

**District I**

1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**

811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**

1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**

1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

Form C-101  
August 1, 2011

Permit 288786

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

|                                                                                                                          |                                              |                               |
|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-------------------------------|
| 1. Operator Name and Address<br>DEVON ENERGY PRODUCTION COMPANY, LP<br>333 West Sheridan Ave.<br>Oklahoma City, OK 73102 |                                              | 2. OGRID Number<br>6137       |
|                                                                                                                          |                                              | 3. API Number<br>30-015-47668 |
| 4. Property Code<br>329795                                                                                               | 5. Property Name<br>BENT TREE 9 11 STATE COM | 6. Well No.<br>335H           |

**7. Surface Location**

|               |              |                 |              |              |                   |               |                   |               |                |
|---------------|--------------|-----------------|--------------|--------------|-------------------|---------------|-------------------|---------------|----------------|
| UL - Lot<br>M | Section<br>9 | Township<br>21S | Range<br>27E | Lot Idn<br>M | Feet From<br>1024 | N/S Line<br>S | Feet From<br>1112 | E/W Line<br>W | County<br>Eddy |
|---------------|--------------|-----------------|--------------|--------------|-------------------|---------------|-------------------|---------------|----------------|

**8. Proposed Bottom Hole Location**

|               |               |                 |              |              |                   |               |                   |               |                |
|---------------|---------------|-----------------|--------------|--------------|-------------------|---------------|-------------------|---------------|----------------|
| UL - Lot<br>N | Section<br>11 | Township<br>21S | Range<br>27E | Lot Idn<br>N | Feet From<br>1310 | N/S Line<br>S | Feet From<br>2652 | E/W Line<br>W | County<br>Eddy |
|---------------|---------------|-----------------|--------------|--------------|-------------------|---------------|-------------------|---------------|----------------|

**9. Pool Information**

|                          |      |
|--------------------------|------|
| AVALON;BONE SPRING, EAST | 3713 |
|--------------------------|------|

**Additional Well Information**

|                           |                             |                                        |                         |                                    |
|---------------------------|-----------------------------|----------------------------------------|-------------------------|------------------------------------|
| 11. Work Type<br>New Well | 12. Well Type<br>OIL        | 13. Cable/Rotary                       | 14. Lease Type<br>State | 15. Ground Level Elevation<br>3241 |
| 16. Multiple<br>N         | 17. Proposed Depth<br>19816 | 18. Formation<br>Bone Spring           | 19. Contractor          | 20. Spud Date<br>6/1/2021          |
| Depth to Ground water     |                             | Distance from nearest fresh water well |                         | Distance to nearest surface water  |

☒ We will be using a closed-loop system in lieu of lined pits

**21. Proposed Casing and Cement Program**

| Type | Hole Size | Casing Size | Casing Weight/ft | Setting Depth | Sacks of Cement | Estimated TOC |
|------|-----------|-------------|------------------|---------------|-----------------|---------------|
| Surf | 17.5      | 13.375      | 48               | 125           | 129             | 0             |
| Int1 | 12.25     | 9.625       | 40               | 518           | 155             | 0             |
| Prod | 8.75      | 5.5         | 17               | 19816         | 2931            | 18            |

**Casing/Cement Program: Additional Comments**

|                                                                         |
|-------------------------------------------------------------------------|
| Int 1 Intermediate Squeeze - see attached drilling plan for description |
|-------------------------------------------------------------------------|

**22. Proposed Blowout Prevention Program**

| Type       | Working Pressure | Test Pressure | Manufacturer |
|------------|------------------|---------------|--------------|
| Annular    | 5000             | 5000          |              |
| Double Ram | 5000             | 5000          |              |
| Annular    | 5000             | 5000          |              |
| Double Ram | 5000             | 5000          |              |

|                                                                                                                                                                                                                                                                                                    |                                 |                                  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|----------------------------------|--|
| 23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief.<br>I further certify I have complied with 19.15.14.9 (A) NMAC <input checked="" type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input checked="" type="checkbox"/> if applicable. |                                 | <b>OIL CONSERVATION DIVISION</b> |  |
| Signature:                                                                                                                                                                                                                                                                                         |                                 |                                  |  |
| Printed Name: Electronically filed by Jeff Walla                                                                                                                                                                                                                                                   | Approved By: Kurt Simmons       |                                  |  |
| Title: Supervisor Land                                                                                                                                                                                                                                                                             | Title: Petroleum Specialist - A |                                  |  |
| Email Address: Jeff.Walla@dvn.com                                                                                                                                                                                                                                                                  | Approved Date: 11/17/2020       | Expiration Date: 11/17/2022      |  |
| Date: 11/11/2020                                                                                                                                                                                                                                                                                   | Phone: 575-748-9925             | Conditions of Approval Attached  |  |

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

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Phone: (505) 334-6178 Fax: (505) 334-6170

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

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

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

☐ AMENDED REPORT

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

|               |                                       |                          |
|---------------|---------------------------------------|--------------------------|
| API Number    | Pool Code                             | Pool Name                |
|               | 3713                                  | AVALON; BONE SPRING EAST |
| Property Code | Property Name                         | Well Number              |
|               | BENT TREE 9-11 STATE COM              | 335H                     |
| OGRID No.     | Operator Name                         | Elevation                |
| 6137          | DEVON ENERGY PRODUCTION COMPANY, L.P. | 3241.4'                  |

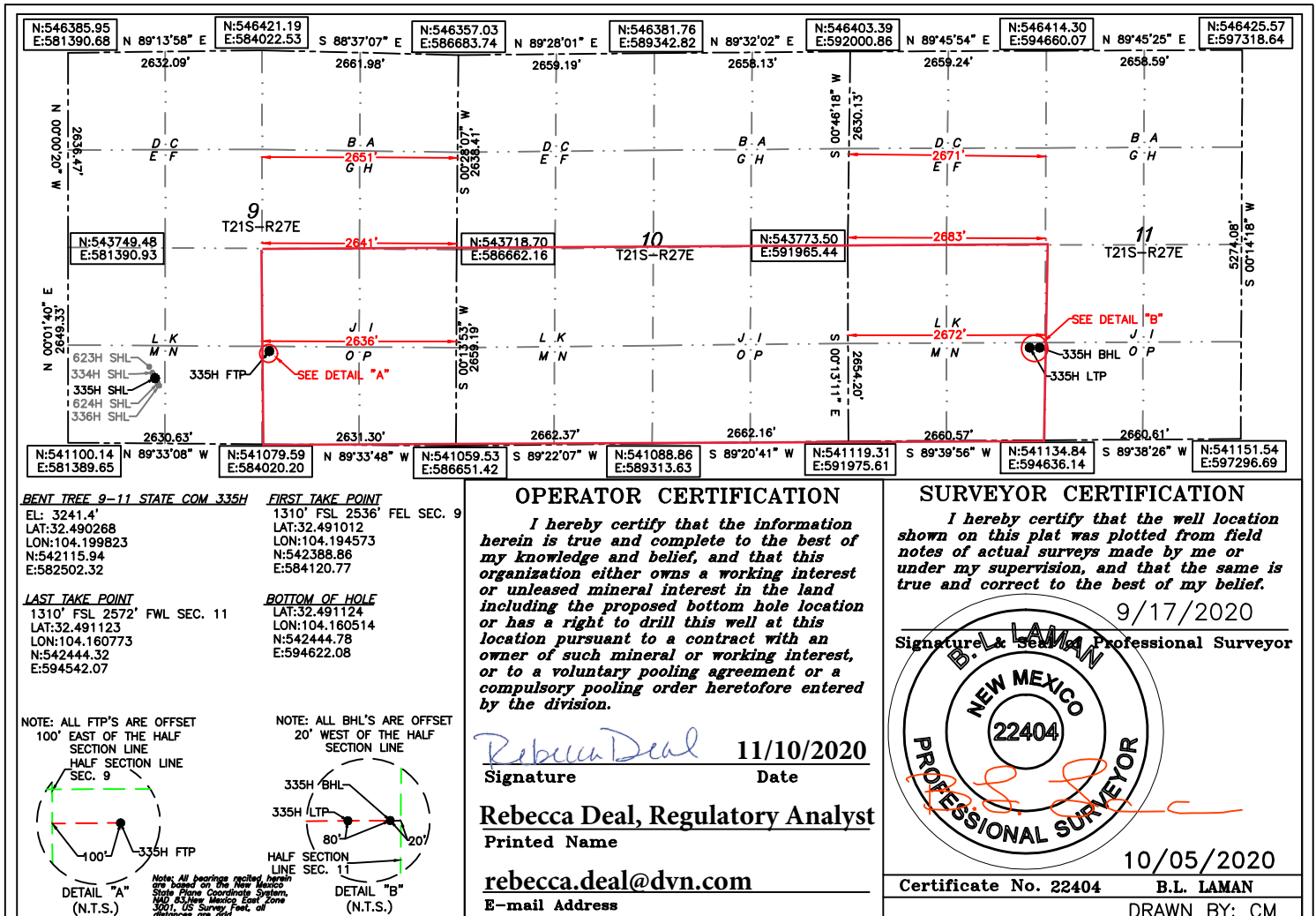
**Surface Location**

| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| M             | 9       | 21-S     | 27-E  |         | 1024          | SOUTH            | 1112          | WEST           | EDDY   |

**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 |
|-----------------|-----------------|--------------------|-----------|---------|---------------|------------------|---------------|----------------|--------|
| N               | 11              | 21-S               | 27-E      |         | 1310          | SOUTH            | 2652          | WEST           | EDDY   |
| Dedicated Acres | Joint or Infill | Consolidation Code | Order No. |         |               |                  |               |                |        |
| 640             |                 |                    |           |         |               |                  |               |                |        |

**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**



Intent ☐ As Drilled ☐

|                |                |             |
|----------------|----------------|-------------|
| API #          |                |             |
| Operator Name: | Property Name: | Well Number |

## Kick Off Point (KOP)

|          |         |          |       |     |           |          |      |          |        |
|----------|---------|----------|-------|-----|-----------|----------|------|----------|--------|
| UL       | Section | Township | Range | Lot | Feet      | From N/S | Feet | From E/W | County |
| Latitude |         |          |       |     | Longitude |          |      |          | NAD    |

## First Take Point (FTP)

|          |         |          |       |     |           |          |      |          |        |
|----------|---------|----------|-------|-----|-----------|----------|------|----------|--------|
| UL       | Section | Township | Range | Lot | Feet      | From N/S | Feet | From E/W | County |
| Latitude |         |          |       |     | Longitude |          |      |          | NAD    |

## Last Take Point (LTP)

|          |         |          |       |     |           |          |      |          |        |
|----------|---------|----------|-------|-----|-----------|----------|------|----------|--------|
| UL       | Section | Township | Range | Lot | Feet      | From N/S | Feet | From E/W | County |
| Latitude |         |          |       |     | Longitude |          |      |          | NAD    |

Is this well the defining well for the Horizontal Spacing Unit? ☐Is this well an infill well? ☐

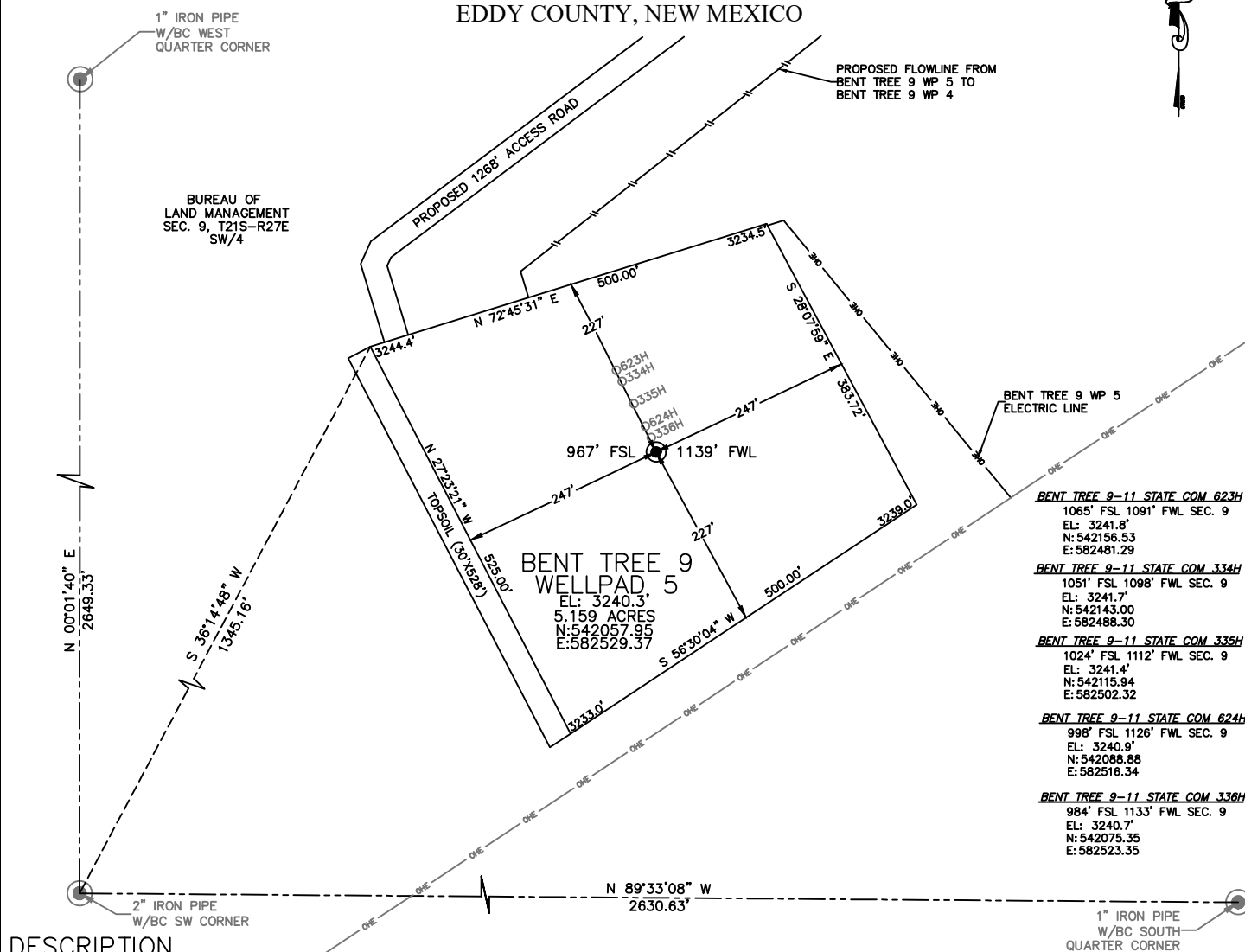
If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

|                |                |             |
|----------------|----------------|-------------|
| API #          |                |             |
| Operator Name: | Property Name: | Well Number |

KZ 06/29/2018

# BENT TREE 9 WELLPAD 5

DEVON ENERGY PRODUCTION COMPANY, L.P.  
IN THE SOUTHWEST QUARTER (SW/4)  
SECTION 9, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.  
EDDY COUNTY, NEW MEXICO



## DESCRIPTION

BEING A SURFACE SITE EASEMENT LYING IN THE SOUTHWEST QUARTER (SW/4) OF SECTION 9, TOWNSHIP 21 SOUTH, RANGE 27 EAST N.M.P.M., EDDY COUNTY, NEW MEXICO.

