

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

NOV 19 2019

Duplicate?

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.

DISH/ARTESIA/O.C.D.

5. Lease Serial No.
NMLC062300

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.
BIG SINKS DRAW 25-24 FED COM 731H9. API Well No.
30-015-45065-00-X110. Field and Pool or Exploratory Area
PURPLE SAGE-WOLFCAMP (GAS)11. County or Parish, State
EDDY COUNTY, NM

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other2. Name of Operator
DEVON ENERGY PRODUCTION COMPANYContact: JENNIFER HARMS
E-Mail: jennifer.harms@dvn.com3a. Address
333 WEST SHERIDAN AVENUE
OKLAHOMA, OK 731023b. Phone No. (include area code)
Ph: 405-552-6560

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 25 T25S R31E SWNW 2484FNL 985FWL
32.101704 N Lat, 103.737015 W Lon

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

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

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 recompleat 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 recompleat 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.

NAME CHANGE/BHL/DEPTH CHANGE

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

-COTTON DRAW MDP 2
Permitted Well name: BIG SINKS DRAW 25-24 FED COM 711H
Proposed Well name: BIG SINKS DRAW 25-24 FED COM 731H
Permitted BHL: NWNW, 330 FNL, 330 FWL, 24-25S-31E
Proposed BHL: NWNW, 330 FNL, 990 FWL, 24-25S-31E
Permitted TVD/MD: 11836/19239
Proposed TVD/MD: 12165/19462

Carlsbad Field Office
OCD Artesia

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

Electronic Submission #483889 verified by the BLM Well Information System
For DEVON ENERGY PRODUCTION COMPANY LP, sent to the Carlsbad
Committed to AFMSS for processing by PRISCILLA PEREZ on 09/18/2019 (19PP3389SE)

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 **

1/21/20 KS

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Prod Co
LEASE NO.:	LC062300
WELL NAME & NO.:	731H – Big Sinks Draw 25-24 Fed
SURFACE HOLE FOOTAGE:	2484'/N & 985'/W
BOTTOM HOLE FOOTAGE:	330'/N & 990'/W
LOCATION:	Section 25, T. 25 S., R.31 E.
COUNTY:	Eddy County, New Mexico

COA

H2S	<input type="radio"/> Yes	<input checked="" type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input checked="" type="radio"/> Low	<input type="radio"/> Medium	<input type="radio"/> High
Cave/Karst Potential	<input type="radio"/> Critical		
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input type="radio"/> Multibowl	<input checked="" type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input checked="" type="checkbox"/> Fluid Filled	<input checked="" type="checkbox"/> Cement Squeeze	<input type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input type="checkbox"/> COM	<input type="checkbox"/> Unit

All Previous COAs Still Apply

A. CASING

Primary Casing Design:

1. The 13-3/8 inch surface casing shall be set at approximately **1003 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 **1003 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.
Cement excess is less than 25%, more cement might be required.

Option 2:

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

- 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.
Cement excess is less than 25%, more cement might be required.

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 **10,000 (10M) psi**. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 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 **10,000 (10M) psi**. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 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 integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

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

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. 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

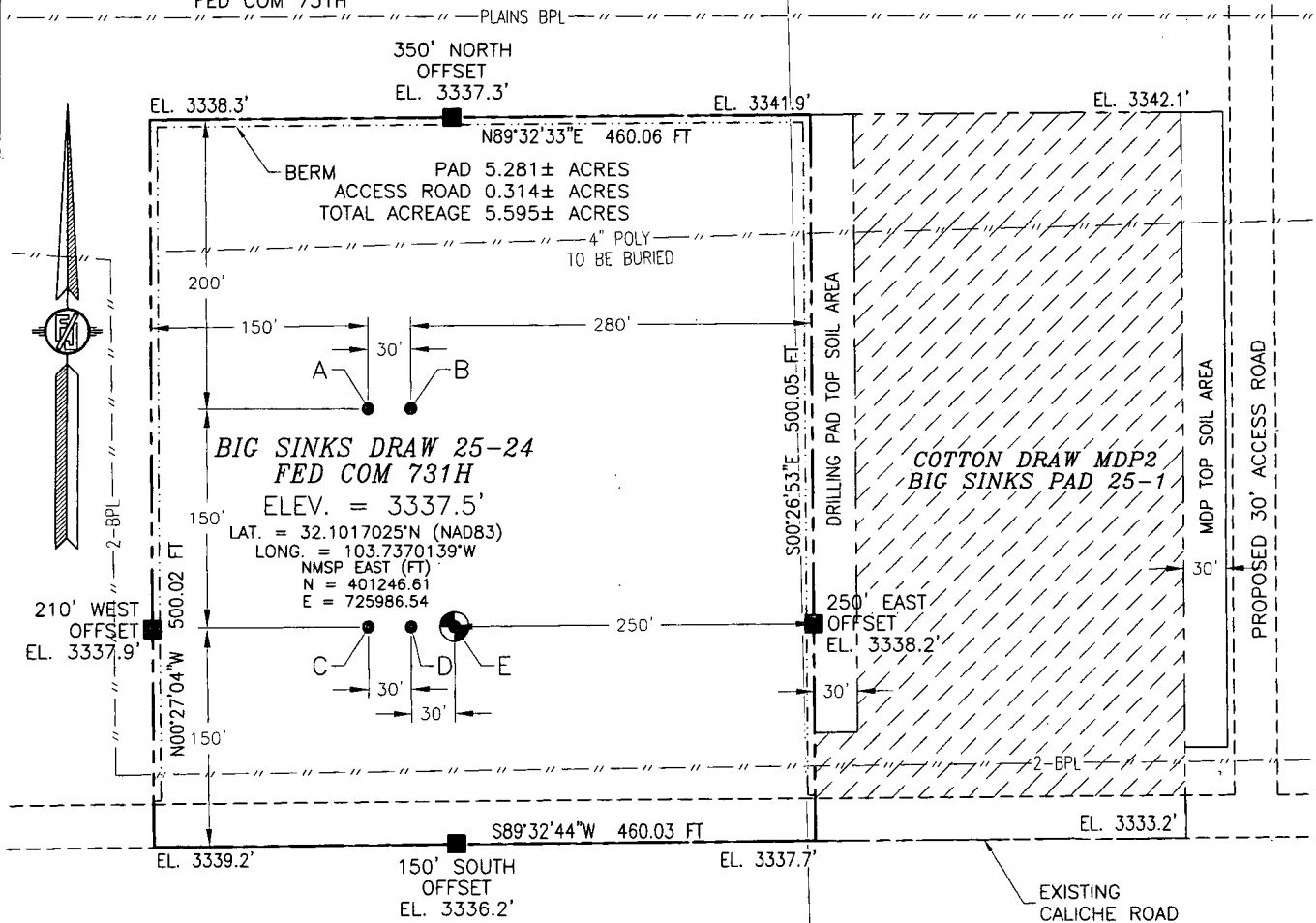
All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location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

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

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

- A - BIG SINKS DRAW 25-24
FED COM 521H
- B - BIG SINKS DRAW 25-24
FED COM 531H
- C - BIG SINKS DRAW 25-24
FED COM 710H
- D - BIG SINKS DRAW 25-24
FED COM 611H
- E - BIG SINKS DRAW 25-24
FED COM 731H

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.



012 60 120 240

SCALE 1" = 120'

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 CALICHE ROAD AND GO NORTH 3500' THEN EAST 310' TO THE SOUTHWEST CORNER OF BIG SINKS DRAW 25 FED COM 1H, CONTINUE EAST 487' TO THE SOUTHWEST PAD CORNER FOR THIS LOCATION.

DEVON ENERGY PRODUCTION COMPANY, L.P.
BIG SINKS DRAW 25-24 FED COM 731H
LOCATED 2484 FT. FROM THE NORTH LINE
AND 985 FT. FROM THE WEST LINE OF
SECTION 25, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

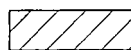
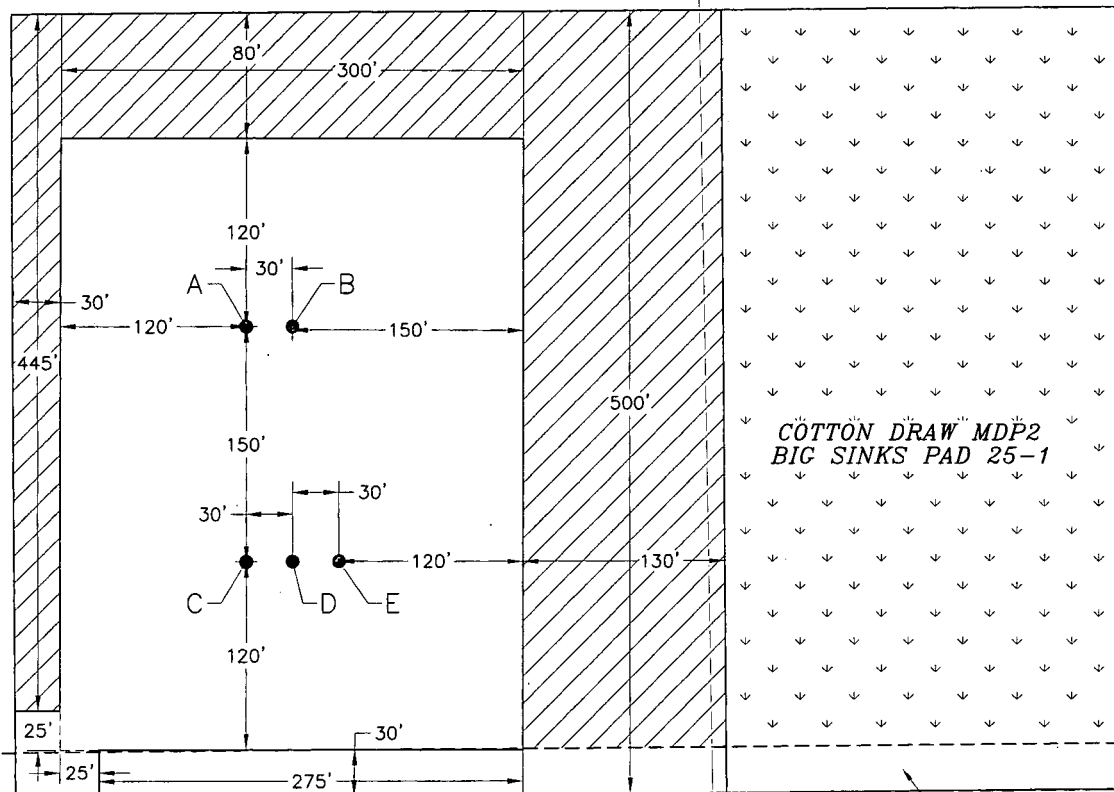
AUGUST 1, 2019

