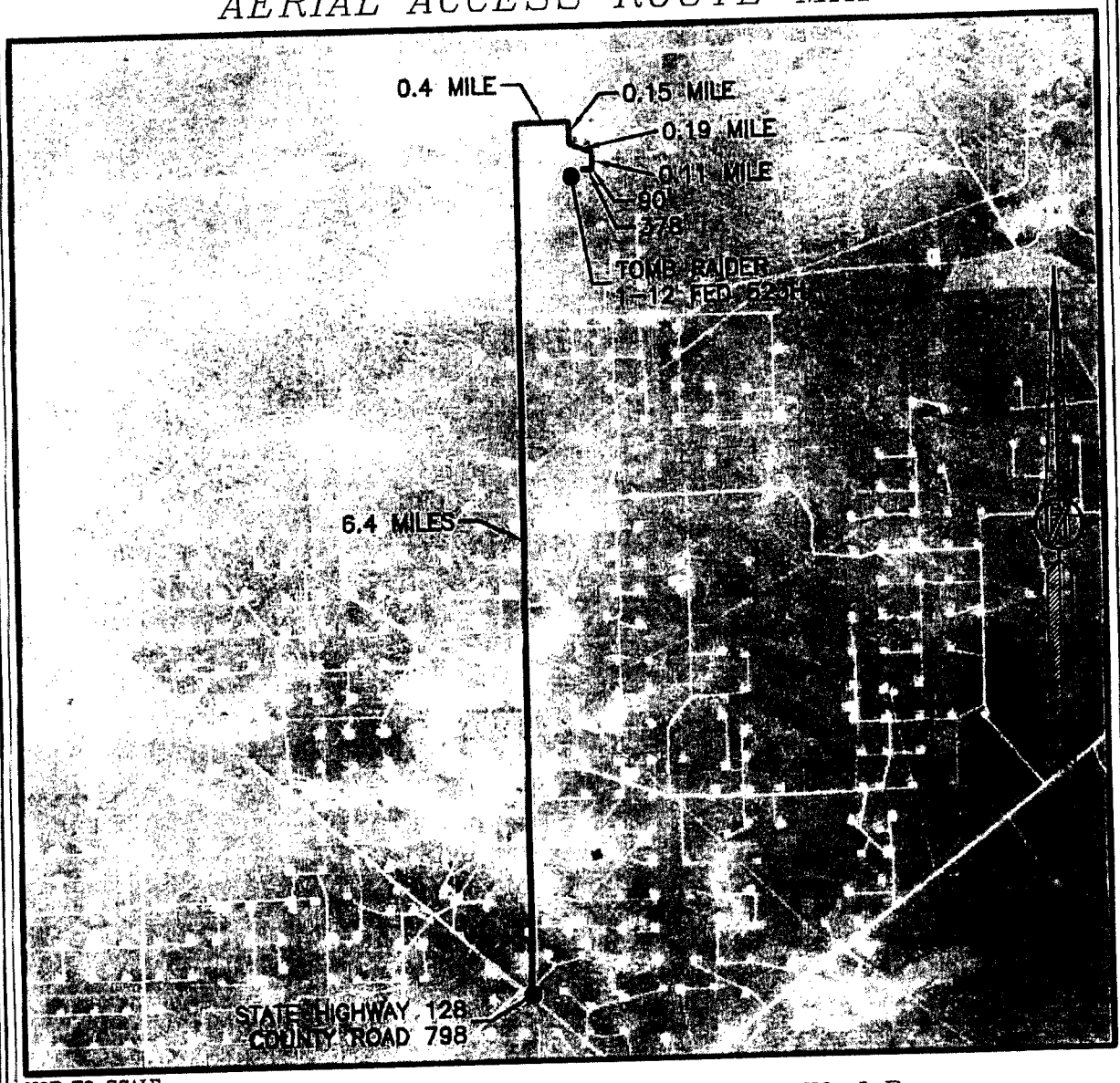
NOVEMBER 9, 2016

SURVEY NO. 5052A

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

SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AERIAL ACCESS ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
FEB. 2014

DEVON ENERGY PRODUCTION COMPANY, L.P.
TOMB RAIDER 1-12 FED 523H
LOCATED 360 FT. FROM THE NORTH LINE
AND 1959 FT. FROM THE WEST LINE OF
SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 9, 2016

SURVEY NO. 5052A

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

APD ID: 10400008905 **Submission Date:** 12/09/2016

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 523H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	UNKNOWN	3467	0	0	ALLUVIUM	NONE	No
2	RUSTLER	2812	655	655	DOLOMITE	NONE	No
3	SALADO	2357	1110	1110	ANHYDRITE	NONE	No
4	BASE OF SALT	-725	4192	4192	SALT	NONE	No
5	DELAWARE	-981	4448	4448	SANDSTONE	NATURAL GAS,OIL	No
6	BELL CANYON	-1023	4490	4490	SANDSTONE	NATURAL GAS,OIL	No
7	CHERRY CANYON	-1903	5370	5370	SANDSTONE	NATURAL GAS,OIL	No
8	BRUSHY CANYON	-3140	6607	6607	SANDSTONE	NATURAL GAS,OIL	No
9	BONE SPRING	-4883	8350	8350	LIMESTONE	NATURAL GAS,OIL	Yes

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M **Rating Depth:** 8175

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

Requesting Variance? YES

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

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

Choke Diagram Attachment:

TR_1-12_Fed 523H_BOP

TR_1-12_Fed 523H_BOP

BOP Diagram Attachment:

TR_1-12_Fed 523H_BOP

Pressure Rating (PSI): 3M **Rating Depth:** 4190

Equipment: BOP/BOPE will be installed per Onshore Oil & Gas Order #2 requirements prior to drilling below 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 3M will be installed on the wellhead system. BOP/BOPE will be tested by an independent service company per Onshore Oil & Gas Order #2 requirements and MASP (Maximum Anticipated Surface Pressure) calculations. If the system is upgraded, all the components installed will be functional and tested. The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 3,000 psi WP.
Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP stack to the choke manifold. See attached for specs for hydrostatic test chart.
Testing Procedure: A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

Choke Diagram Attachment:

TR_1-12_Fed 523H_BOP

BOP Diagram Attachment:

TR_1-12_Fed 523H_BOP

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	700	0	700	3467	2767	700	J-55	40	STC	1.74	2.45	BUOY	4.13	BUOY	4.13
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4250	0	4250	3467	-783	4250	J-55	40	LTC	1.19	1.42	BUOY	3.98	BUOY	3.98
3	PRODUCTION	8.75	5.5	NEW	API	N	0	18871	0	9100	3467	-5633	18871	P-110	17	OTHER - BTC	2.18	2.7	BUOY	3.21	BUOY	3.21

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

TR 1-12 Fed 523H_ Surf CSG ASS (2)_12-09-2016.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

TR 1-12 Fed 523H_ INT CSG ASS_12-09-2016.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

TR 1-12 Fed 523H_ Prod CSG ASS_12-09-2016.pdf

Section 4 - Cement

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 523H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	700	550	1.34	14.8	730	50	c	1% Calcium Chloride
INTERMEDIATE	Lead		0	3250	720	1.85	12.9	407	30	c	Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sks Poly-E-Flake
INTERMEDIATE	Tail		3250	4250	306	1.33	14.8	407	30	h	0.125 lbs/sks Poly-R-Flake
PRODUCTION	Lead		4050	9050	485	3.27	9	1580	25	tuned	Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite
PRODUCTION	Tail		9050	18871	2585	1.2	14.5	3100	25	h	Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

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

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

Circulating Medium Table

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 523H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
4250	18871	WATER-BASED MUD	8.5	9.3				12			
0	700	WATER-BASED MUD	8.5	9				2			
650	4250	SALT SATURATED	10	11				2			

Section 6 - Test, Logging, Coring

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

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.

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

CALIPER,DS,GR,MWD,MUDLOG

Coring operation description for the well:

na

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4095 **Anticipated Surface Pressure:** 2093

Anticipated Bottom Hole Temperature(F): 150

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:

TR_1-12_Fed 523H_H2S_Plan_12-09-2016.doc

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: TOMB RAIDER 1-12 FED **Well Number:** 523H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

TR_1-12_Fed 523H_Dir Plan_12-09-2016.pdf

Other proposed operations facets description:

Multi-Bowl Verbiage
Multi-Bowl Wellhead
Closed Loop Design
Production Casing Cont

Other proposed operations facets attachment:

TR 1-12 Fed 523H_MB Verb 3M_12-09-2016.pdf
TR 1-12 Fed 523H_MB Wellhd_12-09-2016.pdf
TR 1-12 Fed 523H_Clsd Loop_12-09-2016.pdf
TR 1-12 Fed 523H_Prod Cmt Cont_12-09-2016.pdf

Other Variance attachment:

TR 1-12 Fed 523H_Co-flex_12-09-2016.pdf

Casing Assumptions and Load Cases

Surface

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

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

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

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

Casing Assumptions and Load Cases

Intermediate

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

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

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

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

Casing Assumptions and Load Cases

Production

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

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

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

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

devon

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

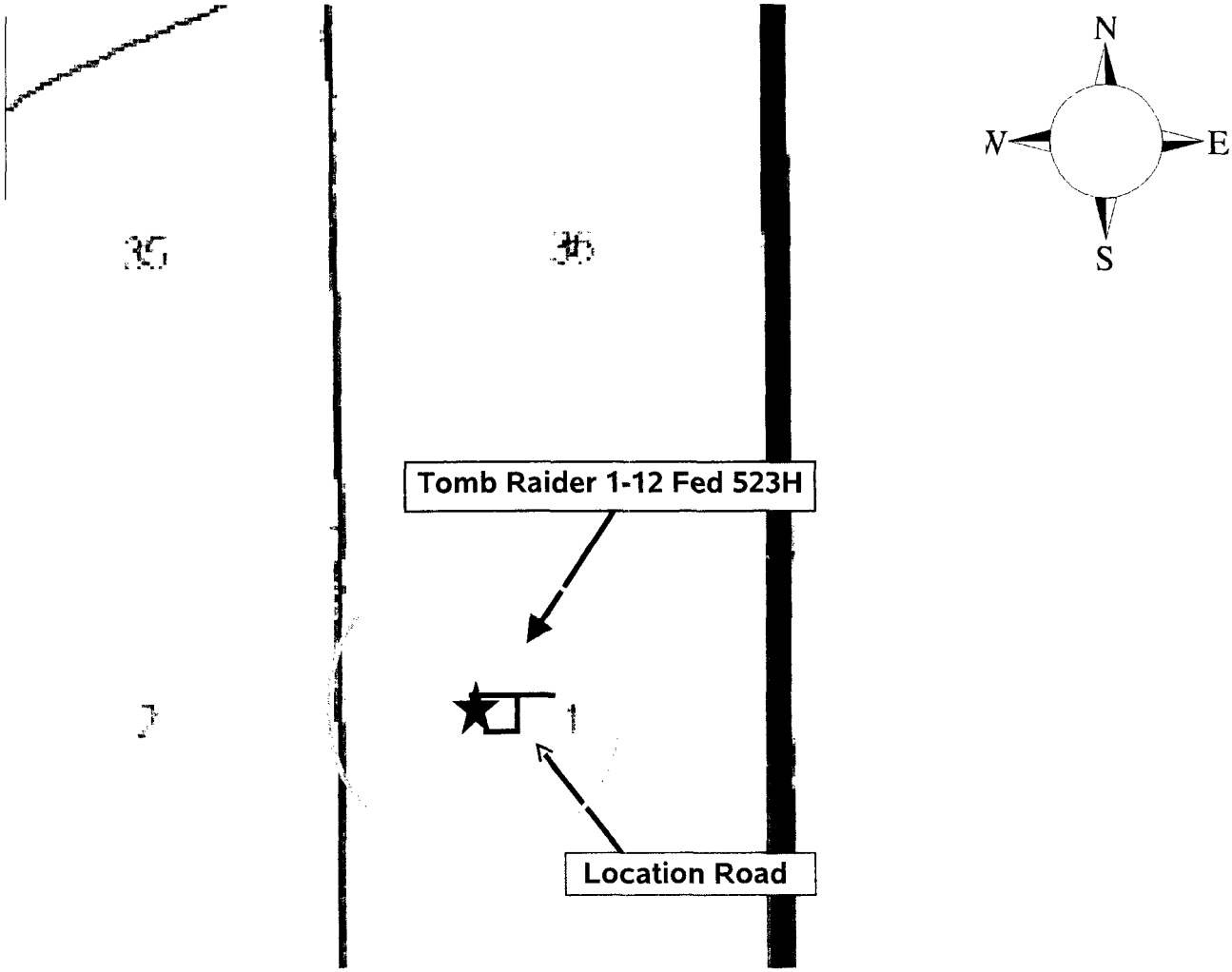
Hydrogen Sulfide (H_2S) Contingency Plan

For

Tomb Raider 1-12 Fed 523H

Sec-1 T-23S R-31E
360' FNL & 1959 FWL
LAT. = 32.3397304' N (NAD83)
LONG = 103.7337113 W

Eddy County NM



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

Escape

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

Assumed 100 ppm ROE = 3000'

100 ppm H_2S concentration shall trigger activation of this plan.

Emergency Procedures

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

- **Isolate the area and prevent entry by other persons into the 100 ppm ROE.**
- **Evacuate any public places encompassed by the 100 ppm ROE.**
- **Be equipped with H_2S monitors and air packs in order to control the release.**
- **Use the "buddy system" to ensure no injuries occur during the response**
- **Take precautions to avoid personal injury during this operation.**
- **Contact operator and/or local officials to aid in operation. See list of phone numbers attached.**
- **Have received training in the**
  - **Detection of H_2S, and**
  - **Measures for protection against the gas,**
  - **Equipment used for protection and emergency response.**

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

Characteristics of H_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	**H_2S**	**1.189 Air = 1**	**10 ppm**	**100 ppm/hr**	**600 ppm**
Sulfur Dioxide	**SO_2**	**2.21 Air = 1**	**2 ppm**	**N/A**	**1000 ppm**

Contacting Authorities

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

the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER)

Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE (H_2S) TRAINING

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

1. The hazards and characteristics of hydrogen sulfide (H_2S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H_2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

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

1. The effects of H_2S metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H_2S Drilling Operations Plan and Public Protection Plan.

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

II. HYDROGEN SULFIDE TRAINING

Note: All H_2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H_2S.

1. **Well Control Equipment**

   A. Flare line

   B. Choke manifold – Remotely Operated

   C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit

   D. Auxiliary equipment may include if applicable: annular preventer and rotating head.

   E. Mud/Gas Separator

2. **Protective equipment for essential personnel:**

   30-minute SCBA units located at briefing areas, as indicated on well site diagram, with one escape unit 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 10 ppm. Sensor locations:

   - Bell nipple
   - Shale shaker
   - Trip tank
   - Suction pit
   - Rig floor
   - Cellar
   - Choke manifold
   - Living Quarters (usually the company man's trailer stairs.)

   Visual warning systems:

A. Wind direction indicators as shown on well site diagram

B. Caution/ Danger signs shall be posted on roads providing direct access to locations. Signs will be painted a high visibility yellow with black lettering of sufficient size to be reasonable distance from the immediate location. Bilingual signs will be used when appropriate.

4. Mud program:

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

5. Metallurgy:

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

B. All elastomers used for packing and seals shall be H_2S trim.

6. Communication:

A. Company personnel have/use cellular telephones in the field.

B. Land line (telephone) communications at Office

7. Well testing:

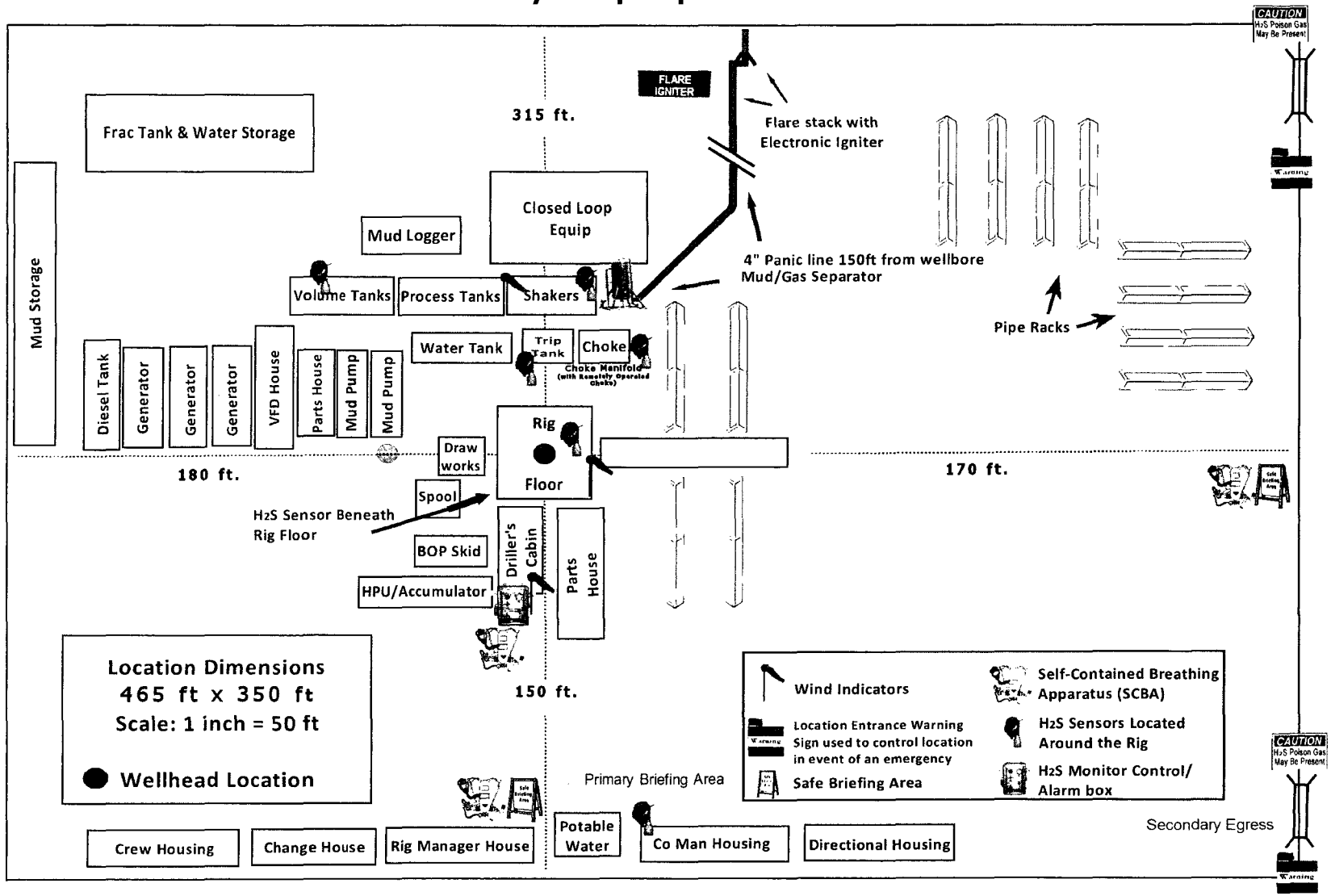
A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safety and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H_2S environment will use the closed chamber method of testing.

B. There will be no drill stem testing.

Devon Energy Corp. Company Call List	
Drilling Supervisor – Basin – Mark Kramer	405-823-4796
EHS Professional – Laura Wright	405-439-8129
Agency Call List	
Lea County (575)	**Hobbs**
	Lea County Communication Authority 393-3981
	State Police 392-5588
	City Police 397-9265
	Sheriff's Office 393-2515
	Ambulance **911**
	Fire Department 397-9308
	LEPC (Local Emergency Planning Committee) 393-2870
	NMOCD 393-6161
	US Bureau of Land Management 393-3612
Eddy County (575)	**Carlsbad**
	State Police 885-3137
	City Police 885-2111
	Sheriff's Office 887-7551
	Ambulance **911**
	Fire Department 885-3125
	LEPC (Local Emergency Planning Committee) 887-3798
	US Bureau of Land Management 887-6544
	NM Emergency Response Commission (Santa Fe) (505) 476-9600
	24 HR (505) 827-9126
	National Emergency Response Center (800) 424-8802

	National Pollution Control Center: Direct		(703) 872-6000
	For Oil Spills		(800) 280-7118
	Emergency Services		
	Wild Well Control		(281) 784-4700
	Cudd Pressure Control	(915) 699-0139	(915) 563-3356
	Halliburton		(575) 746-2757
	B. J. Services		(575) 746-3569
Give GPS position :	Native Air – Emergency Helicopter – Hobbs		(575) 392-6429
	Flight For Life - Lubbock, TX		(806) 743-9911
	Aerocare - Lubbock, TX		(806) 747-8923
	Med Flight Air Amb - Albuquerque, NM		(575) 842-4433
	Lifeguard Air Med Svc. Albuquerque, NM		(800) 222-1222
	Poison Control (24/7)		(575) 272-3115
	Oil & Gas Pipeline 24 Hour Service		(800) 364-4366
	NOAA – Website - www.nhc.noaa.gov		

Devon Energy - Well Pad
Rig Location Layout
Safety Equipment Location



devon

Project: Eddy County, NM (NAD-83)
Site: Tomb Raider 1-12 Fed
Well: 523H
Wellbore: OH
Design: Plan #1

T G M

Azimuths to Grid North
True North: -0.32°
Magnetic North: 6.75°

Magnetic Field
Strength: 48292.1snT
Dip Angle: 60.18°
Date: 11/9/2016
Model: HDGM

