RECEIVED

Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NOV 19 2019

DISTRICT II/ARTESIA O.C.D.

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

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on page 2

5. Lease Serial No.
NMLC062300

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
NMNM134249

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
BIG SINKS DRAW 25-24 FED COM 332H

2. Name of Operator
DEVON ENERGY PRODUCTION COM LP
Contact: JENNIFER HARMS
E-Mail: jennifer.harms@dvn.com

9. API Well No.
30-015-44223-00-X1

3a. Address
333 WEST SHERIDAN AVENUE
OKLAHOMA, OK 73102

3b. Phone No. (include area code)
Ph: 405-552-6560

10. Field and Pool or Exploratory Area
JENNINGS

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 25 T25S R31E SENW 2483FNL 2160FWL
32.102074 N Lat, 103.735847 W Lon

11. County or Parish, State
EDDY COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original A PD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

SHL/BHL/NAME CHANGE

Devon Energy Production Co., L.P. (Devon) respectfully requests to move the SHL/BHL and have a name change on the subject well. Please see attached revised C102, Drill plan, directional plan.

-COTTON DRAW MDP 2
Permitted SHL: SENW 2350 FNL, 1345 FWL, 25-25S-31E
Proposed SHL: SENW, 2483 FNL, 2160 FWL, 25-25S-31E
Permitted BHL: NENW, 330 FNL, 1980 FWL, 24-25S-31E
Proposed BHL: NENW, 330 FNL, 2210 FWL, 24-25S-31E
Permitted Well name: BIG SINKS DRAW 25-24 FED COM 422H
Proposed Well name: BIG SINKS DRAW 25-24 FED COM 332H

Carlsbad Field Office
OCD Artesia

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #483906 verified by the BLM Well Information System
For DEVON ENERGY PRODUCTION COM LP, sent to the Carlsbad
Committed to AFMSS for processing by PRISCILLA PEREZ on 09/18/2019 (19PP3391SE)

Name *(Printed/Typed)* JENNIFER HARMS — Title REGULATORY COMPLIANCE ANALYST

Signature (Electronic Submission) — Date 09/18/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By LONG VO — Title PETROLEUM ENGINEER — Date 11/04/2019

Conditions of approval, if any, are attached. Approval of this notice 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.

Office Carlsbad

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.

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

RWP 11-2519

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Prod Co
LEASE NO.:	NMLC062300
WELL NAME & NO.:	332H – Big Sinks Draw 25-24 Fed
SURFACE HOLE FOOTAGE:	2483'/N & 2160'/W
BOTTOM HOLE FOOTAGE	330'/N & 2210'/W
LOCATION:	Section 25, T.25 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

COA

H2S	☐ Yes	☉ No	
Potash	☉ None	☐ Secretary	☐ R-111-P
Cave/Karst Potential	☉ Low	☐ Medium	☐ High
Cave/Karst Potential	☐ Critical		
Variance	☐ None	☉ Flex Hose	☐ Other
Wellhead	☐ Conventional	☐ Multibowl	☉ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☑ Fluid Filled	☑ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☐ COM	☐ Unit

All Previous COAs Still Apply

A. CASING

Primary Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **945 feet** (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength,

whichever is greater.

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

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

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

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above.

Option 2:

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

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

b. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.

Operator has proposed to pump down 13-3/8" X 7-5/8" annulus. Operator must run a CBL from TD of the 7-5/8" casing to surface. Submit results to BLM.

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

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.
  Cement excess is less than 25%, more cement might be required.

Alternate Casing Design:

4. The **13-3/8** inch surface casing shall be set at approximately **945 feet** (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

e. 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.

f. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
g. 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.
h. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

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

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above.

Option 2:

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

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

d. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.

Operator has proposed to pump down 13-3/8" X 8-5/8" annulus. Operator must run a CBL from TD of the 8-5/8" casing to surface. Submit results to BLM.

The operator is approved to drill a 10.625" hole instead of 9.875" for intermediate 1 with a BTC connection.

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

   - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.
     Cement excess is less than 25%, more cement might be required.

B. PRESSURE CONTROL

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

2.

Option 1:

a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **5000 (5M)** psi.

Option 2:

1. 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 **5000 (5M)** psi.

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

GENERAL REQUIREMENTS

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

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

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

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

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

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

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

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

A. CASING

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

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

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

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

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

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

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

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

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

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

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

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
    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.

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

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

hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

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

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

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

e. The results of the test shall be reported to the appropriate BLM office.

f. 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.

g. 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.

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

RECEIVED
NOV 19 2019
DISTRICT I-ARTESIA O.C.D.

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-44223	97860	JENNINGS; BONE SPRING

[4] Property Code	[5] Property Name	[6] Well Number
	BIG SINKS DRAW 25-24 FED COM	332H

[7] OGRID No.	[8] Operator Name	[9] Elevation
6137	DEVON ENERGY PRODUCTION COMPANY, L.P.	3335.6

[10] Surface Location

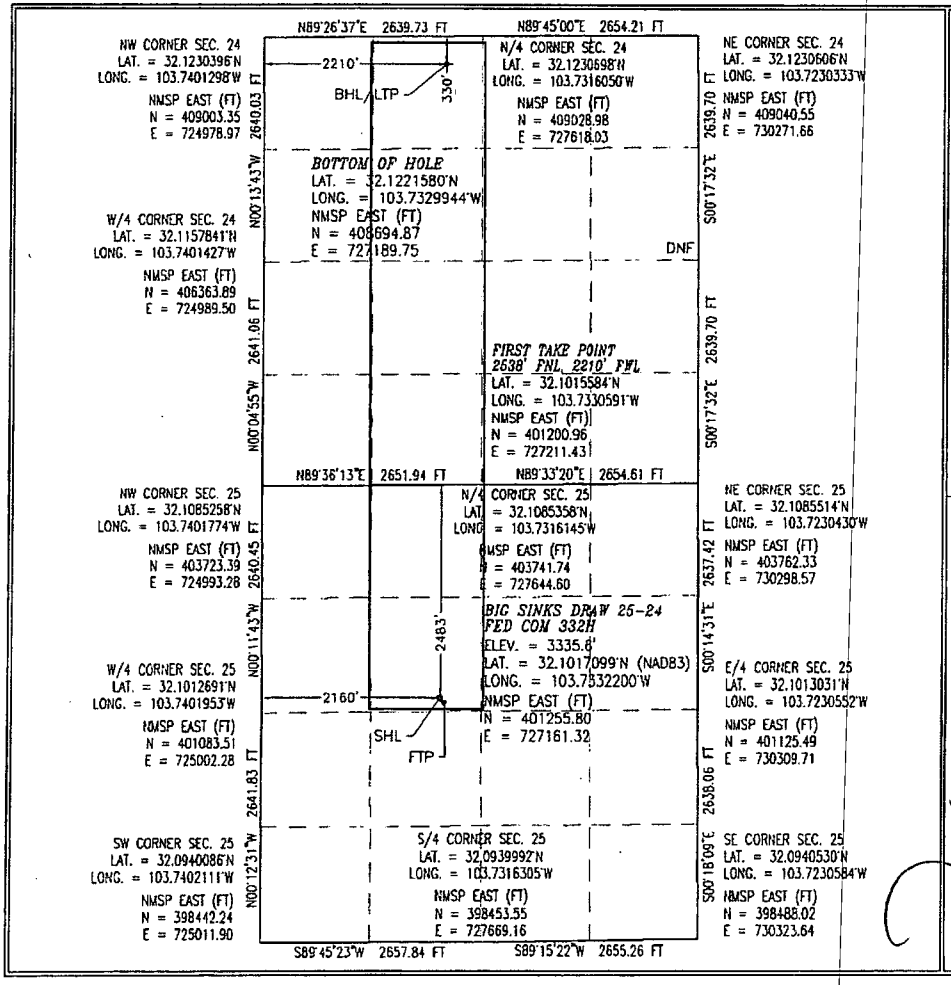
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	25	25 S	31 E		2483	NORTH	2160	WEST	EDDY

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	24	25 S	31 E		330	NORTH	2210	WEST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
240			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



[17] OPERATOR CERTIFICATION

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

Jenny Harms 9-18-19
Signature Date

JENNY HARMS
Printed Name

JENNY.HARMS@DVN.COM
E-mail Address

[18] SURVEYOR CERTIFICATION

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

AUGUST 1, 2019
Date of Survey

Signature and Seal of Professional Surveyor:

EDMUND E. JARAMILLO
NEW MEXICO
12797
REGISTERED PROFESSIONAL SURVEYOR

Certificate Number: EDMUND E. JARAMILLO, PLS 12797

SURVEY NO. 7458

RWP 11-25-19

Intent [X] As Drilled [ ]

API #

Operator Name:	Property Name:	Well Number
DEVON ENERGY PRODUCTION CO., L.P.	BIG SINKS DRAW 25-24 FED COM	332H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
F	25	25S	31E		2589 FNL		2210 FWL		83

Latitude	Longitude	NAD
32.101418	-103.733061	83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
F	25	25S	31E		2538	NORTH	2210	WEST	EDDY

Latitude	Longitude	NAD
32.1015584	103.7330591	83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
C	24	25S	31E		330	NORTH	2210	WEST	EDDY

