

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

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.

5. Lease Serial No.
NMNM0503

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.
COTTON DRAW UNIT 277H

9. API Well No.
30-015-43741

10. Field and Pool, or Exploratory
COTTON DRAW; DELAWARE, S

11. County or Parish, and State
EDDY COUNTY, NM

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well
 Oil Well Gas Well Other

2. Name of Operator
DEVON ENERGY PROD CO., L.P. Contact: LINDA GOOD
E-Mail: linda.good@dvn.com

3a. Address
333 WEST SHERIDAN AVE.
OKLAHOMA CITY, OK 73102

3b. Phone No. (include area code)
Ph: 405-552-6558

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
Sec 13 T25S R31E Mer NMP NWNE 330FNL 2010FEL

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Change to Original APD
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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 recomple 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 shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recomple in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Devon respectfully requests to change the SHL from 330 FNL 1770 FEL to 330 FNL 2010 FEL and change the BHL from 330 FNL 1980 FEL to 290 FNL 1980 FEL on the Cotton Draw Unit 277H as per new C102. Devon also respectfully request to update our cement program to reflect a single stage cement job for our primary cement job with a contingency option reflecting a 2 stage DV tool/ECP job. Please see attached updated cement program, directional plan, C102, and casing design.

NM OIL CONSERVATION
ARTESIA DISTRICT

SEP 06 2016

RECEIVED

NRS Review JB 08/29/16 Follow existing COA's
Engineering Review Okay. 08/26/2016. C. Nimmer.

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

Electronic Submission #346925 verified by the BLM Well Information System
For DEVON ENERGY PROD CO., L.P., sent to the Carlsbad
Committed to AFMSS for processing by DEBORAH MCKINNEY on 08/23/2016 ()

Name (Printed/Typed) LINDA GOOD Title REGULATORY SPECIALIST

Signature (Electronic Submission) Date 08/05/2016

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By *Leah A. Hyster* Title *for* FIELD MANAGER Date *08/29/16*

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.

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

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 30-015-43741		² Pool Code 96757		³ Pool Name Cotton Draw, Delaware, South	
⁴ Property Code 300635		⁵ Property Name COTTON DRAW UNIT			⁶ Well Number 277H
⁷ OGRID No. 6137		⁸ Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.			⁹ Elevation 3401.3

¹⁰ Surface Location

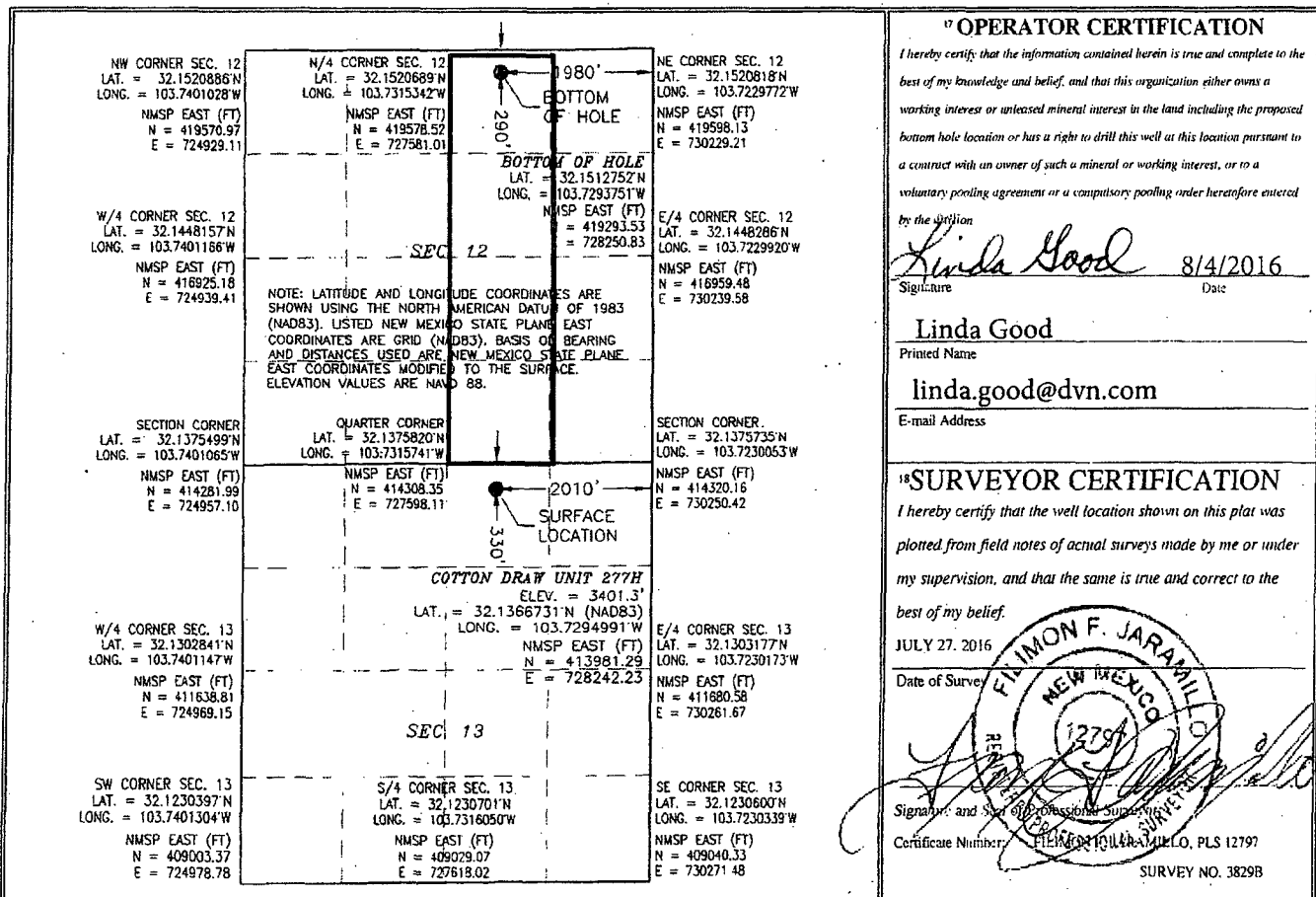
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	13	25 S	31 E		330	NORTH	2010	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	12	25 S	31 E		290	NORTH	1980	EAST	EDDY

