

**District I**

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

**District II**

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

**District III**

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

**District IV**

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

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

Form C-101  
August 1, 2011

Permit 279078

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

1. Operator Name and Address EOG RESOURCES INC P.O. Box 2267 Midland, TX 79702		2. OGRID Number 7377
		3. API Number 30-015-46810
4. Property Code 327258	5. Property Name Diablo 2019 State Com	6. Well No. 601H

**7. Surface Location**

UL - Lot D	Section 20	Township 19S	Range 24E	Lot Idn D	Feet From 750	N/S Line N	Feet From 1135	E/W Line W	County Eddy
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**8. Proposed Bottom Hole Location**

UL - Lot D	Section 19	Township 19S	Range 24E	Lot Idn D	Feet From 499	N/S Line N	Feet From 100	E/W Line W	County Eddy
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**9. Pool Information**

PENASCO DRAW PERMO PENN OIL	98330
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**Additional Well Information**

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3769
16. Multiple N	17. Proposed Depth 12958	18. Formation Permo Penn	19. Contractor	20. Spud Date 5/18/2020
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

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

**21. Proposed Casing and Cement Program**

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	12.25	9.625	36	1300	480	0
Prod	8.75	5.5	20	6937	1147	0
Prod	8.5	5.5	20	12958	1148	

**Casing/Cement Program: Additional Comments**

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**22. Proposed Blowout Prevention Program**

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	3000	3000	Whichever is Available

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify I have complied with 19.15.14.9 (A) NMAC <input checked="" type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input checked="" type="checkbox"/> if applicable.  Signature:	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Electronically filed by Kay Maddox	Approved By: Raymond Podany	
Title: Regulatory Agent	Title: Geologist	
Email Address: kay_maddox@eogresources.com	Approved Date: 3/11/2020	Expiration Date: 3/11/2022
Date: 3/6/2020	Phone: 432-686-3658	Conditions of Approval Attached



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## GAS CAPTURE PLAN

Date: 3/11/2020

☒ Original

Operator & OGRID No.: [7377] EOG RESOURCES INC

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

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

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

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

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

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Diablo 2019 State Com #601H	30-015-46810	D-20-19S-24E	0750N 1135W	2000	None	

### Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Lucid Artesia Company and will be connected to Lucid Artesia Company Low Pressure gathering system located in Eddy County, New Mexico. It will require 5000' of pipeline to connect the facility to Low Pressure gathering system. EOG RESOURCES INC provides (periodically) to Lucid Artesia Company a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, EOG RESOURCES INC and Lucid Artesia Company have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Lucid Artesia Company Processing Plant located in Sec. 25, Twn. 18S, Rng. 25E, Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

### Flowback Strategy

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

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

### Alternatives to Reduce Flaring

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

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

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Form APD Comments

Permit 279078

**PERMIT COMMENTS**

Operator Name and Address: EOG RESOURCES INC [7377] P.O. Box 2267 Midland, TX 79702	API Number: 30-015-46810
	Well: Diablo 2019 State Com #601H

Created By	Comment	Comment Date
ymaese	EOG Resources requests the approval of an intermediate casing string contingency to be determined if losses are encountered in the vertical portion of our wellbore. Surface and production casing will remain the same. Production cement will be tied back 200' into previous casing string if the intermediate string is run.	3/6/2020
ksimmons	Well appears to be in Antelope Sink; Upper Penn (Gas), 70520, which requires 320 acre spacing unit. Operator will need to apply for an NSP Unit if smaller spacing is required and can be justified.	3/9/2020

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Form APD Conditions  
  
Permit 279078

**PERMIT CONDITIONS OF APPROVAL**

Operator Name and Address: EOG RESOURCES INC [7377] P.O. Box 2267 Midland, TX 79702		API Number: 30-015-46810
		Well: Diablo 2019 State Com #601H
OCD Reviewer	Condition	
ksimmons	Will require a directional survey with the C-104	
ksimmons	Cement is required to circulate on both surface and intermediate1 strings of casing	

**Diablo 2019 State Com #601H - Contingency****Location:**

SL: 750' FNL 1135' FL, Unit D 20-19S-24E

BHL: 499' FNL 100' FWL, Unit D 19-19S-24E

EOG Resources requests the approval of an intermediate casing string contingency to be determined if losses are encountered in the vertical portion of our wellbore. Surface and production casing will remain the same. Production cement will be tied back 200' into previous casing string if the intermediate string is run.