SURVEY NO. 5661A

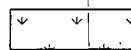
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

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 521H
- B - BIG SINKS DRAW 25-24
FED COM 531H
- C - BIG SINKS DRAW 25-24
FED COM 710H
- D - BIG SINKS DRAW 25-24
FED COM 611H
- E - BIG SINKS DRAW 25-24
FED COM 731H



DENOTES INTERIM PAD
RECLAMATION AREA



DENOTES GRADING SITE
RECLAMATION AREA

012 60 120 240
SCALE 1" = 120'

2.264± ACRES INTERIM PAD RECLAMATION AREA
2.807± ACRES GRADING SITE RECLAMATION AREA
3.194± ACRES NON-RECLAIMED AREA
8.265± ACRES COTTON DRAW MDP2 BIG SINKS PAD 25-1

DEVON ENERGY PRODUCTION COMPANY, L.P.
BIG SINKS DRAW 25-24 FED COM 731H
LOCATED 2484 FT. FROM THE NORTH LINE
AND 985 FT. FROM THE WEST LINE OF
SECTION 25, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 1, 2019

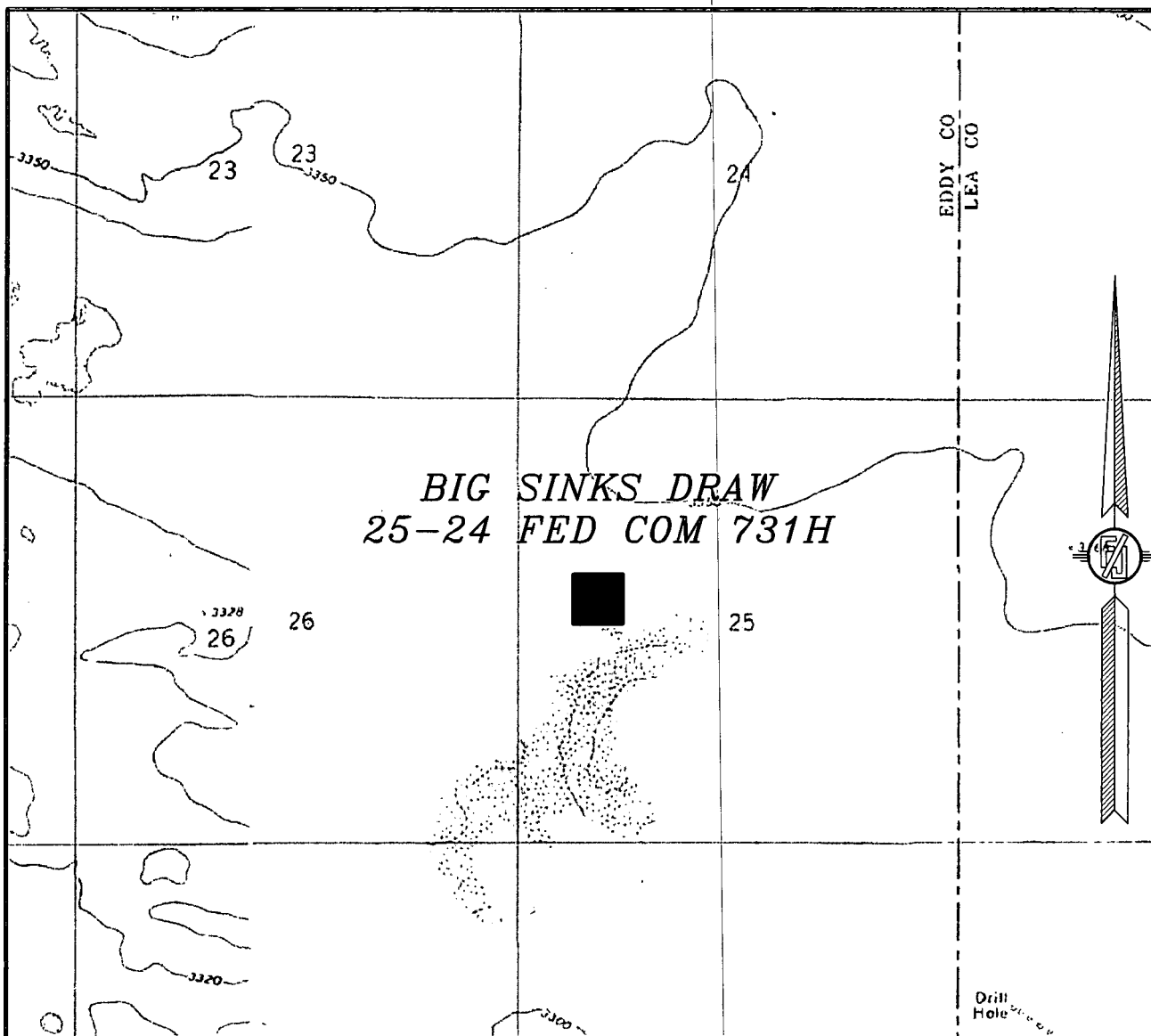
SURVEY NO. 5661A

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/4UAD MAP:
PADUCA BREAKS WEST

NOT TO SCALE

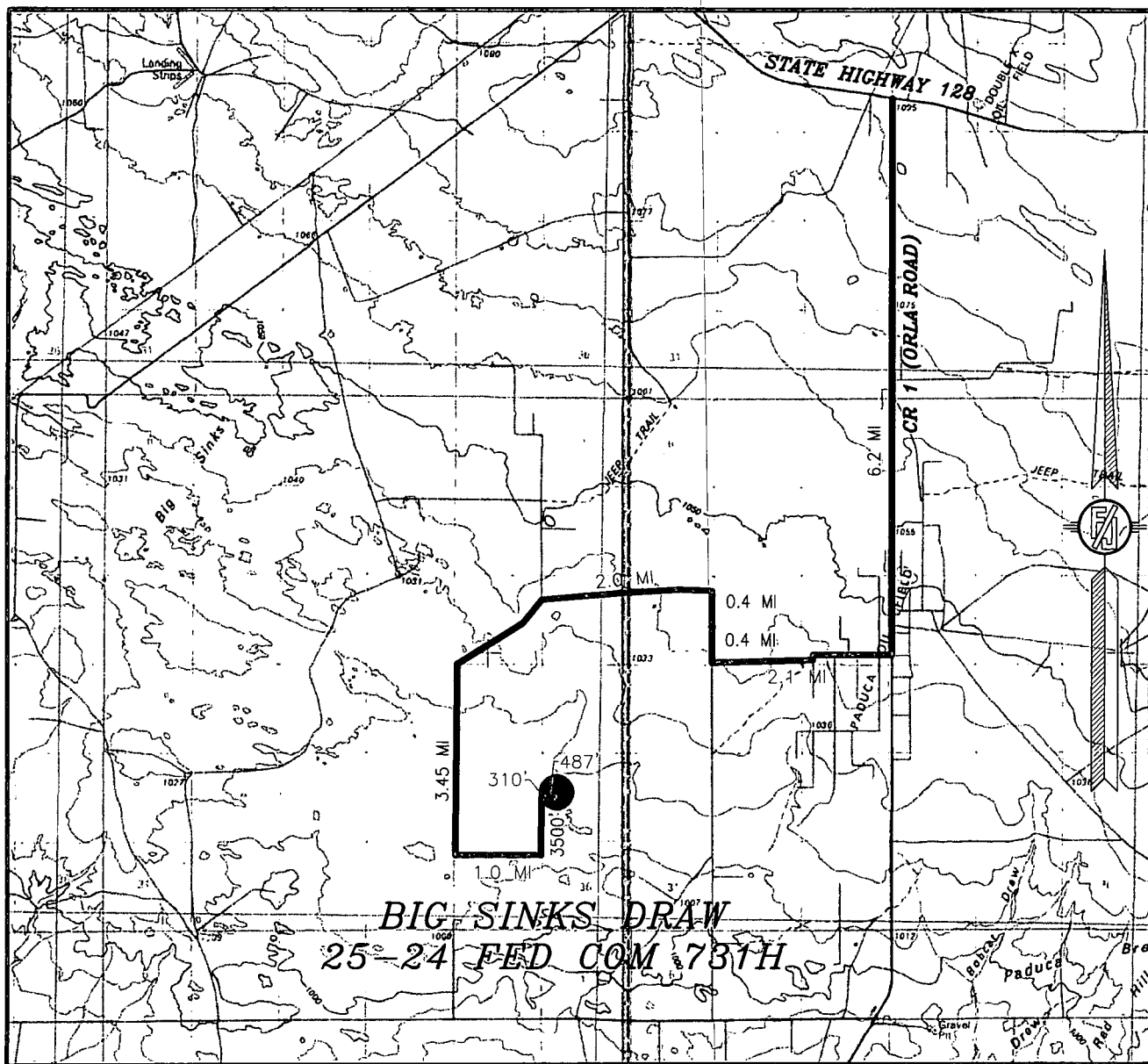
DEVON ENERGY PRODUCTION COMPANY, L.P.
BIG SINKS DRAW 25-24 FED COM 731H
LOCATED 2484 FT. FROM THE NORTH LINE
AND 985 FT. FROM THE WEST LINE OF
SECTION 25, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 1, 2019

SURVEY NO. 5661A

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 731H

LOCATED 2484 FT. FROM THE NORTH LINE
AND 985 FT. FROM THE WEST LINE OF
SECTION 25, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

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 CALICHE ROAD AND GO NORTH 3500' THEN EAST 310' TO THE SOUTHWEST CORNER OF BIG SINKS DRAW 25 FED COM 1H, CONTINUE EAST 487' TO THE SOUTHWEST PAD CORNER FOR THIS LOCATION.