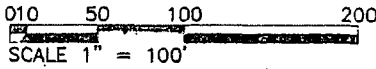
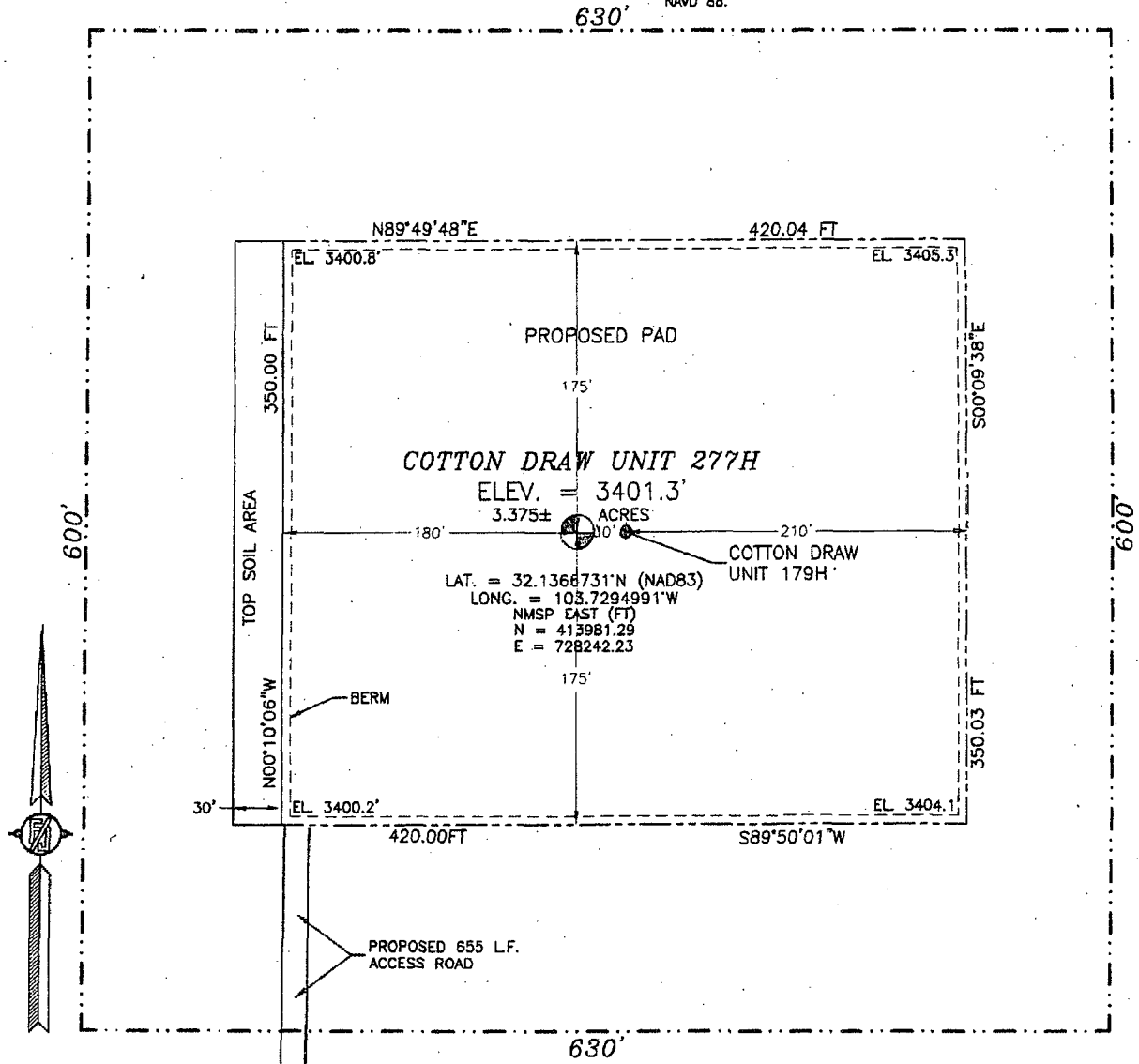
¹² Dedicated Acres 160.00	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



SECTION 13, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 SITE MAP

NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83). LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE. ELEVATION VALUES ARE NAVD 88.



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF HWY #128 AND COUNTY ROAD #1 (ORLA HWY) GO SOUTH ON COUNTY ROAD #1 APPROX. 6.0 MILES TO MONSANTO ROAD ON RIGHT (WEST) TURN WEST ON MONSANTO ROAD GO APPROX. 2.1 MILES ROAD TURNS RIGHT (NORTH) GO APPROX. 0.9 MILE ROAD TURNS LEFT (WEST) GO APPROX. 1.31 MILES TO ROAD LATH WITH ORANGE FLAGGING ON RIGHT SIDE OF ROAD (NORTH) FOLLOW ROAD LATHS NORTH GO APPROX 0.12 MILE TO LOCATION.

