U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Sundry Print Report

10/19/2021

Well Name: COTTON DRAW UNIT

Well Location: T24S / R31E / SEC 26 / NWNW / 32.1945389 / -103.7533788

County or Parish/State: EDDY / NM

Well Number: 602H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM0012121, NMNM012121

Unit or CA Name: COTTON DRAW UNIT

Unit or CA Number: NMNM70928X

US Well Number: 3001547300

Well Status: Approved Application for Permit to Drill

Operator: DEVON ENERGY PRODUCTION COMPANY LP

Notice of Intent

Sundry ID: 2506266

Type of Submission: Notice of Intent

Type of Action: Other

Date Sundry Submitted: 07/02/2021

Time Sundry Submitted: 05:40

Date proposed operation will begin: 07/01/2021

Procedure Description: Devon Energy Production Co., L.P. (Devon) respectfully requests to move the BHL and formation on the subject well, and drilling plans have been revised to include a pilot hole. Please see attached revised C102, Drill plan(pilot hole), directional plan and side track plan. • Permitted BHL: (E) SWNW 26-24S-31E, 2314 FNL, 450 FWL • Proposed BHL: (M) SWSW 2-25S-31E, 20 FSL, 450 FWL • Permitted formation: 96546 COTTON DRAW; BONE SPRING, SOUTH • Proposed formation: 98220- PURPLE SAGE; WOLFCAMP(GAS)

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

Devon_CDU_602H_AC_Report_Plan_1_20211018090544.pdf

COTTON_DRAW_UNIT_602H_r1_20211018090544.pdf

Devon_CDU_602H_Pilot_Hole_Plot_Plan_1_20211018090544.pdf

Devon_CDU_602H_Pilot_Hole__Plan_1_20211018090544.pdf

Cotton_Draw_Unit_602H_Plan_1__Pilot_Hole__20210907081208.pdf

MB_Wellhd_10M_13.375_8.625_5.5_20210702053941.PDF

CONFIDENTIAL

Well Name: COTTON DRAW UNIT

Well Location: T24S / R31E / SEC 26 / NWNW / 32.1945389 / -103.7533788

County or Parish/State: EDDY / NM

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Operator: DEVON ENERGY PRODUCTION COMPANY LP

10M_BOPE_CHK_DR_CLS_RKL_20210702053941.pdf

MB_Verb_10M_20210702053939.pdf

Annular_Variance___Preventer_Summary_20210702053939.pdf

WA017963200_COTTON_DRAW_UNIT_602H_WL_R3_20210702053855.pdf

Conditions of Approval

Specialist Review

Cotton_Draw_Unit_602H_Sundry_ID_2506266_20211018123636.pdf

Operator Certification

I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a submission of Form 3160-5 or a Sundry Notice.

Operator Electronic Signature: JENNY HARMS

Signed on: OCT 18, 2021 09:10 AM

Name: DEVON ENERGY PRODUCTION COMPANY LP

Title: Regulatory Compliance Professional

Street Address: 333 West Sheridan Avenue

City: Oklahoma City **State:** OK

Phone: (405) 552-6560

Email address: jennifer.harms@dvn.com

Field Representative

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752342234

BLM POC Email Address: cwalls@blm.gov

Disposition: Approved

Disposition Date: 10/19/2021

Signature: Chris Walls

Released to Imaging: 10/28/2021 9:14:50 AM

CONFIDENTIAL

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	[2] Pool Code	[3] Pool Name
30-015-47300	98220	PURPLE SAGE; WOLFCAMP(GAS)

[4] Property Code	[5] Property Name	[6] Well Number
300635	COTTON DRAW UNIT	602H

[7] OGRID No.	[8] Operator Name	[9] Elevation
6137	DEVON ENERGY PRODUCTION COMPANY, L.P.	3536.2

[10] Surface Location

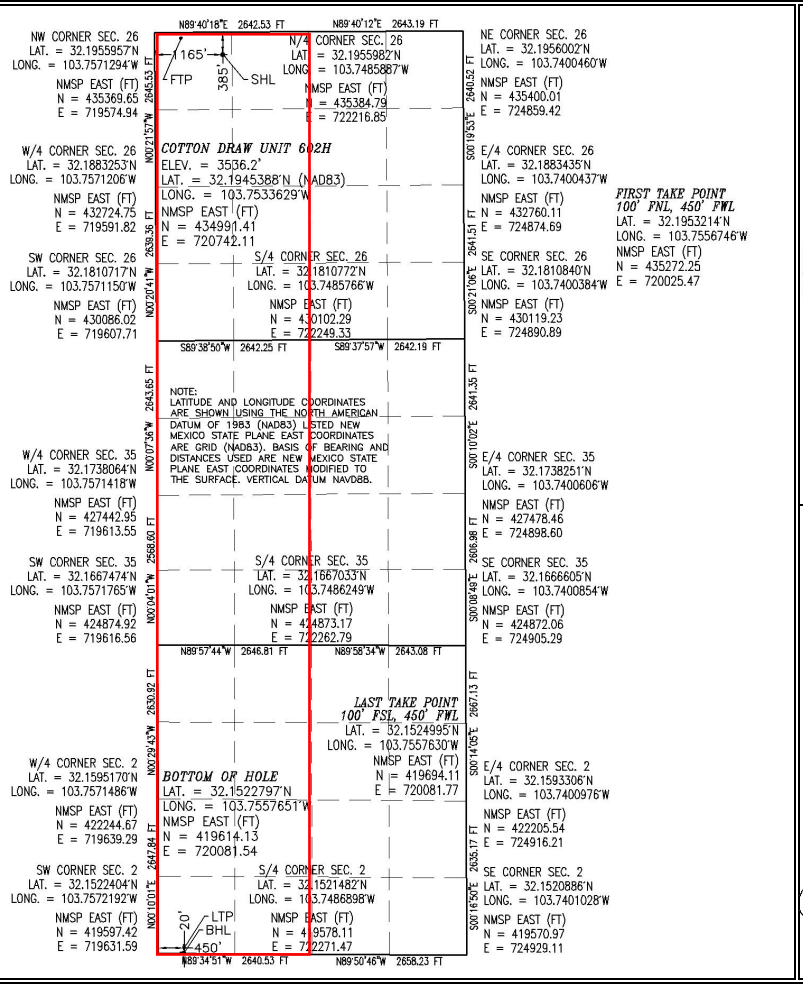
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	26	24 S	31 E		385	NORTH	1165	WEST	EDDY

[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
M	2	25 S	31 E		20	SOUTH	450	WEST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
960			

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.



[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 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.

Jenny Harms — 6-28-2021
Signature — Date

JENNY HARMS
Printed Name

JENNY.HARMS@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.

JUNE 15, 2021
Date of Survey

Signature and Seal of Professional Surveyor

Certificate Number: EDMON F. JARAMILLO, PLS 12797
SURVEY NO. 7991C

Intent [X] As Drilled [ ]

API #

Operator Name:	Property Name:	Well Number
DEVON ENERGY PRODUCTION CO., L.P.	**COTTON DRAW UNIT**	**602H**

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County

Latitude	Longitude	NAD

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
D	**26**	**24S**	**31E**		**100**	**NORTH**	**450**	**WEST**	**EDDY**

Latitude	Longitude	NAD
32.1953214	**103.7556746**	**83**

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
M	**2**	**25S**	**31E**		**100**	**SOUTH**	**450**	**WEST**	**EDDY**

Latitude	Longitude	NAD
32.1524995	**103.7557630**	**83**

Is this well the defining well for the Horizontal Spacing Unit? yes

Is this well an infill well? no

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

API #

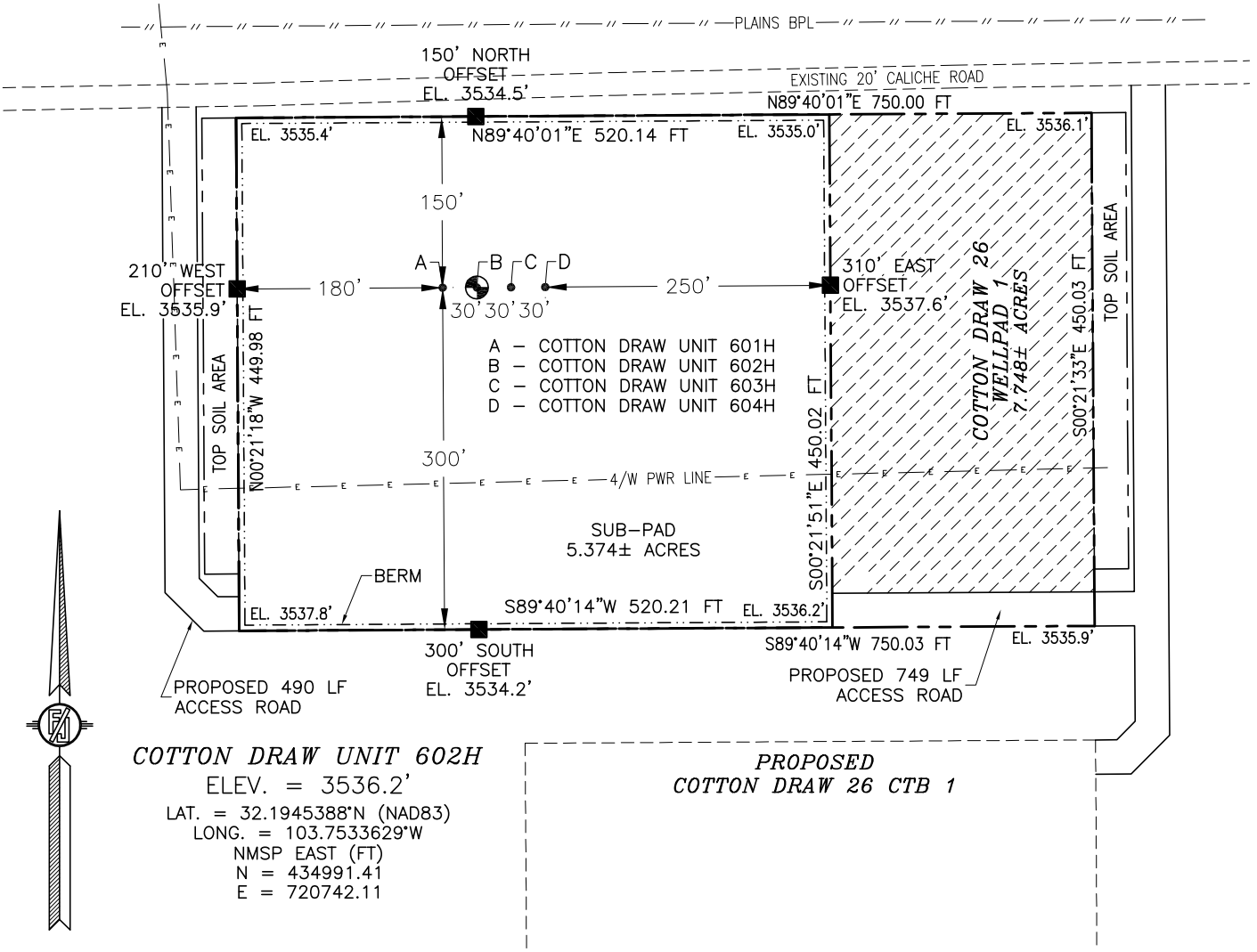
Operator Name:	Property Name:	Well Number

KZ 06/29/2018

SECTION 26, TOWNSHIP 24 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. VERTICAL DATUM NAVD88.

SEC. 23
SEC. 26



COTTON DRAW UNIT 602H
ELEV. = 3536.2'
LAT. = 32.1945388°N (NAD83)
LONG. = 103.7533629°W
NMSP EAST (FT)
N = 434991.41
E = 720742.11

PROPOSED
COTTON DRAW 26 CTB 1

015 75 150 300
SCALE 1" = 150'

DIRECTIONS TO LOCATION
FROM THE INTERSECTION OF STATE HIGHWAY 128 AND BUCK JACKSON ROAD, GO SOUTHWEST ON BUCK JACKSON APPROX. 3.1 MILES TO A LEASE ROAD ON LEFT. TURN LEFT GO SOUTHEAST 0.3 OF A MILE ON LEASE ROAD, BEND LEFT GO EAST 0.3 OF A MILE, LEASE ROAD BENDS RIGHT. FOLLOW LEASE ROAD SOUTHEAST APPROX. 0.6 OF A MILE TO A "Y" INTERSECTION. TURN RIGHT GO SOUTHWEST–SOUTH 0.19 OF A MILE, TURN RIGHT GO WEST 0.31 OF A MILE, TURN LEFT GO SOUTH–WEST 749' TO THE SOUTHEAST PAD CORNER FOR THIS LOCATION.

I, FILIMON F. JARAMILLO, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I PREPARED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT IT MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

FILIMON F. JARAMILLO, PLS 17797

NEW MEXICO FILIMON F. JARAMILLO 17797 REGISTERED PROFESSIONAL SURVEYOR

DEVON ENERGY PRODUCTION COMPANY, L.P.
COTTON DRAW UNIT 602H
LOCATED 385 FT. FROM THE NORTH LINE
AND 1165 FT. FROM THE WEST LINE OF
SECTION 26, TOWNSHIP 24 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

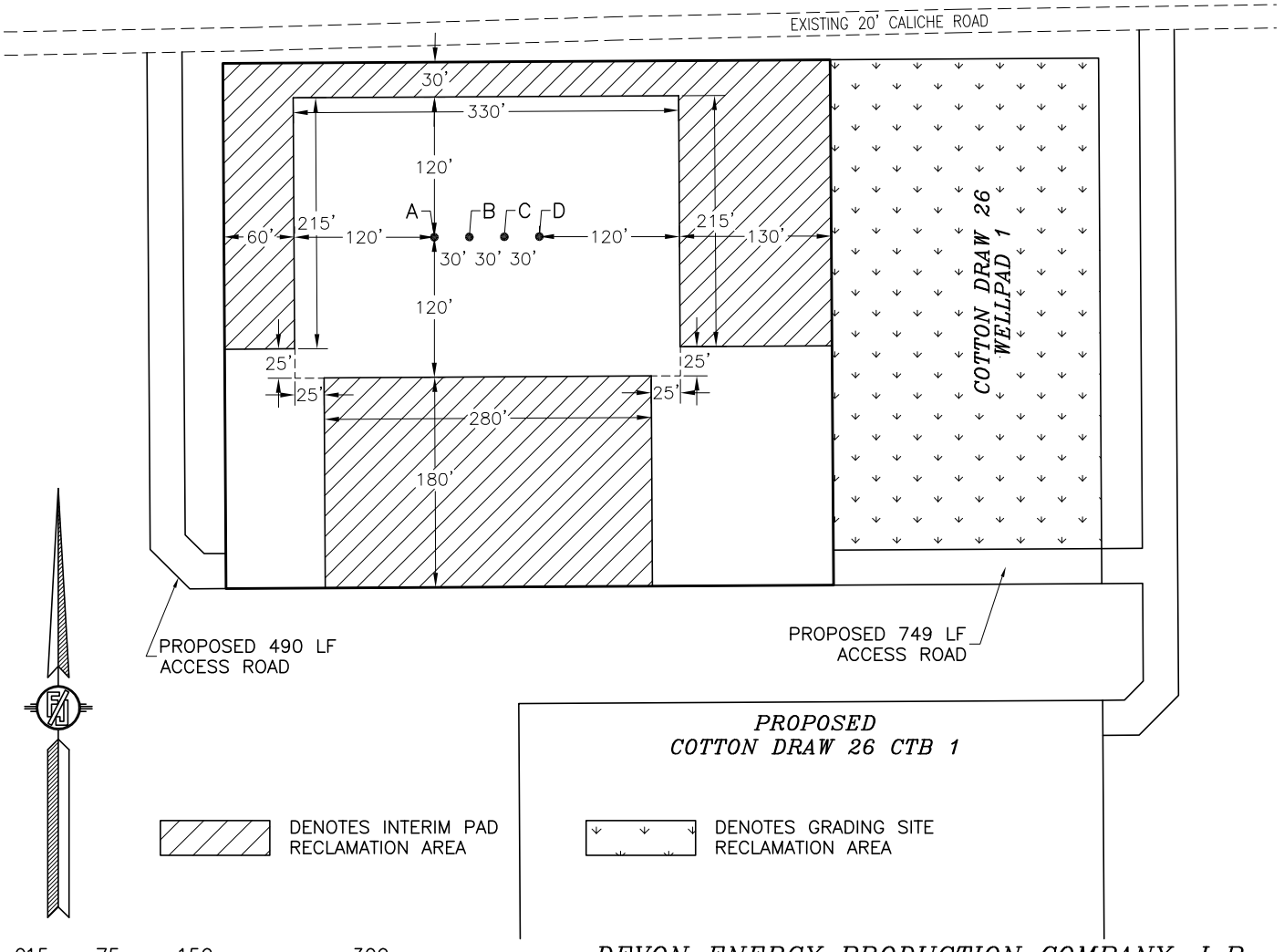
JUNE 15, 2021
SURVEY NO. 7991C

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

SECTION 26, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
INTERIM SITE BUILD PLAN

