

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HOBBS DODS

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

JAN 09 2017

RECEIVED

5. Lease Serial No.
NMLC061869

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
NMNM1371518. Well Name and No.
MORAB 29-20 FED COM 3H9. API Well No.
30-025-43776-00-X110. Field and Pool or Exploratory Area
PADUCA11. County or Parish, State
LEA COUNTY, NM**SUBMIT IN TRIPLICATE - Other instructions on page 2**

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

DEVON ENERGY PRODUCTION COMPANY

Contact: LINDA GOOD

Email: linda.good@dev.com

3a. Address

333 WEST SHERIDAN AVENUE
OKLAHOMA CITY, OK 73102

3b. Phone No. (include area code)

Ph: 405.552.6571

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

Sec 29 T25S R32E SWNE 2455FNL 2642FEL
32.101864 N Lat, 103.697174 W Lon**12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

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

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

ATTENTION Jesse Bassett:

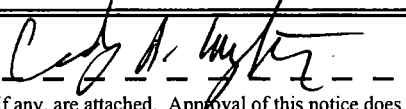
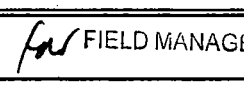
Devon Energy Production Co., L.P. respectfully requests to change the surface hole location from 2455 FNL 2642 FEL to 2317 FNL 2652 FEL. Please find the revised C-102 plats, Drilling Plan and Directional Plan.

Eng OK 1/2/18 C Walls

URS LTB OK 12-11-17 USE Existing COAS

14. I hereby certify that the foregoing is true and correct.	
Electronic Submission #391313 verified by the BLM Well Information System For DEVON ENERGY PRODUCTION COMPANY, sent to the Hobbs Committed to AFMSS for processing by PRISCILLA PEREZ on 12/11/2017 (18PP0302SE)	
Name (Printed/Typed) LINDA GOOD	Title REGULATORY COMPLIANCE SPECIALI
Signature (Electronic Submission)	Date 10/10/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By 	Title  FIELD MANAGER	Date 01/09/18
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office CARLSBAD FIELD OFFICE

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

(Instructions on page 2)

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

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

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

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

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-316128 43776	² Pool Code 97903	³ Pool Name WC-025 G-08 S253235G; LOWER BS
⁴ Property Code 316128	⁵ Property Name MORAB 29-20 FED COM	⁶ Well Number 3H
⁷ OGRID No. 6137	⁸ Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	⁹ Elevation 3362.4

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	29	25 S	32 E		2317	NORTH	2652	EAST	LEA

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	20	25 S	32 E		290	NORTH	1980	EAST	LEA

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

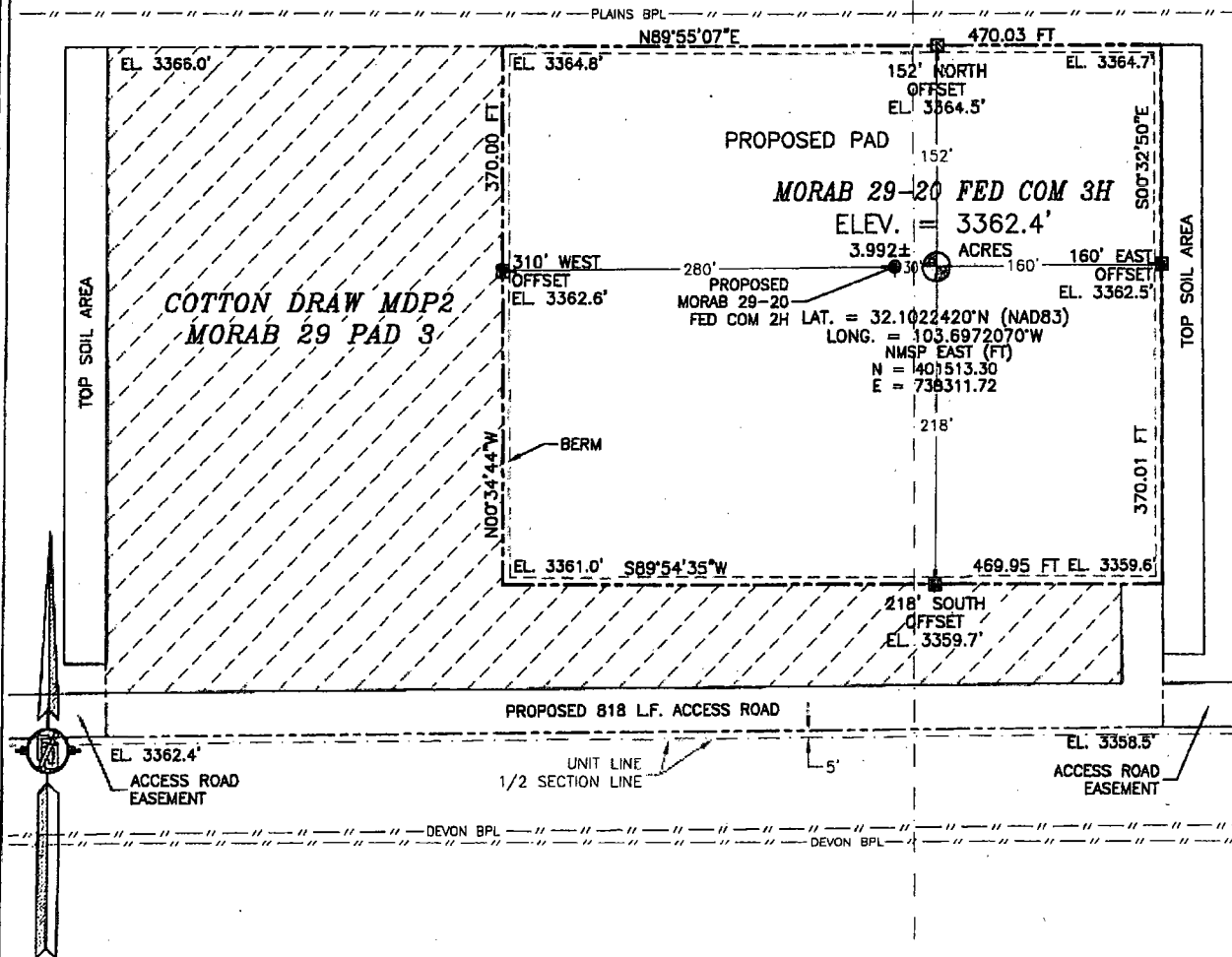
No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83). LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE. ELEVATION VALUES ARE NAVD88. QUARTER CORNER LAT. = 32.1086103°N LONG. = 103.6972726°W NMSP EAST (FT) N = 403829.87 E = 70277.74 MORAB 29-20 FED COM 3H ELEV. = 3362.4' LAT. = 32.1022420°N (NAD83) LONG. = 103.6972070°W NMSP EAST (FT) N = 401513.30 E = 738311.72 SURFACE LOCATION 2652'		" OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the Division. <i>Linda Good</i> 10/10/2017 Signature Date Linda Good Printed Name linda.good@dmv.com E-mail Address
"SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. SEPTEMBER 25 2011 FILIMON F. JARAMILLO Date of Survey <i>Filimon F. Jaramillo</i> Signature and Seal of the Surveyor Certificate Number: FILIMON F. JARAMILLO, PLS 12797 SURVEY NO. 3991C		

SECTION 29, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
SITE MAP

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

UNIT LINE
1/2 SECTION LINE



012 60 120 240

SCALE 1" = 120'

DIRECTIONS TO LOCATION

FROM STATE HWY. 128 AND CR. 1 (ORLA RD.), GO SOUTH ON CR. 1 6.1 MILES, TURN RIGHT AND GO WEST ON CALICHE ROAD (MONSANTO RD.) 2.4 MILES, TURN LEFT AND GO SOUTH 1.55 MILES TO A PROPOSED ROAD SURVEY AND FOLLOW FLAGS EAST 0.42 MILE TO THE SOUTHWEST PAD CORNER FOR COTTON DRAW MDP2 MORAB 29 PAD 3, THEN EAST 735', THEN NORTH 83' TO THE SOUTHEAST PAD CORNER FOR THIS LOCATION.

DEVON ENERGY PRODUCTION COMPANY, L.P.
MORAB 29-20 FED COM 3H

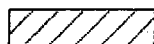
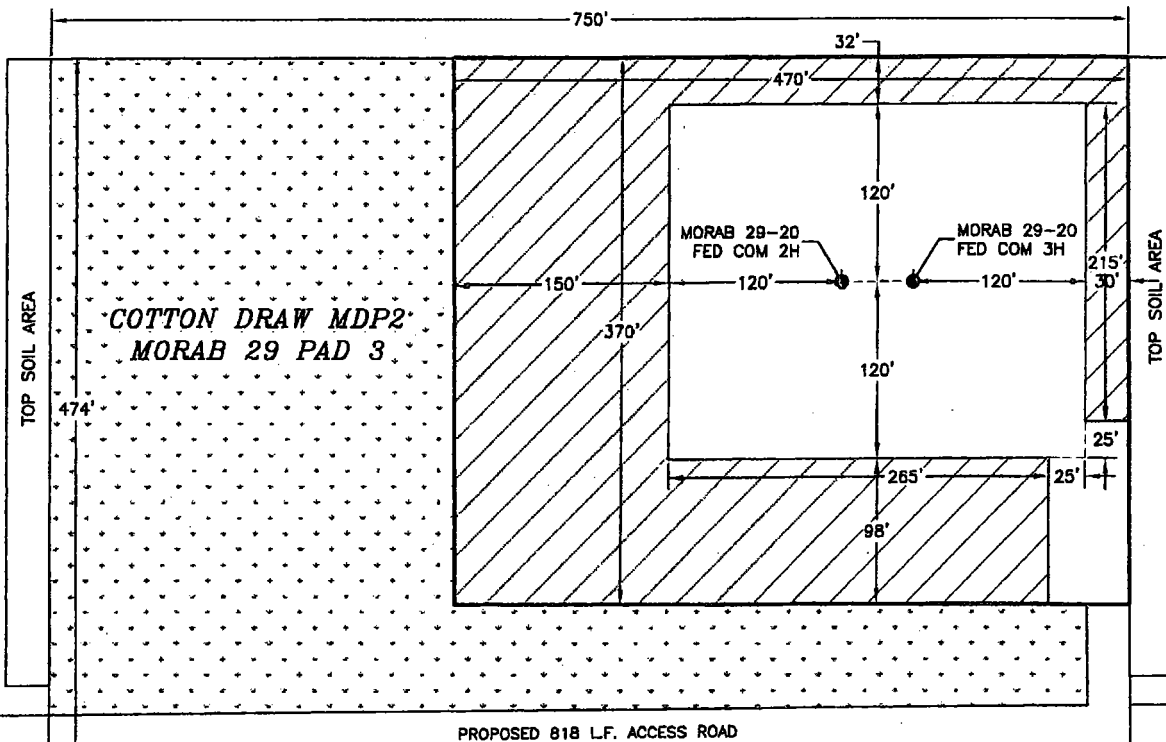
LOCATED 2317 FT. FROM THE NORTH LINE
AND 2652 FT. FROM THE EAST LINE OF
SECTION 29, TOWNSHIP 25 SOUTH,
RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