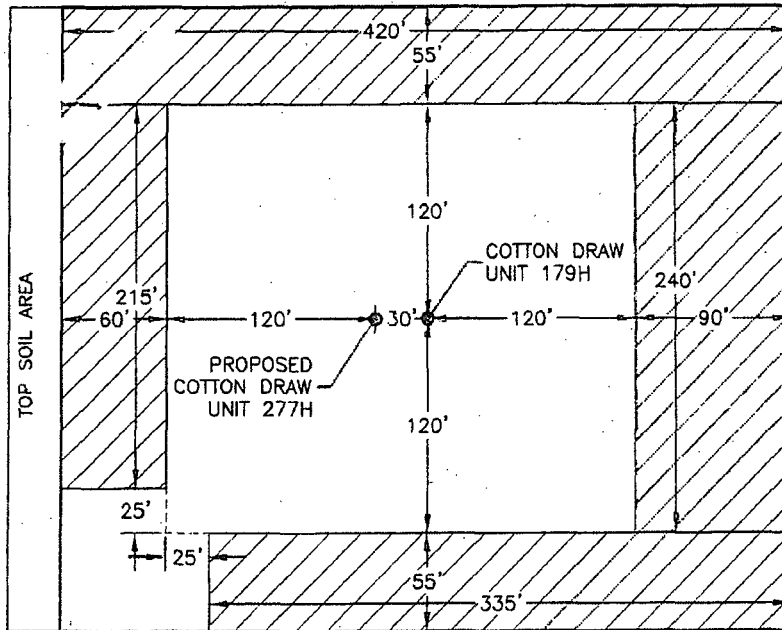
DEVON ENERGY PRODUCTION COMPANY, L.P.
COTTON DRAW UNIT 277H
 LOCATED 330 FT. FROM THE NORTH LINE
 AND 2010 FT. FROM THE EAST LINE OF
 SECTION 13, TOWNSHIP 25 SOUTH,
 RANGE 31 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

JULY 27, 2016

SURVEY NO. 3829B

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

**PROPOSED INTERIM SITE RECLAMATION
FOR COTTON DRAW UNIT 277H
SECTION 13, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO**



0 10 50 100 200
SCALE 1" = 100'

PROPOSED 655 LF.
ACCESS ROAD

DENOTES RECLAMATION AREA
1.744± ACRES RECLAMATION AREA

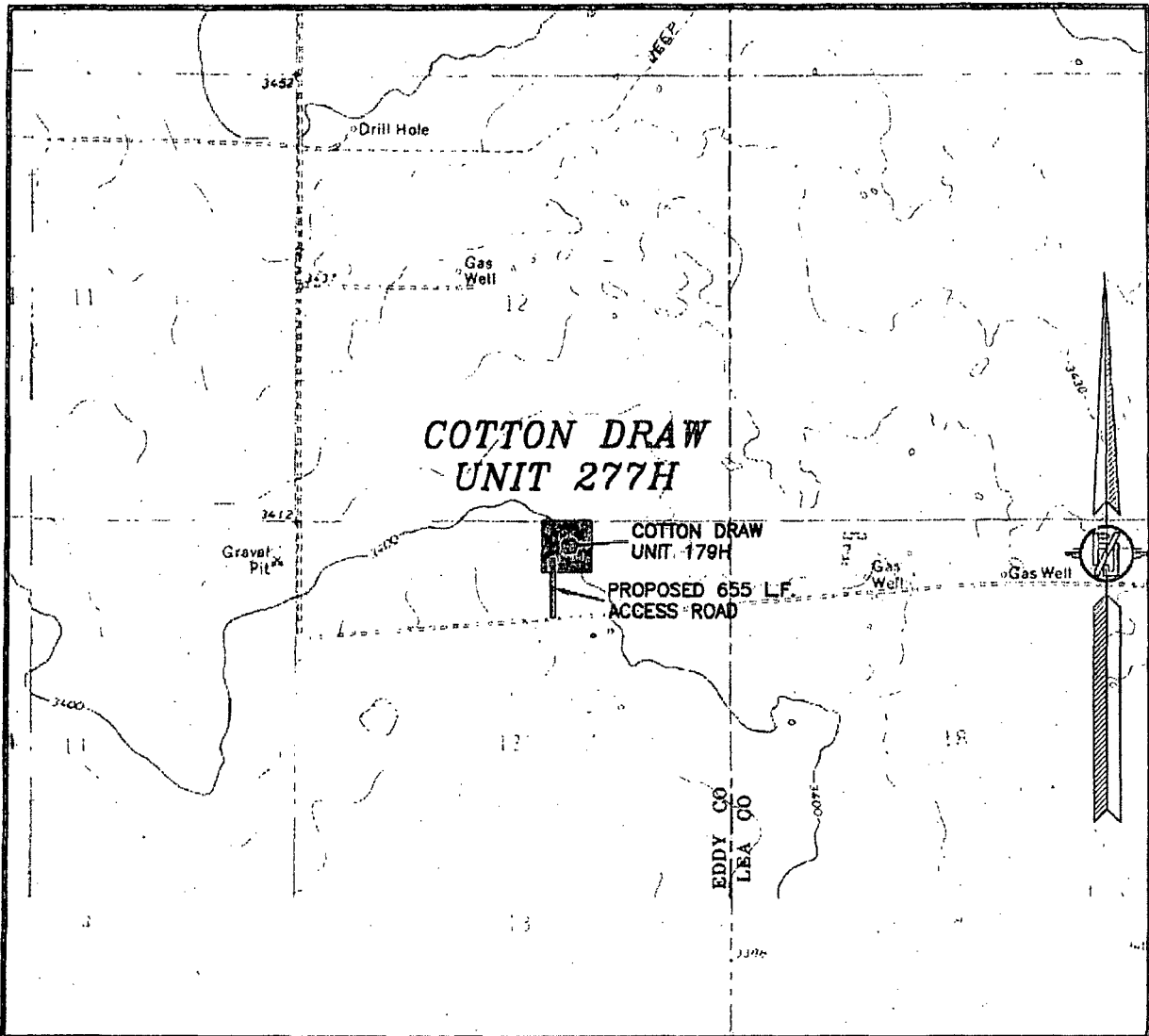
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EDDY COUNTY, STATE OF NEW MEXICO**

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(575) 234-3341

SECTION 13, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LOCATION VERIFICATION MAP