SEC. 23
SEC. 26

A – COTTON DRAW UNIT 601H
B – COTTON DRAW UNIT 602H
C – COTTON DRAW UNIT 603H
D – COTTON DRAW UNIT 604H



015 75 150 300
SCALE 1" = 150'

2.454± ACRES INTERIM PAD RECLAMATION AREA
2.217± ACRES GRADING SITE RECLAMATION AREA
3.077± ACRES NON–RECLAIMED AREA
7.748± ACRES COTTON DRAW 26 WELLPAD 1

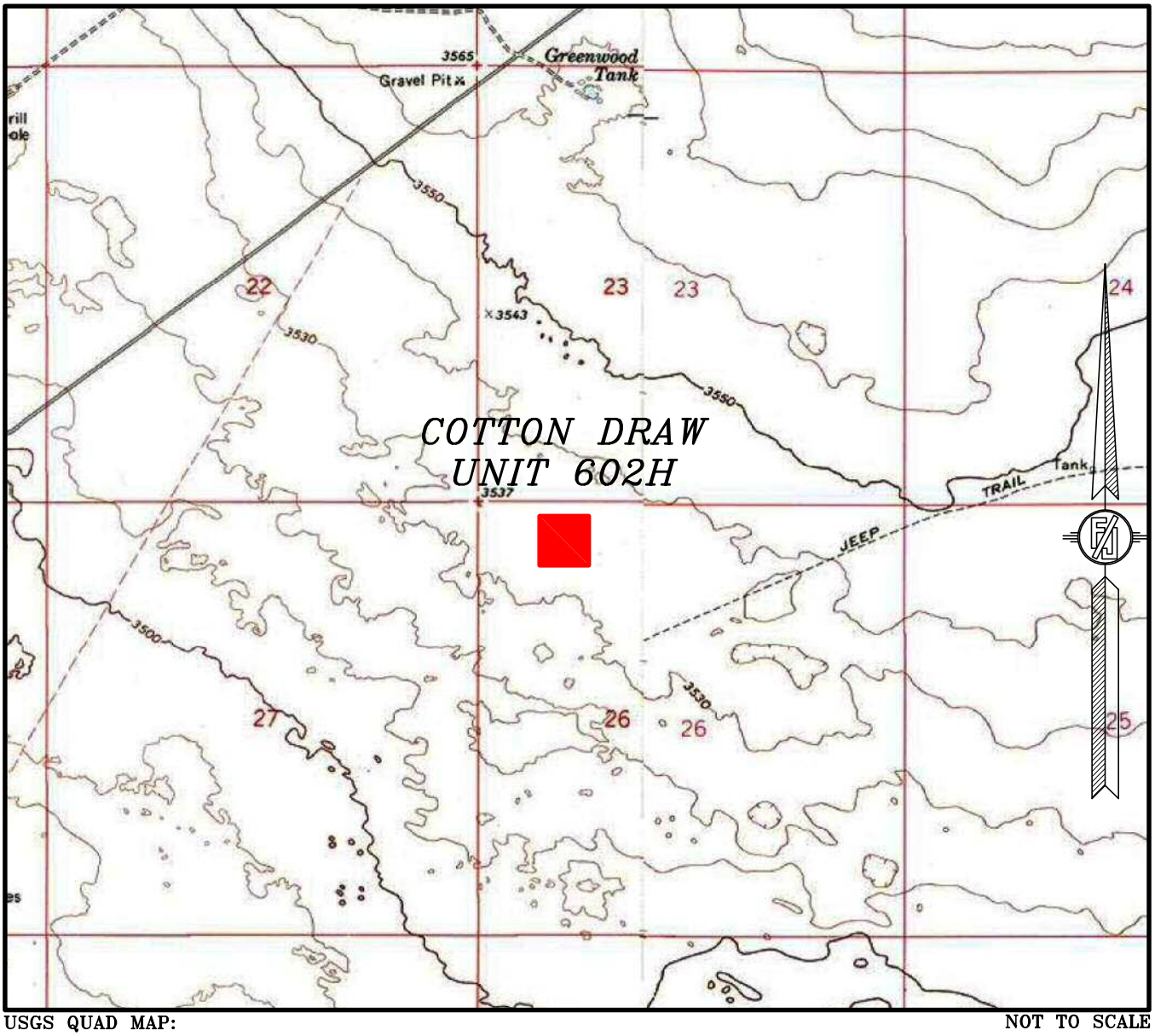
DEVON ENERGY PRODUCTION COMPANY, L.P.
COTTON DRAW UNIT 602H
LOCATED 385 FT. FROM THE NORTH LINE
AND 1165 FT. FROM THE WEST LINE OF
SECTION 26, TOWNSHIP 24 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

JUNE 15, 2021
SURVEY NO. 7991C

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

SECTION 26, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

LOCATION VERIFICATION MAP



USGS QUAD MAP:
PADUCA BREAKS NW

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

COTTON DRAW UNIT 602H

LOCATED 385 FT. FROM THE NORTH LINE
AND 1165 FT. FROM THE WEST LINE OF
SECTION 26, TOWNSHIP 24 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

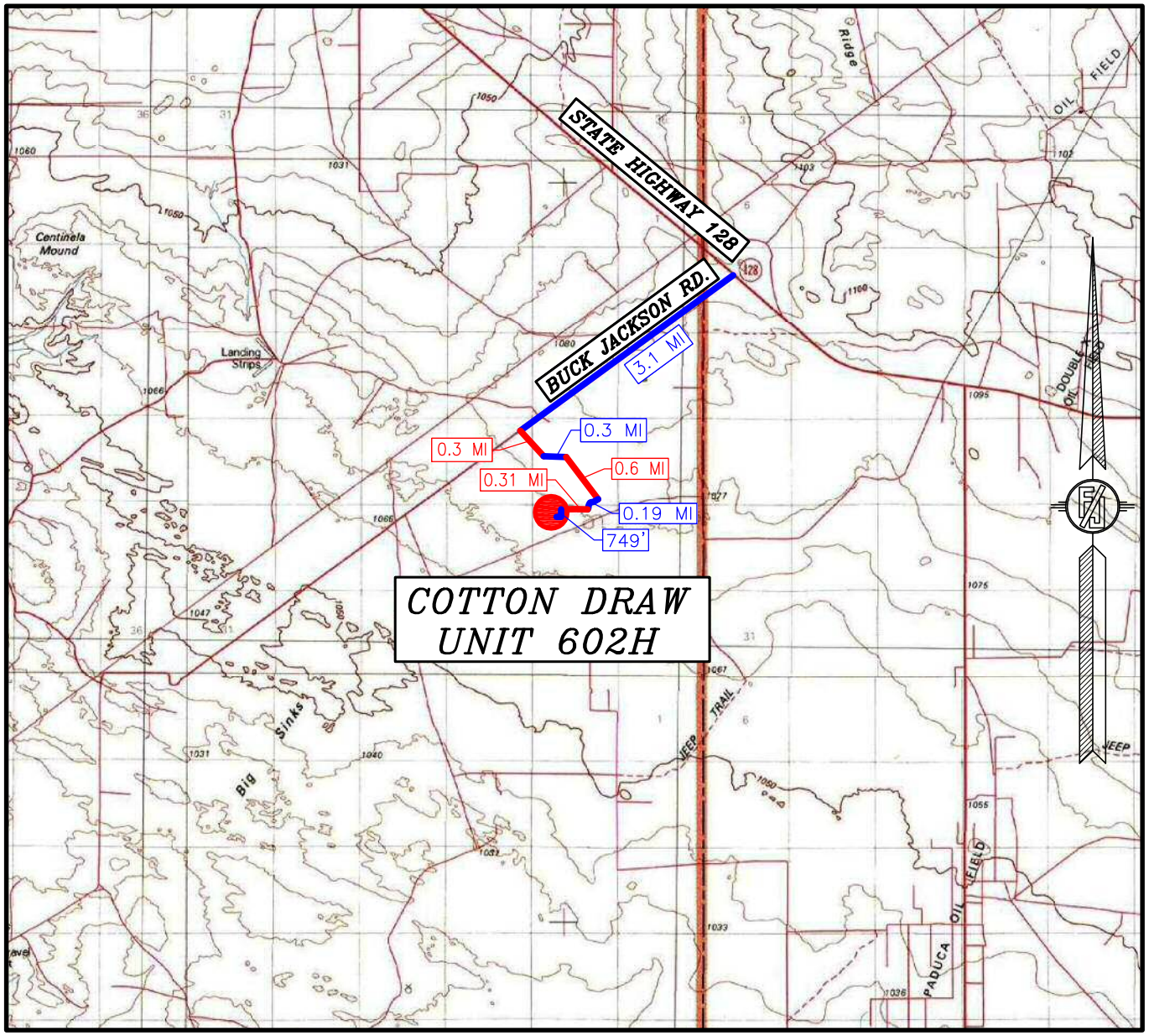
JUNE 15, 2021

SURVEY NO. 7991C

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

SECTION 26, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

COTTON DRAW UNIT 602H

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AND 1165 FT. FROM THE WEST LINE OF
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RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

JUNE 15, 2021

DIRECTIONS TO LOCATION
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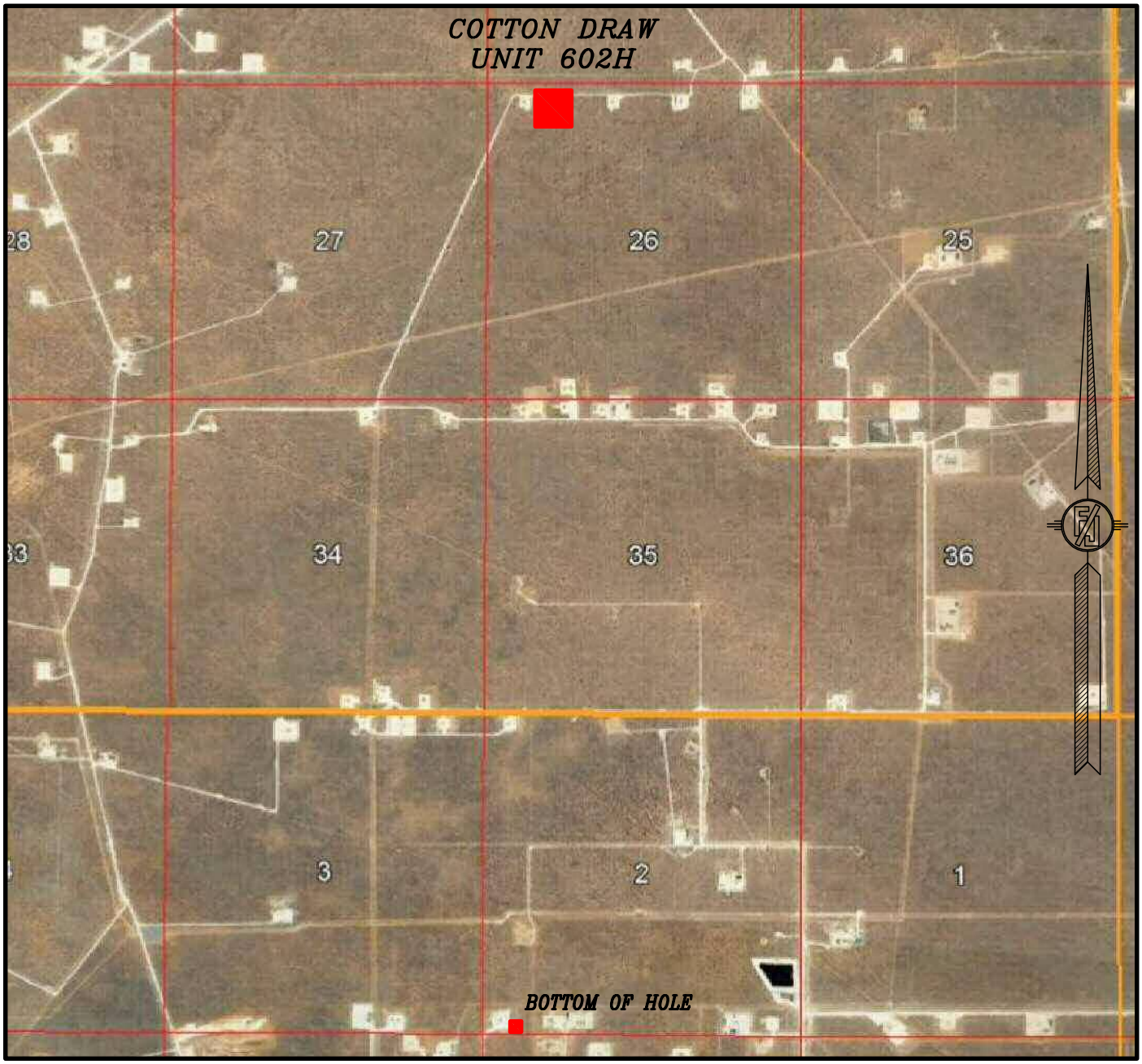
SURVEY NO. 7991C

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

SECTION 26, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
NOVEMBER 2017

DEVON ENERGY PRODUCTION COMPANY, L.P.

COTTON DRAW UNIT 602H

LOCATED 385 FT. FROM THE NORTH LINE
AND 1165 FT. FROM THE WEST LINE OF
SECTION 26, TOWNSHIP 24 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

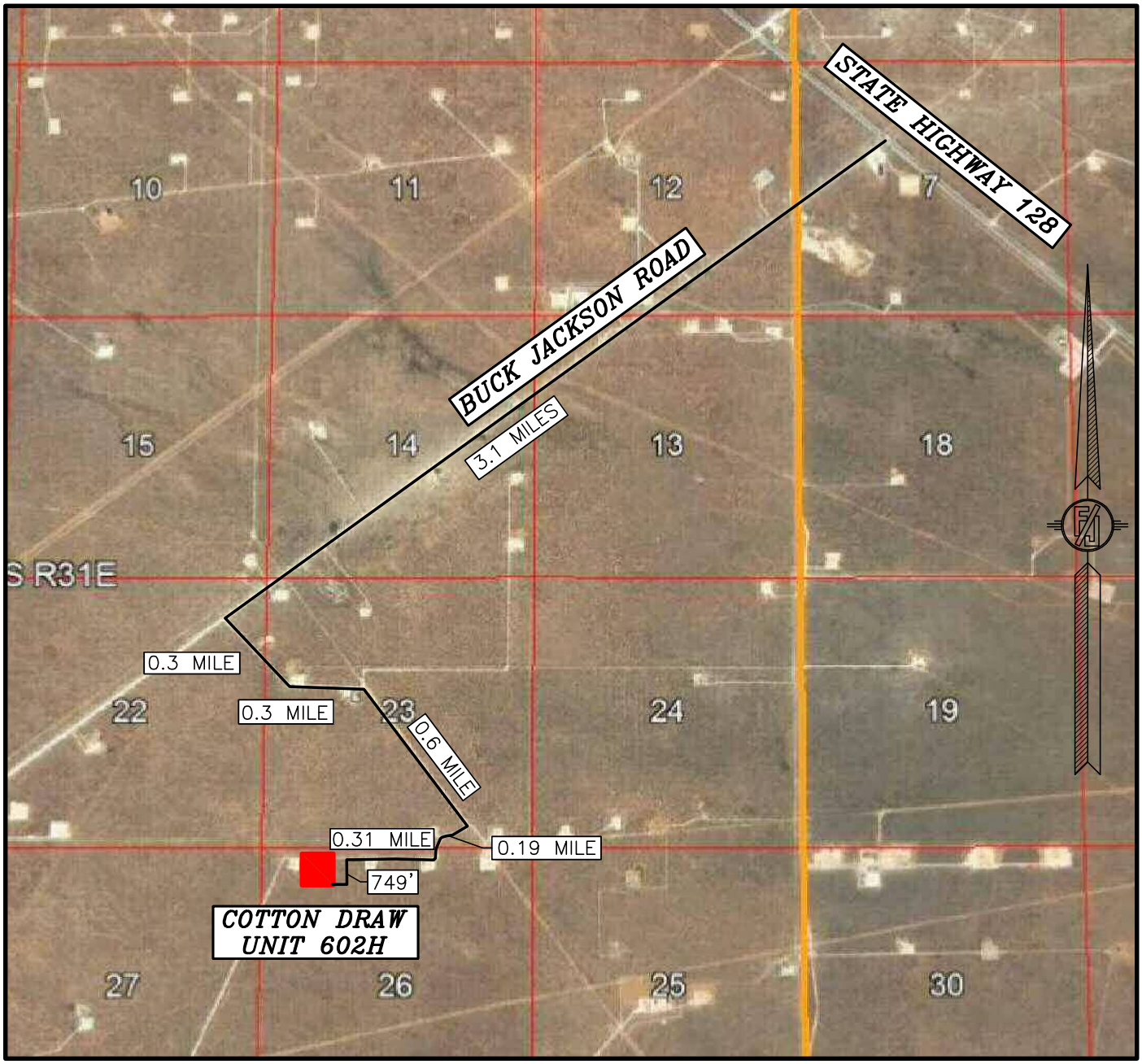
JUNE 15, 2021

SURVEY NO. 7991C

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

SECTION 26, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

ACCESS AERIAL ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
NOVEMBER 2017

DEVON ENERGY PRODUCTION COMPANY, L.P.