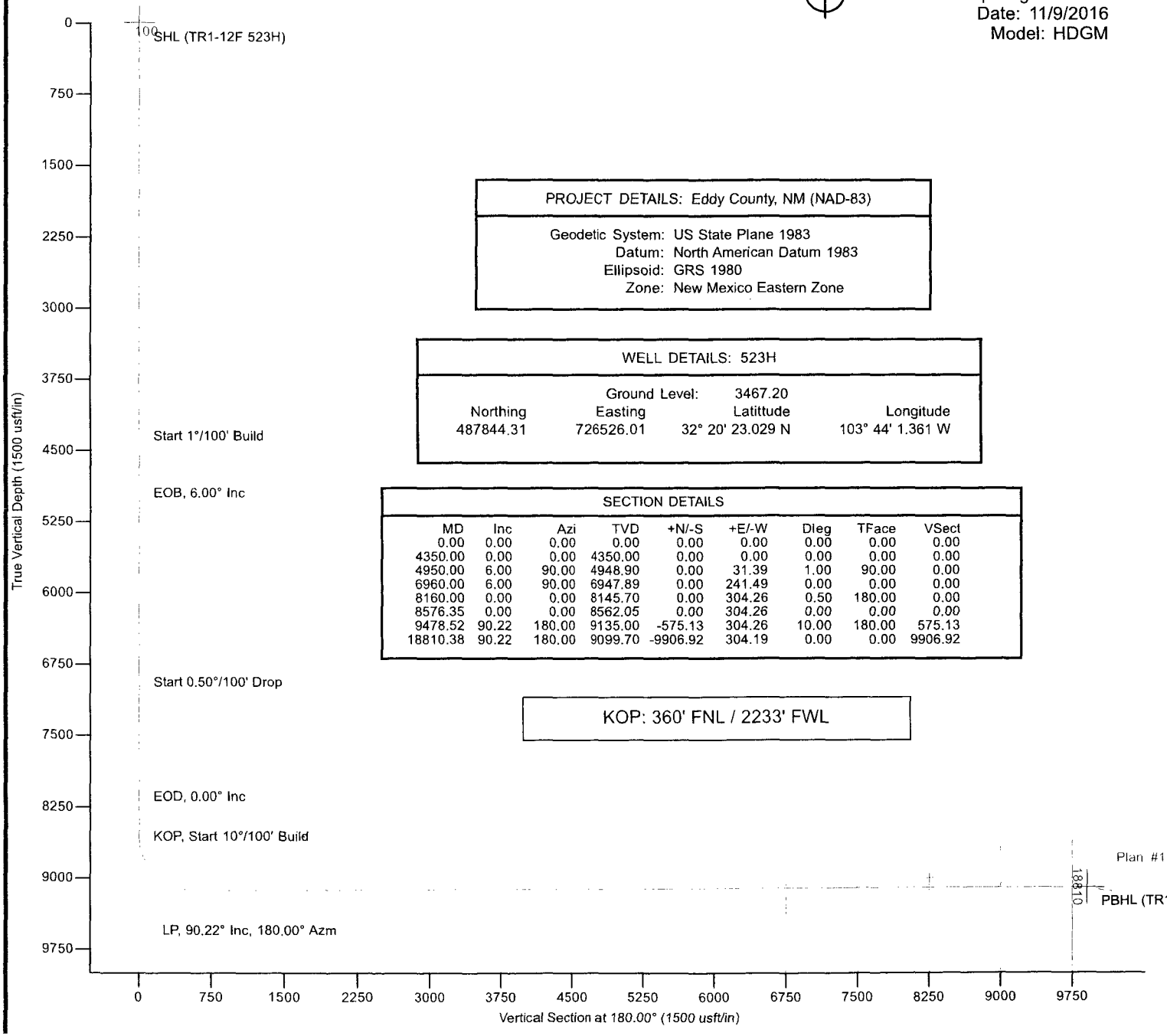
LEAM Drilling Systems LLC

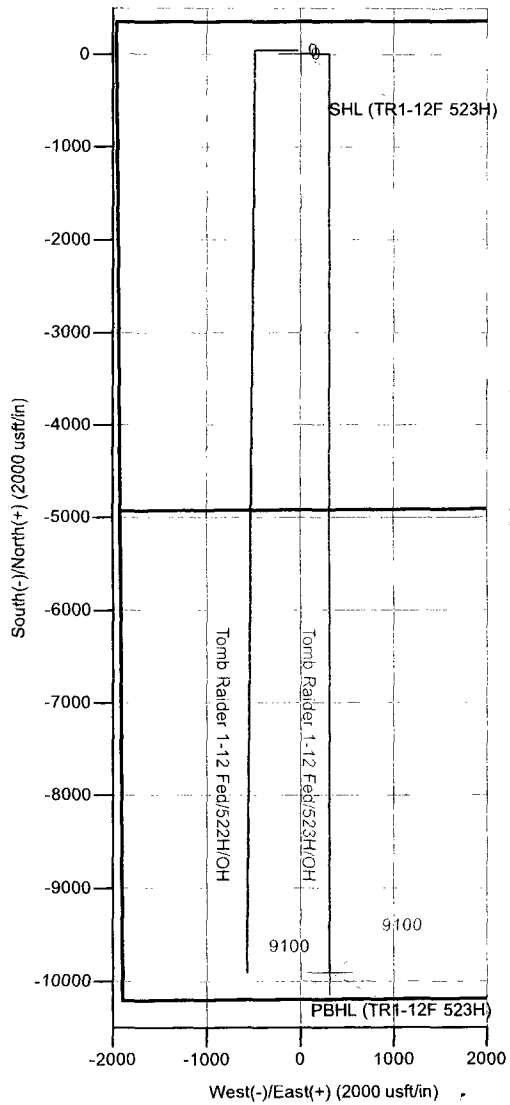
PROJECT DETAILS: Eddy County, NM (NAD-83)	
Geodetic System:	US State Plane 1983
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone:	New Mexico Eastern Zone

WELL DETAILS: 523H			
	Ground Level:	3467.20	
Northing	Easting	Latittude	Longitude
487844.31	726526.01	32° 20' 23.029 N	103° 44' 1.361 W

SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4350.00	0.00	0.00	4350.00	0.00	0.00	0.00	0.00	0.00
4950.00	6.00	90.00	4948.90	0.00	31.39	1.00	90.00	0.00
6960.00	6.00	90.00	6947.89	0.00	241.49	0.00	0.00	0.00
8160.00	0.00	0.00	8145.70	0.00	304.26	0.50	180.00	0.00
8576.35	0.00	0.00	8562.05	0.00	304.26	0.00	0.00	0.00
9478.52	90.22	180.00	9135.00	-575.13	304.26	10.00	180.00	575.13
18810.38	90.22	180.00	9099.70	-9906.92	304.19	0.00	0.00	9906.92

KOP: 360' FNL / 2233' FWL





DEVON ENERGY

Eddy County, NM (NAD-83)
Tomb Raider 1-12 Fed
523H

OH

Plan: Plan #1

Standard Planning Report

09 November, 2016

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 523H
Company:	DEVON ENERGY	**TVD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Project:	Eddy County, NM (NAD-83)	**MD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Site:	Tomb Raider 1-12 Fed	**North Reference:**	Grid
Well:	523H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	*Plan #1*		

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

Site	Tomb Raider 1-12 Fed				
Site Position:		**Northing:**	48,001.23 usft	**Latitude:**	31° 7' 50.249 N
From:	Map	**Easting:**	725,875.87 usft	**Longitude:**	103° 44' 36.698 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.30 °

Well	523H					
Well Position	**+N/-S**	439,843.08 usft	**Northing:**	487,844.31 usft	**Latitude:**	32° 20' 23.029 N
	+E/-W	650.14 usft	**Easting:**	726,526.01 usft	**Longitude:**	103° 44' 1.361 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	3,490.70 usft	**Ground Level:**	3,467.20 usft

Wellbore	OH				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	HDGM	11/9/2016	7.07	60.18	48,292

Design	Plan #1				
Audit Notes:					
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.00	0.00	0.00	180.00	

Plan Sections

Measured **Depth (usft)**	**Inclination (°)**	**Azimuth (°)**	***Vertical*** **Depth (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	***Dogleg*** **Rate (°/100usft)**	***Build*** **Rate (°/100usft)**	***Turn*** **Rate (°/100usft)**	**TFO (°)**	**Target**
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,350.00	0.00	0.00	4,350.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,950.00	6.00	90.00	4,948.90	0.00	31.39	1.00	1.00	0.00	90.00	
6,960.00	6.00	90.00	6,947.89	0.00	241.49	0.00	0.00	0.00	0.00	
8,160.00	0.00	0.00	8,145.70	0.00	304.26	0.50	-0.50	0.00	180.00	
8,576.35	0.00	0.00	8,562.05	0.00	304.26	0.00	0.00	0.00	0.00	
9,478.52	90.22	180.00	9,135.00	-575.13	304.26	10.00	10.00	-19.95	180.00	
18,810.38	90.22	180.00	9,099.70	-9,906.92	304.19	0.00	0.00	0.00	0.00	PBHL (TR1-12F 523H

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 523H
Company:	DEVON ENERGY	**TVD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Project:	Eddy County, NM (NAD-83)	**MD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Site:	Tomb Raider 1-12 Fed	**North Reference:**	Grid
Well:	523H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHL (TR1-12F 523H)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
685.70	0.00	0.00	685.70	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,140.70	0.00	0.00	1,140.70	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	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
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,222.70	0.00	0.00	4,222.70	0.00	0.00	0.00	0.00	0.00	0.00
Base Salt									
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,350.00	0.00	0.00	4,350.00	0.00	0.00	0.00	0.00	0.00	0.00
Start 1°/100' Build									
4,400.00	0.50	90.00	4,400.00	0.00	0.22	0.00	1.00	1.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 523H
Company:	DEVON ENERGY	**TVD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Project:	Eddy County, NM (NAD-83)	**MD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Site:	Tomb Raider 1-12 Fed	**North Reference:**	Grid
Well:	523H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,478.71	1.29	90.00	4,478.70	0.00	1.45	0.00	1.00	1.00	0.00
Delaware									
4,500.00	1.50	90.00	4,499.98	0.00	1.96	0.00	1.00	1.00	0.00
4,520.73	1.71	90.00	4,520.70	0.00	2.54	0.00	1.00	1.00	0.00
Bell Canyon									
4,600.00	2.50	90.00	4,599.92	0.00	5.45	0.00	1.00	1.00	0.00
4,700.00	3.50	90.00	4,699.78	0.00	10.69	0.00	1.00	1.00	0.00
4,800.00	4.50	90.00	4,799.54	0.00	17.66	0.00	1.00	1.00	0.00
4,900.00	5.50	90.00	4,899.16	0.00	26.38	0.00	1.00	1.00	0.00
4,950.00	6.00	90.00	4,948.90	0.00	31.39	0.00	1.00	1.00	0.00
EOB, 6.00° Inc									
5,000.00	6.00	90.00	4,998.63	0.00	36.61	0.00	0.00	0.00	0.00
5,100.00	6.00	90.00	5,098.08	0.00	47.07	0.00	0.00	0.00	0.00
5,200.00	6.00	90.00	5,197.53	0.00	57.52	0.00	0.00	0.00	0.00
5,300.00	6.00	90.00	5,296.99	0.00	67.97	0.00	0.00	0.00	0.00
5,400.00	6.00	90.00	5,396.44	0.00	78.43	0.00	0.00	0.00	0.00
5,404.28	6.00	90.00	5,400.70	0.00	78.87	0.00	0.00	0.00	0.00
Cherry Canyon									
5,500.00	6.00	90.00	5,495.89	0.00	88.88	0.00	0.00	0.00	0.00
5,600.00	6.00	90.00	5,595.34	0.00	99.33	0.00	0.00	0.00	0.00
5,700.00	6.00	90.00	5,694.80	0.00	109.78	0.00	0.00	0.00	0.00
5,800.00	6.00	90.00	5,794.25	0.00	120.24	0.00	0.00	0.00	0.00
5,900.00	6.00	90.00	5,893.70	0.00	130.69	0.00	0.00	0.00	0.00
6,000.00	6.00	90.00	5,993.15	0.00	141.14	0.00	0.00	0.00	0.00
6,100.00	6.00	90.00	6,092.60	0.00	151.59	0.00	0.00	0.00	0.00
6,200.00	6.00	90.00	6,192.06	0.00	162.05	0.00	0.00	0.00	0.00
6,300.00	6.00	90.00	6,291.51	0.00	172.50	0.00	0.00	0.00	0.00
6,400.00	6.00	90.00	6,390.96	0.00	182.95	0.00	0.00	0.00	0.00
6,500.00	6.00	90.00	6,490.41	0.00	193.41	0.00	0.00	0.00	0.00
6,600.00	6.00	90.00	6,589.87	0.00	203.86	0.00	0.00	0.00	0.00
6,648.10	6.00	90.00	6,637.70	0.00	208.89	0.00	0.00	0.00	0.00
Brushy Canyon									
6,700.00	6.00	90.00	6,689.32	0.00	214.31	0.00	0.00	0.00	0.00
6,800.00	6.00	90.00	6,788.77	0.00	224.76	0.00	0.00	0.00	0.00
6,900.00	6.00	90.00	6,888.22	0.00	235.22	0.00	0.00	0.00	0.00
6,960.00	6.00	90.00	6,947.89	0.00	241.49	0.00	0.00	0.00	0.00
Start 0.50°/100' Drop									
7,000.00	5.80	90.00	6,987.68	0.00	245.60	0.00	0.50	-0.50	0.00
7,100.00	5.30	90.00	7,087.21	0.00	255.27	0.00	0.50	-0.50	0.00
7,200.00	4.80	90.00	7,186.82	0.00	264.08	0.00	0.50	-0.50	0.00
7,300.00	4.30	90.00	7,286.51	0.00	272.01	0.00	0.50	-0.50	0.00
7,400.00	3.80	90.00	7,386.26	0.00	279.07	0.00	0.50	-0.50	0.00
7,500.00	3.30	90.00	7,486.07	0.00	285.26	0.00	0.50	-0.50	0.00
7,600.00	2.80	90.00	7,585.92	0.00	290.58	0.00	0.50	-0.50	0.00
7,700.00	2.30	90.00	7,685.82	0.00	295.03	0.00	0.50	-0.50	0.00
7,800.00	1.80	90.00	7,785.76	0.00	298.61	0.00	0.50	-0.50	0.00
7,900.00	1.30	90.00	7,885.72	0.00	301.31	0.00	0.50	-0.50	0.00
8,000.00	0.80	90.00	7,985.71	0.00	303.15	0.00	0.50	-0.50	0.00
8,100.00	0.30	90.00	8,085.70	0.00	304.11	0.00	0.50	-0.50	0.00
8,160.00	0.00	0.00	8,145.70	0.00	304.26	0.00	0.50	-0.50	0.00
EOD, 0.00° Inc									
8,200.00	0.00	0.00	8,185.70	0.00	304.26	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,285.70	0.00	304.26	0.00	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 523H
Company:	DEVON ENERGY	**TVD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Project:	Eddy County, NM (NAD-83)	**MD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Site:	Tomb Raider 1-12 Fed	**North Reference:**	Grid
Well:	523H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,395.00	0.00	0.00	8,380.70	0.00	304.26	0.00	0.00	0.00	0.00
1st BS LM									
8,400.00	0.00	0.00	8,385.70	0.00	304.26	0.00	0.00	0.00	0.00
8,439.00	0.00	0.00	8,424.70	0.00	304.26	0.00	0.00	0.00	0.00
Leonard A									
8,500.00	0.00	0.00	8,485.70	0.00	304.26	0.00	0.00	0.00	0.00
8,576.35	0.00	0.00	8,562.05	0.00	304.26	0.00	0.00	0.00	0.00
KOP, Start 10°/100' Build									
8,600.00	2.37	180.00	8,585.69	-0.49	304.26	0.49	10.00	10.00	0.00
8,650.00	7.37	180.00	8,635.50	-4.73	304.26	4.73	10.00	10.00	0.00
8,700.00	12.37	180.00	8,684.74	-13.29	304.26	13.29	10.00	10.00	0.00
8,750.00	17.37	180.00	8,733.05	-26.11	304.26	26.11	10.00	10.00	0.00
8,800.00	22.37	180.00	8,780.06	-43.10	304.26	43.10	10.00	10.00	0.00
8,850.00	27.37	180.00	8,825.42	-64.12	304.26	64.12	10.00	10.00	0.00
8,900.00	32.37	180.00	8,868.76	-89.01	304.26	89.01	10.00	10.00	0.00
8,950.00	37.37	180.00	8,909.77	-117.58	304.26	117.58	10.00	10.00	0.00
8,995.95	41.96	180.00	8,945.14	-146.90	304.26	146.90	10.00	10.00	0.00
Leonard B									
9,000.00	42.37	180.00	8,948.14	-149.62	304.26	149.62	10.00	10.00	0.00
9,050.00	47.37	180.00	8,983.57	-184.88	304.26	184.88	10.00	10.00	0.00
9,100.00	52.37	180.00	9,015.79	-223.09	304.26	223.09	10.00	10.00	0.00
9,150.00	57.37	180.00	9,044.55	-263.97	304.26	263.97	10.00	10.00	0.00
9,200.00	62.37	180.00	9,069.65	-307.20	304.26	307.20	10.00	10.00	0.00
9,250.00	67.37	180.00	9,090.88	-352.45	304.26	352.45	10.00	10.00	0.00
9,300.00	72.37	180.00	9,108.08	-399.38	304.26	399.38	10.00	10.00	0.00
9,350.00	77.37	180.00	9,121.13	-447.63	304.26	447.63	10.00	10.00	0.00
9,400.00	82.37	180.00	9,129.93	-496.83	304.26	496.83	10.00	10.00	0.00
9,450.00	87.37	180.00	9,134.40	-546.62	304.26	546.62	10.00	10.00	0.00
9,478.52	90.22	180.00	9,135.00	-575.13	304.26	575.13	10.00	10.00	0.00
LP, 90.22° Inc, 180.00° Azm									
9,500.00	90.22	180.00	9,134.92	-596.61	304.26	596.61	0.00	0.00	0.00
9,600.00	90.22	180.00	9,134.55	-696.61	304.26	696.61	0.00	0.00	0.00
9,700.00	90.22	180.00	9,134.17	-796.61	304.26	796.61	0.00	0.00	0.00
9,800.00	90.22	180.00	9,133.79	-896.61	304.26	896.61	0.00	0.00	0.00
9,900.00	90.22	180.00	9,133.41	-996.60	304.26	996.60	0.00	0.00	0.00
10,000.00	90.22	180.00	9,133.03	-1,096.60	304.26	1,096.60	0.00	0.00	0.00
10,100.00	90.22	180.00	9,132.65	-1,196.60	304.26	1,196.60	0.00	0.00	0.00
10,200.00	90.22	180.00	9,132.28	-1,296.60	304.25	1,296.60	0.00	0.00	0.00
10,300.00	90.22	180.00	9,131.90	-1,396.60	304.25	1,396.60	0.00	0.00	0.00
10,400.00	90.22	180.00	9,131.52	-1,496.60	304.25	1,496.60	0.00	0.00	0.00
10,500.00	90.22	180.00	9,131.14	-1,596.60	304.25	1,596.60	0.00	0.00	0.00
10,600.00	90.22	180.00	9,130.76	-1,696.60	304.25	1,696.60	0.00	0.00	0.00
10,700.00	90.22	180.00	9,130.38	-1,796.60	304.25	1,796.60	0.00	0.00	0.00
10,800.00	90.22	180.00	9,130.01	-1,896.60	304.25	1,896.60	0.00	0.00	0.00
10,900.00	90.22	180.00	9,129.63	-1,996.60	304.25	1,996.60	0.00	0.00	0.00
11,000.00	90.22	180.00	9,129.25	-2,096.60	304.25	2,096.60	0.00	0.00	0.00
11,100.00	90.22	180.00	9,128.87	-2,196.60	304.25	2,196.60	0.00	0.00	0.00
11,200.00	90.22	180.00	9,128.49	-2,296.60	304.25	2,296.60	0.00	0.00	0.00
11,300.00	90.22	180.00	9,128.11	-2,396.59	304.25	2,396.59	0.00	0.00	0.00
11,400.00	90.22	180.00	9,127.74	-2,496.59	304.25	2,496.59	0.00	0.00	0.00
11,500.00	90.22	180.00	9,127.36	-2,596.59	304.25	2,596.59	0.00	0.00	0.00
11,600.00	90.22	180.00	9,126.98	-2,696.59	304.24	2,696.59	0.00	0.00	0.00
11,700.00	90.22	180.00	9,126.60	-2,796.59	304.24	2,796.59	0.00	0.00	0.00
11,800.00	90.22	180.00	9,126.22	-2,896.59	304.24	2,896.59	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	***Local Co-ordinate Reference:***	Well 523H
Company:	DEVON ENERGY	**TVD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Project:	Eddy County, NM (NAD-83)	**MD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Site:	Tomb Raider 1-12 Fed	**North Reference:**	Grid
Well:	523H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,900.00	90.22	180.00	9,125.84	-2,996.59	304.24	2,996.59	0.00	0.00	0.00
12,000.00	90.22	180.00	9,125.47	-3,096.59	304.24	3,096.59	0.00	0.00	0.00
12,100.00	90.22	180.00	9,125.09	-3,196.59	304.24	3,196.59	0.00	0.00	0.00
12,200.00	90.22	180.00	9,124.71	-3,296.59	304.24	3,296.59	0.00	0.00	0.00
12,300.00	90.22	180.00	9,124.33	-3,396.59	304.24	3,396.59	0.00	0.00	0.00
12,400.00	90.22	180.00	9,123.95	-3,496.59	304.24	3,496.59	0.00	0.00	0.00
12,500.00	90.22	180.00	9,123.57	-3,596.59	304.24	3,596.59	0.00	0.00	0.00
12,600.00	90.22	180.00	9,123.20	-3,696.59	304.24	3,696.59	0.00	0.00	0.00
12,700.00	90.22	180.00	9,122.82	-3,796.58	304.24	3,796.58	0.00	0.00	0.00
12,800.00	90.22	180.00	9,122.44	-3,896.58	304.24	3,896.58	0.00	0.00	0.00
12,900.00	90.22	180.00	9,122.06	-3,996.58	304.23	3,996.58	0.00	0.00	0.00
13,000.00	90.22	180.00	9,121.68	-4,096.58	304.23	4,096.58	0.00	0.00	0.00
13,100.00	90.22	180.00	9,121.30	-4,196.58	304.23	4,196.58	0.00	0.00	0.00
13,200.00	90.22	180.00	9,120.93	-4,296.58	304.23	4,296.58	0.00	0.00	0.00
13,300.00	90.22	180.00	9,120.55	-4,396.58	304.23	4,396.58	0.00	0.00	0.00
13,400.00	90.22	180.00	9,120.17	-4,496.58	304.23	4,496.58	0.00	0.00	0.00
13,500.00	90.22	180.00	9,119.79	-4,596.58	304.23	4,596.58	0.00	0.00	0.00
13,600.00	90.22	180.00	9,119.41	-4,696.58	304.23	4,696.58	0.00	0.00	0.00
13,700.00	90.22	180.00	9,119.03	-4,796.58	304.23	4,796.58	0.00	0.00	0.00
13,800.00	90.22	180.00	9,118.66	-4,896.58	304.23	4,896.58	0.00	0.00	0.00
13,900.00	90.22	180.00	9,118.28	-4,996.58	304.23	4,996.58	0.00	0.00	0.00
14,000.00	90.22	180.00	9,117.90	-5,096.58	304.23	5,096.58	0.00	0.00	0.00
14,100.00	90.22	180.00	9,117.52	-5,196.57	304.23	5,196.57	0.00	0.00	0.00
14,200.00	90.22	180.00	9,117.14	-5,296.57	304.23	5,296.57	0.00	0.00	0.00
14,300.00	90.22	180.00	9,116.76	-5,396.57	304.22	5,396.57	0.00	0.00	0.00
14,400.00	90.22	180.00	9,116.39	-5,496.57	304.22	5,496.57	0.00	0.00	0.00
14,500.00	90.22	180.00	9,116.01	-5,596.57	304.22	5,596.57	0.00	0.00	0.00
14,600.00	90.22	180.00	9,115.63	-5,696.57	304.22	5,696.57	0.00	0.00	0.00
14,700.00	90.22	180.00	9,115.25	-5,796.57	304.22	5,796.57	0.00	0.00	0.00
14,800.00	90.22	180.00	9,114.87	-5,896.57	304.22	5,896.57	0.00	0.00	0.00
14,900.00	90.22	180.00	9,114.49	-5,996.57	304.22	5,996.57	0.00	0.00	0.00
15,000.00	90.22	180.00	9,114.12	-6,096.57	304.22	6,096.57	0.00	0.00	0.00
15,100.00	90.22	180.00	9,113.74	-6,196.57	304.22	6,196.57	0.00	0.00	0.00
15,200.00	90.22	180.00	9,113.36	-6,296.57	304.22	6,296.57	0.00	0.00	0.00
15,300.00	90.22	180.00	9,112.98	-6,396.57	304.22	6,396.57	0.00	0.00	0.00
15,400.00	90.22	180.00	9,112.60	-6,496.57	304.22	6,496.57	0.00	0.00	0.00
15,500.00	90.22	180.00	9,112.22	-6,596.56	304.22	6,596.56	0.00	0.00	0.00
15,600.00	90.22	180.00	9,111.85	-6,696.56	304.22	6,696.56	0.00	0.00	0.00
15,700.00	90.22	180.00	9,111.47	-6,796.56	304.21	6,796.56	0.00	0.00	0.00
15,800.00	90.22	180.00	9,111.09	-6,896.56	304.21	6,896.56	0.00	0.00	0.00
15,900.00	90.22	180.00	9,110.71	-6,996.56	304.21	6,996.56	0.00	0.00	0.00
16,000.00	90.22	180.00	9,110.33	-7,096.56	304.21	7,096.56	0.00	0.00	0.00
16,100.00	90.22	180.00	9,109.95	-7,196.56	304.21	7,196.56	0.00	0.00	0.00
16,200.00	90.22	180.00	9,109.58	-7,296.56	304.21	7,296.56	0.00	0.00	0.00
16,300.00	90.22	180.00	9,109.20	-7,396.56	304.21	7,396.56	0.00	0.00	0.00
16,400.00	90.22	180.00	9,108.82	-7,496.56	304.21	7,496.56	0.00	0.00	0.00
16,500.00	90.22	180.00	9,108.44	-7,596.56	304.21	7,596.56	0.00	0.00	0.00
16,600.00	90.22	180.00	9,108.06	-7,696.56	304.21	7,696.56	0.00	0.00	0.00
16,700.00	90.22	180.00	9,107.68	-7,796.56	304.21	7,796.56	0.00	0.00	0.00
16,800.00	90.22	180.00	9,107.31	-7,896.56	304.21	7,896.56	0.00	0.00	0.00
16,900.00	90.22	180.00	9,106.93	-7,996.55	304.21	7,996.55	0.00	0.00	0.00
17,000.00	90.22	180.00	9,106.55	-8,096.55	304.21	8,096.55	0.00	0.00	0.00
17,100.00	90.22	180.00	9,106.17	-8,196.55	304.20	8,196.55	0.00	0.00	0.00
17,200.00	90.22	180.00	9,105.79	-8,296.55	304.20	8,296.55	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 523H
Company:	DEVON ENERGY	**TVD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Project:	Eddy County, NM (NAD-83)	**MD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Site:	Tomb Raider 1-12 Fed	**North Reference:**	Grid
Well:	523H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,300.00	90.22	180.00	9,105.41	-8,396.55	304.20	8,396.55	0.00	0.00	0.00
17,400.00	90.22	180.00	9,105.04	-8,496.55	304.20	8,496.55	0.00	0.00	0.00
17,500.00	90.22	180.00	9,104.66	-8,596.55	304.20	8,596.55	0.00	0.00	0.00
17,600.00	90.22	180.00	9,104.28	-8,696.55	304.20	8,696.55	0.00	0.00	0.00
17,700.00	90.22	180.00	9,103.90	-8,796.55	304.20	8,796.55	0.00	0.00	0.00
17,800.00	90.22	180.00	9,103.52	-8,896.55	304.20	8,896.55	0.00	0.00	0.00
17,900.00	90.22	180.00	9,103.14	-8,996.55	304.20	8,996.55	0.00	0.00	0.00
18,000.00	90.22	180.00	9,102.77	-9,096.55	304.20	9,096.55	0.00	0.00	0.00
18,100.00	90.22	180.00	9,102.39	-9,196.55	304.20	9,196.55	0.00	0.00	0.00
18,200.00	90.22	180.00	9,102.01	-9,296.55	304.20	9,296.55	0.00	0.00	0.00
18,300.00	90.22	180.00	9,101.63	-9,396.54	304.20	9,396.54	0.00	0.00	0.00
18,400.00	90.22	180.00	9,101.25	-9,496.54	304.20	9,496.54	0.00	0.00	0.00
18,500.00	90.22	180.00	9,100.87	-9,596.54	304.19	9,596.54	0.00	0.00	0.00
18,600.00	90.22	180.00	9,100.50	-9,696.54	304.19	9,696.54	0.00	0.00	0.00
18,700.00	90.22	180.00	9,100.12	-9,796.54	304.19	9,796.54	0.00	0.00	0.00
18,800.00	90.22	180.00	9,099.74	-9,896.54	304.19	9,896.54	0.00	0.00	0.00
18,810.38	90.22	180.00	9,099.70	-9,906.92	304.19	9,906.92	0.00	0.00	0.00
TD at 18810.38' MD - PBHL (TR1-12F 523H)									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (TR1-12F 523H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	487,844.31	726,526.01	32° 20' 23.029 N	103° 44' 1.361 W
PBHL (TR1-12F 523H) - plan hits target center - Point	0.00	0.00	9,099.70	-9,906.92	304.19	477,937.39	726,830.20	32° 18' 44.980 N	103° 43' 58.462 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
685.70	685.70	Rustler		-0.22	180.00
1,140.70	1,140.70	Salado		-0.22	180.00
4,222.70	4,222.70	Base Salt		-0.22	180.00
4,478.71	4,478.70	Delaware		-0.22	180.00
4,520.73	4,520.70	Bell Canyon		-0.22	180.00
5,404.28	5,400.70	Cherry Canyon		-0.22	180.00
6,648.10	6,637.70	Brushy Canyon		-0.22	180.00
8,395.00	8,380.70	1st BS LM		-0.22	180.00
8,439.00	8,424.70	Leonard A		-0.22	180.00
8,995.95	8,945.14	Leonard B		-0.22	180.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 523H
Company:	DEVON ENERGY	**TVD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Project:	Eddy County, NM (NAD-83)	**MD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Site:	Tomb Raider 1-12 Fed	**North Reference:**	Grid
Well:	523H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
4,350.00	4,350.00	0.00	0.00	Start 1°/100' Build
4,950.00	4,948.90	0.00	31.39	EOB, 6.00° Inc
6,960.00	6,947.89	0.00	241.49	Start 0.50°/100' Drop
8,160.00	8,145.70	0.00	304.26	EOD, 0.00° Inc
8,576.35	8,562.05	0.00	304.26	KOP, Start 10°/100' Build
9,478.52	9,135.00	-575.13	304.26	LP, 90.22° Inc, 180.00° Azm
18,810.38	9,099.70	-9,906.92	304.19	TD at 18810.38' MD