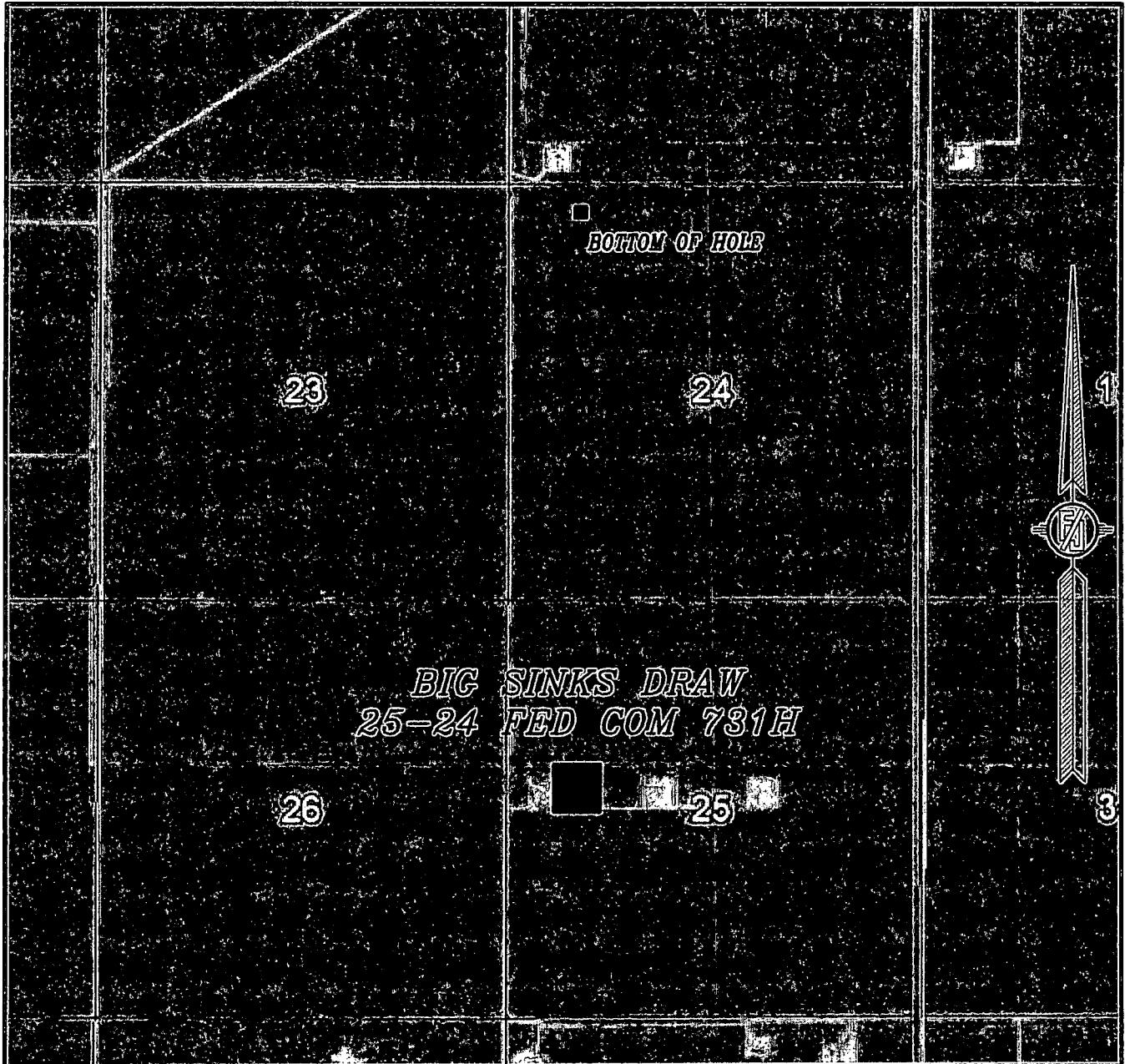
SURVEY NO. 5661A

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
NOVEMBER 2015

DEVON ENERGY PRODUCTION COMPANY, L.P.
BIG SINKS DRAW 25-24 FED COM 731H
LOCATED 2484 FT. FROM THE NORTH LINE
AND 985 FT. FROM THE WEST LINE OF
SECTION 25, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 1, 2019

SURVEY NO. 5661A

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
 NOVEMBER 2015

DEVON ENERGY PRODUCTION COMPANY, L.P.
BIG SINKS DRAW 25-24 FED COM 731H
 LOCATED 2484 FT. FROM THE NORTH LINE
 AND 985 FT. FROM THE WEST LINE OF
 SECTION 25, TOWNSHIP 25 SOUTH,
 RANGE 31 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 1, 2019

SURVEY NO. 5661A

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

[illegible]

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.

DEVON ENERGY PRODUCTION COMPANY, L.P.
GRADING PLAN AND CROSS SECTIONS
FOR BIG SINKS DRAW 25-24 FED COM 731H
SECTION 25, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AUGUST 1, 2019

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

0 12 60 120 240

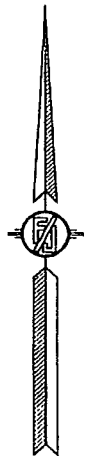
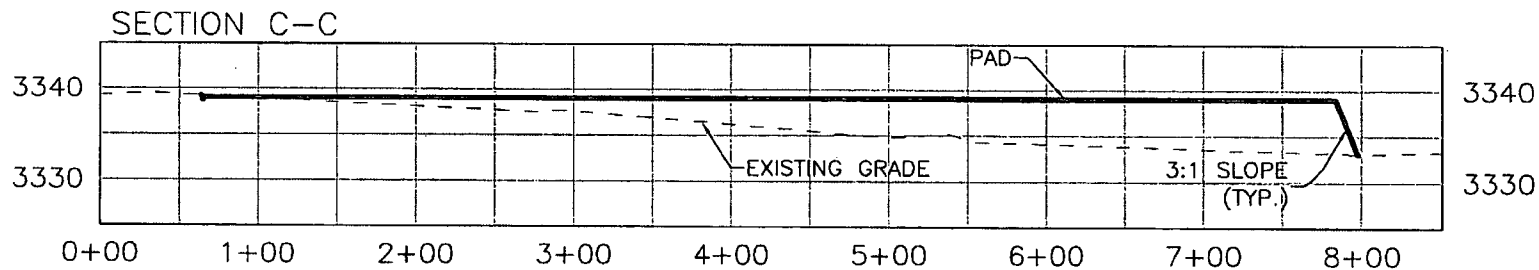
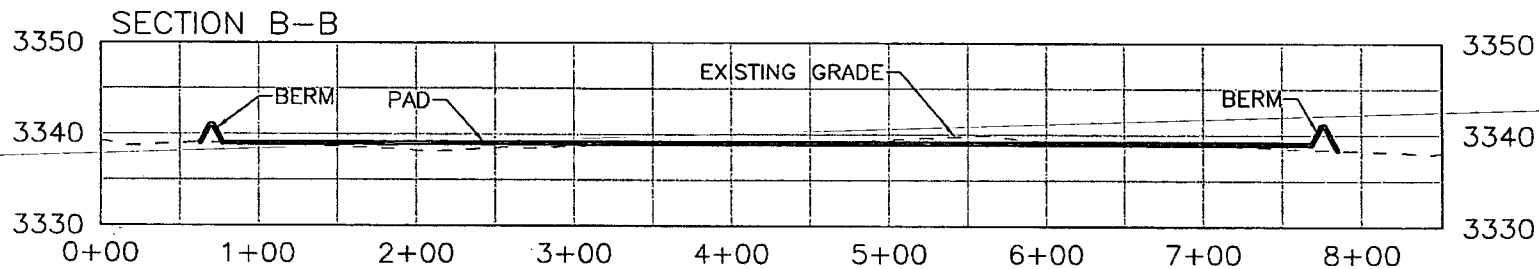
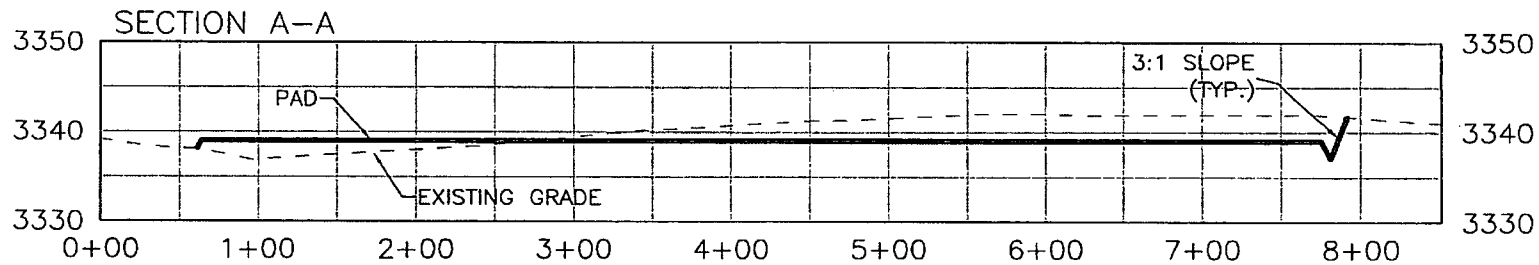
SCALE 1" = 120'

CUT	FILL	NET
5422 CU. YD	11752 CU. YD	6330 CU. YD (FILL)

EARTHWORK QUANTITIES ARE ESTIMATED

SHEET 1-2
SURVEY NO. 5661A

CROSS SECTIONS



I, FILMON 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.