Latitude	Longitude	NAD
32.1221580	103.7329944	83

Is this well the defining well for the Horizontal Spacing Unit? YES

Is this well an infill well? NO

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

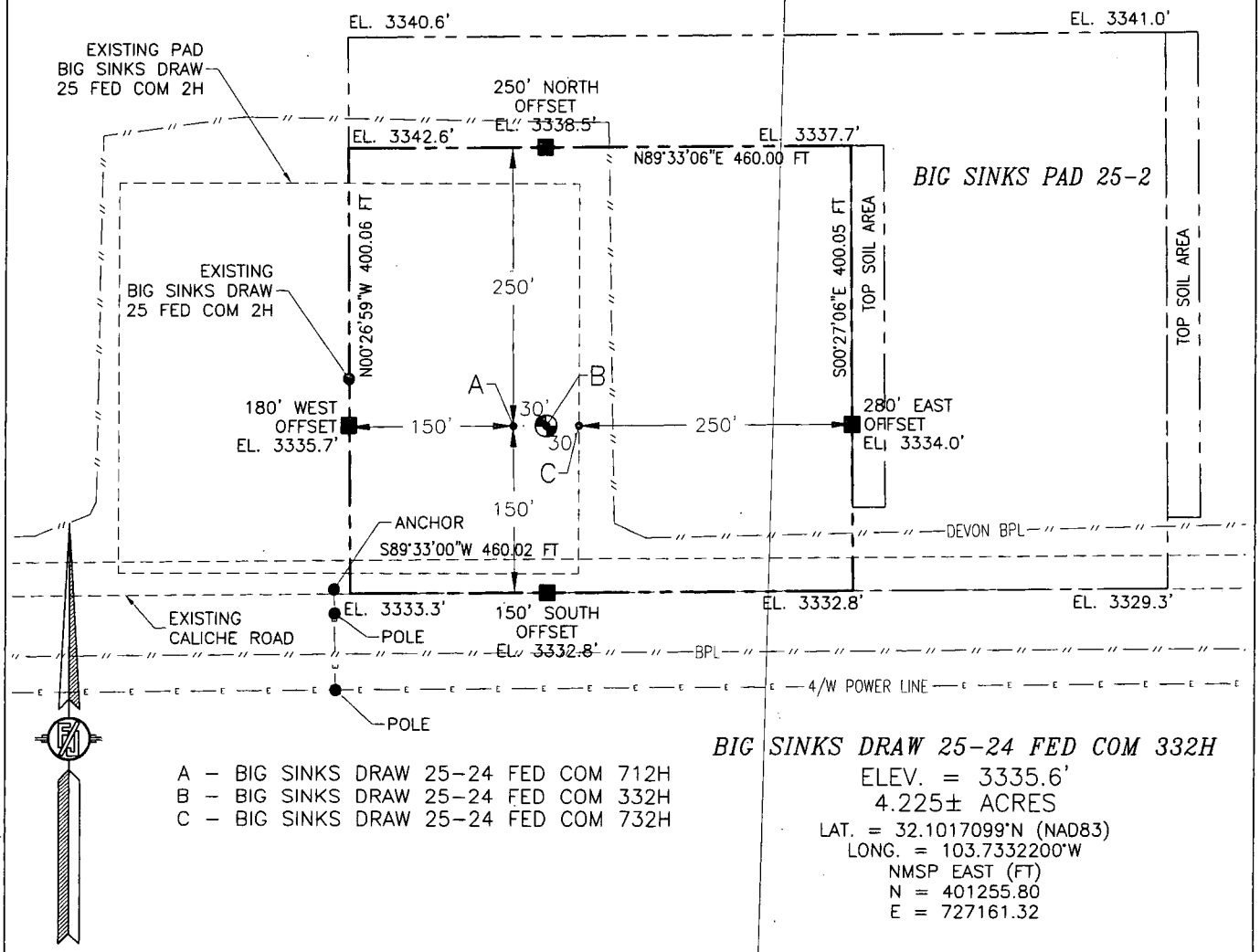
API #

Operator Name:	Property Name:	Well Number

KZ 06/29/2018

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

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



A – BIG SINKS DRAW 25-24 FED COM 712H
B – BIG SINKS DRAW 25-24 FED COM 332H
C – BIG SINKS DRAW 25-24 FED COM 732H

BIG SINKS DRAW 25-24 FED COM 332H
ELEV. = 3335.6'
4.225± ACRES
LAT. = 32.1017099°N (NAD83)
LONG. = 103.7332200°W
NMSP EAST (FT)
N = 401255.80
E = 727161.32

015 75 150 300
SCALE 1" = 150'

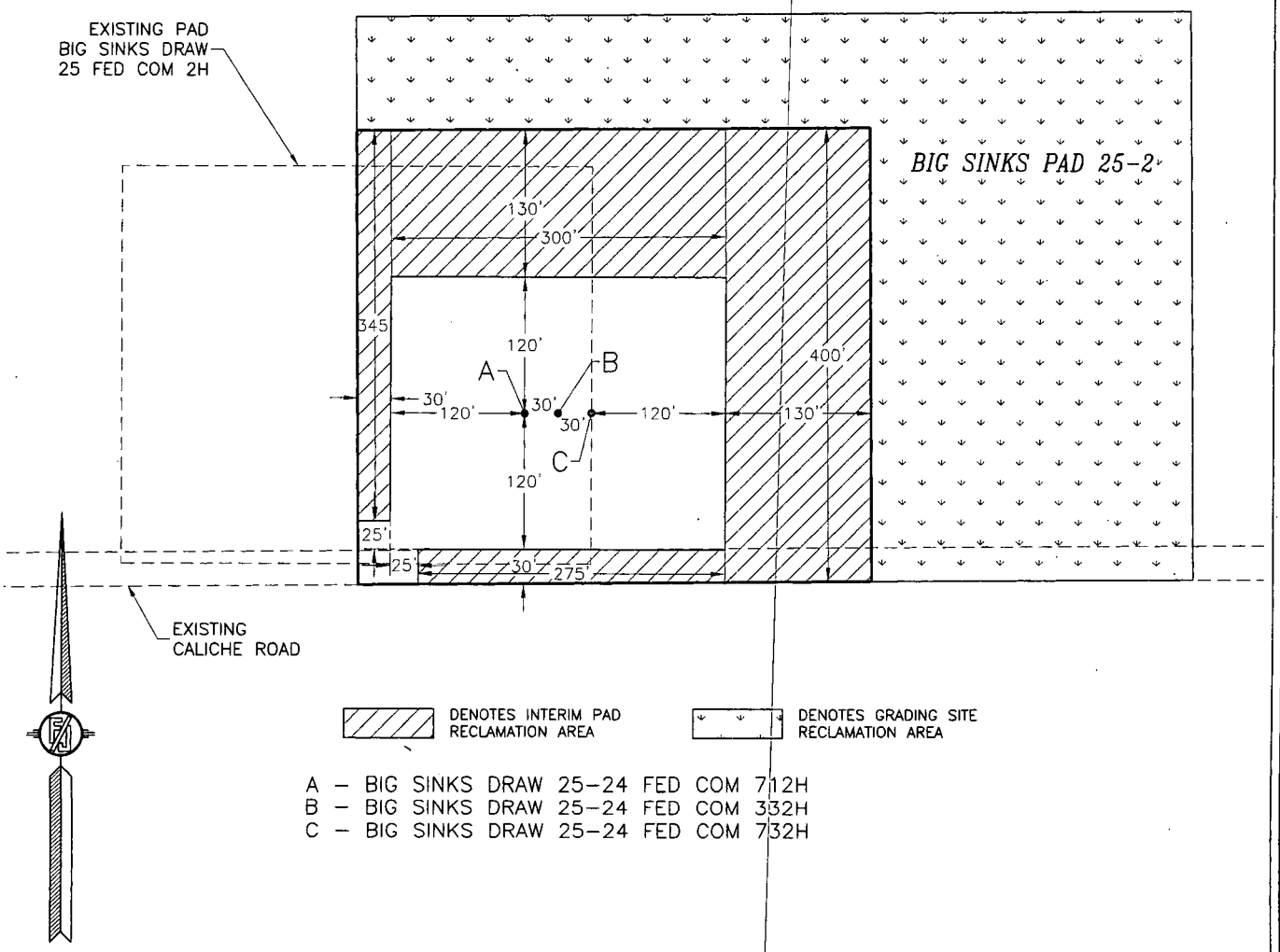
DIRECTIONS TO LOCATION
FROM STATE HIGHWAY 128 AND CR 1 (ORLA ROAD) GO SOUTH ON CR 1 6.2 MILES, TURN RIGHT ON CALICHE ROAD (MONSANTO ROAD) AND GO WEST 2.1 MILES, TURN RIGHT AND GO NORTH 0.4 OF A MILE, CROSS A CATTLE GUARD, CONTINUE NORTH 0.4 OF A MILE, ROAD BENDS LEFT (WEST) CONTINUE WEST 2.0 MILES TO AN INTERSECTION, CONTINUE SOUTHWEST THROUGH INTERSECTION, ROAD BENDS SOUTH, CROSS A CATTLE GUARD, 3.45 MILES FROM INTERSECTION TURN LEFT ON CALICHE ROAD AND GO EAST 1.0 MILE TO AN EXISTING ROAD AND GO SOUTH 555' THEN EAST 2002' TO THE SOUTHWEST PAD CORNER FOR THIS LOCATION.