USGS QUAD MAP:
PADUCA BREAKS NW
PADUCA BREAKS WEST

NOT TO SCALE

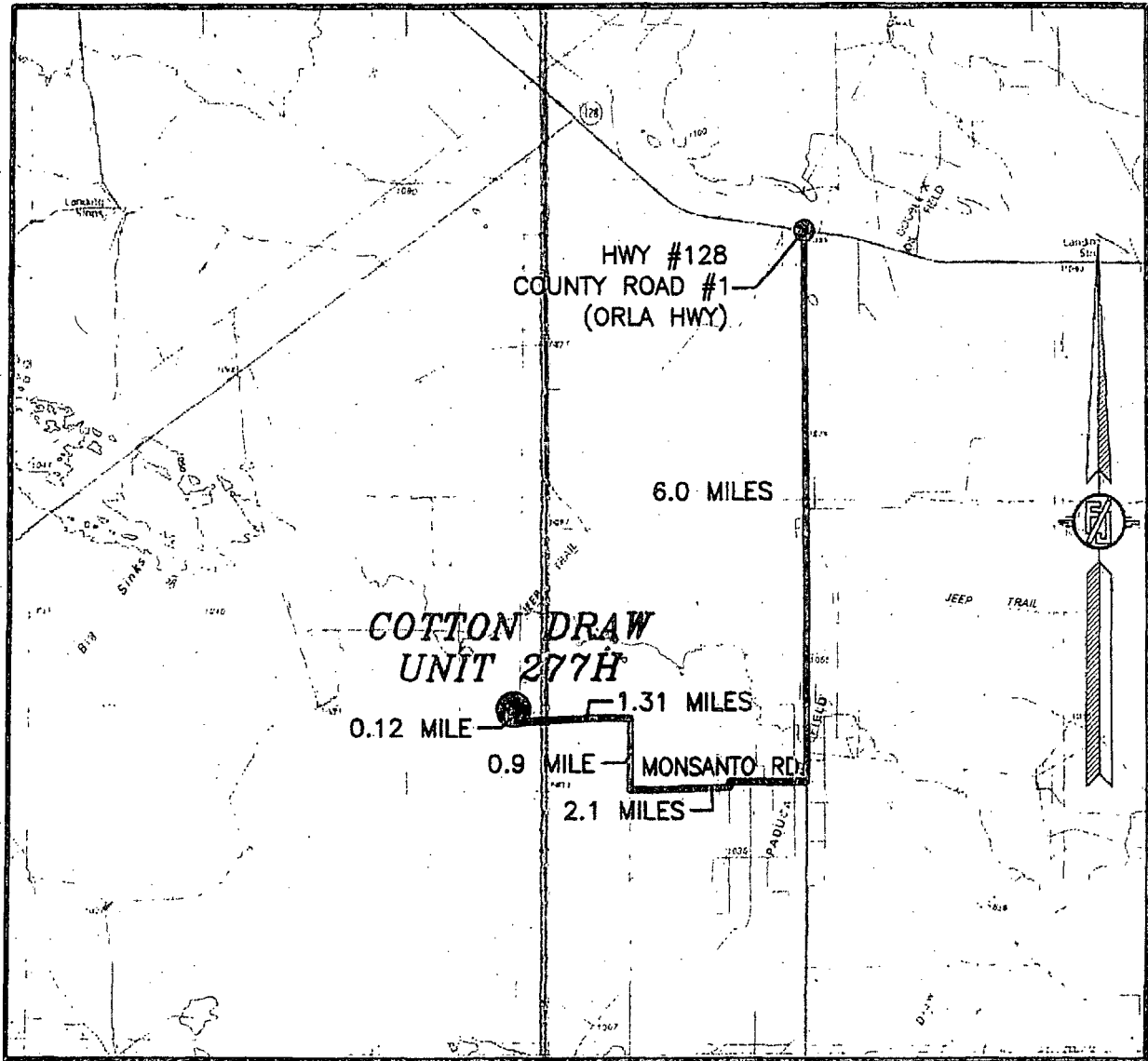
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(575) 234-3341

SECTION 13, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DIRECTIONS TO LOCATION
 FROM THE INTERSECTION OF HWY #128 AND COUNTY ROAD #1 (ORLA HWY) GO SOUTH ON COUNTY ROAD #1 APPROX. 6.0 MILES TO MONSANTO ROAD ON RIGHT (WEST) TURN WEST ON MONSANTO ROAD GO APPROX. 2.1 MILES ROAD TURNS RIGHT (NORTH) GO APPROX. 0.9 MILE ROAD TURNS LEFT (WEST) GO APPROX. 1.31 MILES TO ROAD LATH WITH ORANGE FLAGGING ON RIGHT SIDE OF ROAD (NORTH) FOLLOW ROAD LATHS NORTH GO APPROX 0.12 MILE TO LOCATION.

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 EDDY COUNTY, STATE OF NEW MEXICO