COTTON DRAW UNIT 602H

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AND 1165 FT. FROM THE WEST LINE OF
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RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

JUNE 15, 2021

SURVEY NO. 7991C

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

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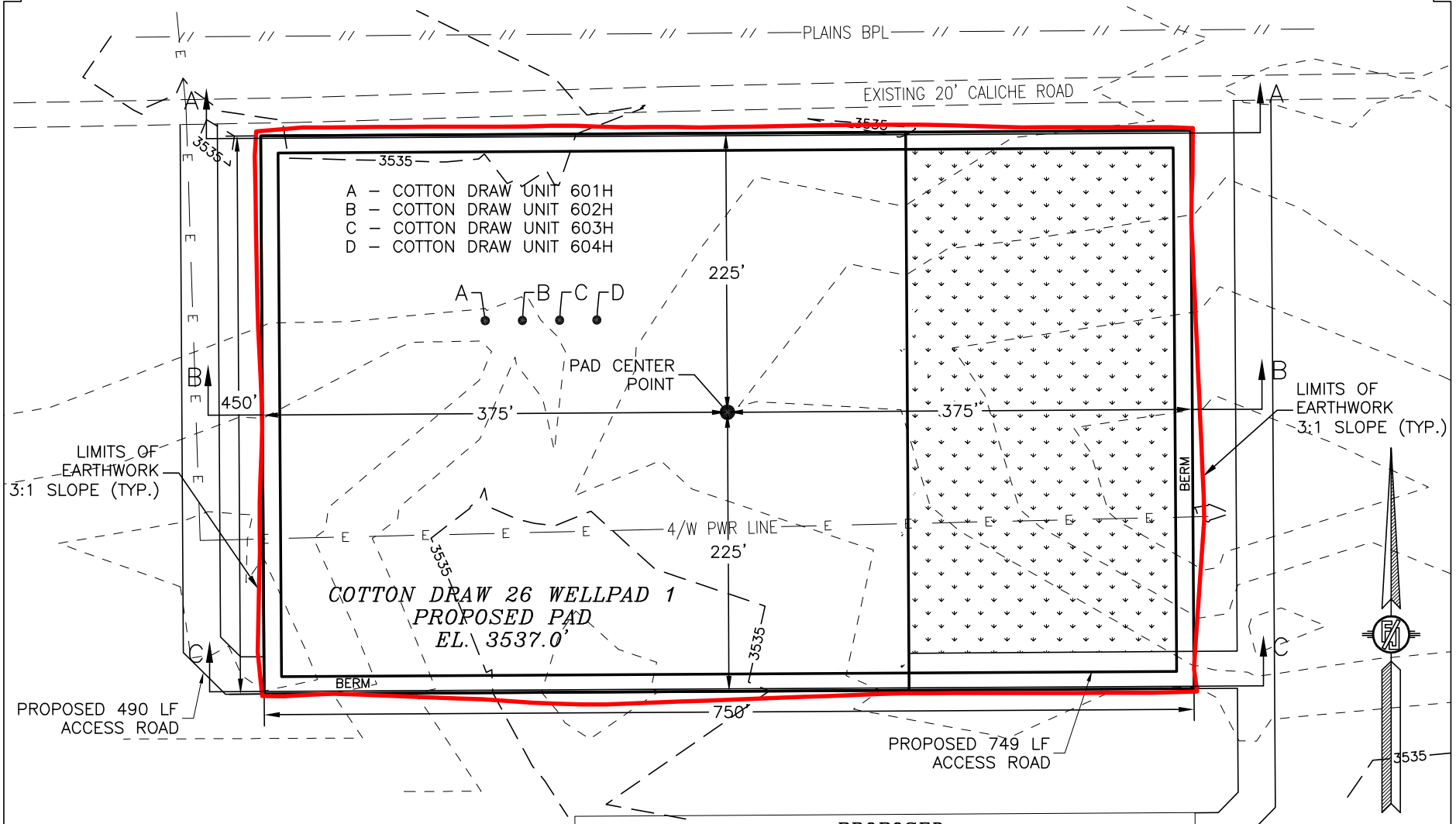
PLAN VIEW



PROPOSED
COTTON DRAW 26 CTB 1

I, FILIMON F. JARAMILLO, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

FILIMON F. JARAMILLO, N.M.P.S. 12797

NEW MEXICO 12797 REGISTERED PROFESSIONAL SURVEYOR

DEVON ENERGY PRODUCTION COMPANY, L.P.
GRADING PLAN AND CROSS SECTIONS
FOR COTTON DRAW UNIT 602H
SECTION 26, TOWNSHIP 24 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

JUNE 15, 2021

012 60 120 240
SCALE 1" = 120'

CUT	FILL	NET
2797 CU. YD	11799 CU. YD	9002 CU. YD (FILL)

EARTHWORK QUANTITIES ARE ESTIMATED

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

SHEET 1-2
SURVEY NO. 7991C

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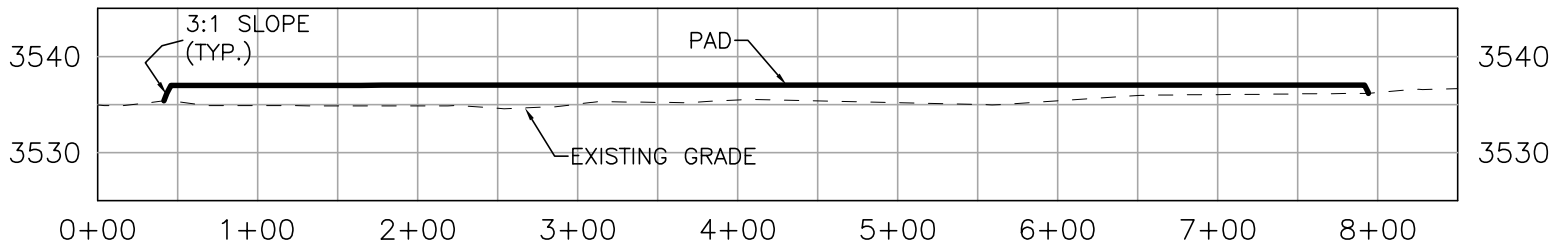
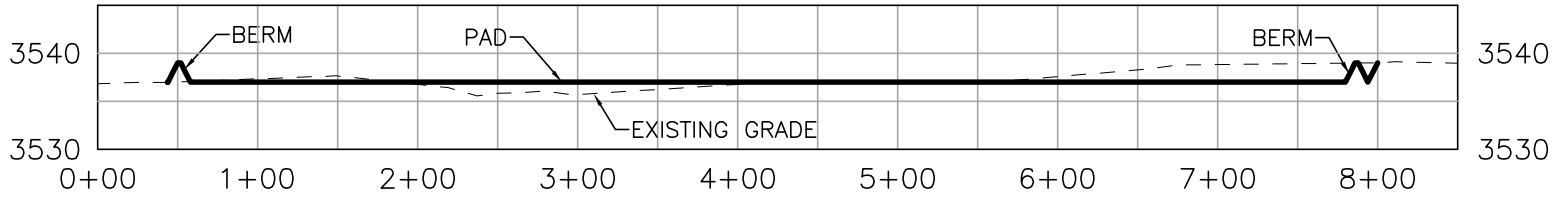
CROSS-SECTIONS

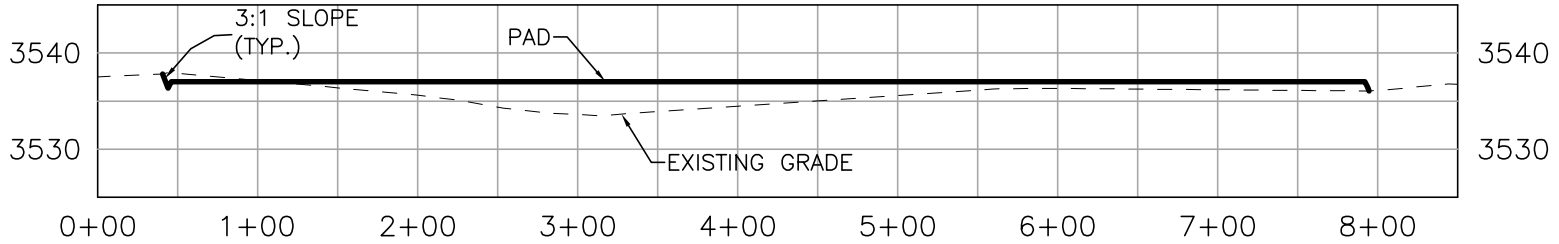
SECTION A-A



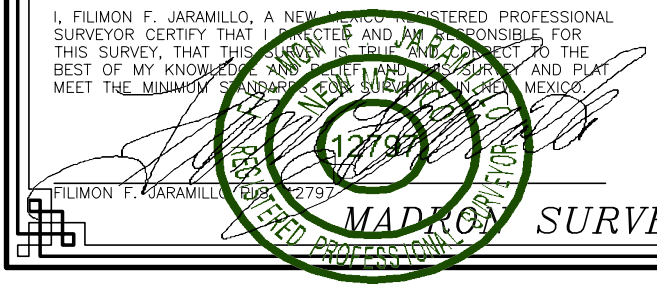
SECTION B-B



SECTION C-C



I, FILIMON F. JARAMILLO, A NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.



FILIMON F. JARAMILLO NO. 12797

DEVON ENERGY PRODUCTION COMPANY, L.P.
GRADING PLAN AND CROSS SECTIONS
FOR COTTON DRAW UNIT 602H
SECTION 26, TOWNSHIP 24 SOUTH,
RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

JUNE 15, 2021

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

CUT	FILL	NET
2797 CU. YD	11799 CU. YD	9002 CU. YD (FILL)

EARTHWORK QUANTITIES ARE ESTIMATED

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

SHEET 2-2
SURVEY NO. 7991C

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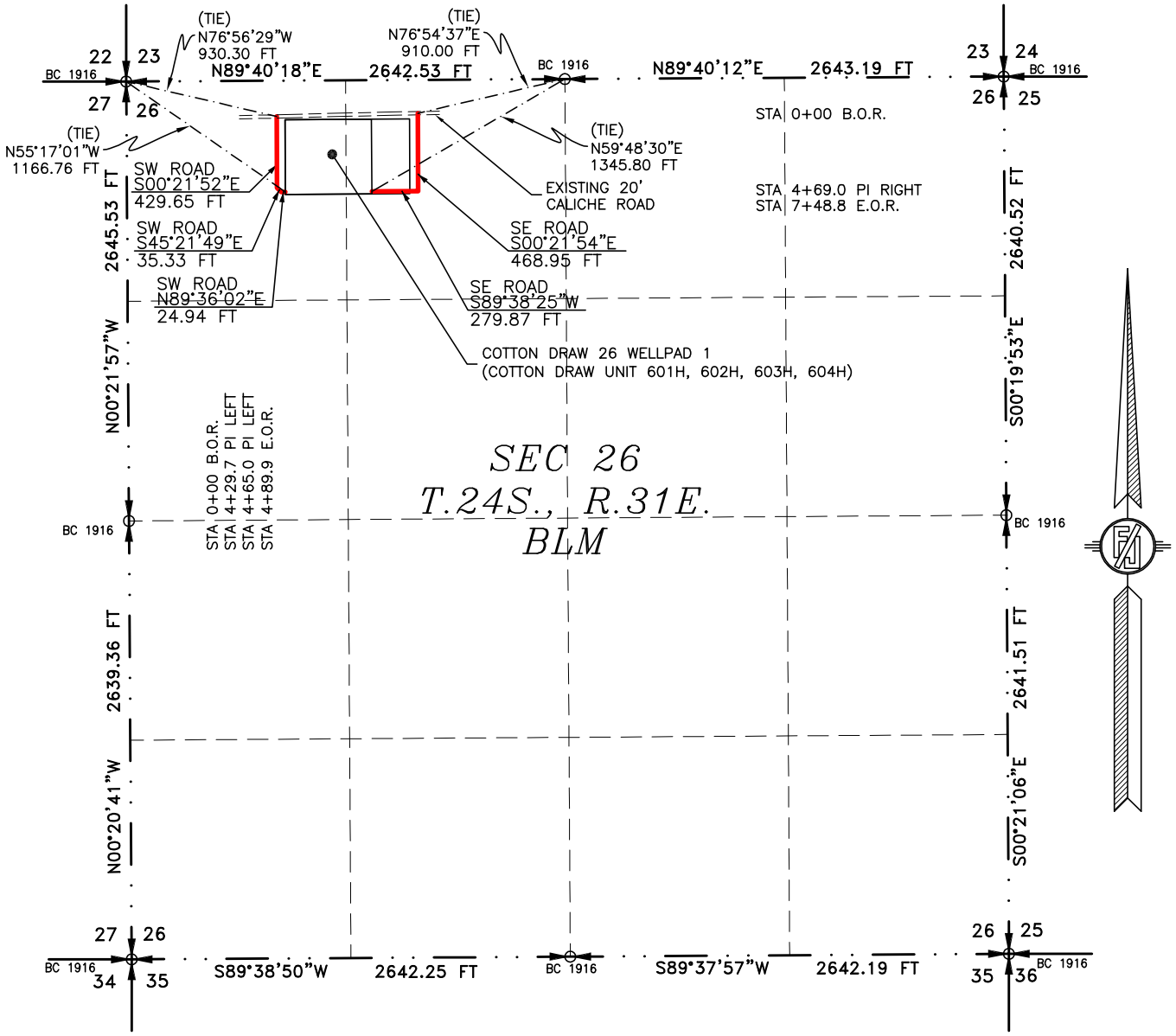
Released to Imaging: 10/28/2021 9:14:50 AM

ACCESS ROAD PLAT (7600351R)

ACCESS ROAD TO COTTON DRAW 26 WELLPAD 1 (COTTON DRAW UNIT 601H, 602H, 603H, 604H)

DEVON ENERGY PRODUCTION COMPANY, L.P.

CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 26, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
JUNE 15, 2021



SEE NEXT SHEET (2–2) FOR DESCRIPTION

1000 0 1000
Scale: 1" = 1000'

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.

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 16 DAY OF JUNE 2021

FILIMON F. JARAMILLO PLS 12797

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

SHEET: 1–2

SURVEY NO. 7991C

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

Received by OCD: 10/21/2021 12:27:10 PM

ACCESS ROAD PLAT (7600351R)

ACCESS ROAD TO COTTON DRAW 26 WELLPAD 1 (COTTON DRAW UNIT 601H, 602H, 603H, 604H)

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 26, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
JUNE 15, 2021

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 26, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

SOUTHWEST ACCESS ROAD

BEGINNING AT A POINT WITHIN THE NW/4 NW/4 OF SAID SECTION 26, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTHWEST CORNER OF SAID SECTION 26, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N76°56'29"W, A DISTANCE OF 930.30 FEET;
THENCE S00°21'52"E A DISTANCE OF 429.65 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S45°21'49"E A DISTANCE OF 35.33 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N89°36'02"E A DISTANCE OF 24.94 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTHWEST CORNER OF SAID SECTION 26, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N55°17'01"W, A DISTANCE OF 1166.76 FEET;

SAID STRIP OF LAND BEING 489.92 FEET OR 29.69 RODS IN LENGTH, CONTAINING 0.337 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NW/4 NW/4	489.92 L.F.	29.69 RODS	0.337 ACRES

SOUTHEAST ACCESS ROAD

BEGINNING AT A POINT WITHIN THE NE/4 NW/4 OF SAID SECTION 26, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M., WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 26, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N76°54'37"E, A DISTANCE OF 910.00 FEET;
THENCE S00°21'54"E A DISTANCE OF 468.95 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE S89°38'25"W A DISTANCE OF 279.87 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE NORTH QUARTER CORNER OF SAID SECTION 26, TOWNSHIP 24 SOUTH, RANGE 31 EAST, N.M.P.M. BEARS N59°48'30"E, A DISTANCE OF 1345.80 FEET;

SAID STRIP OF LAND BEING 748.82 FEET OR 45.38 RODS IN LENGTH, CONTAINING 0.516 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 NW/4	748.82 L.F.	45.38 RODS	0.516 ACRES

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.

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 16 DAY OF JUNE 2021

FILIMON F. JARAMILLO PLS 12797

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

Released to Imaging: 10/28/2021 9:14:50 AM

COTTON DRAW UNIT 602H

1. Geologic Formations

TVD of target	12204	Pilot hole depth	13863
MD at TD:	27785	Deepest expected fresh water	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone?	Hazards*
Rustler	660		
Salt	1010		
Base of Salt	4400		
Cherry Canyon	5360		
Brushy Canyon	6680		
1st Bone Spring Lime	8290		
Bone Spring 1st	9300		
Bone Spring 2nd	9920		
3rd Bone Spring Lime	10440		
Bone Spring 3rd	11215		
Wolfcamp	11700		

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

COTTON DRAW UNIT 602H

2. Casing Program (Primary Design)

Hole Size	Csg. Size	Wt (PPF)	Grade	Conn	Casing Interval		Casing Interval	
					From (MD)	To (MD)	From (TVD)	To (TVD)
17 1/2	13 3/8	48	H40	STC	0	685	0	685
9 7/8	8 5/8	32	P110	TLW	0	11700	0	11700
7 7/8	5 1/2	17	P110	BTC	0	27785	0	12204

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

3. Cementing Program (Primary Design)

Casing	# Sks	TOC	Wt. ppg	Yld (ft3/sack)	Slurry Description
Surface	534	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	451	Surf	9	3.27	Lead: Class C Cement + additives
	465	4000' above	13.2	1.44	Tail: Class H / C + additives
Int 1 Intermediate Squeeze	As Needed	Surf	13.2	1.44	Squeeze Lead: Class C Cement + additives
	451	Surf	9	3.27	Lead: Class C Cement + additives
	465	4000' above	13.2	1.44	Tail: Class H / C + additives
Production	117	9751	9	3.27	Lead: Class H /C + additives
	2122	11751	13.2	1.44	Tail: Class H / C + additives

Casing String	% Excess
Surface	50%
Intermediate 1	30%
Intermediate 1 (Two Stage)	25%
Prod	10%

4. Pressure Control Equipment (Three String Design)

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
Int 1	13-58"	5M	Annular	X	100% of rated working pressure
			Blind Ram	X	5M
			Pipe Ram		
			Double Ram	X	
			Other*		
Production	13-5/8"	10M	Annular (5M)	X	100% of rated working pressure
			Blind Ram	X	10M
			Pipe Ram		
			Double Ram	X	
			Other*		
			Annular (5M)		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other*		

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
Y	A variance is requested to run a 5 M annular on a 10M system

5. Mud Program (Three String Design)

Section	Type	Weight

Section	Type	(ppg)
Surface	FW Gel	8.5-9
Intermediate	DBE / Cut Brine	10-10.5
Production	OBM	10-10.5

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

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

6. Logging and Testing Procedures

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

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

7. Drilling Conditions

Condition	Specfiy what type and where?
BH pressure at deepest TVD	6664
Abnormal temperature	No

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

Hydrogren 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? Potentially

1 If operator elects, drilling rig will batch drill the surface holes and run/cement surface casing; walking the rig to next wells on the pad.
2 The drilling rig will then batch drill the intermediate sections and run/cement intermediate casing; the wellbore will be isolated with a blind flange and pressure gauge installed for monitoring the well before walking to the next well.
3 The drilling rig will then batch drill the production hole sections on the wells with OBM, run/cement production casing, and install TA caps or tubing heads for completions.

NOTE: During batch operations the drilling rig will be moved from well to well however, it will not be removed from the pad until all wells have production casing run/cemented.

Will be pre-setting casing? Potentially

1 Spudder rig will move in and batch drill surface hole.
    a. Rig will utilize fresh water based mud to drill surface hole to TD. Solids control will be handled entirely on a closed loop basis.,
2 After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
3 The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
4 A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
5 Spudder rig operations is expected to take 4-5 days per well on a multi-well pa.
6 The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
7 Drilling operations will be performed with drilling rig. A that time an approved BOP stack will be nippled up and tested on the wellhead before drilling operations commences on each well.
    a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

Attachments

X Directional Plan
_____ Other, describe

Cotton Draw Unit 602H

9. Pilot Hole

Hole Size 7 7/8”	
From	**To**
11,820 (Pilot Begin)	13,915 (Pilot end)

- Pilot hole will be plugged back per NMOCD P&A requirements with a **cement plug**.
- Plug depths will be verified and tagged on the plug back.
- Devon will contact the NMOCD and give notice before performing any of the aforementioned procedures including the tagging of the cement plug.

PILOT HOLE ABDMNT:	
Slurry Top:	11,500
Slurry Base:	11,950
Slurry Weight:	15.6
Cement Plug Height:	450’
BP Set Depth	11,393
WHIP WINDOW	11,383-11,393

	TOC	Wt. (lb/gal)	H_20 (gal/sk)	Yld (ft3/sack)	Slurry Description
Abandonment Plug	11,500	15.6	5.24	1.18	• Lead: Class H Cement + Retarder – HR-601 – 0.1% BWOC • Suspension Agent – SA-1015 – 0.05% BWOC • Fluid Loss Additive – Halad-322 – 0.5% BWOC

Released to Imaging: 10/28/2021 9:14:50 AM
Received by OCD: 10/21/2021 12:27:10 PM

GL 3536.20+30ft @ 3566.20ft (Cactus 129)
Ground Level 3536.20

Cotton Draw Unit 602H
Eddy County (NAD 83 NM Eastern)
Northing: 434991.41
Easting: 720742.11
Lat: 32.1945388
Long: -103.7533629
Pilot Hole Plan

SECTION DETAILS
Cotton Draw Unit 602H

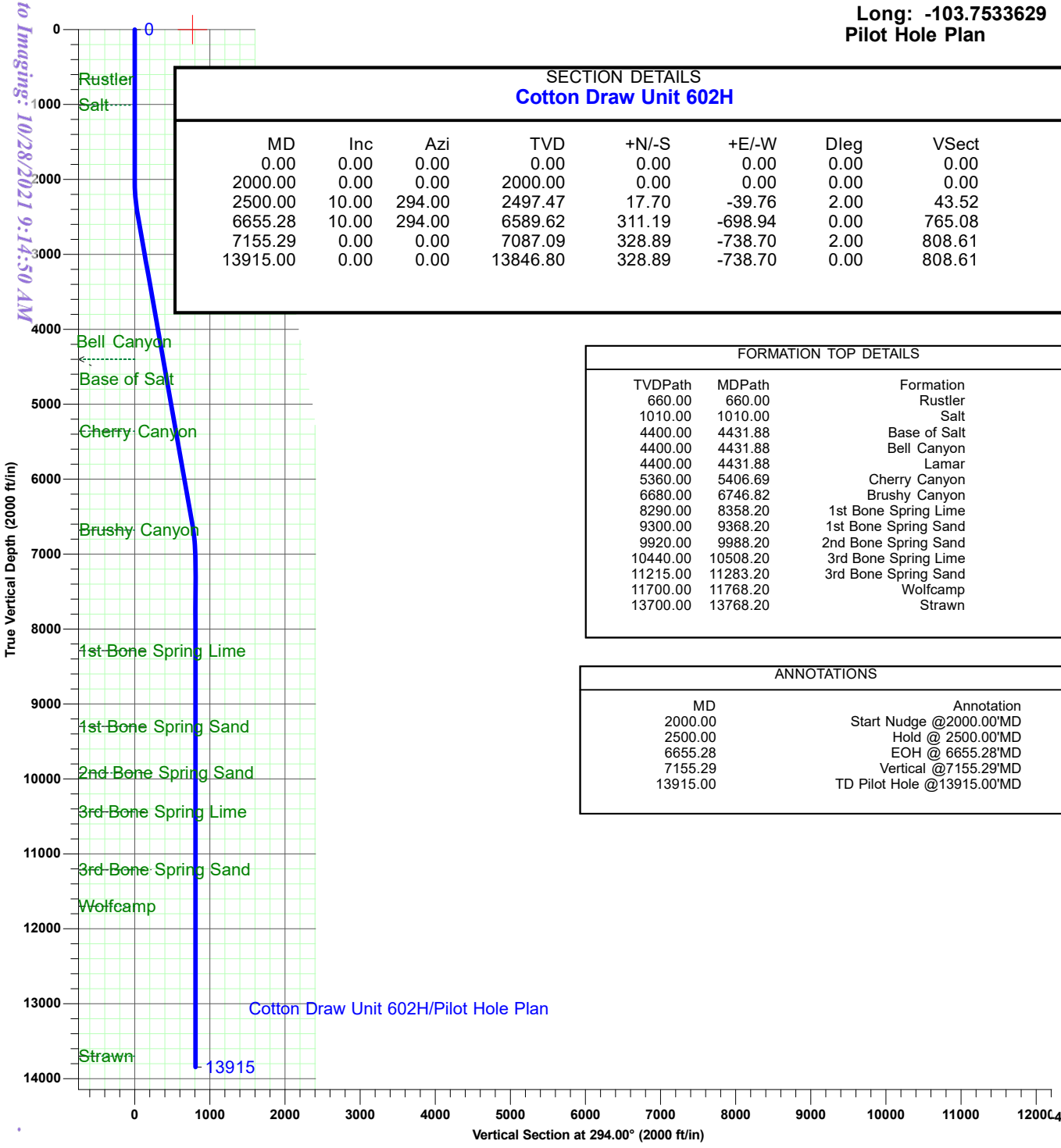
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00
2500.00	10.00	294.00	2497.47	17.70	-39.76	2.00	43.52
6655.28	10.00	294.00	6589.62	311.19	-698.94	0.00	765.08
7155.29	0.00	0.00	7087.09	328.89	-738.70	2.00	808.61
13915.00	0.00	0.00	13846.80	328.89	-738.70	0.00	808.61

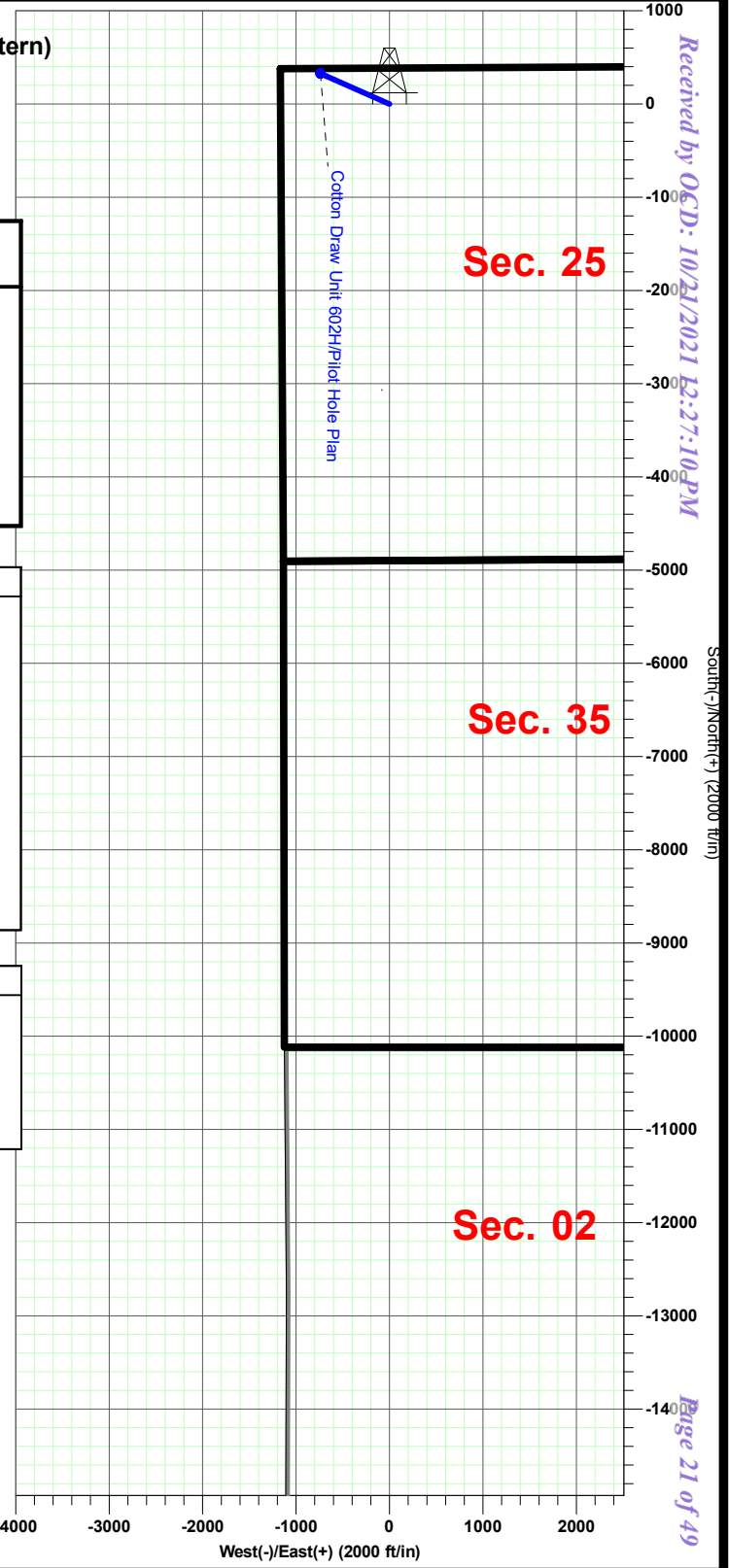
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
660.00	660.00	Rustler
1010.00	1010.00	Salt
4400.00	4431.88	Base of Salt
4400.00	4431.88	Bell Canyon
4400.00	4431.88	Lamar
5360.00	5406.69	Cherry Canyon
6680.00	6746.82	Brushy Canyon
8290.00	8358.20	1st Bone Spring Lime
9300.00	9368.20	1st Bone Spring Sand
9920.00	9988.20	2nd Bone Spring Sand
10440.00	10508.20	3rd Bone Spring Lime
11215.00	11283.20	3rd Bone Spring Sand
11700.00	11768.20	Wolfcamp
13700.00	13768.20	Strawn

ANNOTATIONS

MD	Annotation
2000.00	Start Nudge @2000.00'MD
2500.00	Hold @ 2500.00'MD
6655.28	EOH @ 6655.28'MD
7155.29	Vertical @7155.29'MD
13915.00	TD Pilot Hole @13915.00'MD





Devon Energy

Planning Report - Geographic

Database:	EDM r5000.16_Prod US	**Local Co-ordinate Reference:**	Well Cotton Draw Unit 602H
Company:	WCDSC Permian NM	**TVD Reference:**	GL:3536.20+30ft @ 3566.20ft (Cactus 129)
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	GL:3536.20+30ft @ 3566.20ft (Cactus 129)
Site:	Sec 26-T24S-R31E	**North Reference:**	Grid
Well:	Cotton Draw Unit 602H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Pilot Hole Plan		

Project Eddy County (NAD 83 NM Eastern)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Sec 26-T24S-R31E

Site Position:		**Northing:**	435,369.69 usft	**Latitude:**	32.1955959
From:	Map	**Easting:**	719,574.99 usft	**Longitude:**	-103.7571292
Position Uncertainty:	5.00 ft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.31 °

Well Cotton Draw Unit 602H

Well Position	**+N/-S**	0.00 ft	**Northing:**	434,991.41 usft	**Latitude:**	32.1945388
	+E/-W	0.00 ft	**Easting:**	720,742.11 usft	**Longitude:**	-103.7533629
Position Uncertainty		0.50 ft	**Wellhead Elevation:**		**Ground Level:**	3,536.20 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/23/2020	6.74	59.97	47,616.59248482

Design Pilot Hole Plan

Audit Notes:

Version:	**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	294.00

Plan Survey Tool Program **Date** 9/7/2021

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	13,915.00	Pilot Hole Plan (Wellbore #1)	MWD+HDGM OWSG MWD + HDGM	

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	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	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,500.00	10.00	294.00	2,497.47	17.70	-39.76	2.00	2.00	0.00	294.00	
6,655.28	10.00	294.00	6,589.62	311.19	-698.94	0.00	0.00	0.00	0.00	
7,155.29	0.00	0.00	7,087.09	328.89	-738.70	2.00	-2.00	0.00	180.00	
13,915.00	0.00	0.00	13,846.80	328.89	-738.70	0.00	0.00	0.00	0.00	

Devon Energy

Planning Report - Geographic

Database:	EDM r5000.16_Prod US	**Local Co-ordinate Reference:**	Well Cotton Draw Unit 602H
Company:	WCDSC Permian NM	**TVD Reference:**	GL:3536.20+30ft @ 3566.20ft (Cactus 129)
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	GL:3536.20+30ft @ 3566.20ft (Cactus 129)
Site:	Sec 26-T24S-R31E	**North Reference:**	Grid
Well:	Cotton Draw Unit 602H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Pilot Hole Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
100.00	0.00	0.00	100.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
200.00	0.00	0.00	200.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
300.00	0.00	0.00	300.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
400.00	0.00	0.00	400.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
500.00	0.00	0.00	500.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
600.00	0.00	0.00	600.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
660.00	0.00	0.00	660.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
Rustler									
700.00	0.00	0.00	700.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
800.00	0.00	0.00	800.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
900.00	0.00	0.00	900.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
1,000.00	0.00	0.00	1,000.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
1,010.00	0.00	0.00	1,010.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
Salt									
1,100.00	0.00	0.00	1,100.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
1,200.00	0.00	0.00	1,200.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
1,300.00	0.00	0.00	1,300.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
1,400.00	0.00	0.00	1,400.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
1,500.00	0.00	0.00	1,500.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
1,600.00	0.00	0.00	1,600.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
1,700.00	0.00	0.00	1,700.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
1,800.00	0.00	0.00	1,800.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
1,900.00	0.00	0.00	1,900.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
2,000.00	0.00	0.00	2,000.00	0.00	0.00	434,991.41	720,742.11	32.1945388	-103.7533629
Start Nudge @2000.00'MD									
2,100.00	2.00	294.00	2,099.98	0.71	-1.59	434,992.12	720,740.51	32.1945408	-103.7533680
2,200.00	4.00	294.00	2,199.84	2.84	-6.38	434,994.25	720,735.73	32.1945467	-103.7533835
2,300.00	6.00	294.00	2,299.45	6.38	-14.34	434,997.79	720,727.77	32.1945566	-103.7534091
2,400.00	8.00	294.00	2,398.70	11.34	-25.47	435,002.75	720,716.64	32.1945704	-103.7534450
2,500.00	10.00	294.00	2,497.47	17.70	-39.76	435,009.11	720,702.35	32.1945881	-103.7534911
Hold @ 2500.00'MD									
2,600.00	10.00	294.00	2,595.95	24.77	-55.62	435,016.17	720,686.48	32.1946077	-103.7535423
2,700.00	10.00	294.00	2,694.43	31.83	-71.49	435,023.24	720,670.62	32.1946274	-103.7535934
2,800.00	10.00	294.00	2,792.91	38.89	-87.35	435,030.30	720,654.76	32.1946470	-103.7536446
2,900.00	10.00	294.00	2,891.39	45.95	-103.21	435,037.36	720,638.89	32.1946667	-103.7536957
3,000.00	10.00	294.00	2,989.87	53.02	-119.08	435,044.43	720,623.03	32.1946863	-103.7537469
3,100.00	10.00	294.00	3,088.35	60.08	-134.94	435,051.49	720,607.16	32.1947060	-103.7537981
3,200.00	10.00	294.00	3,186.83	67.14	-150.81	435,058.55	720,591.30	32.1947256	-103.7538492
3,300.00	10.00	294.00	3,285.31	74.21	-166.67	435,065.62	720,575.44	32.1947453	-103.7539004
3,400.00	10.00	294.00	3,383.79	81.27	-182.53	435,072.68	720,559.57	32.1947649	-103.7539515
3,500.00	10.00	294.00	3,482.27	88.33	-198.40	435,079.74	720,543.71	32.1947846	-103.7540027
3,600.00	10.00	294.00	3,580.75	95.39	-214.26	435,086.80	720,527.85	32.1948042	-103.7540539
3,700.00	10.00	294.00	3,679.23	102.46	-230.12	435,093.87	720,511.98	32.1948239	-103.7541050
3,800.00	10.00	294.00	3,777.72	109.52	-245.99	435,100.93	720,496.12	32.1948435	-103.7541562
3,900.00	10.00	294.00	3,876.20	116.58	-261.85	435,107.99	720,480.26	32.1948632	-103.7542073
4,000.00	10.00	294.00	3,974.68	123.65	-277.71	435,115.06	720,464.39	32.1948828	-103.7542585
4,100.00	10.00	294.00	4,073.16	130.71	-293.58	435,122.12	720,448.53	32.1949025	-103.7543096
4,200.00	10.00	294.00	4,171.64	137.77	-309.44	435,129.18	720,432.66	32.1949221	-103.7543608
4,300.00	10.00	294.00	4,270.12	144.84	-325.31	435,136.24	720,416.80	32.1949418	-103.7544120
4,400.00	10.00	294.00	4,368.60	151.90	-341.17	435,143.31	720,400.94	32.1949614	-103.7544631
4,431.88	10.00	294.00	4,400.00	154.15	-346.23	435,145.56	720,395.88	32.1949677	-103.7544794
Base of Salt - Lamar - Bell Canyon									
4,500.00	10.00	294.00	4,467.08	158.96	-357.03	435,150.37	720,385.07	32.1949811	-103.7545143

Devon Energy

Planning Report - Geographic

Database:	EDM r5000.16_Prod US	**Local Co-ordinate Reference:**	Well Cotton Draw Unit 602H
Company:	WCDSC Permian NM	**TVD Reference:**	GL:3536.20+30ft @ 3566.20ft (Cactus 129)
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	GL:3536.20+30ft @ 3566.20ft (Cactus 129)
Site:	Sec 26-T24S-R31E	**North Reference:**	Grid
Well:	Cotton Draw Unit 602H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Pilot Hole Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,600.00	10.00	294.00	4,565.56	166.02	-372.90	435,157.43	720,369.21	32.1950007	-103.7545654
4,700.00	10.00	294.00	4,664.04	173.09	-388.76	435,164.50	720,353.35	32.1950204	-103.7546166
4,800.00	10.00	294.00	4,762.52	180.15	-404.62	435,171.56	720,337.48	32.1950400	-103.7546678
4,900.00	10.00	294.00	4,861.00	187.21	-420.49	435,178.62	720,321.62	32.1950597	-103.7547189
5,000.00	10.00	294.00	4,959.48	194.28	-436.35	435,185.69	720,305.76	32.1950793	-103.7547701
5,100.00	10.00	294.00	5,057.97	201.34	-452.21	435,192.75	720,289.89	32.1950989	-103.7548212
5,200.00	10.00	294.00	5,156.45	208.40	-468.08	435,199.81	720,274.03	32.1951186	-103.7548724
5,300.00	10.00	294.00	5,254.93	215.46	-483.94	435,206.87	720,258.17	32.1951382	-103.7549235
5,400.00	10.00	294.00	5,353.41	222.53	-499.81	435,213.94	720,242.30	32.1951579	-103.7549747
5,406.69	10.00	294.00	5,360.00	223.00	-500.87	435,214.41	720,241.24	32.1951592	-103.7549781
Cherry Canyon									
5,500.00	10.00	294.00	5,451.89	229.59	-515.67	435,221.00	720,226.44	32.1951775	-103.7550259
5,600.00	10.00	294.00	5,550.37	236.65	-531.53	435,228.06	720,210.57	32.1951972	-103.7550770
5,700.00	10.00	294.00	5,648.85	243.72	-547.40	435,235.13	720,194.71	32.1952168	-103.7551282
5,800.00	10.00	294.00	5,747.33	250.78	-563.26	435,242.19	720,178.85	32.1952365	-103.7551793
5,900.00	10.00	294.00	5,845.81	257.84	-579.12	435,249.25	720,162.98	32.1952561	-103.7552305
6,000.00	10.00	294.00	5,944.29	264.91	-594.99	435,256.31	720,147.12	32.1952758	-103.7552817
6,100.00	10.00	294.00	6,042.77	271.97	-610.85	435,263.38	720,131.26	32.1952954	-103.7553328
6,200.00	10.00	294.00	6,141.25	279.03	-626.71	435,270.44	720,115.39	32.1953151	-103.7553840
6,300.00	10.00	294.00	6,239.73	286.09	-642.58	435,277.50	720,099.53	32.1953347	-103.7554351
6,400.00	10.00	294.00	6,338.22	293.16	-658.44	435,284.57	720,083.67	32.1953544	-103.7554863
6,500.00	10.00	294.00	6,436.70	300.22	-674.31	435,291.63	720,067.80	32.1953740	-103.7555374
6,600.00	10.00	294.00	6,535.18	307.28	-690.17	435,298.69	720,051.94	32.1953937	-103.7555886
6,655.28	10.00	294.00	6,589.62	311.19	-698.94	435,302.60	720,043.17	32.1954045	-103.7556169
EOH @ 6655.28'MD									
6,700.00	9.11	294.00	6,633.72	314.21	-705.72	435,305.61	720,036.39	32.1954129	-103.7556388
6,746.82	8.17	294.00	6,680.00	317.07	-712.14	435,308.47	720,029.97	32.1954209	-103.7556595
Brushy Canyon									
6,800.00	7.11	294.00	6,732.71	319.94	-718.60	435,311.35	720,023.51	32.1954289	-103.7556803
6,900.00	5.11	294.00	6,832.14	324.27	-728.32	435,315.68	720,013.79	32.1954409	-103.7557116
7,000.00	3.11	294.00	6,931.88	327.18	-734.86	435,318.59	720,007.25	32.1954490	-103.7557327
7,100.00	1.11	294.00	7,031.81	328.67	-738.21	435,320.08	720,003.89	32.1954532	-103.7557435
7,155.29	0.00	0.00	7,087.09	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
Vertical @7155.29'MD									
7,200.00	0.00	0.00	7,131.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
7,300.00	0.00	0.00	7,231.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
7,400.00	0.00	0.00	7,331.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
7,500.00	0.00	0.00	7,431.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
7,600.00	0.00	0.00	7,531.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
7,700.00	0.00	0.00	7,631.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
7,800.00	0.00	0.00	7,731.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
7,900.00	0.00	0.00	7,831.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
8,000.00	0.00	0.00	7,931.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
8,100.00	0.00	0.00	8,031.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
8,200.00	0.00	0.00	8,131.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
8,300.00	0.00	0.00	8,231.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
8,358.20	0.00	0.00	8,290.00	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
1st Bone Spring Lime									
8,400.00	0.00	0.00	8,331.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
8,500.00	0.00	0.00	8,431.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
8,600.00	0.00	0.00	8,531.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
8,700.00	0.00	0.00	8,631.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
8,800.00	0.00	0.00	8,731.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
8,900.00	0.00	0.00	8,831.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451

Devon Energy

Planning Report - Geographic

Database:	EDM r5000.16_Prod US	**Local Co-ordinate Reference:**	Well Cotton Draw Unit 602H
Company:	WCDSC Permian NM	**TVD Reference:**	GL:3536.20+30ft @ 3566.20ft (Cactus 129)
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	GL:3536.20+30ft @ 3566.20ft (Cactus 129)
Site:	Sec 26-T24S-R31E	**North Reference:**	Grid
Well:	Cotton Draw Unit 602H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Pilot Hole Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,000.00	0.00	0.00	8,931.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
9,100.00	0.00	0.00	9,031.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
9,200.00	0.00	0.00	9,131.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
9,300.00	0.00	0.00	9,231.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
9,368.20	0.00	0.00	9,300.00	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
1st Bone Spring Sand									
9,400.00	0.00	0.00	9,331.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
9,500.00	0.00	0.00	9,431.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
9,600.00	0.00	0.00	9,531.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
9,700.00	0.00	0.00	9,631.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
9,800.00	0.00	0.00	9,731.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
9,900.00	0.00	0.00	9,831.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
9,988.20	0.00	0.00	9,920.00	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
2nd Bone Spring Sand									
10,000.00	0.00	0.00	9,931.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
10,100.00	0.00	0.00	10,031.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
10,200.00	0.00	0.00	10,131.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
10,300.00	0.00	0.00	10,231.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
10,400.00	0.00	0.00	10,331.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
10,500.00	0.00	0.00	10,431.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
10,508.20	0.00	0.00	10,440.00	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
3rd Bone Spring Lime									
10,600.00	0.00	0.00	10,531.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
10,700.00	0.00	0.00	10,631.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
10,800.00	0.00	0.00	10,731.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
10,900.00	0.00	0.00	10,831.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
11,000.00	0.00	0.00	10,931.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
11,100.00	0.00	0.00	11,031.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
11,200.00	0.00	0.00	11,131.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
11,283.20	0.00	0.00	11,215.00	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
3rd Bone Spring Sand									
11,300.00	0.00	0.00	11,231.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
11,400.00	0.00	0.00	11,331.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
11,500.00	0.00	0.00	11,431.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
11,600.00	0.00	0.00	11,531.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
11,700.00	0.00	0.00	11,631.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
11,768.20	0.00	0.00	11,700.00	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
Wolfcamp									
11,800.00	0.00	0.00	11,731.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
11,900.00	0.00	0.00	11,831.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
12,000.00	0.00	0.00	11,931.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
12,100.00	0.00	0.00	12,031.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
12,200.00	0.00	0.00	12,131.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
12,300.00	0.00	0.00	12,231.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
12,400.00	0.00	0.00	12,331.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
12,500.00	0.00	0.00	12,431.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
12,600.00	0.00	0.00	12,531.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
12,700.00	0.00	0.00	12,631.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
12,800.00	0.00	0.00	12,731.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
12,900.00	0.00	0.00	12,831.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
13,000.00	0.00	0.00	12,931.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
13,100.00	0.00	0.00	13,031.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
13,200.00	0.00	0.00	13,131.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
13,300.00	0.00	0.00	13,231.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451

Devon Energy

Planning Report - Geographic

Database:	EDM r5000.16_Prod US	**Local Co-ordinate Reference:**	Well Cotton Draw Unit 602H
Company:	WCDSC Permian NM	**TVD Reference:**	GL:3536.20+30ft @ 3566.20ft (Cactus 129)
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	GL:3536.20+30ft @ 3566.20ft (Cactus 129)
Site:	Sec 26-T24S-R31E	**North Reference:**	Grid
Well:	Cotton Draw Unit 602H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Pilot Hole Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
13,400.00	0.00	0.00	13,331.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
13,500.00	0.00	0.00	13,431.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
13,600.00	0.00	0.00	13,531.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
13,700.00	0.00	0.00	13,631.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
13,768.20	0.00	0.00	13,700.00	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
Strawn									
13,800.00	0.00	0.00	13,731.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
13,900.00	0.00	0.00	13,831.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
13,915.00	0.00	0.00	13,846.80	328.89	-738.70	435,320.30	720,003.41	32.1954538	-103.7557451
TD Pilot Hole @13915.00'MD									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP (602H) 100'FNL, 45	0.00	0.00	0.00	280.84	-716.64	435,272.25	720,025.47	32.1953214	-103.7556746
- plan misses target center by 769.71ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
LTP (602H) 100'FSL, 45	0.00	0.00	0.00	-15,297.33	-660.34	419,694.11	720,081.77	32.1524995	-103.7557630
- plan misses target center by 15311.58ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
BHL (602H) 20'FSL, 450	0.00	0.01	12,204.00	-15,377.31	-660.57	419,614.13	720,081.54	32.1522797	-103.7557651
- plan misses target center by 15706.40ft at 12272.20ft MD (12204.00 TVD, 328.89 N, -738.70 E)									
- Point									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
27,730.21		20" Casing	20	24

Devon Energy

Planning Report - Geographic

Database:	EDM r5000.16_Prod US	**Local Co-ordinate Reference:**	Well Cotton Draw Unit 602H
Company:	WCDSC Permian NM	**TVD Reference:**	GL:3536.20+30ft @ 3566.20ft (Cactus 129)
Project:	Eddy County (NAD 83 NM Eastern)	**MD Reference:**	GL:3536.20+30ft @ 3566.20ft (Cactus 129)
Site:	Sec 26-T24S-R31E	**North Reference:**	Grid
Well:	Cotton Draw Unit 602H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Pilot Hole Plan		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
660.00	660.00	Rustler			
1,010.00	1,010.00	Salt			
4,431.88	4,400.00	Base of Salt			
4,431.88	4,400.00	Lamar			
4,431.88	4,400.00	Bell Canyon			
5,406.69	5,360.00	Cherry Canyon			
6,746.82	6,680.00	Brushy Canyon			
8,358.20	8,290.00	1st Bone Spring Lime			
9,368.20	9,300.00	1st Bone Spring Sand			
9,988.20	9,920.00	2nd Bone Spring Sand			
10,508.20	10,440.00	3rd Bone Spring Lime			
11,283.20	11,215.00	3rd Bone Spring Sand			
11,768.20	11,700.00	Wolfcamp			
13,768.20	13,700.00	Strawn			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2,000.00	2,000.00	0.00	0.00	Start Nudge @2000.00'MD
2,500.00	2,497.47	17.70	-39.76	Hold @ 2500.00'MD
6,655.28	6,589.62	311.19	-698.94	EOH @ 6655.28'MD
7,155.29	7,087.09	328.89	-738.70	Vertical @7155.29'MD
13,915.00	13,846.80	328.89	-738.70	TD Pilot Hole @13915.00'MD

Cotton Draw Unit 602H

total

devon

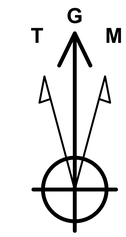
WELL DETAILS: Cotton Draw Unit 602H
PH Plan 1

GL Elev (ft).: 3536.20

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	434991.41	720742.11	32.194539	-103.753363

SECTION DETAILS

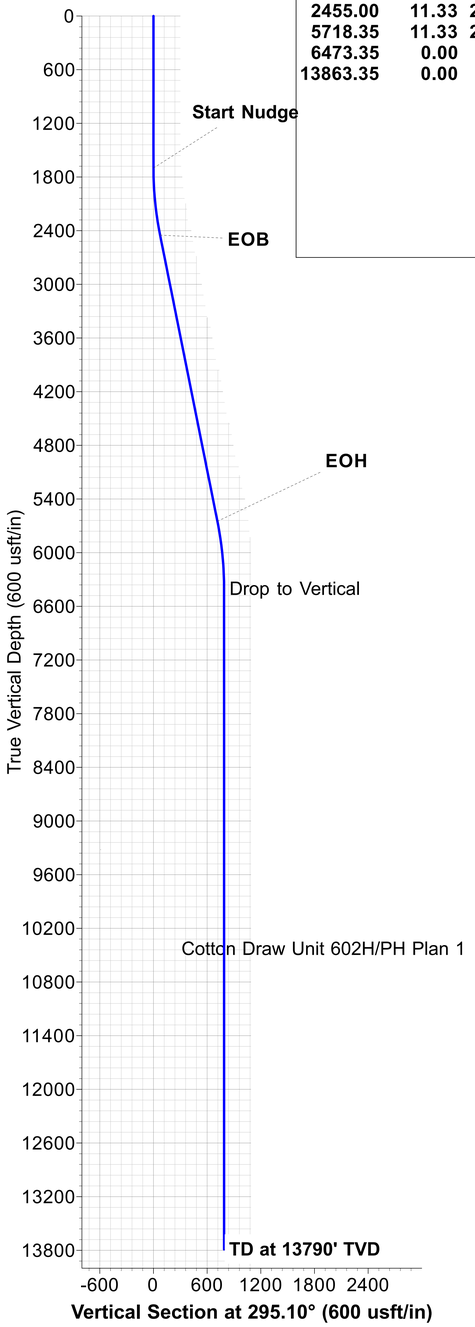
MD	Inc	Azi	TVD	+N/-S	+E/-W	DIeg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1700.00	0.00	0.00	1700.00	0.00	0.00	0.00	0.00	0.00	Start Nudge
2455.00	11.33	295.10	2450.10	31.55	-67.35	1.50	295.10	74.37	EOB
5718.35	11.33	295.10	5649.90	303.45	-647.65	0.00	0.00	715.21	EOH
6473.35	0.00	0.00	6400.00	335.00	-715.00	1.50	180.00	789.59	Drop to Vertical
13863.35	0.00	0.00	13790.00	335.00	-715.00	0.00	0.00	789.59	TD at 13790' TVD

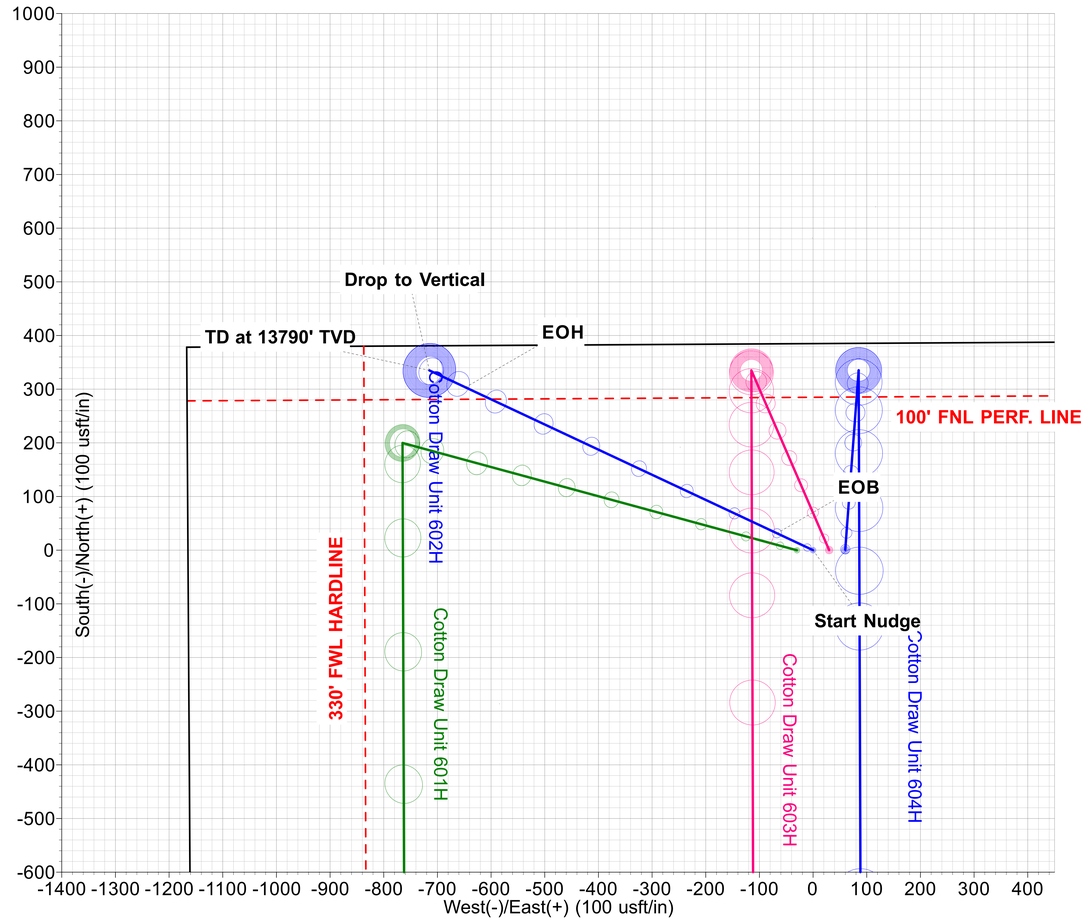


Azimuths to Grid North
True North: -0.31°
Magnetic North: 6.28°

Magnetic Field
Strength: 47424.2nT
Dip Angle: 59.84°
Date: 10/7/2021
Model: IGRF2020

Project: Eddy County, NM (NAD83)
Site: Cotton Draw Unit
Well: Cotton Draw Unit 602H
Wellbore: Pilot Hole
Design: PH Plan 1





Devon Energy

Eddy County, NM (NAD83)
Cotton Draw Unit
Cotton Draw Unit 602H

Wellbore #1

Plan: Plan 1

Standard Planning Report

04 October, 2021

Total Directional Services

Planning Report

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well Cotton Draw Unit 602H
Company:	Devon Energy	**TVD Reference:**	GE 3536.2' + KB 30' @ 3566.20usft
Project:	Eddy County, NM (NAD83)	**MD Reference:**	GE 3536.2' + KB 30' @ 3566.20usft
Site:	Cotton Draw Unit	**North Reference:**	Grid
Well:	Cotton Draw Unit 602H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

Project	Eddy County, NM (NAD83)		
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:**	435,369.65 usft	**Latitude:**	32.195596
From:	Map	**Easting:**	719,574.94 usft	**Longitude:**	-103.757130
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.31 °

Well	Cotton Draw Unit 602H					
Well Position	**+N/-S**	-378.24 usft	**Northing:**	434,991.41 usft	**Latitude:**	32.194539
	+E/-W	1,167.17 usft	**Easting:**	720,742.11 usft	**Longitude:**	-103.753363
Position Uncertainty		0.50 usft	**Wellhead Elevation:**		**Ground Level:**	3,536.20 usft

Wellbore	Wellbore #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2020	10/4/2021	6.59	59.84	47,425.06851130

Design	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	182.47	

Plan Survey Tool Program **Date** 10/4/2021

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	27,654.82	Plan 1 (Wellbore #1)	OWSG (Rev2) MWD	
				OWSG MWD - Standard	

devon

Total Directional Services

Planning Report

total

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well Cotton Draw Unit 602H
Company:	Devon Energy	**TVD Reference:**	GE 3536.2' + KB 30' @ 3566.20usft
Project:	Eddy County, NM (NAD83)	**MD Reference:**	GE 3536.2' + KB 30' @ 3566.20usft
Site:	Cotton Draw Unit	**North Reference:**	Grid
Well:	Cotton Draw Unit 602H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

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	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,455.00	11.33	295.10	2,450.10	31.55	-67.35	1.50	1.50	0.00	295.10	
5,718.35	11.33	295.10	5,649.90	303.45	-647.65	0.00	0.00	0.00	0.00	
6,473.35	0.00	0.00	6,400.00	335.00	-715.00	1.50	-1.50	0.00	180.00	
11,749.05	0.00	0.00	11,675.70	335.00	-715.00	0.00	0.00	0.00	0.00	
12,502.97	90.47	179.80	12,153.15	-146.38	-713.32	12.00	12.00	0.00	179.80	PBHL - CDU 602H
19,464.76	90.47	179.80	12,096.04	-7,107.89	-689.08	0.00	0.00	0.00	0.00	
19,504.76	89.67	179.80	12,095.99	-7,147.89	-688.95	2.00	-2.00	0.00	180.00	PBHL - CDU 602H
22,001.56	89.67	179.80	12,110.37	-9,644.63	-680.25	0.00	0.00	0.00	0.00	
22,009.56	89.51	179.80	12,110.43	-9,652.63	-680.22	2.00	-2.00	0.00	180.00	PBHL - CDU 602H
24,449.31	89.51	179.80	12,131.30	-12,092.28	-671.73	0.00	0.00	0.00	0.00	
24,483.81	88.82	179.80	12,131.80	-12,126.77	-671.61	2.00	-2.00	0.00	-180.00	PBHL - CDU 602H
27,655.01	88.82	179.80	12,197.10	-15,297.28	-660.57	0.00	0.00	0.00	0.00	PBHL - CDU 602H

Total Directional Services

Planning Report

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well Cotton Draw Unit 602H
Company:	Devon Energy	**TVD Reference:**	GE 3536.2' + KB 30' @ 3566.20usft
Project:	Eddy County, NM (NAD83)	**MD Reference:**	GE 3536.2' + KB 30' @ 3566.20usft
Site:	Cotton Draw Unit	**North Reference:**	Grid
Well:	Cotton Draw Unit 602H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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
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
1,100.00	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
Start Nudge									
1,800.00	1.50	295.10	1,799.99	0.56	-1.19	-0.50	1.50	1.50	0.00
1,900.00	3.00	295.10	1,899.91	2.22	-4.74	-2.01	1.50	1.50	0.00
2,000.00	4.50	295.10	1,999.69	5.00	-10.66	-4.53	1.50	1.50	0.00
2,100.00	6.00	295.10	2,099.27	8.88	-18.95	-8.05	1.50	1.50	0.00
2,200.00	7.50	295.10	2,198.57	13.86	-29.59	-12.57	1.50	1.50	0.00
2,300.00	9.00	295.10	2,297.54	19.95	-42.58	-18.10	1.50	1.50	0.00
2,400.00	10.50	295.10	2,396.09	27.14	-57.92	-24.61	1.50	1.50	0.00
2,455.00	11.33	295.10	2,450.09	31.55	-67.35	-28.62	1.50	1.50	0.00
EOB									
2,500.00	11.33	295.10	2,494.22	35.30	-75.35	-32.02	0.00	0.00	0.00
2,600.00	11.33	295.10	2,592.27	43.64	-93.13	-39.58	0.00	0.00	0.00
2,700.00	11.33	295.10	2,690.32	51.97	-110.91	-47.13	0.00	0.00	0.00
2,800.00	11.33	295.10	2,788.38	60.30	-128.70	-54.69	0.00	0.00	0.00
2,900.00	11.33	295.10	2,886.43	68.63	-146.48	-62.25	0.00	0.00	0.00
3,000.00	11.33	295.10	2,984.48	76.96	-164.26	-69.80	0.00	0.00	0.00
3,100.00	11.33	295.10	3,082.53	85.29	-182.04	-77.36	0.00	0.00	0.00
3,200.00	11.33	295.10	3,180.59	93.63	-199.83	-84.92	0.00	0.00	0.00
3,300.00	11.33	295.10	3,278.64	101.96	-217.61	-92.47	0.00	0.00	0.00
3,400.00	11.33	295.10	3,376.69	110.29	-235.39	-100.03	0.00	0.00	0.00
3,500.00	11.33	295.10	3,474.75	118.62	-253.17	-107.59	0.00	0.00	0.00
3,600.00	11.33	295.10	3,572.80	126.95	-270.96	-115.14	0.00	0.00	0.00
3,700.00	11.33	295.10	3,670.85	135.28	-288.74	-122.70	0.00	0.00	0.00
3,800.00	11.33	295.10	3,768.90	143.62	-306.52	-130.26	0.00	0.00	0.00
3,900.00	11.33	295.10	3,866.96	151.95	-324.30	-137.81	0.00	0.00	0.00
4,000.00	11.33	295.10	3,965.01	160.28	-342.09	-145.37	0.00	0.00	0.00
4,100.00	11.33	295.10	4,063.06	168.61	-359.87	-152.93	0.00	0.00	0.00
4,200.00	11.33	295.10	4,161.12	176.94	-377.65	-160.48	0.00	0.00	0.00
4,300.00	11.33	295.10	4,259.17	185.27	-395.43	-168.04	0.00	0.00	0.00
4,400.00	11.33	295.10	4,357.22	193.60	-413.22	-175.60	0.00	0.00	0.00
4,500.00	11.33	295.10	4,455.28	201.94	-431.00	-183.16	0.00	0.00	0.00
4,600.00	11.33	295.10	4,553.33	210.27	-448.78	-190.71	0.00	0.00	0.00
4,700.00	11.33	295.10	4,651.38	218.60	-466.56	-198.27	0.00	0.00	0.00
4,800.00	11.33	295.10	4,749.43	226.93	-484.35	-205.83	0.00	0.00	0.00
4,900.00	11.33	295.10	4,847.49	235.26	-502.13	-213.38	0.00	0.00	0.00
5,000.00	11.33	295.10	4,945.54	243.59	-519.91	-220.94	0.00	0.00	0.00

Total Directional Services

Planning Report

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well Cotton Draw Unit 602H
Company:	Devon Energy	**TVD Reference:**	GE 3536.2' + KB 30' @ 3566.20usft
Project:	Eddy County, NM (NAD83)	**MD Reference:**	GE 3536.2' + KB 30' @ 3566.20usft
Site:	Cotton Draw Unit	**North Reference:**	Grid
Well:	Cotton Draw Unit 602H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)
5,100.00	11.33	295.10	5,043.59	251.93	-537.69	-228.50	0.00	0.00	0.00
5,200.00	11.33	295.10	5,141.65	260.26	-555.48	-236.05	0.00	0.00	0.00
5,300.00	11.33	295.10	5,239.70	268.59	-573.26	-243.61	0.00	0.00	0.00
5,400.00	11.33	295.10	5,337.75	276.92	-591.04	-251.17	0.00	0.00	0.00
5,500.00	11.33	295.10	5,435.80	285.25	-608.82	-258.72	0.00	0.00	0.00
5,600.00	11.33	295.10	5,533.86	293.58	-626.61	-266.28	0.00	0.00	0.00
5,700.00	11.33	295.10	5,631.91	301.92	-644.39	-273.84	0.00	0.00	0.00
5,718.35	11.33	295.10	5,649.90	303.45	-647.65	-275.22	0.00	0.00	0.00
EOH									
5,800.00	10.10	295.10	5,730.13	309.88	-661.39	-281.06	1.50	-1.50	0.00
5,900.00	8.60	295.10	5,828.80	316.78	-676.11	-287.31	1.50	-1.50	0.00
6,000.00	7.10	295.10	5,927.86	322.57	-688.47	-292.57	1.50	-1.50	0.00
6,100.00	5.60	295.10	6,027.24	327.26	-698.49	-296.83	1.50	-1.50	0.00
6,200.00	4.10	295.10	6,126.88	330.85	-706.15	-300.08	1.50	-1.50	0.00
6,300.00	2.60	295.10	6,226.71	333.33	-711.44	-302.33	1.50	-1.50	0.00
6,400.00	1.10	295.10	6,326.65	334.70	-714.36	-303.57	1.50	-1.50	0.00
6,473.35	0.00	295.10	6,400.00	335.00	-715.00	-303.84	1.50	-1.50	0.00
Drop to Vertical									
6,500.00	0.00	0.00	6,426.65	335.00	-715.00	-303.84	0.00	0.00	0.00
6,600.00	0.00	0.00	6,526.65	335.00	-715.00	-303.84	0.00	0.00	0.00
6,700.00	0.00	0.00	6,626.65	335.00	-715.00	-303.84	0.00	0.00	0.00
6,800.00	0.00	0.00	6,726.65	335.00	-715.00	-303.84	0.00	0.00	0.00
6,900.00	0.00	0.00	6,826.65	335.00	-715.00	-303.84	0.00	0.00	0.00
7,000.00	0.00	0.00	6,926.65	335.00	-715.00	-303.84	0.00	0.00	0.00
7,100.00	0.00	0.00	7,026.65	335.00	-715.00	-303.84	0.00	0.00	0.00
7,200.00	0.00	0.00	7,126.65	335.00	-715.00	-303.84	0.00	0.00	0.00
7,300.00	0.00	0.00	7,226.65	335.00	-715.00	-303.84	0.00	0.00	0.00
7,400.00	0.00	0.00	7,326.65	335.00	-715.00	-303.84	0.00	0.00	0.00
7,500.00	0.00	0.00	7,426.65	335.00	-715.00	-303.84	0.00	0.00	0.00
7,600.00	0.00	0.00	7,526.65	335.00	-715.00	-303.84	0.00	0.00	0.00
7,700.00	0.00	0.00	7,626.65	335.00	-715.00	-303.84	0.00	0.00	0.00
7,800.00	0.00	0.00	7,726.65	335.00	-715.00	-303.84	0.00	0.00	0.00
7,900.00	0.00	0.00	7,826.65	335.00	-715.00	-303.84	0.00	0.00	0.00
8,000.00	0.00	0.00	7,926.65	335.00	-715.00	-303.84	0.00	0.00	0.00
8,100.00	0.00	0.00	8,026.65	335.00	-715.00	-303.84	0.00	0.00	0.00
8,200.00	0.00	0.00	8,126.65	335.00	-715.00	-303.84	0.00	0.00	0.00
8,300.00	0.00	0.00	8,226.65	335.00	-715.00	-303.84	0.00	0.00	0.00
8,400.00	0.00	0.00	8,326.65	335.00	-715.00	-303.84	0.00	0.00	0.00
8,500.00	0.00	0.00	8,426.65	335.00	-715.00	-303.84	0.00	0.00	0.00
8,600.00	0.00	0.00	8,526.65	335.00	-715.00	-303.84	0.00	0.00	0.00
8,700.00	0.00	0.00	8,626.65	335.00	-715.00	-303.84	0.00	0.00	0.00
8,800.00	0.00	0.00	8,726.65	335.00	-715.00	-303.84	0.00	0.00	0.00
8,900.00	0.00	0.00	8,826.65	335.00	-715.00	-303.84	0.00	0.00	0.00
9,000.00	0.00	0.00	8,926.65	335.00	-715.00	-303.84	0.00	0.00	0.00
9,100.00	0.00	0.00	9,026.65	335.00	-715.00	-303.84	0.00	0.00	0.00
9,200.00	0.00	0.00	9,126.65	335.00	-715.00	-303.84	0.00	0.00	0.00
9,300.00	0.00	0.00	9,226.65	335.00	-715.00	-303.84	0.00	0.00	0.00
9,400.00	0.00	0.00	9,326.65	335.00	-715.00	-303.84	0.00	0.00	0.00
9,500.00	0.00	0.00	9,426.65	335.00	-715.00	-303.84	0.00	0.00	0.00
9,600.00	0.00	0.00	9,526.65	335.00	-715.00	-303.84	0.00	0.00	0.00
9,700.00	0.00	0.00	9,626.65	335.00	-715.00	-303.84	0.00	0.00	0.00
9,800.00	0.00	0.00	9,726.65	335.00	-715.00	-303.84	0.00	0.00	0.00
9,900.00	0.00	0.00	9,826.65	335.00	-715.00	-303.84	0.00	0.00	0.00
10,000.00	0.00	0.00	9,926.65	335.00	-715.00	-303.84	0.00	0.00	0.00

devon

Total Directional Services

Planning Report

total

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well Cotton Draw Unit 602H
Company:	Devon Energy	**TVD Reference:**	GE 3536.2' + KB 30' @ 3566.20usft
Project:	Eddy County, NM (NAD83)	**MD Reference:**	GE 3536.2' + KB 30' @ 3566.20usft
Site:	Cotton Draw Unit	**North Reference:**	Grid
Well:	Cotton Draw Unit 602H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)
10,100.00	0.00	0.00	10,026.65	335.00	-715.00	-303.84	0.00	0.00	0.00
10,200.00	0.00	0.00	10,126.65	335.00	-715.00	-303.84	0.00	0.00	0.00
10,300.00	0.00	0.00	10,226.65	335.00	-715.00	-303.84	0.00	0.00	0.00
10,400.00	0.00	0.00	10,326.65	335.00	-715.00	-303.84	0.00	0.00	0.00
10,500.00	0.00	0.00	10,426.65	335.00	-715.00	-303.84	0.00	0.00	0.00
10,600.00	0.00	0.00	10,526.65	335.00	-715.00	-303.84	0.00	0.00	0.00
10,700.00	0.00	0.00	10,626.65	335.00	-715.00	-303.84	0.00	0.00	0.00
10,800.00	0.00	0.00	10,726.65	335.00	-715.00	-303.84	0.00	0.00	0.00
10,900.00	0.00	0.00	10,826.65	335.00	-715.00	-303.84	0.00	0.00	0.00
11,000.00	0.00	0.00	10,926.65	335.00	-715.00	-303.84	0.00	0.00	0.00
11,100.00	0.00	0.00	11,026.65	335.00	-715.00	-303.84	0.00	0.00	0.00
11,200.00	0.00	0.00	11,126.65	335.00	-715.00	-303.84	0.00	0.00	0.00
11,300.00	0.00	0.00	11,226.65	335.00	-715.00	-303.84	0.00	0.00	0.00
11,400.00	0.00	0.00	11,326.65	335.00	-715.00	-303.84	0.00	0.00	0.00
11,500.00	0.00	0.00	11,426.65	335.00	-715.00	-303.84	0.00	0.00	0.00
11,600.00	0.00	0.00	11,526.65	335.00	-715.00	-303.84	0.00	0.00	0.00
11,700.00	0.00	0.00	11,626.65	335.00	-715.00	-303.84	0.00	0.00	0.00
11,749.05	0.00	0.00	11,675.70	335.00	-715.00	-303.84	0.00	0.00	0.00
KOP @ 11675' TVD									
11,800.00	6.11	179.80	11,726.55	332.28	-714.99	-301.13	12.00	12.00	0.00
11,900.00	18.11	179.80	11,824.14	311.34	-714.92	-280.21	12.00	12.00	0.00
12,000.00	30.11	179.80	11,915.25	270.56	-714.78	-239.47	12.00	12.00	0.00
12,100.00	42.11	179.80	11,995.89	211.73	-714.57	-180.70	12.00	12.00	0.00
12,200.00	54.11	179.80	12,062.53	137.42	-714.31	-106.47	12.00	12.00	0.00
12,300.00	66.11	179.80	12,112.27	50.88	-714.01	-20.03	12.00	12.00	0.00
12,400.00	78.11	179.80	12,142.93	-44.12	-713.68	74.86	12.00	12.00	0.00
12,500.00	90.11	179.80	12,153.16	-143.41	-713.33	174.05	12.00	12.00	0.00
12,502.97	90.47	179.80	12,153.15	-146.38	-713.32	177.01	12.00	12.00	0.00
LP @ 12153' TVD									
12,600.00	90.47	179.80	12,152.35	-243.40	-712.99	273.94	0.00	0.00	0.00
12,700.00	90.47	179.80	12,151.53	-343.40	-712.64	373.82	0.00	0.00	0.00
12,800.00	90.47	179.80	12,150.71	-443.40	-712.29	473.71	0.00	0.00	0.00
12,900.00	90.47	179.80	12,149.89	-543.39	-711.94	573.60	0.00	0.00	0.00
13,000.00	90.47	179.80	12,149.07	-643.39	-711.59	673.49	0.00	0.00	0.00
13,100.00	90.47	179.80	12,148.25	-743.38	-711.25	773.38	0.00	0.00	0.00
13,200.00	90.47	179.80	12,147.43	-843.38	-710.90	873.26	0.00	0.00	0.00
13,300.00	90.47	179.80	12,146.61	-943.38	-710.55	973.15	0.00	0.00	0.00
13,400.00	90.47	179.80	12,145.79	-1,043.37	-710.20	1,073.04	0.00	0.00	0.00
13,500.00	90.47	179.80	12,144.97	-1,143.37	-709.85	1,172.93	0.00	0.00	0.00
13,600.00	90.47	179.80	12,144.15	-1,243.36	-709.50	1,272.81	0.00	0.00	0.00
13,700.00	90.47	179.80	12,143.33	-1,343.36	-709.16	1,372.70	0.00	0.00	0.00
13,800.00	90.47	179.80	12,142.51	-1,443.36	-708.81	1,472.59	0.00	0.00	0.00
13,900.00	90.47	179.80	12,141.69	-1,543.35	-708.46	1,572.48	0.00	0.00	0.00
14,000.00	90.47	179.80	12,140.87	-1,643.35	-708.11	1,672.37	0.00	0.00	0.00
14,100.00	90.47	179.80	12,140.05	-1,743.34	-707.76	1,772.25	0.00	0.00	0.00
14,200.00	90.47	179.80	12,139.23	-1,843.34	-707.42	1,872.14	0.00	0.00	0.00
14,300.00	90.47	179.80	12,138.41	-1,943.34	-707.07	1,972.03	0.00	0.00	0.00
14,400.00	90.47	179.80	12,137.59	-2,043.33	-706.72	2,071.92	0.00	0.00	0.00
14,500.00	90.47	179.80	12,136.77	-2,143.33	-706.37	2,171.81	0.00	0.00	0.00
14,600.00	90.47	179.80	12,135.95	-2,243.32	-706.02	2,271.69	0.00	0.00	0.00
14,700.00	90.47	179.80	12,135.13	-2,343.32	-705.67	2,371.58	0.00	0.00	0.00
14,800.00	90.47	179.80	12,134.31	-2,443.32	-705.33	2,471.47	0.00	0.00	0.00
14,900.00	90.47	179.80	12,133.49	-2,543.31	-704.98	2,571.36	0.00	0.00	0.00

devon

Total Directional Services

Planning Report

total

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well Cotton Draw Unit 602H
Company:	Devon Energy	**TVD Reference:**	GE 3536.2' + KB 30' @ 3566.20usft
Project:	Eddy County, NM (NAD83)	**MD Reference:**	GE 3536.2' + KB 30' @ 3566.20usft
Site:	Cotton Draw Unit	**North Reference:**	Grid
Well:	Cotton Draw Unit 602H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)
15,000.00	90.47	179.80	12,132.67	-2,643.31	-704.63	2,671.25	0.00	0.00	0.00
15,100.00	90.47	179.80	12,131.85	-2,743.30	-704.28	2,771.13	0.00	0.00	0.00
15,200.00	90.47	179.80	12,131.03	-2,843.30	-703.93	2,871.02	0.00	0.00	0.00
15,300.00	90.47	179.80	12,130.21	-2,943.30	-703.59	2,970.91	0.00	0.00	0.00
15,400.00	90.47	179.80	12,129.38	-3,043.29	-703.24	3,070.80	0.00	0.00	0.00
15,500.00	90.47	179.80	12,128.56	-3,143.29	-702.89	3,170.69	0.00	0.00	0.00
15,600.00	90.47	179.80	12,127.74	-3,243.28	-702.54	3,270.57	0.00	0.00	0.00
15,700.00	90.47	179.80	12,126.92	-3,343.28	-702.19	3,370.46	0.00	0.00	0.00
15,800.00	90.47	179.80	12,126.10	-3,443.28	-701.84	3,470.35	0.00	0.00	0.00
15,900.00	90.47	179.80	12,125.28	-3,543.27	-701.50	3,570.24	0.00	0.00	0.00
16,000.00	90.47	179.80	12,124.46	-3,643.27	-701.15	3,670.12	0.00	0.00	0.00
16,100.00	90.47	179.80	12,123.64	-3,743.26	-700.80	3,770.01	0.00	0.00	0.00
16,200.00	90.47	179.80	12,122.82	-3,843.26	-700.45	3,869.90	0.00	0.00	0.00
16,300.00	90.47	179.80	12,122.00	-3,943.26	-700.10	3,969.79	0.00	0.00	0.00
16,400.00	90.47	179.80	12,121.18	-4,043.25	-699.76	4,069.68	0.00	0.00	0.00
16,500.00	90.47	179.80	12,120.36	-4,143.25	-699.41	4,169.56	0.00	0.00	0.00
16,600.00	90.47	179.80	12,119.54	-4,243.24	-699.06	4,269.45	0.00	0.00	0.00
16,700.00	90.47	179.80	12,118.72	-4,343.24	-698.71	4,369.34	0.00	0.00	0.00
16,800.00	90.47	179.80	12,117.90	-4,443.24	-698.36	4,469.23	0.00	0.00	0.00
16,900.00	90.47	179.80	12,117.08	-4,543.23	-698.01	4,569.12	0.00	0.00	0.00
17,000.00	90.47	179.80	12,116.26	-4,643.23	-697.67	4,669.00	0.00	0.00	0.00
17,100.00	90.47	179.80	12,115.44	-4,743.22	-697.32	4,768.89	0.00	0.00	0.00
17,200.00	90.47	179.80	12,114.62	-4,843.22	-696.97	4,868.78	0.00	0.00	0.00
17,300.00	90.47	179.80	12,113.80	-4,943.22	-696.62	4,968.67	0.00	0.00	0.00
17,400.00	90.47	179.80	12,112.98	-5,043.21	-696.27	5,068.56	0.00	0.00	0.00
17,500.00	90.47	179.80	12,112.16	-5,143.21	-695.93	5,168.44	0.00	0.00	0.00
17,600.00	90.47	179.80	12,111.34	-5,243.21	-695.58	5,268.33	0.00	0.00	0.00
17,700.00	90.47	179.80	12,110.52	-5,343.20	-695.23	5,368.22	0.00	0.00	0.00
17,800.00	90.47	179.80	12,109.70	-5,443.20	-694.88	5,468.11	0.00	0.00	0.00
17,900.00	90.47	179.80	12,108.88	-5,543.19	-694.53	5,568.00	0.00	0.00	0.00
18,000.00	90.47	179.80	12,108.06	-5,643.19	-694.18	5,667.88	0.00	0.00	0.00
18,100.00	90.47	179.80	12,107.24	-5,743.19	-693.84	5,767.77	0.00	0.00	0.00
18,200.00	90.47	179.80	12,106.42	-5,843.18	-693.49	5,867.66	0.00	0.00	0.00
18,300.00	90.47	179.80	12,105.60	-5,943.18	-693.14	5,967.55	0.00	0.00	0.00
18,400.00	90.47	179.80	12,104.78	-6,043.17	-692.79	6,067.43	0.00	0.00	0.00
18,500.00	90.47	179.80	12,103.96	-6,143.17	-692.44	6,167.32	0.00	0.00	0.00
18,600.00	90.47	179.80	12,103.14	-6,243.17	-692.10	6,267.21	0.00	0.00	0.00
18,700.00	90.47	179.80	12,102.32	-6,343.16	-691.75	6,367.10	0.00	0.00	0.00
18,800.00	90.47	179.80	12,101.49	-6,443.16	-691.40	6,466.99	0.00	0.00	0.00
18,900.00	90.47	179.80	12,100.67	-6,543.15	-691.05	6,566.87	0.00	0.00	0.00
19,000.00	90.47	179.80	12,099.85	-6,643.15	-690.70	6,666.76	0.00	0.00	0.00
19,100.00	90.47	179.80	12,099.03	-6,743.15	-690.35	6,766.65	0.00	0.00	0.00
19,200.00	90.47	179.80	12,098.21	-6,843.14	-690.01	6,866.54	0.00	0.00	0.00
19,300.00	90.47	179.80	12,097.39	-6,943.14	-689.66	6,966.43	0.00	0.00	0.00
19,400.00	90.47	179.80	12,096.57	-7,043.13	-689.31	7,066.31	0.00	0.00	0.00
19,464.76	90.47	179.80	12,096.04	-7,107.89	-689.08	7,131.00	0.00	0.00	0.00
7131' VS									
19,500.00	89.77	179.80	12,095.97	-7,143.13	-688.96	7,166.20	2.00	-2.00	0.00
19,504.76	89.67	179.80	12,095.99	-7,147.89	-688.95	7,170.96	2.00	-2.00	0.00
19,600.00	89.67	179.80	12,096.54	-7,243.13	-688.61	7,266.09	0.00	0.00	0.00
19,700.00	89.67	179.80	12,097.12	-7,343.13	-688.27	7,365.98	0.00	0.00	0.00
19,800.00	89.67	179.80	12,097.69	-7,443.12	-687.92	7,465.87	0.00	0.00	0.00
19,900.00	89.67	179.80	12,098.27	-7,543.12	-687.57	7,565.76	0.00	0.00	0.00
20,000.00	89.67	179.80	12,098.85	-7,643.12	-687.22	7,665.65	0.00	0.00	0.00