DEVON ENERGY PRODUCTION COMPANY, L.P.
GRADING PLAN AND CROSS SECTIONS
FOR BIG SINKS DRAW 25-24 FED COM 731H
 SECTION 25, TOWNSHIP 25 SOUTH,
 RANGE 31 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

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

CUT	FILL	NET
5422 CU. YD	11752 CU. YD	6330 CU. YD (FILL)

EARTHWORK QUANTITIES ARE ESTIMATED

AUGUST 1, 2019

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

SHEET 2-2
 SURVEY NO. 5661A

1. Geologic Formations

TVD of target	12165	Pilot hole depth	N/A
MD at TD:	19462	Deepest expected fresh water	

Basin

[illegible]

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

2. Casing Program (Primary Design)

Hole Size	Casing Interval		Csg. Size	Wt (PPF)	Grade	Conn	Min SF Collapse	Min SF Burst	Min SF Tension
	From	To							
17 1/2	0	975 TVD 1003	13 3/8	48.0	H40	STC	1.125	1.25	1.6
9 7/8	0	10480 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
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 contingency 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		Csg. Size	Wt (PPF)	Grade	Conn	Min SF Collapse	Min SF Burst	Min SF Tension
	From	To							
17 1/2	0	975 TVD 1003	13 3/8	48.0	H40	STC	1.125	1.25	1.6
9 7/8	0	10480 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 contingency 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.

ok

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd 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 2 nd 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?	

ok

3. Cementing Program (Primary Design)

Casing	# Sks	TOC	Wt (lb/gal)	Yld (ft ³ /sack)	Slurry Description
Surface	744	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	638	Surf	9	3.27	Lead: Class C Cement + additives
	783	4000' above shoe	13.2	1.44	Tail: Class H / C + additives
Int 1 Two Stage w/ DV @ TVD of Delaware	819	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
	638	Surf	9	3.27	Lead: Class C Cement + additives
	783	4000' above shoe	13.2	1.44	Tail: Class H / C + additives
Production	59	9593	9.0	3.3	Lead: Class H / C + additives
	502	11593	13.2	1.4	Tail: Class H / C + additives

ok

1055
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%

OK

3. Cementing Program (Alternative Design)

Casing	# Sks	TOC	Wt. ppg	Yld. (ft ³ /sack)	Slurry Description
Surface	744	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	418	Surf	9	3.27	Lead: Class C Cement + additives
	465	4000' above shoe	13.2	1.44	Tail: Class H / C + additives
Int 1 Two Stage w DV @ ~4500	481	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
	418	Surf	9	3.27	Lead: Class C Cement + additives
	465	4000' above shoe	13.2	1.44	Tail: Class H / C + additives
Int 1 (10.625" Hole Size)	601	Surf	9	3.27	Lead: Class C Cement + additives
	768	4000' above shoe	13.2	1.44	Tail: Class H / C + additives
Production	117	9593	9.0	3.3	Lead: Class H / C + additives
	1042	11593	13.2	1.4	Tail: Class H / C + additives

less than
25% excess

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"	10M	Annular (5M)		X	100% of rated working pressure
			Blind Ram		X	10M
			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					

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	10-10.5

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 Report and submitted to the BLM.
	No logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain.
	Coring? If yes, explain.

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

7. Drilling Conditions

Condition	Specify what type and where?
BH pressure at deepest TVD	6642
Abnormal temperature	No

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

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

N	H ₂ S is present
Y	H ₂ S 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. At that time an approved BOP stack will be nipped 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 731H

Wellbore #1

Plan: Permit Plan 1

Standard Planning Report - Geographic

11 September, 2019

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Big Sinks Draw 25-24 Fed Com 731H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3362.50ft
Project:	Eddy County (NAD 83 NM Eastern)	MD Reference:	RKB @ 3362.50ft
Site:	Sec 25-T25S-R31E	North Reference:	Grid
Well:	Big Sinks Draw 25-24 Fed Com 731H	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:	From: Map	Northing:	403,723.39 usft
		Easting:	724,993.28 usft
Position Uncertainty:	5.00 ft	Slot Radius:	13-3/16"
		Latitude:	32.108526
		Longitude:	-103.740178
		Grid Convergence:	0.32 °

Well	Big Sinks Draw 25-24 Fed Com 731H					
Well Position	+N/-S	0.00 ft	Northing:	401,246.61 usft	Latitude:	32.101703
	+E/-W	0.00 ft	Easting:	725,986.54 usft	Longitude:	-103.737014
Position Uncertainty		0.50 ft	Wellhead Elevation:		Ground Level:	3,337.50 ft

Wellbore:	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/9/2019	6.78	59.90	47,619.91914443

Design:	Permit Plan 1				
Audit Notes:					
Version:	Phase:	PROTOTYPE		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	359.87	

Plan Survey Tool Program:	Date:	9/11/2019		
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks
(ft)	(ft)			
1	0.00	19,462.33 Permit Plan 1 (Wellbore #1)	MWD+HDGM	
			OWSG MWD + HDGM	

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(%/100usft)	(%/100usft)	(%/100usft)	(°)	
0.00	0.00	0.00	0.00	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	
4,084.78	0.85	177.30	4,084.77	-0.63	0.03	1.00	1.00	0.00	177.30	
11,186.26	0.85	177.30	11,185.48	-105.58	4.98	0.00	0.00	0.00	0.00	
11,242.78	0.00	0.00	11,242.00	-106.00	5.00	1.50	-1.50	0.00	180.00	
11,592.82	0.00	0.00	11,592.04	-106.00	5.00	0.00	0.00	0.00	0.00	
12,492.82	90.00	359.84	12,165.00	466.96	3.37	10.00	10.00	0.00	359.84	PBHL - Big Sinks Dra
19,462.33	90.00	359.84	12,165.00	7,436.44	-16.48	0.00	0.00	0.00	0.00	PBHL - Big Sinks Dra

Planning Report - Geographic

Database: EDM r5000.141_Prod US
 Company: WCDSC Permian NM
 Project: Eddy County (NAD 83 NM Eastern)
 Site: Sec 25-T25S-R31E
 Well: Big Sinks Draw 25-24 Fed Com 731H
 Wellbore: Wellbore #1
 Design: Permit Plan 1

Local Co-ordinate Reference: Well Big Sinks Draw 25-24 Fed Com 731H
 TVD Reference: RKB @ 3362.50ft
 MD Reference: RKB @ 3362.50ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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	401,246.61	725,986.54	32.101703	-103.737014
100.00	0.00	0.00	100.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
200.00	0.00	0.00	200.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
300.00	0.00	0.00	300.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
400.00	0.00	0.00	400.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
500.00	0.00	0.00	500.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
600.00	0.00	0.00	600.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
700.00	0.00	0.00	700.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
800.00	0.00	0.00	800.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
900.00	0.00	0.00	900.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
1,000.00	0.00	0.00	1,000.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
1,100.00	0.00	0.00	1,100.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
1,200.00	0.00	0.00	1,200.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
1,300.00	0.00	0.00	1,300.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
1,400.00	0.00	0.00	1,400.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
1,500.00	0.00	0.00	1,500.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
1,600.00	0.00	0.00	1,600.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
1,700.00	0.00	0.00	1,700.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
1,800.00	0.00	0.00	1,800.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
1,900.00	0.00	0.00	1,900.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
2,000.00	0.00	0.00	2,000.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
2,100.00	0.00	0.00	2,100.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
2,200.00	0.00	0.00	2,200.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
2,300.00	0.00	0.00	2,300.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
2,400.00	0.00	0.00	2,400.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
2,500.00	0.00	0.00	2,500.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
2,600.00	0.00	0.00	2,600.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
2,700.00	0.00	0.00	2,700.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
2,800.00	0.00	0.00	2,800.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
2,900.00	0.00	0.00	2,900.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
3,000.00	0.00	0.00	3,000.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
3,100.00	0.00	0.00	3,100.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
3,200.00	0.00	0.00	3,200.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
3,300.00	0.00	0.00	3,300.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
3,400.00	0.00	0.00	3,400.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
3,500.00	0.00	0.00	3,500.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
3,600.00	0.00	0.00	3,600.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
3,700.00	0.00	0.00	3,700.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
3,800.00	0.00	0.00	3,800.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
3,900.00	0.00	0.00	3,900.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
4,000.00	0.00	0.00	4,000.00	0.00	0.00	401,246.61	725,986.54	32.101703	-103.737014
4,084.78	0.85	177.30	4,084.77	-0.63	0.03	401,245.98	725,986.57	32.101701	-103.737014
4,100.00	0.85	177.30	4,100.00	-0.85	0.04	401,245.76	725,986.58	32.101700	-103.737014
4,200.00	0.85	177.30	4,199.98	-2.33	0.11	401,244.28	725,986.65	32.101696	-103.737014
4,300.00	0.85	177.30	4,299.97	-3.81	0.18	401,242.80	725,986.72	32.101692	-103.737014
4,400.00	0.85	177.30	4,399.96	-5.29	0.25	401,241.32	725,986.79	32.101688	-103.737013
4,500.00	0.85	177.30	4,499.95	-6.76	0.32	401,239.85	725,986.86	32.101684	-103.737013
4,600.00	0.85	177.30	4,599.94	-8.24	0.39	401,238.37	725,986.92	32.101680	-103.737013
4,700.00	0.85	177.30	4,699.93	-9.72	0.46	401,236.89	725,986.99	32.101676	-103.737013
4,800.00	0.85	177.30	4,799.92	-11.20	0.53	401,235.41	725,987.06	32.101672	-103.737013
4,900.00	0.85	177.30	4,899.91	-12.68	0.60	401,233.93	725,987.13	32.101668	-103.737012
5,000.00	0.85	177.30	4,999.90	-14.15	0.67	401,232.46	725,987.20	32.101664	-103.737012
5,100.00	0.85	177.30	5,099.89	-15.63	0.74	401,230.98	725,987.27	32.101660	-103.737012
5,200.00	0.85	177.30	5,199.87	-17.11	0.81	401,229.50	725,987.34	32.101656	-103.737012
5,300.00	0.85	177.30	5,299.86	-18.59	0.88	401,228.02	725,987.41	32.101652	-103.737012