JULY 27, 2016

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

SECTION 13, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
APR. 2014

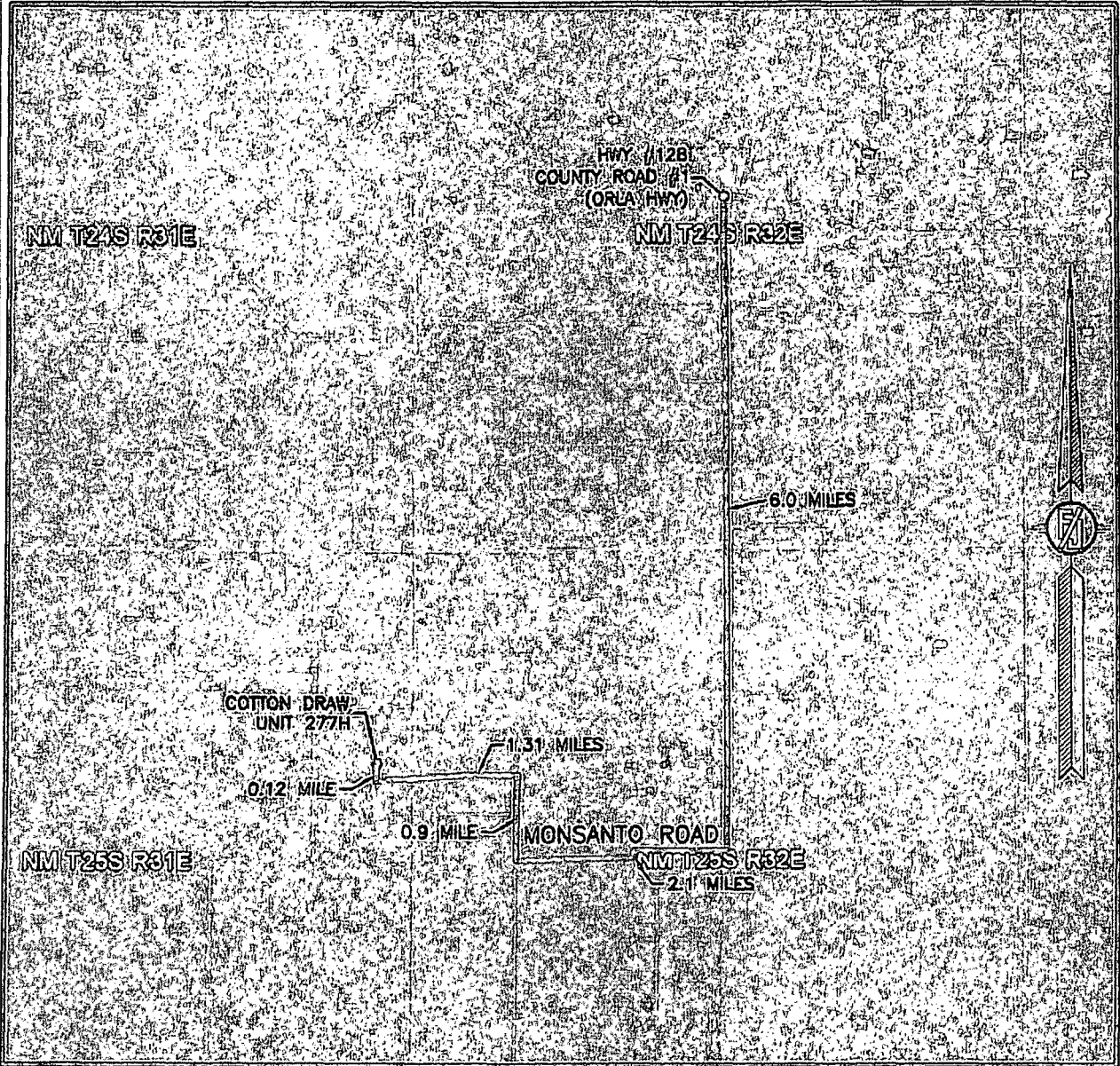
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RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

JULY 27, 2016

SURVEY NO. 3829B

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

SECTION 13, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 AERIAL ACCESS ROUTE MAP



NOT TO SCALE
 AERIAL PHOTO:
 GOOGLE EARTH
 APR. 2014

DEVON ENERGY PRODUCTION COMPANY, L.P.
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 EDDY COUNTY, STATE OF NEW MEXICO

JULY 27, 2016

SURVEY NO. 3829B

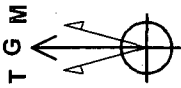
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

Cement Program

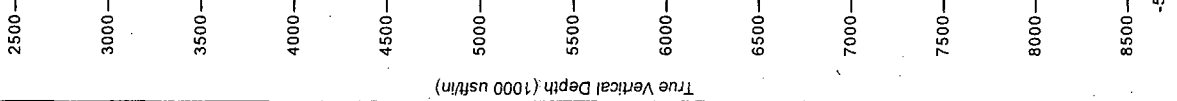
Casing	# Sks	Wt. lb/gal	H ₂ O gal/sk	Yld ft ³ /sack	500# Comp. Strength h (hours)	Slurry Description
13-3/8" Surf.	560	14.8	6.32	1.33	7	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
9-5/8" Inter.	700	12.9	9.81	1.85	17	Lead: (65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake
	310	14.8	6.32	1.33	6	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
5-1/2" Prod	365	9	13.5	3.27	21	Lead: Tuned Light® Cement
	1250	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
5-1/2" Prod Two Stage	365	10.9	20.6	3.31	24	1 st Stage Lead: (50:40:10) Class C: Silicalite: Enhancer 923 + 10% BWOC Bentonite + 0.05% BWOC SA-1015 + 0.3% BWOC HR-800 + 0.2% BWOC FE-2 + 0.125 lb/sk Pol-E-Flake + 0.5 lb/sk D-Air 5000
	1250	14.5	5.31	1.2	25	1 st Stage 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 Tool = 4220ft					
	20	10.9	20.6	3.31	24	2 nd Stage Lead: (50:40:10) Class C: Silicalite: Enhancer 923 + 10% BWOC Bentonite + 0.05% BWOC SA-1015 + 0.3% BWOC HR-800 + 0.2% BWOC FE-2 + 0.125 lb/sk Pol-E-Flake + 0.5 lb/sk D-Air 5000
	30	14.8	6.32	1.33	6	2 nd Stage Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake



Project: Eddy County, NM (NAD-83)
 Site: Cotton Draw Unit
 Well: 277H
 Wellbore: OH
 Design: APD Plan #1



Azimuths to Grid North
 True North: -0.32°
 Magnetic North: 6.63°
 Magnetic Field
 Strength: 48140.1snT
 Dip Angle: 59.90°
 Date: 8/1/2016
 Model: HDGM