DEVON ENERGY

Eddy County, NM (NAD-83)
Tomb Raider 1-12 Fed
523H

OH
Plan #1

Anticollision Report

09 November, 2016

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	**Local Co-ordinate Reference:**	Well 523H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Reference Site:	Tomb Raider 1-12 Fed	**MD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	523H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.00usft	**Error Model:**	ISCWSA
Depth Range:	*Unlimited*	***Scan Method:***	*Closest Approach 3D*
Results Limited by:	Maximum center-center distance of 9,999.98 usft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program ***Date*** 11/9/2016

From (usft)	To (usft)	*Survey (Wellbore)*	*Tool Name*	*Description*
0.00	18,810.03	Plan #1 (OH)	LEAM MWD-ADJ	MWD - Standard

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Tomb Raider 1-12 Fed						
522H - OH - Plan #1	4,300.00	4,300.00	49.92	30.86	2.620	CC
522H - OH - Plan #1	4,400.00	4,399.60	50.24	30.76	2.578	ES
522H - OH - Plan #1	18,810.38	18,858.68	879.92	516.36	2.420	SF

Offset Design Tomb Raider 1-12 Fed - 522H - OH - Plan #1 — **Offset Site Error:** 0.00 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-36.97	39.88	-30.02	49.92				
100.00	100.00	100.00	100.00	0.09	0.09	-36.97	39.88	-30.02	49.92	49.74	0.17	290.300	
200.00	200.00	200.00	200.00	0.31	0.31	-36.97	39.88	-30.02	49.92	49.29	0.62	80.318	
300.00	300.00	300.00	300.00	0.54	0.54	-36.97	39.88	-30.02	49.92	48.85	1.07	46.607	
400.00	400.00	400.00	400.00	0.76	0.76	-36.97	39.88	-30.02	49.92	48.40	1.52	32.828	
500.00	500.00	500.00	500.00	0.99	0.99	-36.97	39.88	-30.02	49.92	47.95	1.97	25.337	
600.00	600.00	600.00	600.00	1.21	1.21	-36.97	39.88	-30.02	49.92	47.50	2.42	20.630	
700.00	700.00	700.00	700.00	1.43	1.43	-36.97	39.88	-30.02	49.92	47.05	2.87	17.398	
800.00	800.00	800.00	800.00	1.66	1.66	-36.97	39.88	-30.02	49.92	46.60	3.32	15.041	
900.00	900.00	900.00	900.00	1.88	1.88	-36.97	39.88	-30.02	49.92	46.15	3.77	13.247	
1,000.00	1,000.00	1,000.00	1,000.00	2.11	2.11	-36.97	39.88	-30.02	49.92	45.70	4.22	11.835	
1,100.00	1,100.00	1,100.00	1,100.00	2.33	2.33	-36.97	39.88	-30.02	49.92	45.25	4.67	10.695	
1,200.00	1,200.00	1,200.00	1,200.00	2.56	2.56	-36.97	39.88	-30.02	49.92	44.80	5.12	9.755	
1,300.00	1,300.00	1,300.00	1,300.00	2.78	2.78	-36.97	39.88	-30.02	49.92	44.35	5.57	8.968	
1,400.00	1,400.00	1,400.00	1,400.00	3.01	3.01	-36.97	39.88	-30.02	49.92	43.90	6.02	8.297	
1,500.00	1,500.00	1,500.00	1,500.00	3.23	3.23	-36.97	39.88	-30.02	49.92	43.45	6.47	7.720	
1,600.00	1,600.00	1,600.00	1,600.00	3.46	3.46	-36.97	39.88	-30.02	49.92	43.00	6.91	7.219	
1,700.00	1,700.00	1,700.00	1,700.00	3.68	3.68	-36.97	39.88	-30.02	49.92	42.55	7.36	6.778	
1,800.00	1,800.00	1,800.00	1,800.00	3.91	3.91	-36.97	39.88	-30.02	49.92	42.10	7.81	6.388	
1,900.00	1,900.00	1,900.00	1,900.00	4.13	4.13	-36.97	39.88	-30.02	49.92	41.65	8.26	6.041	
2,000.00	2,000.00	2,000.00	2,000.00	4.36	4.36	-36.97	39.88	-30.02	49.92	41.20	8.71	5.729	
2,100.00	2,100.00	2,100.00	2,100.00	4.58	4.58	-36.97	39.88	-30.02	49.92	40.75	9.16	5.448	
2,200.00	2,200.00	2,200.00	2,200.00	4.81	4.81	-36.97	39.88	-30.02	49.92	40.30	9.61	5.193	
2,300.00	2,300.00	2,300.00	2,300.00	5.03	5.03	-36.97	39.88	-30.02	49.92	39.85	10.06	4.961	

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	**Local Co-ordinate Reference:**	Well 523H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Reference Site:	Tomb Raider 1-12 Fed	**MD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	523H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Tomb Raider 1-12 Fed - 522H - OH - Plan #1 — **Offset Site Error:** 0.00 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,400.00	2,400.00	2,400.00	2,400.00	5.26	5.26	-36.97	39.88	-30.02	49.92	39.40	10.51	4.749	
2,500.00	2,500.00	2,500.00	2,500.00	5.48	5.48	-36.97	39.88	-30.02	49.92	38.96	10.96	4.554	
2,600.00	2,600.00	2,600.00	2,600.00	5.71	5.71	-36.97	39.88	-30.02	49.92	38.51	11.41	4.375	
2,700.00	2,700.00	2,700.00	2,700.00	5.93	5.93	-36.97	39.88	-30.02	49.92	38.06	11.86	4.209	
2,800.00	2,800.00	2,800.00	2,800.00	6.15	6.15	-36.97	39.88	-30.02	49.92	37.61	12.31	4.055	
2,900.00	2,900.00	2,900.00	2,900.00	6.38	6.38	-36.97	39.88	-30.02	49.92	37.16	12.76	3.912	
3,000.00	3,000.00	3,000.00	3,000.00	6.60	6.60	-36.97	39.88	-30.02	49.92	36.71	13.21	3.779	
3,100.00	3,100.00	3,100.00	3,100.00	6.83	6.83	-36.97	39.88	-30.02	49.92	36.26	13.66	3.655	
3,200.00	3,200.00	3,200.00	3,200.00	7.05	7.05	-36.97	39.88	-30.02	49.92	35.81	14.11	3.538	
3,300.00	3,300.00	3,300.00	3,300.00	7.28	7.28	-36.97	39.88	-30.02	49.92	35.36	14.56	3.429	
3,400.00	3,400.00	3,400.00	3,400.00	7.50	7.50	-36.97	39.88	-30.02	49.92	34.91	15.01	3.326	
3,500.00	3,500.00	3,500.00	3,500.00	7.73	7.73	-36.97	39.88	-30.02	49.92	34.46	15.46	3.230	
3,600.00	3,600.00	3,600.00	3,600.00	7.95	7.95	-36.97	39.88	-30.02	49.92	34.01	15.91	3.138	
3,700.00	3,700.00	3,700.00	3,700.00	8.18	8.18	-36.97	39.88	-30.02	49.92	33.56	16.36	3.052	
3,800.00	3,800.00	3,800.00	3,800.00	8.40	8.40	-36.97	39.88	-30.02	49.92	33.11	16.80	2.970	
3,900.00	3,900.00	3,900.00	3,900.00	8.63	8.63	-36.97	39.88	-30.02	49.92	32.66	17.25	2.893	
4,000.00	4,000.00	4,000.00	4,000.00	8.85	8.85	-36.97	39.88	-30.02	49.92	32.21	17.70	2.820	
4,100.00	4,100.00	4,100.00	4,100.00	9.08	9.08	-36.97	39.88	-30.02	49.92	31.76	18.15	2.750	
4,200.00	4,200.00	4,200.00	4,200.00	9.30	9.30	-36.97	39.88	-30.02	49.92	31.31	18.60	2.683	
4,300.00	4,300.00	4,300.00	4,300.00	9.53	9.53	-36.97	39.88	-30.02	49.92	30.86	19.05	2.620	CC
4,328.15	4,328.15	4,328.15	4,328.15	9.59	9.59	-127.00	39.88	-30.02	49.94	30.76	19.18	2.604	
4,400.00	4,400.00	4,399.60	4,399.60	9.74	9.74	-127.46	39.88	-30.34	50.24	30.76	19.49	2.578	ES
4,500.00	4,499.98	4,498.66	4,498.62	9.94	9.94	-131.13	39.88	-32.91	53.00	33.12	19.88	2.666	
4,600.00	4,599.92	4,597.28	4,597.10	10.14	10.14	-137.36	39.88	-38.02	59.06	38.80	20.26	2.915	
4,700.00	4,699.78	4,695.15	4,694.68	10.34	10.34	-144.48	39.88	-45.60	69.17	48.53	20.64	3.351	
4,800.00	4,799.54	4,792.01	4,791.03	10.55	10.54	-151.13	39.88	-55.57	83.82	62.80	21.02	3.988	
4,900.00	4,899.16	4,887.69	4,885.92	10.76	10.75	-156.67	39.88	-67.80	103.13	81.75	21.38	4.824	
5,000.00	4,998.63	4,984.78	4,982.06	10.97	10.96	-160.96	39.88	-81.31	125.58	103.83	21.75	5.773	
5,100.00	5,098.08	5,081.80	5,078.14	11.19	11.19	-163.99	39.88	-94.82	148.72	126.58	22.15	6.715	
5,200.00	5,197.53	5,178.83	5,174.23	11.41	11.42	-166.21	39.88	-108.32	172.15	149.61	22.54	7.636	
5,300.00	5,296.99	5,275.86	5,270.31	11.63	11.65	-167.90	39.88	-121.82	195.77	172.82	22.94	8.532	
5,400.00	5,396.44	5,372.89	5,366.40	11.86	11.89	-169.22	39.88	-135.33	219.51	196.16	23.35	9.402	
5,500.00	5,495.89	5,469.92	5,462.48	12.09	12.13	-170.28	39.88	-148.83	243.33	219.58	23.75	10.245	
5,600.00	5,595.34	5,566.95	5,558.57	12.33	12.37	-171.16	39.88	-162.33	267.23	243.07	24.16	11.060	
5,700.00	5,694.80	5,663.98	5,654.65	12.56	12.62	-171.89	39.88	-175.84	291.17	266.60	24.57	11.850	
5,800.00	5,794.25	5,761.01	5,750.74	12.80	12.88	-172.51	39.88	-189.34	315.15	290.17	24.98	12.614	
5,900.00	5,893.70	5,858.04	5,846.82	13.04	13.13	-173.04	39.88	-202.85	339.17	313.77	25.40	13.353	
6,000.00	5,993.15	5,955.07	5,942.91	13.28	13.39	-173.50	39.88	-216.35	363.20	337.39	25.82	14.068	
6,100.00	6,092.60	6,052.10	6,039.00	13.53	13.65	-173.91	39.88	-229.85	387.26	361.02	26.24	14.761	
6,200.06	6,192.06	6,149.13	6,135.08	13.77	13.92	-174.27	39.88	-243.36	411.33	384.67	26.66	15.431	
6,300.00	6,291.51	6,246.16	6,231.17	14.02	14.19	-174.58	39.88	-256.86	435.41	408.33	27.08	16.079	
6,400.00	6,390.96	6,343.19	6,327.25	14.27	14.46	-174.87	39.88	-270.37	459.51	432.01	27.50	16.708	
6,500.00	6,490.41	6,440.22	6,423.34	14.52	14.73	-175.13	39.88	-283.87	483.61	455.69	27.93	17.316	
6,600.00	6,589.87	6,537.25	6,519.42	14.78	15.01	-175.36	39.88	-297.37	507.73	479.37	28.36	17.906	
6,700.00	6,689.32	6,634.28	6,615.51	15.03	15.29	-175.57	39.88	-310.88	531.85	503.06	28.78	18.477	
6,800.00	6,788.77	6,731.31	6,711.59	15.29	15.57	-175.76	39.88	-324.38	555.98	526.76	29.21	19.031	
6,900.00	6,888.22	6,828.34	6,807.68	15.54	15.85	-175.94	39.88	-337.89	580.11	550.46	29.65	19.568	
7,000.00	6,987.68	6,925.38	6,903.78	15.79	16.13	-176.10	39.88	-351.39	604.18	574.09	30.08	20.083	
7,100.00	7,087.21	7,022.60	7,000.05	16.01	16.42	-176.26	39.88	-364.92	627.56	597.04	30.52	20.563	
7,200.00	7,186.82	7,120.02	7,096.52	16.23	16.70	-176.39	39.88	-378.48	650.09	619.14	30.95	21.002	
7,300.00	7,286.51	7,217.63	7,193.18	16.44	16.99	-176.52	39.88	-392.06	671.78	640.39	31.39	21.402	
7,400.00	7,386.26	7,315.42	7,290.02	16.66	17.29	-176.63	39.88	-405.67	692.62	660.80	31.82	21.765	

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	**Local Co-ordinate Reference:**	Well 523H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Reference Site:	Tomb Raider 1-12 Fed	**MD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	523H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Tomb Raider 1-12 Fed - 522H - OH - Plan #1 — **Offset Site Error:** 0.00 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,500.00	7,486.07	7,413.40	7,387.04	16.87	17.58	-176.73	39.88	-419.31	712.61	680.36	32.26	22.092	
7,600.00	7,585.92	7,511.54	7,484.24	17.07	17.88	-176.82	39.88	-432.97	731.75	699.06	32.69	22.384	
7,700.00	7,685.82	7,623.60	7,595.33	17.28	18.17	-176.91	39.88	-447.61	749.19	716.06	33.14	22.609	
7,800.00	7,785.76	7,737.55	7,708.57	17.48	18.44	-176.98	39.88	-460.26	763.83	730.26	33.57	22.752	
7,900.00	7,885.72	7,852.24	7,822.78	17.68	18.70	-177.04	39.88	-470.73	775.63	741.62	34.01	22.809	
8,000.00	7,985.71	7,967.51	7,937.76	17.88	18.95	-177.08	39.88	-478.94	784.57	750.13	34.44	22.783	
8,100.00	8,085.70	8,083.21	8,053.31	18.07	19.18	-177.11	39.88	-484.85	790.63	755.76	34.87	22.676	
8,200.00	8,185.70	8,199.18	8,169.21	18.26	19.41	-87.12	39.88	-488.44	793.87	758.58	35.29	22.497	
8,300.00	8,285.70	8,315.24	8,285.27	18.47	19.62	-87.12	39.88	-489.67	794.94	759.21	35.73	22.248	
8,400.00	8,385.70	8,415.67	8,385.70	18.68	19.80	-87.12	39.88	-489.67	794.94	758.79	36.15	21.988	
8,500.00	8,485.70	8,515.67	8,485.70	18.90	20.00	-87.12	39.88	-489.67	794.94	758.35	36.59	21.727	
8,556.38	*8,542.08*	*8,572.05*	*8,542.08*	*19.01*	*20.12*	*92.92*	*39.88*	*-489.67*	*794.97*	*758.14*	*36.83*	*21.584*	
8,600.00	8,585.69	8,617.12	8,587.14	19.11	20.20	92.87	39.33	-489.68	794.94	757.93	37.02	21.476	
8,700.00	8,684.74	8,723.16	8,692.05	19.29	20.39	92.80	24.94	-489.80	795.02	757.63	37.39	21.264	
8,800.00	8,780.06	8,828.94	8,792.27	19.48	20.58	92.65	-8.41	-490.09	795.21	757.44	37.77	21.056	
8,900.00	8,868.76	8,934.24	8,884.28	19.68	20.79	92.40	-59.32	-490.53	795.50	757.31	38.19	20.828	
9,000.00	8,948.14	9,038.88	8,964.97	19.92	21.03	92.09	-125.72	-491.11	795.91	757.17	38.73	20.548	
9,100.00	9,015.79	9,142.73	9,031.79	20.22	21.33	91.71	-205.02	-491.79	796.42	756.97	39.45	20.187	
9,200.00	9,069.65	9,245.67	9,082.85	20.63	21.74	91.27	-294.25	-492.57	797.04	756.64	40.40	19.729	
9,300.00	9,108.08	9,347.63	9,116.90	21.17	22.29	90.80	-390.20	-493.40	797.76	756.15	41.61	19.175	
9,400.00	9,129.93	9,448.58	9,133.35	21.86	22.96	90.31	-489.66	-494.26	798.56	755.50	43.06	18.545	
9,500.00	9,134.92	9,548.65	9,134.79	22.66	23.77	89.99	-589.69	-495.12	799.41	754.67	44.75	17.866	
9,600.00	9,134.55	9,648.64	9,134.41	23.57	24.68	89.99	-689.68	-495.99	800.28	753.65	46.63	17.162	
9,700.00	9,134.17	9,748.64	9,134.04	24.58	25.69	89.99	-789.67	-496.85	801.14	752.42	48.72	16.445	
9,800.00	9,133.79	9,848.64	9,133.66	25.69	26.79	89.99	-889.66	-497.72	802.01	751.03	50.98	15.732	
9,900.00	9,133.41	9,948.63	9,133.28	26.87	27.96	89.99	-989.66	-498.58	802.87	749.47	53.40	15.036	
10,000.00	9,133.03	10,048.63	9,132.91	28.12	29.21	89.99	-1,089.65	-499.45	803.74	747.79	55.95	14.366	
10,100.00	9,132.65	10,148.63	9,132.53	29.43	30.51	89.99	-1,189.64	-500.31	804.60	745.98	58.62	13.727	
10,200.00	9,132.28	10,248.62	9,132.16	30.80	31.86	89.99	-1,289.63	-501.18	805.46	744.08	61.38	13.122	
10,300.00	9,131.90	10,348.62	9,131.78	32.21	33.26	89.99	-1,389.62	-502.05	806.33	742.09	64.24	12.552	
10,400.00	9,131.52	10,448.62	9,131.40	33.65	34.70	89.99	-1,489.62	-502.91	807.19	740.02	67.18	12.016	
10,500.00	9,131.14	10,548.61	9,131.03	35.14	36.17	89.99	-1,589.61	-503.78	808.06	737.88	70.18	11.515	
10,600.00	9,130.76	10,648.61	9,130.65	36.66	37.67	89.99	-1,689.60	-504.64	808.92	735.69	73.24	11.045	
10,700.00	9,130.38	10,748.60	9,130.27	38.20	39.20	89.99	-1,789.59	-505.51	809.79	733.44	76.35	10.606	
10,800.00	9,130.01	10,848.60	9,129.90	39.76	40.76	89.99	-1,889.58	-506.37	810.65	731.14	79.51	10.196	
10,900.00	9,129.63	10,948.60	9,129.52	41.35	42.33	89.99	-1,989.57	-507.24	811.52	728.81	82.71	9.812	
11,000.00	9,129.25	11,048.59	9,129.14	42.96	43.93	89.99	-2,089.57	-508.10	812.38	726.44	85.94	9.453	
11,100.00	9,128.87	11,148.59	9,128.77	44.58	45.54	89.99	-2,189.56	-508.97	813.25	724.04	89.21	9.116	
11,200.00	9,128.49	11,248.59	9,128.39	46.22	47.17	89.99	-2,289.55	-509.83	814.11	721.61	92.50	8.801	
11,300.00	9,128.11	11,348.58	9,128.02	47.88	48.81	89.99	-2,389.54	-510.70	814.98	719.15	95.83	8.505	
11,400.00	9,127.74	11,448.58	9,127.64	49.54	50.46	89.99	-2,489.53	-511.56	815.84	716.67	99.17	8.227	
11,500.00	9,127.36	11,548.57	9,127.26	51.22	52.13	89.99	-2,589.53	-512.43	816.71	714.17	102.54	7.965	
11,600.00	9,126.98	11,648.57	9,126.89	52.90	53.80	89.99	-2,689.52	-513.30	817.57	711.65	105.92	7.719	
11,700.00	9,126.60	11,748.57	9,126.51	54.60	55.49	89.99	-2,789.51	-514.16	818.44	709.11	109.32	7.486	
11,800.00	9,126.22	11,848.56	9,126.13	56.30	57.18	89.99	-2,889.50	-515.03	819.30	706.56	112.74	7.267	
11,900.00	9,125.84	11,948.56	9,125.76	58.01	58.88	89.99	-2,989.49	-515.89	820.16	703.99	116.17	7.060	
12,000.00	9,125.47	12,048.56	9,125.38	59.73	60.59	89.99	-3,089.48	-516.76	821.03	701.41	119.61	6.864	
12,100.00	9,125.09	12,148.55	9,125.00	61.45	62.31	89.99	-3,189.48	-517.62	821.89	698.82	123.07	6.678	
12,200.00	9,124.71	12,248.55	9,124.63	63.18	64.03	89.99	-3,289.47	-518.49	822.76	696.22	126.54	6.502	
12,300.00	9,124.33	12,348.54	9,124.25	64.92	65.76	89.99	-3,389.46	-519.35	823.62	693.61	130.01	6.335	
12,400.00	9,123.95	12,448.54	9,123.87	66.66	67.49	89.99	-3,489.45	-520.22	824.49	690.99	133.50	6.176	
12,500.00	9,123.57	12,548.54	9,123.50	68.40	69.22	89.99	-3,589.44	-521.08	825.35	688.36	137.00	6.025	