DEVON ENERGY PRODUCTION COMPANY, L.P.
BIG SINKS DRAW 25-24 FED COM 332H
LOCATED 2483 FT. FROM THE NORTH LINE AND 2160 FT. FROM THE WEST LINE OF SECTION 25, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

AUGUST 1, 2019
SURVEY NO. 7458

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

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



A – BIG SINKS DRAW 25-24 FED COM 712H
B – BIG SINKS DRAW 25-24 FED COM 332H
C – BIG SINKS DRAW 25-24 FED COM 732H

015 75 150 300
SCALE 1" = 150'

2.515± ACRES INTERIM PAD RECLAMATION AREA
4.386± ACRES GRADING SITE RECLAMATION AREA
1.709± ACRES NON-RECLAIMED AREA
8.610± ACRES BIG SINKS PAD 25-2

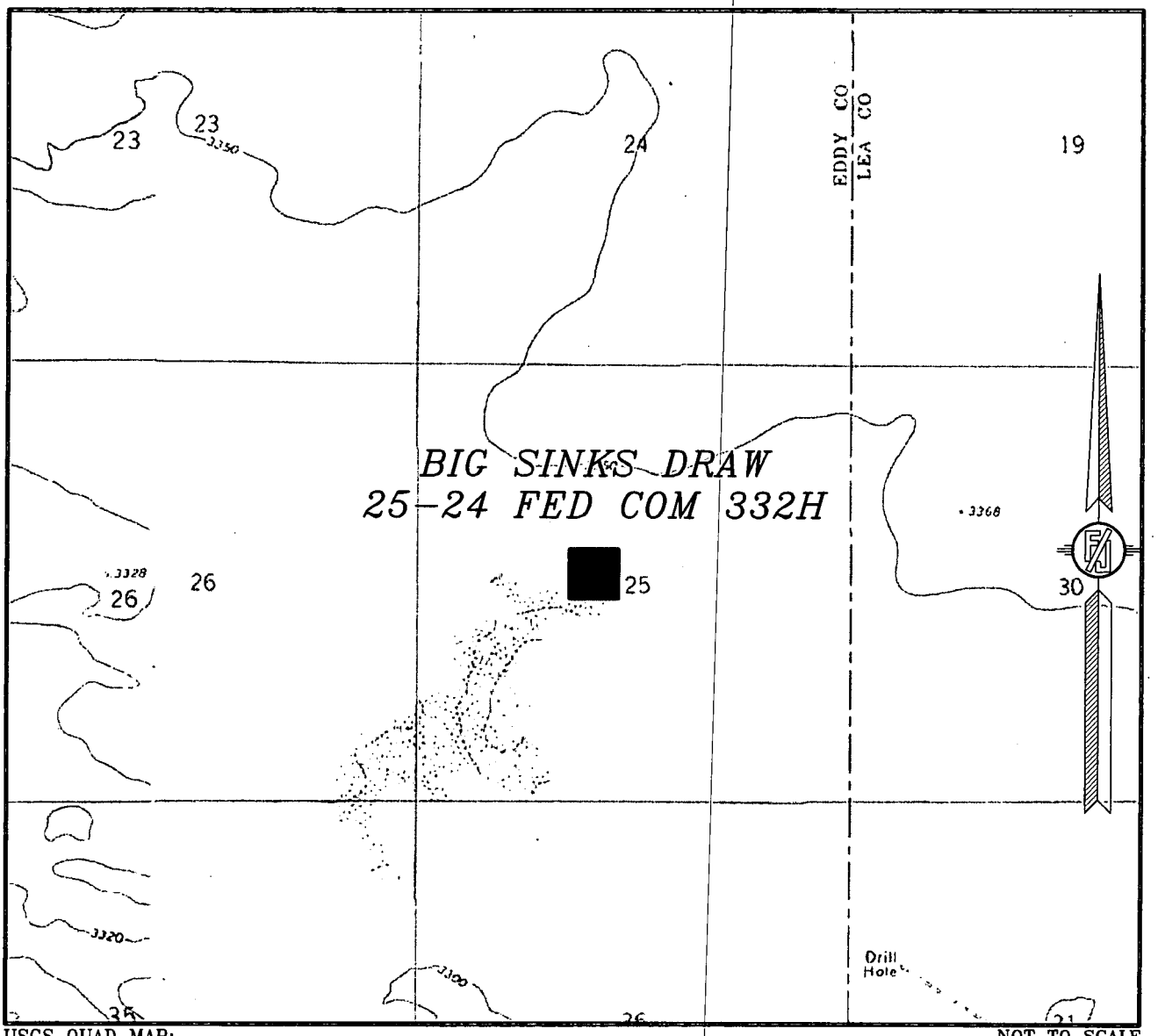
DEVON ENERGY PRODUCTION COMPANY, L.P.
BIG SINKS DRAW 25-24 FED COM 332H
LOCATED 2483 FT. FROM THE NORTH LINE
AND 2160 FT. FROM THE WEST LINE OF
SECTION 25, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

AUGUST 1, 2019
SURVEY NO. 7458

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

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

LOCATION VERIFICATION MAP



USGS QUAD MAP:
PADUCA BREAKS WEST

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.
BIG SINKS DRAW 25-24 FED COM 332H
LOCATED 2483 FT. FROM THE NORTH LINE
AND 2160 FT. FROM THE WEST LINE OF
SECTION 25, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

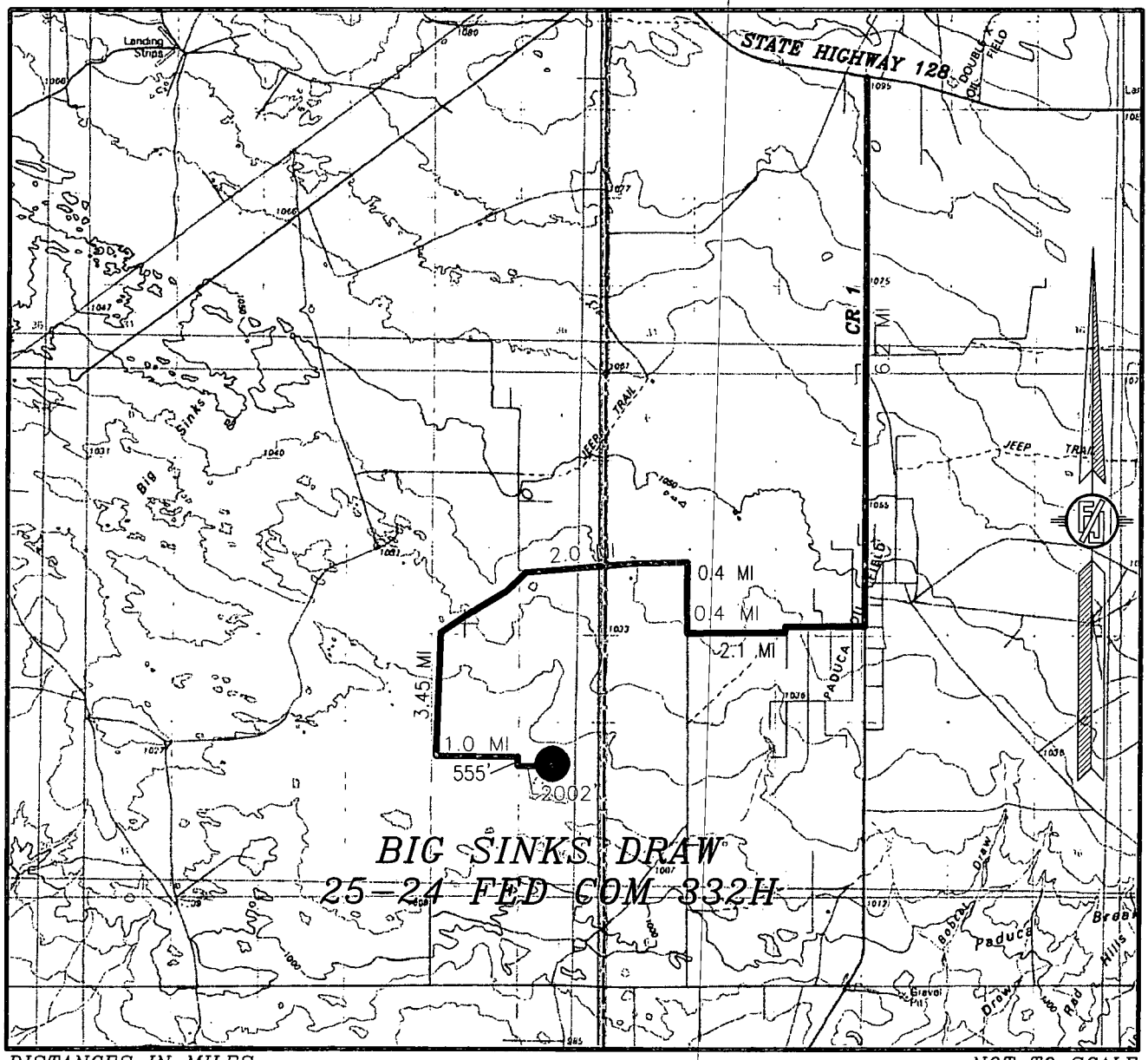
AUGUST 1, 2019

SURVEY NO. 7458

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

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

VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

BIG SINKS DRAW 25-24 FED COM 332H

LOCATED 2483 FT. FROM THE NORTH LINE
AND 2160 FT. FROM THE WEST LINE OF
SECTION 25, TOWNSHIP 25 SOUTH,
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LAND STATUS: BLM