Planning Report - Geographic

Database	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Big Sinks Draw 25-24 Fed Com 731H
Company	WCDSC Permian NM	TVD Reference:	RKB @ 3362.50ft
Project	Eddy County (NAD 83 NM Eastern)	MD Reference:	RKB @ 3362.50ft
Site	Sec 25-T25S-R31E	North Reference:	Grid
Well	Big Sinks Draw 25-24 Fed Com 731H	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 Northings (usft)	Map Eastings (usft)	Latitude	Longitude
5,400.00	0.85	177.30	5,399.85	-20.06	0.95	401,226.54	725,987.48	32.101647	-103.737011
5,500.00	0.85	177.30	5,499.84	-21.54	1.02	401,225.07	725,987.55	32.101643	-103.737011
5,600.00	0.85	177.30	5,599.83	-23.02	1.09	401,223.59	725,987.62	32.101639	-103.737011
5,700.00	0.85	177.30	5,699.82	-24.50	1.16	401,222.11	725,987.69	32.101635	-103.737011
5,800.00	0.85	177.30	5,799.81	-25.98	1.23	401,220.63	725,987.76	32.101631	-103.737011
5,900.00	0.85	177.30	5,899.80	-27.45	1.30	401,219.15	725,987.83	32.101627	-103.737010
6,000.00	0.85	177.30	5,999.79	-28.93	1.36	401,217.68	725,987.90	32.101623	-103.737010
6,100.00	0.85	177.30	6,099.78	-30.41	1.43	401,216.20	725,987.97	32.101619	-103.737010
6,200.00	0.85	177.30	6,199.77	-31.89	1.50	401,214.72	725,988.04	32.101615	-103.737010
6,300.00	0.85	177.30	6,299.75	-33.37	1.57	401,213.24	725,988.11	32.101611	-103.737010
6,400.00	0.85	177.30	6,399.74	-34.84	1.64	401,211.76	725,988.18	32.101607	-103.737009
6,500.00	0.85	177.30	6,499.73	-36.32	1.71	401,210.29	725,988.25	32.101603	-103.737009
6,600.00	0.85	177.30	6,599.72	-37.80	1.78	401,208.81	725,988.32	32.101599	-103.737009
6,700.00	0.85	177.30	6,699.71	-39.28	1.85	401,207.33	725,988.39	32.101595	-103.737009
6,800.00	0.85	177.30	6,799.70	-40.76	1.92	401,205.85	725,988.46	32.101591	-103.737009
6,900.00	0.85	177.30	6,899.69	-42.23	1.99	401,204.38	725,988.53	32.101586	-103.737008
7,000.00	0.85	177.30	6,999.68	-43.71	2.06	401,202.90	725,988.60	32.101582	-103.737008
7,100.00	0.85	177.30	7,099.67	-45.19	2.13	401,201.42	725,988.67	32.101578	-103.737008
7,200.00	0.85	177.30	7,199.66	-46.67	2.20	401,199.94	725,988.74	32.101574	-103.737008
7,300.00	0.85	177.30	7,299.65	-48.15	2.27	401,198.46	725,988.81	32.101570	-103.737008
7,400.00	0.85	177.30	7,399.63	-49.62	2.34	401,196.99	725,988.88	32.101566	-103.737007
7,500.00	0.85	177.30	7,499.62	-51.10	2.41	401,195.51	725,988.95	32.101562	-103.737007
7,600.00	0.85	177.30	7,599.61	-52.58	2.48	401,194.03	725,989.02	32.101558	-103.737007
7,700.00	0.85	177.30	7,699.60	-54.06	2.55	401,192.55	725,989.09	32.101554	-103.737007
7,800.00	0.85	177.30	7,799.59	-55.54	2.62	401,191.07	725,989.16	32.101550	-103.737007
7,900.00	0.85	177.30	7,899.58	-57.01	2.69	401,189.60	725,989.23	32.101546	-103.737006
8,000.00	0.85	177.30	7,999.57	-58.49	2.76	401,188.12	725,989.30	32.101542	-103.737006
8,100.00	0.85	177.30	8,099.56	-59.97	2.83	401,186.64	725,989.36	32.101538	-103.737006
8,200.00	0.85	177.30	8,199.55	-61.45	2.90	401,185.16	725,989.43	32.101534	-103.737006
8,300.00	0.85	177.30	8,299.54	-62.93	2.97	401,183.68	725,989.50	32.101530	-103.737006
8,400.00	0.85	177.30	8,399.52	-64.40	3.04	401,182.21	725,989.57	32.101526	-103.737005
8,500.00	0.85	177.30	8,499.51	-65.88	3.11	401,180.73	725,989.64	32.101521	-103.737005
8,600.00	0.85	177.30	8,599.50	-67.36	3.18	401,179.25	725,989.71	32.101517	-103.737005
8,700.00	0.85	177.30	8,699.49	-68.84	3.25	401,177.77	725,989.78	32.101513	-103.737005
8,800.00	0.85	177.30	8,799.48	-70.31	3.32	401,176.29	725,989.85	32.101509	-103.737005
8,900.00	0.85	177.30	8,899.47	-71.79	3.39	401,174.82	725,989.92	32.101505	-103.737004
9,000.00	0.85	177.30	8,999.46	-73.27	3.46	401,173.34	725,989.99	32.101501	-103.737004
9,100.00	0.85	177.30	9,099.45	-74.75	3.53	401,171.86	725,990.06	32.101497	-103.737004
9,200.00	0.85	177.30	9,199.44	-76.23	3.60	401,170.38	725,990.13	32.101493	-103.737004
9,300.00	0.85	177.30	9,299.43	-77.70	3.67	401,168.90	725,990.20	32.101489	-103.737004
9,400.00	0.85	177.30	9,399.42	-79.18	3.74	401,167.43	725,990.27	32.101485	-103.737004
9,500.00	0.85	177.30	9,499.40	-80.66	3.80	401,165.95	725,990.34	32.101481	-103.737003
9,600.00	0.85	177.30	9,599.39	-82.14	3.87	401,164.47	725,990.41	32.101477	-103.737003
9,700.00	0.85	177.30	9,699.38	-83.62	3.94	401,162.99	725,990.48	32.101473	-103.737003
9,800.00	0.85	177.30	9,799.37	-85.09	4.01	401,161.51	725,990.55	32.101469	-103.737003
9,900.00	0.85	177.30	9,899.36	-86.57	4.08	401,160.04	725,990.62	32.101465	-103.737003
10,000.00	0.85	177.30	9,999.35	-88.05	4.15	401,158.56	725,990.69	32.101461	-103.737002
10,100.00	0.85	177.30	10,099.34	-89.53	4.22	401,157.08	725,990.76	32.101456	-103.737002
10,200.00	0.85	177.30	10,199.33	-91.01	4.29	401,155.60	725,990.83	32.101452	-103.737002
10,300.00	0.85	177.30	10,299.32	-92.48	4.36	401,154.13	725,990.90	32.101448	-103.737002
10,400.00	0.85	177.30	10,399.31	-93.96	4.43	401,152.65	725,990.97	32.101444	-103.737002
10,500.00	0.85	177.30	10,499.29	-95.44	4.50	401,151.17	725,991.04	32.101440	-103.737001
10,600.00	0.85	177.30	10,599.28	-96.92	4.57	401,149.69	725,991.11	32.101436	-103.737001
10,700.00	0.85	177.30	10,699.27	-98.40	4.64	401,148.21	725,991.18	32.101432	-103.737001
10,800.00	0.85	177.30	10,799.26	-99.87	4.71	401,146.74	725,991.25	32.101428	-103.737001

Planning Report - Geographic

Database: EDM r5000.141_Prod US
 Company: WCDSC Permian NM
 Project: Eddy County (NAD 83 NM Eastern)
 Site: Sec 25-T25S-R31E
 Well: Big Sinks Draw 25-24 Fed Com 731H
 Wellbore: Wellbore #1
 Design: Permit Plan 1

Local Co-ordinate Reference: Well Big Sinks Draw 25-24 Fed Com 731H
 TVD Reference: RKB @ 3362.50ft
 MD Reference: RKB @ 3362.50ft
 North Reference: Grid
 Survey/Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	N/S (ft)	E/W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,900.00	0.85	177.30	10,899.25	-101.35	4.78	401,145.26	725,991.32	32.101424	-103.737001
11,000.00	0.85	177.30	10,999.24	-102.83	4.85	401,143.78	725,991.39	32.101420	-103.737000
11,100.00	0.85	177.30	11,099.23	-104.31	4.92	401,142.30	725,991.46	32.101416	-103.737000
11,186.26	0.85	177.30	11,185.48	-105.58	4.98	401,141.03	725,991.52	32.101412	-103.737000
11,200.00	0.64	177.30	11,199.22	-105.76	4.99	401,140.85	725,991.52	32.101412	-103.737000
11,242.78	0.00	0.00	11,242.00	-106.00	5.00	401,140.61	725,991.54	32.101411	-103.737000
11,300.00	0.00	0.00	11,299.22	-106.00	5.00	401,140.61	725,991.54	32.101411	-103.737000
11,400.00	0.00	0.00	11,399.22	-106.00	5.00	401,140.61	725,991.54	32.101411	-103.737000
11,500.00	0.00	0.00	11,499.22	-106.00	5.00	401,140.61	725,991.54	32.101411	-103.737000
11,592.82	0.00	0.00	11,592.04	-106.00	5.00	401,140.61	725,991.54	32.101411	-103.737000
KOP @ 11593' MD, 2590' FNL, 990' FWL									
11,600.00	0.72	359.84	11,599.22	-105.96	5.00	401,140.65	725,991.54	32.101411	-103.737000
11,700.00	10.72	359.84	11,698.59	-96.00	4.97	401,150.60	725,991.51	32.101439	-103.737000
11,800.00	20.72	359.84	11,794.73	-68.95	4.89	401,177.66	725,991.43	32.101513	-103.737000
11,833.96	24.11	359.84	11,826.12	-56.00	4.86	401,190.61	725,991.39	32.101549	-103.736999
FTP @ 11834' MD, 2539' FNL, 990' FWL									
11,900.00	30.72	359.84	11,884.71	-25.61	4.77	401,221.00	725,991.31	32.101632	-103.736999
12,000.00	40.72	359.84	11,965.80	32.69	4.61	401,279.30	725,991.14	32.101792	-103.736999
12,100.00	50.72	359.84	12,035.53	104.19	4.40	401,350.80	725,990.94	32.101989	-103.736998
12,200.00	60.72	359.84	12,091.79	186.72	4.17	401,433.32	725,990.70	32.102216	-103.736997
12,300.00	70.72	359.84	12,132.86	277.75	3.91	401,524.36	725,990.44	32.102466	-103.736997
12,400.00	80.72	359.84	12,157.50	374.54	3.63	401,621.15	725,990.17	32.102732	-103.736996
12,492.82	90.00	359.84	12,165.00	466.96	3.37	401,713.56	725,989.90	32.102986	-103.736995
12,500.00	90.00	359.84	12,165.00	474.13	3.35	401,720.74	725,989.88	32.103006	-103.736995
12,600.00	90.00	359.84	12,165.00	574.13	3.06	401,820.74	725,989.60	32.103281	-103.736994
12,700.00	90.00	359.84	12,165.00	674.13	2.78	401,920.74	725,989.31	32.103556	-103.736993
12,800.00	90.00	359.84	12,165.00	774.13	2.49	402,020.74	725,989.03	32.103831	-103.736992
12,900.00	90.00	359.84	12,165.00	874.13	2.21	402,120.74	725,988.74	32.104105	-103.736991
13,000.00	90.00	359.84	12,165.00	974.13	1.92	402,220.74	725,988.46	32.104380	-103.736991
13,100.00	90.00	359.84	12,165.00	1,074.13	1.64	402,320.74	725,988.18	32.104655	-103.736990
13,200.00	90.00	359.84	12,165.00	1,174.13	1.35	402,420.74	725,987.89	32.104930	-103.736989
13,300.00	90.00	359.84	12,165.00	1,274.13	1.07	402,520.74	725,987.61	32.105205	-103.736988
13,400.00	90.00	359.84	12,165.00	1,374.13	0.78	402,620.73	725,987.32	32.105480	-103.736987
13,500.00	90.00	359.84	12,165.00	1,474.13	0.50	402,720.73	725,987.04	32.105755	-103.736986
13,600.00	90.00	359.84	12,165.00	1,574.13	0.22	402,820.73	725,986.75	32.106030	-103.736985
13,700.00	90.00	359.84	12,165.00	1,674.13	-0.07	402,920.73	725,986.47	32.106304	-103.736984
13,800.00	90.00	359.84	12,165.00	1,774.13	-0.35	403,020.73	725,986.18	32.106579	-103.736984
13,900.00	90.00	359.84	12,165.00	1,874.13	-0.64	403,120.73	725,985.90	32.106854	-103.736983
14,000.00	90.00	359.84	12,165.00	1,974.13	-0.92	403,220.73	725,985.61	32.107129	-103.736982
14,100.00	90.00	359.84	12,165.00	2,074.13	-1.21	403,320.73	725,985.33	32.107404	-103.736981
14,200.00	90.00	359.84	12,165.00	2,174.13	-1.49	403,420.73	725,985.04	32.107679	-103.736980
14,300.00	90.00	359.84	12,165.00	2,274.12	-1.78	403,520.73	725,984.76	32.107954	-103.736979
14,400.00	90.00	359.84	12,165.00	2,374.12	-2.06	403,620.73	725,984.47	32.108229	-103.736978
14,500.00	90.00	359.84	12,165.00	2,474.12	-2.35	403,720.73	725,984.19	32.108504	-103.736978
14,510.00	90.00	359.84	12,165.00	2,484.12	-2.38	403,730.73	725,984.16	32.108531	-103.736977
Cross section @ 14510' MD, 0' FSL, 990' FWL									
14,600.00	90.00	359.84	12,165.00	2,574.12	-2.63	403,820.73	725,983.90	32.108778	-103.736977
14,700.00	90.00	359.84	12,165.00	2,674.12	-2.92	403,920.73	725,983.62	32.109053	-103.736976
14,800.00	90.00	359.84	12,165.00	2,774.12	-3.20	404,020.73	725,983.33	32.109328	-103.736975
14,900.00	90.00	359.84	12,165.00	2,874.12	-3.49	404,120.73	725,983.05	32.109603	-103.736974
15,000.00	90.00	359.84	12,165.00	2,974.12	-3.77	404,220.73	725,982.76	32.109878	-103.736973
15,100.00	90.00	359.84	12,165.00	3,074.12	-4.06	404,320.72	725,982.48	32.110153	-103.736972
15,200.00	90.00	359.84	12,165.00	3,174.12	-4.34	404,420.72	725,982.19	32.110428	-103.736971
15,300.00	90.00	359.84	12,165.00	3,274.12	-4.63	404,520.72	725,981.91	32.110703	-103.736971

