Form 3160-5 (June 2015)

**UNITED STATES** DEPARTMENT OF THE INTERIOR **BUREAU OF LAND MANAGEMENT** 

FORM APPROVED OMB NO. 1004-0137

Expires: January 31, 2018

5. Lease Serial No.

	NMNM97151
6.	If Indian, Allottee or Tribe Name

SUNDRY NO Do not use this	OTICES AND	REPORTS (	ON WELLS $\mathcal{O}_{\alpha}$
Do not use this	form for propo	sals to drill o	r to re-enter an 🗡
abandoned well.	Use form 316	0-3 (APD) for :	such pr <b>o</b> posals. ·
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	120	
SUBMIT IN TRIPLICATE - O	ther instructions on page 25/V	7. If Unit or CA/Agreement, Name and/or No.
Type of Well     Gas Well	₩	8. Well Name and No. FLAGLER 8 FEDERAL 35H
Name of Operator DEVON ENERGY PRODUCTION CONSERMAN: F	Contact: REBECCA DEAL Rebecca.Deal@dvn.com	9. API Well No. 30-025-45164-00-X1
3a. Address 333 WEST SHERIDAN AVENUE OKLAHOMA CITY, OK 73102	3b. Phone No. (include area code) Ph: 405-228-8429	10. Field and Pool or Exploratory Area RED HILLS-UP BONE SPRING SHALE
4. Location of Well (Footage, Sec., T., R., M., or Survey L.	Description)	11. County or Parish, State
Sec 8 T25S R33E SESE 380FSL 640FEL 32.138897 N Lat, 103.587814 W Lon		LEA COUNTY, NM

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

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

Devon Energy Production Co. L.P. respectfully requests correction to well name. Permitted well name is Flagler 8 Fed Com 35H but should be Flagler 8 Federal 35H. See attached originally submitted C-102.



14. I hereby certify that th	e foregoing is true and correct.  Electronic Submission #483368 verifie  For DEVON ENERGY PRODUCTI  Committed to AFMSS for processing by PRI	DN CO	MPAN, sent to the Hobbs	SE)	
Name (Printed/Typed)	REBECCA DEAL	Title	REGULATORY COMPLIANCE	PROFESSI	<del></del>
Signature	(Electronic Submission)  THIS SPACE FOR FEDERA	Date OR	09/13/2019 STATE OFFICE USE		= <u></u>
	1110 01 A02 1 0 K 1 2 2 2 1 0		***		<u> </u>
_Approved By_LQNG_V	D	TitleF	PETROLEUM ENGINEER		Date 10/04/2019
certify that the applicant hol	y, are attached. Approval of this notice does not warrant or ds legal or equitable title to those rights in the subject lease icant to conduct operations thereon.	Office	e Hobbs		
Title 18 U.S.C. Section 1001	and Title 43 U.S.C. Section 1212, make it a crime for any pe	rson kno	wingly and willfully to make to any dep	partment or agenc	y of the United

States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2) \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\*

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

**OPERATOR'S NAME:** DEVON ENERGY PRODUCTION

LEASE NO.: NMNM097151

WELL NAME & NO.: | 35H –FLAGLER 8 FEDERAL

SURFACE HOLE FOOTAGE: 380'/S & 640'/E BOTTOM HOLE FOOTAGE 330'/N & 360'/E

LOCATION: Section 8.,T25S., R.33E., NMP COUNTY: LEA County, New Mexico

COA

H2S	Yes	€ No	
Potash	• None	C Secretary	⊂ R-111-P
Cave/Karst Potential	© Low	↑ Medium	← High
Cave/Karst Potential	Critical		
Variance	None	Flex Hose	Other
Wellhead	Conventional	↑ Multibowl	<b>☞</b> Both
Other	☐4 String Area	Capitan Reef	WIPP
Other	Fluid Filled	Cement Squeeze	Pilot Hole
Special Requirements	Water Disposal	ГСОМ	☐ Unit

#### A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

#### **B. CASING**

- 1. The 13-3/8 inch surface casing shall be set at approximately 1150 feet (a minimum of 25 feet (Lea 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.
- 2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing shall be set at approximately 5000 feet is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above.
- 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 2000 (2M) psi.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be 3000 (3M) 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 3000 (3M) 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.

#### **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 CountyCall 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 2<sup>nd</sup> 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.1
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District.11
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District.111
1000 Rio Brazos Rond, Aztec. NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District.117
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.