AUGUST 1, 2019

DIRECTIONS TO LOCATION

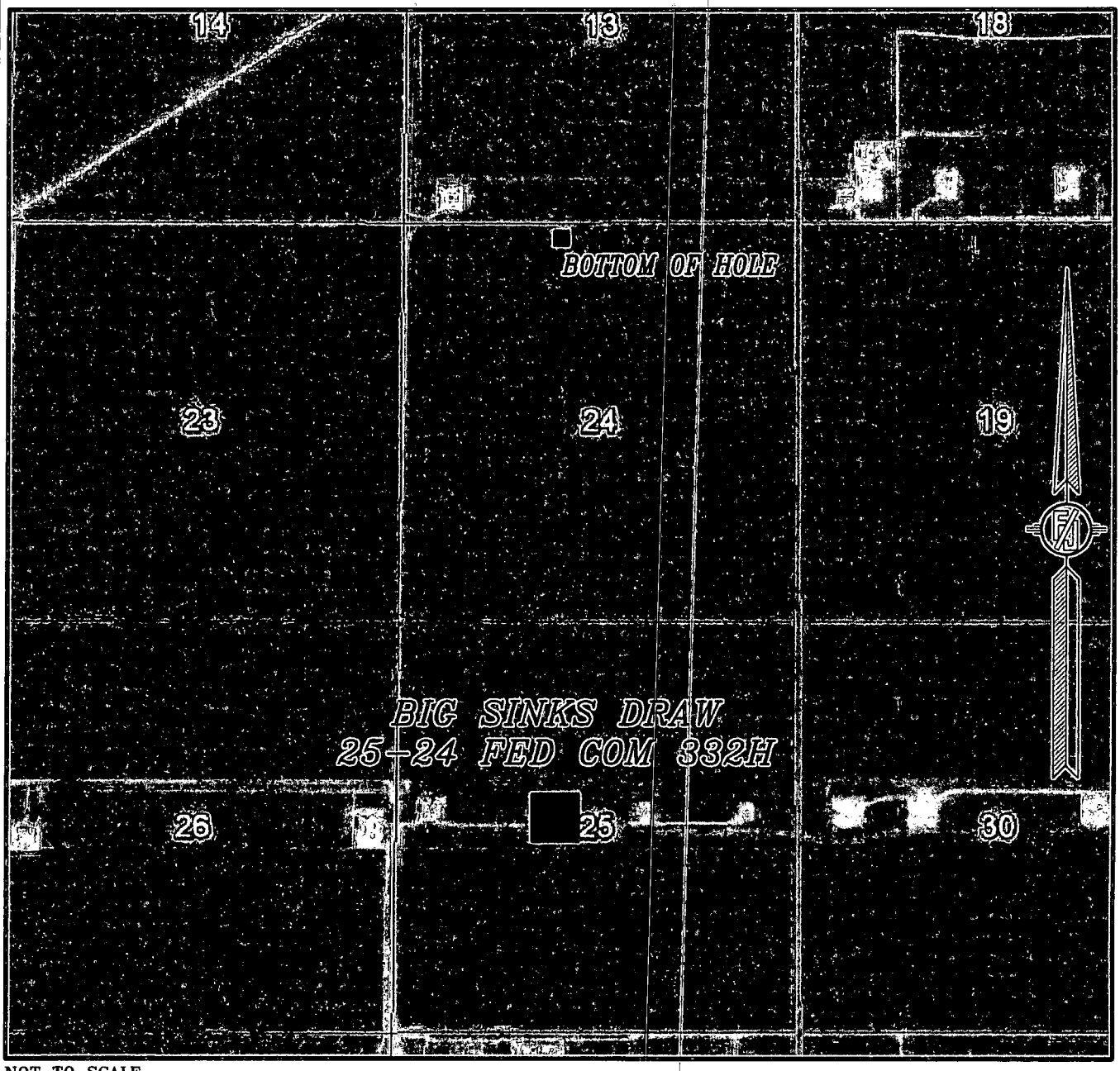
FROM STATE HIGHWAY 128 AND CR 1 (ORLA ROAD) GO SOUTH ON CR 1 6.2 MILES, TURN RIGHT ON CALICHE ROAD (MONSANTO ROAD) AND GO WEST 2.1 MILES, TURN RIGHT AND GO NORTH 0.4 OF A MILE, CROSS A CATTLE GUARD, CONTINUE NORTH 0.4 OF A MILE, ROAD BENDS LEFT (WEST) CONTINUE WEST 2.0 MILES TO AN INTERSECTION, CONTINUE SOUTHWEST THROUGH INTERSECTION, ROAD BENDS SOUTH, CROSS A CATTLE GUARD, 3.45 MILES FROM INTERSECTION TURN LEFT ON CALICHE ROAD AND GO EAST 1.0 MILE TO AN EXISTING ROAD AND GO SOUTH 555' THEN EAST 2002' TO THE SOUTHWEST PAD CORNER FOR THIS LOCATION.

SURVEY NO. 7458

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

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

AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
FEBRUARY 2019

DEVON ENERGY PRODUCTION COMPANY, L.P.

BIG SINKS DRAW 25-24 FED COM 332H

LOCATED 2483 FT. FROM THE NORTH LINE
AND 2160 FT. FROM THE WEST LINE OF
SECTION 25, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

AUGUST 1, 2019

SURVEY NO. 7458

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

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

ACCESS AERIAL ROUTE MAP

NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
FEBRUARY 2019

DEVON ENERGY PRODUCTION COMPANY, L.P.

BIG SINKS DRAW 25-24 FED COM 332H

LOCATED 2483 FT. FROM THE NORTH LINE
AND 2160 FT. FROM THE WEST LINE OF
SECTION 25, TOWNSHIP 25 SOUTH,
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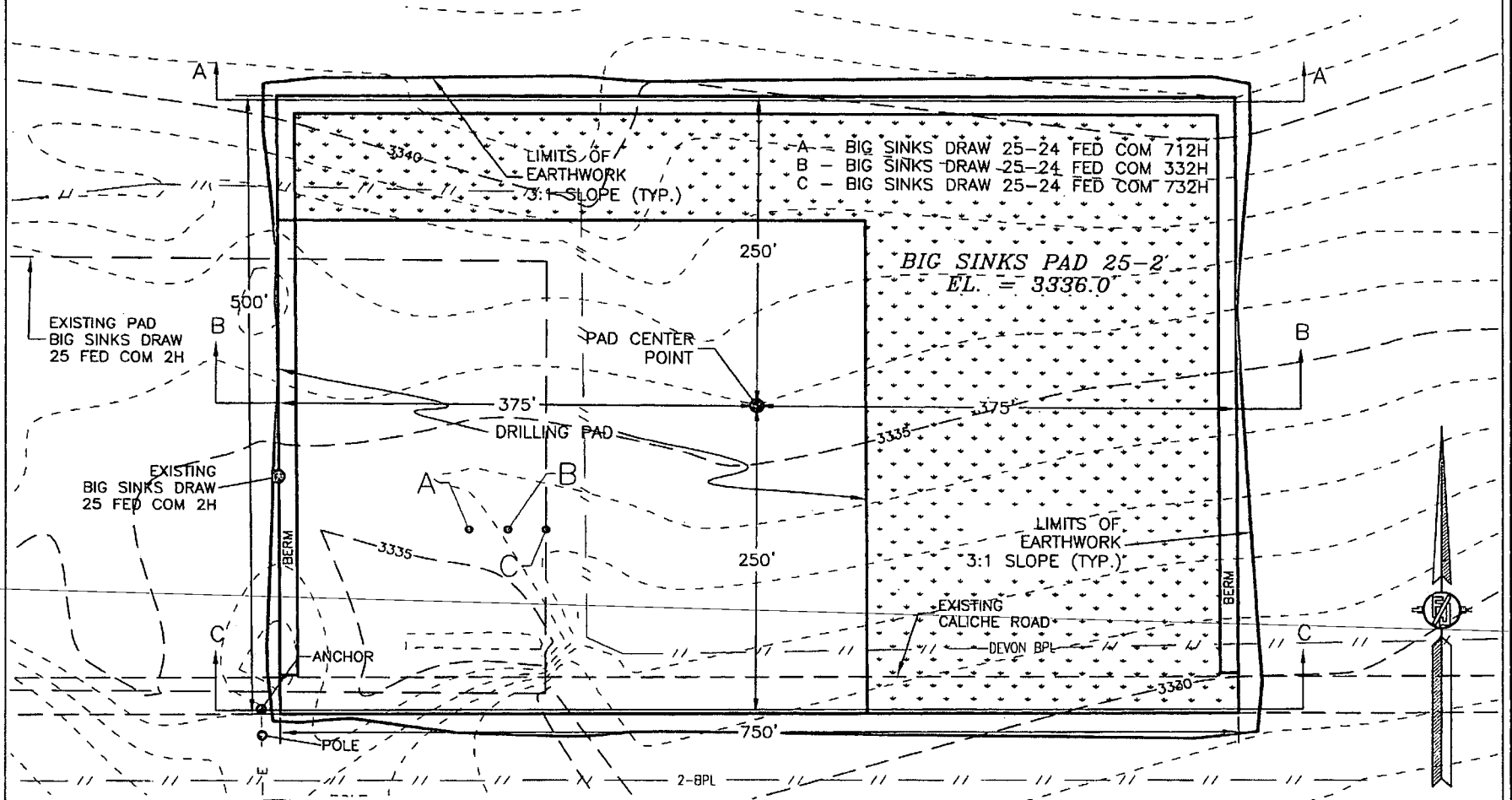
EDDY COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

AUGUST 1, 2019

SURVEY NO. 7458

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

PLAN VIEW



I, FILIMON F. JARAMILLO, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

FILIMON F. JARAMILLO PLS 12797 — DATE 9/3/19

DEVON ENERGY PRODUCTION COMPANY, L.P.
GRADING PLAN AND CROSS SECTIONS
FOR BIG SINKS DRAW 25–24 FED COM 332H
SECTION 25, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 1, 2019

012 60 120 240
SCALE 1" = 120'

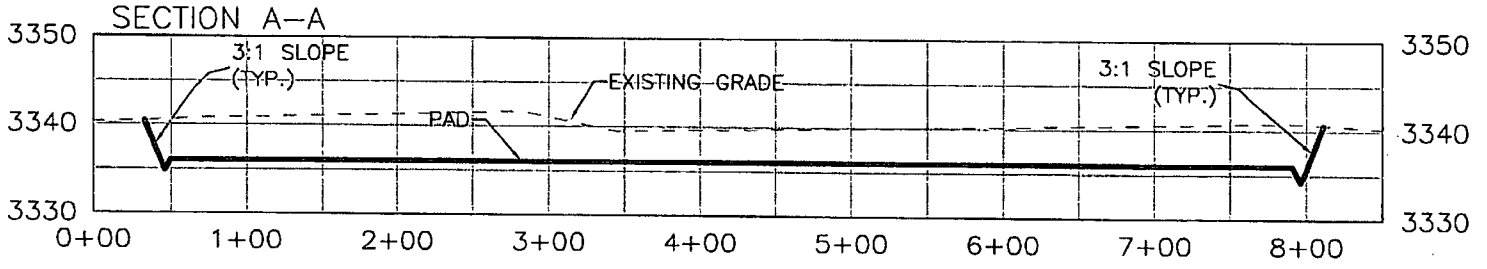
CUT	FILL	NET
13477 CU. YD	21524 CU. YD	8047 CU. YD (FILL)