SEPTEMBER 25, 2017

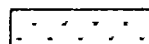
SURVEY NO. 3991C

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

SECTION 29, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
INTERIM SITE RECLAMATION



DENOTES INTERIM PAD
RECLAMATION AREA



DENOTES GRADING SITE
RECLAMATION AREA

0 12 60 120 240
SCALE 1" = 120'

2.250± ACRES INTERIM PAD RECLAMATION AREA
3.554± ACRES GRADING SITE RECLAMATION AREA
2.308± ACRES NON-RECLAIMED AREA
8.112± ACRES COTTON DRAW MDP 2 MORAB 29 PAD 3

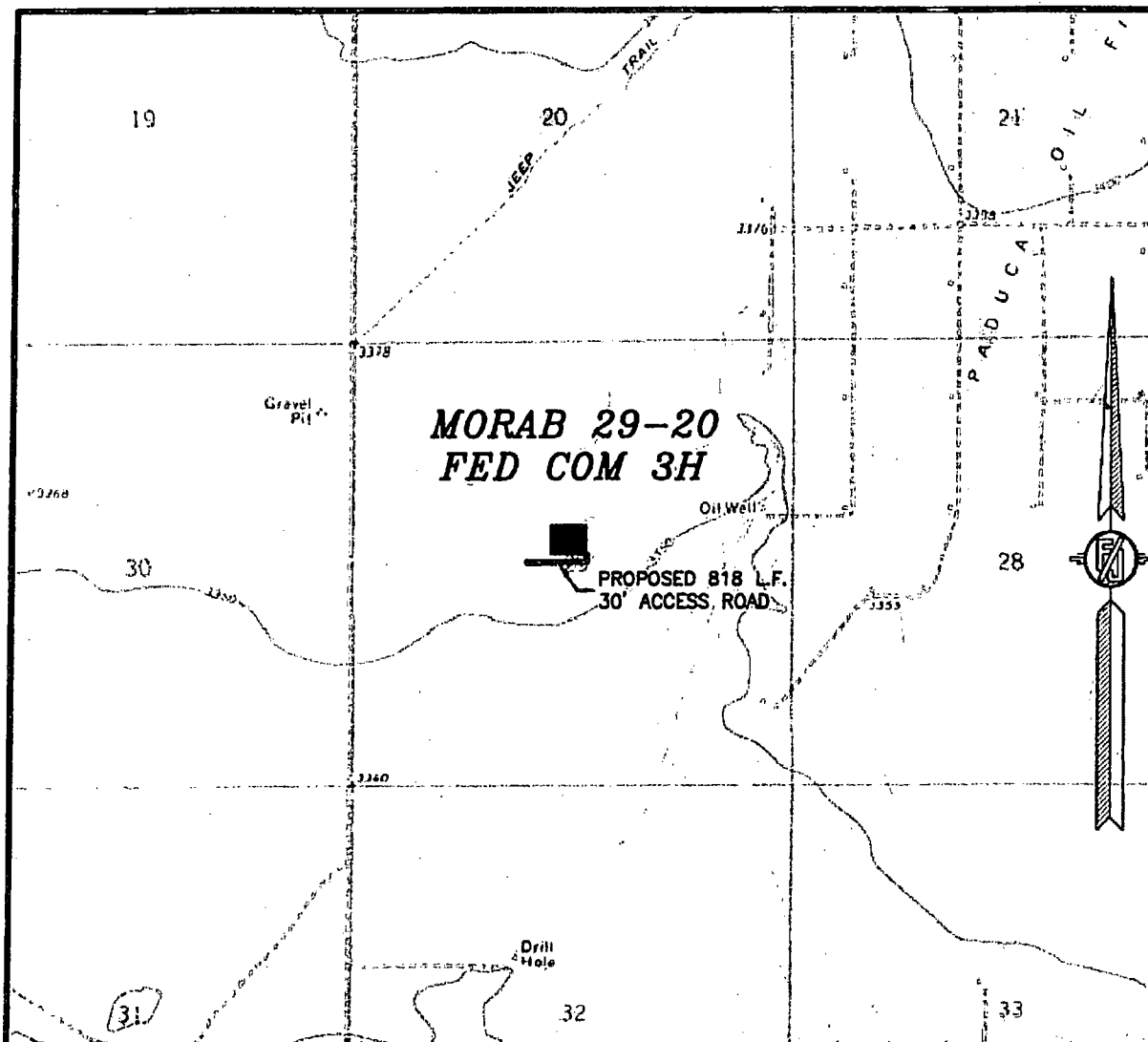
DEVON ENERGY PRODUCTION COMPANY, L.P.
MORAB 29-20 FED COM 3H
LOCATED 2317 FT. FROM THE NORTH LINE
AND 2652 FT. FROM THE EAST LINE OF
SECTION 29, TOWNSHIP 25 SOUTH,
RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

SEPTEMBER 25, 2017

SURVEY NO. 3991C

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

SECTION 29, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
LOCATION VERIFICATION MAP



USGS QUAD MAP:
PADUCA BREAKS WEST

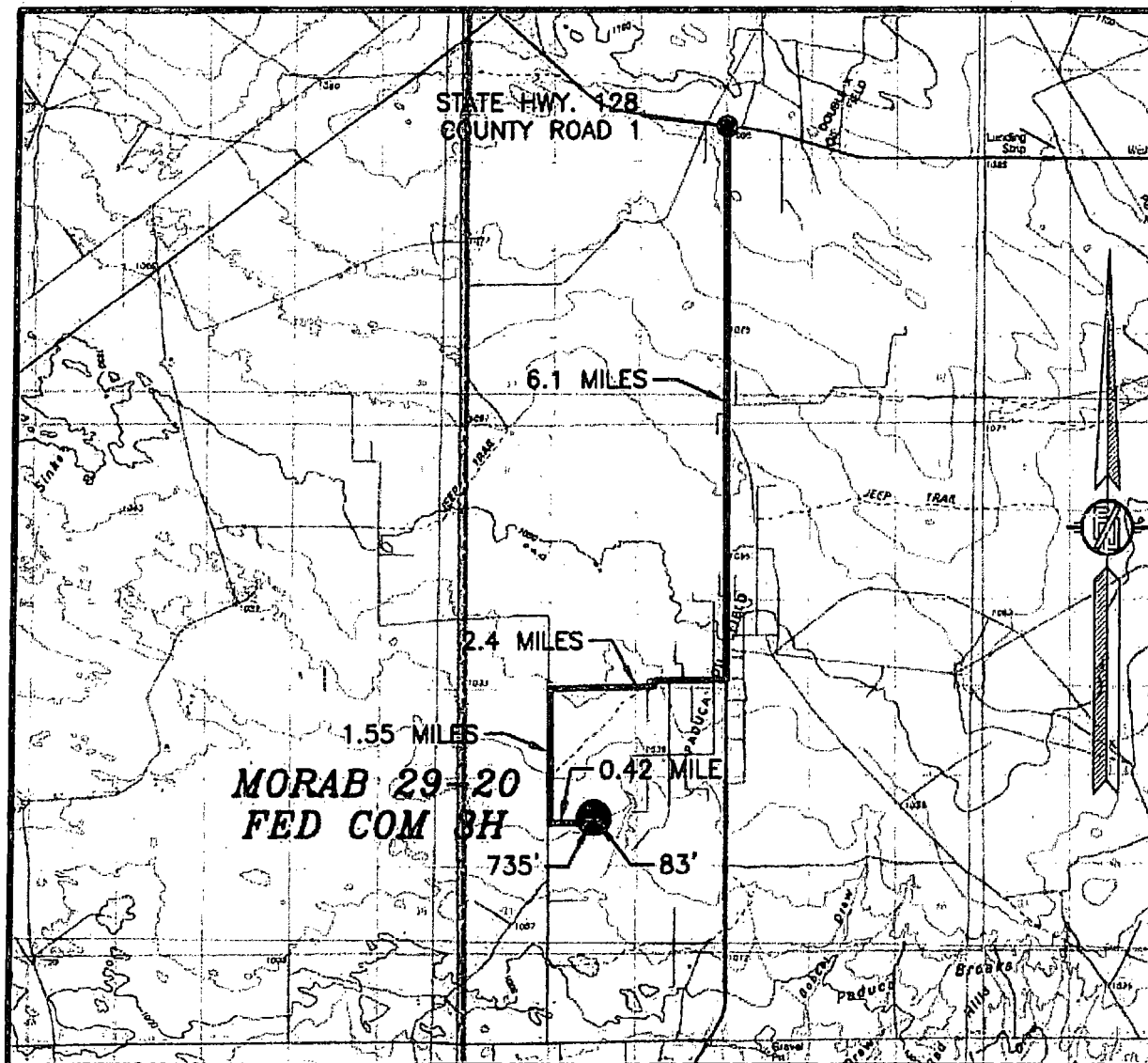
NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.
MORAB 29-20 FED COM 3H
LOCATED 2317 FT. FROM THE NORTH LINE
AND 2652 FT. FROM THE EAST LINE OF
SECTION 29, TOWNSHIP 25 SOUTH,
RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

SEPTEMBER 25, 2017

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO SURVEY NO. 3991C

SECTION 29, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DIRECTIONS TO LOCATION

FROM STATE HWY. 128 AND CR. 1 (ORLA RD.), GO SOUTH ON CR. 1 6.1 MILES, TURN RIGHT AND GO WEST ON CALICHE ROAD (MONSANTO RD.) 2.4 MILES, TURN LEFT AND GO SOUTH 1.55 MILES TO A PROPOSED ROAD SURVEY AND FOLLOW FLAGS EAST 0.42 MILE TO THE SOUTHWEST PAD CORNER FOR COTTON DRAW MDP2 MORAB 29 PAD 3, THEN EAST 735', THEN NORTH 83' TO THE SOUTHEAST PAD CORNER FOR THIS LOCATION.