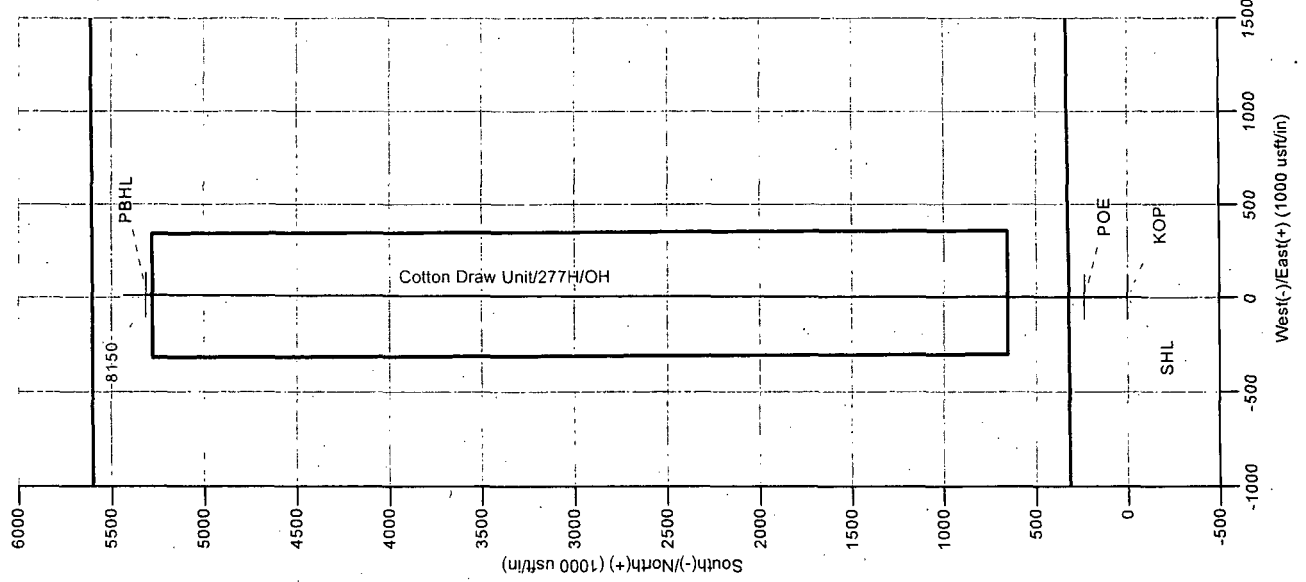


PROJECT DETAILS: Eddy County, NM (NAD-83)	
Geodetic System:	US State Plane 1983
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone:	New Mexico Eastern Zone

WELL DETAILS: 277H			
Northing	413981.29	Ground Level:	3401.30
Easting	728242.23	Latitude	32° 8' 12.023 N
Longitude	103° 43' 46.197 W		

SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7607.05	0.00	0.00	7607.05	0.00	0.00	0.00	0.00	0.00
8510.68	90.36	0.09	8180.00	576.59	0.93	10.00	0.09	576.59
13246.43	90.36	0.09	8150.00	5312.24	8.60	0.00	0.00	5312.25

KOP: 324.38' FNL / 2009.52' FEL
 POE: 86.92' FNL / 2008.19' FEL



DEVON ENERGY

Eddy County, NM (NAD-83)

Cotton Draw Unit

277H

OH

Plan: APD Plan #1

Standard Planning Report

01 August, 2016

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Single User Db
Company: DEVON ENERGY
Project: Eddy County, NM (NAD-83)
Site: Cotton Draw Unit
Well: 277H
Wellbore: OH
Design: APD Plan #1

Local Co-ordinate Reference: Well 277H
TVD Reference: 3401.3' GE + 25' KB @ 3426.30usft
MD Reference: 3401.3' GE + 25' KB @ 3426.30usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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

Site: Cotton Draw Unit			
Site Position:	Northing: 419,194.51 usft	Latitude:	32° 9' 3.901 N
From: Map	Easting: 722,955.98 usft	Longitude:	103° 44' 47.345 W
Position Uncertainty: 0.00 usft	Slot Radius: 13-3/16 "	Grid Convergence:	0.31 °

Well: 277H, Delaware			
Well Position	+N-S -5,213.22 usft	Northing: 413,981.29 usft	Latitude: 32° 8' 12.023 N
	+E-W 5,286.25 usft	Easting: 728,242.23 usft	Longitude: 103° 43' 46.197 W
Position Uncertainty	0.00 usft	Wellhead Elevation: 3,426.30 usft	Ground Level: 3,401.30 usft

Wellbore: OH					
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM	8/1/2016	6.95	59.90	48,140

Design: APD Plan #1				
Audit Notes:				
Version:	Phase: PLAN	Tie On Depth:	0.00	
Vertical Section	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)
	0.00	0.00	0.00	0.09

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,607.05	0.00	0.00	7,607.05	0.00	0.00	0.00	0.00	0.00	0.00	
8,510.68	90.36	0.09	8,180.00	576.59	0.93	10.00	10.00	0.01	0.09	
13,246.43	90.36	0.09	8,150.00	5,312.24	8.60	0.00	0.00	0.00	0.00	PBHL (CDU 277H)

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Single User Db
Company: DEVON ENERGY
Project: Eddy County, NM (NAD-83)
Site: Cotton Draw Unit
Well: 277H
Wellbore: OH
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MD Reference: 3401.3' GE + 25' KB @ 3426.30usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHL (CDU 277H)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
645.00	0.00	0.00	645.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,005.00	0.00	0.00	1,005.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,154.00	0.00	0.00	4,154.00	0.00	0.00	0.00	0.00	0.00	0.00
Base Salt									
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,374.00	0.00	0.00	4,374.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Single User Db
Company: DEVON ENERGY
Project: Eddy County, NM (NAD-83)
Site: Cotton Draw Unit
Well: 277H
Wellbore: OH
Design: APD Plan #1