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

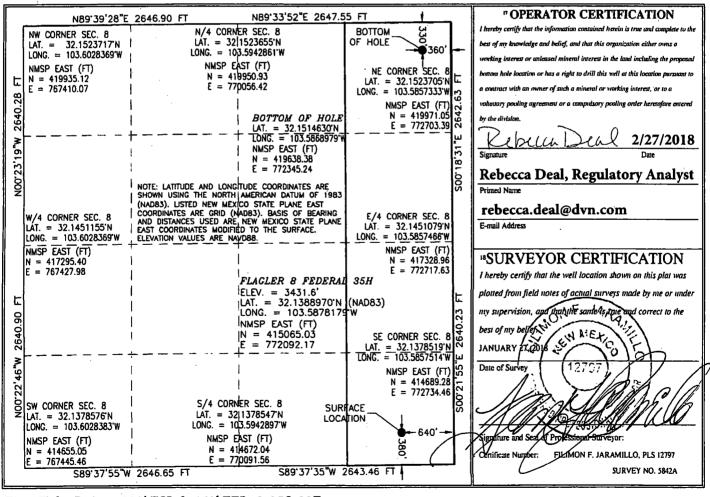
■ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

Santa Fe, NM 87505

	API Numbe	r		Pool Code Prool Name 97900 RED HILLS;UPPER BONE SPRING SHA			RED HILLS;UPPER BONE S		
¹ Property (	Code				<sup>5</sup> Property	Name	•		Well Number
3088	30884 FLAGLER 8 FEDERAL 35H								35H
OGRID No. Operator Name									<sup>9</sup> Elevation
6137	6137 DEVON ENERGY PRODUCTION COMPANY, L.P. 3431							3431.6	
	<u></u>				<sup>∞</sup> Surface	Location	·		
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	8	25 S	33 E		380	SOUTH	640	EAST	LEA
			" Bo	tom Hol	e Location I	Different Fro	m Surface		
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	8	25 S	33 E		330	NORTH	360	EAST	LEA
Dedicated Acres	<sup>13</sup> Joint o	r Infill   'C	onsolidation	Code 15 Or	đer No.				
160									

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.



First Take Point: 330' FSL & 462' FEL, 8-25S-33E Last Take Point: 330' FNL & 360' FEL, 8-25S-33E

## 1. Geologic Formations

TVD of target	9,575	Pilot hole depth	N/A
MD at TD:	14,154'	Deepest expected fresh water:	

#### Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
RUSTLER	1145		
TOP SALT	1508		
BASE OF SALT	5000		
BELL CANYON	5000		
CHERRY CANYON	6040		
BRUSHY CANYON	7690		
BONE SPRING	9110		
BONE SPRING 1ST	10016		
BONE SPRING 2ND	10610		
			,

<sup>\*</sup>H2S, water flows, loss of circulation, abnormal pressures, etc.

#### 2. Casing Program

Hole	Casing	Interval	Csg.	Weight	Grade	Conn.	SF	SF	SF
Size	From	To	Size	(lbs)			Collapse	Burst	Tension
17.5"	0	1,150'	13.375"	48	H40	STC	1.125	1	1.6
12.25"	0	5,000'	9.625"	40	J55	LTC	1.125	1	1.6
8.75"	0	14,154	5.5"	17	P110	BTC	1.125	1	1.6
-				<b>BLM Min</b>	imum Safe	ty Factor	1.125	1	1.6 Dry
						-		1	1.8 Wet

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

Must have table for contingency casing

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

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H <sub>2</sub> 0 gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	901	14.8	1.33	6.32	6	Lead: Class C Cement + 0.125 lbs/sack Poly-F-Flake
Inter.	511	10.3	3.65	22.06	24	Lead: (50:50) Poz (Silica) 3 lbm/sk Kol-Seal, .125 lbm/sk Poly-E-Flake
	306	14.8	1.33	6.32	6	Tail: Class C Cement + 0.125 lbs/sack Poly-F-Flake
Prod.	446	9	3.27	13.5	21	Lead: Tuned Light Cement
	1221	14.5	1.2	5.31	25	Tail: (50:50) Clas H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite

Casing String	TOC	% Excess
13-3/8" Surface	0'	50%
9-5/8" Intermediate	0'	30%
5-1/2" Production	4800'	25%

## 4. Pressure Control Equipment

N A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Туре		•	Tested to:						
			An	nular	x	50% of working pressure						
			Blin	d Ram								
12-1/4"	13-5/8"	3M	Pipe Ram		<u></u>	3M						
			Double Ram x		31 <b>VI</b>							
			Other*									
	13-5/8"						Annular		Annula		х	50% of working pressure
		5/8" 3M	Blind Ram									
8-3/4"			Pipe Ram									
0-3/4			Double Ram		x	3M						
			Other *									
			Annular									
			Blind Ram									

Pi	e Ram	
Dou	Double Ram	
Other	Other	
*	1	

<sup>\*</sup>Specify if additional ram is utilized.