DEVON ENERGY PRODUCTION COMPANY, L.P.
MORAB 29-20 FED COM 3H

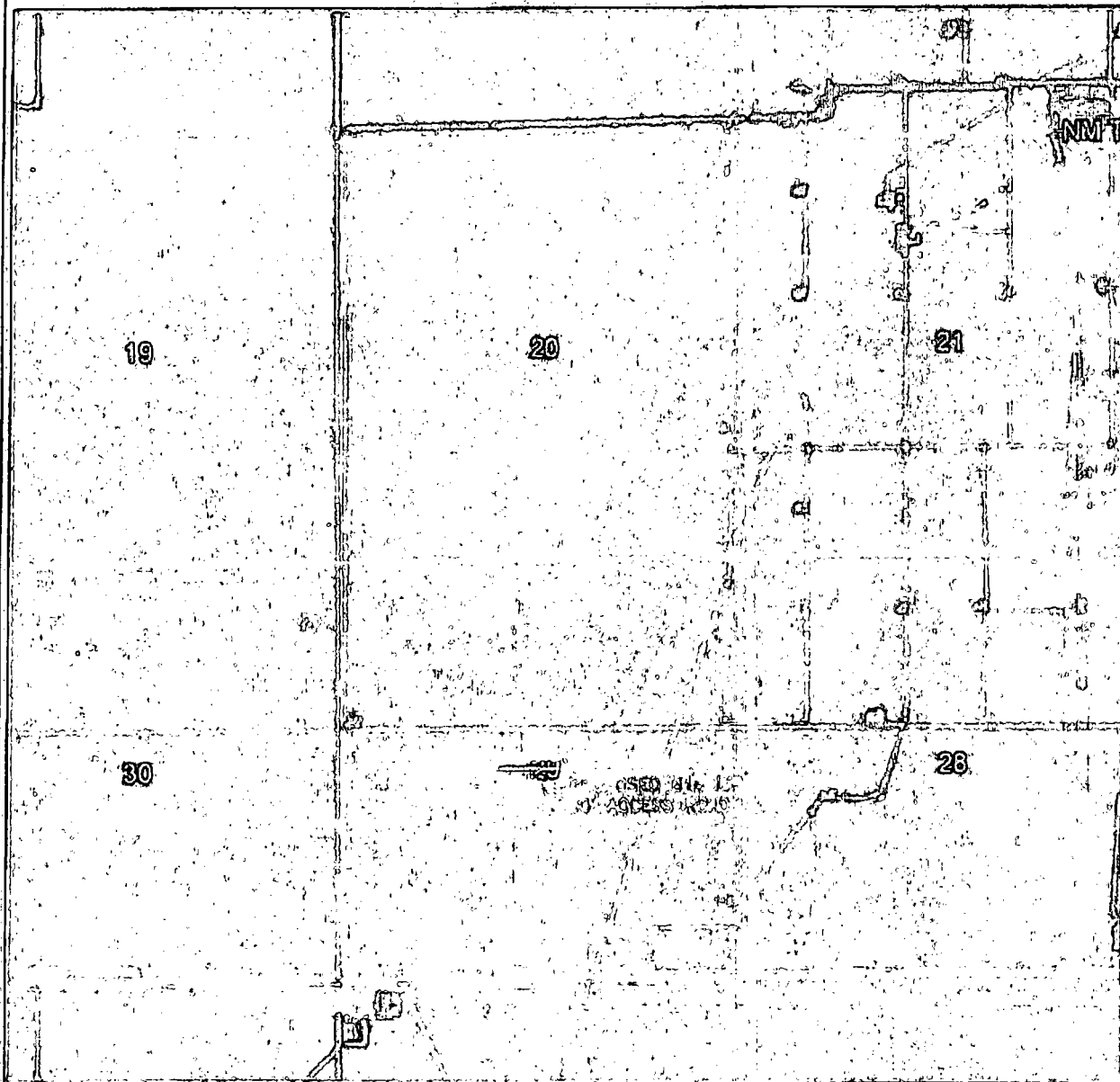
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AND 2652 FT. FROM THE EAST LINE OF
SECTION 29, TOWNSHIP 25 SOUTH,
RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

SEPTEMBER 25, 2017

SURVEY NO. 3991C

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

SECTION 29, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
FEB. 2017

DEVON ENERGY PRODUCTION COMPANY, L.P.
MORAB 29-20 FED COM 3H

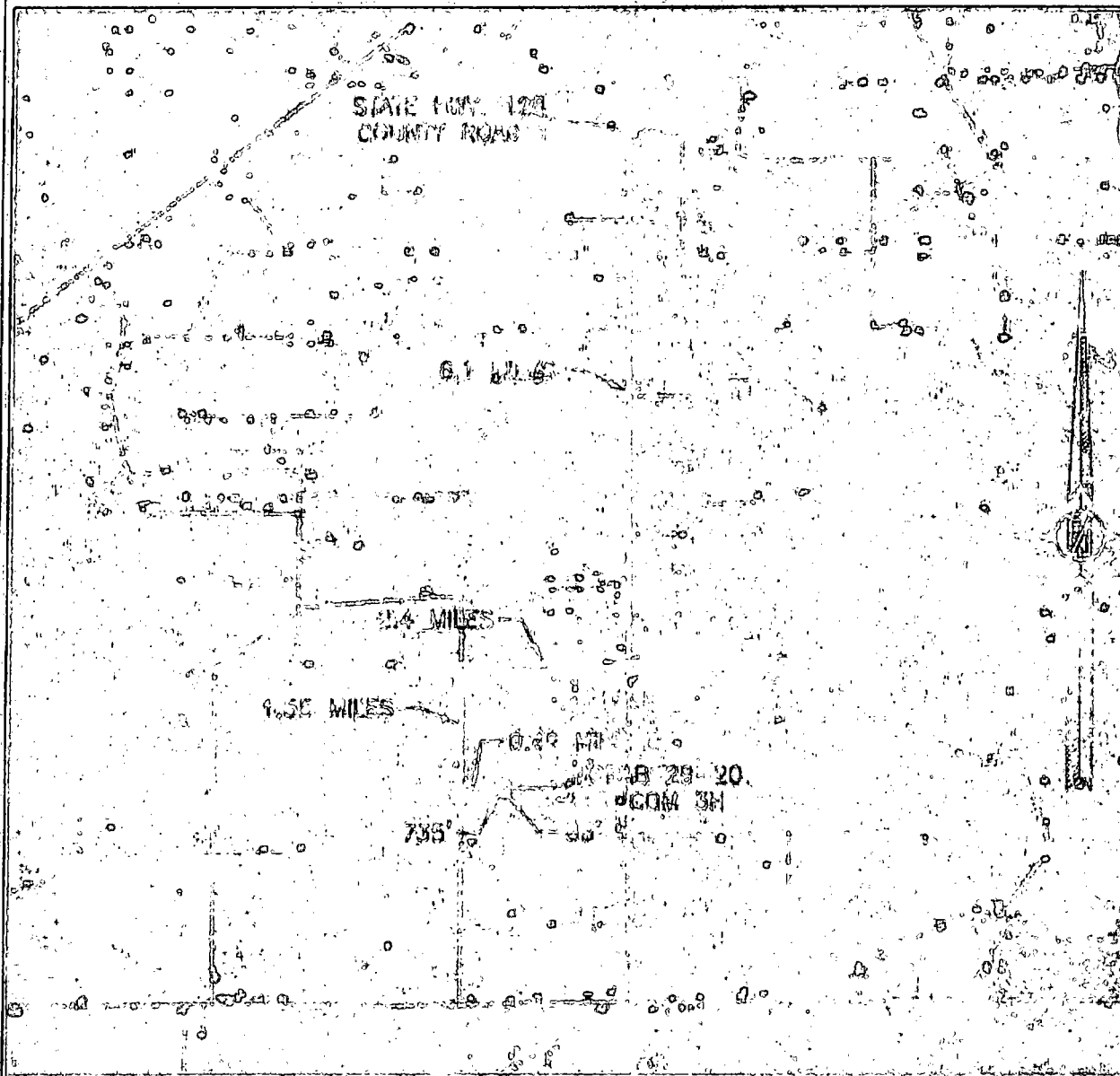
LOCATED 2317 FT. FROM THE NORTH LINE
AND 2652 FT. FROM THE EAST LINE OF
SECTION 29, TOWNSHIP 25 SOUTH,
RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

SEPTEMBER 25, 2017

SURVEY NO. 3991C

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

SECTION 29, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
AERIAL ACCESS ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
FEB. 2017

DEVON ENERGY PRODUCTION COMPANY, L.P.
MORAB 29-20 FED COM 3H

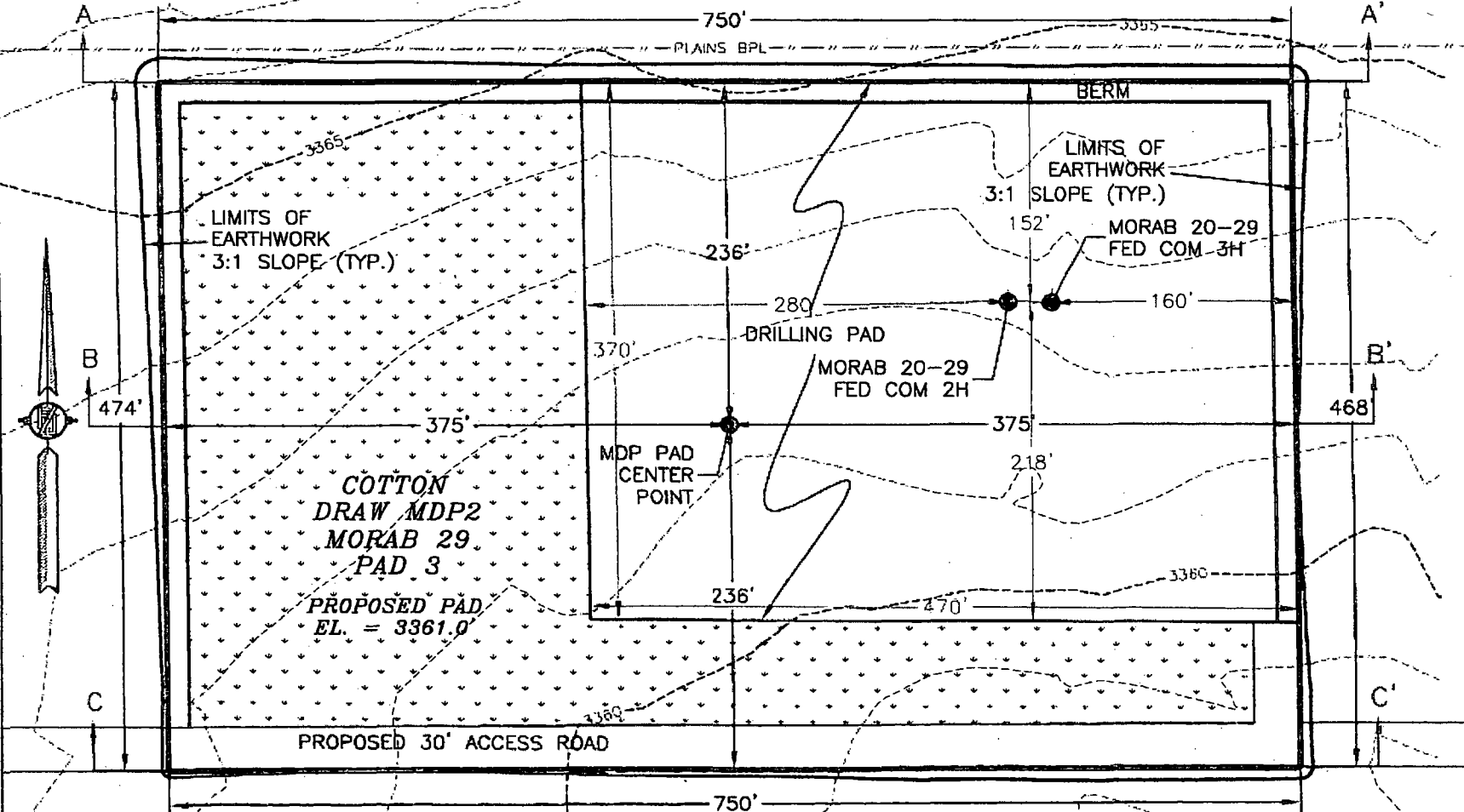
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AND 2652 FT. FROM THE EAST LINE OF
SECTION 29, TOWNSHIP 25 SOUTH,
RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