Casing and cement designs are shown below:

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF <sub>min</sub> Collapse	DF <sub>min</sub> Burst	DF <sub>min</sub> Tension
12.25"	0'-1,300'	9.625"	36#	J-55	LTC	1.125	1.25	1.80
8.75"	0'-6,400'	7.625"	29.7#	L-80	FLUSHMAX-III	1.125	1.25	1.60
6.75"	0'-12,958'	5.5"	20#	P-110	BTC	1.125	1.25	1.80

Depth	No. Sacks	Wt. lb/gal	Yld Ft <sup>3</sup> /ft	Slurry Description
1250'	255	12.9	1.97	Lead: Class 'C' + 4%PF20(Bentonite Gel) + 2%PF1(Calcium Chloride) + 0.125#/skPF29(Celloflake) + 0.4#/skPF45 (Defoamer) 100% Excess (TOC @ Surface)
	210	14.8	1.34	Tail: Class 'C' + 2%PF1(Calcium Chloride) (100% excess)
6400'*	350	12.8	1.79	Lead: 35:65 Poz C + .02 gal/sk Anti Foam + 1% Extender + .13 lb/sk Lost Circulation (TOC @ Surface) (100% Excess)
	200	14.8	1.34	Tail: Class C + 0.13% Anti Foam
12,958'	515	13	1.48	Tail: Class PVL + 1.3% PF44(BWOW)(Salt) + 5% PF174 (Expanding Cement) + 0.5% PF606 (Fluid Loss) + 0.1% PF153 (Anti Settling Agent) + 0.4#/sk PF45 (Defoamer) 35% Excess

**Mud Program:**

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0-1,300'	Fresh Water	8.6-8.8	28-32	N/c
1,300'-12,958'	Cut Brine	8.8-9.6	34-40	Less than

**Diablo 2019 State Com #601H - Contingency****Location:**

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BHL: 499' FNL 100' FWL, Unit D 19-19S-24E

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1,300'-12,958'	Cut Brine	8.8-9.6	34-40	Less than

Received by OCD: 3/11/2020 9:31:04 AM

Project: Eddy County (NAD83)  
Site: Diablo  
Well: Diablo 2019 State Com #601H  
Wellbore: Lateral  
Design: Plan #1  
Ground Elevation 3769.00  
Northing 601027.00  
Easting 454491.00  
KB @ 3787.00usft (Planning Rig)

PROJECT DETAILS: Eddy County (NAD83)  
Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: New Mexico Eastern Zone  
System Datum: Mean Sea Level