Local Co-ordinate Reference: Well 277H
TVD Reference: 3401.3' GE + 25' KB @ 3426.30usft
MD Reference: 3401.3' GE + 25' KB @ 3426.30usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,405.00	0.00	0.00	4,405.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bell Canyon										
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,357.00	0.00	0.00	5,357.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon										
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,719.00	0.00	0.00	6,719.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Brushy Canyon										
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7,607.05	0.00	0.00	7,607.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP 10° DLS - KOP (CDU 277H)										
7,650.00	4.30	0.09	7,649.96	1.61	0.00	1.61	10.00	10.00	0.00	0.00
7,700.00	9.30	0.09	7,699.59	7.52	0.01	7.52	10.00	10.00	0.00	0.00
7,750.00	14.30	0.09	7,748.52	17.74	0.03	17.74	10.00	10.00	0.00	0.00
7,800.00	19.30	0.09	7,796.37	32.18	0.05	32.18	10.00	10.00	0.00	0.00
7,850.00	24.30	0.09	7,842.78	50.74	0.08	50.74	10.00	10.00	0.00	0.00
7,900.00	29.30	0.09	7,887.40	73.27	0.12	73.27	10.00	10.00	0.00	0.00
7,950.00	34.30	0.09	7,929.89	99.61	0.16	99.61	10.00	10.00	0.00	0.00
8,000.00	39.30	0.09	7,969.91	129.55	0.21	129.55	10.00	10.00	0.00	0.00
8,050.00	44.30	0.09	8,007.18	162.86	0.26	162.86	10.00	10.00	0.00	0.00
8,100.00	49.30	0.09	8,041.40	199.29	0.32	199.30	10.00	10.00	0.00	0.00
8,148.63	54.16	0.09	8,071.51	237.46	0.38	237.46	10.00	10.00	0.00	0.00
POE - L Brushy - POE (CDU 277H)										
8,150.00	54.30	0.09	8,072.31	238.57	0.39	238.57	10.02	10.02	0.00	0.00
8,200.00	59.30	0.09	8,099.68	280.39	0.45	280.40	10.00	10.00	0.00	0.00

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Single User Db
Company: DEVON ENERGY
Project: Eddy County, NM (NAD-83)
Site: Cotton Draw Unit
Well: 277H
Wellbore: OH
Design: APD Plan #1

Local Co-ordinate Reference: Well 277H
TVD Reference: 3401.3' GE + 25' KB @ 3426.30usft
MD Reference: 3401.3' GE + 25' KB @ 3426.30usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,250.00	64.30	0.09	8,123.31	324.44	0.53	324.44	10.00	10.00	0.00	
8,300.00	69.30	0.09	8,143.00	370.38	0.60	370.38	10.00	10.00	0.00	
8,332.03	72.50	0.09	8,153.48	400.64	0.65	400.64	10.00	10.00	0.00	
L Brushy D										
8,350.00	74.30	0.09	8,158.62	417.87	0.68	417.87	10.00	10.00	0.00	
8,400.00	79.30	0.09	8,170.04	466.53	0.76	466.53	10.00	10.00	0.00	
8,450.00	84.30	0.09	8,177.17	516.00	0.84	516.00	10.00	10.00	0.00	
8,500.00	89.30	0.09	8,179.96	565.91	0.92	565.91	10.00	10.00	0.00	
8,510.68	90.36	0.09	8,180.00	576.59	0.93	576.59	10.00	10.00	0.00	
8,510.71	90.36	0.09	8,180.00	576.62	0.93	576.62	0.00	0.00	0.00	
LP										
8,600.00	90.36	0.09	8,179.43	665.91	1.08	665.91	0.00	0.00	0.00	
8,700.00	90.36	0.09	8,178.80	765.90	1.24	765.90	0.00	0.00	0.00	
8,800.00	90.36	0.09	8,178.16	865.90	1.40	865.90	0.00	0.00	0.00	
8,900.00	90.36	0.09	8,177.53	965.90	1.56	965.90	0.00	0.00	0.00	
9,000.00	90.36	0.09	8,176.90	1,065.90	1.73	1,065.90	0.00	0.00	0.00	
9,100.00	90.36	0.09	8,176.26	1,165.89	1.89	1,165.90	0.00	0.00	0.00	
9,200.00	90.36	0.09	8,175.63	1,265.89	2.05	1,265.89	0.00	0.00	0.00	
9,300.00	90.36	0.09	8,175.00	1,365.89	2.21	1,365.89	0.00	0.00	0.00	
9,400.00	90.36	0.09	8,174.36	1,465.89	2.37	1,465.89	0.00	0.00	0.00	
9,500.00	90.36	0.09	8,173.73	1,565.89	2.54	1,565.89	0.00	0.00	0.00	
9,600.00	90.36	0.09	8,173.10	1,665.88	2.70	1,665.89	0.00	0.00	0.00	
9,700.00	90.36	0.09	8,172.46	1,765.88	2.86	1,765.88	0.00	0.00	0.00	
9,800.00	90.36	0.09	8,171.83	1,865.88	3.02	1,865.88	0.00	0.00	0.00	
9,900.00	90.36	0.09	8,171.20	1,965.88	3.18	1,965.88	0.00	0.00	0.00	
10,000.00	90.36	0.09	8,170.56	2,065.88	3.34	2,065.88	0.00	0.00	0.00	
10,100.00	90.36	0.09	8,169.93	2,165.87	3.51	2,165.88	0.00	0.00	0.00	
10,200.00	90.36	0.09	8,169.30	2,265.87	3.67	2,265.87	0.00	0.00	0.00	
10,300.00	90.36	0.09	8,168.66	2,365.87	3.83	2,365.87	0.00	0.00	0.00	
10,400.00	90.36	0.09	8,168.03	2,465.87	3.99	2,465.87	0.00	0.00	0.00	
10,500.00	90.36	0.09	8,167.40	2,565.86	4.15	2,565.87	0.00	0.00	0.00	
10,600.00	90.36	0.09	8,166.76	2,665.86	4.32	2,665.87	0.00	0.00	0.00	
10,700.00	90.36	0.09	8,166.13	2,765.86	4.48	2,765.86	0.00	0.00	0.00	
10,800.00	90.36	0.09	8,165.50	2,865.86	4.64	2,865.86	0.00	0.00	0.00	
10,900.00	90.36	0.09	8,164.86	2,965.86	4.80	2,965.86	0.00	0.00	0.00	
11,000.00	90.36	0.09	8,164.23	3,065.85	4.96	3,065.86	0.00	0.00	0.00	
11,100.00	90.36	0.09	8,163.60	3,165.85	5.13	3,165.86	0.00	0.00	0.00	
11,200.00	90.36	0.09	8,162.96	3,265.85	5.29	3,265.85	0.00	0.00	0.00	
11,300.00	90.36	0.09	8,162.33	3,365.85	5.45	3,365.85	0.00	0.00	0.00	
11,400.00	90.36	0.09	8,161.70	3,465.85	5.61	3,465.85	0.00	0.00	0.00	
11,500.00	90.36	0.09	8,161.06	3,565.84	5.77	3,565.85	0.00	0.00	0.00	
11,600.00	90.36	0.09	8,160.43	3,665.84	5.93	3,665.85	0.00	0.00	0.00	
11,700.00	90.36	0.09	8,159.80	3,765.84	6.10	3,765.84	0.00	0.00	0.00	
11,800.00	90.36	0.09	8,159.16	3,865.84	6.26	3,865.84	0.00	0.00	0.00	
11,900.00	90.36	0.09	8,158.53	3,965.83	6.42	3,965.84	0.00	0.00	0.00	
12,000.00	90.36	0.09	8,157.90	4,065.83	6.58	4,065.84	0.00	0.00	0.00	
12,100.00	90.36	0.09	8,157.26	4,165.83	6.74	4,165.84	0.00	0.00	0.00	
12,200.00	90.36	0.09	8,156.63	4,265.83	6.91	4,265.83	0.00	0.00	0.00	
12,300.00	90.36	0.09	8,155.99	4,365.83	7.07	4,365.83	0.00	0.00	0.00	
12,400.00	90.36	0.09	8,155.36	4,465.82	7.23	4,465.83	0.00	0.00	0.00	
12,500.00	90.36	0.09	8,154.73	4,565.82	7.39	4,565.83	0.00	0.00	0.00	
12,600.00	90.36	0.09	8,154.09	4,665.82	7.55	4,665.83	0.00	0.00	0.00	
12,700.00	90.36	0.09	8,153.46	4,765.82	7.72	4,765.82	0.00	0.00	0.00	
12,800.00	90.36	0.09	8,152.83	4,865.82	7.88	4,865.82	0.00	0.00	0.00	