SEPTEMBER 25, 2017

SURVEY NO. 3991C

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

PLAN VIEW



DEVON ENERGY PRODUCTION COMPANY, L.P.
 PAD GRADING PLAN AND CROSS SECTIONS
 FOR MORAB 29-20 FED COM 3H
 SECTION 29, TOWNSHIP 25 SOUTH,
 RANGE 32 EAST, N.M.P.M.
 LEA COUNTY, STATE OF NEW MEXICO

EARTHWORK QUANTITIES		
COTTON DRAW MDP2 MORAB 29 PAD 3		
CUT	FILL	NET
17929 CU. YD	4691 CU. YD	1323.8 CU. YD (CUT)

EARTHWORK QUANTITIES ARE ESTIMATED

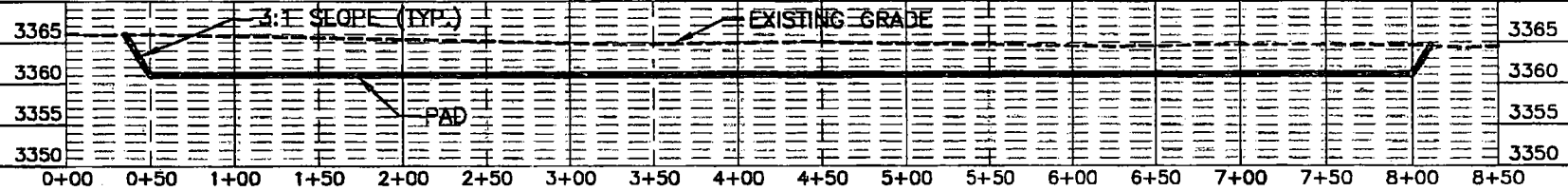
SEPTEMBER 25, 2017

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

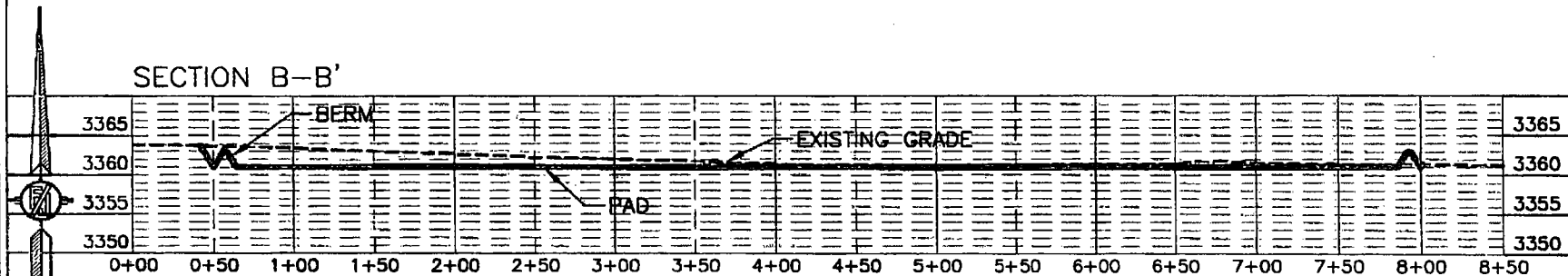
SHEET 1-2
 SURVEY NO. 3991C

CROSS-SECTIONS

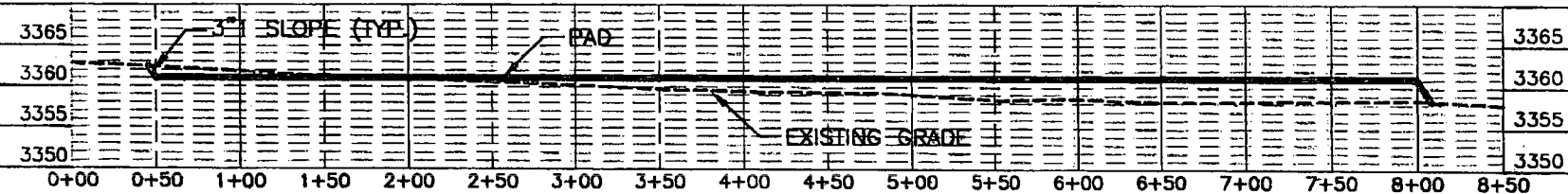
SECTION A-A'



SECTION B-B'



SECTION C-C'



0 10 50 100 200
SCALE 1" = 100' - 1" = 20' VER

DEVON ENERGY PRODUCTION COMPANY, L.P.
PAD GRADING PLAN AND CROSS SECTIONS
FOR MORAB 29-20 FED COM 3H
SECTION 29, TOWNSHIP 25 SOUTH,
RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO

EARTHWORK QUANTITIES		
COTTON DRAW MDP2 MORAB 29 PAD 3		
CUT	FILL	NET
17929 CU. YD	4691 CU. YD	1323.8 CU. YD (CUT)
EARTHWORK QUANTITIES ARE ESTIMATED		

SEPTEMBER 25, 2017

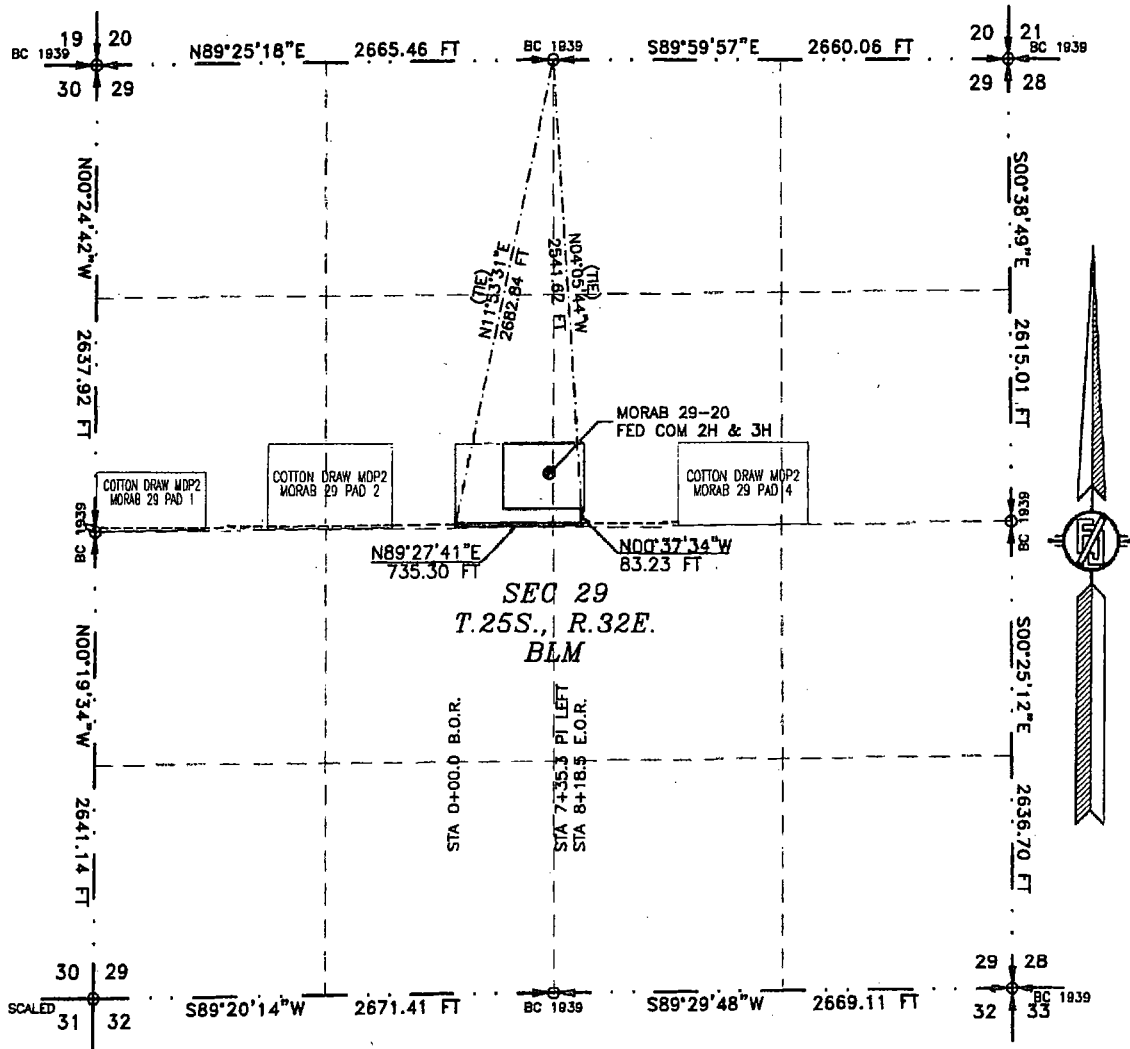
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SHEET 2-2
SURVEY NO. 3991C

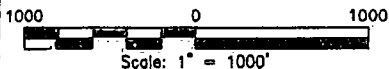
ACCESS ROAD PLAT

ACCESS ROAD FOR MORAB 29-20 FED COM 2H & 3H

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 29, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
SEPTEMBER 25, 2017