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	**Local Co-ordinate Reference:**	Well 523H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Reference Site:	Tomb Raider 1-12 Fed	**MD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	523H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Tomb Raider 1-12 Fed - 522H - OH - Plan #1 — **Offset Site Error:** 0.00 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,600.00	9,123.20	12,648.53	9,123.12	70.15	70.96	89.99	-3,689.44	-521.95	826.22	685.72	140.50	5.881	
12,700.00	9,122.82	12,748.53	9,122.75	71.90	72.71	89.99	-3,789.43	-522.81	827.08	683.07	144.01	5.743	
12,800.00	9,122.44	12,848.53	9,122.37	73.66	74.46	89.99	-3,889.42	-523.68	827.95	680.42	147.53	5.612	
12,900.00	9,122.06	12,948.52	9,121.99	75.42	76.21	89.99	-3,989.41	-524.55	828.81	677.76	151.05	5.487	
13,000.00	9,121.68	13,048.52	9,121.62	77.18	77.97	89.99	-4,089.40	-525.41	829.68	675.10	154.58	5.367	
13,100.00	9,121.30	13,148.51	9,121.24	78.94	79.72	89.99	-4,189.39	-526.28	830.54	672.43	158.11	5.253	
13,200.00	9,120.93	13,248.51	9,120.86	80.71	81.49	89.99	-4,289.39	-527.14	831.41	669.75	161.65	5.143	
13,300.00	9,120.55	13,348.51	9,120.49	82.48	83.25	89.99	-4,389.38	-528.01	832.27	667.07	165.20	5.038	
13,400.00	9,120.17	13,448.50	9,120.11	84.26	85.02	89.99	-4,489.37	-528.87	833.13	664.39	168.75	4.937	
13,500.00	9,119.79	13,548.50	9,119.73	86.03	86.79	89.99	-4,589.36	-529.74	834.00	661.70	172.30	4.840	
13,600.00	9,119.41	13,648.50	9,119.36	87.81	88.56	89.99	-4,689.35	-530.60	834.86	659.00	175.86	4.747	
13,700.00	9,119.03	13,748.49	9,118.98	89.59	90.33	89.99	-4,789.35	-531.47	835.73	656.31	179.42	4.658	
13,800.00	9,118.66	13,848.49	9,118.61	91.37	92.11	89.99	-4,889.34	-532.33	836.59	653.61	182.99	4.572	
13,900.00	9,118.28	13,948.48	9,118.23	93.15	93.88	89.99	-4,989.33	-533.20	837.46	650.90	186.55	4.489	
14,000.00	9,117.90	14,048.48	9,117.85	94.94	95.66	89.99	-5,089.32	-534.06	838.32	648.20	190.12	4.409	
14,100.00	9,117.52	14,148.48	9,117.48	96.72	97.44	90.00	-5,189.31	-534.93	839.19	645.49	193.70	4.332	
14,200.00	9,117.14	14,248.47	9,117.10	98.51	99.23	90.00	-5,289.30	-535.79	840.05	642.78	197.28	4.258	
14,300.00	9,116.76	14,348.47	9,116.72	100.30	101.01	90.00	-5,389.30	-536.66	840.92	640.06	200.86	4.187	
14,400.00	9,116.39	14,448.47	9,116.35	102.09	102.80	90.00	-5,489.29	-537.53	841.78	637.34	204.44	4.118	
14,500.00	9,116.01	14,548.46	9,115.97	103.88	104.58	90.00	-5,589.28	-538.39	842.65	634.62	208.02	4.051	
14,600.00	9,115.63	14,648.46	9,115.59	105.67	106.37	90.00	-5,689.27	-539.26	843.51	631.90	211.61	3.986	
14,700.00	9,115.25	14,748.45	9,115.22	107.47	108.16	90.00	-5,789.26	-540.12	844.38	629.18	215.20	3.924	
14,800.00	9,114.87	14,848.45	9,114.84	109.26	109.95	90.00	-5,889.25	-540.99	845.24	626.45	218.79	3.863	
14,900.00	9,114.49	14,948.45	9,114.46	111.06	111.74	90.00	-5,989.25	-541.85	846.10	623.72	222.38	3.805	
15,000.00	9,114.12	15,048.44	9,114.09	112.86	113.53	90.00	-6,089.24	-542.72	846.97	620.99	225.98	3.748	
15,100.00	9,113.74	15,148.44	9,113.71	114.65	115.33	90.00	-6,189.23	-543.58	847.83	618.26	229.57	3.693	
15,200.00	9,113.36	15,248.44	9,113.34	116.45	117.12	90.00	-6,289.22	-544.45	848.70	615.53	233.17	3.640	
15,300.00	9,112.98	15,348.43	9,112.96	118.25	118.92	90.00	-6,389.21	-545.31	849.56	612.79	236.77	3.588	
15,400.00	9,112.60	15,448.43	9,112.58	120.05	120.71	90.00	-6,489.21	-546.18	850.43	610.05	240.37	3.538	
15,500.00	9,112.22	15,548.42	9,112.21	121.85	122.51	90.00	-6,589.20	-547.04	851.29	607.32	243.98	3.489	
15,600.00	9,111.85	15,648.42	9,111.83	123.66	124.31	90.00	-6,689.19	-547.91	852.16	604.58	247.58	3.442	
15,700.00	9,111.47	15,748.42	9,111.45	125.46	126.10	90.00	-6,789.18	-548.78	853.02	601.84	251.19	3.396	
15,800.00	9,111.09	15,848.41	9,111.08	127.26	127.90	90.00	-6,889.17	-549.64	853.89	599.09	254.79	3.351	
15,900.00	9,110.71	15,948.41	9,110.70	129.07	129.70	90.00	-6,989.16	-550.51	854.75	596.35	258.40	3.308	
16,000.00	9,110.33	16,048.41	9,110.32	130.87	131.50	90.00	-7,089.16	-551.37	855.62	593.61	262.01	3.266	
16,100.00	9,109.95	16,148.40	9,109.95	132.68	133.30	90.00	-7,189.15	-552.24	856.48	590.86	265.62	3.224	
16,200.00	9,109.58	16,248.40	9,109.57	134.48	135.11	90.00	-7,289.14	-553.10	857.35	588.11	269.23	3.184	
16,300.00	9,109.20	16,348.39	9,109.20	136.29	136.91	90.00	-7,389.13	-553.97	858.21	585.37	272.84	3.145	
16,400.00	9,108.82	16,448.39	9,108.82	138.10	138.71	90.00	-7,489.12	-554.83	859.07	582.62	276.46	3.107	
16,500.00	9,108.44	16,548.39	9,108.44	139.90	140.52	90.00	-7,589.12	-555.70	859.94	579.87	280.07	3.070	
16,600.00	9,108.06	16,648.38	9,108.07	141.71	142.32	90.00	-7,689.11	-556.56	860.80	577.12	283.69	3.034	
16,700.00	9,107.68	16,748.38	9,107.69	143.52	144.12	90.00	-7,789.10	-557.43	861.67	574.36	287.30	2.999	
16,800.00	9,107.31	16,848.38	9,107.31	145.33	145.93	90.00	-7,889.09	-558.29	862.53	571.61	290.92	2.965	
16,900.00	9,106.93	16,948.37	9,106.94	147.14	147.73	90.00	-7,989.08	-559.16	863.40	568.86	294.54	2.931	
17,000.00	9,106.55	17,048.37	9,106.56	148.95	149.54	90.00	-8,089.07	-560.03	864.26	566.10	298.16	2.899	
17,100.00	9,106.17	17,148.36	9,106.18	150.76	151.35	90.00	-8,189.07	-560.89	865.13	563.35	301.78	2.867	
17,200.00	9,105.79	17,248.36	9,105.81	152.57	153.15	90.00	-8,289.06	-561.76	865.99	560.59	305.40	2.836	
17,300.00	9,105.41	17,348.36	9,105.43	154.38	154.96	90.00	-8,389.05	-562.62	866.86	557.84	309.02	2.805	
17,400.00	9,105.04	17,448.35	9,105.05	156.19	156.77	90.00	-8,489.04	-563.49	867.72	555.08	312.64	2.775	
17,500.00	9,104.66	17,548.35	9,104.68	158.00	158.58	90.00	-8,589.03	-564.35	868.59	552.32	316.26	2.746	
17,600.00	9,104.28	17,648.35	9,104.30	159.82	160.38	90.00	-8,689.03	-565.22	869.45	549.56	319.89	2.718	
17,700.00	9,103.90	17,748.34	9,103.93	161.63	162.19	90.00	-8,789.02	-566.08	870.32	546.81	323.51	2.690	

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

LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	**Local Co-ordinate Reference:**	Well 523H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Reference Site:	Tomb Raider 1-12 Fed	**MD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	523H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

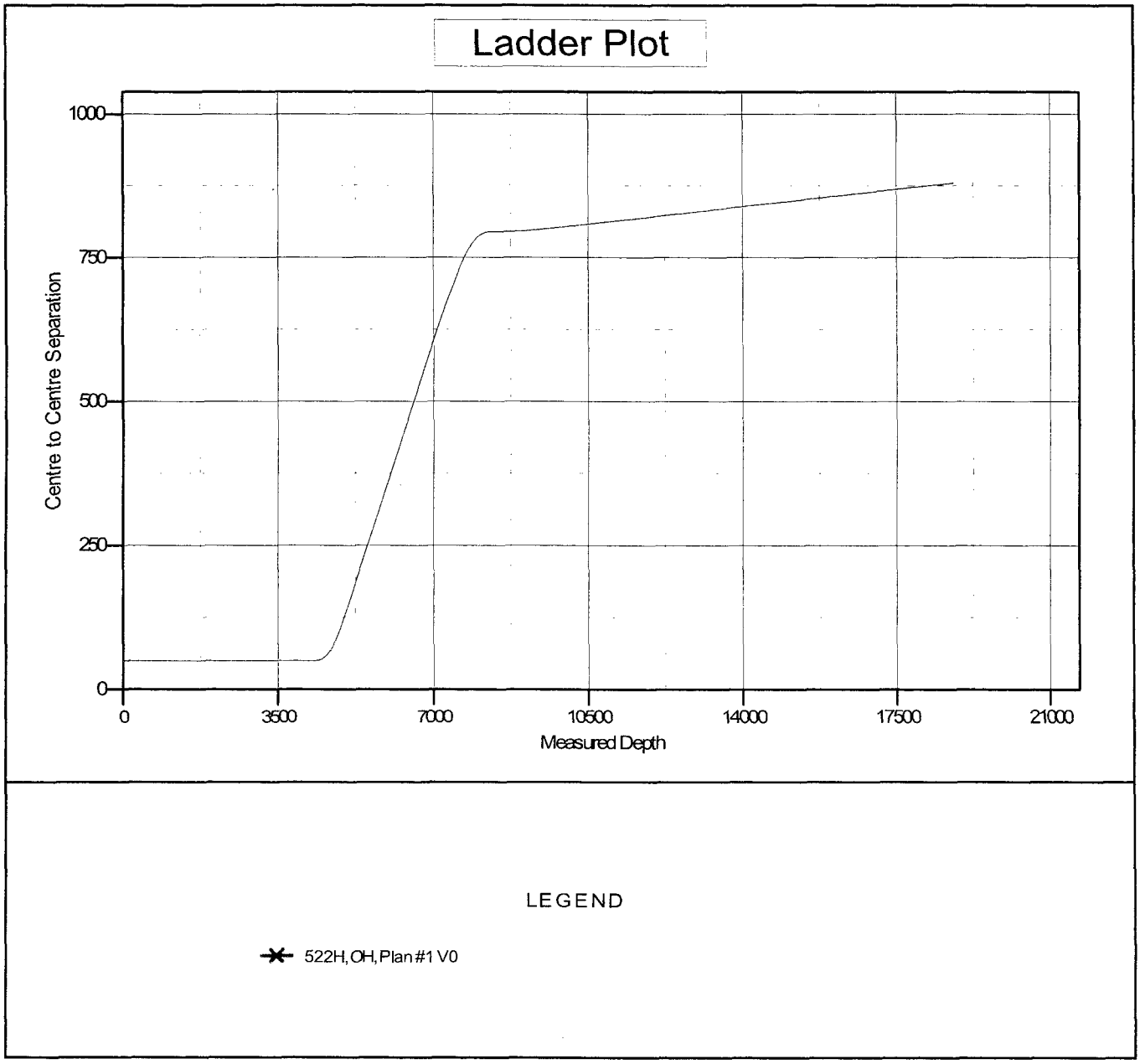
Offset Design Tomb Raider 1-12 Fed - 522H - OH - Plan #1 — **Offset Site Error:** 0.00 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,800.00	9,103.52	17,848.34	9,103.55	163.44	164.00	90.00	-8,889.01	-566.95	871.18	544.05	327.13	2.663	
17,900.00	9,103.14	17,948.33	9,103.17	165.25	165.81	90.00	-8,989.00	-567.81	872.04	541.29	330.76	2.636	
18,000.00	9,102.77	18,048.33	9,102.80	167.07	167.62	90.00	-9,088.99	-568.68	872.91	538.53	334.38	2.610	
18,100.00	9,102.39	18,148.33	9,102.42	168.88	169.43	90.00	-9,188.98	-569.54	873.77	535.76	338.01	2.585	
18,200.00	9,102.01	18,248.32	9,102.04	170.69	171.24	90.00	-9,288.98	-570.41	874.64	533.00	341.64	2.560	
18,300.00	9,101.63	18,348.32	9,101.67	172.51	173.05	90.00	-9,388.97	-571.27	875.50	530.24	345.26	2.536	
18,400.00	9,101.25	18,448.32	9,101.29	174.32	174.86	90.00	-9,488.96	-572.14	876.37	527.48	348.89	2.512	
18,500.00	9,100.87	18,548.31	9,100.91	176.14	176.67	90.00	-9,588.95	-573.01	877.23	524.71	352.52	2.488	
18,600.00	9,100.50	18,648.31	9,100.54	177.95	178.49	90.00	-9,688.94	-573.87	878.10	521.95	356.15	2.466	
18,700.00	9,100.12	18,748.30	9,100.16	179.77	180.30	90.00	-9,788.94	-574.74	878.96	519.19	359.78	2.443	
18,800.00	9,099.74	18,848.30	9,099.78	181.58	181.95	90.00	-9,888.93	-575.60	879.83	516.58	363.25	2.422	
18,810.38	9,099.70	18,858.68	9,099.75	181.74	182.11	90.00	-9,899.31	-575.69	879.92	516.36	363.55	2.420	SF

Company:	DEVON ENERGY	**Local Co-ordinate Reference:**	Well 523H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Reference Site:	Tomb Raider 1-12 Fed	**MD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	523H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to 3467.4' GE + 23.5' KB @ 3490.70usft	Coordinates are relative to: 523H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Central Meridian is 104° 20' 0.000 W	Grid Convergence at Surface is: 0.32°

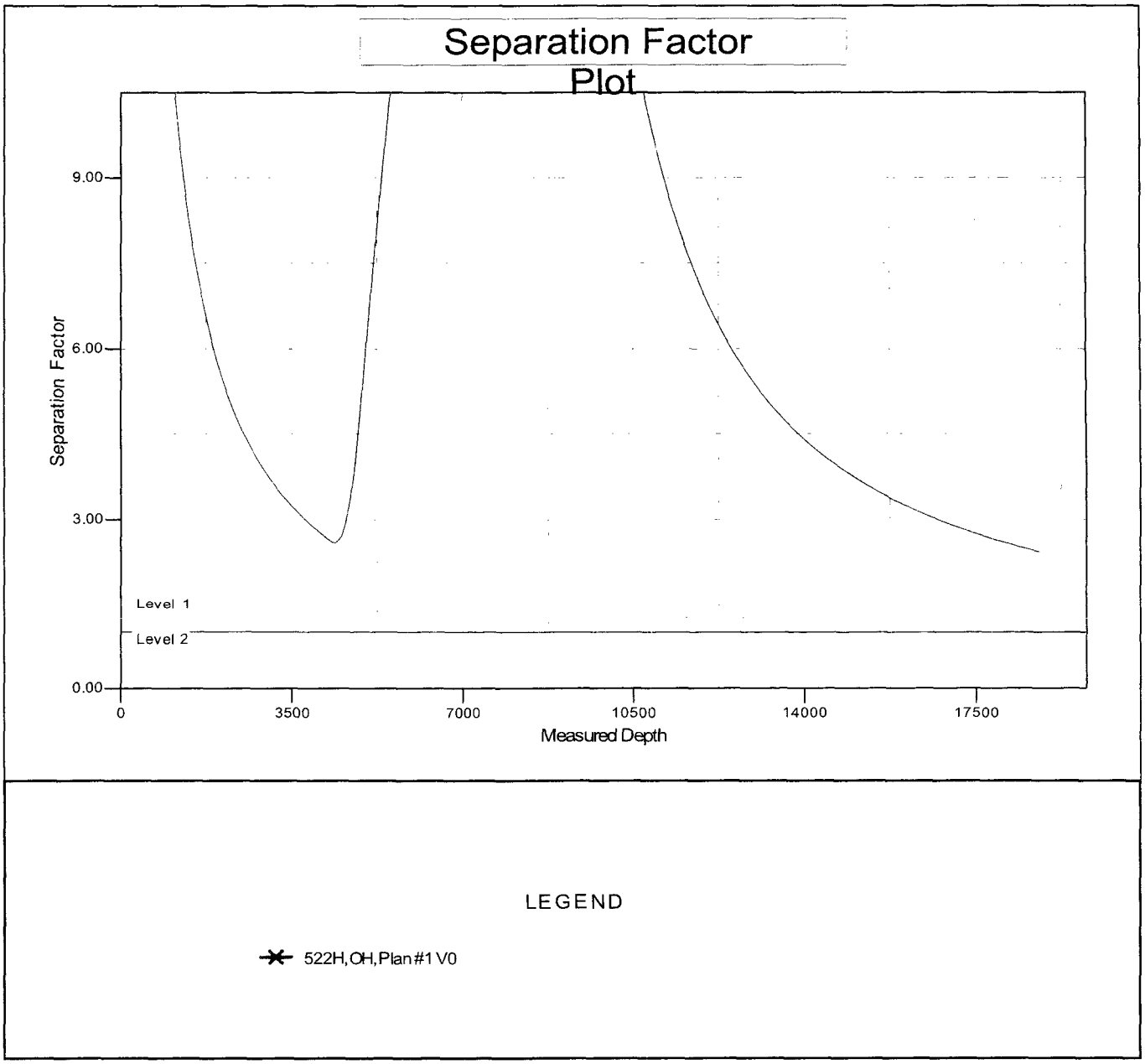


LEAM Drilling Systems LLC

Anticollision Report

Company:	DEVON ENERGY	**Local Co-ordinate Reference:**	Well 523H
Project:	Eddy County, NM (NAD-83)	**TVD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Reference Site:	Tomb Raider 1-12 Fed	**MD Reference:**	3467.4' GE + 23.5' KB @ 3490.70usft
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	523H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to 3467.4' GE + 23.5' KB @ 3490.70usft	Coordinates are relative to: 523H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Central Meridian is 104° 20' 0.000 W	Grid Convergence at Surface is: 0.32°



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

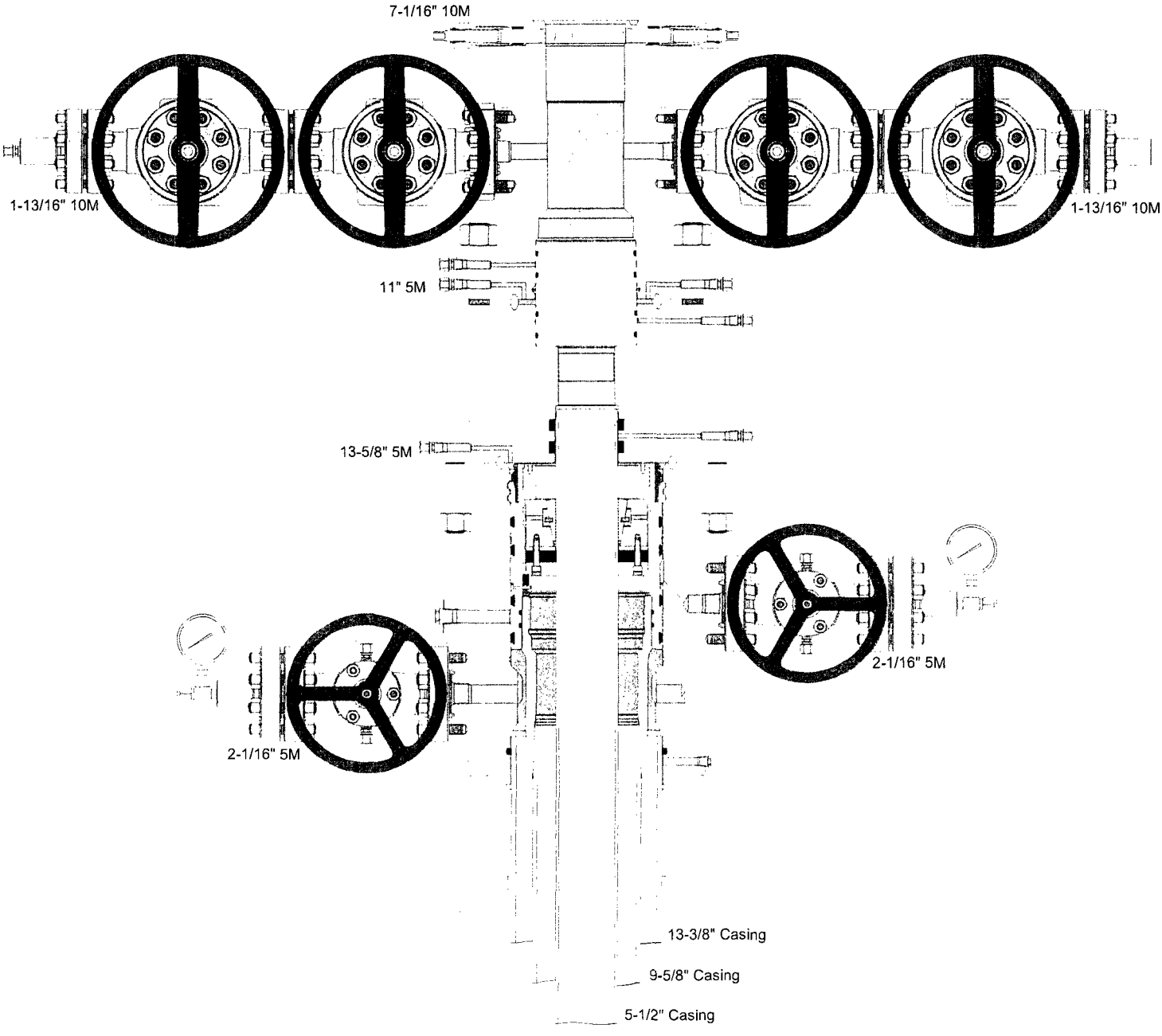
Devon proposes using a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 3000 (3M) psi.