Planning Report - Geographic

Database	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Big Sinks Draw 25-24 Fed Com 731H
Company	WCDSC Permian NM	TVD Reference:	RKB @ 3362.50ft
Project	Eddy County (NAD 83 NM Eastern)	MD Reference:	RKB @ 3362.50ft
Site	Sec 25-T25S-R31E	North Reference:	Grid
Well	Big Sinks Draw 25-24 Fed Com 731H	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	12,165.00	3,374.12	-4.91	404,620.72	725,981.63	32.110977	-103.736970	
15,500.00	90.00	359.84	12,165.00	3,474.12	-5.20	404,720.72	725,981.34	32.111252	-103.736969	
15,600.00	90.00	359.84	12,165.00	3,574.12	-5.48	404,820.72	725,981.06	32.111527	-103.736968	
15,700.00	90.00	359.84	12,165.00	3,674.12	-5.77	404,920.72	725,980.77	32.111802	-103.736967	
15,800.00	90.00	359.84	12,165.00	3,774.12	-6.05	405,020.72	725,980.49	32.112077	-103.736966	
15,900.00	90.00	359.84	12,165.00	3,874.12	-6.33	405,120.72	725,980.20	32.112352	-103.736965	
16,000.00	90.00	359.84	12,165.00	3,974.12	-6.62	405,220.72	725,979.92	32.112627	-103.736965	
16,100.00	90.00	359.84	12,165.00	4,074.12	-6.90	405,320.72	725,979.63	32.112902	-103.736964	
16,200.00	90.00	359.84	12,165.00	4,174.12	-7.19	405,420.72	725,979.35	32.113177	-103.736963	
16,300.00	90.00	359.84	12,165.00	4,274.12	-7.47	405,520.72	725,979.06	32.113451	-103.736962	
16,400.00	90.00	359.84	12,165.00	4,374.12	-7.76	405,620.72	725,978.78	32.113726	-103.736961	
16,500.00	90.00	359.84	12,165.00	4,474.12	-8.04	405,720.72	725,978.49	32.114001	-103.736960	
16,600.00	90.00	359.84	12,165.00	4,574.12	-8.33	405,820.72	725,978.21	32.114276	-103.736959	
16,700.00	90.00	359.84	12,165.00	4,674.12	-8.61	405,920.71	725,977.92	32.114551	-103.736958	
16,800.00	90.00	359.84	12,165.00	4,774.11	-8.90	406,020.71	725,977.64	32.114826	-103.736958	
16,900.00	90.00	359.84	12,165.00	4,874.11	-9.18	406,120.71	725,977.35	32.115101	-103.736957	
17,000.00	90.00	359.84	12,165.00	4,974.11	-9.47	406,220.71	725,977.07	32.115376	-103.736956	
17,100.00	90.00	359.84	12,165.00	5,074.11	-9.75	406,320.71	725,976.78	32.115650	-103.736955	
17,200.00	90.00	359.84	12,165.00	5,174.11	-10.04	406,420.71	725,976.50	32.115925	-103.736954	
17,300.00	90.00	359.84	12,165.00	5,274.11	-10.32	406,520.71	725,976.21	32.116200	-103.736953	
17,400.00	90.00	359.84	12,165.00	5,374.11	-10.61	406,620.71	725,975.93	32.116475	-103.736952	
17,500.00	90.00	359.84	12,165.00	5,474.11	-10.89	406,720.71	725,975.64	32.116750	-103.736952	
17,600.00	90.00	359.84	12,165.00	5,574.11	-11.18	406,820.71	725,975.36	32.117025	-103.736951	
17,700.00	90.00	359.84	12,165.00	5,674.11	-11.46	406,920.71	725,975.08	32.117300	-103.736950	
17,800.00	90.00	359.84	12,165.00	5,774.11	-11.75	407,020.71	725,974.79	32.117575	-103.736949	
17,900.00	90.00	359.84	12,165.00	5,874.11	-12.03	407,120.71	725,974.51	32.117850	-103.736948	
18,000.00	90.00	359.84	12,165.00	5,974.11	-12.32	407,220.71	725,974.22	32.118124	-103.736947	
18,100.00	90.00	359.84	12,165.00	6,074.11	-12.60	407,320.71	725,973.94	32.118399	-103.736946	
18,200.00	90.00	359.84	12,165.00	6,174.11	-12.89	407,420.71	725,973.65	32.118674	-103.736945	
18,300.00	90.00	359.84	12,165.00	6,274.11	-13.17	407,520.71	725,973.37	32.118949	-103.736945	
18,400.00	90.00	359.84	12,165.00	6,374.11	-13.45	407,620.70	725,973.08	32.119224	-103.736944	
18,500.00	90.00	359.84	12,165.00	6,474.11	-13.74	407,720.70	725,972.80	32.119499	-103.736943	
18,600.00	90.00	359.84	12,165.00	6,574.11	-14.02	407,820.70	725,972.51	32.119774	-103.736942	
18,700.00	90.00	359.84	12,165.00	6,674.11	-14.31	407,920.70	725,972.23	32.120049	-103.736941	
18,800.00	90.00	359.84	12,165.00	6,774.11	-14.59	408,020.70	725,971.94	32.120323	-103.736940	
18,900.00	90.00	359.84	12,165.00	6,874.11	-14.88	408,120.70	725,971.66	32.120598	-103.736939	
19,000.00	90.00	359.84	12,165.00	6,974.11	-15.16	408,220.70	725,971.37	32.120873	-103.736938	
19,100.00	90.00	359.84	12,165.00	7,074.11	-15.45	408,320.70	725,971.09	32.121148	-103.736938	
19,200.00	90.00	359.84	12,165.00	7,174.11	-15.73	408,420.70	725,970.80	32.121423	-103.736937	
19,300.00	90.00	359.84	12,165.00	7,274.10	-16.02	408,520.70	725,970.52	32.121698	-103.736936	
19,400.00	90.00	359.84	12,165.00	7,374.10	-16.30	408,620.70	725,970.23	32.121973	-103.736935	
19,462.32	90.00	359.84	12,165.00	7,436.42	-16.48	408,683.02	725,970.06	32.122144	-103.736934	
PBHL & LTP @ 19462' MD, 330' FNL, 990' FWL										
19,462.33	90.00	359.84	12,165.00	7,436.44	-16.48	408,683.03	725,970.06	32.122144	-103.736934	

Design Targets										
Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL - Big Sinks Draw	- plan misses target center by 7436.45ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)	0.00	0.00	0.00	7,436.44	-16.48	408,683.03	725,970.06	32.122144	-103.736934
	- Point									

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Big Sinks Draw 25-24 Fed Com 731H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3362.50ft
Project:	Eddy County (NAD 83 NM Eastern)	MD Reference:	RKB @ 3362.50ft
Site:	Sec 25-T25S-R31E	North Reference:	Grid
Well:	Big Sinks Draw 25-24 Fed Com 731H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		N/S (ft)	E/W (ft)	
11,592.82	11,592.04	-106.00	5.00	KOP @ 11593' MD, 2590' FNL, 990' FWL
11,833.96	11,826.12	-56.00	4.86	FTP @ 11834' MD, 2539' FNL, 990' FWL
14,510.00	12,165.00	2,484.12	-2.38	Cross section @ 14510' MD, 0' FSL, 990' FWL
19,462.32	12,165.00	7,436.42	-16.48	PBHL & LTP @ 19462' MD, 330' FNL, 990' FWL