SEE NEXT SHEET (2-2) FOR DESCRIPTION



GENERAL NOTES

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 1-2

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

SURVEYOR CERTIFICATE

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

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 25 DAY OF SEPTEMBER 2017

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

SURVEY NO. 3991C

ACCESS ROAD PLAT

ACCESS ROAD FOR MORAB 29-20 FED COM 2H & 3H

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 29, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
SEPTEMBER 25, 2017

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 29, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M., LEA COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE SE/4 NW/4 OF SAID SECTION 29, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M., WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 29, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M. BEARS N11°53'31"E, A DISTANCE OF 2682.84 FEET;
THENCE N89°27'41"E A DISTANCE OF 735.30 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N00°37'34"W A DISTANCE OF 83.23 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 29, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M. BEARS N04°05'44"W, A DISTANCE OF 2541.62 FEET;

SAID STRIP OF LAND BEING 818.53 FEET OR 49.61 RODS IN LENGTH, CONTAINING 0.564 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SE/4 NW/4	572.68 L.F.	34.71 RODS	0.394 ACRES
SW/4 NE/4	245.85 L.F.	14.90 RODS	0.169 ACRES

SURVEYOR CERTIFICATE

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

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

NEW MEXICO, THIS 22ND DAY OF SEPTEMBER 2017

GENERAL NOTES

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

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

SHEET: 2-2

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

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

SURVEY NO. 3991C



Devon Energy
Morab 29-20 Fed Com 3H
Lea Co, NM



Plan Data for Morab 29-20 Fed Com 3H

Plan Point Information:											
DogLeg Severity Unit: */100.00ft											
Position offsets from Slot centre											
MD	Inc	Az	TVD	+N/-S	+E/-W	Northing	Easting	VSec	DLS	Comments	
(USft)	(°)	(°)	(USft)	(USft)	(USft)	(USft)	(USft)	(USft)	(DLSU)		
0.00	0.00	0.00	0.00	0.00	0.00	401513.30	738311.72	0.00	0.00		
5568.00	0.00	0.00	5568.00	0.00	0.00	401513.30	738311.72	0.00	0.00	Nudge 1° DLS	
6268.09	7.00	114.03	6266.35	-17.40	39.02	401495.90	738350.74	-16.17	1.00	Hold	
8648.67	7.00	114.03	8629.18	-135.57	304.02	401377.73	738615.74	-126.00	0.00	Drop .5° DLS	
10048.85	0.00	0.00	10025.88	-170.36	382.05	401342.94	738693.77	-158.34	0.50	KOP- Build 10° DLS	
10248.85	20.00	1.79	10221.84	-135.82	383.13	401377.48	738694.85	-123.79	10.00	Build 12° DLS	
10834.91	90.33	1.79	10536.00	315.36	397.22	401828.66	738708.94	327.61	12.00	Landing Pt	
17830.44	90.33	1.79	10496.00	7307.36	615.56	408820.66	738927.28	7323.02	0.00	PBHL 3H	

Plan Data for Morab 29-20 Fed Com 3H

Field: Lea Co, NM Nad 83 NMEZ
Map Unit: USFt Vertical Reference Datum (VRD): Mean Sea Level
Projected Coordinate System: NAD83 / New Mexico East (ftUS)

Site: Morab 29-20 Fed Com 3H
Unit: USFeet TVD Reference:
Company Name: Devon Energy
Position: Northing: 401513.30USft Latitude: 32.102242°
Easting: 738311.72USft Longitude: -103.697207°
North Reference: Grid Grid Convergence: 0.34°
Elevation Above VRD: 3362.40USft

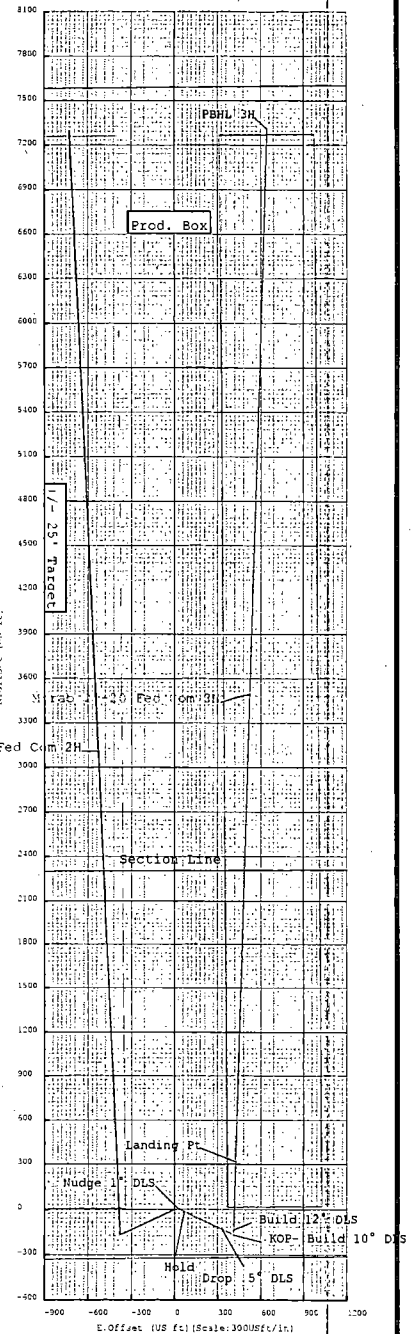
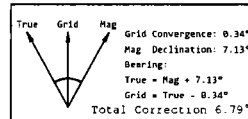
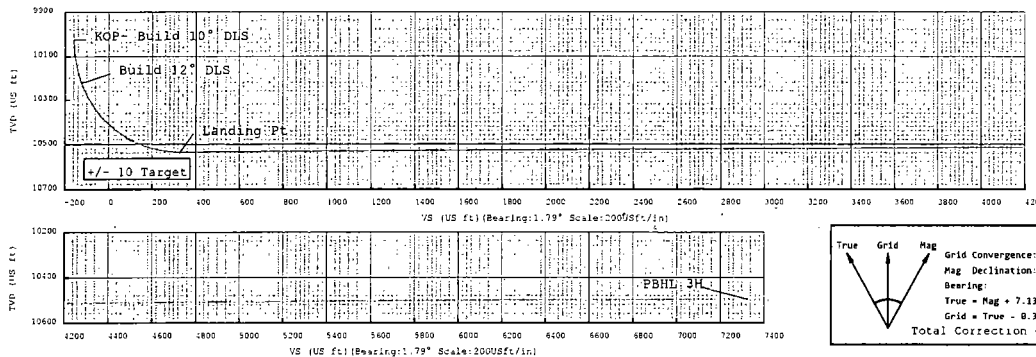
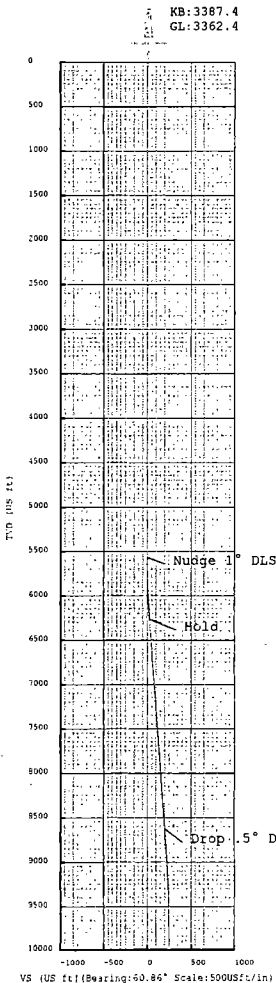
Slot: Morab 29-20 Fed Com 3H
Position:
Offset is from Site centre
+N/-S: 0.00USft Northing: 401513.30USft Latitude: 32.102242°
+E/-W: 0.00USft Easting: 738311.72USft Longitude: -103.697207°
Elevation Above VRD: 3362.40USft

Well: Morab 29-20 Fed Com 3H
Type: Main-Well
File Number:

Plan Folder: P1 Plan: P1:V2
Vertical Section: Position offset of origin from Slot centre:
+N/-S: 0.00USft Azimuth: 1.79°
+E/-W: 0.00USft
Magnetic Parameters:
Model: Field Strength: Declination: Dip: Date:
bggm2016 48004(nt) 7.13° 59.94° 2016-11-15

Plan Data for Morab 29-20 Fed Com 3H

Target Set Information:											
Name: Morab 29-20 Fed Com 3H Tgts											
Position offsets from Slot centre											
Name	TVD Elevation	+N/-S	+E/-W	Northing	Easting						
(USft)	(USft)	(USft)	(USft)	(USft)	(USft)						
PBHL 3H	10496.00	-7108.60	7307.36	615.56	408820.66	738927.28					
VP	10025.88	-6638.48	-170.36	382.05	401342.94	738693.77					



Devon Energy, Morab 29-20 Fed Com 3H

1. Geologic Formations

TVD of target	10526	Pilot hole depth	N/A
MD at TD:	17830	Deepest expected fresh water:	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Rustler	978	Barren	
Top of Salt	1231	Barren	
Base of Salt	4291	Barren	
Bell Canyon	4564	Oil & Gas	
Cherry Canyon	5452		
Brushy Canyon	6599	Oil & Gas	
1 st Bone Spring Lime	8403		
1 st Bone Spring Sand	9503	Oil & Gas	
2 nd Bone Spring Lime	9726	Oil & Gas	
2 nd Bone Spring Sand	10083	Oil & Gas	
KOP	10025		
2 nd Bone Spring Target (Heel)	10536	Oil & Gas	
2 nd Bone Spring Target (Toe)	10496	Oil & Gas	

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

Devon Energy, Morab 29-20 Fed Com 3H

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn	SF Collapse	SF Burst	SF Tension
	From	To							
17.5"	0	1000	13.375"	48	J55	STC	1.74	2.45	4.13
12.25"	0	4315	9.625"	40	J55	LTC	1.19	1.42	3.98
8.75"	0	17830	5.5"	17	P-110	BTC	2.18	2.7	3.21
BLM Minimum Safety Factor							1.10	1.10	1.6 Dry 1.8 Wet

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

Must have table for contingency casing

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

3. Cementing Program

Devon Energy, Morab 29-20 Fed Com 3H

Casing	# Sks	Wt. lb/gal	H ₂ O gal/sk	Yld ft ³ /sack	500# Comp. Strength (hours)	Slurry Description
Surf.	778	14.8	6.32	1.33	7	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
Inter.	730	12.9	9.81	1.85	17	Lead: (65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake
	320	14.8	6.32	1.33	6	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
5-1/2" Prod	612	9	13.5	3.27	21	Lead: Tuned Light® Cement
	1962	14.5	5.31	1.2	25	Tail: (50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite
Prod.	810	12.5	10.86	1.96	30	1 st Lead: (65:35) Class H Cement: Poz (Fly Ash) + 6% BWOC Bentonite + 0.25% BWOC HR-601 + 0.125 lbs/sack Poly-E-Flake
	2030	14.5	5.31	1.2	25	1 st Tail: (50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite
	DV/ECP Tool 5000'					
	80	11	14.81	2.55	22	2 nd stage Lead: Tuned Light® Cement + 0.125 lb/sk Pol-E-Flake
	120	14.8	6.32	1.33	6	2 nd stage Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake

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

Casing String	TOC	% Excess
Surface	0'	100%
Intermediate	0'	75%
Production	1 st Stage = 5000' / 2 nd Stage = 4100'	25%

Devon Energy, Morab 29-20 Fed Com 3H

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
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BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
12-1/4"	13-5/8"	3M	Annular	x	50% of working pressure 3M
			Blind Ram		
			Pipe Ram		
			Double Ram	x	
			Other*		
8-3/4"	13-5/8"	3M	Annular	x	50% testing pressure 3M
			Blind Ram		
			Pipe Ram		
			Double Ram	x	
			Other*		
			Annular		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other*		

*Specify if additional ram is utilized.