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

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

Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i. A variance is requested for the use of a flexible choke line from the BOP to Choke Y Manifold. See attached for specs and hydrostatic test chart. Are anchors required by manufacturer? A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. Devon proposes using a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 3000 (3M) psi. o Wellhead will be installed by wellhead representatives. o If the welding is performed by a third party, the wellhead representative will monitor the temperature to verify that it does not exceed the maximum temperature of the seal. o Wellhead representative will install the test plug for the initial BOP test. Wellhead company will install a solid steel body pack-off to completely isolate the lower head after cementing intermediate casing. After installation of the packoff, the pack-off and the lower flange will be tested to 3M, as shown on the attached schematic. Everything above the pack-off will not have been altered whatsoever from the initial nipple up. Therefore the BOP components will not be retested at that time.

- If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head will be cut and top out operations will be conducted.
- o Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating.
- Onshore Order #2.

After running the 13-3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 3M will be installed on the wellhead system and will undergo a 250 psi low pressure test followed by a 3,000 psi high pressure test. The 3,000 psi high and 250 psi. Low test will cover testing requirements a maximum of 30 days, as per Onshore Order #2. If the well is not complete within 30 days of this BOP test, another full BOP test will be conducted, as per Onshore Order #2.

After running the 9-5/8' intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 3M will already be installed on the wellhead.

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a Kelly cock, floor safety valve, choke lines, and choke manifold rated at 3,000 psi WP.

Devon's proposed wellhead manufactures will be EMC Technologies, Cactus Wellhead, or Cameron.

The pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These tests will be logged in the daily driller's log. A 2" kill line and 3" choke line will be incorporated into the drilling spool below the ram BOP. In addition to the rams and annular preventer, additional BOP accessories include a kelly cock, floor safety valve, choke lines, and choke manifold rated at 3,000 psi WP.

#### 5. Mud Program

Depth		Depth Type		Viscosity	Water Loss	
From	To					
0 1150		FW Gel	8.5-9.0	28-34	N/C	
1150	5,000	Saturated Brine	10.0-11.0	28-34	N/C	
5,000	14,154	Cut Brine	8.5-9.3	28-34	N/C	

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

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

#### 6. Logging and Testing Procedures

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

Add	itional logs planned Interval		
	Resistivity	Int. shoe to KOP	
	Density	Int. shoe to KOP	
X	CBL	Production casing	
X	Mud log	KOP to TD	
	PEX		-

#### 7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4720 psi
Abnormal Temperature	No

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

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

7 4474	ob and formations will be provided to the BEW.
N	H2S is present
Y	H2S Plan attached

#### 8. Other facets of operation

Is this a walking operation? Yes

- 1. In the event the spudder rig is unable to drill the surface holes the 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 with either OBM or cut brine 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? Yes

- 1. Spudder rig will move in and drill surface hole.
  - a. Rig will utilize fresh water based mud to drill 17½" 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 13-3/8" 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 pad.
- **6.** The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 7. Drilling operations will be performed with the drilling rig. At 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					

## **WCDSC Permian NM**

Lea County (NAD83 New Mexico East) Sec 08-T25S-R33E Flagler 8 Fed 35H

Wellbore #1

Plan: Permit Plan 1

## **Standard Planning Report - Geographic**

07 March, 2018

Database:

EDM r5000.141\_Prod US

Company:

WCDSC Permian NM

Project:

Lea County (NAD83 New Mexico East)

Site: Well: Sec 08-T25S-R33E Flagler 8 Fed 35H

Wellbore: Design:

Wellbore #1 Permit Plan 1 Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference: **Survey Calculation Method:**  Well Flagler 8 Fed 35H

RKB @ 3456.60ft RKB @ 3456.60ft

Grid

Minimum Curvature

Project

Lea County (NAD83 New Mexico East)

Map System: Geo Datum:

Map Zone:

US State Plane 1983

North American Datum 1983

New Mexico Eastern Zone

System Datum:

Mean Sea Level

Site

Sec 08-T25S-R33E

Site Position:

Northing:

419,281.82 usft

Latitude:

Longitude:

32,150539

**Position Uncertainty:** 

Man

Easting:

Stot Radius:

769,381.69 usft

-103.596481

From:

13-3/16 "

Grid Convergence:

0.39

Well

Flagler 8 Fed 35H

Well Position

+N/-S +E/-W 0.00 ft 0.00 ft Northing: Easting:

415,065.03 usft

6.88

Latitude:

32.138897

**Position Uncertainty** 

0.50 ft

Wellhead Elevation:

772,092.17 usft

Longitude: **Ground Level:**  -103.587818 3,431.60 ft

Wellbore

Wellbore #1

Magnetics

**Model Name** 

Sample Date

Declination

Dip Angle

Field Strength

IGRF2015

3/6/2018

(°)

(°)

(nT) 47,812.03091549

Design

Permit Plan 1

**Audit Notes:** 

Version:

Phase:

**PROTOTYPE** 

Tie On Depth:

0.00

59.97

**Vertical Section:** 

Depth From (TVD) (ft)

0.00

+N/-S (ft) 0.00

+E/-W (ft) 0.00

Direction (°) 2.50

Plan Survey Tool Program

Date 3/7/2018

**Depth From** (ft)

Depth To

(ft) Survey (Wellbore) Tool Name

Remarks

0.00

14,154.35 Permit Plan 1 (Wellbore #1)

MWD+IGRF

OWSG MWD + IGRF or WMM

rian	Sections	
84	assurad	

Measured			Vertical			Dogleg	Bulld	Turn		
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Rate	Rate	Rate	TFO	
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,862.31	2.03	155.53	2,862.27	-2.62	1.19	1.25	1.25	0.00	155.53	
8,168.13	2.03	155.53	8,164.77	-173.58	79.01	0.00	0.00	0.00	0.00	
8,303.39	0.00	0.00	8,300.00	-175.75	80.00	1.50	-1.50	0.00	180.00	Vertical Point - Flaglei
8,653.39	0.00	0.00	8,650.00	-175.75	80.00	0.00	0.00	0.00	0.00	
8,845.97	19.30	155,55	8,838.95	-205.01	93.30	10.02	10.02	0.00	155.55	
9,918.67	90.00	0.00	9,575.00	340.00	200.00	10.02	6.59	-14.50	-154.28	
14,154.35	90.00	0.00	9,575.00	4,575.68	200.00	0.00	0.00	0.00	0.00	PBHL - Flagler 8 Fed

Database: Company: EDM r5000.141\_Prod US

WCDSC Permian NM

Project: Site: Lea County (NAD83 New Mexico East) Sec 08-T25S-R33E

Well:

Flagler 8 Fed 35H Wellbore #1

Wellbore: Design:

Permit Plan 1

Local Co-ordinate Reference:

TVD Reference:

North Reference: Survey Calculation Method: Well Flagler 8 Fed 35H

RKB @ 3456.60ft RKB @ 3456.60ft

Grid

Minimum Curvature

Planned Survey

	Measured			Vertical			Мар	Мар		
:	Depth	11141	A	Depth	4N/ C	AC / 14/	Northing	Easting		t
	(ft)	Inclination	Azimuth	(ft)	+N/-S	+E/-W	(usft)	(usft)	1 máiteada	Lamattuda
•	(11)	(°)	(°)	(11)	(ft)	(ft)	(uoit)	(usit)	Latitude	Longitude
1	0.00	0.00	0.00	0.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
1	100.00	0.00	0.00	100.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
ı	200.00	0.00	0.00	200.00	0.00	0.00	415,065.03	772,092.17	32,138897	-103.587818
:	300.00	0.00	0.00	300.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
	400.00	0.00	0.00	400.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
	500.00	0.00	0.00	500.00	0.00	0.00	415,065.03	772,092.17	32,138897	-103.587818
:	600.00	0.00	0.00	600,00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
1	700.00	0.00	0.00	700.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
•	800.00	0.00	0.00	800.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
	900.00	0.00	0.00	900.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
Í	1,000.00	0.00	0.00	1,000.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
,	1,100.00	0.00	0.00	1,100.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
İ	1,200.00	0.00	0.00	1,200.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
	1,300.00	0.00	0.00	1,300.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
٠	1,400.00	0.00	0.00	1,400.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
	1,500.00	0.00	0.00	1,500.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
:	1,600.00	0.00	0.00	1,600.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
i	1,700.00	0.00	0.00	1,700.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
}	1,800.00	0.00	0.00	1,800.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
1	1,900.00	0.00	0.00	1,900.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
	2,000.00	0.00	0.00	2,000.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
	2,100.00	0.00	0.00	2,100.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
	2,200.00	0.00	0.00	2,200.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
i	2,300.00	0.00	0.00	2,300.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
	2,400.00	0.00	0.00	2,400.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
	2,500.00	0.00	0.00	2,500.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
	2,600.00	0.00	0.00	2,600.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
	2,700.00	0.00	0.00	2,700.00	0.00	0.00	415,065.03	772,092.17	32.138897	-103.587818
ì	Begin Nu									1
	2,800.00	1.25	155.53	2,799.99	-0.99	0.45	415,064.04	772,092.62	32.138894	-103.587817
	2,862.31	2.03	155.53	2,862.28	-2.62	1.19	415,062.41	772,093.36	32.138890	-103.587814
	EOB									
	2,900.00	2.03	155.53	2,899.94	-3.83	1.74	415,061.20	772,093.91	32.138887	-103.587813
	3,000.00	2.03	155.53	2,999.88	-7.05	3.21	415,057.98	772,095.38	32.138878	-103.587808
	3,100.00	2.03	155.53	3,099.82	-10.27	4.68	415,054.76	772,096.84	32.138869	-103.587803
	3,200.00	2.03	155.53	3,199.75	-13.50	6.14	415,051.53	772,098.31	32.138860	-103.587799
	3,300.00	2.03	155.53	3,299.69	-16.72	7.61	415,048.31	772,099.78	32.138851	-103.587794
	3,400.00	2.03	155.53	3,399.63	-19.94	9.08	415,045.09	772,101.24	32.138842	-103.587789
	3,500.00	2.03	155.53	3,499.57	-23.16	10.54	415,041.87	772,102.71	32.138833	-103.587785
	3,600.00	2.03	155.53	3,599.50	-26.38	12.01	415,038.64	772,104.18	32,138824	-103.587780
	3,700.00	2.03	155.53	3,699.44	-29.61	13.48	415,035.42	772,105.64	32.138815	-103.587775
	3,800.00	2.03	155.53	3,799.38	-32.83	14.94	415,032.20	772,107.11	32.138807	-103.587771
	3,900.00	2.03	155.53	3,899.32	-36.05	16.41	415,028.98	772,108.58	32.138798	-103.587766
	4,000.00	2.03	155.53	3,999.25	-39.27	17.88	415,025.76	772,110.04	32.138789	-103.587761
	4,100.00	2.03	155.53	4,099.19	-42.50	19.34	415,022.53	772,111.51	32.138780	-103.587757
	4,200.00	2.03	155.53	4,199.13	-45.72	20.81	415,019.31	772,112.98	32.138771	-103.587752
	4,300.00	2.03	155.53	4,299.06	-48.94	22.28	415,016.09	772,114.44	32.138762	-103.587747
	4,400.00	2.03	155.53	4,399.00	-52.16	23.74	415,012.87	772,115.91	32.138753	-103.587743
	4,500.00	2.03	155.53	4,498.94	-55.38	25.21	415,009.65	772,117.38	32.138744	-103.587738
	4,600.00	2.03	155.53	4,598.88	-58.61	26.68	415,006.42	772,118.84	32.138735	-103.587733
	4,700.00	2.03	155.53	4,698.81	-61.83	28.14	415,003.20	772,120.31	32.138727	-103.587729
	4,800.00	2.03	155.53	4,798.75	-65.05	29.61	414,999.98	772,121.78	32.138718	-103.587724
	4,900.00	2.03	155.53	4,898.69	<i>-</i> 68.27	31.08	414,996.76	772,123.24	32.138709	-103.587719
	5,000.00	2.03	155.53	4,998.63	-71.49	32.54	414,993.54	772,124.71	32.138700	-103.587715

Database:

EDM r5000.141\_Prod US

Company:

WCDSC Permian NM Lea County (NAD83 New Mexico East)

Project: Site:

Sec 08-T25S-R33E

Well: Wellbore: Flagler 8 Fed 35H Wellbore #1

Wellbore: Wellbore #1

Design: Permit Plan 1

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference:

Survey Calculation Method:

Well Flagler 8 Fed 35H

RKB @ 3456.60ft RKB @ 3456.60ft

Grid

Minimum Curvature

**Planned Survey** 

	Measured			Vertical			Мар	Мар		•
	Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Northing	Easting		•
	(ft)	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)	Latitude	Longitude
	5,100.00	2.03	155.53	5,098.56	-74.72	34.01	414,990.31	772,126.18	32.138691	-103.587710
	5,200.00	2.03	155.53	5,198.50	-77.94	35.48	414,987.09	772,127.64	32.138682	-103.587705
	5,300.00	2.03	155.53	5,298.44	-81.16	36.94	414,983.87	772,129.11	32.138673	-103.587701
	5,400.00	2.03	155.53	5,398.38	-84.38	38.41	414,980.65	772,130.58	32.138664	-103.587696
1	5,500.00	2.03	155.53	5,498.31	-87.60	39.88	414,977.42	772,132.04	32.138656	-103.587691
ŀ	5,600.00	2.03	155.53	5,598.25	-90.83	41.34	414,974.20	772,133.51	32.138647	-103,587687
! !	5,700.00	2.03	155.53	5,698.19	-94.05	42.81	414,970.98	772,134.98	32,138638	-103.587682
į	5,800.00	2.03	155.53	5,798.12	-97.27	44.28	414,967.76	772,136.44	32.138629	-103.587677
ĺ	5,900.00	2.03	155.53	5,898.06	-100.49	45.74	414,964.54	772,137.91	32.138620	-103.587673
	6,000.00	2.03	155.53	5,998.00	-103.72	47.21	414,961.31	772,139.38	32.138611	-103.587668
	6,100.00	2.03	155.53	6,097.94	-106.94	48.68	414,958.09	772,140.84	32.138602	-103.587663
!	6,200.00	2.03	155.53	6,197.87	-110.16	50.14	414,954.87	772,142.31	32.138593	-103.587659
!	6,300.00	2.03	155.53	6,297.81	-113.38	51.61	414,951.65	772,143.78	32.138584	-103.587654
	6,400.00	2.03	155.53	6,397.75	-116.60	53.08	414,948.43	772,145.24	32.138576	-103.587649
	6,500.00	2.03	155.53	6,497.69	-119.83	54.54	414,945.20	772,146.71	32.138567	-103.587645
	6,600.00	2.03	155.53	6,597.62	-123.05	56.01	414,941.98	772,148.18	32,138558	-103.587640
	6,700.00	2.03	155.53	6,697.56	-126.27	57.48	414,938.76	772,149.64	32.138549	-103.587635
l	6,800.00	2.03	155.53	6,797.50	-129.49	58.94	414,935.54	772,151.11	32.138540	-103.587631
	6,900.00	2.03	155.53	6,897.44	-132.71	60.41	414,932.32	772,152.58	32.138531	-103.587626
•	7,000.00	2.03	155.53	6,997.37	-135.94	61.88	414,929.09	772,154.04	32.138522	-103.587621
į	7,100.00	2.03	155.53	7,097.31	-139.16	63.34	414,925.87	772,155.51	32.138513	-103.587617
	7,200.00	2.03	155.53	7,197.25	-142.38	64.81	414,922.65	772,156.98	32.138504	-103.587612 <sub>j</sub>
	7,300.00	2.03	155.53	7,297.18	-145.60	66.28	414,919.43	772,158.44	32.138496	-103.587607
	7,400.00	2.03	155.53	7,397.12	-148.83	67.74	414,916.20	772,159.91	32.138487	-103.587603
	7,500.00	2.03	155.53	7,497.06	-152.05	69.21	414,912.98	772,161.38	32.138478	-103.587598
1	7,600.00	2.03	155.53	7,597.00	-155.27	70.68	414,909.76	772,162.84	32,138469	-103.587593
	7,700.00	2.03	155.53	7,696.93	-158.49	72.14	414,906.54	772,164.31	32.138460	-103.587589
	7,800.00	2.03	155.53	7,796.87	-161.71	73.61	414,903.32	772,165.78	32.138451	-103.587584
1	7,900.00	2.03	155.53	7,896.81	-164.94	75.08	414,900.09	772,167.24	32.138442	-103.587579
	8,000.00	2.03	155.53	7,996.75	-168.16	76.54	414,896.87	772,168.71	32.138433	-103.587575
	8,100.00	2.03	155.53	8,096.68	-171.38	78.01	414,893.65	772,170.18	32.138425	-103.587570
	8,168.13	2.03	155.53	8,164.77	-173.58	79.01	414,891.45	772,171.18	32.138418	-103.587567
	EOH									
	8,200.00	1.55	155.53	8,196.62	-174.48	79.42	414,890.55	772,171.59	32.138416	-103.587565
	8,300.00	0.05	155.53	8,296.61	-175.75	80.00	414,889.28	772,172.17	32.138412	-103.587564
	8,303.39	0.00	0.00	8,300.00	-175.75	80.00	414,889.28	772,172.17	32.138412	-103.587564
	Drop to \									
	8,400.00	0.00	0.00	8,396.61	-175.75	80.00	414,889.28	772,172.17	32.138412	-103.587564
	8,500.00	0.00	0.00	8,496.61	-175.75	80.00	414,889.28	772,172.17	32.138412	-103.587564
	8,600.00	0.00	0.00	8,596.61	-175.75	80.00	414,889.28	772,172.17	32,138412	-103.587564
	8,653.39	0.00	0.00	8,650.00	-175.75	80.00	414,889.28	772,172.17	32.138412	-103.587564
ı	KOP @ 8	653' MD, 204'	FSL, 560' FE							
	8,700.00	4.67	155.55	8,696.56	-177.48	80.79	414,887.55	772,172.95	32.138408	-103.587561
	8,800.00	14.70	155.55	8,795.01	-192.78	87.74	414,872.25	772,179.91	32.138366	-103.587539
	8,845.97	19.30	155.55	8,838.96	-205.01	93.30	414,860.02	772,185.47	32.138332	-103.587521
	155.55° T	F								
	8,900.00	14.61	146.21	8,890.63	-218.81	100.79	414,846.22	772,192.96	32.138294	-103.587497
	9,000.00	8.50	104.18	8,988.72	-231.14	115.01	414,833.89	772,207.18	32.138260	-103.587452
	9,100.00	11.43	45.78	9,087.43	-226.02	129.32	414,839.01	772,221.49	32.138273	-103.587405
	9,200.00	19.72	23.86	9,183.75	-203.63	143.28	414,861.40	772,235.45	32,138335	-103.587360
	9,300.00	29.09	15.10	9,274.75	-164.64	156.47	414,900.39	772,248.64	32,138442	-103.587316
	9,400.00	38.77	10.40	9,357.64	-110.24	168.49	414,954.79	772,260.66	32.138591	-103.587276
	9,489.27	47.51	7.63	9,422.72	-50.00	177.92	415,015.03	772,270.09	32.138756	-103.587244
		Point @ 9489			2					
	131 1016	. Jiii (g) 3703		-,						