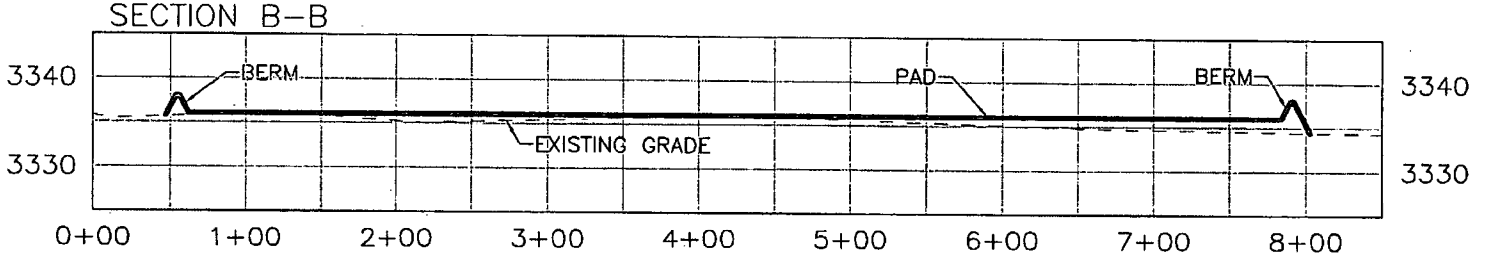
EARTHWORK QUANTITIES ARE ESTIMATED

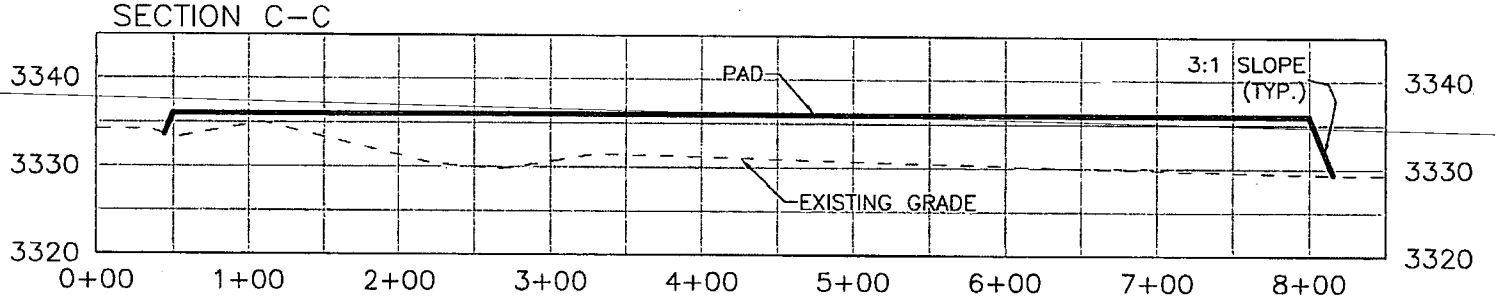
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

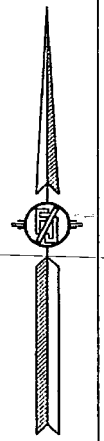
SHEET 1–2
SURVEY NO. 7458

CROSS SECTIONS









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FILIMON F. JARAMILLO, PLS 12797 — DATE 9/3/19

DEVON ENERGY PRODUCTION COMPANY, L.P.
GRADING PLAN AND CROSS SECTIONS
FOR BIG SINKS DRAW 25–24 FED COM 332H
SECTION 25, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 1, 2019

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

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

SHEET 2–2
SURVEY NO. 7458

1. Geologic Formations

TVD of target	11615	Pilot hole depth	N/A
MD at TD:	18915	Deepest expected fresh water	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone?	Hazards*
Rustler	950		
Salt	1315		
Base of Salt	4120		
Delaware	4350		
Bone Spring 1st	8325		
Bone Spring 2nd	9610		
Bone Spring 3rd	10480		
Wolfcamp	11670		

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

2. Casing Program (Primary Design)

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Wt (PPF)	Grade	Conn	Min SF Collapse	Min SF Burst	Min SF Tension
17 1/2	0	~~975~~ 965 TVD	13 3/8	48.0	H40	STC	1.125	1.25	1.6
9 7/8	0	9635 TVD	7 5/8	29.7	P110	Flushmax III	1.125	1.25	1.6
6 3/4	0	TD	5 1/2	20.0	P110	Vam SG	1.125	1.25	1.6
		18915 MD 11615 TVD		BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet

Fluid Filled

- All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 IILB.1.h Must have table for continengcy casing.
- Rustler top will be validated via drilling parameters (i.e. reduction in ROP) and surface casing setting depth revised accordingly if needed.
- A variance is requested for collapse rating on intermediate casing. Operator will keep pipe full while running casing.
- Int casing shoe will be selected based on drilling data/gamma, setting depth with be revised accordingly if needed.
- A variance is requested to wave the centralizer requirement for the Intermediate casing and production casing.
- A variance is requested to set intermediate casing in the curve if hole conditions dictate that a higher shoe strength is required.

Casing Program (Alternative Design)

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Wt (PPF)	Grade	Conn	Min SF Collapse	Min SF Burst	Min SF Tension
17 1/2	0	~~975~~ 965 TVD	13 3/8	48.0	H40	STC	1.125	1.25	1.6
9 7/8	0	9635 TVD	8 5/8	32.0	P110	TLW	1.125	1.25	1.6
7 7/8	0	TD	5 1/2	17.0	P110	BTC	1.125	1.25	1.6
				BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet

Fluid Filled

- All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 IILB.1.h Must have table for continengcy casing.
- Rustler top will be validated via drilling parameters (i.e. reduction in ROP) and surface casing setting depth revised accordingly if needed.
- A variance is requested for collapse rating on intermediate casing. Operator will keep pipe full while running casing.
- Int casing shoe will be selected based on drilling data/gamma, setting depth with be revised accordingly if needed.
- A variance is requested to wave the centralizer requirement for the Intermediate casing and production casing.
- Variance requested to drill 10.625" hole instead of 9.875" for intermediate 1, the 8.625" connection will change from TLW to BTC.
- A variance is requested to set intermediate casing in the curve if hole conditions dictate that a higher shoe strength is required.

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

3. Cementing Program (Primary Design)

Casing	# Sks	TOC	Wt. (lb/gal)	Yld (ft3/sack)	Slurry Description
Surface	744	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	865	Surf	9	3.27	Lead: Class C Cement + additives
	104	4000' above shoe	13.2	1.44	Tail: Class H / C + additives
Int 1 Two Stage w/ DV @ TVD of Delaware	750	Surf	9	3.27	1st stage Lead: Class C Cement + additives
	93	500' above shoe	13.2	1.44	1st stage Tail: Class H / C + additives
	404	Surf	9	3.27	2nd stage Lead: Class C Cement + additives
	93	500' above DV	13.2	1.44	2nd stage Tail: Class H / C + additives
Int 1 Intermediate Squeeze	As Needed	Surf	9	1.44	Squeeze Lead: Class C Cement + additives
	865	Surf	9	3.27	Lead: Class C Cement + additives
	104	4000' above shoe	13.2	1.44	Tail: Class H / C + additives
Production	55	9135	9.0	3.3	Lead: Class H /C + additives
	502	11043	13.2	1.4	Tail: Class H / C + additives

OK

Less than 25% excess

If a DV tool is ran the depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. Slurry weights will be adjusted based on estimated fracture gradient of the formation. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. If cement is not returned to surface during the primary cement job on the surface casing string, a planned top job will be conducted immediately after completion of the primary job.

Casing String	% Excess
Surface	50%
Intermediate 1	30%
Intermediate 1 (Two Stage)	25%
Prod	10%

3. Cementing Program (Alternative Design)

Casing	# Sks	TOC	Wt. ppg	Yld (ft3/sack)	Slurry Description
Surface	744	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	551	Surf	9	3.27	Lead: Class C Cement + additives
	67	4000' above shoe	13.2	1.44	Tail: Class H / C + additives
Int 1 Two Stage w DV @ ~4500	440	Surf	9	3.27	1st stage Lead: Class C Cement + additives
	55	500' above shoe	13.2	1.44	1st stage Tail: Class H / C + additives
	281	Surf	9	3.27	2nd stage Lead: Class C Cement + additives
	55	500' above DV	13.2	1.44	2nd stage Tail: Class H / C + additives
Int 1 Intermediate Squeeze	As Needed	Surf	13.2	1.44	Squeeze Lead: Class C Cement + additives
	551	Surf	9	3.27	Lead: Class C Cement + additives
	67	4000' above shoe	13.2	1.44	Tail: Class H / C + additives
Int 1 (10.625" Hole Size)	823	Surf	9	3.27	Lead: Class C Cement + additives
	105	4000' above shoe	13.2	1.44	Tail: Class H / C + additives
Production	111	9135	9.0	3.3	Lead: Class H /C + additives
	1042	11043	13.2	1.4	Tail: Class H / C + additives

ok

ok

Less than 25% excess

If a DV tool is ran the depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. Slurry weights will be adjusted based on estimated fracture gradient of the formation. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. If cement is not returned to surface during the primary cement job on the surface casing string, a planned top job will be conducted immediately after completion of the primary job.