LEAM Drilling Systems LLC

Planning Report

Database: EDM 5000.1 Single User Db
Company: DEVON ENERGY
Project: Eddy County, NM (NAD-83)
Site: Cotton Draw Unit
Well: 277H
Wellbore: OH
Design: APD Plan #1

Local Co-ordinate Reference: Well 277H
TVD Reference: 3401.3' GE + 25' KB @ 3426.30usft
MD Reference: 3401.3' GE + 25' KB @ 3426.30usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
12,900.00	90.36	0.09	8,152.19	4,965.81	8.04	4,965.82	0.00	0.00	0.00	
13,000.00	90.36	0.09	8,151.56	5,065.81	8.20	5,065.82	0.00	0.00	0.00	
13,100.00	90.36	0.09	8,150.93	5,165.81	8.36	5,165.82	0.00	0.00	0.00	
13,200.00	90.36	0.09	8,150.29	5,265.81	8.52	5,265.81	0.00	0.00	0.00	
13,210.48	90.36	0.09	8,150.23	5,276.29	8.54	5,276.29	0.00	0.00	0.00	
TD										
13,246.43	90.36	0.09	8,150.00	5,312.24	8.60	5,312.25	0.00	0.00	0.00	
PBHL (CDU 277H)										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
SHL (CDU 277H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	413,981.29	728,242.23	32° 8' 12.023 N	103° 43' 46.197 W	
KOP (CDU 277H) - plan hits target center - Point	0.00	0.00	7,607.05	0.00	0.00	413,981.29	728,242.23	32° 8' 12.023 N	103° 43' 46.197 W	
POE (CDU 277H) - plan hits target center - Point	0.00	0.00	8,071.51	237.46	0.38	414,218.75	728,242.61	32° 8' 14.373 N	103° 43' 46.177 W	
PBHL (CDU 277H) - plan hits target center - Point	0.00	0.00	8,150.00	5,312.24	8.60	419,293.53	728,250.83	32° 9' 4.591 N	103° 43' 45.750 W	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
645.00	645.00	Rustler		-0.36	0.09	
1,005.00	1,005.00	Salado		-0.36	0.09	
4,154.00	4,154.00	Base Salt		-0.36	0.09	
4,374.00	4,374.00	Delaware		-0.36	0.09	
4,405.00	4,405.00	Bell Canyon		-0.36	0.09	
5,357.00	5,357.00	Cherry Canyon		-0.36	0.09	
6,719.00	6,719.00	Brushy Canyon		-0.36	0.09	
8,148.63	8,071.51	L Brushy		-0.36	0.09	
8,332.03	8,153.48	L Brushy D		-0.36	0.09	

LEAM Drilling Systems LLC

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MD Reference: 3401.3' GE + 25' KB @ 3426.30usft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Plan Annotations:

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,607.05	7,607.05	0.00	0.00	KOP 10° DLS
8,148.63	8,071.51	237.46	0.38	POE
8,510.71	8,180.00	576.62	0.93	LP
13,210.48	8,150.23	5,276.29	8.54	TD