Devon Energy

WELL DETAILS: Big Sinks Draw 25-24 Fed Com 731H

RKB @ 3362.50ft

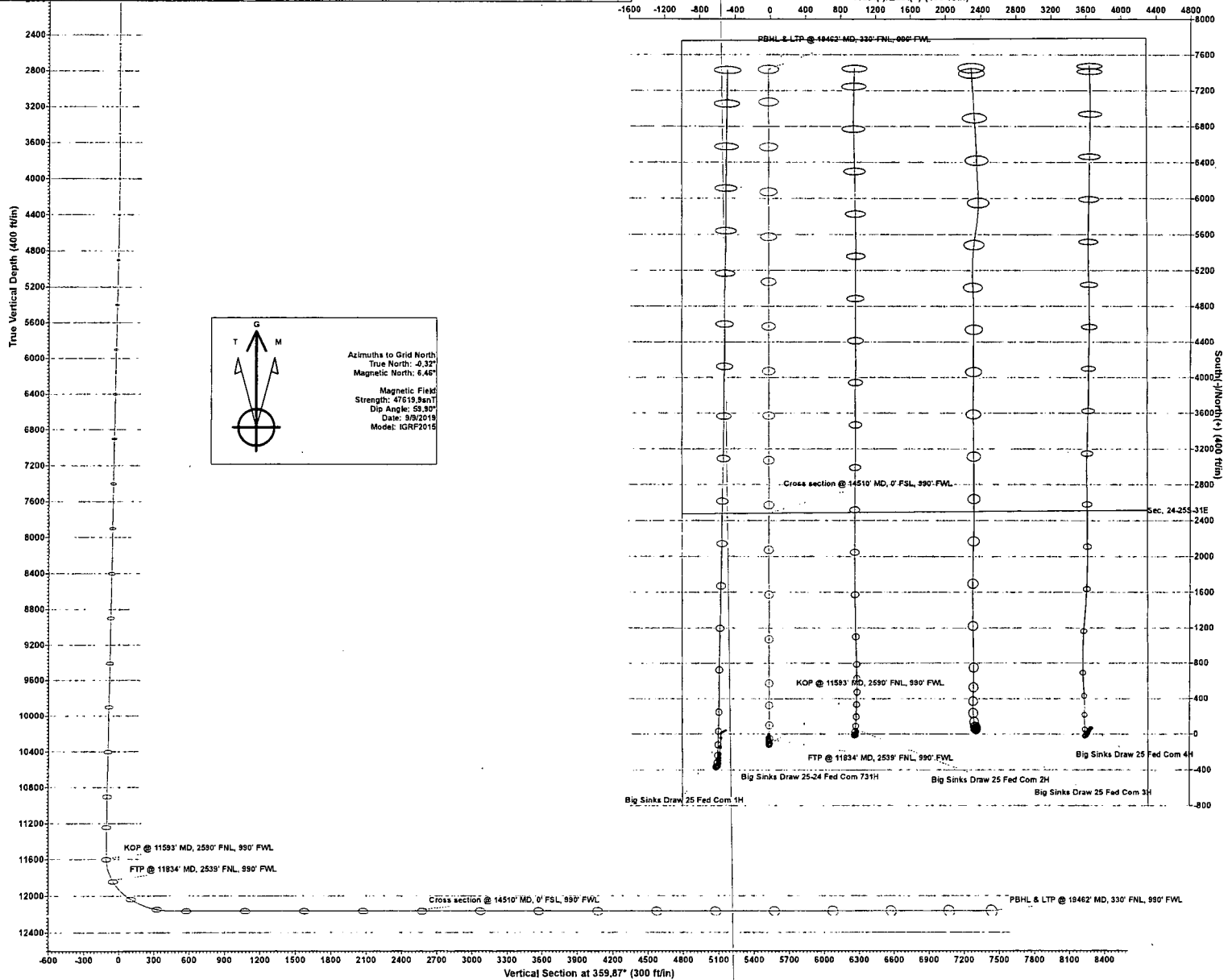
3337.50

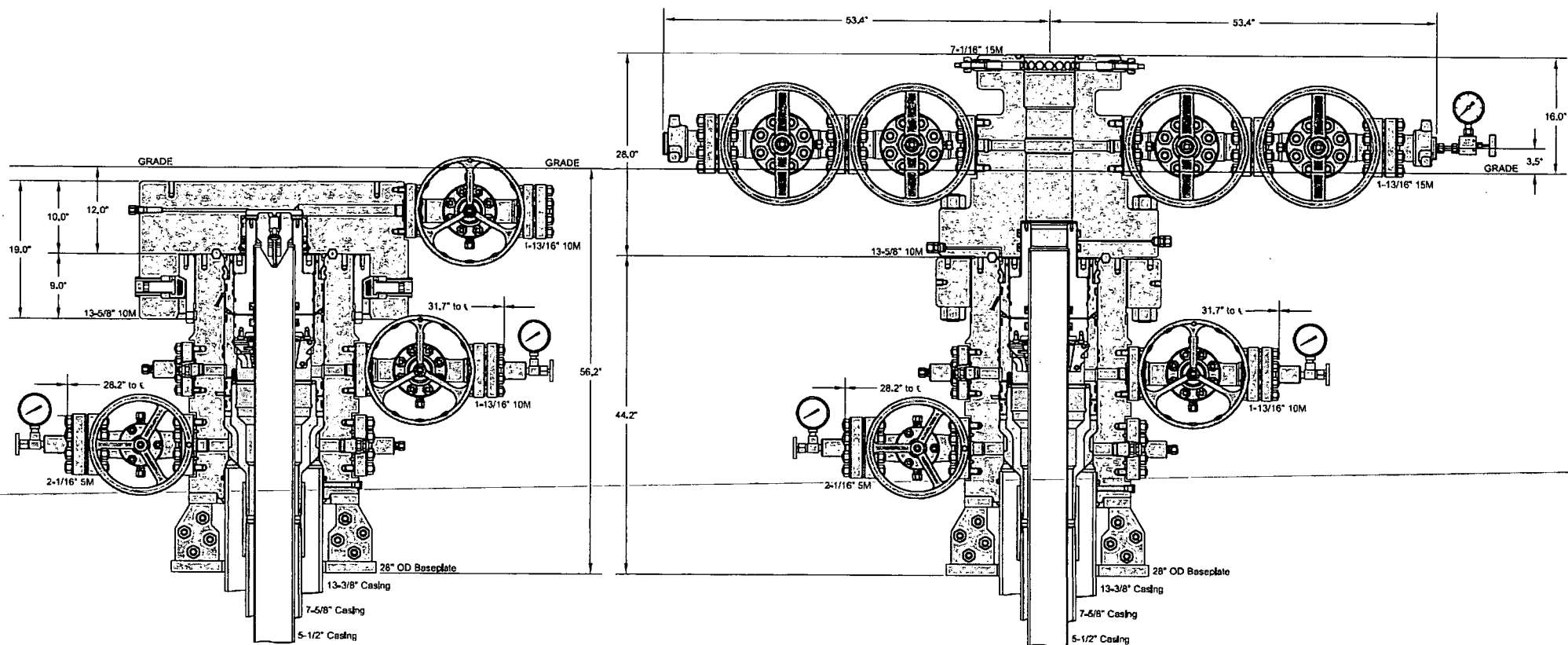
Northing 401246.61 Easting 725986.84 Latitude 32.101703 Longitude -103.737014

SECTION DETAILS Permit Plan 1

MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4000.00	0.00	0.00	4000.00	0.00	0.00	0.00	0.00	
4084.78	0.85	177.30	4084.77	-0.63	0.03	1.00	-0.63	
11186.26	0.85	177.30	11185.48	-105.58	4.98	0.00	-105.59	
11242.78	0.00	0.00	11242.00	-106.00	5.00	1.50	-106.01	
11592.82	0.00	0.00	11592.04	-106.00	5.00	0.00	-106.01	KOP @ 11593' MD, 2590' FNL, 990' FWL
12492.82	90.00	359.84	12165.00	468.96	3.37	10.00	468.95	
19462.33	90.00	359.84	12165.00	7436.43	-16.48	0.00	7436.45	PBHL & LTP @ 19462' MD, 330' FNL, 990' FWL

devon





INFORMATION CONTAINED HEREIN IS THE PROPERTY OF CACTUS WELLHEAD, LLC. REPRODUCTION, DISCLOSURE, OR USE THEREOF IS PERMISSIBLE ONLY AS PROVIDED BY CONTRACT OR AS EXPRESSLY AUTHORIZED BY CACTUS WELLHEAD, LLC.

CACTUS WELLHEAD LLC

13-3/8" x 7-5/8" x 5-1/2" 5M MBU-3T Wellhead System
With 7-5/8" Mandrel Hanger, 5-1/2" Emergency Slips And
13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head

DEVON ENERGY CORPORATION

DRAWN

DLE

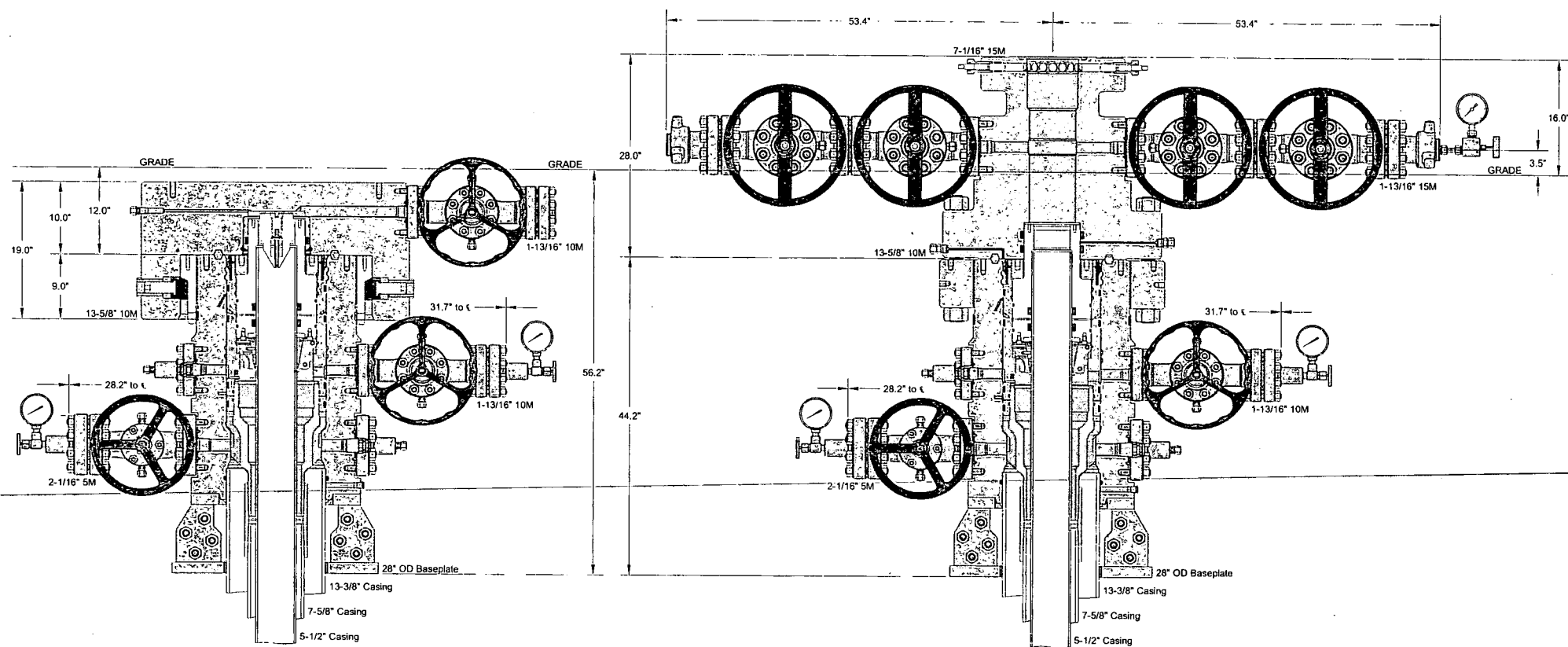
15DEC17

APPRV

DRAWING NO.