BEGINNING AT THE WEST CORNER OF SAID SITE EASEMENT, WHERE A 2" IRON PIPE W/BC FOR THE SOUTHWEST CORNER OF SECTION 9, TOWNSHIP 21 SOUTH, RANGE 27 EAST N.M.P.M. BEARS S 36°14'48" W, A DISTANCE 1345.16';

THENCE N 72°45'31" E, A DISTANCE 500.00 FEET TO THE NORTH CORNER OF THIS EASEMENT;  
THENCE S 28°07'59" E, A DISTANCE 383.72 FEET TO THE EAST CORNER OF THIS EASEMENT;  
THENCE S 56°30'04" W, A DISTANCE 500.00 FEET TO THE SOUTH CORNER OF THIS EASEMENT;  
THENCE N 27°23'21" W, A DISTANCE 525.00 FEET TO THE WEST CORNER OF THIS EASEMENT,  
TO THE POINT OF BEGINNING; CONTAINING 5.159 ACRES.

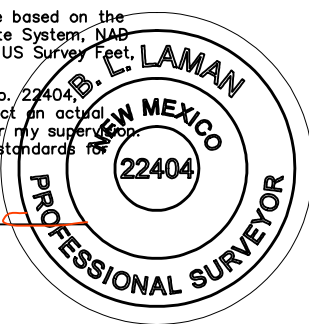
### GENERAL NOTES:

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

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

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

B.L. Laman  
Horizonrow, LLC  
Date Signed: 10-01-2020  
P.O. Box 548, Dry Creek, La.  
(903) 388-3045 70637  
Employee of Horizonrow, LLC



### DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF ANGEL RANCH RD. AND RAINS RD., HEAD WEST ON RAINS ROAD FOR 0.6 MILES. TURN LEFT ONTO AN EXISTING ACCESS ROAD AND FOLLOW IT SOUTHWEST FOR 870' FEET TO THE WEST EDGE OF AN EXISTING WELLPAD. CONTINUE SOUTHWEST FOR 398' FEET ALONG THE PATH OF A STAKED ACCESS ROAD TO THE WEST CORNER OF THE BENT TREE 9 WELLPAD 5.

0 200 400



**HORIZON ROW LLC**

Drawn for:

**devon**

Drawn by:  
CHRIS MAAS

Date: 09/30/2020

DEVON ENERGY PRODUCTION COMPANY, L.P.

BENT TREE 9 WELLPAD 5

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

SITE NUMBER:  
AA000412609

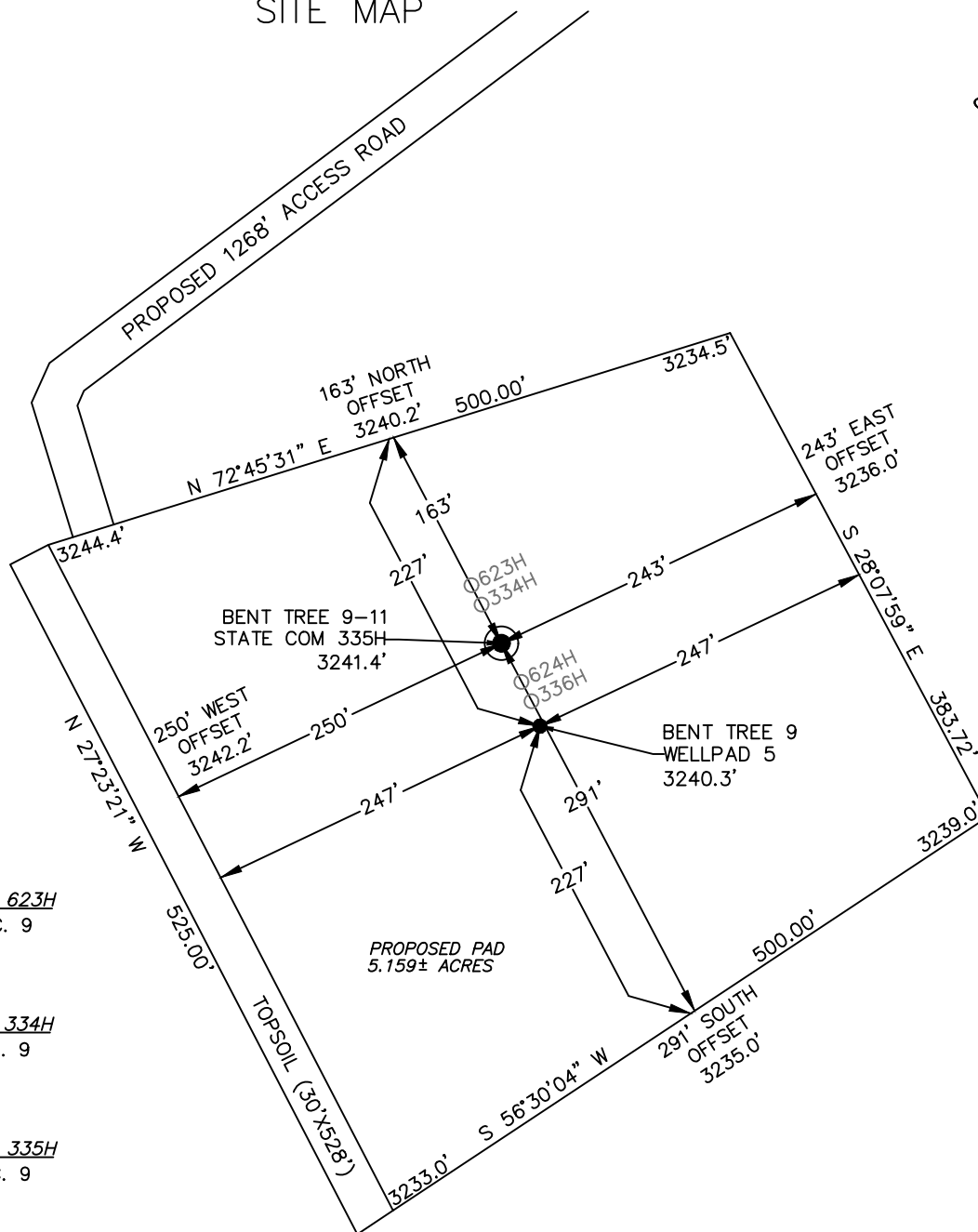
WBS NUMBER:  
XX-134800.01.SLC

SCALE:  
1" = 200'

REVISIONS:

DATE OF SURVEY:  
9/2020

# SECTION 9, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M. EDDY COUNTY, STATE OF NEW MEXICO SITE MAP

**BENT TREE 9-11 STATE COM 623H**

1065' FSL 1091' FWL SEC. 9  
EL: 3241.8'  
N: 542156.53  
E: 582481.29

**BENT TREE 9-11 STATE COM 334H**

1051' FSL 1098' FWL SEC. 9  
EL: 3241.7'  
N: 542143.00  
E: 582488.30

**BENT TREE 9-11 STATE COM 335H**

1024' FSL 1112' FWL SEC. 9  
EL: 3241.4'  
N: 542115.94  
E: 582502.32

**BENT TREE 9-11 STATE COM 624H**

998' FSL 1126' FWL SEC. 9  
EL: 3240.9'  
N: 542088.88  
E: 582516.34

**BENT TREE 9-11 STATE COM 336H**

984' FSL 1133' FWL SEC. 9  
EL: 3240.7'  
N: 542075.35  
E: 582523.35

DEVON ENERGY PRODUCTION COMPANY, L.P.

BENT TREE 9-11 STATE COM 335H  
LOCATED 1024 FT. FROM THE SOUTH LINE  
AND 1112 FT. FROM THE WEST LINE OF  
SECTION 9, TOWNSHIP 21 SOUTH,  
RANGE 27 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO

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

0 125 250

**HORIZON ROW LLC**

DEVON ENERGY PRODUCTION CO., L.P.

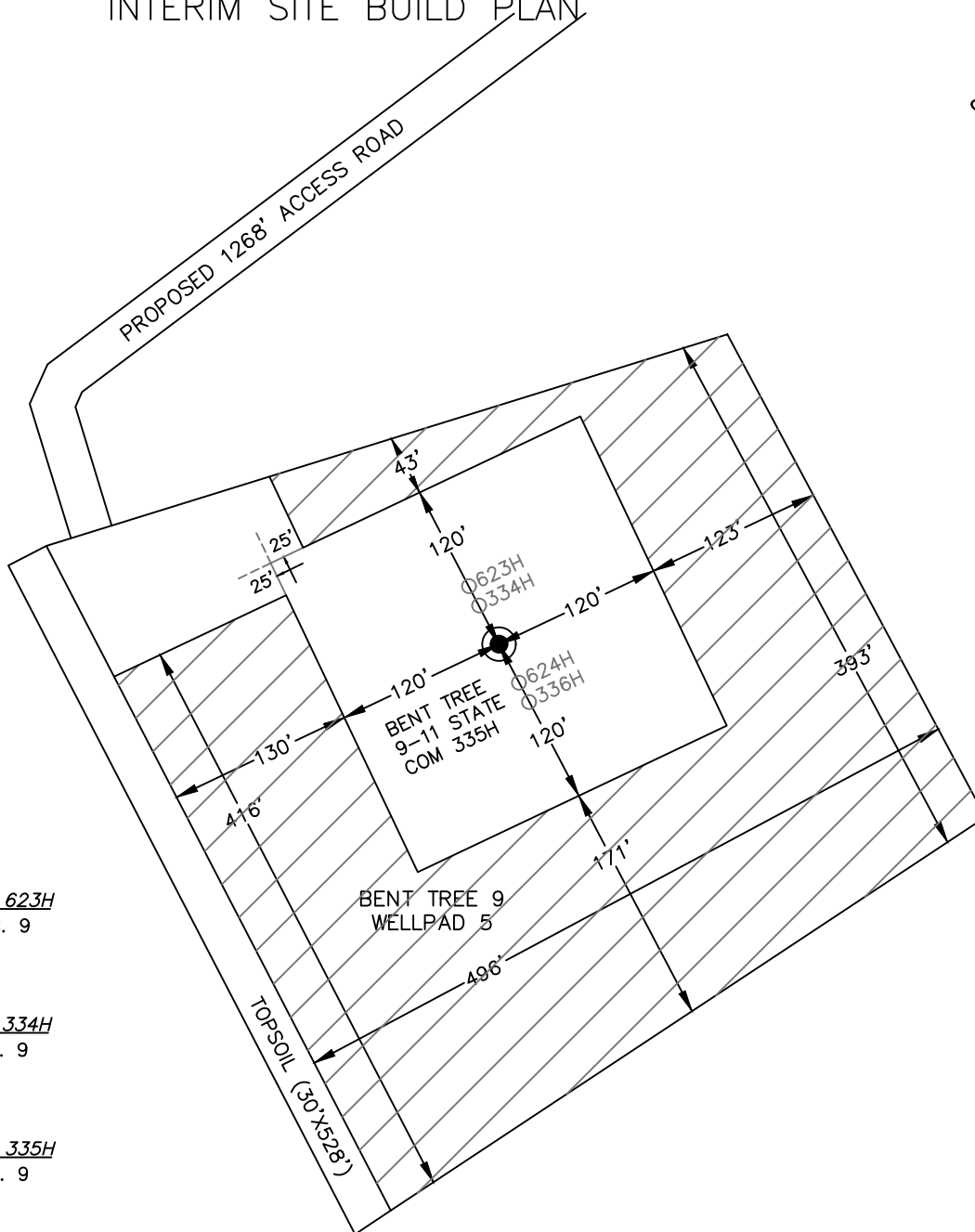
Drawn by  
CHRIS MAAS

Date: 10/02/2020

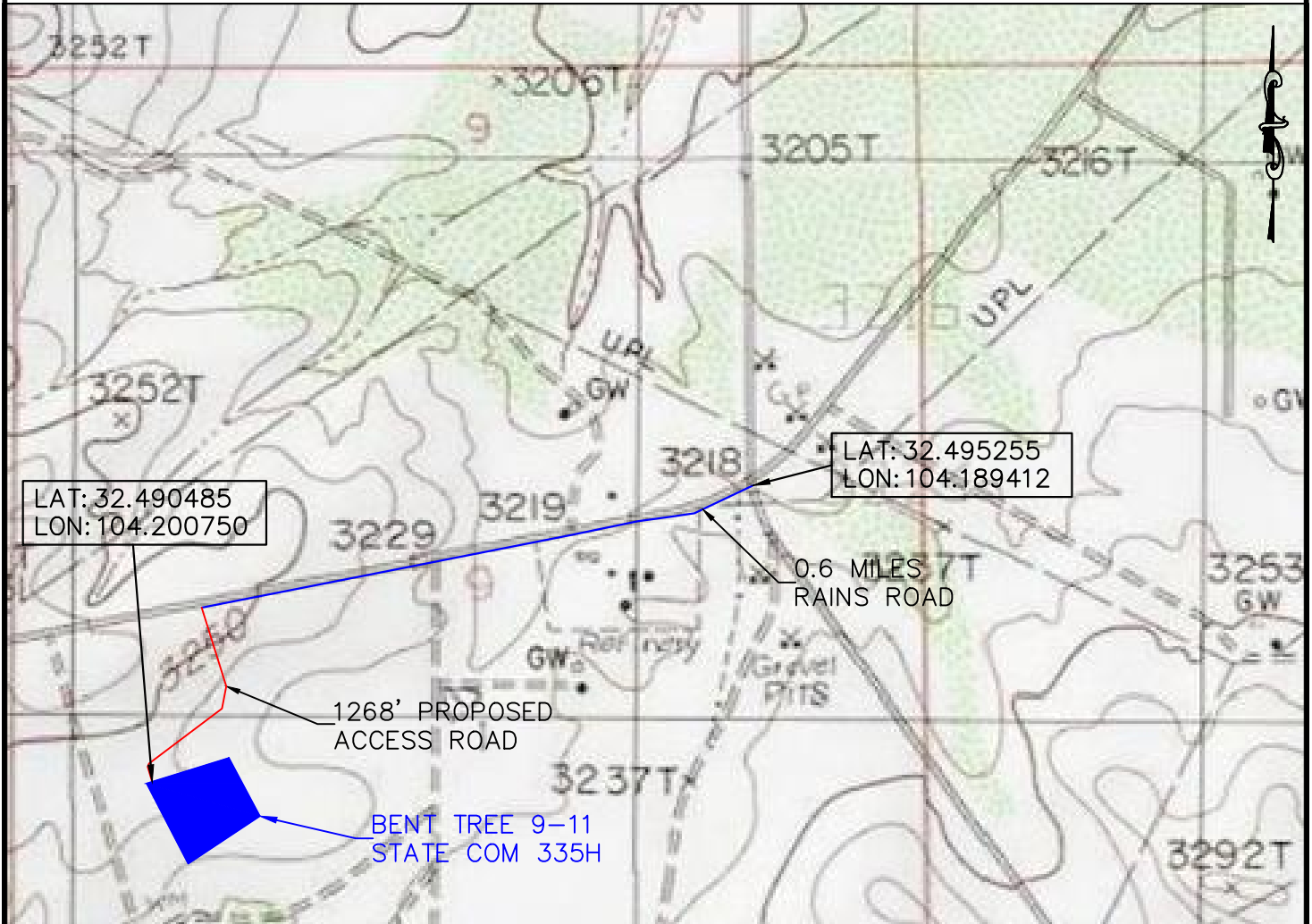
Drawn for:

**devon**

**DIRECTIONS TO LOCATION**  
FROM THE INTERSECTION OF ANGEL RANCH RD. AND RAINS RD., HEAD WEST ON RAINS ROAD FOR 0.6 MILES. TURN LEFT ONTO AN EXISTING ACCESS ROAD AND FOLLOW IT SOUTHWEST FOR 870' FEET TO THE WEST EDGE OF AN EXISTING WELLPAD. CONTINUE SOUTHWEST FOR 398' FEET ALONG THE PATH OF A STAKED ACCESS ROAD TO THE WEST CORNER OF THE BENT TREE 9 WELLPAD 5.



SECTION 9, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
VICINITY MAP



DEVON ENERGY PRODUCTION COMPANY, L.P.  
BENT TREE 9-11 STATE COM 335H  
LOCATED 1024 FT. FROM THE SOUTH LINE  
AND 1112 FT. FROM THE WEST LINE OF  
SECTION 9, TOWNSHIP 21 SOUTH,  
RANGE 27 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO

*DIRECTIONS TO LOCATION*

FROM THE INTERSECTION OF ANGEL RANCH RD. AND RAINS RD., HEAD WEST ON RAINS ROAD FOR 0.6 MILES. TURN LEFT ONTO AN EXISTING ACCESS ROAD AND FOLLOW IT SOUTHWEST FOR 870' FEET TO THE WEST EDGE OF AN EXISTING WELLPAD. CONTINUE SOUTHWEST FOR 398' FEET ALONG THE PATH OF A STAKED ACCESS ROAD TO THE WEST CORNER OF THE BENT TREE 9 WELLPAD 5.

**HORIZON ROW LLC**

DEVON ENERGY PRODUCTION CO., L.P.

Drawn by:  
CHRIS MAAS

Date: 10/02/2020

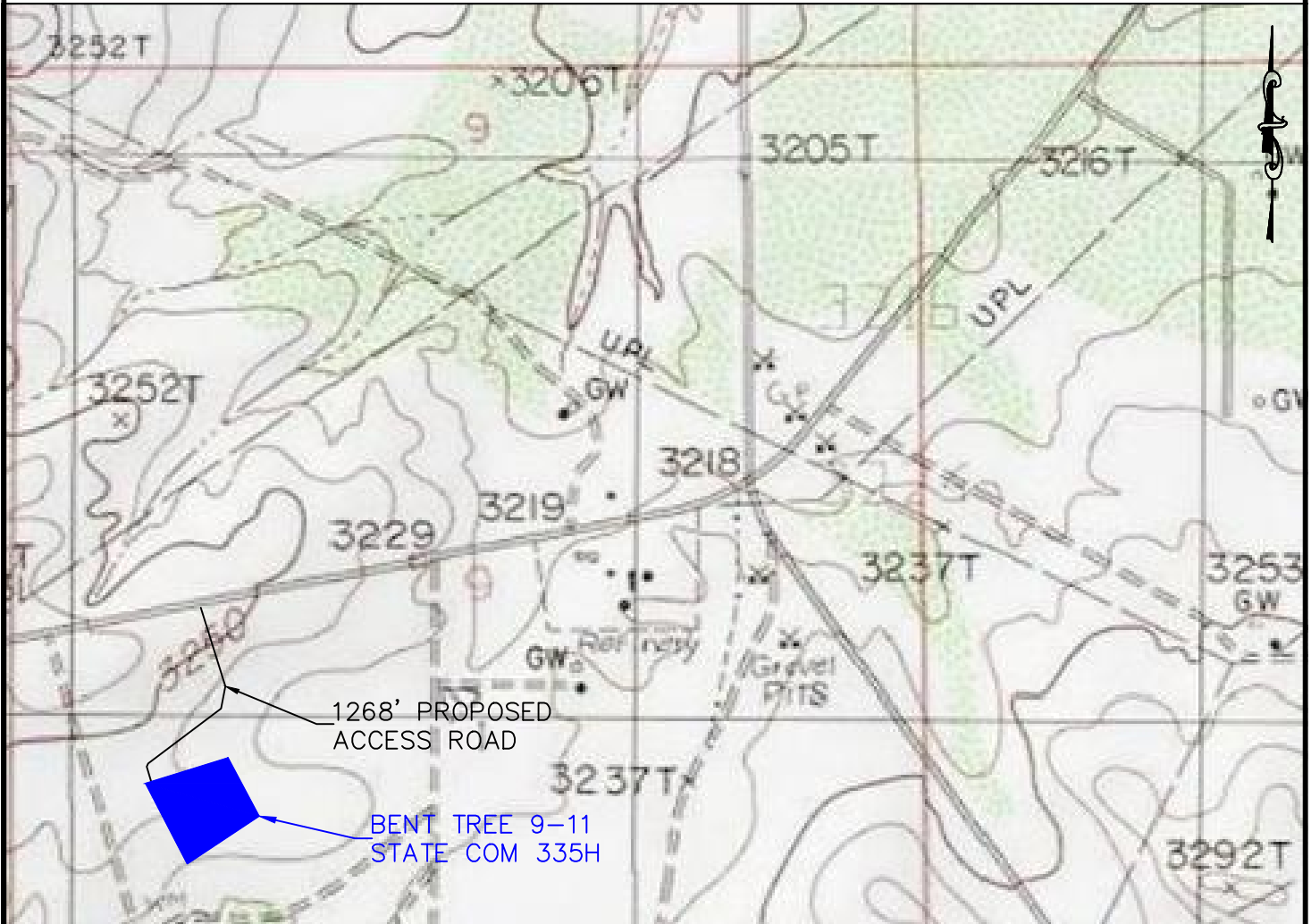
NOT TO SCALE

Drawn for:

**devon**



SECTION 9, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.  
 EDDY COUNTY, STATE OF NEW MEXICO  
 LOCATION VERIFICATION MAP



DEVON ENERGY PRODUCTION COMPANY, L.P.  
 BENT TREE 9-11 STATE COM 335H  
 LOCATED 1024 FT. FROM THE SOUTH LINE  
 AND 1112 FT. FROM THE WEST LINE OF  
 SECTION 9, TOWNSHIP 21 SOUTH,  
 RANGE 27 EAST, N.M.P.M.  
 EDDY COUNTY, STATE OF NEW MEXICO

NOT TO SCALE

HORIZON ROW LLC

Drawn for:

DEVON ENERGY PRODUCTION CO., L.P.

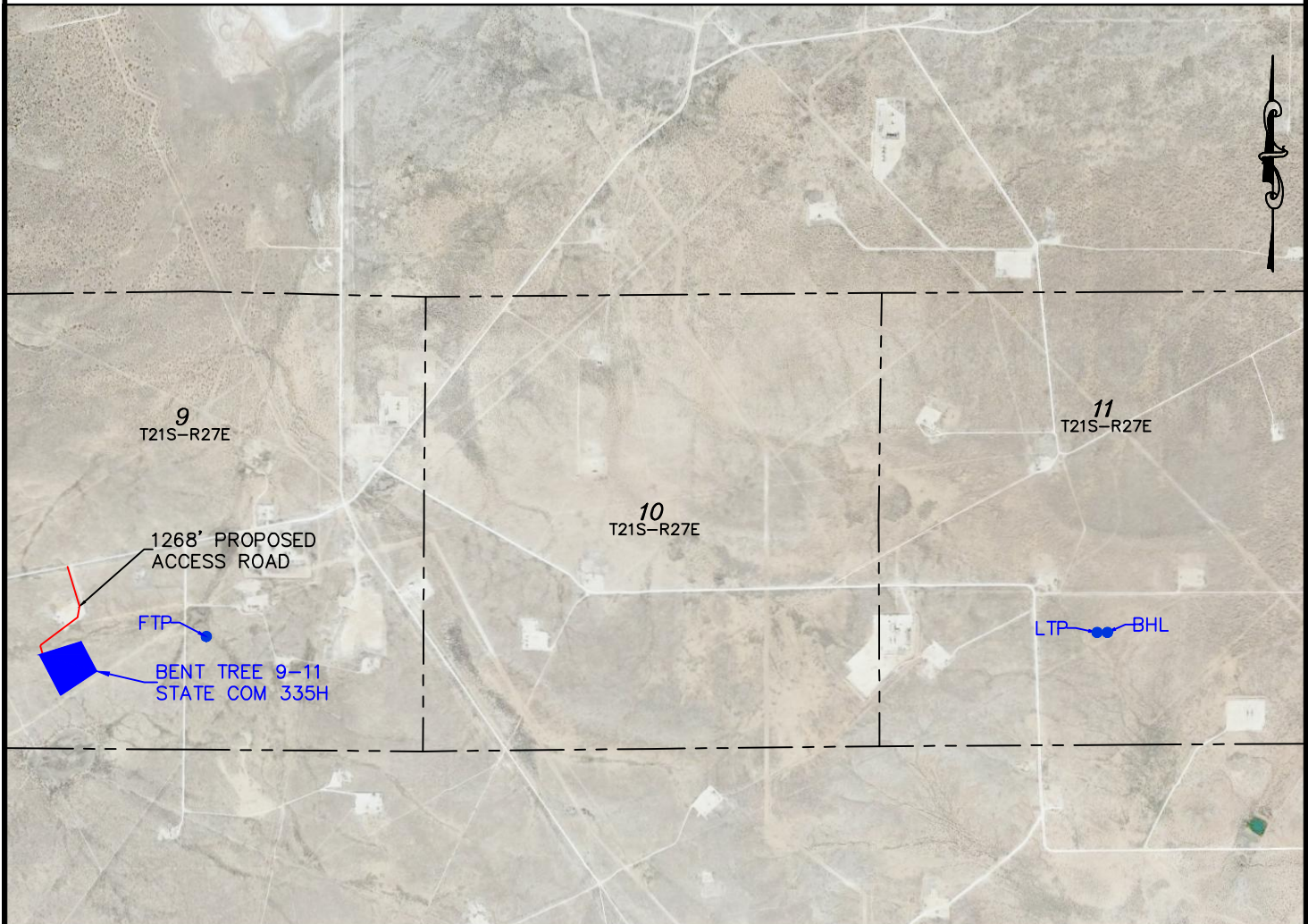
Drawn by:  
CHRIS MAAS

Date: 10/02/2020

  
**devon**



SECTION 9, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.  
 EDDY COUNTY, STATE OF NEW MEXICO  
 AERIAL PHOTO



DEVON ENERGY PRODUCTION COMPANY, L.P.  
 BENT TREE 9-11 STATE COM 335H  
 LOCATED 1024 FT. FROM THE SOUTH LINE  
 AND 1112 FT. FROM THE WEST LINE OF  
 SECTION 9, TOWNSHIP 21 SOUTH,  
 RANGE 27 EAST, N.M.P.M.  
 EDDY COUNTY, STATE OF NEW MEXICO



**HORIZON ROW LLC**

DEVON ENERGY PRODUCTION CO., L.P.

Drawn by:  
CHRIS MAAS

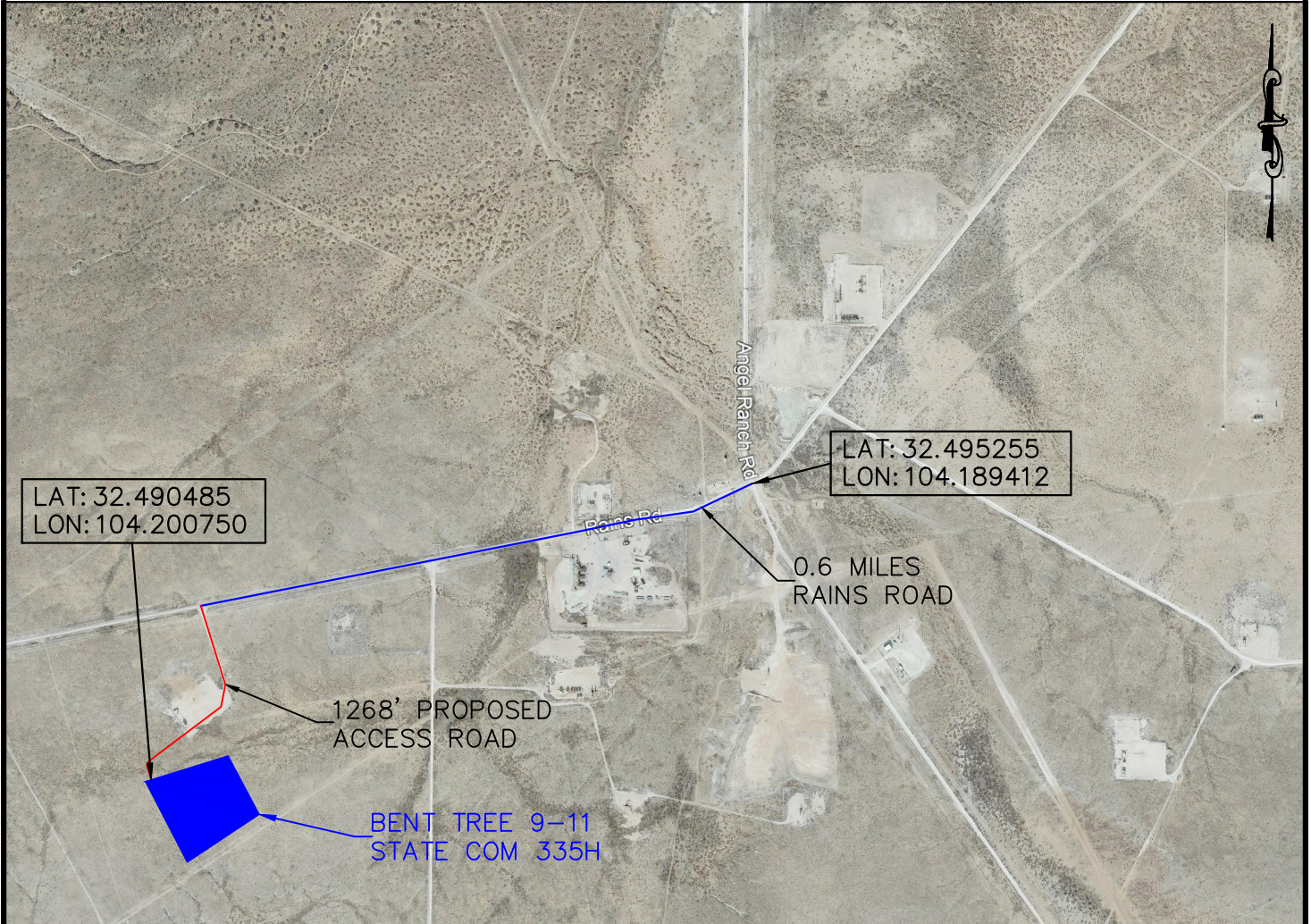
Date: 10/02/2020

Drawn for:

**devon**



SECTION 9, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.  
 EDDY COUNTY, STATE OF NEW MEXICO  
 AERIAL ACCESS ROUTE MAP



DEVON ENERGY PRODUCTION COMPANY, L.P.  
 BENT TREE 9-11 STATE COM 335H  
 LOCATED 1024 FT. FROM THE SOUTH LINE  
 AND 1112 FT. FROM THE WEST LINE OF  
 SECTION 9, TOWNSHIP 21 SOUTH,  
 RANGE 27 EAST, N.M.P.M.  
 EDDY COUNTY, STATE OF NEW MEXICO

NOT TO SCALE

HORIZON ROW LLC

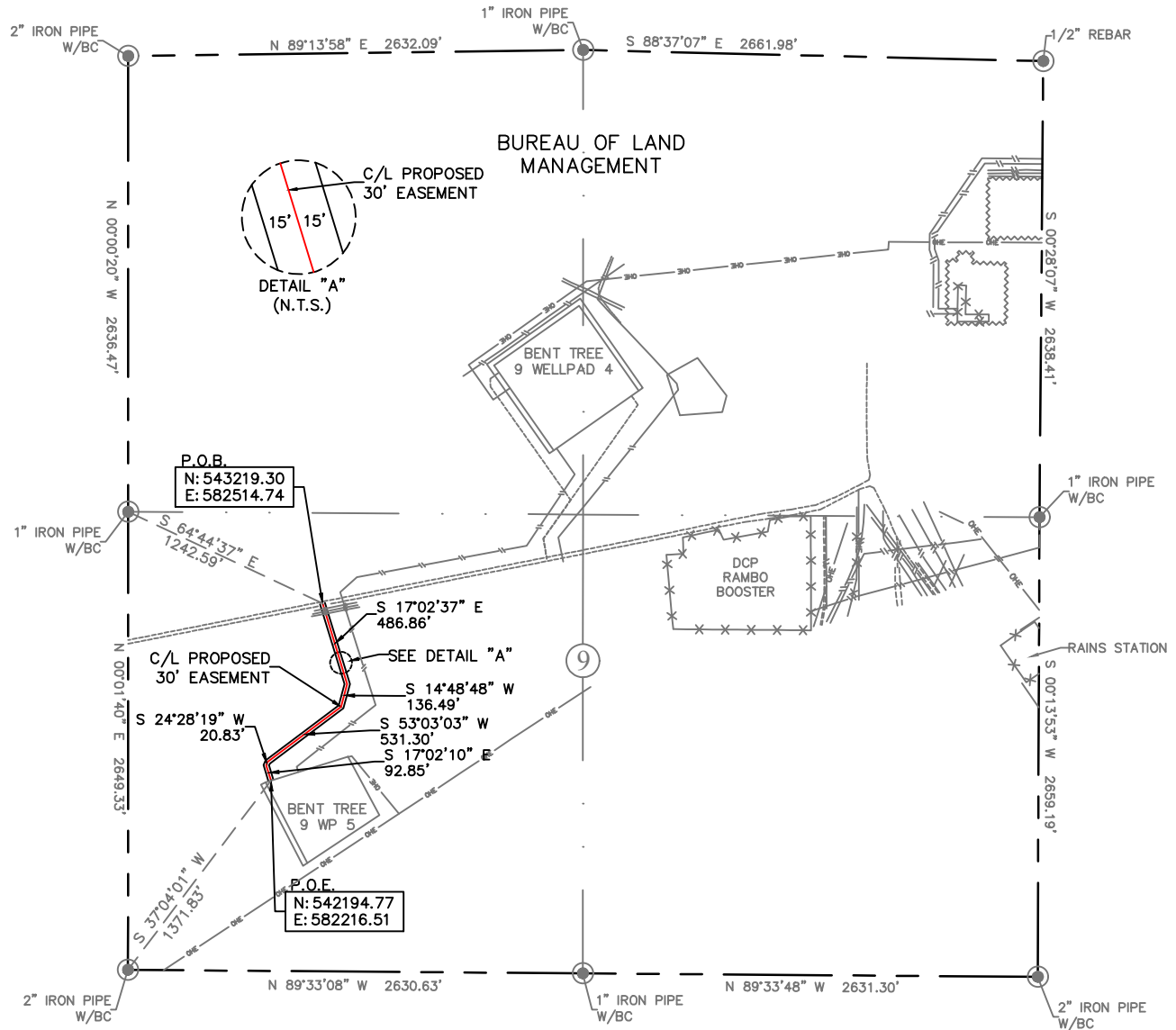
Drawn for:

DEVON ENERGY PRODUCTION CO., L.P.

Drawn by:  
CHRIS MAAS

Date: 10/02/2020

EXHIBIT "A"  
ACCESS ROAD PLAT  
SECTION 9, T21S-R27E, N.M.P.M.  
EDDY COUNTY, NEW MEXICO

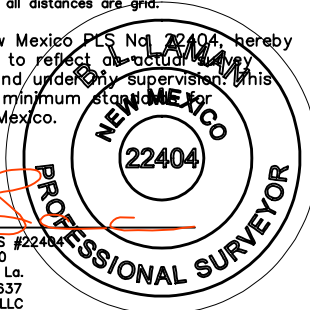


30' EASEMENT AREA = 0.874 ACRE(S)  
1268.33 FEET OR 76.87 RODS

SEE THE ATTACHED LEGAL DESCRIPTION

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

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



0 1000 2000



HORIZON ROW LLC

Drawn for:

Drawn by:  
JEANNIE PERRY

Date: 05/23/2019

DEVON ENERGY PRODUCTION COMPANY, L.P.

BENT TREE 9 WELLPAD 5  
ACCESS ROAD

30' EASEMENT  
ON THE PROPERTY OF  
BUREAU OF LAND MANAGEMENT  
SECTION 9, T21S-R27E, N.M.P.M.

LINE NUMBER:  
7670058R

WBS NUMBER:  
XX-134800.01.SLC

SCALE:  
1" = 1000'

REVISIONS:

DATE OF SURVEY:  
5/2020

B.L. Laman PLS #22404  
Date Signed: 10-01-2020  
P.O. BOX 548 Dry Creek, La.  
(903) 388-3045 70637  
Employee of Horizonrow, LLC

**SECTION 9, T21S-R27E, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO**

**ACCESS ROAD PLAT**

**LEGAL DESCRIPTION**

**FOR**

**DEVON ENERGY PRODUCTION COMPANY, L.P.**

**BUREAU OF LAND MANAGEMENT**

**30' EASEMENT DESCRIPTION:**

**BEING** an easement thirty (30) feet in width lying fifteen (15) feet on the right side and fifteen (15) feet on the left side of the survey centerline described below, being out of the southwest quarter (SW  $\frac{1}{4}$ ) of Section 9, Township 21 South, Range 27 East, N.M.P.M., Eddy County, New Mexico, and being out of a parcel owned by the Bureau of Land Management. Said centerline of easement being more particularly described as follows:

Commencing from a 1" iron pipe w/BC for the west quarter corner of Section 9;

Thence S 64°44'37" E a distance of 1242.59' to the **Point of Beginning** of this easement having coordinates of Northing=543219.30, Easting=582514.74 feet and continuing the following courses;

Thence S 17°02'37" E a distance of 486.86' to an angle point;

Thence S 14°48'48" W a distance of 136.49' to an angle point;

Thence S 53°03'03" W a distance of 531.30' to an angle point;

Thence S 24°28'19" W a distance of 20.83' to an angle point;

Thence S 17°02'10" E a distance of 92.85' to the **Point of Ending** having coordinates of Northing=542194.77, Easting=582216.51 feet from said point a 2" iron pipe w/BC for the southwest corner of Section 9, T21S-R27E bears S 37°04'01" W a distance of 1371.83', covering **1268.33' or 76.87 rods** and having an area of **0.874 acres**.

**NOTES:**

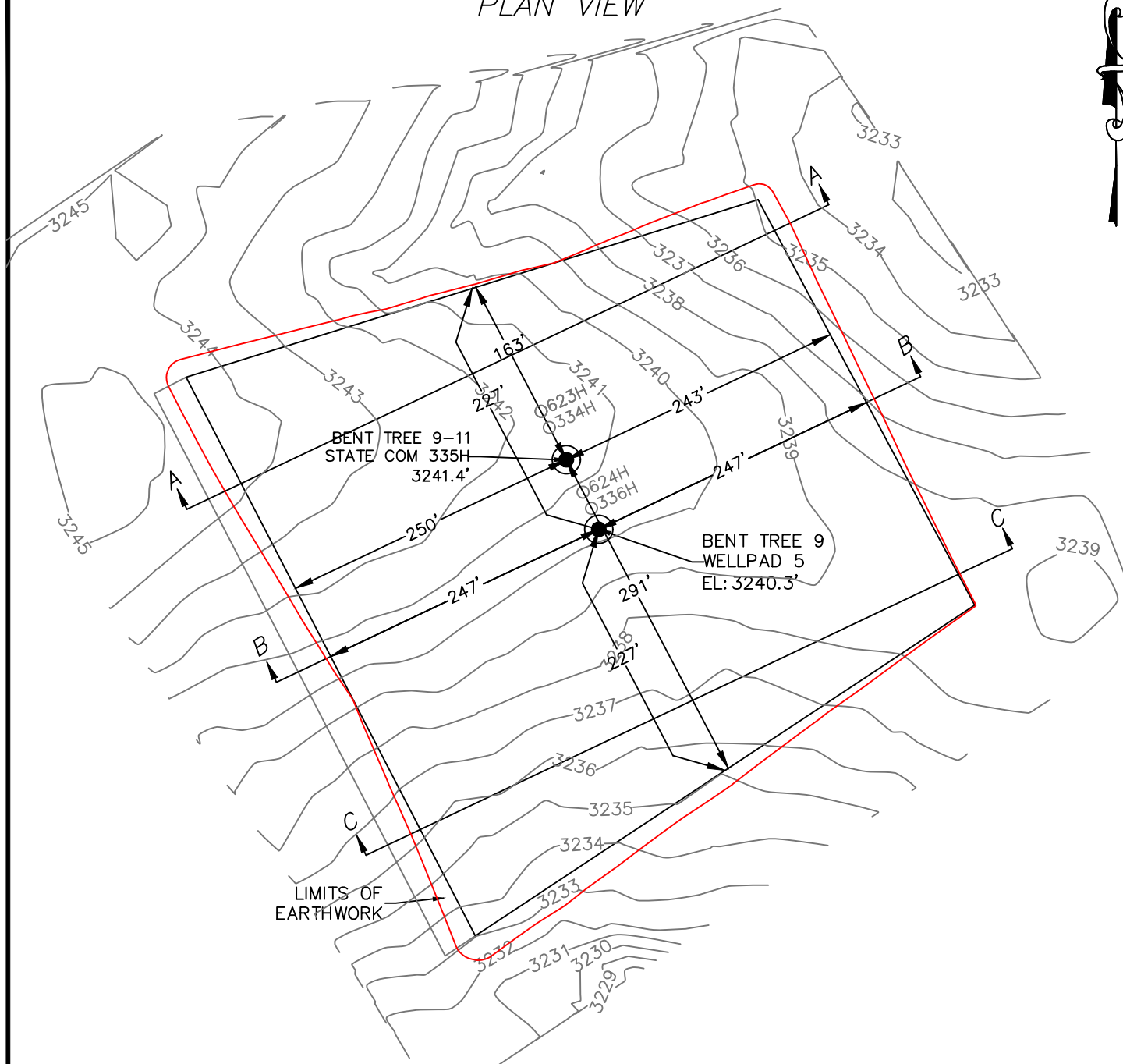
Bearings, distances and coordinates shown herein are based on New Mexico State Plane Coordinate System, NAD 83, East Zone 3001, US Survey Feet, all distances are grid.

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

  
B.L. Laman      PLS 22404  
Date Signed: 10/01/2020  
Horizon Row, LLC  
P.O. Box 548, Dry Creek, La.  
(903) 388-3045    70637  
Employee of Horizon Row, LLC







Drawn for:

\_\_\_\_\_

\_\_\_\_\_

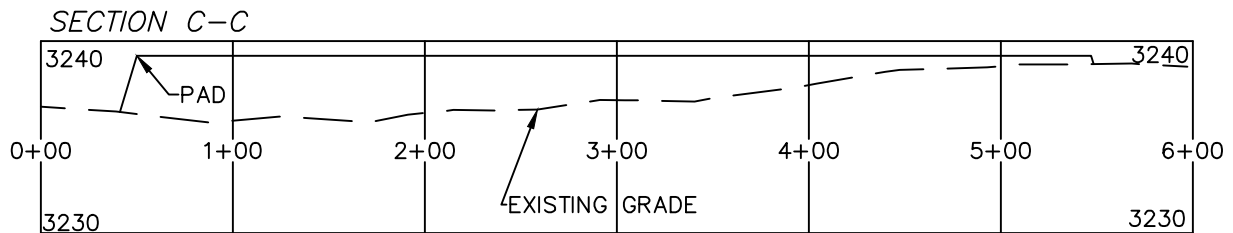
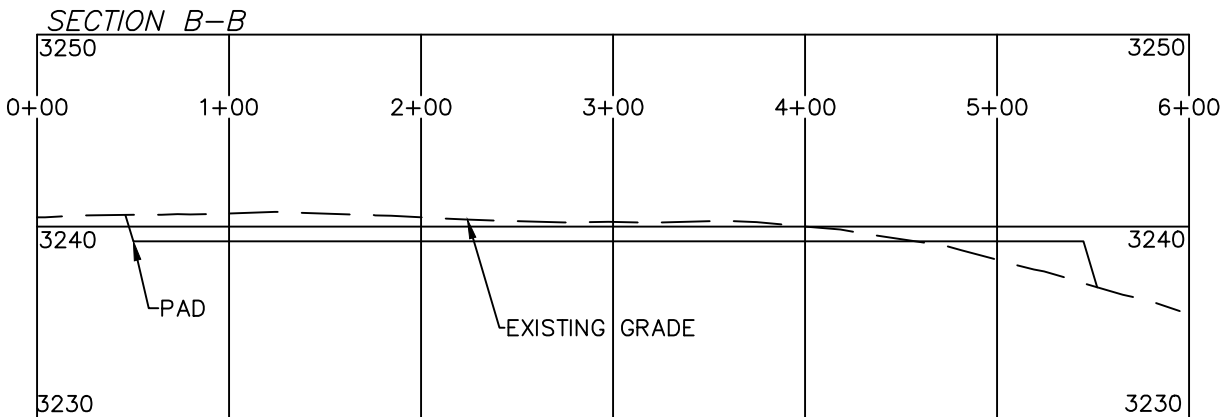
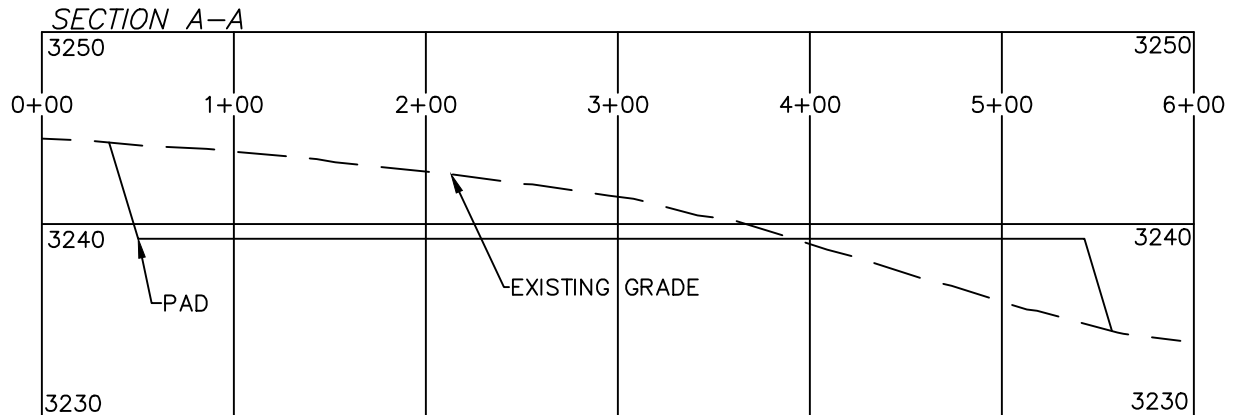
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\_\_\_\_\_

Date: 10/02/2020

devon

SECTION 9, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.  
EDDY COUNTY, STATE OF NEW MEXICO  
CROSS SECTIONS



DEVON ENERGY PRODUCTION COMPANY, L.P.

BENT TREE 9-11 STATE COM 335H

LOCATED 1024 FT. FROM THE SOUTH LINE

AND 1112 FT. FROM THE WEST LINE OF

SECTION 9, TOWNSHIP 21 SOUTH,

RANGE 27 EAST, N.M.P.M.

EDDY COUNTY, STATE OF NEW MEXICO

SCALE 1" = 100' HORIZONTAL  
SCALE 1" = 10' VERTICAL

EARTHWORK QUANTITIES FOR  
BENT TREE 9 WELLPAD 5

| CUT      | FILL     | NET  |
|----------|----------|------|
| 8,989 CY | 8,989 CY | 0 CY |

EARTHWORK QUANTITIES ARE ESTIMATED

**HORIZON ROW LLC**

DEVON ENERGY PRODUCTION CO., L.P.

Drawn by:  
CHRIS MAAS

Date: 10/02/2020

Drawn for:



**District I**

1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**

811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**

1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**

1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

## GAS CAPTURE PLAN

Date: 11/17/2020

☒ Original

Operator & OGRID No.: [6137] DEVON ENERGY PRODUCTION COMPANY, LP

☐ Amended - Reason for  
Amendment: \_\_\_\_\_

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

*Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).*

**Well(s)/Production Facility – Name of facility**

The well(s) that will be located at the production facility are shown in the table below.

| Well Name                      | API          | Well Location (ULSTR) | Footages    | Expected MCF/D | Flared or Vented | Comments |
|--------------------------------|--------------|-----------------------|-------------|----------------|------------------|----------|
| BENT TREE 9 11 STATE COM #335H | 30-015-47668 | M-9-21S-27E           | 1024S 1112W | 3              | None             |          |

**Gathering System and Pipeline Notification**

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to DCP OPERATING COMPANY, LP and will be connected to DCP OPERATING COMPANY, LP High/Low Pressure gathering system located in Eddy County, New Mexico. It will require 727' of pipeline to connect the facility to High/Low Pressure gathering system. DEVON ENERGY PRODUCTION COMPANY, LP provides (periodically) to DCP OPERATING COMPANY, LP a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, DEVON ENERGY PRODUCTION COMPANY, LP and DCP OPERATING COMPANY, LP have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at DCP OPERATING COMPANY, LP Processing Plant located in Sec. 14, Twn. 21S, Rng. 27E, Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

**Flowback Strategy**

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on DCP OPERATING COMPANY, LP system at that time. Based on current information, it is DEVON ENERGY PRODUCTION COMPANY, LP's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

**Alternatives to Reduce Flaring**

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines



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Energy, Minerals and Natural Resources  
Oil Conservation Division  
1220 S. St Francis Dr.  
Santa Fe, NM 87505

Form APD Comments

Permit 288786

PERMIT COMMENTS

|                                                                                                                               |                                         |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Operator Name and Address:<br>DEVON ENERGY PRODUCTION COMPANY, LP [6137]<br>333 West Sheridan Ave.<br>Oklahoma City, OK 73102 | API Number:<br>30-015-47668             |
|                                                                                                                               | Well:<br>BENT TREE 9 11 STATE COM #335H |

|            |         |              |
|------------|---------|--------------|
| Created By | Comment | Comment Date |
|------------|---------|--------------|

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**Oil Conservation Division**  
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**Santa Fe, NM 87505**

Form APD Conditions

Permit 288786

**PERMIT CONDITIONS OF APPROVAL**

|                                                                                                                               |                                         |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Operator Name and Address:<br>DEVON ENERGY PRODUCTION COMPANY, LP [6137]<br>333 West Sheridan Ave.<br>Oklahoma City, OK 73102 | API Number:<br>30-015-47668             |
|                                                                                                                               | Well:<br>BENT TREE 9 11 STATE COM #335H |

|                 |                                                                                                                                                                                                                                                                      |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OCD<br>Reviewer | Condition                                                                                                                                                                                                                                                            |
| ksimmons        | Will require a directional survey with the C-104                                                                                                                                                                                                                     |
| ksimmons        | Cement is required to circulate on both surface and intermediate1 strings of casing                                                                                                                                                                                  |
| ksimmons        | Operator shall notify in writing other operator(s) in same quarter-quarter section before commencing both drilling and completing operations.                                                                                                                        |
| kpickford       | Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string |
| kpickford       | Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.                 |
| kpickford       | The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud                                                                                                                                                                   |
| kpickford       | The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud 2)- Drilling Sundries Form C-103 (Casing and Cement test are to be submitted within 10 days 3)- Completion Reports & Logs are to be submitted within 45 days      |



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

# **Hydrogen Sulfide (H<sub>2</sub>S) Contingency Plan**

**For**

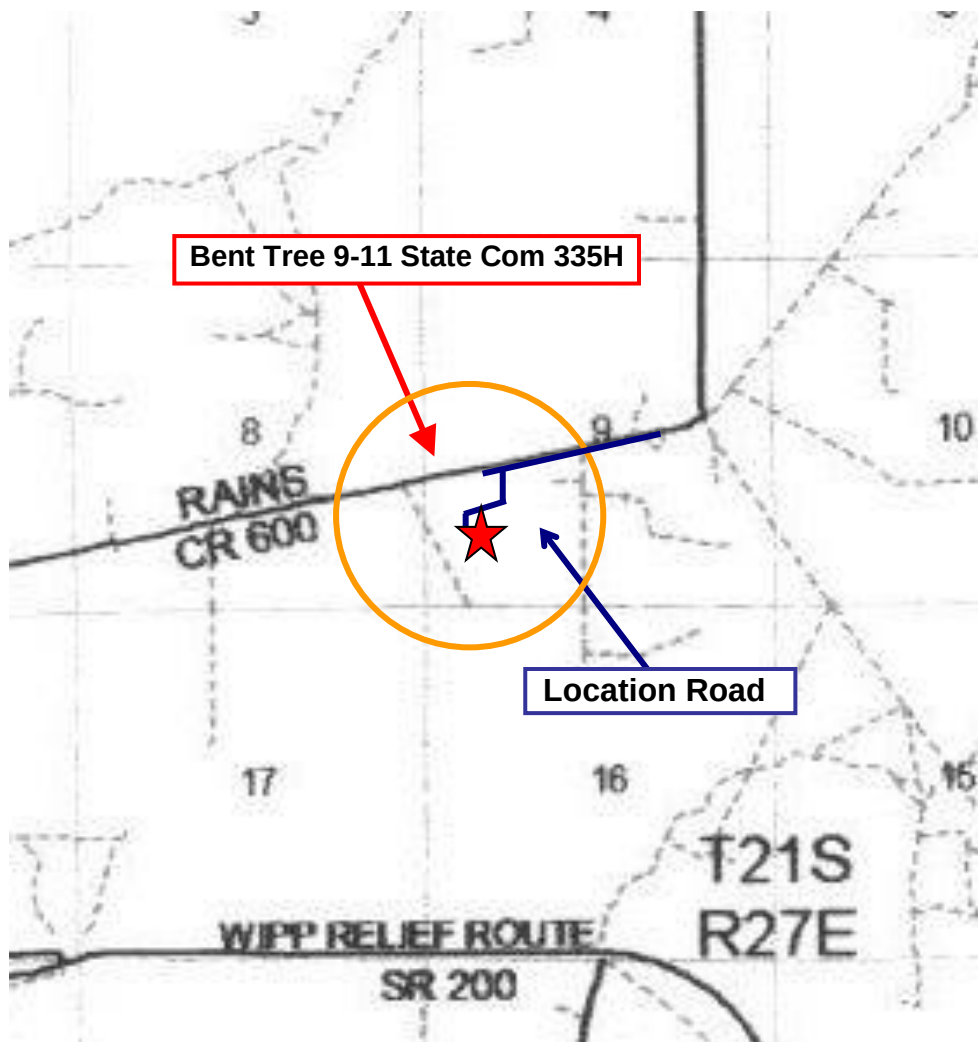
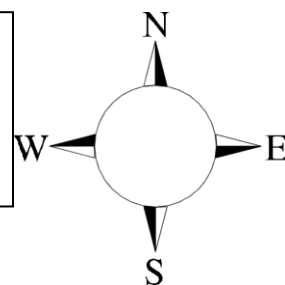
**Bent Tree 9-11 State Com 335H**

**Sec-9 T-21S R-27E  
1024' FSL & 1112' FWL  
LAT. = 32.490268' N (NAD83)  
LONG = 104.199823' W**

**Eddy County NM**

## Bent Tree 9-11 State Com 335H

This is an open drilling site. H<sub>2</sub>S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H<sub>2</sub>S, including warning signs, wind indicators and H<sub>2</sub>S monitor.



Assumed 100 ppm **ROE = 3000'** (Radius of Exposure)  
100 ppm H<sub>2</sub>S concentration shall trigger activation of this plan.

### Escape

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

**Assumed 100 ppm ROE = 3000'**

## 100 ppm H<sub>2</sub>S concentration shall trigger activation of this plan.

### Emergency Procedures

In the event of a release of gas containing H<sub>2</sub>S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H<sub>2</sub>S monitors and air packs in order to control the release.
- Use the “buddy system” to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
  - Detection of H<sub>2</sub>S, and
  - Measures for protection against the gas,
  - Equipment used for protection and emergency response.

### **Ignition of Gas Source**

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

### **Characteristics of H<sub>2</sub>S and SO<sub>2</sub>**

| <b>Common Name</b>      | <b>Chemical Formula</b> | <b>Specific Gravity</b> | <b>Threshold Limit</b> | <b>Hazardous Limit</b> | <b>Lethal Concentration</b> |
|-------------------------|-------------------------|-------------------------|------------------------|------------------------|-----------------------------|
| <b>Hydrogen Sulfide</b> | H <sub>2</sub> S        | 1.189<br>Air = 1        | 10 ppm                 | 100 ppm/hr             | 600 ppm                     |
| <b>Sulfur Dioxide</b>   | SO <sub>2</sub>         | 2.21<br>Air = 1         | 2 ppm                  | N/A                    | 1000 ppm                    |

### **Contacting Authorities**

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



## Hydrogen Sulfide Drilling Operation Plan

### I. HYDROGEN SULFIDE (H<sub>2</sub>S) TRAINING

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

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

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

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

There will be an initial training session just prior to encountering a known or probable H<sub>2</sub>S zone (within 3 days or 500 feet) and weekly H<sub>2</sub>S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H<sub>2</sub>S Drilling Operations Plan and the Public Protection Plan.

### II. HYDROGEN SULFIDE TRAINING

Note: All H<sub>2</sub>S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H<sub>2</sub>S.

**1. Well Control Equipment**

- A. Flare line
- B. Choke manifold – Remotely Operated
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
- D. Auxiliary equipment may include if applicable: annular preventer and rotating head.
- E. Mud/Gas Separator

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

30-minute SCBA units located at briefing areas, as indicated on well site diagram, with escape units available in the top doghouse. As it may be difficult to communicate audibly while wearing these units, hand signals shall be utilized.

**3. H<sub>2</sub>S detection and monitoring equipment:**

Portable H<sub>2</sub>S monitors positioned on location for best coverage and response. These units have warning lights which activate when H<sub>2</sub>S levels reach 10 ppm and audible sirens which activate at 15 ppm. Sensor locations:

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

**Visual warning systems:**

- A. Wind direction indicators as shown on well site diagram
- B. Caution/ Danger signs shall be posted on roads providing direct access to locations. Signs will be painted a high visibility yellow with black lettering of sufficient size to be reasonable distance from the immediate location. Bilingual signs will be used when appropriate.

**4. Mud program:**

The mud program has been designed to minimize the volume of H<sub>2</sub>S circulated to surface. Proper mud weight, safe drilling practices and the use of H<sub>2</sub>S scavengers will minimize hazards when penetrating H<sub>2</sub>S bearing zones.

**5. Metallurgy:**

- A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold lines, and valves shall be H<sub>2</sub>S trim.
- B. All elastomers used for packing and seals shall be H<sub>2</sub>S trim.

**6. Communication:**

- A. Company personnel have/use cellular telephones in the field.
- B. Land line (telephone) communications at Office

**7. Well testing:**

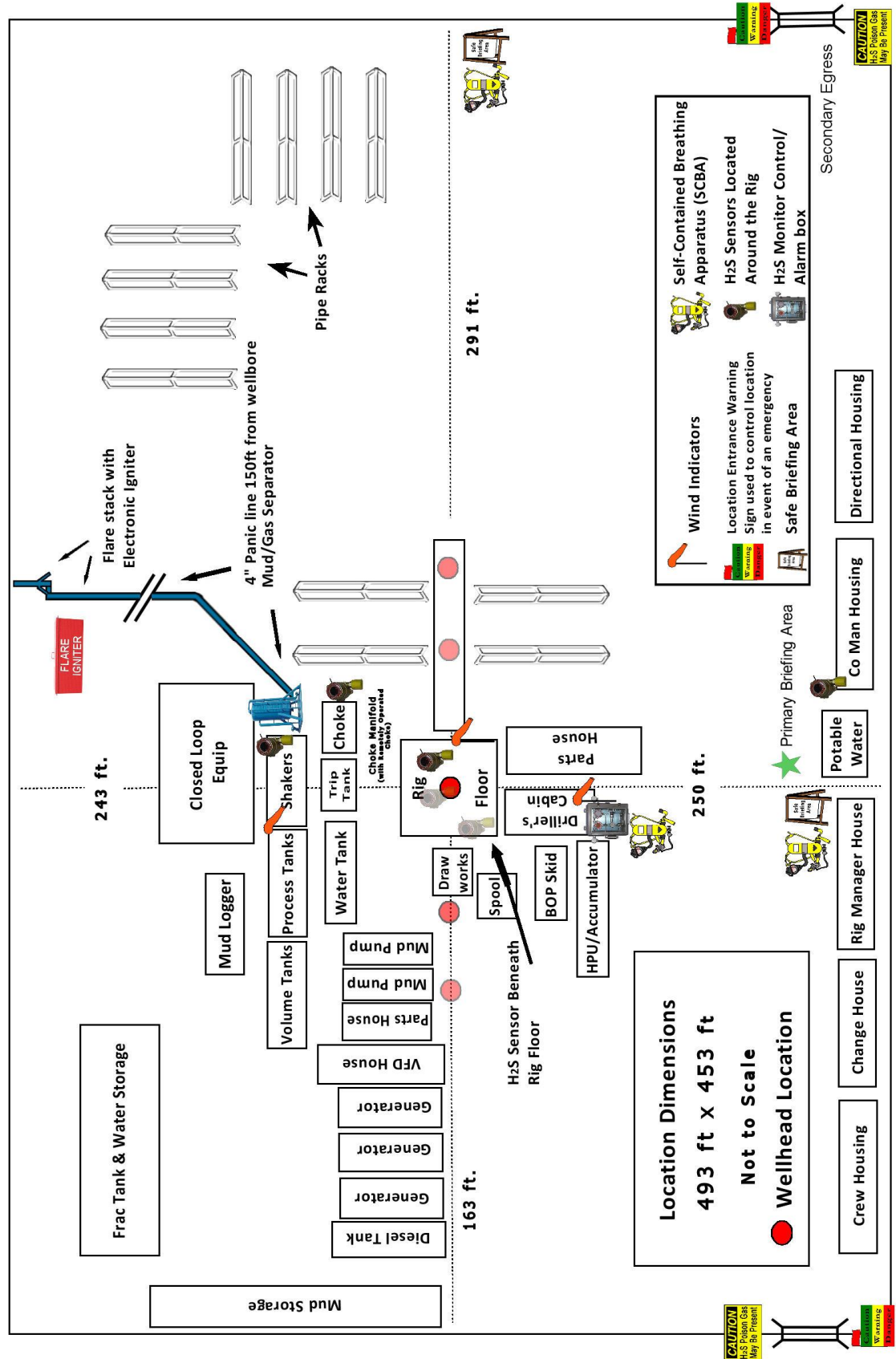
- A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safety and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H<sub>2</sub>S environment will use the closed chamber method of testing.
- B. There will be no drill stem testing.

| <b><u>Devon Energy Corp. Company Call List</u></b> |                                                                         |                               |
|----------------------------------------------------|-------------------------------------------------------------------------|-------------------------------|
| Drilling Supervisor – Basin – Mark Kramer          |                                                                         | 405-823-4796                  |
| EHS Professional – Laura Wright                    |                                                                         | 405-439-8129                  |
| <b><u>Agency Call List</u></b>                     |                                                                         |                               |
| <b><u>Lea County (575)</u></b>                     | <b>Hobbs</b>                                                            |                               |
|                                                    | Lea County Communication Authority                                      | 393-3981                      |
|                                                    | State Police                                                            | 392-5588                      |
|                                                    | City Police                                                             | 397-9265                      |
|                                                    | Sheriff's Office                                                        | 393-2515                      |
|                                                    | <b>Ambulance</b>                                                        | <b>911</b>                    |
|                                                    | Fire Department                                                         | 397-9308                      |
|                                                    | LEPC (Local Emergency Planning Committee)                               | 393-2870                      |
|                                                    | NMOCD                                                                   | 393-6161                      |
|                                                    | US Bureau of Land Management                                            | 393-3612                      |
|                                                    |                                                                         |                               |
|                                                    |                                                                         |                               |
| <b><u>Eddy County (575)</u></b>                    | <b>Carlsbad</b>                                                         |                               |
|                                                    | State Police                                                            | 885-3137                      |
|                                                    | City Police                                                             | 885-2111                      |
|                                                    | Sheriff's Office                                                        | 887-7551                      |
|                                                    | <b>Ambulance</b>                                                        | <b>911</b>                    |
|                                                    | Fire Department                                                         | 885-3125                      |
|                                                    | LEPC (Local Emergency Planning Committee)                               | 887-3798                      |
|                                                    | US Bureau of Land Management                                            | 887-6544                      |
|                                                    | NM Emergency Response Commission (Santa Fe)                             | (505) 476-9600                |
|                                                    | 24 HR                                                                   | (505) 827-9126                |
|                                                    | National Emergency Response Center                                      | (800) 424-8802                |
|                                                    | National Pollution Control Center: Direct                               | (703) 872-6000                |
|                                                    | For Oil Spills                                                          | (800) 280-7118                |
|                                                    | <b>Emergency Services</b>                                               |                               |
|                                                    | Wild Well Control                                                       | (281) 784-4700                |
|                                                    | Cudd Pressure Control                                                   | (915) 699-0139 (915) 563-3356 |
|                                                    | Halliburton                                                             | (575) 746-2757                |
|                                                    | B. J. Services                                                          | (575) 746-3569                |
| <b><u>Give GPS position:</u></b>                   | Native Air – Emergency Helicopter – Hobbs (TX & NM)                     | (800) 642-7828                |
|                                                    | Flight For Life - Lubbock, TX                                           | (806) 743-9911                |
|                                                    | Aerocare - Lubbock, TX                                                  | (806) 747-8923                |
|                                                    | Med Flight Air Amb - Albuquerque, NM                                    | (575) 842-4433                |
|                                                    | Lifeguard Air Med Svc. Albuquerque, NM                                  | (800) 222-1222                |
|                                                    | Poison Control (24/7)                                                   | (575) 272-3115                |
|                                                    | Oil & Gas Pipeline 24 Hour Service                                      | (800) 364-4366                |
|                                                    | NOAA – Website - <a href="http://www.nhc.noaa.gov">www.nhc.noaa.gov</a> |                               |
|                                                    |                                                                         |                               |

Prepared in conjunction with  
Dave Small



# Devon Energy - Well Pad Rig Location Layout Safety Equipment Location







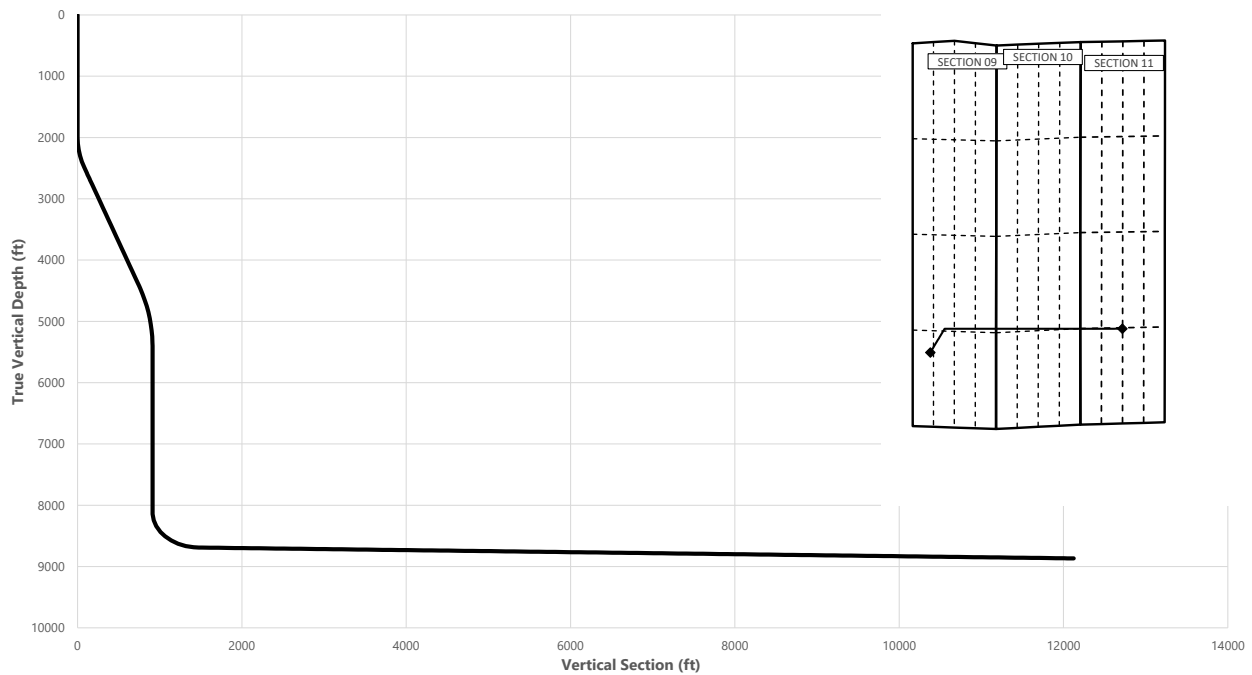
Bent Tree 9-11 State Com 335H



**Well:** Bent Tree 9-11 State Com 335H  
**County:** Eddy  
**Wellbore:** Permit Plan  
**Design:** Permit Plan #1

**Geodetic System:** US State Plane 1983  
**Datum:** North American Datum 1927  
**Ellipsoid:** Clarke 1866  
**Zone:** 3001 - NM East (NAD83)

| MD<br>(ft) | INC<br>(°) | AZI<br>(°) | TVD<br>(ft) | NS<br>(ft) | EW<br>(ft) | VS<br>(ft) | DLS<br>(°/100ft) | Comment          |
|------------|------------|------------|-------------|------------|------------|------------|------------------|------------------|
| 0.00       | 0.00       | 0.00       | 0.00        | 0.00       | 0.00       | 0.00       | 0.00             | SHL              |
| 2000.00    | 0.00       | 70.00      | 2000.00     | 0.00       | 0.00       | 0.00       | 0.00             | Start Tangent    |
| 2500.00    | 20.00      | 70.00      | 2489.91     | 29.55      | 81.17      | 81.95      | 1.00             | Hold Tangent     |
| 4553.48    | 20.00      | 70.00      | 4419.55     | 269.76     | 741.15     | 748.19     | 0.00             | Drop to Vertical |
| 5553.48    | 0.00       | 70.00      | 5399.37     | 328.85     | 903.50     | 912.09     | 2.00             | Hold Vertical    |
| 8271.24    | 0.00       | 90.00      | 8117.12     | 328.85     | 903.50     | 912.09     | 0.00             | KOP              |
| 9161.72    | 89.05      | 90.00      | 8690.00     | 328.85     | 1466.94    | 1475.32    | 10.00            | Landing Point    |
| 19816.00   | 89.05      | 90.00      | 8867.00     | 328.85     | 12119.75   | 12124.21   | 0.00             | BHL              |



| Key Depths                                 | MD<br>(ft) | TVD<br>(ft) |
|--------------------------------------------|------------|-------------|
| Rustler                                    | 0.00       | 0.00        |
| Salt                                       | 189.00     | 189.00      |
| Base of Salt                               | 418.00     | 418.00      |
| Capitan                                    | 842.00     | 842.00      |
| Capitan Base                               | 2617.16    | 2600.00     |
| Delaware                                   | 2709.74    | 2687.00     |
| Bone Spring 1st                            | 6558.12    | 6404.00     |
| Bone Spring 2nd                            | 7274.12    | 7120.00     |
| Bone Spring 3rd / Point of Penetratic exit | 8607.01    | 8434.00     |
|                                            | 19736.00   | 8865.68     |

**SHL**  
**KOP**  
**Point of Penetration**  
**Exit**  
**BHL**

| MD<br>(ft) | TVD<br>(ft) | Lat<br>(°) | Long<br>(°) | Section Footages                             |
|------------|-------------|------------|-------------|----------------------------------------------|
| 0.00       | 0.00        | 32.4902    | -104.1999   | 1024' FSL, 1112' FWL of Sec 09 in T21S, R27E |
| 8271.24    | 8117.12     | 32.4911    | -104.1970   | 1360' FSL, 2536' FWL of Sec 09 in T21S, R27E |
| 8607.01    | 8434.00     | 32.4910    | -104.1946   | 1310' FSL, 2536' FEL of Sec 09 in T21S, R27E |
| 19736.00   | 8865.68     | 32.4911    | -104.1608   | 1310' FSL, 2572' FWL of Sec 11 in T21S, R27E |
| 19816.00   | 8867.00     | 32.4910    | -104.1606   | 1310' FSL, 2652' FWL of Sec 11 in T21S, R27E |

Bent Tree 9-11 State Com 335H



**Well:** Bent Tree 9-11 State Com 335H  
**County:** Eddy  
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| MD<br>(ft) | INC<br>(°) | AZI<br>(°) | TVD<br>(ft) | NS<br>(ft) | EW<br>(ft) | VS<br>(ft) | DLS<br>(°/100ft) | Comment          |
|------------|------------|------------|-------------|------------|------------|------------|------------------|------------------|
| 0.00       | 0.00       | 0.00       | 0.00        | 0.00       | 0.00       | 0.00       | 0.00             | SHL              |
| 100.00     | 0.00       | 70.00      | 100.00      | 0.00       | 0.00       | 0.00       | 0.00             | Rustler,         |
| 189.00     | 0.00       | 70.00      | 189.00      | 0.00       | 0.00       | 0.00       | 0.00             | Salt             |
| 200.00     | 0.00       | 70.00      | 200.00      | 0.00       | 0.00       | 0.00       | 0.00             |                  |
| 300.00     | 0.00       | 70.00      | 300.00      | 0.00       | 0.00       | 0.00       | 0.00             |                  |
| 400.00     | 0.00       | 70.00      | 400.00      | 0.00       | 0.00       | 0.00       | 0.00             |                  |
| 418.00     | 0.00       | 70.00      | 418.00      | 0.00       | 0.00       | 0.00       | 0.00             | Base of Salt     |
| 500.00     | 0.00       | 70.00      | 500.00      | 0.00       | 0.00       | 0.00       | 0.00             |                  |
| 600.00     | 0.00       | 70.00      | 600.00      | 0.00       | 0.00       | 0.00       | 0.00             |                  |
| 700.00     | 0.00       | 70.00      | 700.00      | 0.00       | 0.00       | 0.00       | 0.00             |                  |
| 800.00     | 0.00       | 70.00      | 800.00      | 0.00       | 0.00       | 0.00       | 0.00             |                  |
| 842.00     | 0.00       | 70.00      | 842.00      | 0.00       | 0.00       | 0.00       | 0.00             | Capitan          |
| 900.00     | 0.00       | 70.00      | 900.00      | 0.00       | 0.00       | 0.00       | 0.00             |                  |
| 1000.00    | 0.00       | 70.00      | 1000.00     | 0.00       | 0.00       | 0.00       | 0.00             |                  |
| 1100.00    | 0.00       | 70.00      | 1100.00     | 0.00       | 0.00       | 0.00       | 0.00             |                  |
| 1200.00    | 0.00       | 70.00      | 1200.00     | 0.00       | 0.00       | 0.00       | 0.00             |                  |
| 1300.00    | 0.00       | 70.00      | 1300.00     | 0.00       | 0.00       | 0.00       | 0.00             |                  |
| 1400.00    | 0.00       | 70.00      | 1400.00     | 0.00       | 0.00       | 0.00       | 0.00             |                  |
| 1500.00    | 0.00       | 70.00      | 1500.00     | 0.00       | 0.00       | 0.00       | 0.00             |                  |
| 1600.00    | 0.00       | 70.00      | 1600.00     | 0.00       | 0.00       | 0.00       | 0.00             |                  |
| 1700.00    | 0.00       | 70.00      | 1700.00     | 0.00       | 0.00       | 0.00       | 0.00             |                  |
| 1800.00    | 0.00       | 70.00      | 1800.00     | 0.00       | 0.00       | 0.00       | 0.00             |                  |
| 1900.00    | 0.00       | 70.00      | 1900.00     | 0.00       | 0.00       | 0.00       | 0.00             |                  |
| 2000.00    | 0.00       | 70.00      | 2000.00     | 0.00       | 0.00       | 0.00       | 0.00             | Start Tangent    |
| 2100.00    | 4.00       | 70.00      | 2099.92     | 1.19       | 3.28       | 3.31       | 4.00             |                  |
| 2200.00    | 8.00       | 70.00      | 2199.35     | 4.77       | 13.10      | 13.22      | 4.00             |                  |
| 2300.00    | 12.00      | 70.00      | 2297.81     | 10.71      | 29.41      | 29.69      | 4.00             |                  |
| 2400.00    | 16.00      | 70.00      | 2394.82     | 18.98      | 52.14      | 52.64      | 4.00             |                  |
| 2500.00    | 20.00      | 70.00      | 2489.91     | 29.55      | 81.17      | 81.95      | 1.00             | Hold Tangent     |
| 2600.00    | 20.00      | 70.00      | 2583.88     | 41.24      | 113.31     | 114.39     | 0.00             |                  |
| 2617.16    | 20.00      | 70.00      | 2600.00     | 43.25      | 118.83     | 119.96     | 0.00             | Capitan Base     |
| 2700.00    | 20.00      | 70.00      | 2677.85     | 52.94      | 145.45     | 146.84     | 0.00             |                  |
| 2709.74    | 20.00      | 70.00      | 2687.00     | 54.08      | 148.58     | 150.00     | 0.00             | Delaware         |
| 2800.00    | 20.00      | 70.00      | 2771.82     | 64.64      | 177.59     | 179.28     | 0.00             |                  |
| 2900.00    | 20.00      | 70.00      | 2865.78     | 76.34      | 209.73     | 211.73     | 0.00             |                  |
| 3000.00    | 20.00      | 70.00      | 2959.75     | 88.03      | 241.87     | 244.17     | 0.00             |                  |
| 3100.00    | 20.00      | 70.00      | 3053.72     | 99.73      | 274.01     | 276.61     | 0.00             |                  |
| 3200.00    | 20.00      | 70.00      | 3147.69     | 111.43     | 306.15     | 309.06     | 0.00             |                  |
| 3300.00    | 20.00      | 70.00      | 3241.66     | 123.13     | 338.29     | 341.50     | 0.00             |                  |
| 3400.00    | 20.00      | 70.00      | 3335.63     | 134.83     | 370.43     | 373.95     | 0.00             |                  |
| 3500.00    | 20.00      | 70.00      | 3429.60     | 146.52     | 402.57     | 406.39     | 0.00             |                  |
| 3600.00    | 20.00      | 70.00      | 3523.57     | 158.22     | 434.71     | 438.84     | 0.00             |                  |
| 3700.00    | 20.00      | 70.00      | 3617.54     | 169.92     | 466.85     | 471.28     | 0.00             |                  |
| 3800.00    | 20.00      | 70.00      | 3711.51     | 181.62     | 498.99     | 503.73     | 0.00             |                  |
| 3900.00    | 20.00      | 70.00      | 3805.48     | 193.31     | 531.13     | 536.17     | 0.00             |                  |
| 4000.00    | 20.00      | 70.00      | 3899.45     | 205.01     | 563.26     | 568.62     | 0.00             |                  |
| 4100.00    | 20.00      | 70.00      | 3993.42     | 216.71     | 595.40     | 601.06     | 0.00             |                  |
| 4200.00    | 20.00      | 70.00      | 4087.39     | 228.41     | 627.54     | 633.51     | 0.00             |                  |
| 4300.00    | 20.00      | 70.00      | 4181.35     | 240.11     | 659.68     | 665.95     | 0.00             |                  |
| 4400.00    | 20.00      | 70.00      | 4275.32     | 251.80     | 691.82     | 698.40     | 0.00             |                  |
| 4500.00    | 20.00      | 70.00      | 4369.29     | 263.50     | 723.96     | 730.84     | 0.00             |                  |
| 4553.48    | 20.00      | 70.00      | 4419.55     | 269.76     | 741.15     | 748.19     | 0.00             | Drop to Vertical |
| 4600.00    | 19.07      | 70.00      | 4463.39     | 275.08     | 755.77     | 762.95     | 2.00             |                  |
| 4700.00    | 17.07      | 70.00      | 4558.45     | 285.68     | 784.91     | 792.37     | 2.00             |                  |
| 4800.00    | 15.07      | 70.00      | 4654.54     | 295.15     | 810.92     | 818.63     | 2.00             |                  |
| 4900.00    | 13.07      | 70.00      | 4751.54     | 303.47     | 833.77     | 841.69     | 2.00             |                  |
| 5000.00    | 11.07      | 70.00      | 4849.32     | 310.62     | 853.41     | 861.52     | 2.00             |                  |
| 5100.00    | 9.07       | 70.00      | 4947.77     | 316.60     | 869.84     | 878.11     | 2.00             |                  |
| 5200.00    | 7.07       | 70.00      | 5046.78     | 321.40     | 883.03     | 891.43     | 2.00             |                  |
| 5300.00    | 5.07       | 70.00      | 5146.21     | 325.01     | 892.97     | 901.46     | 2.00             |                  |
| 5400.00    | 3.07       | 70.00      | 5245.96     | 327.44     | 899.64     | 908.19     | 2.00             |                  |
| 5500.00    | 1.07       | 70.00      | 5345.89     | 328.68     | 903.03     | 911.61     | 2.00             |                  |
| 5553.48    | 0.00       | 70.00      | 5399.37     | 328.85     | 903.50     | 912.09     | 2.00             | Hold Vertical    |
| 5600.00    | 0.00       | 90.00      | 5445.88     | 328.85     | 903.50     | 912.09     | 0.00             |                  |
| 5700.00    | 0.00       | 90.00      | 5545.88     | 328.85     | 903.50     | 912.09     | 0.00             |                  |
| 5800.00    | 0.00       | 90.00      | 5645.88     | 328.85     | 903.50     | 912.09     | 0.00             |                  |
| 5900.00    | 0.00       | 90.00      | 5745.88     | 328.85     | 903.50     | 912.09     | 0.00             |                  |
| 6000.00    | 0.00       | 90.00      | 5845.88     | 328.85     | 903.50     | 912.09     | 0.00             |                  |
| 6100.00    | 0.00       | 90.00      | 5945.88     | 328.85     | 903.50     | 912.09     | 0.00             |                  |
| 6200.00    | 0.00       | 90.00      | 6045.88     | 328.85     | 903.50     | 912.09     | 0.00             |                  |

Bent Tree 9-11 State Com 335H



**Well:** Bent Tree 9-11 State Com 335H  
**County:** Eddy  
**Wellbore:** Permit Plan  
**Design:** Permit Plan #1

**Geodetic System:** US State Plane 1983  
**Datum:** North American Datum 1927  
**Ellipsoid:** Clarke 1866  
**Zone:** 3001 - NM East (NAD83)

| MD<br>(ft) | INC<br>(°) | AZI<br>(°) | TVD<br>(ft) | NS<br>(ft) | EW<br>(ft) | VS<br>(ft) | DLS<br>(°/100ft) | Comment                                |
|------------|------------|------------|-------------|------------|------------|------------|------------------|----------------------------------------|
| 6300.00    | 0.00       | 90.00      | 6145.88     | 328.85     | 903.50     | 912.09     | 0.00             |                                        |
| 6400.00    | 0.00       | 90.00      | 6245.88     | 328.85     | 903.50     | 912.09     | 0.00             |                                        |
| 6500.00    | 0.00       | 90.00      | 6345.88     | 328.85     | 903.50     | 912.09     | 0.00             |                                        |
| 6558.12    | 0.00       | 90.00      | 6404.00     | 328.85     | 903.50     | 912.09     | 0.00             | Bone Spring 1st                        |
| 6600.00    | 0.00       | 90.00      | 6445.88     | 328.85     | 903.50     | 912.09     | 0.00             |                                        |
| 6700.00    | 0.00       | 90.00      | 6545.88     | 328.85     | 903.50     | 912.09     | 0.00             |                                        |
| 6800.00    | 0.00       | 90.00      | 6645.88     | 328.85     | 903.50     | 912.09     | 0.00             |                                        |
| 6900.00    | 0.00       | 90.00      | 6745.88     | 328.85     | 903.50     | 912.09     | 0.00             |                                        |
| 7000.00    | 0.00       | 90.00      | 6845.88     | 328.85     | 903.50     | 912.09     | 0.00             |                                        |
| 7100.00    | 0.00       | 90.00      | 6945.88     | 328.85     | 903.50     | 912.09     | 0.00             |                                        |
| 7200.00    | 0.00       | 90.00      | 7045.88     | 328.85     | 903.50     | 912.09     | 0.00             |                                        |
| 7274.12    | 0.00       | 90.00      | 7120.00     | 328.85     | 903.50     | 912.09     | 0.00             | Bone Spring 2nd                        |
| 7300.00    | 0.00       | 90.00      | 7145.88     | 328.85     | 903.50     | 912.09     | 0.00             |                                        |
| 7400.00    | 0.00       | 90.00      | 7245.88     | 328.85     | 903.50     | 912.09     | 0.00             |                                        |
| 7500.00    | 0.00       | 90.00      | 7345.88     | 328.85     | 903.50     | 912.09     | 0.00             |                                        |
| 7600.00    | 0.00       | 90.00      | 7445.88     | 328.85     | 903.50     | 912.09     | 0.00             |                                        |
| 7700.00    | 0.00       | 90.00      | 7545.88     | 328.85     | 903.50     | 912.09     | 0.00             |                                        |
| 7800.00    | 0.00       | 90.00      | 7645.88     | 328.85     | 903.50     | 912.09     | 0.00             |                                        |
| 7900.00    | 0.00       | 90.00      | 7745.88     | 328.85     | 903.50     | 912.09     | 0.00             |                                        |
| 8000.00    | 0.00       | 90.00      | 7845.88     | 328.85     | 903.50     | 912.09     | 0.00             |                                        |
| 8100.00    | 0.00       | 90.00      | 7945.88     | 328.85     | 903.50     | 912.09     | 0.00             |                                        |
| 8200.00    | 0.00       | 90.00      | 8045.88     | 328.85     | 903.50     | 912.09     | 0.00             |                                        |
| 8271.24    | 0.00       | 90.00      | 8117.12     | 328.85     | 903.50     | 912.09     | 0.00             | KOP                                    |
| 8300.00    | 2.88       | 90.00      | 8145.87     | 328.85     | 904.22     | 912.81     | 10.00            |                                        |
| 8400.00    | 12.88      | 90.00      | 8244.80     | 328.85     | 917.91     | 926.49     | 10.00            |                                        |
| 8500.00    | 22.88      | 90.00      | 8339.85     | 328.85     | 948.56     | 957.13     | 10.00            |                                        |
| 8600.00    | 32.88      | 90.00      | 8428.14     | 328.85     | 995.26     | 1003.81    | 10.00            |                                        |
| 8607.01    | 33.58      | 90.00      | 8434.00     | 328.85     | 999.10     | 1007.65    | 10.00            | Bone Spring 3rd / Point of Penetration |
| 8700.00    | 42.88      | 90.00      | 8506.97     | 328.85     | 1056.58    | 1065.11    | 10.00            |                                        |
| 8800.00    | 52.88      | 90.00      | 8573.96     | 328.85     | 1130.65    | 1139.16    | 10.00            |                                        |
| 8900.00    | 62.88      | 90.00      | 8627.07     | 328.85     | 1215.24    | 1223.71    | 10.00            |                                        |
| 9000.00    | 72.88      | 90.00      | 8664.68     | 328.85     | 1307.76    | 1316.20    | 10.00            |                                        |
| 9100.00    | 82.88      | 90.00      | 8685.66     | 328.85     | 1405.40    | 1413.81    | 10.00            |                                        |
| 9161.72    | 89.05      | 90.00      | 8690.00     | 328.85     | 1466.94    | 1475.32    | 10.00            | Landing Point                          |
| 9200.00    | 89.05      | 90.00      | 8690.64     | 328.85     | 1505.21    | 1513.58    | 0.00             |                                        |
| 9300.00    | 89.05      | 90.00      | 8692.30     | 328.85     | 1605.20    | 1613.53    | 0.00             |                                        |
| 9400.00    | 89.05      | 90.00      | 8693.96     | 328.85     | 1705.19    | 1713.48    | 0.00             |                                        |
| 9500.00    | 89.05      | 90.00      | 8695.62     | 328.85     | 1805.17    | 1813.43    | 0.00             |                                        |
| 9600.00    | 89.05      | 90.00      | 8697.28     | 328.85     | 1905.16    | 1913.38    | 0.00             |                                        |
| 9700.00    | 89.05      | 90.00      | 8698.94     | 328.85     | 2005.15    | 2013.33    | 0.00             |                                        |
| 9800.00    | 89.05      | 90.00      | 8700.60     | 328.85     | 2105.13    | 2113.28    | 0.00             |                                        |
| 9900.00    | 89.05      | 90.00      | 8702.27     | 328.85     | 2205.12    | 2213.23    | 0.00             |                                        |
| 10000.00   | 89.05      | 90.00      | 8703.93     | 328.85     | 2305.10    | 2313.18    | 0.00             |                                        |
| 10100.00   | 89.05      | 90.00      | 8705.59     | 328.85     | 2405.09    | 2413.13    | 0.00             |                                        |
| 10200.00   | 89.05      | 90.00      | 8707.25     | 328.85     | 2505.08    | 2513.07    | 0.00             |                                        |
| 10300.00   | 89.05      | 90.00      | 8708.91     | 328.85     | 2605.06    | 2613.02    | 0.00             |                                        |
| 10400.00   | 89.05      | 90.00      | 8710.57     | 328.85     | 2705.05    | 2712.97    | 0.00             |                                        |
| 10500.00   | 89.05      | 90.00      | 8712.23     | 328.85     | 2805.04    | 2812.92    | 0.00             |                                        |
| 10600.00   | 89.05      | 90.00      | 8713.90     | 328.85     | 2905.02    | 2912.87    | 0.00             |                                        |
| 10700.00   | 89.05      | 90.00      | 8715.56     | 328.85     | 3005.01    | 3012.82    | 0.00             |                                        |
| 10800.00   | 89.05      | 90.00      | 8717.22     | 328.85     | 3104.99    | 3112.77    | 0.00             |                                        |
| 10900.00   | 89.05      | 90.00      | 8718.88     | 328.85     | 3204.98    | 3212.72    | 0.00             |                                        |
| 11000.00   | 89.05      | 90.00      | 8720.54     | 328.85     | 3304.97    | 3312.67    | 0.00             |                                        |
| 11100.00   | 89.05      | 90.00      | 8722.20     | 328.85     | 3404.95    | 3412.62    | 0.00             |                                        |
| 11200.00   | 89.05      | 90.00      | 8723.86     | 328.85     | 3504.94    | 3512.57    | 0.00             |                                        |
| 11300.00   | 89.05      | 90.00      | 8725.53     | 328.85     | 3604.92    | 3612.52    | 0.00             |                                        |
| 11400.00   | 89.05      | 90.00      | 8727.19     | 328.85     | 3704.91    | 3712.47    | 0.00             |                                        |
| 11500.00   | 89.05      | 90.00      | 8728.85     | 328.85     | 3804.90    | 3812.42    | 0.00             |                                        |
| 11600.00   | 89.05      | 90.00      | 8730.51     | 328.85     | 3904.88    | 3912.37    | 0.00             |                                        |
| 11700.00   | 89.05      | 90.00      | 8732.17     | 328.85     | 4004.87    | 4012.32    | 0.00             |                                        |
| 11800.00   | 89.05      | 90.00      | 8733.83     | 328.85     | 4104.86    | 4112.27    | 0.00             |                                        |
| 11900.00   | 89.05      | 90.00      | 8735.49     | 328.85     | 4204.84    | 4212.21    | 0.00             |                                        |
| 12000.00   | 89.05      | 90.00      | 8737.16     | 328.85     | 4304.83    | 4312.16    | 0.00             |                                        |
| 12100.00   | 89.05      | 90.00      | 8738.82     | 328.85     | 4404.81    | 4412.11    | 0.00             |                                        |
| 12200.00   | 89.05      | 90.00      | 8740.48     | 328.85     | 4504.80    | 4512.06    | 0.00             |                                        |
| 12300.00   | 89.05      | 90.00      | 8742.14     | 328.85     | 4604.79    | 4612.01    | 0.00             |                                        |
| 12400.00   | 89.05      | 90.00      | 8743.80     | 328.85     | 4704.77    | 4711.96    | 0.00             |                                        |
| 12500.00   | 89.05      | 90.00      | 8745.46     | 328.85     | 4804.76    | 4811.91    | 0.00             |                                        |
| 12600.00   | 89.05      | 90.00      | 8747.12     | 328.85     | 4904.75    | 4911.86    | 0.00             |                                        |
| 12700.00   | 89.05      | 90.00      | 8748.79     | 328.85     | 5004.73    | 5011.81    | 0.00             |                                        |

Bent Tree 9-11 State Com 335H



**Well:** Bent Tree 9-11 State Com 335H  
**County:** Eddy  
**Wellbore:** Permit Plan  
**Design:** Permit Plan #1

**Geodetic System:** US State Plane 1983  
**Datum:** North American Datum 1927  
**Ellipsoid:** Clarke 1866  
**Zone:** 3001 - NM East (NAD83)

| MD<br>(ft) | INC<br>(°) | AZI<br>(°) | TVD<br>(ft) | NS<br>(ft) | EW<br>(ft) | VS<br>(ft) | DLS<br>(°/100ft) | Comment |
|------------|------------|------------|-------------|------------|------------|------------|------------------|---------|
| 12800.00   | 89.05      | 90.00      | 8750.45     | 328.85     | 5104.72    | 5111.76    | 0.00             |         |
| 12900.00   | 89.05      | 90.00      | 8752.11     | 328.85     | 5204.70    | 5211.71    | 0.00             |         |
| 13000.00   | 89.05      | 90.00      | 8753.77     | 328.85     | 5304.69    | 5311.66    | 0.00             |         |
| 13100.00   | 89.05      | 90.00      | 8755.43     | 328.85     | 5404.68    | 5411.61    | 0.00             |         |
| 13200.00   | 89.05      | 90.00      | 8757.09     | 328.85     | 5504.66    | 5511.56    | 0.00             |         |
| 13300.00   | 89.05      | 90.00      | 8758.75     | 328.85     | 5604.65    | 5611.51    | 0.00             |         |
| 13400.00   | 89.05      | 90.00      | 8760.42     | 328.85     | 5704.64    | 5711.46    | 0.00             |         |
| 13500.00   | 89.05      | 90.00      | 8762.08     | 328.85     | 5804.62    | 5811.41    | 0.00             |         |
| 13600.00   | 89.05      | 90.00      | 8763.74     | 328.85     | 5904.61    | 5911.35    | 0.00             |         |
| 13700.00   | 89.05      | 90.00      | 8765.40     | 328.85     | 6004.59    | 6011.30    | 0.00             |         |
| 13800.00   | 89.05      | 90.00      | 8767.06     | 328.85     | 6104.58    | 6111.25    | 0.00             |         |
| 13900.00   | 89.05      | 90.00      | 8768.72     | 328.85     | 6204.57    | 6211.20    | 0.00             |         |
| 14000.00   | 89.05      | 90.00      | 8770.38     | 328.85     | 6304.55    | 6311.15    | 0.00             |         |
| 14100.00   | 89.05      | 90.00      | 8772.05     | 328.85     | 6404.54    | 6411.10    | 0.00             |         |
| 14200.00   | 89.05      | 90.00      | 8773.71     | 328.85     | 6504.52    | 6511.05    | 0.00             |         |
| 14300.00   | 89.05      | 90.00      | 8775.37     | 328.85     | 6604.51    | 6611.00    | 0.00             |         |
| 14400.00   | 89.05      | 90.00      | 8777.03     | 328.85     | 6704.50    | 6710.95    | 0.00             |         |
| 14500.00   | 89.05      | 90.00      | 8778.69     | 328.85     | 6804.48    | 6810.90    | 0.00             |         |
| 14600.00   | 89.05      | 90.00      | 8780.35     | 328.85     | 6904.47    | 6910.85    | 0.00             |         |
| 14700.00   | 89.05      | 90.00      | 8782.01     | 328.85     | 7004.46    | 7010.80    | 0.00             |         |
| 14800.00   | 89.05      | 90.00      | 8783.68     | 328.85     | 7104.44    | 7110.75    | 0.00             |         |
| 14900.00   | 89.05      | 90.00      | 8785.34     | 328.85     | 7204.43    | 7210.70    | 0.00             |         |
| 15000.00   | 89.05      | 90.00      | 8787.00     | 328.85     | 7304.41    | 7310.65    | 0.00             |         |
| 15100.00   | 89.05      | 90.00      | 8788.66     | 328.85     | 7404.40    | 7410.60    | 0.00             |         |
| 15200.00   | 89.05      | 90.00      | 8790.32     | 328.85     | 7504.39    | 7510.55    | 0.00             |         |
| 15300.00   | 89.05      | 90.00      | 8791.98     | 328.86     | 7604.37    | 7610.49    | 0.00             |         |
| 15400.00   | 89.05      | 90.00      | 8793.64     | 328.86     | 7704.36    | 7710.44    | 0.00             |         |
| 15500.00   | 89.05      | 90.00      | 8795.31     | 328.86     | 7804.35    | 7810.39    | 0.00             |         |
| 15600.00   | 89.05      | 90.00      | 8796.97     | 328.86     | 7904.33    | 7910.34    | 0.00             |         |
| 15700.00   | 89.05      | 90.00      | 8798.63     | 328.86     | 8004.32    | 8010.29    | 0.00             |         |
| 15800.00   | 89.05      | 90.00      | 8800.29     | 328.86     | 8104.30    | 8110.24    | 0.00             |         |
| 15900.00   | 89.05      | 90.00      | 8801.95     | 328.86     | 8204.29    | 8210.19    | 0.00             |         |
| 16000.00   | 89.05      | 90.00      | 8803.61     | 328.86     | 8304.28    | 8310.14    | 0.00             |         |
| 16100.00   | 89.05      | 90.00      | 8805.28     | 328.86     | 8404.26    | 8410.09    | 0.00             |         |
| 16200.00   | 89.05      | 90.00      | 8806.94     | 328.86     | 8504.25    | 8510.04    | 0.00             |         |
| 16300.00   | 89.05      | 90.00      | 8808.60     | 328.86     | 8604.23    | 8609.99    | 0.00             |         |
| 16400.00   | 89.05      | 90.00      | 8810.26     | 328.86     | 8704.22    | 8709.94    | 0.00             |         |
| 16500.00   | 89.05      | 90.00      | 8811.92     | 328.86     | 8804.21    | 8809.89    | 0.00             |         |
| 16600.00   | 89.05      | 90.00      | 8813.58     | 328.86     | 8904.19    | 8909.84    | 0.00             |         |
| 16700.00   | 89.05      | 90.00      | 8815.24     | 328.86     | 9004.18    | 9009.79    | 0.00             |         |
| 16800.00   | 89.05      | 90.00      | 8816.91     | 328.86     | 9104.17    | 9109.74    | 0.00             |         |
| 16900.00   | 89.05      | 90.00      | 8818.57     | 328.86     | 9204.15    | 9209.69    | 0.00             |         |
| 17000.00   | 89.05      | 90.00      | 8820.23     | 328.86     | 9304.14    | 9309.63    | 0.00             |         |
| 17100.00   | 89.05      | 90.00      | 8821.89     | 328.86     | 9404.12    | 9409.58    | 0.00             |         |
| 17200.00   | 89.05      | 90.00      | 8823.55     | 328.86     | 9504.11    | 9509.53    | 0.00             |         |
| 17300.00   | 89.05      | 90.00      | 8825.21     | 328.86     | 9604.10    | 9609.48    | 0.00             |         |
| 17400.00   | 89.05      | 90.00      | 8826.87     | 328.86     | 9704.08    | 9709.43    | 0.00             |         |
| 17500.00   | 89.05      | 90.00      | 8828.54     | 328.86     | 9804.07    | 9809.38    | 0.00             |         |
| 17600.00   | 89.05      | 90.00      | 8830.20     | 328.86     | 9904.06    | 9909.33    | 0.00             |         |
| 17700.00   | 89.05      | 90.00      | 8831.86     | 328.86     | 10004.04   | 10009.28   | 0.00             |         |
| 17800.00   | 89.05      | 90.00      | 8833.52     | 328.86     | 10104.03   | 10109.23   | 0.00             |         |
| 17900.00   | 89.05      | 90.00      | 8835.18     | 328.86     | 10204.01   | 10209.18   | 0.00             |         |
| 18000.00   | 89.05      | 90.00      | 8836.84     | 328.86     | 10304.00   | 10309.13   | 0.00             |         |
| 18100.00   | 89.05      | 90.00      | 8838.50     | 328.86     | 10403.99   | 10409.08   | 0.00             |         |
| 18200.00   | 89.05      | 90.00      | 8840.17     | 328.86     | 10503.97   | 10509.03   | 0.00             |         |
| 18300.00   | 89.05      | 90.00      | 8841.83     | 328.86     | 10603.96   | 10608.98   | 0.00             |         |
| 18400.00   | 89.05      | 90.00      | 8843.49     | 328.86     | 10703.94   | 10708.93   | 0.00             |         |
| 18500.00   | 89.05      | 90.00      | 8845.15     | 328.86     | 10803.93   | 10808.88   | 0.00             |         |
| 18600.00   | 89.05      | 90.00      | 8846.81     | 328.86     | 10903.92   | 10908.83   | 0.00             |         |
| 18700.00   | 89.05      | 90.00      | 8848.47     | 328.86     | 11003.90   | 11008.77   | 0.00             |         |
| 18800.00   | 89.05      | 90.00      | 8850.13     | 328.86     | 11103.89   | 11108.72   | 0.00             |         |
| 18900.00   | 89.05      | 90.00      | 8851.80     | 328.86     | 11203.88   | 11208.67   | 0.00             |         |
| 19000.00   | 89.05      | 90.00      | 8853.46     | 328.86     | 11303.86   | 11308.62   | 0.00             |         |
| 19100.00   | 89.05      | 90.00      | 8855.12     | 328.86     | 11403.85   | 11408.57   | 0.00             |         |
| 19200.00   | 89.05      | 90.00      | 8856.78     | 328.86     | 11503.83   | 11508.52   | 0.00             |         |
| 19300.00   | 89.05      | 90.00      | 8858.44     | 328.86     | 11603.82   | 11608.47   | 0.00             |         |
| 19400.00   | 89.05      | 90.00      | 8860.10     | 328.86     | 11703.81   | 11708.42   | 0.00             |         |
| 19500.00   | 89.05      | 90.00      | 8861.76     | 328.86     | 11803.79   | 11808.37   | 0.00             |         |
| 19600.00   | 89.05      | 90.00      | 8863.43     | 328.86     | 11903.78   | 11908.32   | 0.00             |         |
| 19700.00   | 89.05      | 90.00      | 8865.09     | 328.86     | 12003.77   | 12008.27   | 0.00             |         |



**Well:** Bent Tree 9-11 State Com 335H

**County:** Eddy

**Wellbore:** Permit Plan

**Design:** Permit Plan #1

**Geodetic System:** US State Plane 1983

**Datum:** North American Datum 1927

**Ellipsoid:** Clarke 1866

**Zone:** 3001 - NM East (NAD83)

| MD       | INC   | AZI   | TVD     | NS     | EW       | VS       | DLS       | Comment |
|----------|-------|-------|---------|--------|----------|----------|-----------|---------|
| (ft)     | (°)   | (°)   | (ft)    | (ft)   | (ft)     | (ft)     | (°/100ft) |         |
| 19736.00 | 89.05 | 90.00 | 8865.68 | 328.86 | 12039.77 | 12044.26 | 0.00      | exit    |
| 19800.00 | 89.05 | 90.00 | 8866.75 | 328.86 | 12103.75 | 12108.22 | 0.00      |         |
| 19816.00 | 89.05 | 90.00 | 8867.00 | 328.85 | 12119.75 | 12124.21 | 0.00      | BHL     |

## Bent Tree 9-11 State Com 335H

**1. Geologic Formations**

|               |       |                              |     |
|---------------|-------|------------------------------|-----|
| TVD of target | 8866  | Pilot hole depth             | N/A |
| MD at TD:     | 19816 | Deepest expected fresh water |     |

**Basin**

| Formation       | Depth<br>(TVD)<br>from KB | Water/Mineral<br>Bearing/Target<br>Zone? | Hazards* |
|-----------------|---------------------------|------------------------------------------|----------|
| Rustler         | 100                       |                                          |          |
| Salt            | 189                       |                                          |          |
| Base of Salt    | 418                       |                                          |          |
| Capitan         | 842                       |                                          |          |
| Capitan Base    | 2600                      |                                          |          |
| Delaware        | 2687                      |                                          |          |
| Bone Spring 1st | 6404                      |                                          |          |
| Bone Spring 2nd | 7120                      |                                          |          |
| Bone Spring 3rd | 8434                      |                                          |          |
|                 |                           |                                          |          |
|                 |                           |                                          |          |
|                 |                           |                                          |          |
|                 |                           |                                          |          |
|                 |                           |                                          |          |
|                 |                           |                                          |          |
|                 |                           |                                          |          |
|                 |                           |                                          |          |
|                 |                           |                                          |          |

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



## Bent Tree 9-11 State Com 335H

**2. Casing Program**

| Hole Size | Csg. Size | Wt<br>(PPF) | Grade | Conn | Casing Interval |         | Casing Interval |          |
|-----------|-----------|-------------|-------|------|-----------------|---------|-----------------|----------|
|           |           |             |       |      | From<br>(MD)    | To (MD) | From<br>(TVD)   | To (TVD) |
| 17 1/2    | 13 3/8    | 48          | H40   | BTC  | 0               | 125     | 0               | 125      |
| 12 1/4    | 9 5/8     | 40          | J-55  | BTC  | 0               | 518     | 0               | 518      |
| 8 3/4     | 5 1/2     | 17          | P110  | BTC  | 0               | 19816   | 0               | 8866     |

- All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 IILB.1.h Must have table for contingency casing.

## Bent Tree 9-11 State Com 335H

**3. Cementing Program (3-String Primary Design)**

| Casing                           | # Sks        | TOC                | Wt.<br>(lb/gal) | Yld<br>(ft <sup>3</sup> /sack) | Slurry Description                       |
|----------------------------------|--------------|--------------------|-----------------|--------------------------------|------------------------------------------|
| Surface                          | 129          | Surf               | 13.2            | 1.4                            | Lead: Class C Cement + additives         |
| Int 1                            | 1            | Surf               | 9.0             | 3.3                            | Lead: Class C Cement + additives         |
|                                  | 154          | 500'<br>above shoe | 13.2            | 1.4                            | Tail: Class H / C + additives            |
| Int 1<br>Intermediate<br>Squeeze | As<br>Needed | Surf               | 9.0             | 3.3                            | Squeeze Lead: Class C Cement + additives |
|                                  | 1            | Surf               | 9.0             | 3.3                            | Lead: Class C Cement + additives         |
|                                  | 154          | 500'<br>above shoe | 13.2            | 1.4                            | Tail: Class H / C + additives            |
| Production                       | 703          | 500' tieback       | 9.0             | 3.3                            | Lead: Class H / C + additives            |
|                                  | 2228         | KOP                | 13.2            | 1.4                            | Tail: Class H / C + additives            |

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

| Casing String | % Excess |
|---------------|----------|
| Surface       | 50%      |
| Intermediate  | 30%      |
| Production    | 10%      |

## Bent Tree 9-11 State Com 335H

**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      | 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*       |   |                               |

## Bent Tree 9-11 State Com 335H

**5. Mud Program (Three String Design)**

| Section      | Type   | Weight (ppg) |
|--------------|--------|--------------|
| Surface      | FW Gel | 8.5-9        |
| Intermediate | Brine  | 10-10.5      |
| Production   | WBM    | 8.5-9        |

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

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

**6. Logging and Testing Procedures**

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

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

**7. Drilling Conditions**

| Condition                  | Specify what type and where? |
|----------------------------|------------------------------|
| BH pressure at deepest TVD | 4149                         |
| Abnormal temperature       | No                           |

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

Hydrogen Sulfide (H<sub>2</sub>S) monitors will be installed prior to drilling out the surface shoe. If H<sub>2</sub>S 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 <sub>2</sub> S is present     |
| Y | H <sub>2</sub> S plan attached. |

## Bent Tree 9-11 State Com 335H

**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 pad.
- 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