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

After running the 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 3M will be installed on the wellhead system and will undergo a 250 psi low pressure test followed by a 3,000 psi high pressure test. The 3,000 psi high and 250 psi low test will cover testing requirements a maximum of 30 days, as per Onshore Order #2. If the well is not complete within 30 days of this BOP test, another full BOP test will be conducted, as per Onshore Order #2.
After running the 9-5/8' intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 3M will already be installed on the wellhead.

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

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


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

devon

Commitment Runs Deep

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.

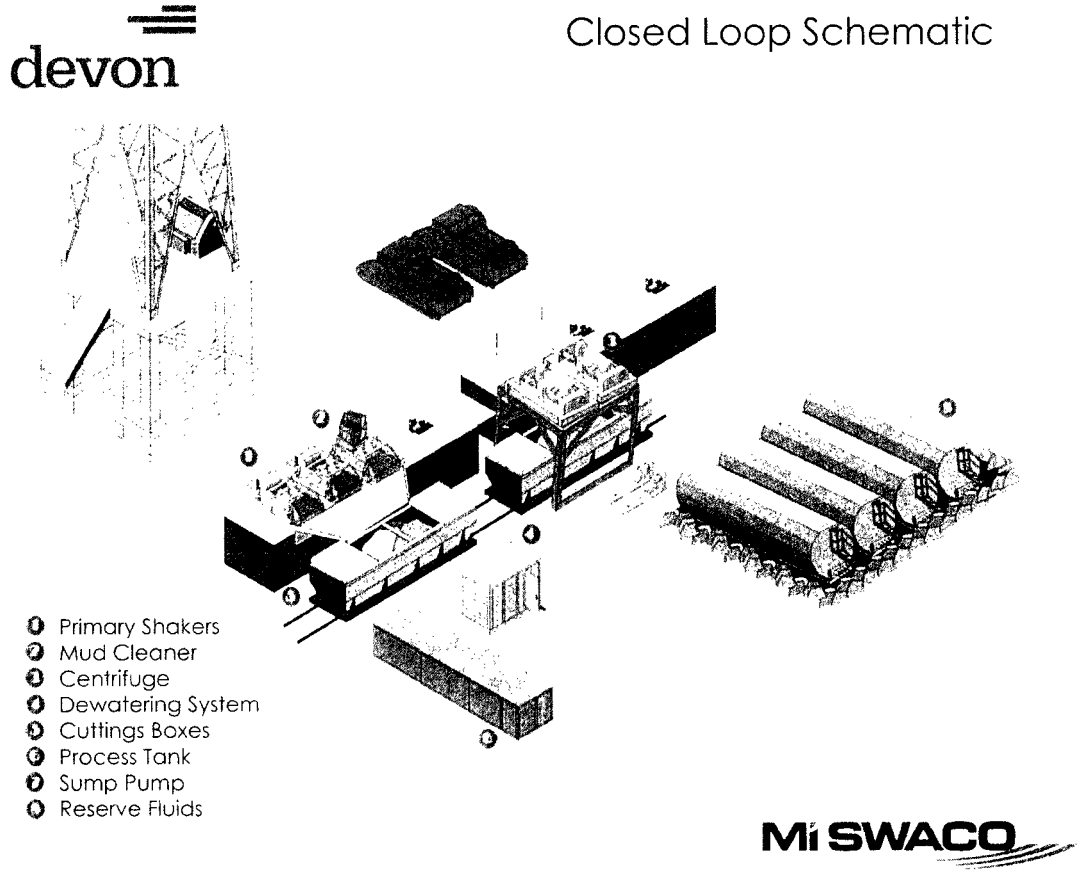
Prior to installing a closed-loop system on site, the topsoil, if present, will be stripped and stockpiled for use as the final cover or fill at the time of closure.

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.

Contingency Production Cement

Additional Info for String	3	Additional String Description	
Stage Tool Depth	4300		

Lead

Top MD of Segment	4100	Btm MD of Segment	4200	Cement Type	C
Additives	Enhancer 923 + 10% BWOC Bentonite + 0.05% BWOC SA-1015 + 0.3% BWOC HR-800 + 0.2% BWOC FE-2 + 0.125 lb/sk Pol-E-Flake + 0.5 lb/sk D-Air 5000	Quanity (sks)	20	Yield (cu.ft./sk)	3.31
Density (lbs/gal)	10.9	Volume (cu.ft.)	66	Percent Excess	25

Tail

Top MD of Segment	4200	Top MD of Segment	4300	Cement Type	H
Additives	0.125 lbs/sack Poly-E-Flake	Quanity (sks)	30	Yield (cu.ft./sk)	1.33
Density (lbs/gal)	14.8	Volume (cu.ft.)	40	Percent Excess	25

Contingency Production Cement

Additional Info for String	3	Additional String Description	
Stage Tool Depth	4300		

Lead

Top MD of Segment	4300	Btm MD of Segment	9050	Cement Type	C
Additives	Enhancer 923 + 10% BWOC Bentonite + 0.05% BWOC SA-1015 + 0.3% BWOC HR-800 + 0.2% BWOC FE-2 + 0.125 lb/sk Pol-E-Flake + 0.5 lb/sk D-Air 5000	Quanity (sks)	565	Yield (cu.ft./sk)	3.31
Density (lbs/gal)	10.9	Volume (cu.ft.)	1860	Percent Excess	25

Tail

Top MD of Segment	9050	Top MD of Segment	18810	Cement Type	H
Additives	Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite	Quanity (sks)	2585	Yield (cu.ft./sk)	1.2
Density (lbs/gal)	14.5	Volume (cu.ft.)	3100	Percent Excess	25

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) 566-738

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	720 719	AISI 4130	C7626
4 1/16" Flange end		AISI 4130	47357

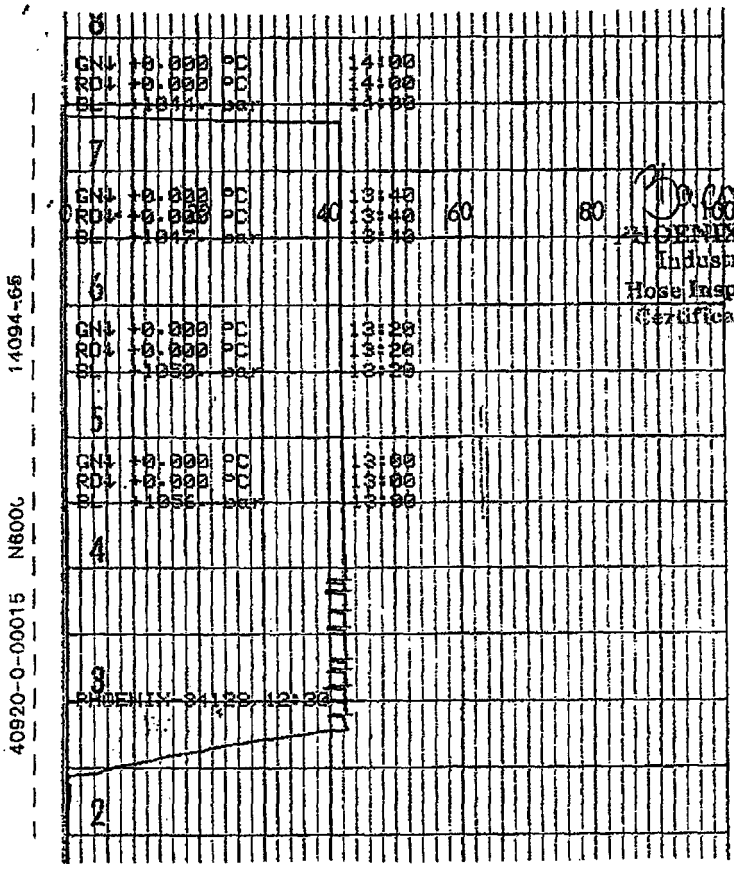
API Spec 16 C
Temperature rate:"B"

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 Verification Dept.

VERIFIED TRUE COPY
PHOENIX RUBBER Q.C.

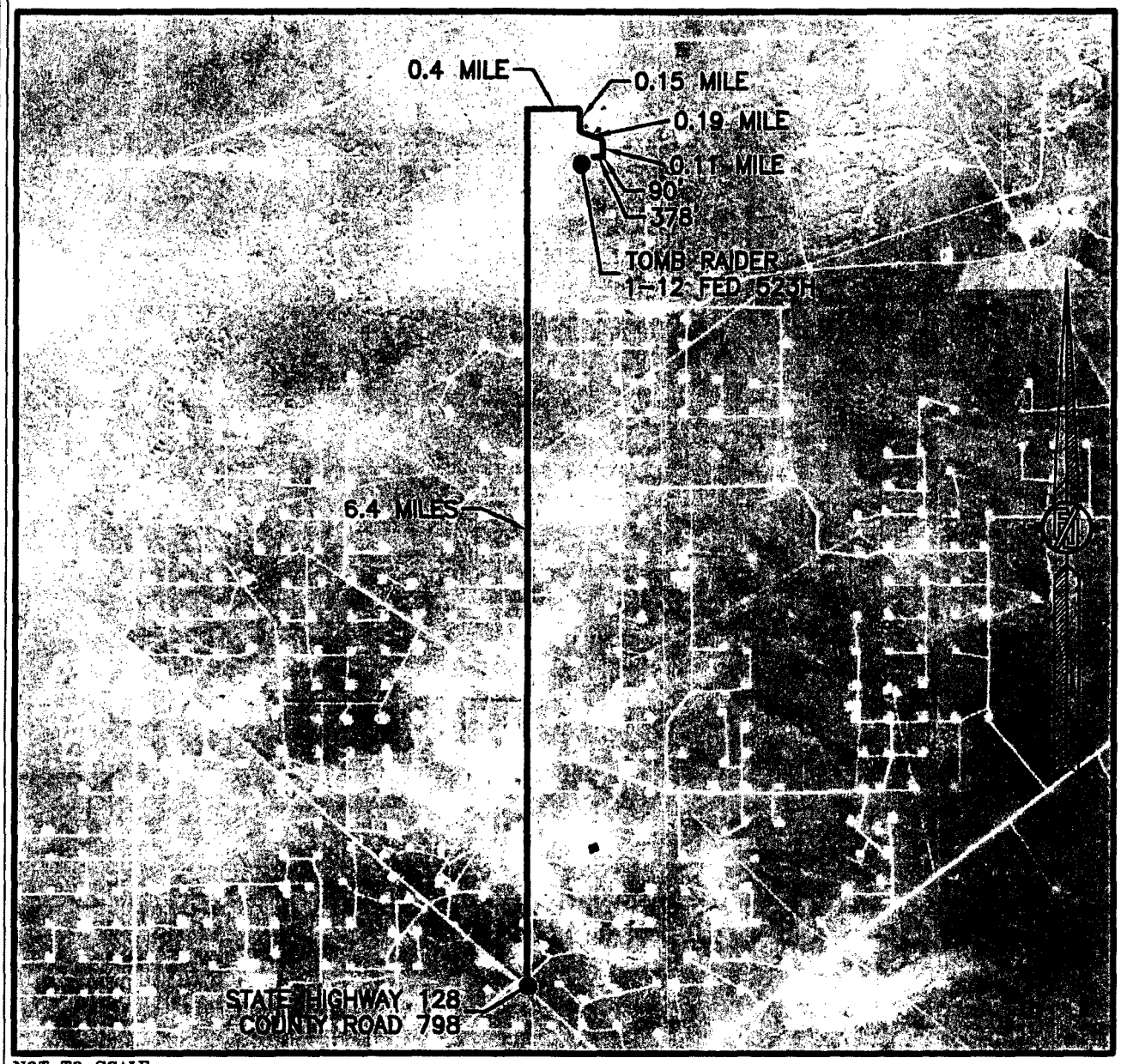


PHOENIX RUBBER
Industrial Ltd.
Hose Inspection and
Certification Dept.

VERIFIED TRUE CO.
PHOENIX RUBBER C.C.

SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AERIAL ACCESS ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
FEB. 2014

DEVON ENERGY PRODUCTION COMPANY, L.P.

TOMB RAIDER 1-12 FED 523H

LOCATED 360 FT. FROM THE NORTH LINE
AND 1959 FT. FROM THE WEST LINE OF
SECTION 1, TOWNSHIP 23 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 9, 2016

SURVEY NO. 5052A

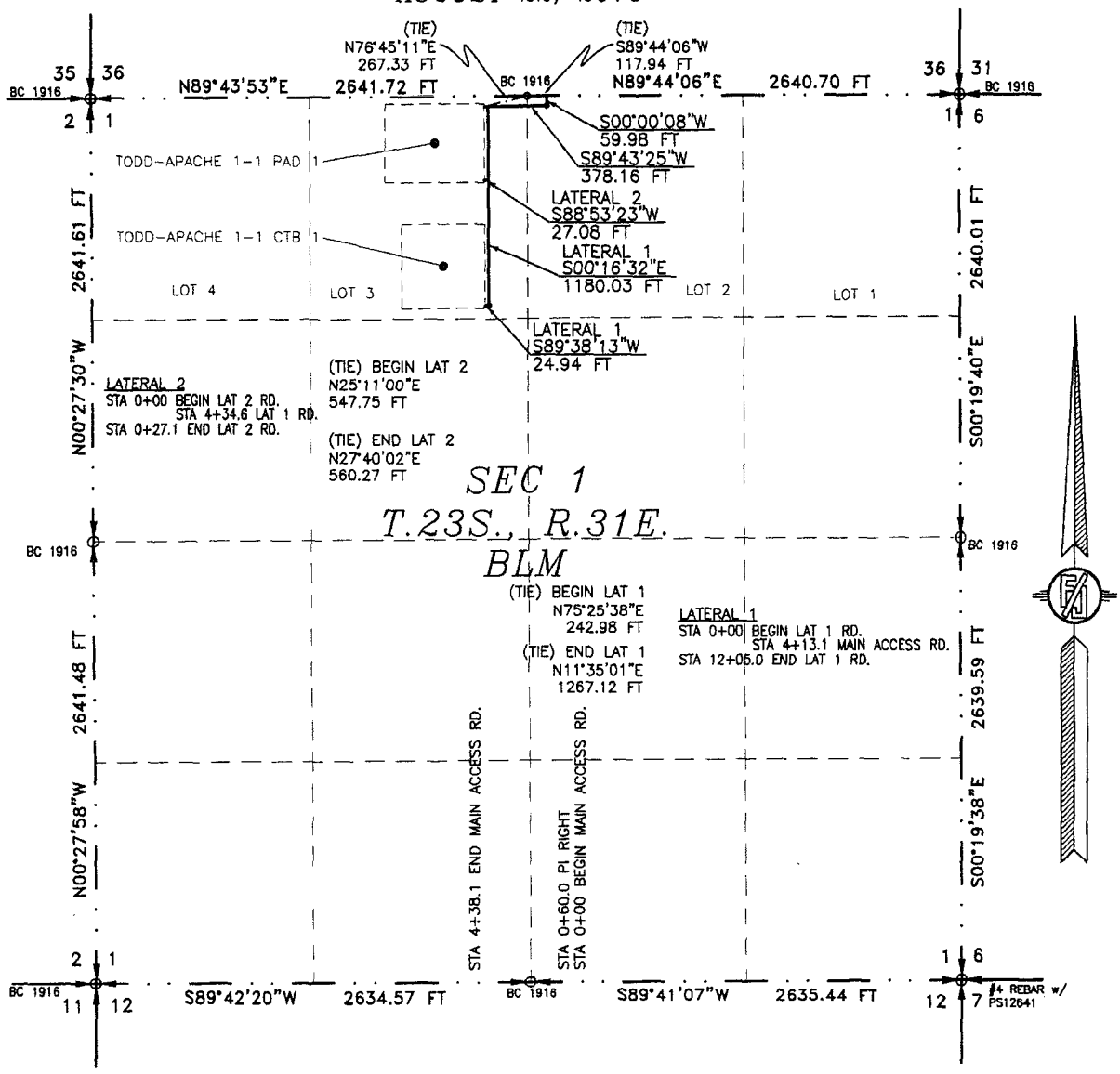
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT (AA000055129)

ACCESS ROAD TO THE TODD-APACHE 1-1 PAD 1 & TODD-APACHE 1-1 CTB 1

DEVON ENERGY PRODUCTION COMPANY, L.P.

CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AUGUST 22, 2016



SEE NEXT SHEET (2-4) FOR DESCRIPTION

1000 0 1000
Scale: 1" = 1000'

GENERAL NOTES

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

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

SURVEYOR CERTIFICATE

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

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 23 DAY OF AUGUST 2016

FILIMON F. JARAMILLO, PLS# 12797

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

SHEET: 1-4

SURVEY NO. 4864

ACCESS ROAD PLAT (AA000055129)

ACCESS ROAD TO THE TODD-APACHE 1-1 PAD 1 & TODD-APACHE 1-1 CTB 1

DEVON ENERGY PRODUCTION COMPANY, L.P.

CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AUGUST 22, 2016

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

MAIN ACCESS ROAD
BEGINNING AT A POINT WITHIN LOT 2 OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS S89°44'06"W, A DISTANCE OF 117.94 FEET;
THENCE S00°00'08"W A DISTANCE OF 59.98 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S89°43'25"W A DISTANCE OF 378.16 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N76°45'11"E, A DISTANCE OF 267.33 FEET;

SAID STRIP OF LAND BEING 438.14 FEET OR 26.56 RODS IN LENGTH, CONTAINING 0.301 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

LOT 2 177.52 L.F. 10.76 RODS 0.122 ACRES
LOT 3 260.62 L.F. 15.80 RODS 0.179 ACRES

LATERAL 1 ACCESS ROAD
BEGINNING AT A POINT WITHIN LOT 3 OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N75°25'38"E, A DISTANCE OF 242.98 FEET;
THENCE S00°16'32"E A DISTANCE OF 1180.03 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S89°38'13"W A DISTANCE OF 24.94 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N11°35'01"E, A DISTANCE OF 1267.12 FEET;

SAID STRIP OF LAND BEING 1204.97 FEET OR 73.03 RODS IN LENGTH, CONTAINING 0.830 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

LOT 3 1204.97 L.F. 73.03 RODS 0.830 ACRES

LATERAL 2 ACCESS ROAD
BEGINNING AT A POINT WITHIN LOT 3 OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N25°11'00"E, A DISTANCE OF 547.75 FEET;
THENCE S88°53'23"W A DISTANCE OF 27.08 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N27°40'02"E, A DISTANCE OF 560.27 FEET;

SAID STRIP OF LAND BEING 27.08 FEET OR 1.64 RODS IN LENGTH, CONTAINING 0.019 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

LOT 3 27.08 L.F. 1.64 RODS 0.019 ACRES

GENERAL NOTES

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

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

SURVEYOR CERTIFICATE

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

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 22ND DAY OF AUGUST 2016

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

FILIMON F. JARAMILLO PLS 12797

SURVEY NO. 4864

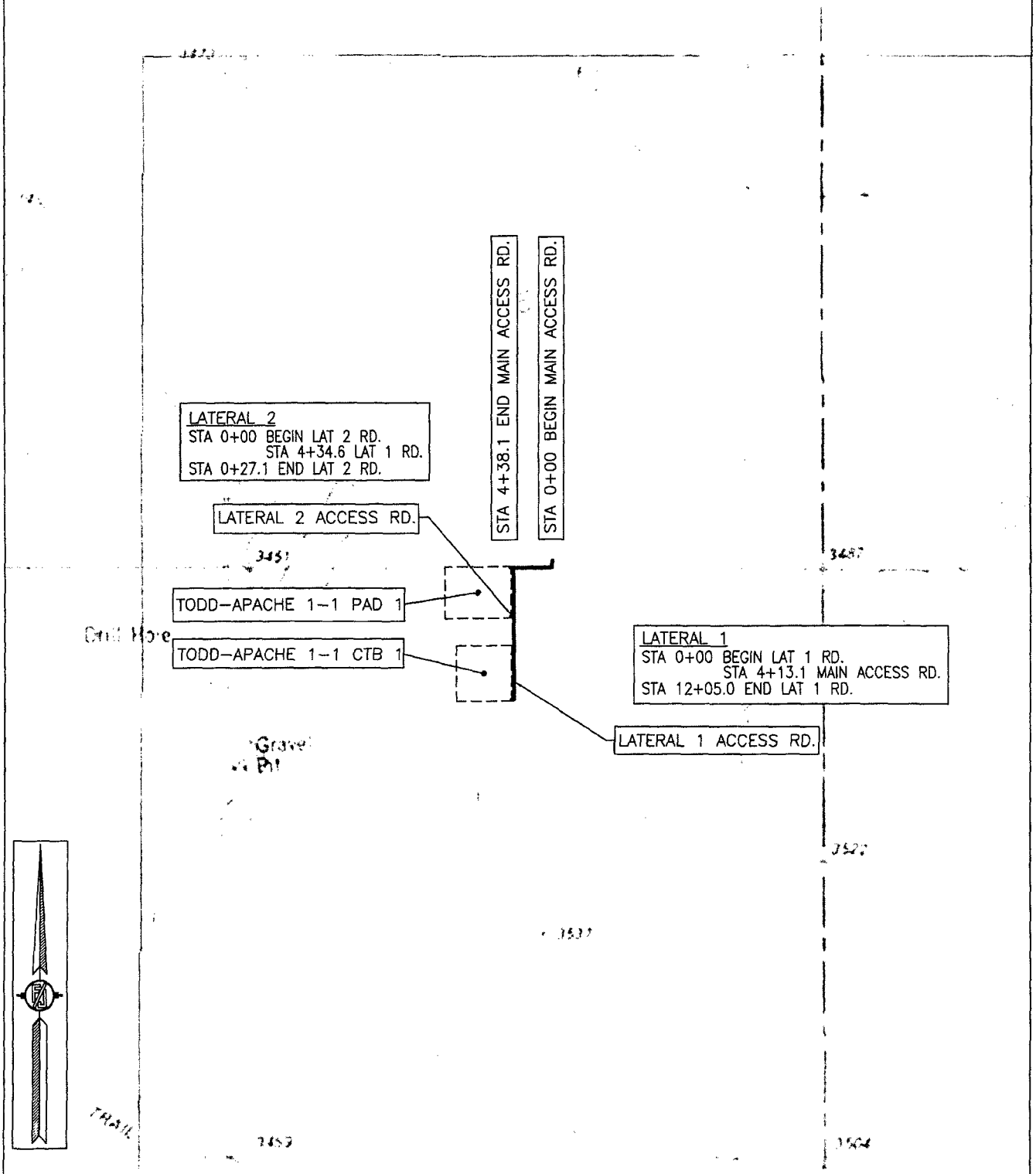
MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT (AA000055129)

ACCESS ROAD TO THE TODD-APACHE 1-1 PAD 1 & TODD-APACHE 1-1 CTB 1

DEVON ENERGY PRODUCTION COMPANY, L.P.

CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AUGUST 22, 2016



SHEET: 3-4

SURVEY NO. 4864

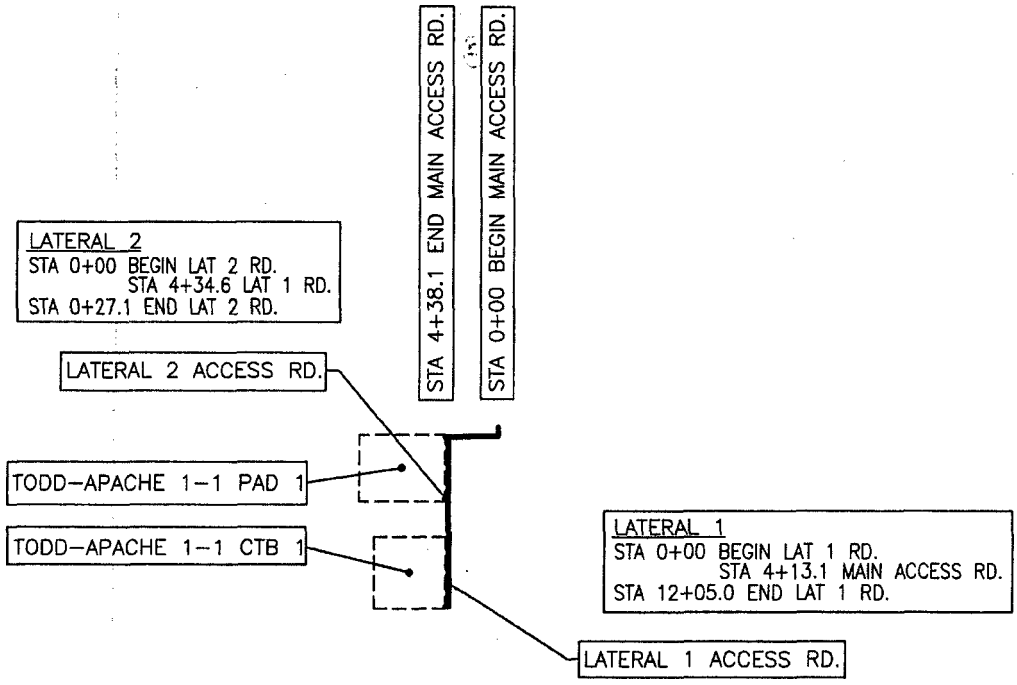
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT (AA000055129)

ACCESS ROAD TO THE TODD-APACHE 1-1 PAD 1 & TODD-APACHE 1-1 CTB 1

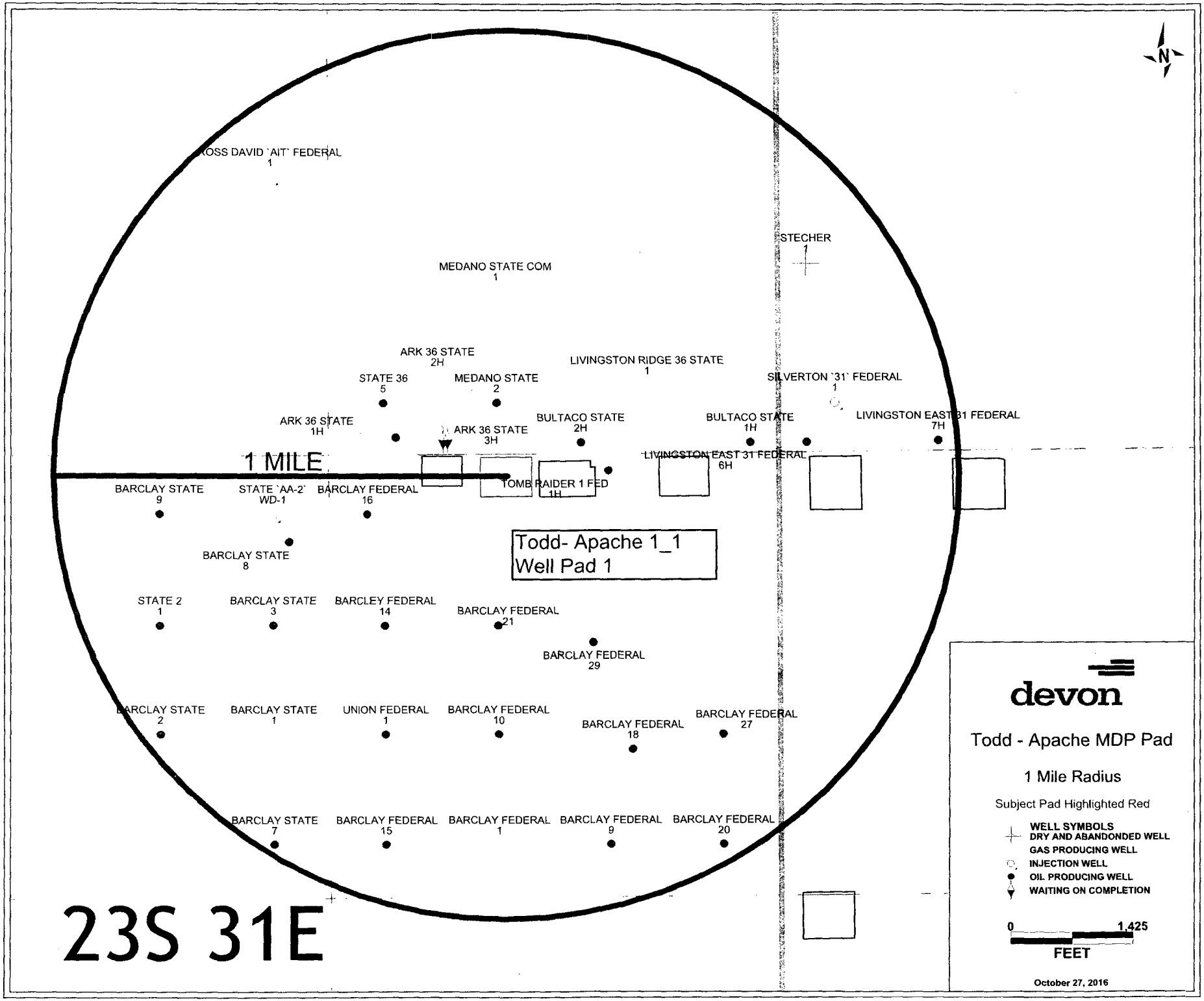
DEVON ENERGY PRODUCTION COMPANY, L.P.

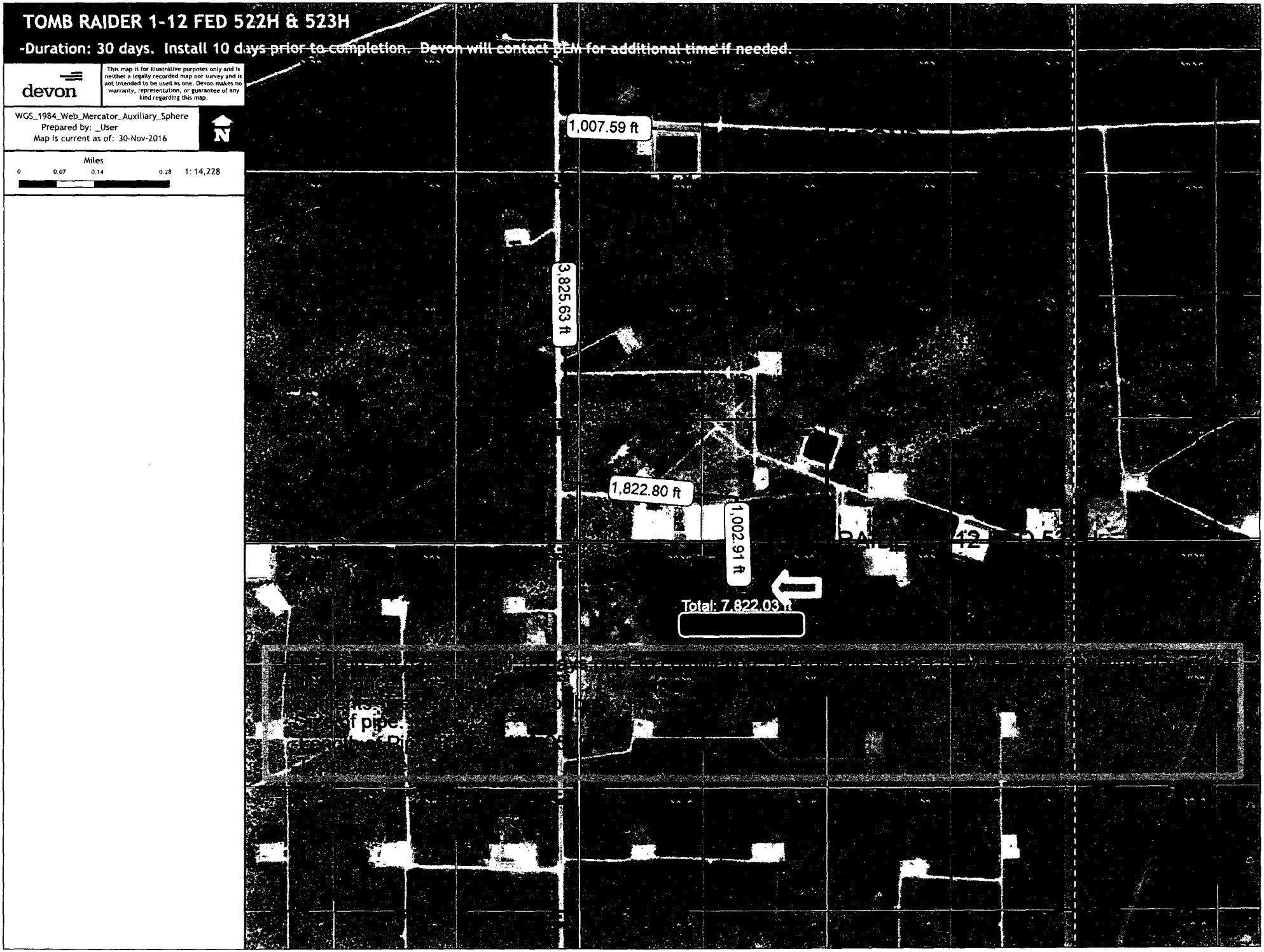
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AUGUST 22, 2016



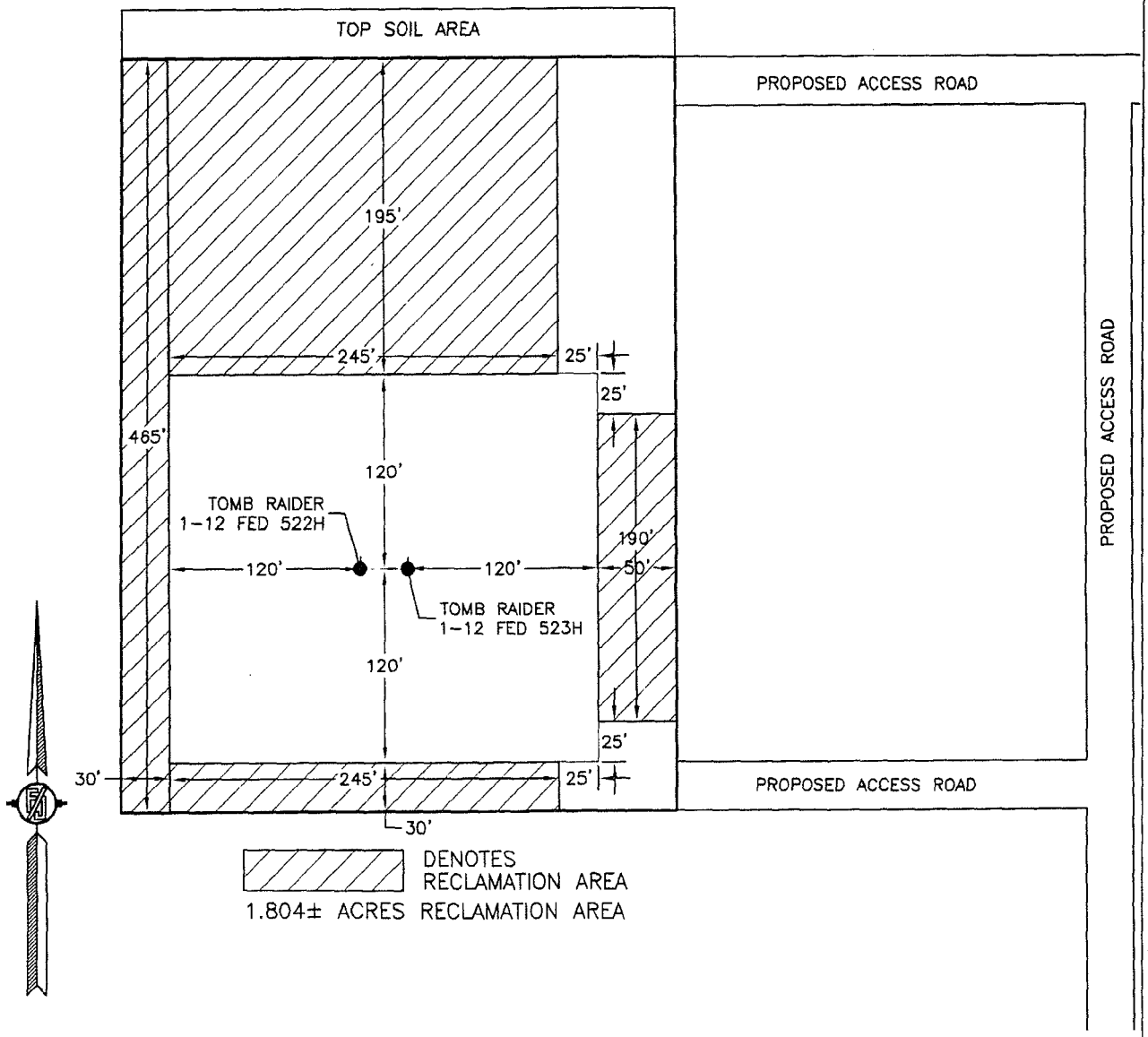
SHEET: 4-4 SURVEY NO. 4864

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


KOSS DAVID `AIT` FEDERAL
1
STECHER
1
MEDANO STATE COM
1
ARK 36 STATE
2H
LIVINGSTON RIDGE 36 STATE
1
STATE 36
5
MEDANO STATE
2
SILVERTON `31` FEDERAL
1
ARK 36 STATE
1H
ARK 36 STATE
3H
BULTACO STATE
2H
BULTACO STATE
1H
LIVINGSTON EAST 31 FEDERAL
7H
1 MILE
LIVINGSTON EAST 31 FEDERAL
6H
TOMB RAIDER 1 FED
1H
BARCLAY STATE
9
STATE `AA-2`
WD-1
BARCLAY FEDERAL
16
Todd- Apache 1_1
Well Pad 1
BARCLAY STATE
8
STATE 2
1
BARCLAY STATE
3
BARCLEY FEDERAL
14
BARCLAY FEDERAL
21
BARCLAY FEDERAL
29
BARCLAY STATE
2
BARCLAY STATE
1
UNION FEDERAL
1
BARCLAY FEDERAL
10
BARCLAY FEDERAL
18
BARCLAY FEDERAL
27
BARCLAY STATE
7
BARCLAY FEDERAL
15
BARCLAY FEDERAL
1
BARCLAY FEDERAL
9
BARCLAY FEDERAL
20
23S 31E
devon
Todd - Apache MDP Pad
1 Mile Radius
Subject Pad Highlighted Red
WELL SYMBOLS
DRY AND ABANDONDED WELL
GAS PRODUCING WELL
INJECTION WELL
OIL PRODUCING WELL
WAITING ON COMPLETION
0
1,425
FEET
October 27, 2016


TOMB RAIDER 1-12 FED 522H & 523H
-Duration: 30 days. Install 10 days prior to completion. Devon will contact BEM for additional time if needed.
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: 30-Nov-2016
N
Miles
0 0.07 0.14 0.28
1: 14,228
1,007.59 ft
3,825.63 ft
1,822.80 ft
1,002.91 ft
Total: 7,822.03 ft

SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
INTERIM SITE RECLAMATION



0 10 50 100 200
SCALE 1" = 100'

DEVON ENERGY PRODUCTION COMPANY, L.P.

TOMB RAIDER 1-12 FED 523H

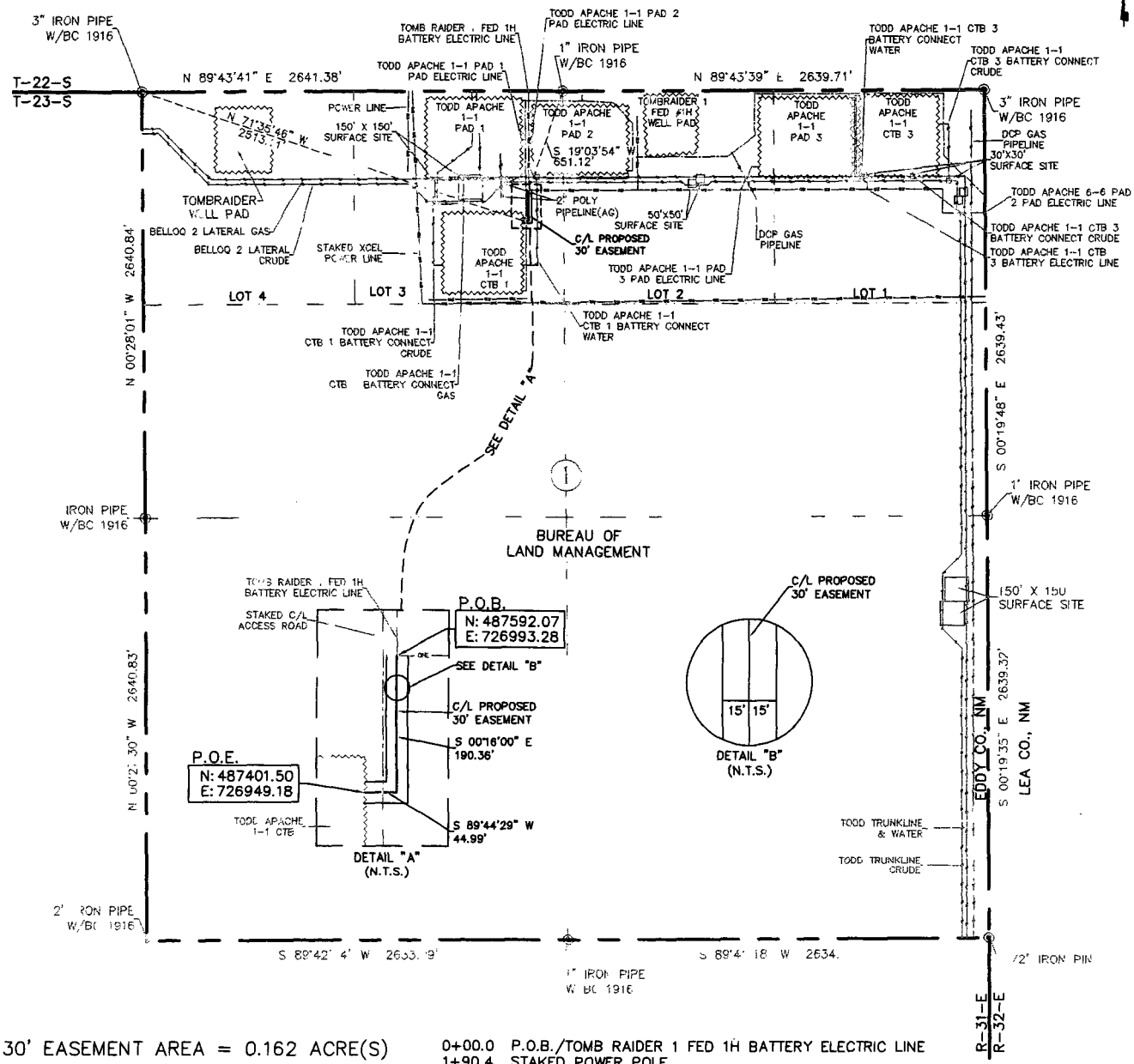
LOCATED 360 FT. FROM THE NORTH LINE AND 1959 FT. FROM THE WEST LINE OF SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. EDDY COUNTY, STATE OF NEW MEXICO

NOVEMBER 9, 2016

SURVEY NO. 5052A

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

EXHIBIT "A"
PAGE 1 of 4
ELECTRIC LINE PLAT
SECTION 1, T23S–R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



30' EASEMENT AREA = 0.162 ACRE(S)
235.35 FEET OR 14.26 RODS

0+00.0 P.O.B./TOMB RAIDER 1 FED 1H BATTERY ELECTRIC LINE
1+90.4 STAKED POWER POLE
2+10.3 C/L STAKED ACCESS ROAD
2+35.4 P.O.E./TODD APACHE 1-1 CTB 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 of surveying in New Mexico.

NEW MEXICO 22404 PROFESSIONAL SURVEYOR

B.L. Laman PLS #22404
Date Signed: 08-05-2015
571 State Street, Jasper, TX.
(409) 202-5111 75951
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC	DEVON ENERGY PRODUCTION COMPANY, L.P.	LINE NUMBER: EL7833
Drawn for: devon	TODD APACHE 1-1 CTB 1 BATTERY ELECTRIC LINE	WBS NUMBER: XX-117680
		SCALE: 1" = 1000'
	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 1, T23S–R31E, N.M.P.M.	REVISIONS:
Drawn by: CHRIS MAAS	Date: 08/03/2016	SHEET: 1 OF 4

SECTION 1, T23S-R31E, N.M.P.M.,
EDDY COUNTY, NEW MEXICO

ELECTRIC LINE PLAT

LEGAL DESCRIPTION

FOR

DEVON ENERGY PRODUCTION COMPANY, L.P.

BUREAU OF LAND MANAGEMENT

30' EASEMENT DESCRIPTION:

BEING an easement thirty (30) feet in width lying fifteen (15) feet on the right side and fifteen (15) feet on the left side of the survey centerline described below, being out of Lot 3 of Section 1, Township 23 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, and being out of a parcel of land owned by the Bureau of Land Management. Said centerline of easement being more particularly described as follows:

Commencing from a 1" iron pipe w/ BC 1916 for the north quarter corner of Section 1, T23S-R31E, N.M.P.M., Eddy County, New Mexico;

Thence S 19°03'54" W a distance of 651.12' to the **Point of Beginning** of this easement having coordinates of Northing=487592.07, Easting=726993.28 feet, and continuing the following courses;

Thence S 00°16'00" E a distance of 190.36' to an angle point;

Thence S 89°44'29" W a distance of 44.99' to the **Point of Ending** having coordinates of Northing=487401.50, Easting=726949.18 feet in Lot 3, from said point a 3" iron pipe w/ BC 1916 for the northwest corner of Section 1, T23S-R31E bears N 71°35'46" E a distance of 2513.11', covering **235.35' or 14.26 rods** and having an area of **0.162 acres**.