Database: Company: EDM r5000.141\_Prod US

WCDSC Permian NM
Lea County (NAD83 New Mexico East)

Project: Site:

Sec 08-T25S-R33E

Wellbore

Flagler 8 Fed 35H Wellbore #1

Wellbore: Design:

Permit Plan 1

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference: Survey Calculation Method: Well Flagler 8 Fed 35H

RKB @ 3456.60ft RKB @ 3456.60ft

Grid

Minimum Curvature

#### Planned Survey

	Measured			Vertical			Мар	Map		
	Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Northing	Easting		
1	(ft)	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)	Latitude	Longitude
!	9,500.00	48.57	7.35	9,429.89	-42.09	178.96	415,022.94	772,271.13	32.138778	-103.587241
i	9,600.00	58.43	5.11	9,489.31	37.72	187.58	415,102.75	772,279.74	32.138997	-103.587211
i	9,700.00	68.32	3.30	9,534.07	126.77	194.07	415,191.80	772,286.23	32.139242	-103.587188
	9,800.00	78.23	1.73	9,562.81	222.32	198.23	415,287.35	772,290.40	32.139504	-103.587173 <sup>!</sup>
	9,900.00	88.15	0.27	9,574.65	321.48	199.95	415,386.50	772,292.12	32.139777	-103.587165
1	9,918.67	90.00	0.00	9,575.00	340.00	200,00	415,405.03	772,292.17	32.139828	-103.587164
1	Land Pol	int								
	10,000.00	90.00	0.00	9,575.00	421.33	200.00	415,486.36	772,292.17	32.140051	-103.587163
i	10,100.00	90.00	0.00	9,575.00	521.33	200.00	415,586.36	772,292.17	32.140326	-103.587160
!	10,200.00	90.00	0.00	9,575.00	621.33	200.00	415,686.36	772,292.17	32.140601	-103.587158
İ	10,300.00	90.00	0.00	9,575.00	721.33	200.00	415,786.36	772,292.17	32.140876	-103.587156
1	10,400.00	90.00	0.00	9,575.00	821.33	200.00	415,886.36	772,292.17	32.141151	-103.587154
,	10,500.00	90.00	0.00	9,575.00	921.33	200.00	415,986.36	772,292.17	32.141426	-103.587151
i	10,600.00	90.00	0.00	9,575.00	1,021.33	200.00	416,086.36	772,292.17	32.141701	-103.587149
;	10,700.00	90.00	0.00	9,575.00	1,121.33	200.00	416,186.36	772,292.17	32.141975	-103.587147
	10,800.00	90.00	0.00	9,575.00	1,221.33	200.00	416,286.36	772,292.17	32.142250	-103.587145
	10,900.00	90.00	0.00	9,575.00	1,321.33	200.00	416,386.36	772,292.17	32.142525	-103.587142
	11,000.00	90.00	0.00	9,575.00	1,421.33	200.00	416,486.36	772,292.17	32.142800	-103,587140
	11,100.00	90.00	0.00	9,575.00	1,521.33	200.00	416,586.36	772,292.17	32.143075	-103.587138
	11,200.00	90.00	0.00	9,575.00	1,621.33	200.00	416,686.36	772,292,17	32.143350	-103.587136
i	11,300.00	90.00	0.00	9,575.00	1,721.33	200.00	416,786.36	772,292.17	32.143625	-103.587134
•	11,400.00	90.00	0.00	9,575.00	1,821.33	200.00	416,886.36	772,292.17	32.143900	-103.587131
	11,500.00	90.00	0.00	9,575.00	1 921.33	200.00	416,986.36	772,292,17	32.144174	-103.587129
	11,600.00	90.00	0.00	9,575.00	2,021.33	200.00	417,086.36	772,292.17	32.144449	-103.587127
	11,700.00	90.00	0.00	9,575.00	2,121.33	200.00	417,186.36	772,292.17	32.144724	-103.587125