devon

Total Directional Services

Planning Report

total

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well Cotton Draw Unit 602H
Company:	Devon Energy	**TVD Reference:**	GE 3536.2' + KB 30' @ 3566.20usft
Project:	Eddy County, NM (NAD83)	**MD Reference:**	GE 3536.2' + KB 30' @ 3566.20usft
Site:	Cotton Draw Unit	**North Reference:**	Grid
Well:	Cotton Draw Unit 602H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)
20,100.00	89.67	179.80	12,099.42	-7,743.12	-686.87	7,765.54	0.00	0.00	0.00
20,200.00	89.67	179.80	12,100.00	-7,843.11	-686.52	7,865.43	0.00	0.00	0.00
20,300.00	89.67	179.80	12,100.57	-7,943.11	-686.18	7,965.32	0.00	0.00	0.00
20,400.00	89.67	179.80	12,101.15	-8,043.11	-685.83	8,065.21	0.00	0.00	0.00
20,500.00	89.67	179.80	12,101.73	-8,143.11	-685.48	8,165.10	0.00	0.00	0.00
20,600.00	89.67	179.80	12,102.30	-8,243.11	-685.13	8,264.99	0.00	0.00	0.00
20,700.00	89.67	179.80	12,102.88	-8,343.10	-684.78	8,364.88	0.00	0.00	0.00
20,800.00	89.67	179.80	12,103.45	-8,443.10	-684.44	8,464.77	0.00	0.00	0.00
20,900.00	89.67	179.80	12,104.03	-8,543.10	-684.09	8,564.66	0.00	0.00	0.00
21,000.00	89.67	179.80	12,104.60	-8,643.10	-683.74	8,664.55	0.00	0.00	0.00
21,100.00	89.67	179.80	12,105.18	-8,743.09	-683.39	8,764.44	0.00	0.00	0.00
21,200.00	89.67	179.80	12,105.76	-8,843.09	-683.04	8,864.33	0.00	0.00	0.00
21,300.00	89.67	179.80	12,106.33	-8,943.09	-682.69	8,964.22	0.00	0.00	0.00
21,400.00	89.67	179.80	12,106.91	-9,043.09	-682.35	9,064.11	0.00	0.00	0.00
21,500.00	89.67	179.80	12,107.48	-9,143.09	-682.00	9,164.00	0.00	0.00	0.00
21,600.00	89.67	179.80	12,108.06	-9,243.08	-681.65	9,263.88	0.00	0.00	0.00
21,700.00	89.67	179.80	12,108.64	-9,343.08	-681.30	9,363.77	0.00	0.00	0.00
21,800.00	89.67	179.80	12,109.21	-9,443.08	-680.95	9,463.66	0.00	0.00	0.00
21,900.00	89.67	179.80	12,109.79	-9,543.08	-680.61	9,563.55	0.00	0.00	0.00
22,000.00	89.67	179.80	12,110.36	-9,643.07	-680.26	9,663.44	0.00	0.00	0.00
22,001.56	89.67	179.80	12,110.37	-9,644.63	-680.25	9,665.00	0.00	0.00	0.00
9665' VS									
22,009.56	89.51	179.80	12,110.43	-9,652.63	-680.22	9,672.99	2.00	-2.00	0.00
22,100.00	89.51	179.80	12,111.20	-9,743.07	-679.91	9,763.33	0.00	0.00	0.00
22,200.00	89.51	179.80	12,112.06	-9,843.07	-679.56	9,863.22	0.00	0.00	0.00
22,300.00	89.51	179.80	12,112.91	-9,943.06	-679.21	9,963.11	0.00	0.00	0.00
22,400.00	89.51	179.80	12,113.77	-10,043.06	-678.86	10,062.99	0.00	0.00	0.00
22,500.00	89.51	179.80	12,114.62	-10,143.05	-678.52	10,162.88	0.00	0.00	0.00
22,600.00	89.51	179.80	12,115.48	-10,243.05	-678.17	10,262.77	0.00	0.00	0.00
22,700.00	89.51	179.80	12,116.34	-10,343.04	-677.82	10,362.66	0.00	0.00	0.00
22,800.00	89.51	179.80	12,117.19	-10,443.04	-677.47	10,462.54	0.00	0.00	0.00
22,900.00	89.51	179.80	12,118.05	-10,543.04	-677.12	10,562.43	0.00	0.00	0.00
23,000.00	89.51	179.80	12,118.90	-10,643.03	-676.78	10,662.32	0.00	0.00	0.00
23,100.00	89.51	179.80	12,119.76	-10,743.03	-676.43	10,762.21	0.00	0.00	0.00
23,200.00	89.51	179.80	12,120.61	-10,843.02	-676.08	10,862.09	0.00	0.00	0.00
23,300.00	89.51	179.80	12,121.47	-10,943.02	-675.73	10,961.98	0.00	0.00	0.00
23,400.00	89.51	179.80	12,122.32	-11,043.01	-675.38	11,061.87	0.00	0.00	0.00
23,500.00	89.51	179.80	12,123.18	-11,143.01	-675.03	11,161.76	0.00	0.00	0.00
23,600.00	89.51	179.80	12,124.03	-11,243.01	-674.69	11,261.65	0.00	0.00	0.00
23,700.00	89.51	179.80	12,124.89	-11,343.00	-674.34	11,361.53	0.00	0.00	0.00
23,800.00	89.51	179.80	12,125.74	-11,443.00	-673.99	11,461.42	0.00	0.00	0.00
23,900.00	89.51	179.80	12,126.60	-11,542.99	-673.64	11,561.31	0.00	0.00	0.00
24,000.00	89.51	179.80	12,127.45	-11,642.99	-673.29	11,661.20	0.00	0.00	0.00
24,100.00	89.51	179.80	12,128.31	-11,742.98	-672.95	11,761.08	0.00	0.00	0.00
24,200.00	89.51	179.80	12,129.16	-11,842.98	-672.60	11,860.97	0.00	0.00	0.00
24,300.00	89.51	179.80	12,130.02	-11,942.98	-672.25	11,960.86	0.00	0.00	0.00
24,400.00	89.51	179.80	12,130.87	-12,042.97	-671.90	12,060.75	0.00	0.00	0.00
24,449.31	89.51	179.80	12,131.30	-12,092.28	-671.73	12,110.00	0.00	0.00	0.00
12110' VS									
24,483.81	88.82	179.80	12,131.80	-12,126.77	-671.61	12,144.46	2.00	-2.00	0.00
24,500.00	88.82	179.80	12,132.13	-12,142.96	-671.55	12,160.63	0.00	0.00	0.00
24,600.00	88.82	179.80	12,134.19	-12,242.94	-671.20	12,260.50	0.00	0.00	0.00
24,700.00	88.82	179.80	12,136.25	-12,342.92	-670.86	12,360.37	0.00	0.00	0.00
24,800.00	88.82	179.80	12,138.31	-12,442.90	-670.51	12,460.24	0.00	0.00	0.00

Total Directional Services

Planning Report

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well Cotton Draw Unit 602H
Company:	Devon Energy	**TVD Reference:**	GE 3536.2' + KB 30' @ 3566.20usft
Project:	Eddy County, NM (NAD83)	**MD Reference:**	GE 3536.2' + KB 30' @ 3566.20usft
Site:	Cotton Draw Unit	**North Reference:**	Grid
Well:	Cotton Draw Unit 602H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	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)
24,900.00	88.82	179.80	12,140.37	-12,542.88	-670.16	12,560.11	0.00	0.00	0.00
25,000.00	88.82	179.80	12,142.43	-12,642.85	-669.81	12,659.98	0.00	0.00	0.00
25,100.00	88.82	179.80	12,144.49	-12,742.83	-669.46	12,759.85	0.00	0.00	0.00
25,200.00	88.82	179.80	12,146.55	-12,842.81	-669.12	12,859.72	0.00	0.00	0.00
25,300.00	88.82	179.80	12,148.61	-12,942.79	-668.77	12,959.59	0.00	0.00	0.00
25,400.00	88.82	179.80	12,150.67	-13,042.77	-668.42	13,059.46	0.00	0.00	0.00
25,500.00	88.82	179.80	12,152.73	-13,142.74	-668.07	13,159.33	0.00	0.00	0.00
25,600.00	88.82	179.80	12,154.78	-13,242.72	-667.72	13,259.20	0.00	0.00	0.00
25,700.00	88.82	179.80	12,156.84	-13,342.70	-667.38	13,359.07	0.00	0.00	0.00
25,800.00	88.82	179.80	12,158.90	-13,442.68	-667.03	13,458.94	0.00	0.00	0.00
25,900.00	88.82	179.80	12,160.96	-13,542.66	-666.68	13,558.81	0.00	0.00	0.00
26,000.00	88.82	179.80	12,163.02	-13,642.64	-666.33	13,658.68	0.00	0.00	0.00
26,100.00	88.82	179.80	12,165.08	-13,742.61	-665.98	13,758.55	0.00	0.00	0.00
26,200.00	88.82	179.80	12,167.14	-13,842.59	-665.64	13,858.42	0.00	0.00	0.00
26,300.00	88.82	179.80	12,169.20	-13,942.57	-665.29	13,958.29	0.00	0.00	0.00
26,400.00	88.82	179.80	12,171.26	-14,042.55	-664.94	14,058.16	0.00	0.00	0.00
26,500.00	88.82	179.80	12,173.32	-14,142.53	-664.59	14,158.03	0.00	0.00	0.00
26,600.00	88.82	179.80	12,175.38	-14,242.50	-664.24	14,257.90	0.00	0.00	0.00
26,700.00	88.82	179.80	12,177.44	-14,342.48	-663.89	14,357.77	0.00	0.00	0.00
26,800.00	88.82	179.80	12,179.50	-14,442.46	-663.55	14,457.64	0.00	0.00	0.00
26,900.00	88.82	179.80	12,181.56	-14,542.44	-663.20	14,557.51	0.00	0.00	0.00
27,000.00	88.82	179.80	12,183.62	-14,642.42	-662.85	14,657.38	0.00	0.00	0.00
27,100.00	88.82	179.80	12,185.67	-14,742.40	-662.50	14,757.25	0.00	0.00	0.00
27,200.00	88.82	179.80	12,187.73	-14,842.37	-662.15	14,857.12	0.00	0.00	0.00
27,300.00	88.82	179.80	12,189.79	-14,942.35	-661.81	14,956.99	0.00	0.00	0.00
27,400.00	88.82	179.80	12,191.85	-15,042.33	-661.46	15,056.86	0.00	0.00	0.00
27,500.00	88.82	179.80	12,193.91	-15,142.31	-661.11	15,156.73	0.00	0.00	0.00
27,600.00	88.82	179.80	12,195.97	-15,242.29	-660.76	15,256.60	0.00	0.00	0.00
27,655.00	88.82	179.80	12,197.10	-15,297.27	-660.57	15,311.53	0.00	0.00	0.00
PBHL; 100' FSL, 450' FWL									
27,655.01	88.82	179.80	12,197.10	-15,297.28	-660.57	15,311.54	0.00	0.00	0.00

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
PBHL - CDU 602H	0.00	0.00	0.00	-15,297.28	-660.57	419,694.13	720,081.54	32.152500	-103.755764
- plan misses target center by 12194.52usft at 27403.83usft MD (12191.93 TVD, -15046.15 N, -661.44 E)									
- Point									

devon

Total Directional Services

Planning Report

total

Database:	EDM 5000.15 Single User Db	**Local Co-ordinate Reference:**	Well Cotton Draw Unit 602H
Company:	Devon Energy	**TVD Reference:**	GE 3536.2' + KB 30' @ 3566.20usft
Project:	Eddy County, NM (NAD83)	**MD Reference:**	GE 3536.2' + KB 30' @ 3566.20usft
Site:	Cotton Draw Unit	**North Reference:**	Grid
Well:	Cotton Draw Unit 602H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,700.00	1,700.00	0.00	0.00	Start Nudge
2,455.00	2,450.09	31.55	-67.35	EOB
5,718.35	5,649.90	303.45	-647.65	EOH
6,473.35	6,400.00	335.00	-715.00	Drop to Vertical
11,749.05	11,675.70	335.00	-715.00	KOP @ 11675' TVD
12,502.97	12,153.15	-146.38	-713.32	LP @ 12153' TVD
19,464.76	12,096.04	-7,107.89	-689.08	7131' VS
22,001.56	12,110.37	-9,644.63	-680.25	9665' VS
24,449.31	12,131.30	-12,092.28	-671.73	12110' VS
27,655.00	12,197.10	-15,297.27	-660.57	PBHL; 100' FSL, 450' FWL

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Devon Energy Production Company LP**
LEASE NO.:	**NMNM012121**
WELL NAME & NO.:	Cotton Draw Unit 602H
SURFACE HOLE FOOTAGE:	385'/N & 1165'/W
BOTTOM HOLE FOOTAGE	20'/S & 450'/W
LOCATION:	Section 26, T.24 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

COA

H2S	☉ Yes	○ No	
Potash	☉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	☉ Low	○ Medium	○ High
Cave/Karst Potential	○ Critical		
Variance	○ None	☉ Flex Hose	○ Other
Wellhead	○ Conventional	○ Multibowl	☉ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☑ Fluid Filled	☑ Cement Squeeze	☑ Pilot Hole
Special Requirements	☐ Water Disposal	☐ COM	☑ Unit

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Cotton Draw** pool. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **775 feet** (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the **8-5/8** inch intermediate casing is:

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Cement excess is less than 25%, more cement might be required.**

Operator has proposed to pump down 13-3/8" X 8-5/8" annulus. Operator must run a CBL from TD of the 8-5/8" casing to surface. Submit results to BLM.

The pilot hole plugging procedure is approved as written. Note plug tops on subsequent drilling report. The BLM is to be contacted 24 hours prior to the commencement of any plugging operations **(575-361-2822 Eddy County)** and when tagging the plugs.

❖ Mud Requirement: Mud shall be placed between all or below plugs. Minimum consistency of plugging mud shall be obtained by mixing at a rate of 25 sacks (50 pounds each) of gel per 100 barrels of **brine** water. Minimum nine (9) pounds per gallon.

❖ Cement requirement: Sufficient cement shall be used to bring any required plug to the specified depth and length. Any given cement volumes on the proposed plugging procedure are merely estimates and are not final. Unless specific approval is received, no plug except the surface plug shall be less than 25 sacks of cement. Any plug that requires a tag will have a minimum WOC time of 4 hours. **Abandonment Plug shall have a minimum of 135 sacks of Class H Cement.**

❖ Subsequent Plugging Reporting: Within 30 days after plugging work is completed to the BLM. The report should give in detail the manner in which the plugging work was carried out, the extent (by depths) of cement plugs placed, and the size and location (by depths) of casing left in the well. **Show date pilot hole was plugged and tagged.**

Production casing must be kept fluid filled to meet BLM minimum collapse requirement.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

    - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.
      Cement excess is less than 25%, more cement might be required.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2.

Option 1:

a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

Option 2:

1. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Unit Wells

The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

Commercial Well Determination

A commercial well determination shall be submitted after production has been established for at least six months.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not

hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. The results of the test shall be reported to the appropriate BLM office.

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

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

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

COMMENTS

Action 57306

COMMENTS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 57306
	Action Type: [C-103] NOI Change of Plans (C-103A)

COMMENTS

Created By	Comment	Comment Date
kpickford	KP GEO Review 10/22/2021	10/22/2021
jagarcia	Approved, John Garcia, Petroleum Engineer	10/28/2021

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 57306
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
kpickford	• NSL Will require an administrative order for non-standard location prior to placing the well on production.	10/22/2021
kpickford	Adhere to previous NMOCD Conditions of Approval	10/22/2021