Casing String	% Excess
Surface	50%
Intermediate 1	30%
Intermediate 1 (Two Stage)	25%
Prod	10%

4. Pressure Control Equipment (Three String Design)

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
Int 1	13-58"	5M	Annular	X	50% of rated working pressure
			Blind Ram	X	5M
			Pipe Ram		
			Double Ram	X	
			Other*		
Production	13-5/8"	5M	Annular (5M)	X	50% of rated working pressure
			Blind Ram	X	5M
			Pipe Ram		
			Double Ram	X	
			Other*		
			Annular (5M)		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other*		
N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.				
Y	A variance is requested to run a 5 M annular on a 10M system				

bk

5. Mud Program (Three String Design)

Section	Type	Weight (ppg)
Surface	FW Gel	8.5-9
Intermediate	DBE / Cut Brine	10-10.5
Production	OBM	8.5-9

ok

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

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

6. Logging and Testing Procedures

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

Additional logs planned		Interval
	Resistivity	Int. shoe to KOP
	Density	Int. shoe to KOP
X	CBL	Production casing
X	Mud log	Intermediate shoe to TD
	PEX	

7. Drilling Conditions

Condition	Specfiy what type and where?
BH pressure at deepest TVD	5436
Abnormal temperature	No

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

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

8. Other facets of operation

Is this a walking operation? Potentially

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

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

Will be pre-setting casing? Potentially

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

Attachments

X Directional Plan
_____ Other, describe

WCDSC Permian NM

Eddy County (NAD 83 NM Eastern)
Sec 25-T25S-R31E
Big Sinks Draw 25-24 Fed Com 332H

Wellbore #1

Plan: Permit Plan 1

Standard Planning Report - Geographic

11 September, 2019

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Big Sinks Draw 25-24 Fed Com 332H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3360.60ft
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	RKB @ 3360.60ft
Site:	Sec 25-T25S-R31E	**North Reference:**	Grid
Well:	Big Sinks Draw 25-24 Fed Com 332H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Project Eddy County (NAD 83 NM Eastern)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Sec 25-T25S-R31E

Site Position:		**Northing:**	403,723.39 usft	**Latitude:**	32.108526
From:	Map	**Easting:**	724,993.28 usft	**Longitude:**	-103.740178
Position Uncertainty:	5.00 ft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.32 °

Well Big Sinks Draw 25-24 Fed Com 332H

Well Position	**+N/-S**	0.00 ft	**Northing:**	401,255.80 usft	**Latitude:**	32.101710
	+E/-W	0.00 ft	**Easting:**	727,161.32 usft	**Longitude:**	-103.733220
Position Uncertainty		0.50 ft	**Wellhead Elevation:**		**Ground Level:**	3,335.60 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/9/2019	6.78	59.90	47,620.33436471

Design Permit Plan 1

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	0.22

Plan Survey Tool Program **Date** 9/11/2019

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	18,915.05	Permit Plan 1 (Wellbore #1)	MWD+HDGM	
				OWSG MWD + HDGM	

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,683.70	0.84	154.75	2,683.70	-0.55	0.26	1.00	1.00	0.00	154.75	
10,637.05	0.84	154.75	10,636.20	-105.63	49.83	0.00	0.00	0.00	0.00	
10,692.85	0.00	0.00	10,692.00	-106.00	50.00	1.50	-1.50	0.00	180.00	
11,042.89	0.00	0.00	11,042.04	-106.00	50.00	0.00	0.00	0.00	0.00	
11,942.90	90.00	359.84	11,615.00	466.96	48.36	10.00	10.00	0.00	359.84	PBHL - Big Sinks Dra
18,915.05	90.00	359.84	11,615.00	7,439.09	28.43	0.00	0.00	0.00	0.00	PBHL - Big Sinks Dra

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Big Sinks Draw 25-24 Fed Com 332H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3360.60ft
Project:	Eddy County (NAD 83 NM Eastern)	MD Reference:	RKB @ 3360.60ft
Site:	Sec 25-T25S-R31E	North Reference:	Grid
Well:	Big Sinks Draw 25-24 Fed Com 332H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
100.00	0.00	0.00	100.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
200.00	0.00	0.00	200.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
300.00	0.00	0.00	300.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
400.00	0.00	0.00	400.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
500.00	0.00	0.00	500.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
600.00	0.00	0.00	600.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
700.00	0.00	0.00	700.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
800.00	0.00	0.00	800.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
900.00	0.00	0.00	900.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
1,000.00	0.00	0.00	1,000.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
1,100.00	0.00	0.00	1,100.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
1,200.00	0.00	0.00	1,200.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
1,300.00	0.00	0.00	1,300.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
1,400.00	0.00	0.00	1,400.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
1,500.00	0.00	0.00	1,500.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
1,600.00	0.00	0.00	1,600.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
1,700.00	0.00	0.00	1,700.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
1,800.00	0.00	0.00	1,800.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
1,900.00	0.00	0.00	1,900.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
2,000.00	0.00	0.00	2,000.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
2,100.00	0.00	0.00	2,100.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
2,200.00	0.00	0.00	2,200.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
2,300.00	0.00	0.00	2,300.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
2,400.00	0.00	0.00	2,400.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
2,500.00	0.00	0.00	2,500.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
2,600.00	0.00	0.00	2,600.00	0.00	0.00	401,255.80	727,161.32	32.101710	-103.733220
2,683.70	0.84	154.75	2,683.70	-0.55	0.26	401,255.25	727,161.58	32.101708	-103.733219
2,700.00	0.84	154.75	2,700.00	-0.77	0.36	401,255.03	727,161.68	32.101708	-103.733219
2,800.00	0.84	154.75	2,799.98	-2.09	0.99	401,253.71	727,162.30	32.101704	-103.733217
2,900.00	0.84	154.75	2,899.97	-3.41	1.61	401,252.39	727,162.93	32.101701	-103.733215
3,000.00	0.84	154.75	2,999.96	-4.73	2.23	401,251.07	727,163.55	32.101697	-103.733213
3,100.00	0.84	154.75	3,099.95	-6.05	2.86	401,249.75	727,164.17	32.101693	-103.733211
3,200.00	0.84	154.75	3,199.94	-7.37	3.48	401,248.42	727,164.79	32.101690	-103.733209
3,300.00	0.84	154.75	3,299.93	-8.70	4.10	401,247.10	727,165.42	32.101686	-103.733207
3,400.00	0.84	154.75	3,399.92	-10.02	4.72	401,245.78	727,166.04	32.101682	-103.733205
3,500.00	0.84	154.75	3,499.91	-11.34	5.35	401,244.46	727,166.66	32.101679	-103.733203
3,600.00	0.84	154.75	3,599.90	-12.66	5.97	401,243.14	727,167.29	32.101675	-103.733201
3,700.00	0.84	154.75	3,699.89	-13.98	6.59	401,241.82	727,167.91	32.101671	-103.733199
3,800.00	0.84	154.75	3,799.88	-15.30	7.22	401,240.50	727,168.53	32.101668	-103.733197
3,900.00	0.84	154.75	3,899.87	-16.62	7.84	401,239.18	727,169.16	32.101664	-103.733195
4,000.00	0.84	154.75	3,999.86	-17.94	8.46	401,237.86	727,169.78	32.101660	-103.733193
4,100.00	0.84	154.75	4,099.85	-19.26	9.09	401,236.53	727,170.40	32.101657	-103.733191
4,200.00	0.84	154.75	4,199.84	-20.59	9.71	401,235.21	727,171.03	32.101653	-103.733189
4,300.00	0.84	154.75	4,299.82	-21.91	10.33	401,233.89	727,171.65	32.101650	-103.733187
4,400.00	0.84	154.75	4,399.81	-23.23	10.96	401,232.57	727,172.27	32.101646	-103.733185
4,500.00	0.84	154.75	4,499.80	-24.55	11.58	401,231.25	727,172.90	32.101642	-103.733183
4,600.00	0.84	154.75	4,599.79	-25.87	12.20	401,229.93	727,173.52	32.101639	-103.733181
4,700.00	0.84	154.75	4,699.78	-27.19	12.83	401,228.61	727,174.14	32.101635	-103.733179
4,800.00	0.84	154.75	4,799.77	-28.51	13.45	401,227.29	727,174.77	32.101631	-103.733177
4,900.00	0.84	154.75	4,899.76	-29.83	14.07	401,225.96	727,175.39	32.101628	-103.733175
5,000.00	0.84	154.75	4,999.75	-31.16	14.70	401,224.64	727,176.01	32.101624	-103.733173
5,100.00	0.84	154.75	5,099.74	-32.48	15.32	401,223.32	727,176.64	32.101620	-103.733171
5,200.00	0.84	154.75	5,199.73	-33.80	15.94	401,222.00	727,177.26	32.101617	-103.733169
5,300.00	0.84	154.75	5,299.72	-35.12	16.57	401,220.68	727,177.88	32.101613	-103.733167