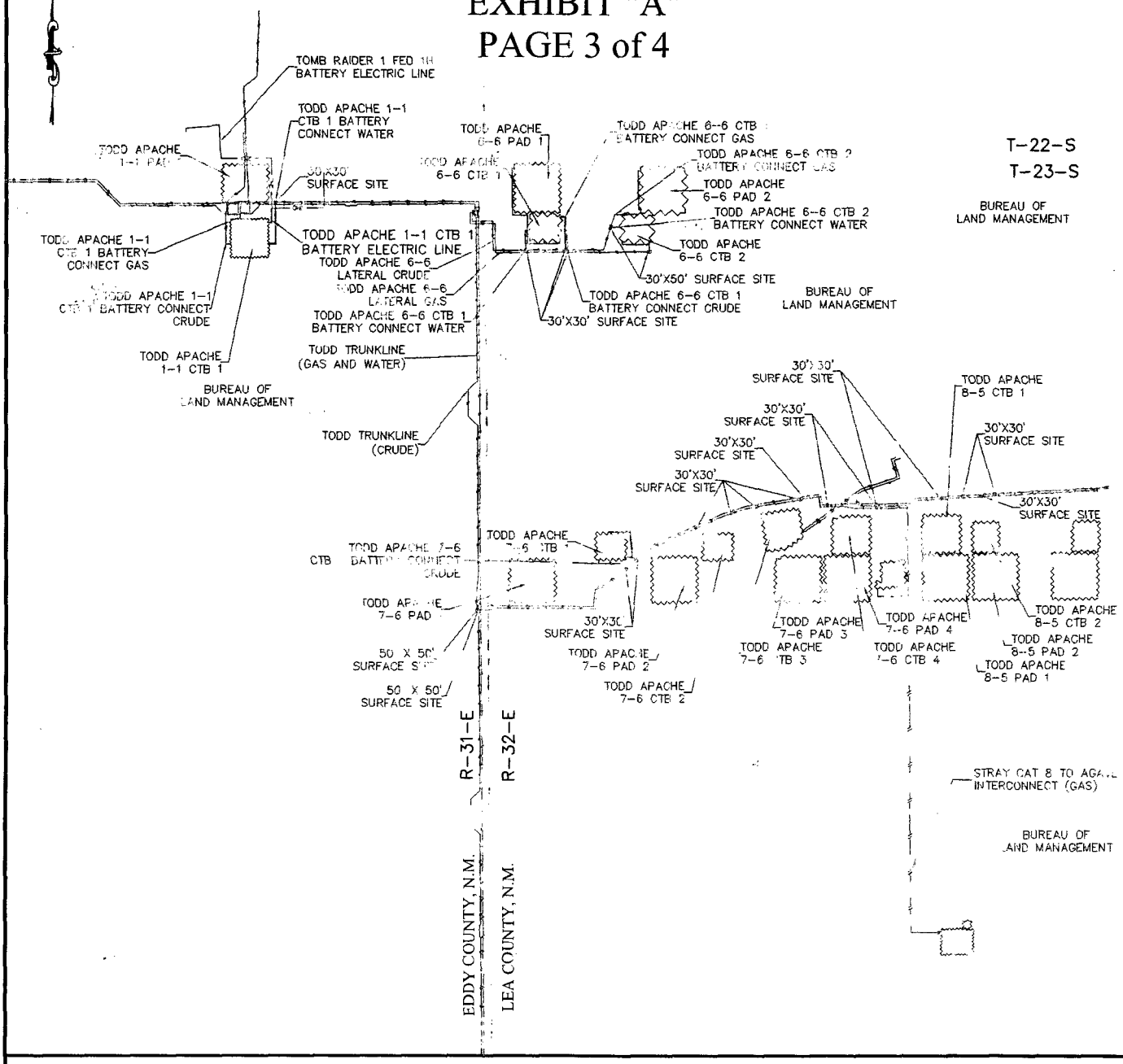
NOTES:

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: 08/05/2016
Horizon Row, LLC
571 State Street, Jasper, TX
(409) 202-5111 75951
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 3 of 4

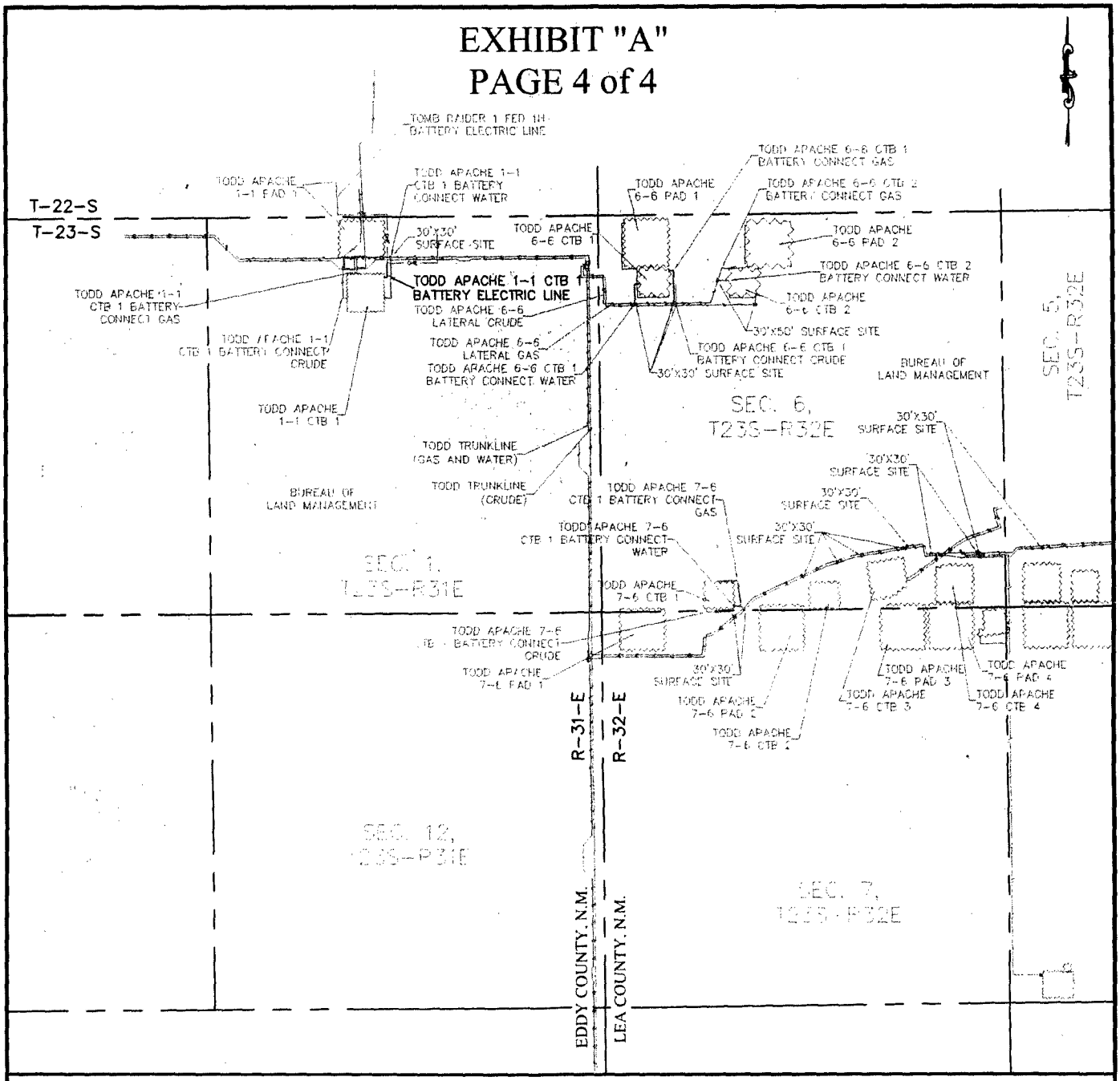


QUAD MAP

SECTION 1, T23S-R31E, N.M.P.M.;
EDDY COUNTY, NEW MEXICO

HORIZON ROW LLC	Drawn for: devon	LINE NUMBER: EL7833
DEVON ENERGY PRODUCTION CO., L.P.		WBS NUMBER: XX-117680
PROPOSED 30' EASEMENT		SCALE: 1" = 2000'
Drawn by: CHRIS MAAS / Date: 08/03/2016		REVISIONS:
		SHEET: 3 OF 4

EXHIBIT "A"
PAGE 4 of 4

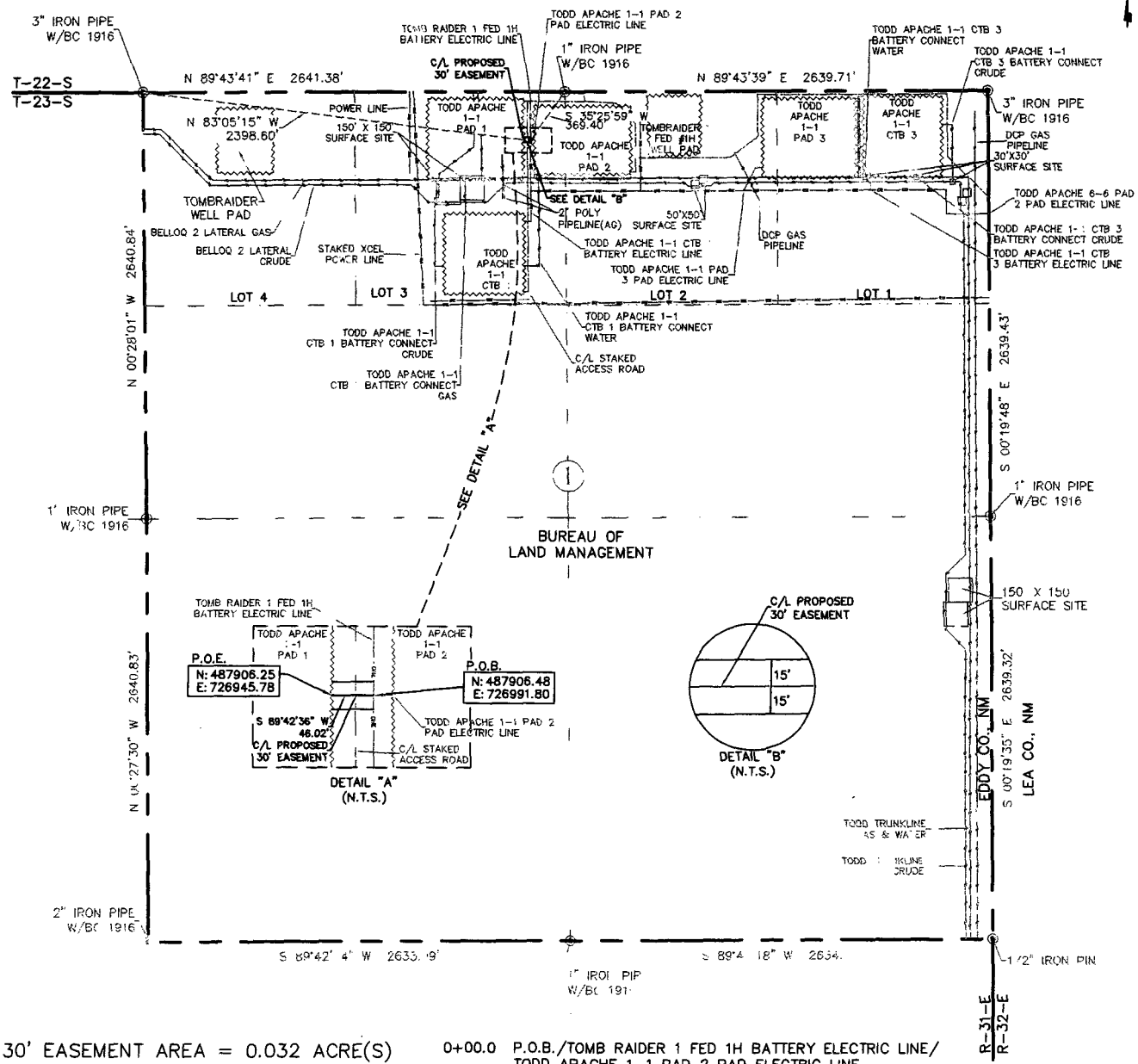


AERIAL MAP

SECTION 1, T23S-R31E, N.M.P.M.;
EDDY COUNTY, NEW MEXICO

HORIZON ROW LLC		Drawn for: devon	LINE NUMBER: EL7833
DEVON ENERGY PRODUCTION CO., L.P.			WBS NUMBER: XX-117680
PROPOSED 30' EASEMENT			SCALE: 1" = 2000'
			REVISIONS:
Drawn by: CHRIS MAAS	Date: 08/03/2016		SHEET: 4 OF 4

EXHIBIT "A"
PAGE 1 of 4
ELECTRIC LINE PLAT
SECTION 1, T23S–R31E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



30' EASEMENT AREA = 0.032 ACRE(S)
46.02 FEET OR 2.79 RODS

0+00.0 P.O.B./TOMB RAIDER 1 FED 1H BATTERY ELECTRIC LINE/ TODD APACHE 1-1 PAD 2 PAD ELECTRIC LINE
0+19.9 C/L STAKED ACCESS ROAD
0+46.0 P.O.E./TODD APACHE 1-1 PAD 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.

B.L. LAMAN NEW MEXICO 22404 PROFESSIONAL SURVEYOR

B.L. Laman PLS #22404
Date Signed: 08-05-2016
571 State Street, Jasper, TX.
(409) 202-5111 75951
Employee of Horizonrow, LLC

0 1000 2000

HORIZON ROW LLC	DEVON ENERGY PRODUCTION COMPANY, L.P.	LINE NUMBER: EL7834
Drawn for: devon	TODD APACHE 1-1 PAD 1 PAD ELECTRIC LINE	WBS NUMBER: XX-117680
		SCALE: 1" = 1000'
	PROPOSED 30' EASEMENT ON THE PROPERTY OF BUREAU OF LAND MANAGEMENT SECTION 1, T23S–R31E, N.M.P.M.	REVISIONS:
Drawn by: CHRIS MAAS	Date: 08/04/2016	SHEET: 1 OF 4

SECTION 1, T23S-R31E, N.M.P.M.,
EDDY COUNTY, NEW MEXICO

ELECTRIC LINE PLAT

LEGAL DESCRIPTION

FOR

DEVON ENERGY PRODUCTION COMPANY, L.P.

BUREAU OF LAND MANAGEMENT

30' EASEMENT DESCRIPTION:

BEING an easement thirty (30) feet in width lying fifteen (15) feet on the right side and fifteen (15) feet on the left side of the survey centerline described below, being out of Lot 3 of Section 1, Township 23 South, Range 31 East, N.M.P.M., Eddy County, New Mexico, and being out of a parcel of land owned by the Bureau of Land Management. Said centerline of easement being more particularly described as follows:

Commencing from a 1" iron pipe w/ BC 1916 for the north quarter corner of Section 1, T23S-R31E, N.M.P.M., Eddy County, New Mexico;

Thence S 35°25'59" W a distance of 369.40' to the **Point of Beginning** of this easement having coordinates of Northing=487906.48, Easting=726991.80 feet, and continuing the following course;

Thence S 89°42'36" W a distance of 46.02' to the **Point of Ending** having coordinates of Northing=487906.25, Easting=726945.78 feet in Lot 3, from said point a 3" iron pipe w/ BC 1916 for the northwest corner of Section 1, T23S-R31E bears N 83°05'15" W a distance of 2398.60', covering **46.02' or 2.79 rods** and having an area of **0.032 acres**.

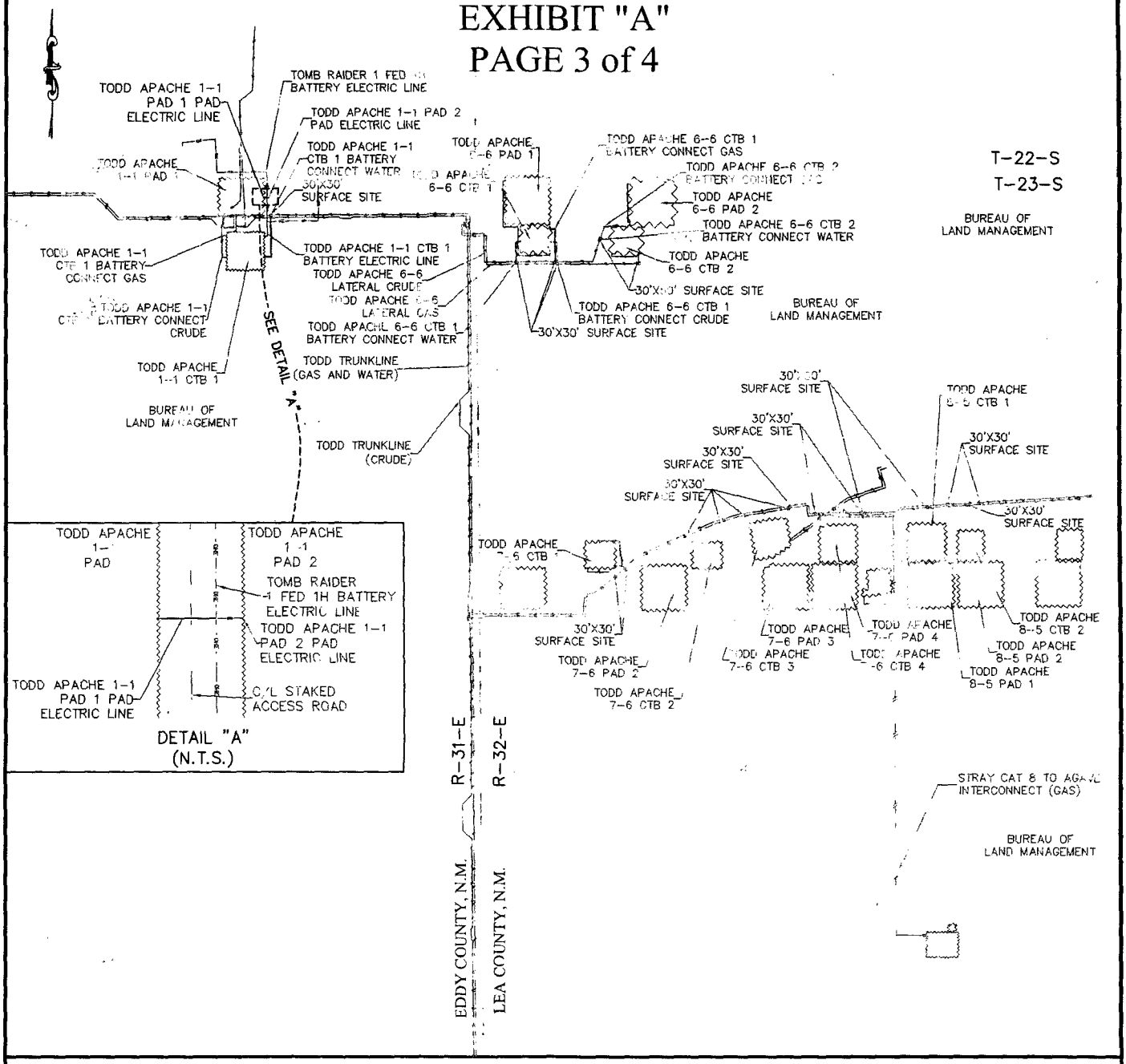
NOTES:

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: 08/05/2016
Horizon Row, LLC
571 State Street, Jasper, TX
(409) 202-5111 75951
Employee of Horizon Row, LLC

EXHIBIT "A"
PAGE 3 of 4

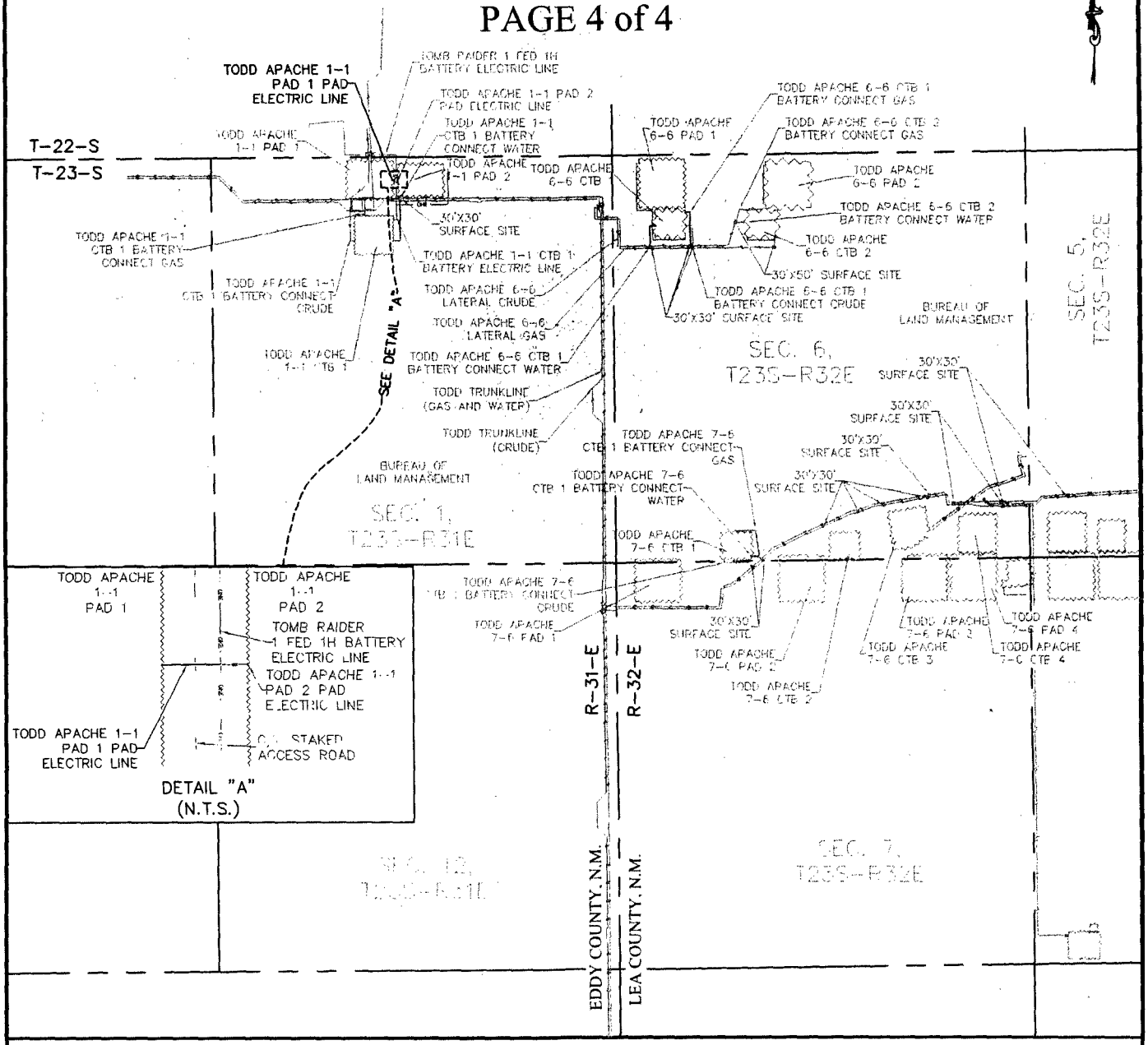


QUAD MAP

SECTION 1, T23S-R31E, N.M.P.M.;
EDDY COUNTY, NEW MEXICO

HORIZON ROW LLC	Drawn for: devon		LINE NUMBER: EL7834
DEVON ENERGY PRODUCTION CO., L.P.			WBS NUMBER: XX-117680
PROPOSED 30' EASEMENT			SCALE: 1" = 2000'
Drawn by: CHRIS MAAS	Date: 08/04/2016		REVISIONS:
			SHEET: 3 OF 4