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

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

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
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Devon Energy, Morab 29-20 Fed Com 3H

Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
	Y Are anchors required by manufacturer?
Y	A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. Devon proposes using a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 3000 (3M) psi. - Wellhead will be installed by wellhead representatives. - If the welding is performed by a third party, the wellhead representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal. - Wellhead representative will install the test plug for the initial BOP test. - Wellhead company will install a solid steel body pack-off to completely isolate the lower head after cementing intermediate casing. After installation of the pack-off, the pack-off and the lower flange will be tested to 3M, as shown on the attached schematic. Everything above the pack-off will not have been altered whatsoever from the initial nipple up. Therefore the BOP components will not be retested at that time. - If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head will be cut and top out operations will be conducted. - Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating. - Devon will test the casing to 0.22 psi/ft or 1500 psi, whichever is greater, as per Onshore Order #2. After running the 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 3M will be installed on the wellhead system and will undergo a 250 psi low pressure test followed by a 3,000 psi high pressure test. The 3,000 psi high and 250 psi low test will cover testing requirements a maximum of 30 days, as per Onshore Order #2. If the well is not complete within 30 days of this BOP test, another full BOP test will be conducted, as per Onshore Order #2. After running the 9-5/8" intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 3M will already be installed on the wellhead. The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 3,000 psi WP.

Devon Energy, Morab 29-20 Fed Com 3H

	Devon's proposed wellhead manufactures will be FMC Technologies, Cactus Wellhead, or Cameron. Devon requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line). The line will be kept as straight as possible with minimal turns.
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5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	1000	FW Gel	8.6-8.8	28-34	N/C
1000	4315	Saturated Brine	10.0-10.2	28-34	N/C
4315	17830	WBM	8.5-9.3	28-34	N/C

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
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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 ~100 RSWC planned to be taken in pilot hole; depth to be chosen based on logs

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

Devon Energy, Morab 29-20 Fed Com 3H

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4750 psi
Abnormal Temperature	No

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

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

8. Other facets of operation

Is this a walking operation? No.

Will be pre-setting casing? No.

Attachments

☒ Directional Plan

☐ Other, describe

**5D Plan Report**

Devon Energy

Field Name: *Lea Co, NM Nad 83 NMEZ*
Site Name: *Morab 29-20 Fed Com 3H*
Well Name: *Morab 29-20 Fed Com 3H*
Plan: *P1:V2*

6 October 2017





Morab 29-20 Fed Com 3H

Field Name: Lea Co, NM Nad 83 NMEZ	Map Units: US ft		Company Name: Devon Energy	
	Vertical Reference Datum (VRD): Mean Sea Level			
	Projected Coordinate System: NAD83 / New Mexico East (ftUS)			
	Comment:			
Site: Morab 29-20 Fed Com 3H	Units: US ft	North Reference: Grid	Convergence Angle: 0.34	
	Position:	Northing: 401513.30 US ft	Latitude: 32.102241952	
		Easting: 738311.72 US ft	Longitude: -103.697206986	
	Elevation above MSL: 3362.40 US ft		Comment:	
Slot: Morab 29-20 Fed Com 3H	Position (Relative to Site Centre)			
	+N/-S: 0.00 US ft	Northing: 401513.30 US ft	Latitude: 32.102241952	
	+E/-W: 0.00 US ft	Easting: 738311.72 US ft	Longitude: -103.697206986	
	Slot TVD Reference: Ground Elevation			
	Elevation above MSL: 3362.40 US ft			
	Comment:			
Well: Morab 29-20 Fed Com 3H	Type: Main well	UWI:	Plan: P1:V2	
	File Number:	Comment:		
	Closure Distance: 7333.24 US ft		Closure Azimuth: 4.82°	
	Vertical Section: Position of Origin (Relative to Slot centre)			
	+N/-S: 0.00 US ft	+E/-W: 0.00 US ft	Az: 1.79°	
	Magnetic Parameters:			
	Model: bggm2016	Field Strength: 48004.5nT	Declination: 7.13°	Dip: 59.94°
			Date: 15/Nov/2016	

Drill floor: Plan: P1:V2

Rig Height (Drill Floor): 25.00us ft	Elevation above MSL: 3387.40us ft	Inclination: 0.00°	Azimuth: 0.00°
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Target set: Morab 29-20 Fed Com 3H Tgts Comment:

Target Name:	Shape:	TVD (US ft)	N. Offset (US ft)	E. Offset (US ft)	Northing (USft)	Easting (USft)	Comment
PBHL 3H	Point	10496.00	7307.36	615.56	408820.66	738927.28	
VP	Point	10025.88	-170.36	382.05	401342.94	738693.77	

Wellpath created using minimum curvature.

Tie Point:

MD: 0.00USFt	Inclination: 0.00°	Azimuth: 0.00°	TVD: 0.00USFt	North Offset: 0.00USFt	East Offset: 0.00USFt
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5D Plan Report

Salient Points: (Relative to Slot centre) (TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
5568.00	0.00	0.00	5568.00	0.00	0.00	0.00	401513.30	738311.72	0.00	Nudge 1° DLS
6268.09	7.00	114.03	6266.35	-16.17	-17.40	39.02	401495.90	738350.74	1.00	Hold
8648.67	7.00	114.03	8629.18	-126.00	-135.57	304.02	401377.73	738615.74	0.00	Drop .5° DLS
10048.85	0.00	0.00	10025.88	-158.34	-170.36	382.05	401342.94	738693.77	0.50	KOP- Build 10° DLS
10248.85	20.00	1.79	10221.84	-123.79	-135.82	383.13	401377.48	738694.85	10.00	Build 12° DLS
10834.91	90.33	1.79	10536.00	327.61	315.36	397.22	401828.66	738708.94	12.00	Landing Pt
17830.44	90.33	1.79	10496.00	7323.02	7307.36	615.56	408820.66	738927.28	0.00	PBHL 3H

Interpolated Points: (Relative to Slot centre) (TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
1100.00	0.00	0.00	1100.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
1200.00	0.00	0.00	1200.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
1300.00	0.00	0.00	1300.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
1700.00	0.00	0.00	1700.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
1900.00	0.00	0.00	1900.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
2100.00	0.00	0.00	2100.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
2300.00	0.00	0.00	2300.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
2600.00	0.00	0.00	2600.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
2700.00	0.00	0.00	2700.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
2800.00	0.00	0.00	2800.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
2900.00	0.00	0.00	2900.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
3000.00	0.00	0.00	3000.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
3100.00	0.00	0.00	3100.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
3200.00	0.00	0.00	3200.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
3300.00	0.00	0.00	3300.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
3400.00	0.00	0.00	3400.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
3500.00	0.00	0.00	3500.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
3600.00	0.00	0.00	3600.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
3700.00	0.00	0.00	3700.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
3800.00	0.00	0.00	3800.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
3900.00	0.00	0.00	3900.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
4000.00	0.00	0.00	4000.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
4100.00	0.00	0.00	4100.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
4200.00	0.00	0.00	4200.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
4300.00	0.00	0.00	4300.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
4400.00	0.00	0.00	4400.00	0.00	0.00	0.00	401513.30	738311.72	0.00	