ODE0001902

LUSITANO 27-34 FED COM 718H
ICD 217



INFORMATION CONTAINED HEREIN IS THE PROPERTY OF CACTUS WELLHEAD, LLC. REPRODUCTION, DISCLOSURE, OR USE THEREOF IS PERMISSIBLE ONLY AS PROVIDED BY CONTRACT OR AS EXPRESSLY AUTHORIZED BY CACTUS WELLHEAD, LLC.

CACTUS WELLHEAD LLC

13-3/8" x 7-5/8" x 5-1/2" 5M MBU-3T Wellhead System
With 7-5/8" Mandrel Hanger, 5-1/2" Emergency Slips And
13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head

DEVON ENERGY CORPORATION

DRAWN
APPRV

DLE

15DEC17

DRAWING NO.

ODE0001902

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

Devon proposes using a multi-bowl wellhead assembly. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 5000 (5M) psi.

- Wellhead will be installed by wellhead representatives.
- If the welding is performed by a third party, the wellhead representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- Wellhead representative will install the test plug for the initial BOP test.
- Wellhead company will install a solid steel body pack-off to completely isolate the lower head after cementing intermediate casing. After installation of the pack-off, the pack-off and the lower flange will be tested to 5M, as shown on the attached schematic. Everything above the pack-off will not have been altered whatsoever from the initial nipple up. Therefore the BOP components will not be retested at that time.
- If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head will be cut and top out operations will be conducted.
- Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating.
- Devon will test the casing to 0.22 psi/ft or 1500 psi, whichever is greater, as per Onshore Order #2.

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

After running the intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 10M will be installed and tested, with 5M annular being tested to 100% of rated working pressure.

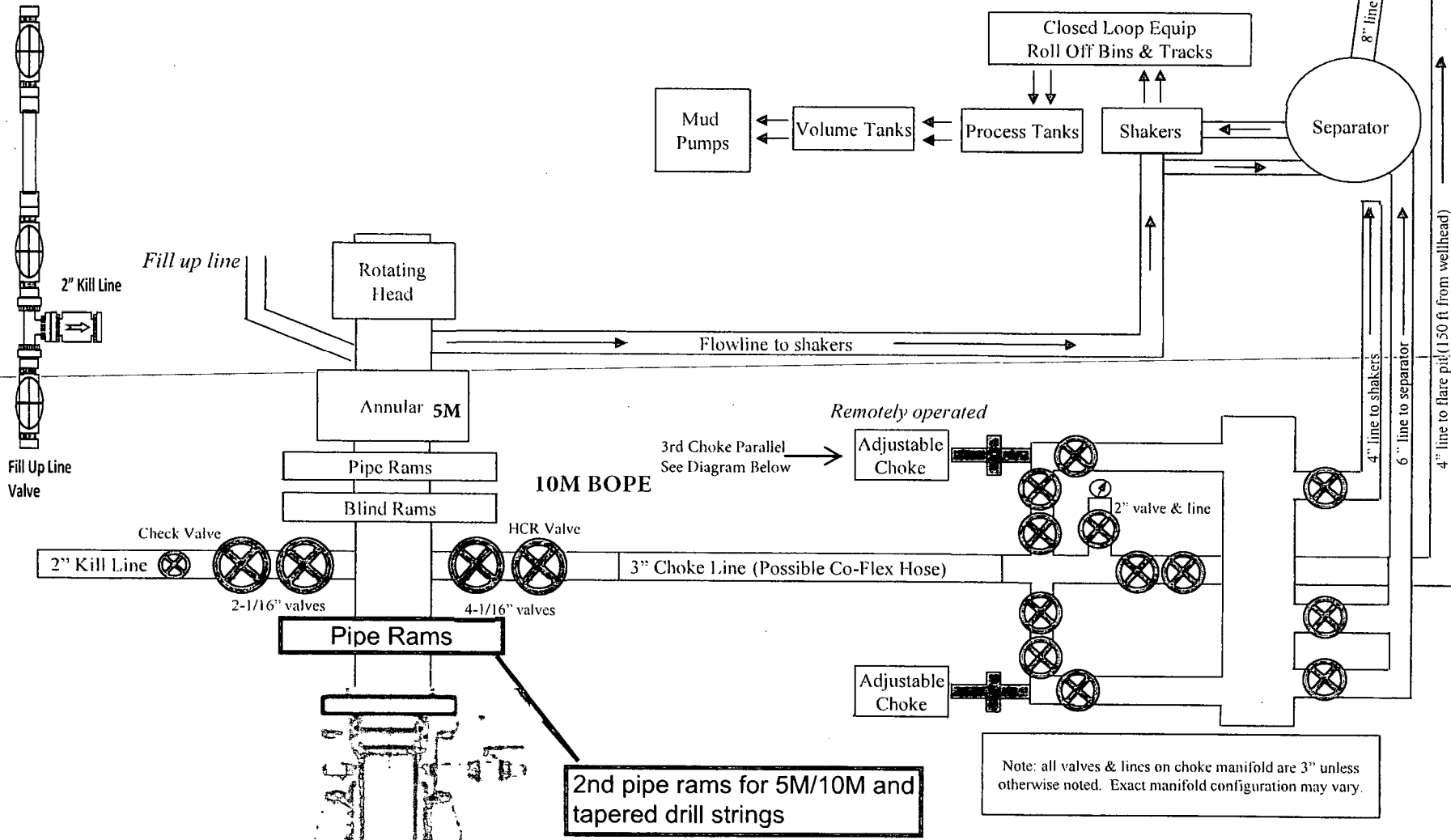
The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 10,000 psi WP.

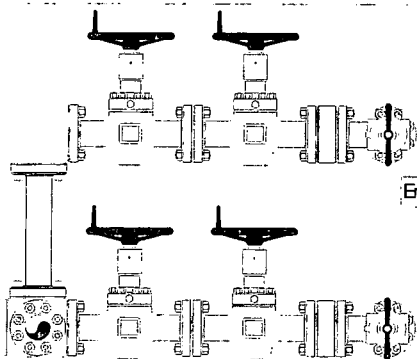
Devon's proposed wellhead manufactures will be FMC Technologies, Cactus Wellhead, or Cameron.

10M BOPE & Closed Loop Equipment Schematic

10M Remote
Kill Line Schematic

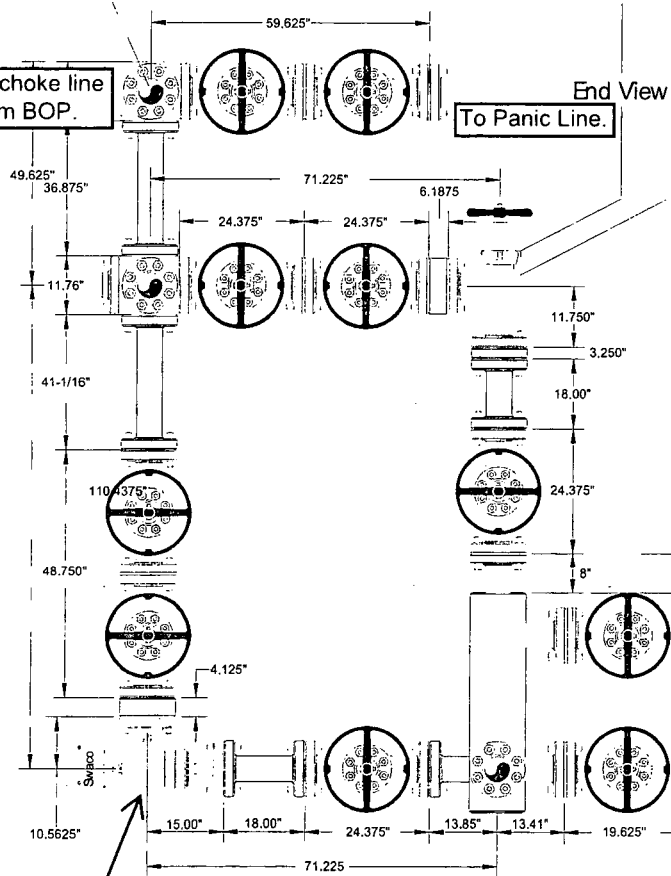
Outside
Remote Kill
Line Valve





End View

Flexible choke line
input from BOP.

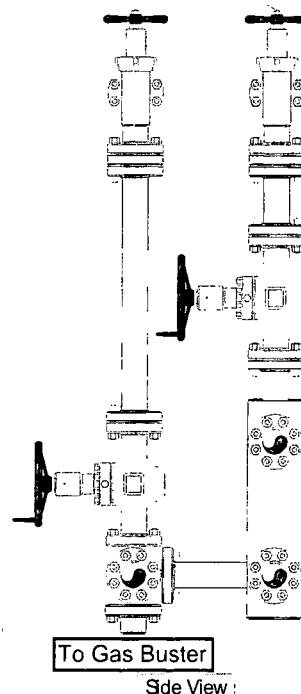


Hydraulic choke.

Top choke will be hydraulic.

Bottom choke will be manual.

Side View



Side View

Helmerich & Payne
Flex 3 Rig w/ 3 Chokes

devon

Name: Mike Potts

Date: 6-23-2010

Working Pressure: 10M

J-5132-E