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Big Sinks Draw 25-24 Fed Com 332H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3360.60ft
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	RKB @ 3360.60ft
Site:	Sec 25-T25S-R31E	**North Reference:**	Grid
Well:	Big Sinks Draw 25-24 Fed Com 332H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,400.00	0.84	154.75	5,399.71	-36.44	17.19	401,219.36	727,178.51	32.101610	-103.733165
5,500.00	0.84	154.75	5,499.70	-37.76	17.81	401,218.04	727,179.13	32.101606	-103.733163
5,600.00	0.84	154.75	5,599.69	-39.08	18.44	401,216.72	727,179.75	32.101602	-103.733161
5,700.00	0.84	154.75	5,699.68	-40.40	19.06	401,215.40	727,180.37	32.101599	-103.733159
5,800.00	0.84	154.75	5,799.66	-41.72	19.68	401,214.07	727,181.00	32.101595	-103.733157
5,900.00	0.84	154.75	5,899.65	-43.05	20.30	401,212.75	727,181.62	32.101591	-103.733155
6,000.00	0.84	154.75	5,999.64	-44.37	20.93	401,211.43	727,182.24	32.101588	-103.733153
6,100.00	0.84	154.75	6,099.63	-45.69	21.55	401,210.11	727,182.87	32.101584	-103.733151
6,200.00	0.84	154.75	6,199.62	-47.01	22.17	401,208.79	727,183.49	32.101580	-103.733149
6,300.00	0.84	154.75	6,299.61	-48.33	22.80	401,207.47	727,184.11	32.101577	-103.733147
6,400.00	0.84	154.75	6,399.60	-49.65	23.42	401,206.15	727,184.74	32.101573	-103.733145
6,500.00	0.84	154.75	6,499.59	-50.97	24.04	401,204.83	727,185.36	32.101569	-103.733144
6,600.00	0.84	154.75	6,599.58	-52.29	24.67	401,203.50	727,185.98	32.101566	-103.733142
6,700.00	0.84	154.75	6,699.57	-53.62	25.29	401,202.18	727,186.61	32.101562	-103.733140
6,800.00	0.84	154.75	6,799.56	-54.94	25.91	401,200.86	727,187.23	32.101559	-103.733138
6,900.00	0.84	154.75	6,899.55	-56.26	26.54	401,199.54	727,187.85	32.101555	-103.733136
7,000.00	0.84	154.75	6,999.54	-57.58	27.16	401,198.22	727,188.48	32.101551	-103.733134
7,100.00	0.84	154.75	7,099.53	-58.90	27.78	401,196.90	727,189.10	32.101548	-103.733132
7,200.00	0.84	154.75	7,199.52	-60.22	28.41	401,195.58	727,189.72	32.101544	-103.733130
7,300.00	0.84	154.75	7,299.50	-61.54	29.03	401,194.26	727,190.35	32.101540	-103.733128
7,400.00	0.84	154.75	7,399.49	-62.86	29.65	401,192.94	727,190.97	32.101537	-103.733126
7,500.00	0.84	154.75	7,499.48	-64.19	30.28	401,191.61	727,191.59	32.101533	-103.733124
7,600.00	0.84	154.75	7,599.47	-65.51	30.90	401,190.29	727,192.22	32.101529	-103.733122
7,700.00	0.84	154.75	7,699.46	-66.83	31.52	401,188.97	727,192.84	32.101526	-103.733120
7,800.00	0.84	154.75	7,799.45	-68.15	32.15	401,187.65	727,193.46	32.101522	-103.733118
7,900.00	0.84	154.75	7,899.44	-69.47	32.77	401,186.33	727,194.08	32.101518	-103.733116
8,000.00	0.84	154.75	7,999.43	-70.79	33.39	401,185.01	727,194.71	32.101515	-103.733114
8,100.00	0.84	154.75	8,099.42	-72.11	34.02	401,183.69	727,195.33	32.101511	-103.733112
8,200.00	0.84	154.75	8,199.41	-73.43	34.64	401,182.37	727,195.95	32.101508	-103.733110
8,300.00	0.84	154.75	8,299.40	-74.75	35.26	401,181.04	727,196.58	32.101504	-103.733108
8,400.00	0.84	154.75	8,399.39	-76.08	35.88	401,179.72	727,197.20	32.101500	-103.733106
8,500.00	0.84	154.75	8,499.38	-77.40	36.51	401,178.40	727,197.82	32.101497	-103.733104
8,600.00	0.84	154.75	8,599.37	-78.72	37.13	401,177.08	727,198.45	32.101493	-103.733102
8,700.00	0.84	154.75	8,699.36	-80.04	37.75	401,175.76	727,199.07	32.101489	-103.733100
8,800.00	0.84	154.75	8,799.34	-81.36	38.38	401,174.44	727,199.69	32.101486	-103.733098
8,900.00	0.84	154.75	8,899.33	-82.68	39.00	401,173.12	727,200.32	32.101482	-103.733096
9,000.00	0.84	154.75	8,999.32	-84.00	39.62	401,171.80	727,200.94	32.101478	-103.733094
9,100.00	0.84	154.75	9,099.31	-85.32	40.25	401,170.48	727,201.56	32.101475	-103.733092
9,200.00	0.84	154.75	9,199.30	-86.65	40.87	401,169.15	727,202.19	32.101471	-103.733090
9,300.00	0.84	154.75	9,299.29	-87.97	41.49	401,167.83	727,202.81	32.101468	-103.733088
9,400.00	0.84	154.75	9,399.28	-89.29	42.12	401,166.51	727,203.43	32.101464	-103.733086
9,500.00	0.84	154.75	9,499.27	-90.61	42.74	401,165.19	727,204.06	32.101460	-103.733084
9,600.00	0.84	154.75	9,599.26	-91.93	43.36	401,163.87	727,204.68	32.101457	-103.733082
9,700.00	0.84	154.75	9,699.25	-93.25	43.99	401,162.55	727,205.30	32.101453	-103.733080
9,800.00	0.84	154.75	9,799.24	-94.57	44.61	401,161.23	727,205.93	32.101449	-103.733078
9,900.00	0.84	154.75	9,899.23	-95.89	45.23	401,159.91	727,206.55	32.101446	-103.733076
10,000.00	0.84	154.75	9,999.22	-97.21	45.86	401,158.58	727,207.17	32.101442	-103.733074
10,100.00	0.84	154.75	10,099.21	-98.54	46.48	401,157.26	727,207.80	32.101438	-103.733072
10,200.00	0.84	154.75	10,199.20	-99.86	47.10	401,155.94	727,208.42	32.101435	-103.733070
10,300.00	0.84	154.75	10,299.18	-101.18	47.73	401,154.62	727,209.04	32.101431	-103.733068
10,400.00	0.84	154.75	10,399.17	-102.50	48.35	401,153.30	727,209.66	32.101427	-103.733066
10,500.00	0.84	154.75	10,499.16	-103.82	48.97	401,151.98	727,210.29	32.101424	-103.733064
10,600.00	0.84	154.75	10,599.15	-105.14	49.60	401,150.66	727,210.91	32.101420	-103.733062
10,637.05	0.84	154.75	10,636.20	-105.63	49.83	401,150.17	727,211.14	32.101419	-103.733061
10,692.85	0.00	0.00	10,692.00	-106.00	50.00	401,149.80	727,211.32	32.101418	-103.733061

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Big Sinks Draw 25-24 Fed Com 332H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3360.60ft
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	RKB @ 3360.60ft
Site:	Sec 25-T25S-R31E	**North Reference:**	Grid
Well:	Big Sinks Draw 25-24 Fed Com 332H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,700.00	0.00	0.00	10,699.15	-106.00	50.00	401,149.80	727,211.32	32.101418	-103.733061
10,800.00	0.00	0.00	10,799.15	-106.00	50.00	401,149.80	727,211.32	32.101418	-103.733061
10,900.00	0.00	0.00	10,899.15	-106.00	50.00	401,149.80	727,211.32	32.101418	-103.733061
11,000.00	0.00	0.00	10,999.15	-106.00	50.00	401,149.80	727,211.32	32.101418	-103.733061
11,042.89	0.00	0.00	11,042.04	-106.00	50.00	401,149.80	727,211.32	32.101418	-103.733061
KOP @ 11043' MD, 2589' FNL, 2210' FWL									
11,100.00	5.71	359.84	11,099.05	-103.16	49.99	401,152.64	727,211.31	32.101426	-103.733061
11,200.00	15.71	359.84	11,197.19	-84.60	49.94	401,171.20	727,211.25	32.101477	-103.733060
11,284.04	24.11	359.84	11,276.13	-56.00	49.86	401,199.80	727,211.17	32.101555	-103.733060
FTP @ 11284' MD, 2538' FNL, 2210' FWL									
11,300.00	25.71	359.84	11,290.60	-49.28	49.84	401,206.52	727,211.15	32.101574	-103.733060
11,400.00	35.71	359.84	11,376.47	1.73	49.69	401,257.53	727,211.01	32.101714	-103.733060
11,500.00	45.71	359.84	11,452.18	66.87	49.51	401,322.67	727,210.82	32.101893	-103.733059
11,600.00	55.71	359.84	11,515.42	144.17	49.28	401,399.97	727,210.60	32.102105	-103.733058
11,700.00	65.71	359.84	11,564.28	231.27	49.04	401,487.07	727,210.35	32.102345	-103.733058
11,800.00	75.71	359.84	11,597.27	325.54	48.77	401,581.34	727,210.08	32.102604	-103.733057
11,900.00	85.71	359.84	11,613.39	424.10	48.48	401,679.90	727,209.80	32.102875	-103.733056
11,942.90	90.00	359.84	11,615.00	466.96	48.36	401,722.75	727,209.68	32.102993	-103.733056
12,000.00	90.00	359.84	11,615.00	524.06	48.20	401,779.86	727,209.51	32.103150	-103.733055
12,100.00	90.00	359.84	11,615.00	624.06	47.91	401,879.86	727,209.23	32.103425	-103.733054
12,200.00	90.00	359.84	11,615.00	724.06	47.63	401,979.86	727,208.94	32.103700	-103.733053
12,300.00	90.00	359.84	11,615.00	824.06	47.34	402,079.86	727,208.66	32.103974	-103.733053
12,400.00	90.00	359.84	11,615.00	924.06	47.06	402,179.86	727,208.37	32.104249	-103.733052
12,500.00	90.00	359.84	11,615.00	1,024.06	46.77	402,279.86	727,208.09	32.104524	-103.733051
12,600.00	90.00	359.84	11,615.00	1,124.06	46.48	402,379.86	727,207.80	32.104799	-103.733050
12,700.00	90.00	359.84	11,615.00	1,224.06	46.20	402,479.85	727,207.51	32.105074	-103.733049
12,800.00	90.00	359.84	11,615.00	1,324.06	45.91	402,579.85	727,207.23	32.105349	-103.733048
12,900.00	90.00	359.84	11,615.00	1,424.06	45.63	402,679.85	727,206.94	32.105624	-103.733047
13,000.00	90.00	359.84	11,615.00	1,524.06	45.34	402,779.85	727,206.66	32.105899	-103.733046
13,100.00	90.00	359.84	11,615.00	1,624.06	45.05	402,879.85	727,206.37	32.106173	-103.733046
13,200.00	90.00	359.84	11,615.00	1,724.06	44.77	402,979.85	727,206.08	32.106448	-103.733045
13,300.00	90.00	359.84	11,615.00	1,824.06	44.48	403,079.85	727,205.80	32.106723	-103.733044
13,400.00	90.00	359.84	11,615.00	1,924.06	44.20	403,179.85	727,205.51	32.106998	-103.733043
13,500.00	90.00	359.84	11,615.00	2,024.05	43.91	403,279.85	727,205.23	32.107273	-103.733042
13,600.00	90.00	359.84	11,615.00	2,124.05	43.62	403,379.85	727,204.94	32.107548	-103.733041
13,700.00	90.00	359.84	11,615.00	2,224.05	43.34	403,479.85	727,204.65	32.107823	-103.733040
13,800.00	90.00	359.84	11,615.00	2,324.05	43.05	403,579.85	727,204.37	32.108098	-103.733039
13,900.00	90.00	359.84	11,615.00	2,424.05	42.77	403,679.85	727,204.08	32.108373	-103.733039
13,959.00	90.00	359.84	11,615.00	2,483.05	42.60	403,738.85	727,203.91	32.108535	-103.733038
Cross section @ 13959' MD, 0' FSL, 2210' FWL									
14,000.00	90.00	359.84	11,615.00	2,524.05	42.48	403,779.85	727,203.80	32.108647	-103.733038
14,100.00	90.00	359.84	11,615.00	2,624.05	42.20	403,879.85	727,203.51	32.108922	-103.733037
14,200.00	90.00	359.84	11,615.00	2,724.05	41.91	403,979.85	727,203.23	32.109197	-103.733036
14,300.00	90.00	359.84	11,615.00	2,824.05	41.62	404,079.84	727,202.94	32.109472	-103.733035
14,400.00	90.00	359.84	11,615.00	2,924.05	41.34	404,179.84	727,202.65	32.109747	-103.733034
14,500.00	90.00	359.84	11,615.00	3,024.05	41.05	404,279.84	727,202.37	32.110022	-103.733033
14,600.00	90.00	359.84	11,615.00	3,124.05	40.77	404,379.84	727,202.08	32.110297	-103.733032
14,700.00	90.00	359.84	11,615.00	3,224.05	40.48	404,479.84	727,201.80	32.110572	-103.733032
14,800.00	90.00	359.84	11,615.00	3,324.05	40.19	404,579.84	727,201.51	32.110846	-103.733031
14,900.00	90.00	359.84	11,615.00	3,424.05	39.91	404,679.84	727,201.22	32.111121	-103.733030
15,000.00	90.00	359.84	11,615.00	3,524.05	39.62	404,779.84	727,200.94	32.111396	-103.733029
15,100.00	90.00	359.84	11,615.00	3,624.05	39.34	404,879.84	727,200.65	32.111671	-103.733028
15,200.00	90.00	359.84	11,615.00	3,724.05	39.05	404,979.84	727,200.37	32.111946	-103.733027
15,300.00	90.00	359.84	11,615.00	3,824.05	38.76	405,079.84	727,200.08	32.112221	-103.733026

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Big Sinks Draw 25-24 Fed Com 332H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3360.60ft
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	RKB @ 3360.60ft
Site:	Sec 25-T25S-R31E	**North Reference:**	Grid
Well:	Big Sinks Draw 25-24 Fed Com 332H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,400.00	90.00	359.84	11,615.00	3,924.05	38.48	405,179.84	727,199.80	32.112496	-103.733025
15,500.00	90.00	359.84	11,615.00	4,024.05	38.19	405,279.84	727,199.51	32.112771	-103.733025
15,600.00	90.00	359.84	11,615.00	4,124.05	37.91	405,379.84	727,199.22	32.113046	-103.733024
15,700.00	90.00	359.84	11,615.00	4,224.05	37.62	405,479.84	727,198.94	32.113320	-103.733023
15,800.00	90.00	359.84	11,615.00	4,324.05	37.34	405,579.84	727,198.65	32.113595	-103.733022
15,900.00	90.00	359.84	11,615.00	4,424.05	37.05	405,679.84	727,198.37	32.113870	-103.733021
16,000.00	90.00	359.84	11,615.00	4,524.04	36.76	405,779.83	727,198.08	32.114145	-103.733020
16,100.00	90.00	359.84	11,615.00	4,624.04	36.48	405,879.83	727,197.79	32.114420	-103.733019
16,200.00	90.00	359.84	11,615.00	4,724.04	36.19	405,979.83	727,197.51	32.114695	-103.733018
16,300.00	90.00	359.84	11,615.00	4,824.04	35.91	406,079.83	727,197.22	32.114970	-103.733018
16,400.00	90.00	359.84	11,615.00	4,924.04	35.62	406,179.83	727,196.94	32.115245	-103.733017
16,500.00	90.00	359.84	11,615.00	5,024.04	35.33	406,279.83	727,196.65	32.115519	-103.733016
16,600.00	90.00	359.84	11,615.00	5,124.04	35.05	406,379.83	727,196.36	32.115794	-103.733015
16,700.00	90.00	359.84	11,615.00	5,224.04	34.76	406,479.83	727,196.08	32.116069	-103.733014
16,800.00	90.00	359.84	11,615.00	5,324.04	34.48	406,579.83	727,195.79	32.116344	-103.733013
16,900.00	90.00	359.84	11,615.00	5,424.04	34.19	406,679.83	727,195.51	32.116619	-103.733012
17,000.00	90.00	359.84	11,615.00	5,524.04	33.90	406,779.83	727,195.22	32.116894	-103.733011
17,100.00	90.00	359.84	11,615.00	5,624.04	33.62	406,879.83	727,194.94	32.117169	-103.733011
17,200.00	90.00	359.84	11,615.00	5,724.04	33.33	406,979.83	727,194.65	32.117444	-103.733010
17,300.00	90.00	359.84	11,615.00	5,824.04	33.05	407,079.83	727,194.36	32.117719	-103.733009
17,400.00	90.00	359.84	11,615.00	5,924.04	32.76	407,179.83	727,194.08	32.117993	-103.733008
17,500.00	90.00	359.84	11,615.00	6,024.04	32.48	407,279.83	727,193.79	32.118268	-103.733007
17,600.00	90.00	359.84	11,615.00	6,124.04	32.19	407,379.82	727,193.51	32.118543	-103.733006
17,700.00	90.00	359.84	11,615.00	6,224.04	31.90	407,479.82	727,193.22	32.118818	-103.733005
17,800.00	90.00	359.84	11,615.00	6,324.04	31.62	407,579.82	727,192.93	32.119093	-103.733004
17,900.00	90.00	359.84	11,615.00	6,424.04	31.33	407,679.82	727,192.65	32.119368	-103.733004
18,000.00	90.00	359.84	11,615.00	6,524.04	31.05	407,779.82	727,192.36	32.119643	-103.733003
18,100.00	90.00	359.84	11,615.00	6,624.04	30.76	407,879.82	727,192.08	32.119918	-103.733002
18,200.00	90.00	359.84	11,615.00	6,724.04	30.47	407,979.82	727,191.79	32.120193	-103.733001
18,300.00	90.00	359.84	11,615.00	6,824.04	30.19	408,079.82	727,191.50	32.120467	-103.733000
18,400.00	90.00	359.84	11,615.00	6,924.03	29.90	408,179.82	727,191.22	32.120742	-103.732999
18,500.00	90.00	359.84	11,615.00	7,024.03	29.62	408,279.82	727,190.93	32.121017	-103.732998
18,600.00	90.00	359.84	11,615.00	7,124.03	29.33	408,379.82	727,190.65	32.121292	-103.732997
18,700.00	90.00	359.84	11,615.00	7,224.03	29.04	408,479.82	727,190.36	32.121567	-103.732997
18,800.00	90.00	359.84	11,615.00	7,324.03	28.76	408,579.82	727,190.08	32.121842	-103.732996
18,900.00	90.00	359.84	11,615.00	7,424.03	28.47	408,679.82	727,189.79	32.122117	-103.732995
18,915.04	90.00	359.84	11,615.00	7,439.07	28.43	408,694.86	727,189.75	32.122158	-103.732995
PBHL & LTP @ 18915' MD, 330' FNL, 2210' FWL									
18,915.05	90.00	359.84	11,615.00	7,439.09	28.43	408,694.87	727,189.75	32.122158	-103.732995

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL - Big Sinks Draw 2	0.00	0.00	0.00	7,439.09	28.43	408,694.87	727,189.75	32.122158	-103.732995
- plan misses target center by 7439.14ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									

Database:	EDM r5000.141_Prod US	**Local Co-ordinate Reference:**	Well Big Sinks Draw 25-24 Fed Com 332H
Company:	WCDSC Permian NM	**TVD Reference:**	RKB @ 3360.60ft
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	RKB @ 3360.60ft
Site:	Sec 25-T25S-R31E	**North Reference:**	Grid
Well:	Big Sinks Draw 25-24 Fed Com 332H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
11,042.89	11,042.04	-106.00	50.00	KOP @ 11043' MD, 2589' FNL, 2210' FWL
11,284.04	11,276.13	-56.00	49.86	FTP @ 11284' MD, 2538' FNL, 2210' FWL
13,959.00	11,615.00	2,483.05	42.60	Cross section @ 13959' MD, 0' FSL, 2210' FWL
18,915.04	11,615.00	7,439.07	28.43	PBHL & LTP @ 18915' MD, 330' FNL, 2210' FWL

Devon Energy

WELL DETAILS: Big Sinks Draw 25-24 Fed Com 332H

RKB @ 3360.60ft
3335.60

Northing	Easting	Latitude	Longitude
401255.80	727161.32	32.101710	-103.733220

SECTION DETAILS Permit Plan 1

	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2600.00	0.00	0.00	2600.00	0.00	0.00	0.00	0.00	
3	2683.70	0.84	154.75	2683.70	-0.55	0.26	1.00	-0.55	
4	10637.05	0.84	154.75	10636.20	-105.63	49.83	0.00	-105.44	
5	10692.85	0.00	0.00	10692.00	-106.00	50.00	1.50	-105.81	
6	11042.89	0.00	0.00	11042.04	-106.00	50.00	0.00	-105.81	KOP @ 11043' MD, 2589' FNL, 2210' FWL
7	11942.90	90.00	359.84	11615.00	466.96	48.36	10.00	467.14	
8	18915.05	90.00	359.84	11615.00	7439.08	28.43	0.00	7439.14	PBHL & LTP @ 18915' MD, 330' FNL, 2210' FWL