5D Plan Report

Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N. Offset (US ft)	E. Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
4500.00	0.00	0.00	4500.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
4600.00	0.00	0.00	4600.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
4700.00	0.00	0.00	4700.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
4800.00	0.00	0.00	4800.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
4900.00	0.00	0.00	4900.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
5000.00	0.00	0.00	5000.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
5100.00	0.00	0.00	5100.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
5200.00	0.00	0.00	5200.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
5300.00	0.00	0.00	5300.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
5400.00	0.00	0.00	5400.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
5500.00	0.00	0.00	5500.00	0.00	0.00	0.00	401513.30	738311.72	0.00	
5568.00	0.00	0.00	5568.00	0.00	0.00	0.00	401513.30	738311.72	0.00	Nudge 1° DLS
5600.00	0.32	114.03	5600.00	-0.03	-0.04	0.08	401513.26	738311.80	1.00	
5700.00	1.32	114.03	5699.99	-0.58	-0.62	1.39	401512.68	738313.11	1.00	
5800.00	2.32	114.03	5799.94	-1.78	-1.91	4.29	401511.39	738316.01	1.00	
5900.00	3.32	114.03	5899.81	-3.64	-3.92	8.78	401509.38	738320.50	1.00	
6000.00	4.32	114.03	5999.59	-6.16	-6.63	14.87	401506.67	738326.59	1.00	
6100.00	5.32	114.03	6099.24	-9.34	-10.05	22.54	401503.25	738334.26	1.00	
6200.00	6.32	114.03	6198.72	-13.18	-14.18	31.80	401499.12	738343.52	1.00	
6268.09	7.00	114.03	6266.35	-16.17	-17.40	39.02	401495.90	738350.74	1.00	Hold
6300.00	7.00	114.03	6298.02	-17.64	-18.98	42.57	401494.32	738354.29	0.00	
6400.00	7.00	114.03	6397.28	-22.26	-23.95	53.70	401489.35	738365.42	0.00	
6500.00	7.00	114.03	6496.53	-26.87	-28.91	64.83	401484.39	738376.55	0.00	
6600.00	7.00	114.03	6595.78	-31.48	-33.87	75.96	401479.43	738387.68	0.00	
6700.00	7.00	114.03	6695.04	-36.10	-38.84	87.10	401474.46	738398.82	0.00	
6800.00	7.00	114.03	6794.29	-40.71	-43.80	98.23	401469.50	738409.95	0.00	
6900.00	7.00	114.03	6893.55	-45.32	-48.76	109.36	401464.54	738421.08	0.00	
7000.00	7.00	114.03	6992.80	-49.94	-53.73	120.49	401459.57	738432.21	0.00	
7100.00	7.00	114.03	7092.06	-54.55	-58.69	131.62	401454.61	738443.34	0.00	
7200.00	7.00	114.03	7191.31	-59.17	-63.66	142.75	401449.64	738454.47	0.00	
7300.00	7.00	114.03	7290.57	-63.78	-68.62	153.89	401444.68	738465.61	0.00	
7400.00	7.00	114.03	7389.82	-68.39	-73.58	165.02	401439.72	738476.74	0.00	
7500.00	7.00	114.03	7489.07	-73.01	-78.55	176.15	401434.75	738487.87	0.00	
7600.00	7.00	114.03	7588.33	-77.62	-83.51	187.28	401429.79	738499.00	0.00	
7700.00	7.00	114.03	7687.58	-82.23	-88.47	198.41	401424.83	738510.13	0.00	
7800.00	7.00	114.03	7786.84	-86.85	-93.44	209.55	401419.86	738521.27	0.00	
7900.00	7.00	114.03	7886.09	-91.46	-98.40	220.68	401414.90	738532.40	0.00	
8000.00	7.00	114.03	7985.35	-96.08	-103.37	231.81	401409.93	738543.53	0.00	
8100.00	7.00	114.03	8084.60	-100.69	-108.33	242.94	401404.97	738554.66	0.00	
8200.00	7.00	114.03	8183.86	-105.30	-113.29	254.07	401400.01	738565.79	0.00	
8300.00	7.00	114.03	8283.11	-109.92	-118.26	265.21	401395.04	738576.93	0.00	
8400.00	7.00	114.03	8382.36	-114.53	-123.22	276.34	401390.08	738588.06	0.00	
8500.00	7.00	114.03	8481.62	-119.14	-128.19	287.47	401385.11	738599.19	0.00	
8600.00	7.00	114.03	8580.87	-123.76	-133.15	298.60	401380.15	738610.32	0.00	
8648.67	7.00	114.03	8629.18	-126.00	-135.57	304.02	401377.73	738615.74	0.00	Drop .5° DLS
8700.00	6.74	114.03	8680.14	-128.33	-138.07	309.63	401375.23	738621.35	0.50	
8800.00	6.24	114.03	8779.50	-132.61	-142.67	319.96	401370.63	738631.68	0.50	
8900.00	5.74	114.03	8878.95	-136.56	-146.93	329.50	401366.37	738641.22	0.50	
9000.00	5.24	114.03	8978.49	-140.19	-150.83	338.24	401362.47	738649.96	0.50	
9100.00	4.74	114.03	9078.11	-143.48	-154.37	346.19	401358.93	738657.91	0.50	
9200.00	4.24	114.03	9177.80	-146.45	-157.56	353.35	401355.74	738665.07	0.50	
9300.00	3.74	114.03	9277.56	-149.08	-160.40	359.71	401352.90	738671.43	0.50	
9400.00	3.24	114.03	9377.38	-151.39	-162.88	365.28	401350.42	738677.00	0.50	
9500.00	2.74	114.03	9477.24	-153.37	-165.01	370.05	401348.29	738681.77	0.50	
9600.00	2.24	114.03	9577.14	-155.02	-166.78	374.02	401346.52	738685.74	0.50	
9700.00	1.74	114.03	9677.08	-156.33	-168.20	377.20	401345.10	738688.92	0.50	
9800.00	1.24	114.03	9777.05	-157.32	-169.26	379.58	401344.04	738691.30	0.50	
9900.00	0.74	114.03	9877.03	-157.98	-169.97	381.17	401343.33	738692.89	0.50	

5D Plan Report

Interpolated Points (Relative to Slot centre)(TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (%/100US ft)	Comment
10000.00	0.24	114.03	9977.03	-158.30	-170.32	381.95	401342.98	738693.67	0.50	
10048.85	0.00	0.00	10025.88	-158.34	-170.36	382.05	401342.94	738693.77	0.50	KOP- Build 10° DLS
10100.00	5.11	1.79	10076.96	-156.06	-168.08	382.12	401345.22	738693.84	10.00	
10200.00	15.11	1.79	10175.28	-138.52	-150.55	382.67	401362.75	738694.39	10.00	
10248.85	20.00	1.79	10221.84	-123.79	-135.82	383.13	401377.48	738694.85	10.00	Build 12° DLS
10300.00	26.14	1.79	10268.88	-103.76	-115.80	383.75	401397.50	738695.47	12.00	
10400.00	38.14	1.79	10353.40	-50.66	-62.73	385.41	401450.57	738697.13	12.00	
10500.00	50.14	1.79	10425.04	18.85	6.75	387.58	401520.05	738699.30	12.00	
10600.00	62.14	1.79	10480.65	101.74	89.60	390.17	401602.90	738701.89	12.00	
10700.00	74.14	1.79	10517.82	194.38	182.19	393.06	401695.49	738704.78	12.00	
10800.00	86.14	1.79	10534.92	292.72	280.48	396.13	401793.78	738707.85	12.00	
10834.91	90.33	1.79	10536.00	327.61	315.36	397.22	401828.66	738708.94	12.00	Landing Pt
10900.00	90.33	1.79	10535.63	392.69	380.41	399.25	401893.71	738710.97	0.00	
11000.00	90.33	1.79	10535.05	492.69	480.36	402.37	401993.66	738714.09	0.00	
11100.00	90.33	1.79	10534.48	592.69	580.31	405.49	402093.61	738717.21	0.00	
11200.00	90.33	1.79	10533.91	692.69	680.26	408.62	402193.56	738720.34	0.00	
11300.00	90.33	1.79	10533.34	792.69	780.21	411.74	402293.51	738723.46	0.00	
11400.00	90.33	1.79	10532.77	892.69	880.16	414.86	402393.46	738726.58	0.00	
11500.00	90.33	1.79	10532.19	992.69	980.11	417.98	402493.41	738729.70	0.00	
11600.00	90.33	1.79	10531.62	1092.68	1080.06	421.10	402593.36	738732.82	0.00	
11700.00	90.33	1.79	10531.05	1192.68	1180.01	424.22	402693.31	738735.94	0.00	
11800.00	90.33	1.79	10530.48	1292.68	1279.96	427.34	402793.26	738739.06	0.00	
11900.00	90.33	1.79	10529.91	1392.68	1379.91	430.46	402893.21	738742.18	0.00	
12000.00	90.33	1.79	10529.34	1492.68	1479.86	433.58	402993.16	738745.30	0.00	
12100.00	90.33	1.79	10528.76	1592.68	1579.81	436.71	403093.11	738748.43	0.00	
12200.00	90.33	1.79	10528.19	1692.67	1679.75	439.83	403193.05	738751.55	0.00	
12300.00	90.33	1.79	10527.62	1792.67	1779.70	442.95	403293.00	738754.67	0.00	
12400.00	90.33	1.79	10527.05	1892.67	1879.65	446.07	403392.95	738757.79	0.00	
12500.00	90.33	1.79	10526.48	1992.67	1979.60	449.19	403492.90	738760.91	0.00	
12600.00	90.33	1.79	10525.91	2092.67	2079.55	452.31	403592.85	738764.03	0.00	
12700.00	90.33	1.79	10525.33	2192.67	2179.50	455.43	403692.80	738767.15	0.00	
12800.00	90.33	1.79	10524.76	2292.66	2279.45	458.55	403792.75	738770.27	0.00	
12900.00	90.33	1.79	10524.19	2392.66	2379.40	461.67	403892.70	738773.39	0.00	
13000.00	90.33	1.79	10523.62	2492.66	2479.35	464.80	403992.65	738776.52	0.00	
13100.00	90.33	1.79	10523.05	2592.66	2579.30	467.92	404092.60	738779.64	0.00	
13200.00	90.33	1.79	10522.47	2692.66	2679.25	471.04	404192.55	738782.76	0.00	
13300.00	90.33	1.79	10521.90	2792.66	2779.20	474.16	404292.50	738785.88	0.00	
13400.00	90.33	1.79	10521.33	2892.65	2879.15	477.28	404392.45	738789.00	0.00	
13500.00	90.33	1.79	10520.76	2992.65	2979.10	480.40	404492.40	738792.12	0.00	
13600.00	90.33	1.79	10520.19	3092.65	3079.05	483.52	404592.35	738795.24	0.00	
13700.00	90.33	1.79	10519.62	3192.65	3179.00	486.64	404692.30	738798.36	0.00	
13800.00	90.33	1.79	10519.04	3292.65	3278.95	489.77	404792.25	738801.49	0.00	
13900.00	90.33	1.79	10518.47	3392.65	3378.90	492.89	404892.20	738804.61	0.00	
14000.00	90.33	1.79	10517.90	3492.64	3478.85	496.01	404992.15	738807.73	0.00	
14100.00	90.33	1.79	10517.33	3592.64	3578.80	499.13	405092.10	738810.85	0.00	
14200.00	90.33	1.79	10516.76	3692.64	3678.75	502.25	405192.05	738813.97	0.00	
14300.00	90.33	1.79	10516.19	3792.64	3778.70	505.37	405292.00	738817.09	0.00	
14400.00	90.33	1.79	10515.61	3892.64	3878.65	508.49	405391.95	738820.21	0.00	
14500.00	90.33	1.79	10515.04	3992.64	3978.60	511.61	405491.90	738823.33	0.00	
14600.00	90.33	1.79	10514.47	4092.63	4078.55	514.73	405591.85	738826.45	0.00	
14700.00	90.33	1.79	10513.90	4192.63	4178.50	517.86	405691.80	738829.58	0.00	
14800.00	90.33	1.79	10513.33	4292.63	4278.45	520.98	405791.75	738832.70	0.00	
14900.00	90.33	1.79	10512.76	4392.63	4378.40	524.10	405891.70	738835.82	0.00	
15000.00	90.33	1.79	10512.18	4492.63	4478.34	527.22	405991.64	738838.94	0.00	
15100.00	90.33	1.79	10511.61	4592.63	4578.29	530.34	406091.59	738842.06	0.00	
15200.00	90.33	1.79	10511.04	4692.62	4678.24	533.46	406191.54	738845.18	0.00	
15300.00	90.33	1.79	10510.47	4792.62	4778.19	536.58	406291.49	738848.30	0.00	