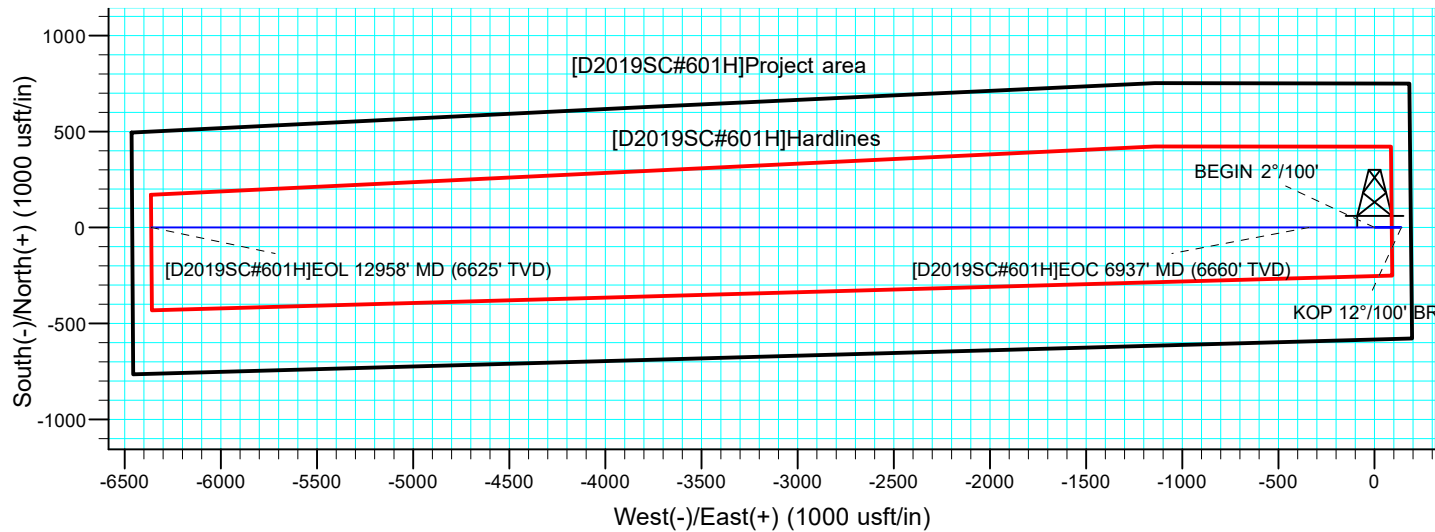
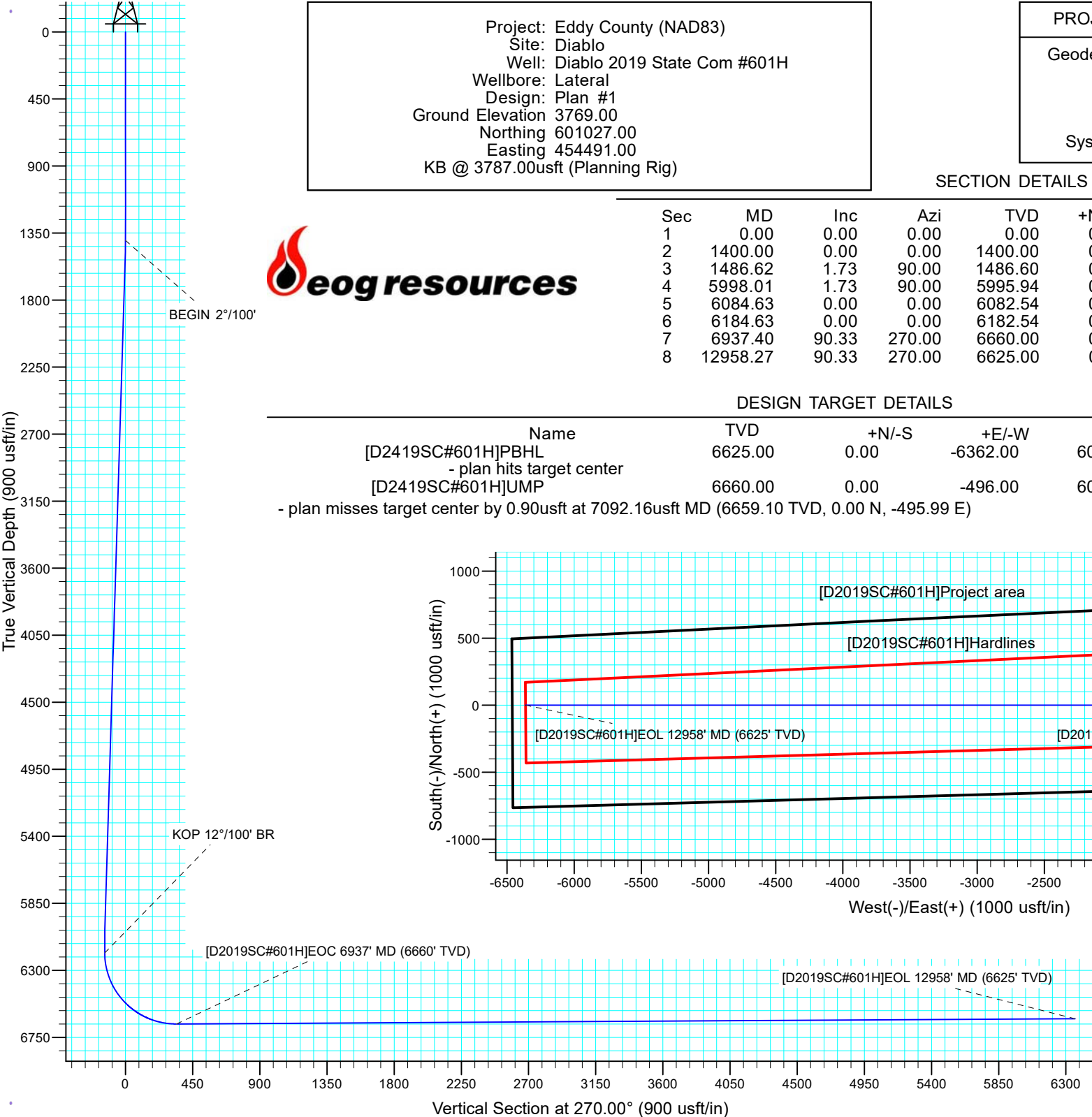


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	0.00	0.00
3	1486.62	1.73	90.00	1486.60	0.00	1.31	2.00	90.00	-1.31
4	5998.01	1.73	90.00	5995.94	0.00	137.69	0.00	0.00	-137.69
5	6084.63	0.00	0.00	6082.54	0.00	139.00	2.00	180.00	-139.00
6	6184.63	0.00	0.00	6182.54	0.00	139.00	0.00	0.00	-139.00
7	6937.40	90.33	270.00	6660.00	0.00	-341.24	12.00	270.00	341.24
8	12958.27	90.33	270.00	6625.00	0.00	-6362.00	0.00	0.00	6362.00