EXHIBIT "A"
PAGE 4 of 4



AERIAL MAP

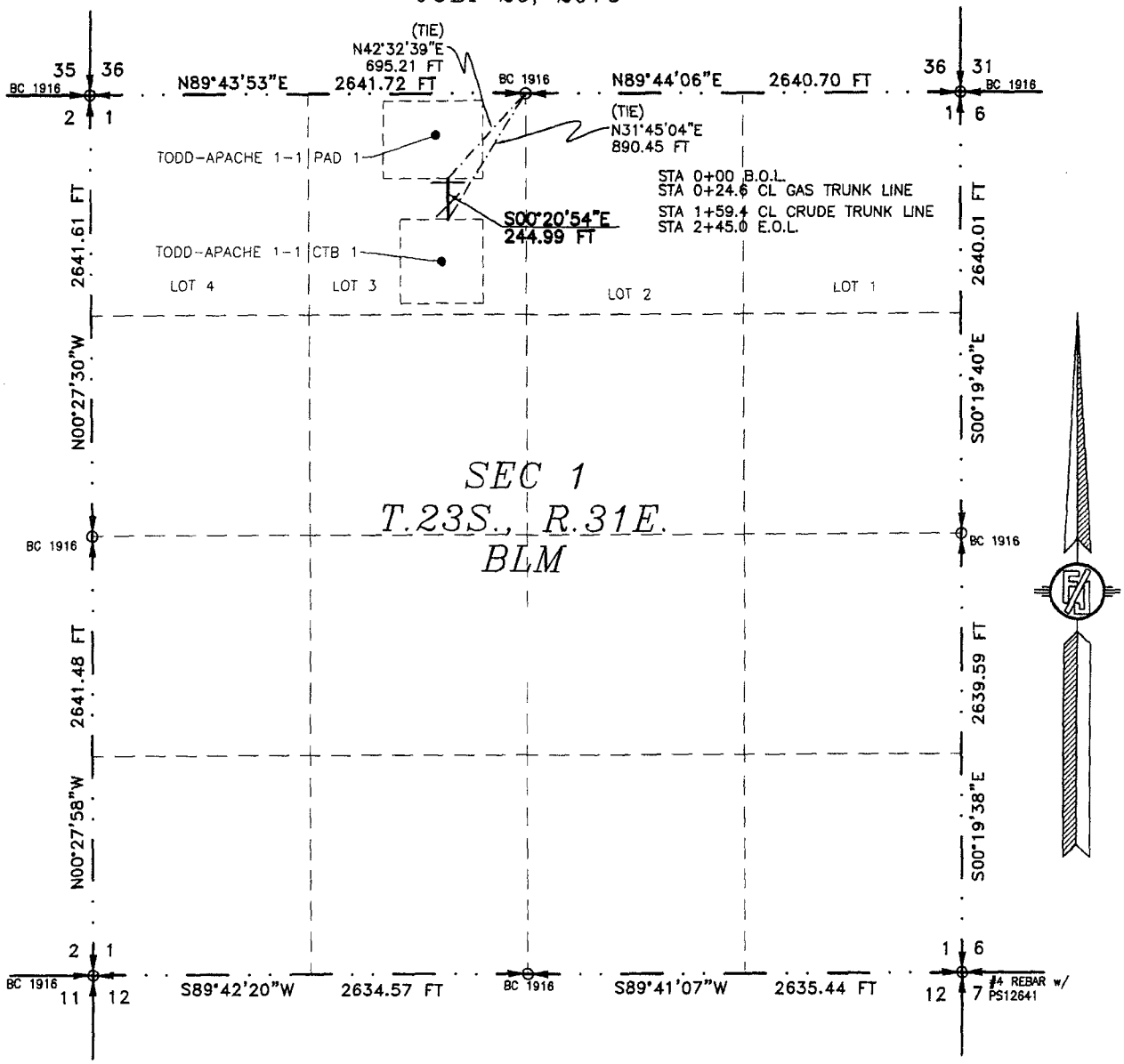
SECTION 1, T23S-R31E, N.M.P.M.;
EDDY COUNTY, NEW MEXICO

HORIZON ROW LLC	Drawn for: devon		LINE NUMBER: EL7834
DEVON ENERGY PRODUCTION CO., L.P.			WBS NUMBER: XX-117680
PROPOSED 30' EASEMENT			SCALE: 1" = 2000'
			REVISIONS:
Drawn by: CHRIS MAAS	Date: 08/04/2016		SHEET: 4 OF 4

FLOWLINE PLAT (400690XYZ)

70' MULTI-USE RIGHT-OF-WAY FROM THE TODD-APACHE 1-1 PAD 1 TO THE TODD-APACHE 1-1 CTB 1

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF A MULTI-USE EASEMENT
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
JULY 20, 2016



SEE NEXT SHEET (2-4) FOR DESCRIPTION

1000 0 1000

Scale: 1" = 1000'

GENERAL NOTES

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

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

SURVEYOR CERTIFICATE

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

IN WITNESS WHEREOF THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 26 DAY OF JULY 2016

FILIMON F. JARAMILLO, PLS 12797

301 SOUTH CANAL
(575) 234-3341

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

SHEET: 1-4

SURVEY NO. 4800A

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

FLOWLINE PLAT (400690XYZ)

70' MULTI-USE RIGHT-OF-WAY FROM THE TODD-APACHE 1-1 PAD 1 TO THE TODD-APACHE 1-1 CTB 1

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF A MULTI-USE EASEMENT
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
JULY 20, 2016

DESCRIPTION

A STRIP OF LAND 70 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 35 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN LOT 3 OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N42°32'39"E, A DISTANCE OF 695.21 FEET;
THENCE S00°20'54"E A DISTANCE OF 244.99 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N31°45'04"E, A DISTANCE OF 890.45 FEET;

SAID STRIP OF LAND BEING 244.99 FEET OR 14.85 RODS IN LENGTH, CONTAINING 0.394 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

LOT 3 244.99 L.F. 14.85 RODS 0.394 ACRES

GENERAL NOTES

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

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

SURVEYOR CERTIFICATE

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

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 26 DAY OF JULY, 2016

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

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

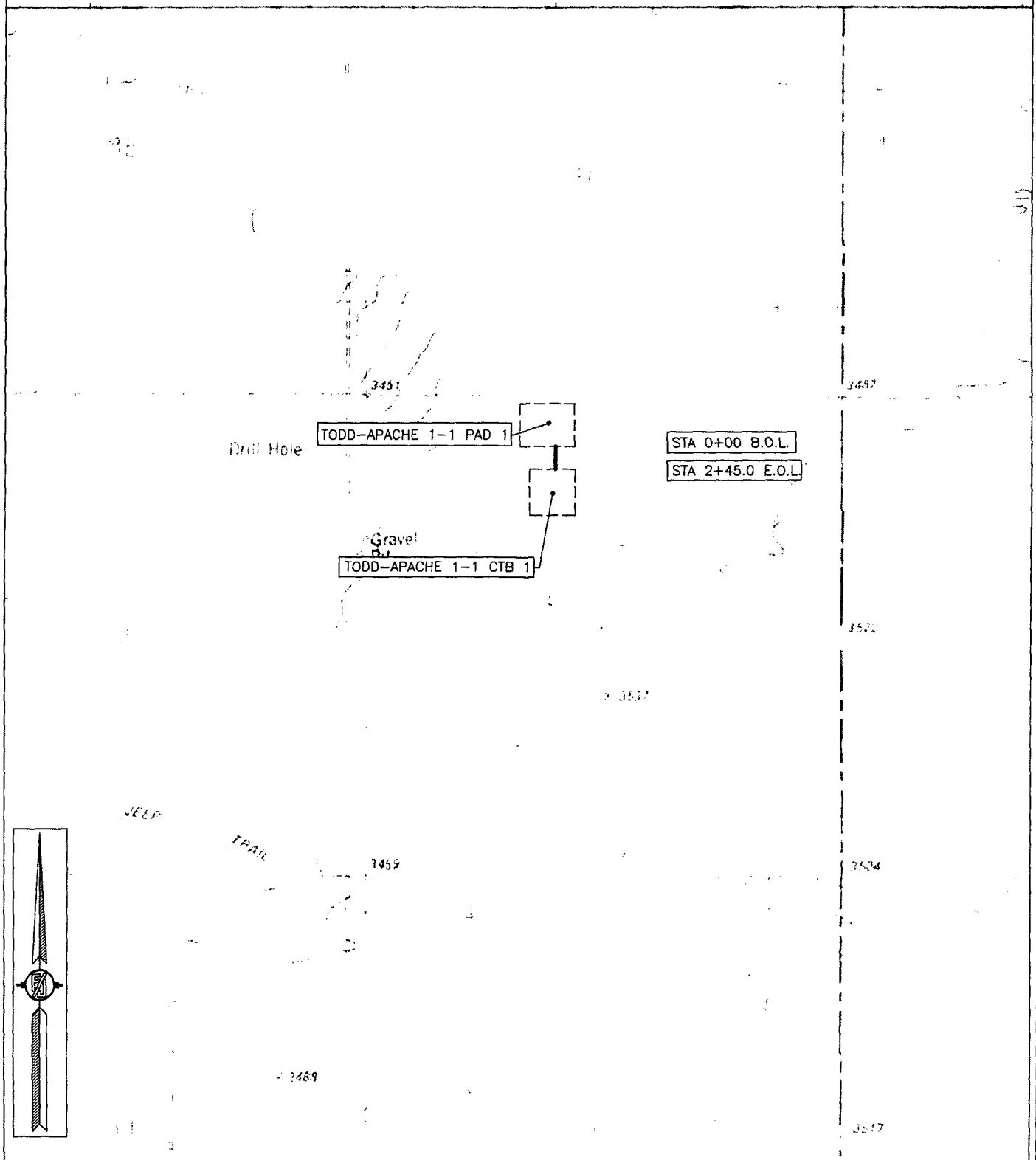
SURVEY NO. 4800A

FLOWLINE PLAT (400690XYZ)

70' MULTI-USE RIGHT-OF-WAY FROM THE TODD-APACHE 1-1 PAD 1 TO THE TODD-APACHE 1-1 CTB 1

DEVON ENERGY PRODUCTION COMPANY, L.P.

CENTERLINE SURVEY OF A MULTI-USE EASEMENT
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
JULY 20, 2016



SHEET: 3-4

SURVEY NO. 4800A

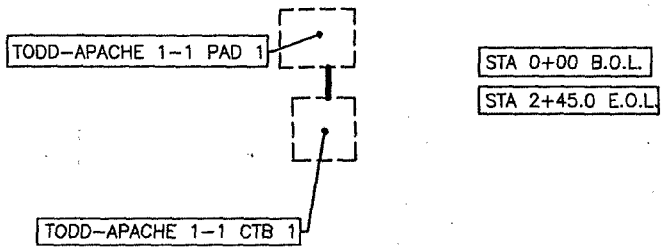
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

FLOWLINE PLAT (400690XYZ)

70' MULTI-USE RIGHT-OF-WAY FROM THE TODD-APACHE 1-1 PAD 1 TO THE TODD-APACHE 1-1 CTB 1

DEVON ENERGY PRODUCTION COMPANY, L.P.

CENTERLINE SURVEY OF A MULTI-USE EASEMENT
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
JULY 20, 2016

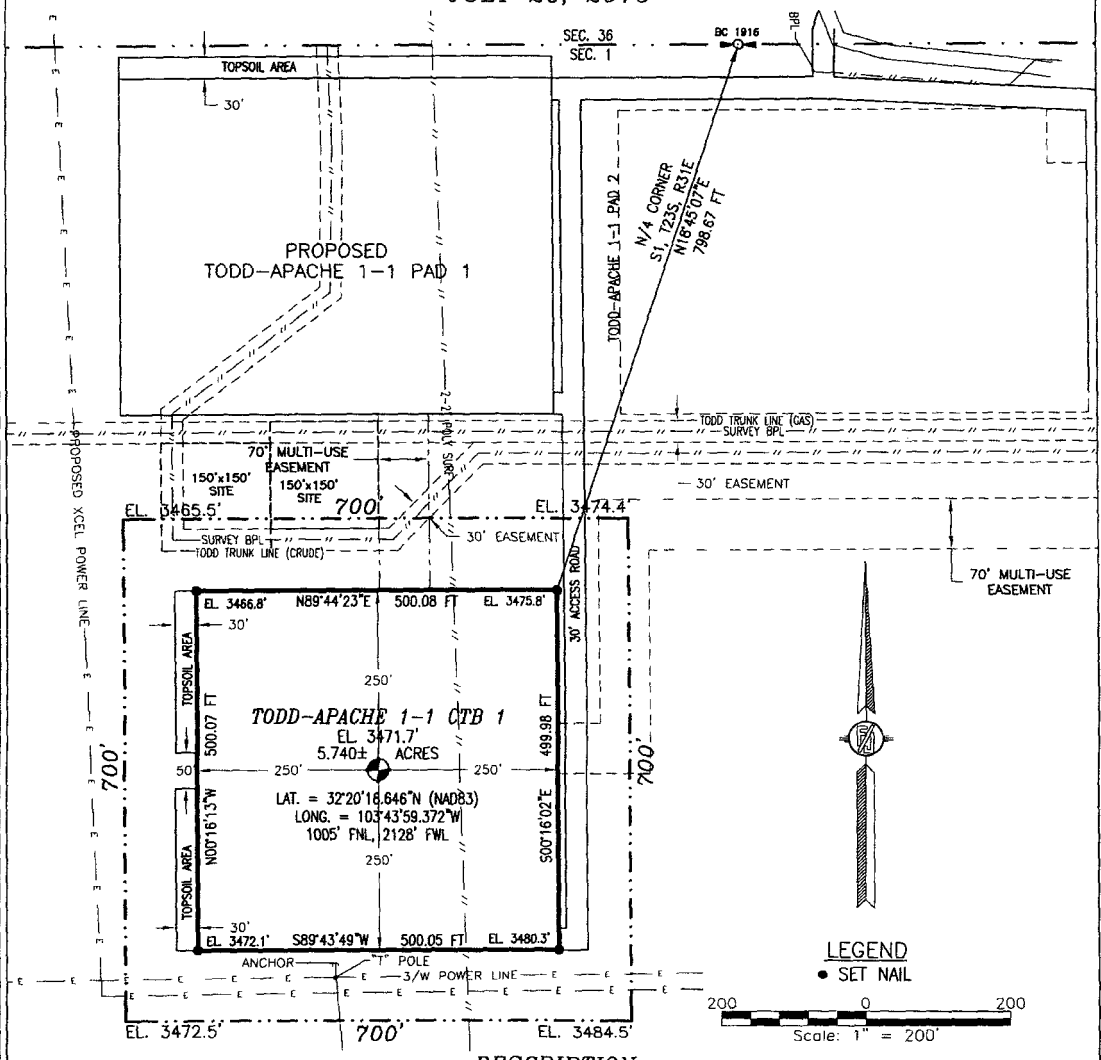


MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

TODD–APACHE 1–1 CTB 1 (AA000056016)

DEVON ENERGY PRODUCTION COMPANY, L.P.
IN LOT 3 OF
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

JULY 20, 2016



DESCRIPTION

A CERTAIN PIECE OR PARCEL OF LAND AND REAL ESTATE LYING IN LOT 3 OF SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST N.M.P.M., EDDY COUNTY, NEW MEXICO.

BEGINNING AT THE NORTHEAST CORNER OF THE PARCEL, WHENCE THE NORTH QUARTER CORNER OF SECTION 1, TOWNSHIP 23 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N18°45'07"E, A DISTANCE OF 798.67 FEET;
THENCE S00°16'02"E A DISTANCE OF 499.98 FEET TO THE SOUTHEAST CORNER OF THE PARCEL;
THENCE S89°43'49"W A DISTANCE OF 500.05 FEET TO THE SOUTHWEST CORNER OF THE PARCEL;
THENCE N00°16'13"W A DISTANCE OF 500.07 FEET TO THE NORTHWEST CORNER OF THE PARCEL;
THENCE N89°44'23"E A DISTANCE OF 500.08 FEET TO THE NORTHEAST CORNER OF THE PARCEL, TO THE POINT OF BEGINNING;
CONTAINING 5.740 ACRES MORE OR LESS.

GENERAL NOTES

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

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

DRIVING DIRECTION: FROM STATE HIGHWAY 128 AND CR 798 (RED ROAD) GO NORTH ON CR 798 6.4 MILES, TURN RIGHT ON CALICHE ROAD AND GO EAST 0.4 OF A MILE, BEND RIGHT AND GO SOUTH 0.15 OF A MILE, BEND LEFT AND GO SOUTHEAST 0.19 OF A MILE, TURN RIGHT AND GO SOUTH 0.11 OF A MILE TO A PROPOSED ROAD SURVEY WHERE ROAD BENDS LEFT, FOLLOW FLAGS SOUTH 90', THEN WEST 378', THEN SOUTH 1180', THEN WEST 25' TO THE SOUTHEAST PAD CORNER FOR THIS LOCATION.

SURVEYOR CERTIFICATE

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

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 29TH DAY OF JULY, 2016

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

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

TODD-APACHE 1-1 CTB 1 (AA000056016)

DEVON ENERGY PRODUCTION COMPANY, L.P.

IN LOT 3 OF
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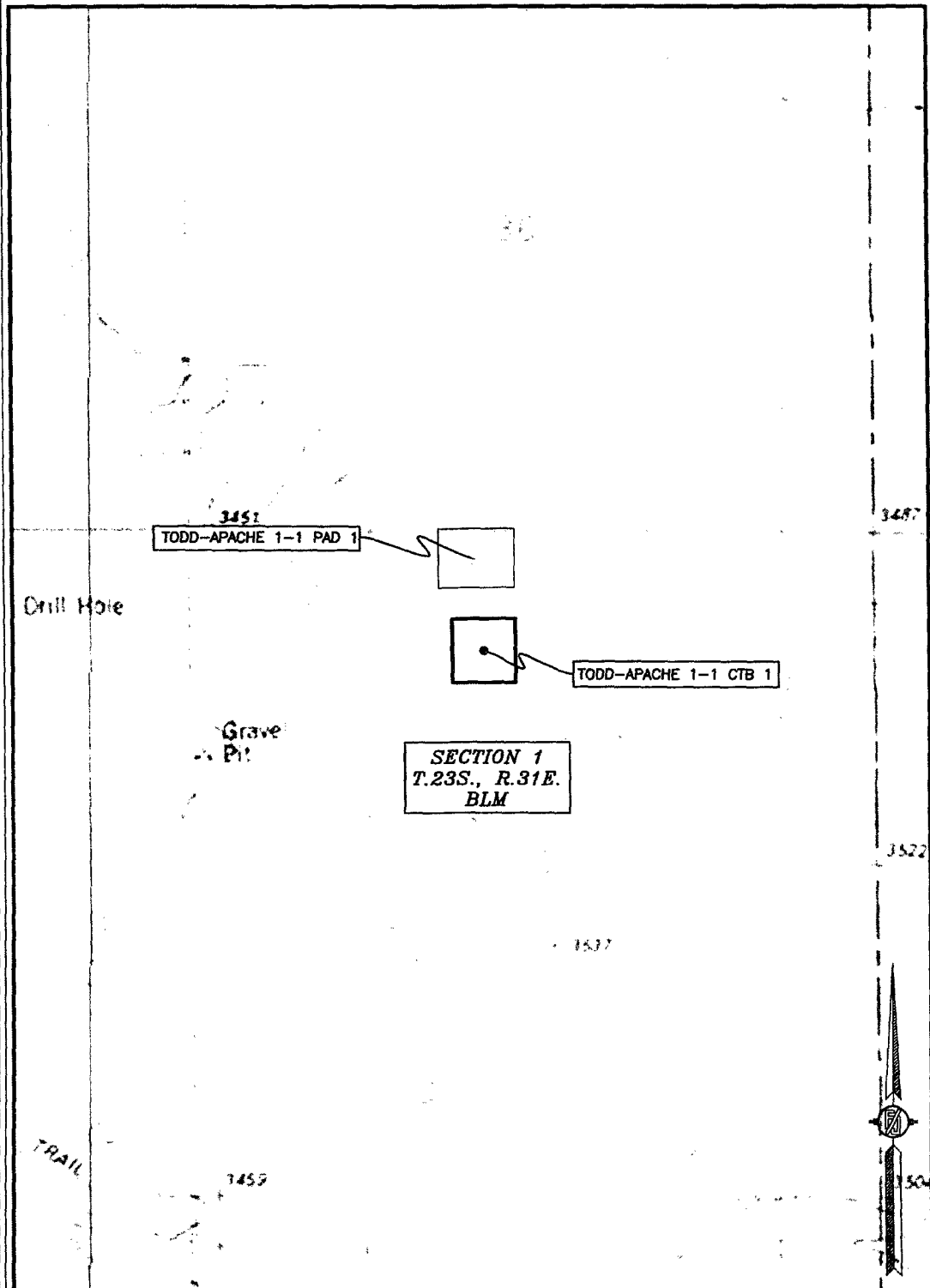
JULY 20, 2016

QUAD MAP



SHEET: 2-3 SURVEY NO. 4527D

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

TODD-APACHE 1-1 CTB 1 (AA000056016)

DEVON ENERGY PRODUCTION COMPANY, L.P.
IN LOT 3 OF
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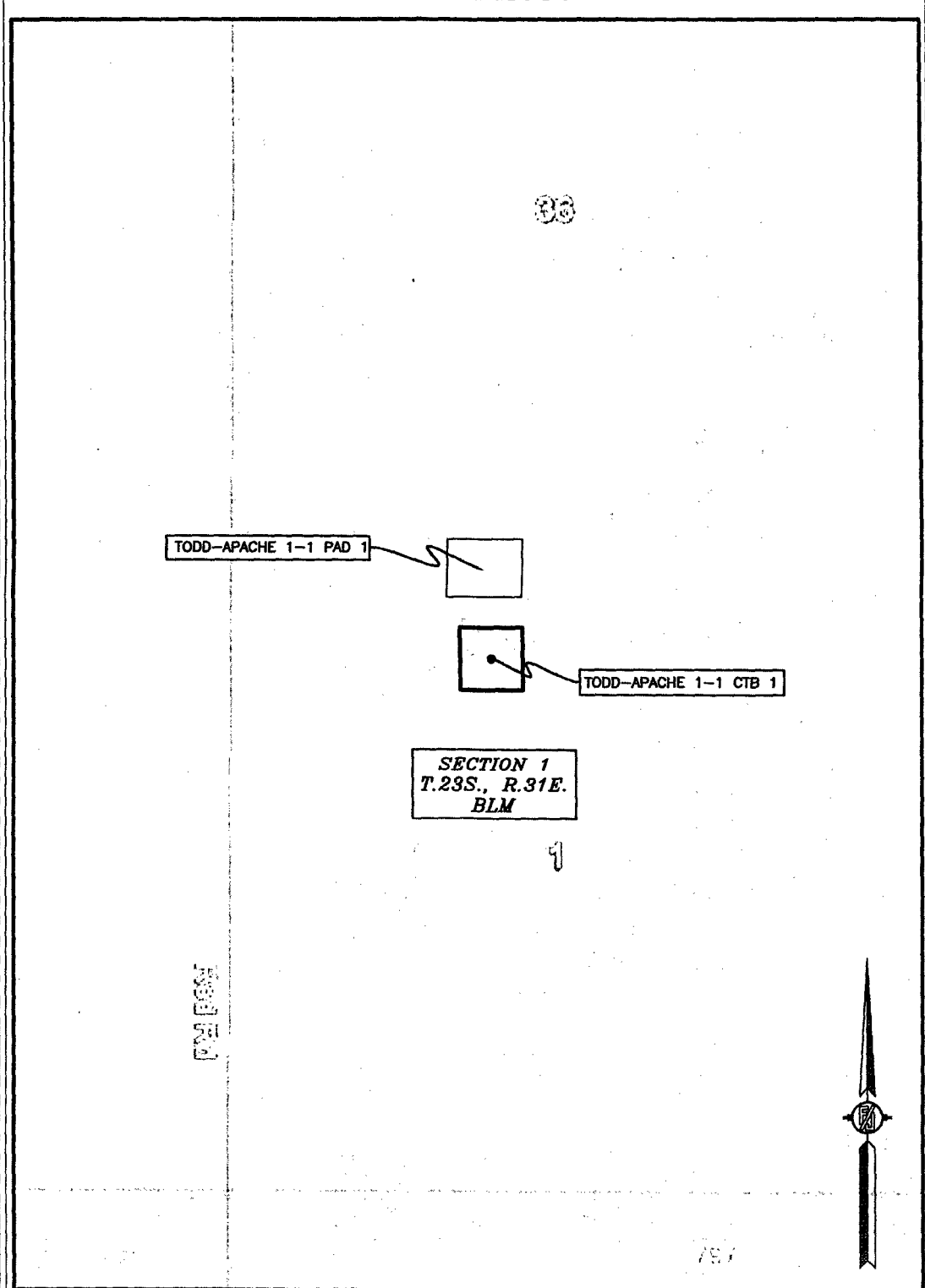
JULY 20, 2016

AERIAL PHOTO



SHEET: 3-3 SURVEY NO. 4527D

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

Section 1 - General

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

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

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

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

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

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

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

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

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

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

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

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

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

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

Bond Info Data Report

11/17/2017

Bond Information

Federal/Indian APD: FED

BLM Bond number: NMB000801

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: