

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.***SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		8. Well Name and No. COTTON DRAW UNIT 179H
2. Name of Operator DEVON ENERGY PROD CO., L.P. Contact: LINDA GOOD E-Mail: linda.good@dev.com		9. API Well No. 30-015-43738
3a. Address 333 WEST SHERIDAN AVE. OKLAHOMA CITY, OK 73102	3b. Phone No. (include area code) Ph: 405-552-6558	10. Field and Pool, or Exploratory COTTON DRAW; DEAWARE, S
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 13 T25S R31E Mer NMP NWNE 330FNL 1980FEL		11. County or Parish, and State EDDY COUNTY, NM

12. CHECK 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	☐ Fracture Treat	☐ 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 recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 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 BHL from 330 FSL 1980 FEL to 290 FSL 1980 FEL on the Cotton Draw Unit 179H 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.

NRS 1-3
Provide signed C102 to NMOCD
8-29-16 Follow Existing COA's
Engineering Review Okay. 08/29/2016. C. Nimmer

NM OIL CONSERVATION
ARTESIA DISTRICT
SEP 06 2016
RECEIVED

14. I hereby certify that the foregoing is true and correct. Electronic Submission #346826 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 08/04/2016

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By <i>Cody I. [Signature]</i>	Title <i>For</i> FIELD MANAGER	Date <i>08/30/16</i>
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

511 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 30-015-43738	² Pool Code 96757	³ Pool Name Cotton Draw; Delaware, South
⁴ Property Code 300635	⁵ Property Name COTTON DRAW UNIT	⁶ Well Number 179H
⁷ OGRID No. 6137	⁸ Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	⁹ Elevation 3401.4

¹⁰ Surface Location

UL or lot no. B	Section 13	Township 25 S	Range 31 E	Lot Idn	Feet from the 330	North/South line NORTH	Feet from the 1980	East/West line EAST	County EDDY
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. O	Section 13	Township 25 S	Range 31 E	Lot Idn	Feet from the 290	North/South line SOUTH	Feet from the 1980	East/West line EAST	County EDDY
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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.

NW CORNER SEC. 13 LAT. = 32.1375499°N LONG. = 103.7401065°W NMSP EAST (FT) N = 414281.99 E = 724957.10	N/4 CORNER SEC. 13 LAT. = 32.1375820°N LONG. = 103.7315741°W NMSP EAST (FT) N = 414308.35 E = 727598.11	330' — 1980' — SURFACE LOCATION COTTON DRAW UNIT 179H ELEV. = 3401.4' LAT. = 32.1366729°N (NAD83) LONG. = 103.7294021°W NMSP EAST (FT) N = 413981.38 E = 728272.24 W/4 CORNER SEC. 13 LAT. = 32.1302841°N LONG. = 103.7401147°W NMSP EAST (FT) N = 411638.81 E = 724969.15	E/4 CORNER SEC. 13 LAT. = 32.1303177°N LONG. = 103.7230173°W NMSP EAST (FT) N = 411680.56 E = 730261.67
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 NAD 88.			
BOTTOM OF HOLE LAT. = 32.1238646°N LONG. = 103.7294264°W NMSP EAST (FT) N = 409321.87 E = 728290.86			
SW CORNER SEC. 13 LAT. = 32.1230397°N LONG. = 103.7401304°W NMSP EAST (FT) N = 409003.37 E = 724978.78	S/4 CORNER SEC. 13 LAT. = 32.1230701°N LONG. = 103.7316050°W NMSP EAST (FT) N = 409029.07 E = 727618.02	SE CORNER SEC. 13 LAT. = 32.1230600°N LONG. = 103.7230339°W NMSP EAST (FT) N = 409040.33 E = 730271.48	

¹⁷ OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or undivided 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.

8/4/2016

Signature

Date

Linda Good

Printed Name

linda.good@dvn.com

E-mail Address

¹⁸ SURVEYOR CERTIFICATION

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

JULY 27, 2016

Date of Survey

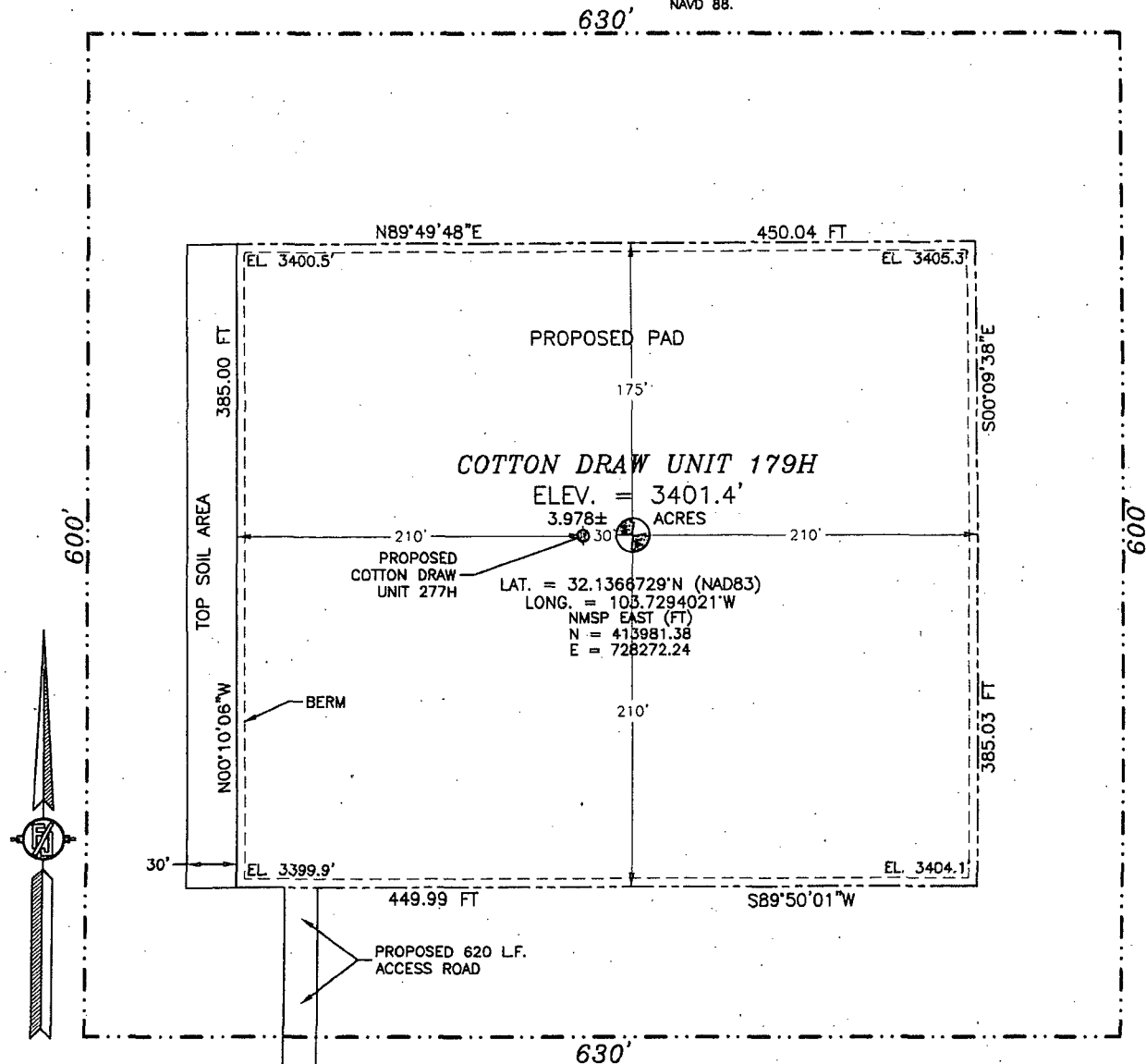
Signature and Seal of Professional Surveyor:

Certificate Number: JILL MON F. JARAMILLO, PLS 12797

SURVEY NO. 4660A

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.



010 50 100 200
SCALE 1" = 100'

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.

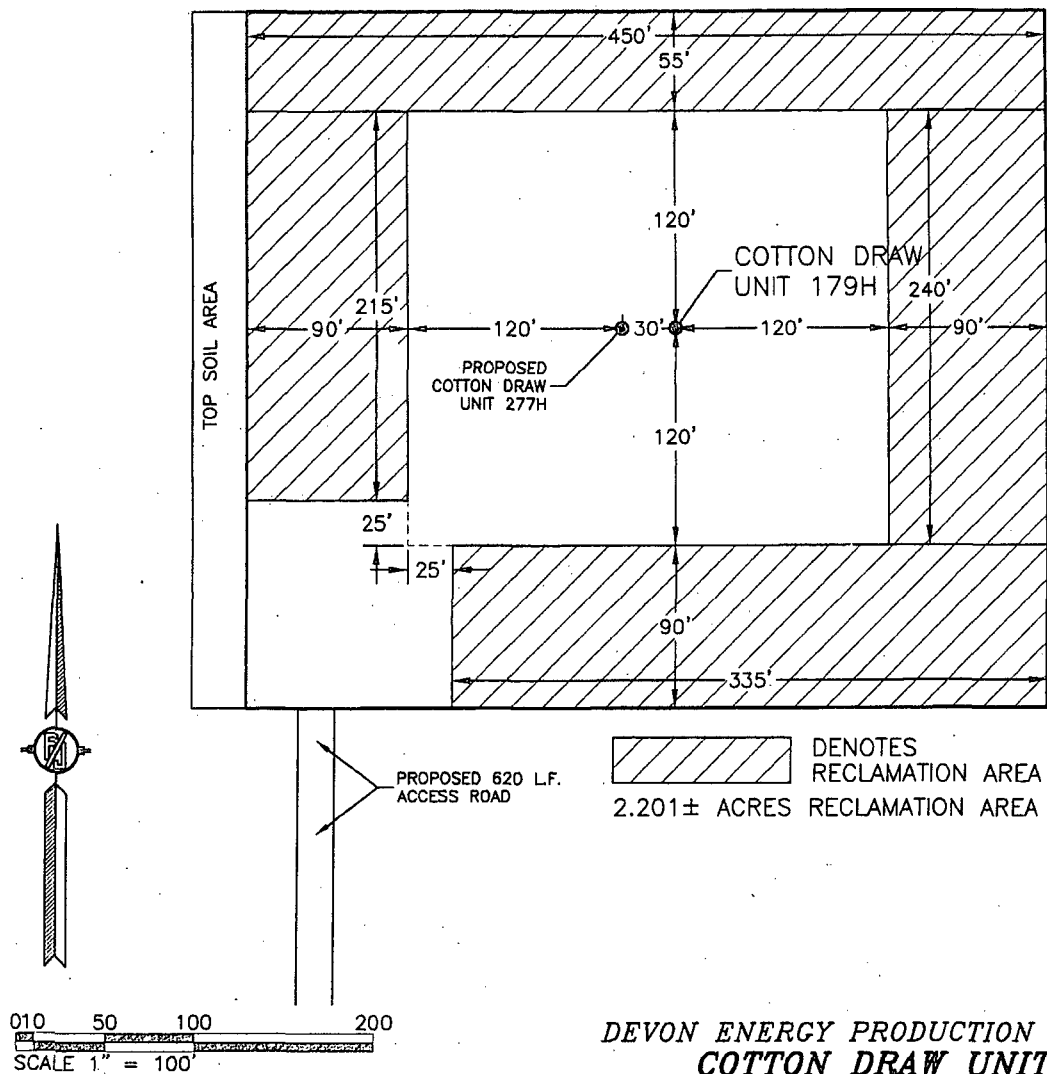
DEVON ENERGY PRODUCTION COMPANY, L.P.
COTTON DRAW UNIT 179H
LOCATED 330 FT. FROM THE NORTH LINE
AND 1980 FT. FROM THE EAST LINE OF
SECTION 13, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

MAY 17, 2016

SURVEY NO. 4660

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

**PROPOSED INTERIM SITE RECLAMATION
FOR COTTON DRAW UNIT 179H
SECTION 13, TOWNSHIP 25 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO**



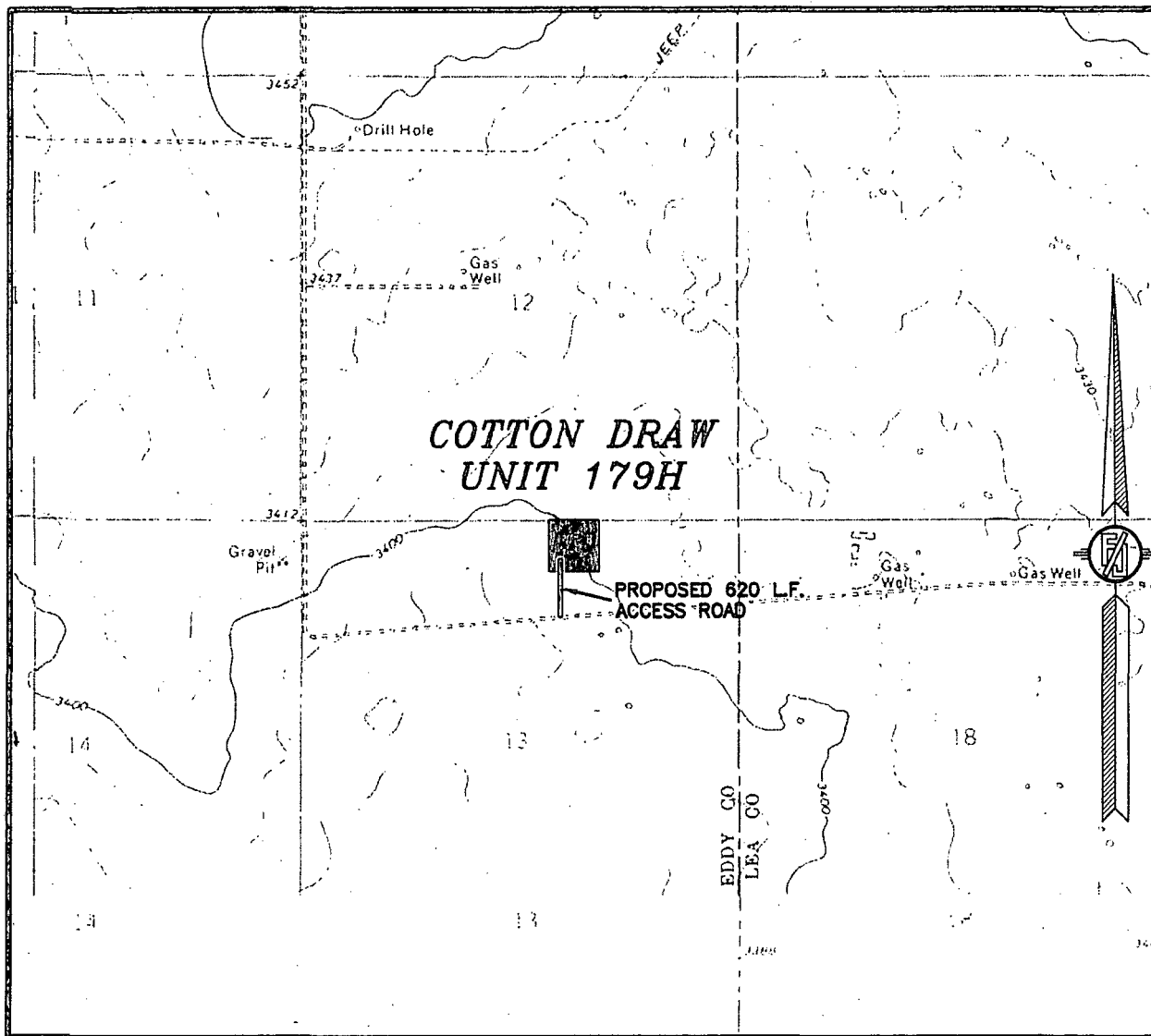
DEVON ENERGY PRODUCTION COMPANY, L.P.
COTTON DRAW UNIT 179H
LOCATED 330 FT. FROM THE NORTH LINE
AND 1980 FT. FROM THE EAST LINE OF
SECTION 13, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

MAY 17, 2016

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

SURVEY NO. 4660

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

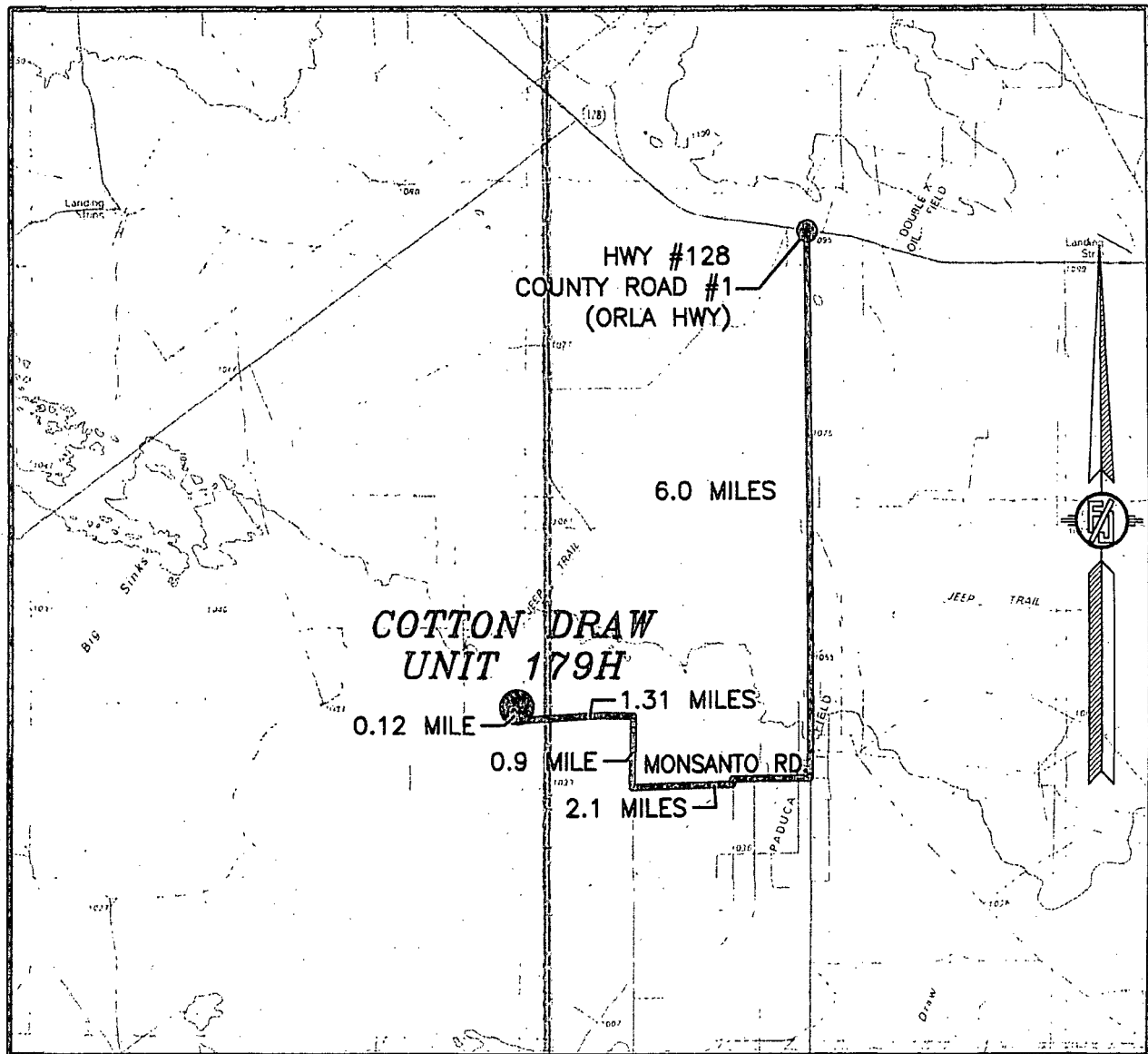
DEVON ENERGY PRODUCTION COMPANY, L.P.
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 RANGE 31 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

MAY 17, 2016

SURVEY NO. 4660

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
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.

DEVON ENERGY PRODUCTION COMPANY, L.P.
COTTON DRAW UNIT 179H

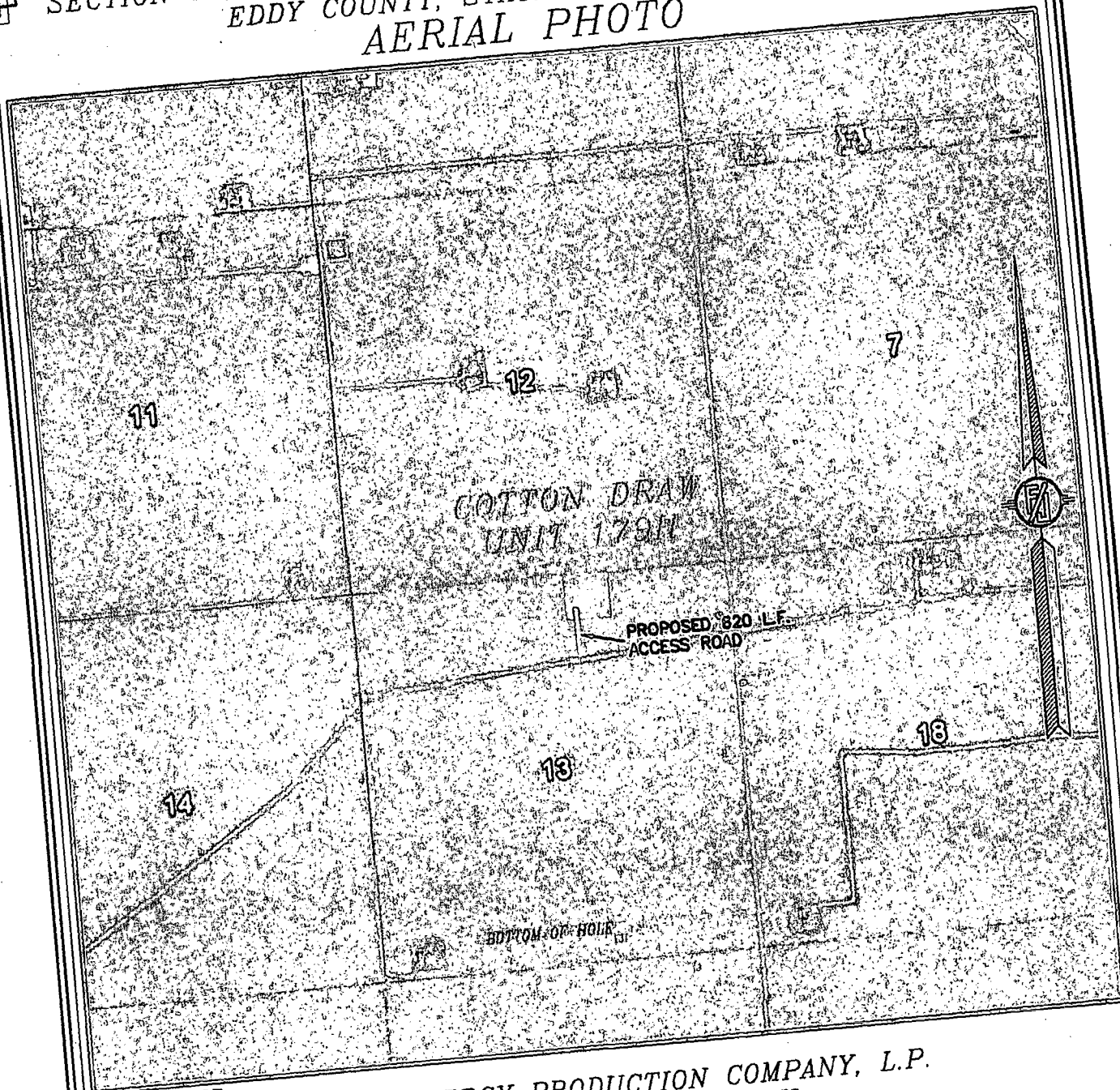
LOCATED 330 FT. FROM THE NORTH LINE
AND 1980 FT. FROM THE EAST LINE OF
SECTION 13, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

MAY 17, 2016

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

SURVEY NO. 4660
CARLSBAD, NEW MEXICO

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

DEVON ENERGY PRODUCTION COMPANY, L.P.
COTTON DRAW UNIT 179H
LOCATED 330 FT. FROM THE NORTH LINE
AND 1980 FT. FROM THE EAST LINE OF
SECTION 13, TOWNSHIP 25 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

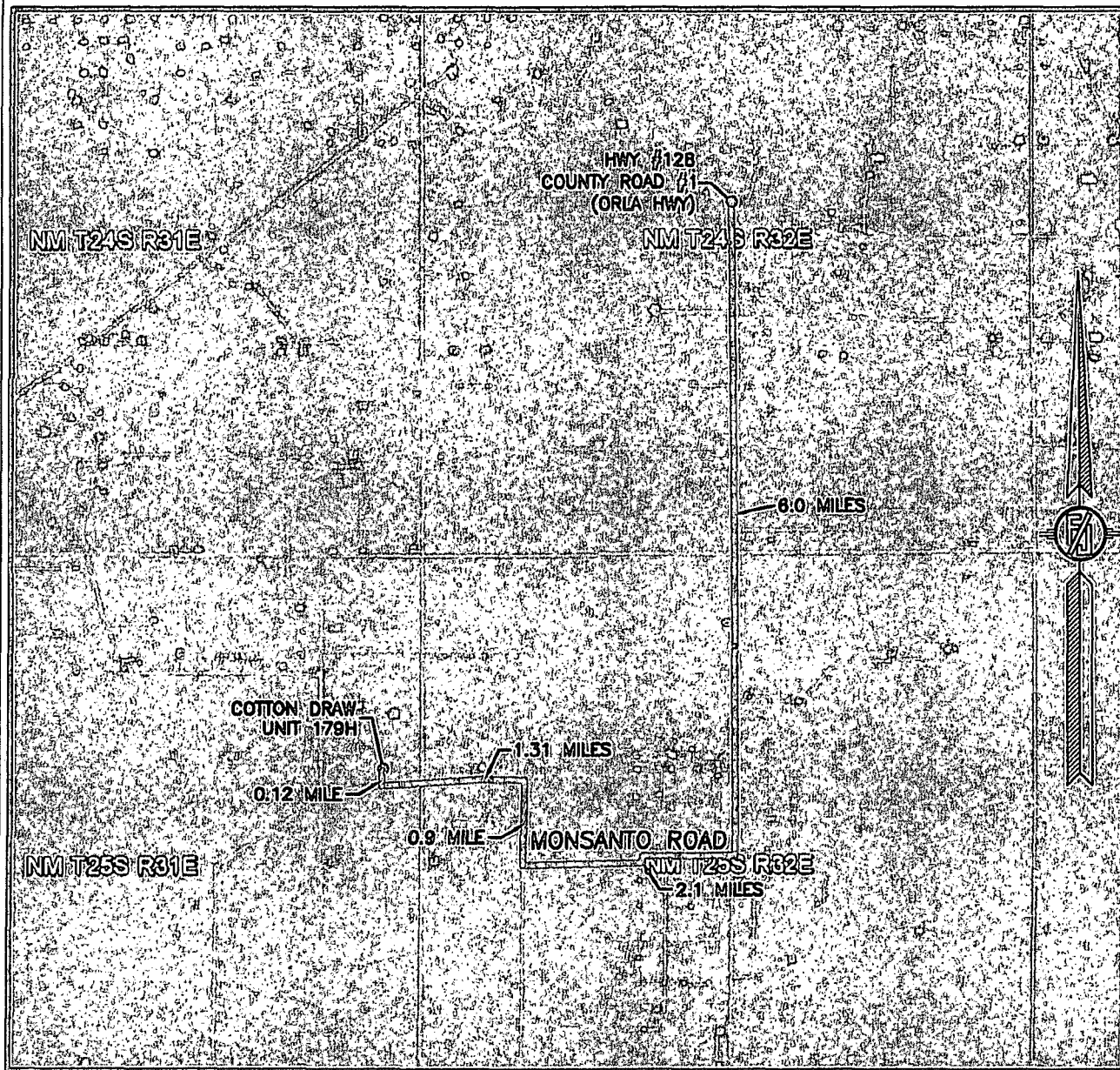
MAY 17, 2016

SURVEY NO. 4660

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.
COTTON DRAW UNIT 179H
 LOCATED 330 FT. FROM THE NORTH LINE
 AND 1980 FT. FROM THE EAST LINE OF
 SECTION 13, TOWNSHIP 25 SOUTH,
 RANGE 31 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

MAY 17, 2016

SURVEY NO. 4660

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

Cotton Draw Unit 179H Sundry Request

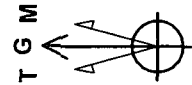
Casing Design

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn	SF Collapse	SF Burst	SF Tension
	From	To							
17.5"	0	715'	13.375"	48	H-40	STC	2.12	4.77	14.54
12.25"	0	3,400'	9.625"	36	J-55	LTC	1.15	1.66	1.97
12.25"	3,400'	4,170'	9.625"	40	J-55	BTC	1.18	1.81	3.10
8.75"	0	12,654'	5.5"	17	P-110	BTC	1.54	2.19	3.09
BLM Minimum Safety Factor							1.125	1.00	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

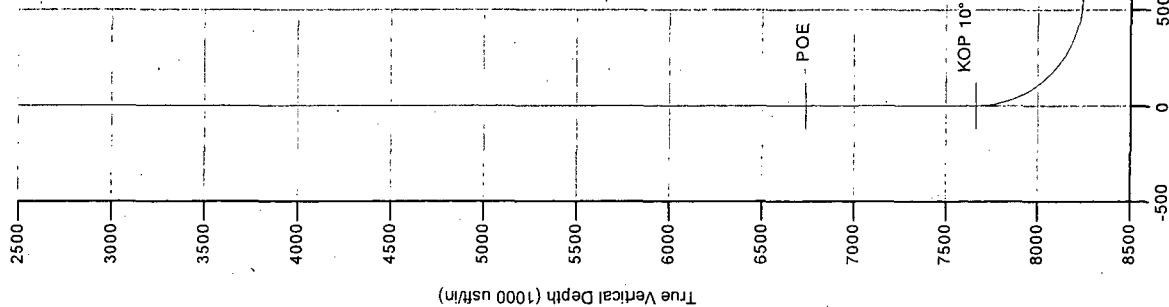
Cement Program

Casing	# Sks	Wt. lb/ gal	H ₂ O gal/sk	Yld ft ³ / sack	500# Comp. Strengt 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	545	9	13.5	3.27	21	Lead: Tuned Light® Cement
	1105	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	545	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
	1105	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	3.3 1	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	1.3 3	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: 179H
 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

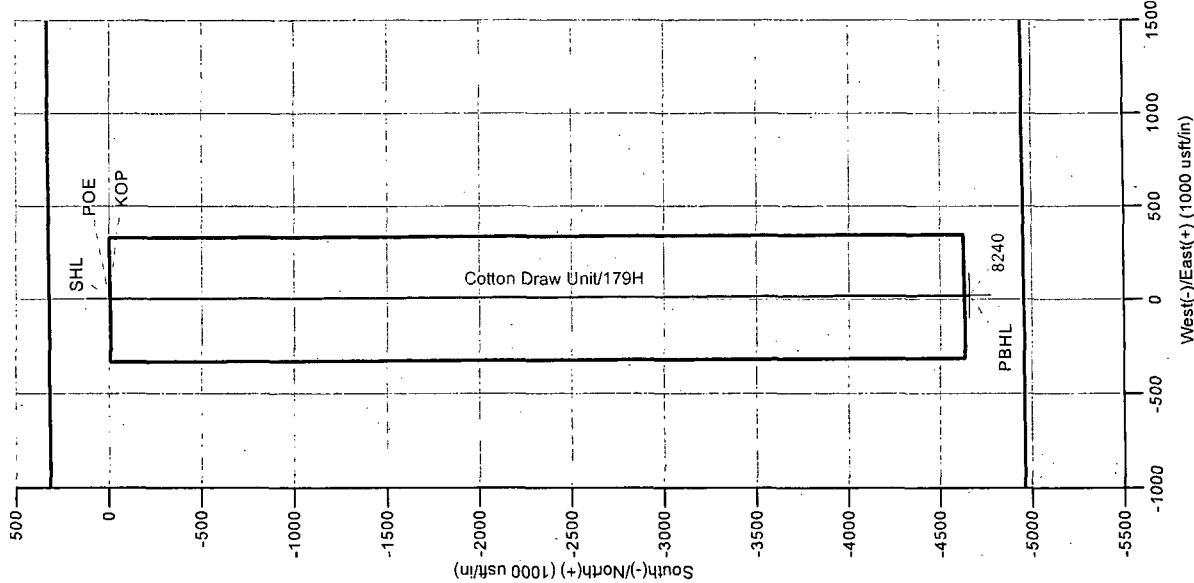


PROJECT DETAILS: Eddy County, NM (NAD-83)	
Geodetic System: US State Plane 1983	
Datum: North American Datum 1983	
Ellipsoid: GRS 1980	
Zone: New Mexico Eastern Zone	

WELL DETAILS: 179H			
North	Ground Level	Latitude	Longitude
413981.38	728272.24	32° 8' 12.022 N	103° 43' 45.848 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	
7667.04	0.00	0.00	7667.04	0.00	0.00	0.00	0.00	0.00	
8567.04	90.00	179.77	8240.00	-572.95	2.29	10.00	179.77	572.96	
12653.63	90.00	179.77	8240.00	-4659.51	18.62	0.00	0.00	4659.55	

KOP: 324.50' FNL / 1979.51' FEL
 POE: 324.50' FSL / 1979.51' FEL



DEVON ENERGY

Eddy County, NM (NAD-83)

Cotton Draw Unit

179H

OH

Plan: APD Plan #1

Standard Planning Report

01 August, 2016

LEAM Drilling Systems LLC

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 179H
Company:	DEVON ENERGY	TVD Reference:	3401.4' GE + 25' KB @ 3426.40usft
Project:	Eddy County, NM (NAD-83)	MD Reference:	3401.4' GE + 25' KB @ 3426.40usft
Site:	Cotton Draw Unit	North Reference:	Grid
Well:	179H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	APD Plan #1		

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

Site:	Cotton Draw Unit		
Site Position:		Northing:	419,194.51 usft
From:	Map	Easting:	722,955.98 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"
		Grid Convergence:	0.31°

Well:	179H		
Well Position	+N-S	-5,213.13 usft	Northing:
	+E-W	5,316.26 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	3,426.40 usft
		Ground Level:	3,401.40 usft

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

Design:	APD Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N-S	+E-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			179.77

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N-S	+E-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,667.04	0.00	0.00	7,667.04	0.00	0.00	0.00	0.00	0.00	0.00	
8,567.04	90.00	179.77	8,240.00	-572.95	2.29	10.00	10.00	0.00	179.77	
12,653.63	90.00	179.77	8,240.00	-4,659.51	18.62	0.00	0.00	0.00	0.00	PBHL (CDU 179H)

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: 179H
 Wellbore: OH
 Design: APD Plan #1

Local Co-ordinate Reference: Well 179H
 TVD Reference: 3401.4' GE + 25' KB @ 3426.40usft
 MD Reference: 3401.4' GE + 25' KB @ 3426.40usft
 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 179H)									
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
688.00	0.00	0.00	688.00	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
Salado									
1,072.00	0.00	0.00	1,072.00	0.00	0.00	0.00	0.00	0.00	0.00
Top Salt									
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
4,145.00	0.00	0.00	4,145.00	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
4,385.00	0.00	0.00	4,385.00	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	Local Co-ordinate Reference	Well 179H
Company	DEVON ENERGY	TVD Reference	3401.4' GE + 25' KB @ 3426.40usft
Project	Eddy County, NM (NAD-83)	MD Reference	3401.4' GE + 25' KB @ 3426.40usft
Site	Cotton Draw Unit	North Reference	Grid
Well	179H	Survey Calculation Method	Minimum Curvature
Wellbore	OH		
Design	APD Plan #1		

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)
Delaware									
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,417.00	0.00	0.00	4,417.00	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
4,600.00	0.00	0.00	4,600.00	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
4,800.00	0.00	0.00	4,800.00	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
5,000.00	0.00	0.00	5,000.00	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
5,200.00	0.00	0.00	5,200.00	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
5,345.00	0.00	0.00	5,345.00	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
5,500.00	0.00	0.00	5,500.00	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
5,700.00	0.00	0.00	5,700.00	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
5,900.00	0.00	0.00	5,900.00	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
6,100.00	0.00	0.00	6,100.00	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
6,300.00	0.00	0.00	6,300.00	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
6,500.00	0.00	0.00	6,500.00	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
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,738.00	0.00	0.00	6,738.00	0.00	0.00	0.00	0.00	0.00	0.00
POE - Brushy Canyon - POE (CDU 179H)									
6,800.00	0.00	0.00	6,800.00	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
7,000.00	0.00	0.00	7,000.00	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
7,200.00	0.00	0.00	7,200.00	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
7,400.00	0.00	0.00	7,400.00	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
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,667.04	0.00	0.00	7,667.04	0.00	0.00	0.00	0.00	0.00	0.00
KOP 10° DLS - KOP (CDU 179H)									
7,700.00	3.30	179.77	7,699.98	-0.95	0.00	0.95	10.00	10.00	0.00
7,750.00	8.30	179.77	7,749.71	-6.00	0.02	6.00	10.00	10.00	0.00
7,800.00	13.30	179.77	7,798.81	-15.36	0.06	15.36	10.00	10.00	0.00
7,850.00	18.30	179.77	7,846.91	-28.96	0.12	28.96	10.00	10.00	0.00
7,900.00	23.30	179.77	7,893.63	-46.71	0.19	46.71	10.00	10.00	0.00
7,950.00	28.30	179.77	7,938.64	-68.46	0.27	68.46	10.00	10.00	0.00
8,000.00	33.30	179.77	7,981.57	-94.05	0.38	94.05	10.00	10.00	0.00
8,050.00	38.30	179.77	8,022.12	-123.29	0.49	123.29	10.00	10.00	0.00
8,100.00	43.30	179.77	8,059.96	-155.94	0.62	155.95	10.00	10.00	0.00
8,150.00	48.30	179.77	8,094.81	-191.78	0.77	191.78	10.00	10.00	0.00
8,200.00	53.30	179.77	8,126.40	-230.51	0.92	230.51	10.00	10.00	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: 179H
 Wellbore: OH
 Design: APD Plan #1

Local Co-ordinate Reference: Well 179H
 TVD Reference: 3401.4' GE + 25' KB @ 3426.40usft
 MD Reference: 3401.4' GE + 25' KB @ 3426.40usft
 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	58.30	179.77	8,154.50	-271.85	1.09	271.85	10.00	10.00	0.00	
8,300.00	63.30	179.77	8,178.89	-315.48	1.26	315.48	10.00	10.00	0.00	
8,350.00	68.30	179.77	8,199.38	-361.07	1.44	361.07	10.00	10.00	0.00	
8,400.00	73.30	179.77	8,215.82	-408.27	1.63	408.27	10.00	10.00	0.00	
8,450.00	78.30	179.77	8,228.09	-456.72	1.83	456.73	10.00	10.00	0.00	
8,500.00	83.30	179.77	8,236.08	-506.06	2.02	506.07	10.00	10.00	0.00	
8,550.00	88.30	179.77	8,239.75	-555.91	2.22	555.92	10.00	10.00	0.00	
8,567.04	90.00	179.77	8,240.00	-572.95	2.29	572.96	10.00	10.00	0.00	
LP										
8,600.00	90.00	179.77	8,240.00	-605.91	2.42	605.92	0.00	0.00	0.00	
8,700.00	90.00	179.77	8,240.00	-705.91	2.82	705.92	0.00	0.00	0.00	
8,800.00	90.00	179.77	8,240.00	-805.91	3.22	805.92	0.00	0.00	0.00	
8,900.00	90.00	179.77	8,240.00	-905.91	3.62	905.92	0.00	0.00	0.00	
9,000.00	90.00	179.77	8,240.00	-1,005.91	4.02	1,005.92	0.00	0.00	0.00	
9,100.00	90.00	179.77	8,240.00	-1,105.91	4.42	1,105.92	0.00	0.00	0.00	
9,200.00	90.00	179.77	8,240.00	-1,205.91	4.82	1,205.92	0.00	0.00	0.00	
9,300.00	90.00	179.77	8,240.00	-1,305.91	5.22	1,305.92	0.00	0.00	0.00	
9,400.00	90.00	179.77	8,240.00	-1,405.90	5.62	1,405.92	0.00	0.00	0.00	
9,500.00	90.00	179.77	8,240.00	-1,505.90	6.02	1,505.92	0.00	0.00	0.00	
9,600.00	90.00	179.77	8,240.00	-1,605.90	6.42	1,605.92	0.00	0.00	0.00	
9,700.00	90.00	179.77	8,240.00	-1,705.90	6.82	1,705.92	0.00	0.00	0.00	
9,800.00	90.00	179.77	8,240.00	-1,805.90	7.22	1,805.92	0.00	0.00	0.00	
9,900.00	90.00	179.77	8,240.00	-1,905.90	7.62	1,905.92	0.00	0.00	0.00	
10,000.00	90.00	179.77	8,240.00	-2,005.90	8.02	2,005.92	0.00	0.00	0.00	
10,100.00	90.00	179.77	8,240.00	-2,105.90	8.42	2,105.92	0.00	0.00	0.00	
10,200.00	90.00	179.77	8,240.00	-2,205.90	8.82	2,205.92	0.00	0.00	0.00	
10,300.00	90.00	179.77	8,240.00	-2,305.90	9.21	2,305.92	0.00	0.00	0.00	
10,400.00	90.00	179.77	8,240.00	-2,405.90	9.61	2,405.92	0.00	0.00	0.00	
10,500.00	90.00	179.77	8,240.00	-2,505.90	10.01	2,505.92	0.00	0.00	0.00	
10,600.00	90.00	179.77	8,240.00	-2,605.89	10.41	2,605.92	0.00	0.00	0.00	
10,700.00	90.00	179.77	8,240.00	-2,705.89	10.81	2,705.92	0.00	0.00	0.00	
10,800.00	90.00	179.77	8,240.00	-2,805.89	11.21	2,805.92	0.00	0.00	0.00	
10,900.00	90.00	179.77	8,240.00	-2,905.89	11.61	2,905.92	0.00	0.00	0.00	
11,000.00	90.00	179.77	8,240.00	-3,005.89	12.01	3,005.92	0.00	0.00	0.00	
11,100.00	90.00	179.77	8,240.00	-3,105.89	12.41	3,105.92	0.00	0.00	0.00	
11,200.00	90.00	179.77	8,240.00	-3,205.89	12.81	3,205.92	0.00	0.00	0.00	
11,300.00	90.00	179.77	8,240.00	-3,305.89	13.21	3,305.92	0.00	0.00	0.00	
11,400.00	90.00	179.77	8,240.00	-3,405.89	13.61	3,405.92	0.00	0.00	0.00	
11,500.00	90.00	179.77	8,240.00	-3,505.89	14.01	3,505.92	0.00	0.00	0.00	
11,600.00	90.00	179.77	8,240.00	-3,605.89	14.41	3,605.92	0.00	0.00	0.00	
11,700.00	90.00	179.77	8,240.00	-3,705.89	14.81	3,705.92	0.00	0.00	0.00	
11,800.00	90.00	179.77	8,240.00	-3,805.89	15.21	3,805.92	0.00	0.00	0.00	
11,900.00	90.00	179.77	8,240.00	-3,905.88	15.61	3,905.92	0.00	0.00	0.00	
12,000.00	90.00	179.77	8,240.00	-4,005.88	16.01	4,005.92	0.00	0.00	0.00	
12,100.00	90.00	179.77	8,240.00	-4,105.88	16.41	4,105.92	0.00	0.00	0.00	
12,200.00	90.00	179.77	8,240.00	-4,205.88	16.81	4,205.92	0.00	0.00	0.00	
12,300.00	90.00	179.77	8,240.00	-4,305.88	17.21	4,305.92	0.00	0.00	0.00	
12,400.00	90.00	179.77	8,240.00	-4,405.88	17.61	4,405.92	0.00	0.00	0.00	
12,500.00	90.00	179.77	8,240.00	-4,505.88	18.01	4,505.92	0.00	0.00	0.00	
12,600.00	90.00	179.77	8,240.00	-4,605.88	18.41	4,605.92	0.00	0.00	0.00	
12,653.63	90.00	179.77	8,240.00	-4,659.51	18.62	4,659.55	0.00	0.00	0.00	
TD - PBHL (CDU 179H)										

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: 179H
 Wellbore: OH
 Design: APD Plan #1

Local Co-ordinate Reference: Well 179H
 TVD Reference: 3401.4' GE + 25' KB @ 3426.40usft
 MD Reference: 3401.4' GE + 25' KB @ 3426.40usft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Design Targets

Target Name hit/miss target Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (CDU 179H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	413,981.38	728,272.24	32° 8' 12.022 N	103° 43' 45.848 W
POE (CDU 179H) - plan hits target center - Point	0.00	0.00	6,738.00	0.00	0.00	413,981.38	728,272.24	32° 8' 12.022 N	103° 43' 45.848 W
KOP (CDU 179H) - plan hits target center - Point	0.00	0.00	7,667.04	0.00	0.00	413,981.38	728,272.24	32° 8' 12.022 N	103° 43' 45.848 W
PBHL (CDU 179H) - plan hits target center - Point	0.00	0.00	8,240.00	-4,659.51	18.62	409,321.87	728,290.86	32° 7' 25.912 N	103° 43' 45.935 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
688.00	688.00	Rustler		0.00	
1,000.00	1,000.00	Salado		0.00	
1,072.00	1,072.00	Top Salt		0.00	
4,145.00	4,145.00	Base Salt		0.00	
4,385.00	4,385.00	Delaware		0.00	
4,417.00	4,417.00	Bell Canyon		0.00	
5,345.00	5,345.00	Cherry Canyon		0.00	
6,738.00	6,738.00	Brushy Canyon		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
6,738.00	6,738.00	0.00	0.00	POE
7,667.04	7,667.04	0.00	0.00	KOP 10° DLS
8,567.04	8,240.00	-572.95	2.29	LP
12,653.63	8,240.00	-4,659.51	18.62	TD