5D Plan Report

Interpolated Points (Relative to Slot centre) (TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N. Offset (US ft)	E. Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
15400.00	90.33	1.79	10509.90	4892.62	4878.14	539.70	406391.44	738851.42	0.00	
15500.00	90.33	1.79	10509.32	4992.62	4978.09	542.82	406491.39	738854.54	0.00	
15600.00	90.33	1.79	10508.75	5092.62	5078.04	545.95	406591.34	738857.67	0.00	
15700.00	90.33	1.79	10508.18	5192.62	5177.99	549.07	406691.29	738860.79	0.00	
15800.00	90.33	1.79	10507.61	5292.61	5277.94	552.19	406791.24	738863.91	0.00	
15900.00	90.33	1.79	10507.04	5392.61	5377.89	555.31	406891.19	738867.03	0.00	
16000.00	90.33	1.79	10506.47	5492.61	5477.84	558.43	406991.14	738870.15	0.00	
16100.00	90.33	1.79	10505.89	5592.61	5577.79	561.55	407091.09	738873.27	0.00	
16200.00	90.33	1.79	10505.32	5692.61	5677.74	564.67	407191.04	738876.39	0.00	
16300.00	90.33	1.79	10504.75	5792.61	5777.69	567.79	407290.99	738879.51	0.00	
16400.00	90.33	1.79	10504.18	5892.61	5877.64	570.91	407390.94	738882.63	0.00	
16500.00	90.33	1.79	10503.61	5992.60	5977.59	574.04	407490.89	738885.76	0.00	
16600.00	90.33	1.79	10503.04	6092.60	6077.54	577.16	407590.84	738888.88	0.00	
16700.00	90.33	1.79	10502.46	6192.60	6177.49	580.28	407690.79	738892.00	0.00	
16800.00	90.33	1.79	10501.89	6292.60	6277.44	583.40	407790.74	738895.12	0.00	
16900.00	90.33	1.79	10501.32	6392.60	6377.39	586.52	407890.69	738898.24	0.00	
17000.00	90.33	1.79	10500.75	6492.60	6477.34	589.64	407990.64	738901.36	0.00	
17100.00	90.33	1.79	10500.18	6592.59	6577.29	592.76	408090.59	738904.48	0.00	
17200.00	90.33	1.79	10499.60	6692.59	6677.24	595.88	408190.54	738907.60	0.00	
17300.00	90.33	1.79	10499.03	6792.59	6777.19	599.00	408290.49	738910.72	0.00	
17400.00	90.33	1.79	10498.46	6892.59	6877.14	602.13	408390.44	738913.85	0.00	
17500.00	90.33	1.79	10497.89	6992.59	6977.09	605.25	408490.39	738916.97	0.00	
17600.00	90.33	1.79	10497.32	7092.59	7077.04	608.37	408590.34	738920.09	0.00	
17700.00	90.33	1.79	10496.75	7192.58	7176.99	611.49	408690.29	738923.21	0.00	
17800.00	90.33	1.79	10496.17	7292.58	7276.94	614.61	408790.24	738926.33	0.00	
17830.44	90.33	1.79	10496.00	7323.02	7307.36	615.56	408820.66	738927.28	0.00	PBHL 3H



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

Hydrogen Sulfide (H₂S) Contingency Plan

For

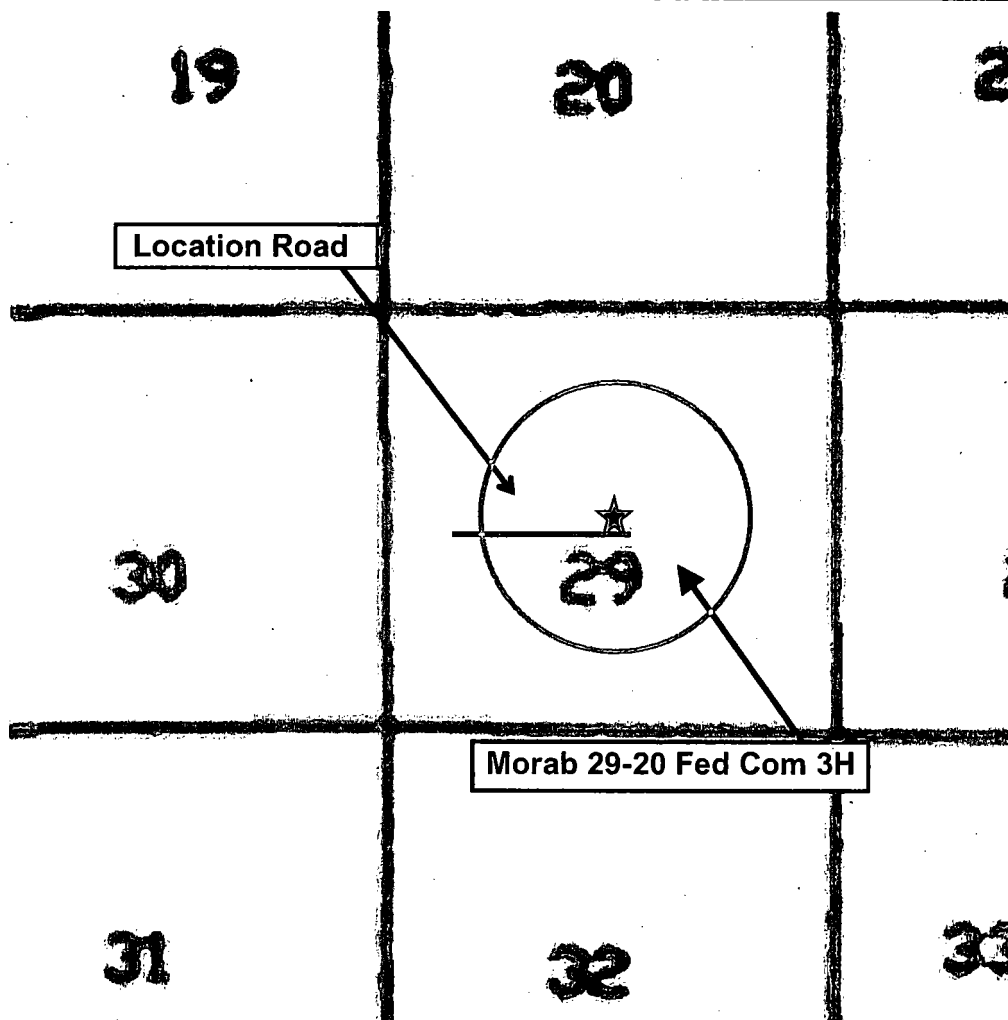
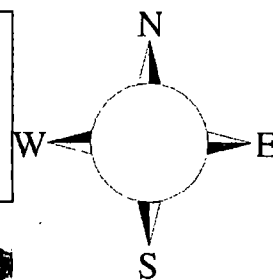
Morab 29-20 Fed Com 3H

**Sec-29 T-25S R-32E
2317' FNL & 2652' FEL
LAT. = 32.1022420' N (NAD83)
LONG = 103.6972070' W**

Lea County NM

Morab 29-20 Fed Com 3H

This is an open drilling site. H₂S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H₂S, including warning signs, wind indicators and H₂S monitor.



Assumed 100 ppm H₂S 3000' (Radius of Exposure)
100 ppm H₂S concentration shall trigger activation of this plan.

Escape

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

Assumed 100 ppm ROE = 3000'

100 ppm H₂S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H₂S, 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 H₂S 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 H₂S, 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 (SO₂). 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 H₂S and SO₂

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

Contacting Authorities

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

Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE (H₂S) 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 (H₂S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H₂S 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 H₂S 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 H₂S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan.

II. HYDROGEN SULFIDE TRAINING

Note: All H₂S 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 H₂S.

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. H₂S detection and monitoring equipment:

Portable H₂S monitors positioned on location for best coverage and response. These units have warning lights which activate when H₂S levels reach 10 ppm and audible sirens which activate at 15 ppm. Sensor locations:

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

Visual warning systems:

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

4. Mud program:

The mud program has been designed to minimize the volume of H₂S circulated to surface. Proper mud weight, safe drilling practices and the use of H₂S scavengers will minimize hazards when penetrating H₂S bearing zones.

5. Metallurgy:

- A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold lines, and valves shall be H₂S trim.
- B. All elastomers used for packing and seals shall be H₂S trim.

6. Communication:

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

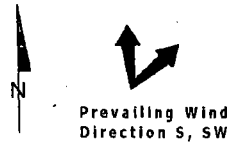
7. Well testing:

- 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 H₂S environment will use the closed chamber method of testing.
- B. There will be no drill stem testing.

<u>Devon Energy Corp. Company Call List</u>		
Drilling Supervisor – Basin – Mark Kramer		405-823-4796
Jerry Matthews – Day: 575-748-0161 Cell: 575-748-5234		
EHS Professional – Jason Robison		405-541-2841
<u>Agency Call List</u>		
<u>Lea County (575)</u>	Hobbs	
	Lea County Communication Authority	393-3981
	State Police	392-5588
	City Police	397-9265
	Sheriff's Office	393-2515
	Ambulance	911
	Fire Department	397-9308
	LEPC (Local Emergency Planning Committee)	393-2870
	NMOCD	393-6161
	US Bureau of Land Management	393-3612
<u>Eddy County (575)</u>	Carlsbad	
	State Police	885-3137
	City Police	885-2111
	Sheriff's Office	887-7551
	Ambulance	911
	Fire Department	885-3125
	LEPC (Local Emergency Planning Committee)	887-3798
	US Bureau of Land Management	887-6544
	NM Emergency Response Commission (Santa Fe)	(505) 476-9600
	24 HR	(505) 827-9126
	National Emergency Response Center	(800) 424-8802
	National Pollution Control Center: Direct	(703) 872-6000
	For Oil Spills	(800) 280-7118
	Emergency Services	
	Wild Well Control	(281) 784-4700
	Cudd Pressure Control	(915) 699-0139 (915) 563-3356
	Halliburton	(575) 746-2757
	B. J. Services	(575) 746-3569
<u>Give GPS position:</u>	Native Air – Emergency Helicopter – Hobbs	(575) 392-6429
	Flight For Life - Lubbock, TX	(806) 743-9911
	Aerocare - Lubbock, TX	(806) 747-8923
	Med Flight Air Amb - Albuquerque, NM	(575) 842-4433
	Lifeguard Air Med Svc. Albuquerque, NM	(800) 222-1222
	Poison Control (24/7)	(575) 272-3115
	Oil & Gas Pipeline 24 Hour Service	(800) 364-4366
	NOAA – Website - www.nhc.noaa.gov	

Prepared in conjunction with
Dave Small





Devon Energy - Well Pad Rig Location Layout Safety Equipment Location