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
[D2419SC#601H]PBHL - plan hits target center	6625.00	0.00	-6362.00	601027.00	448129.00
[D2419SC#601H]UMP - plan misses target center by 0.90usft at 7092.16usft MD (6659.10 TVD, 0.00 N, -495.99 E)	6660.00	0.00	-496.00	601027.00	453995.00



Azimuths to Grid North  
True North: 0.15°  
Magnetic North: 7.33°  
Magnetic Field Strength: 47797.3 nT  
Dip Angle: 60.2°  
Date: 3/2/2020  
Model: IGRF2015

Received by OCD: 3/11/2020 9:31:04 AM

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Site: Diablo  
Well: Diablo 2019 State Com #601H  
Wellbore: Lateral  
Design: Plan #1  
Ground Elevation 3769.00  
Northing 601027.00  
Easting 454491.00  
KB @ 3787.00usft (Planning Rig)

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Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: New Mexico Eastern Zone  
System Datum: Mean Sea Level

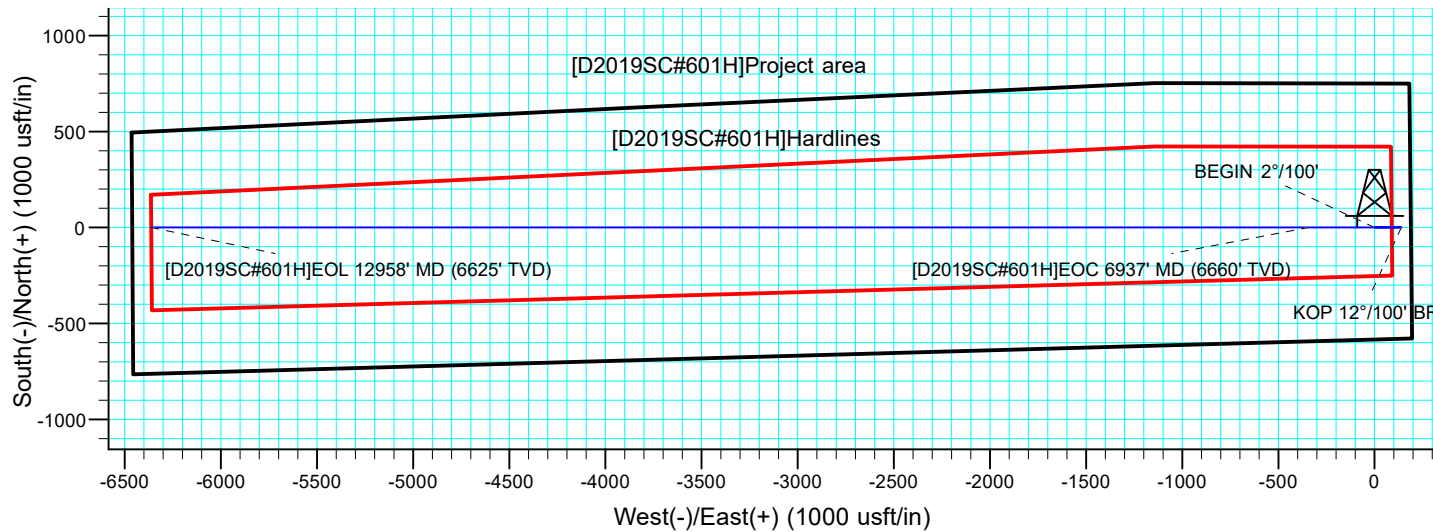
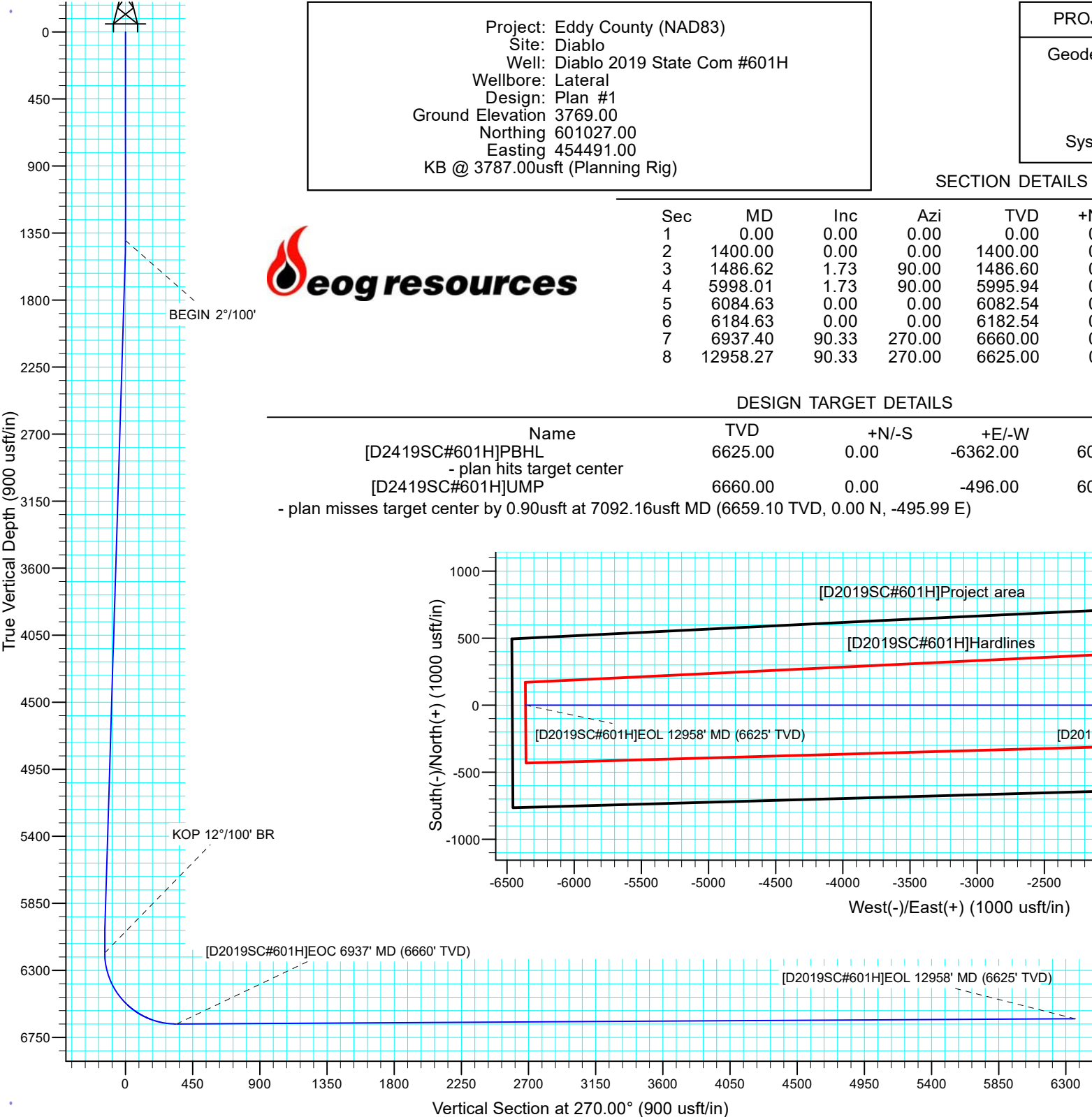


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	0.00	0.00
3	1486.62	1.73	90.00	1486.60	0.00	1.31	2.00	90.00	-1.31
4	5998.01	1.73	90.00	5995.94	0.00	137.69	0.00	0.00	-137.69
5	6084.63	0.00	0.00	6082.54	0.00	139.00	2.00	180.00	-139.00
6	6184.63	0.00	0.00	6182.54	0.00	139.00	0.00	0.00	-139.00
7	6937.40	90.33	270.00	6660.00	0.00	-341.24	12.00	270.00	341.24
8	12958.27	90.33	270.00	6625.00	0.00	-6362.00	0.00	0.00	6362.00

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
[D2419SC#601H]PBHL	6625.00	0.00	-6362.00	601027.00	448129.00
- plan hits target center					
[D2419SC#601H]UMP	6660.00	0.00	-496.00	601027.00	453995.00
- plan misses target center by 0.90usft at 7092.16usft MD (6659.10 TVD, 0.00 N, -495.99 E)					



Azimuths to Grid North  
True North: 0.15°  
Magnetic North: 7.33°  
Magnetic Field Strength: 47797.33 T  
Dip Angle: 60.26°  
Date: 3/2/2020  
Model: IGRF2015

Intent ☒ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number

## Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County EDDY
Latitude					Longitude				NAD 83

## First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County EDDY
Latitude					Longitude				NAD 83

## Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County EDDY
Latitude					Longitude				NAD 83

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

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

API #		
Operator Name:	Property Name:	Well Number

KZ 06/29/2018