	11,800.00	90.00	0.00	9.575.00	2,221.33	200.00	417,286.36	772,292.17	32.144999	-103.587122
	11,900.00	90.00	0.00	9,575.00	2,321.33	200.00	417,386.36	772,292.17	32.145274	-103.587120
	12,000.00	90.00	0.00	9,575.00	2,421.33	200.00	417,486.36	772,292,17	32,145549	-103.587118
	12,100.00	90.00	0.00	9,575.00	2,521.33	200.00	417,586.36	772,292.17	32,145824	-103,587116
ļ	12,200.00	90.00	0.00	9,575.00	2,621.33	200.00	417,686.36	772,292,17	32.146099	-103.587113
1	12,300.00	90.00	0.00	9,575.00	2,721.33	200.00	417,786.36	772,292.17	32.146373	-103.587111
	12,400.00	90.00	0.00	9,575.00	2,821.33	200.00	417,886.36	772,292.17	32.146648	-103.587109
	12,500.00	90.00	0.00	9,575.00	2,921.33	200.00	417,986.36	772,292.17	32.146923	-103.587107
	12,500.00	90.00	0.00	9,575.00	3,021.33	200.00	418,086.36	772,292.17	32,147198	-103.587104
	12,700.00	90.00	0.00	9,575.00	3,121.33	200.00	418,186.36	772,292.17	32.147473	-103.587102
	12,800.00	90.00	0.00	9,575.00	3,221.33	200.00	418,286.36	772,292.17	32.147748	-103.587100
	12,900.00	90.00	0.00	9,575.00	3,321.33	200.00	418,386.36	772,292.17	32.148023	-103.587098
	13,000.00	90.00	0.00	9,575.00	3,421,33	200.00	418,486,36	772,292.17	32,148297	-103.587095
	13,100.00	90.00	0.00	9,575.00	3,521.33	200.00	418,586.36	772,292.17	32,148572	-103.587093
	13,100.00	90.00	0.00	9,575.00	3,621.33	200.00	418,686.36	772,292.17	32,148847	-103.587091
	13,300.00	90.00	0.00	9,575.00	3,721.33	200.00	418,786.36	772,292.17	32.149122	-103.587089
	13,400.00	90.00	0.00	9,575.00	3,821.33	200.00	418,886.36	772,292.17	32,149397	-103.587087
	13,500.00	90.00	0.00	9,575.00	3,921.33	200.00	418,986.36	772,292.17	32,149672	-103.587084
				•	•	200.00	419,086.35	772,292.17	32.149947	-103.587082
	13,600.00 13,700.00	90.00 90.00	0.00 0.00	9,575.00 9,575.00	4,021.33 4,121.33	200.00	419,186.35	772,2 <del>9</del> 2.17 772,292.17	32.150222	-103.587080
	13,800.00	90.00	0.00	9,575.00	4,221.33	200.00	419,286.35	772,292.17	32.150496	-103.587078 -103.587075
	13,900.00	90.00	0.00	9,575.00	4,321.33	200.00 200.00	419,386.35	772,292.17	32.150771	
	14,000.00	90.00	0.00	9,575.00	4,421.33		419,486.35	772,292.17	32.151046	-103.587073 -103.587071
	14,100.00	90.00	0.00	9,575.00	4,521.33	200.00	419,586.35	772,292.17	32.151321	
	14,154.35	90.00	0.00	9,575.00	4,575.68	200.00	419,640.70	772,292.17	32.151470	-103.587070
	PBHL; 33	80' FNL, 360' I	FEL							

Database:

EDM r5000.141\_Prod US

Company: Project:

WCDSC Permian NM Lea County (NAD83 New Mexico East)

Site:

Sec 08-T25S-R33E

Well: Wellbore: Design:

Flagler 8 Fed 35H Wellbore #1

Permit Plan 1

Local Co-ordinate Reference:

TVD Reference:

RKB @ 3456.60ft RKB @ 3456.60ft

MD Reference: North Reference:

**Survey Calculation Method:** 

Grid

Minimum Curvature

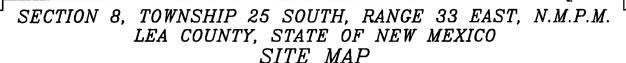
Well Flagler 8 Fed 35H

#### Design Targets

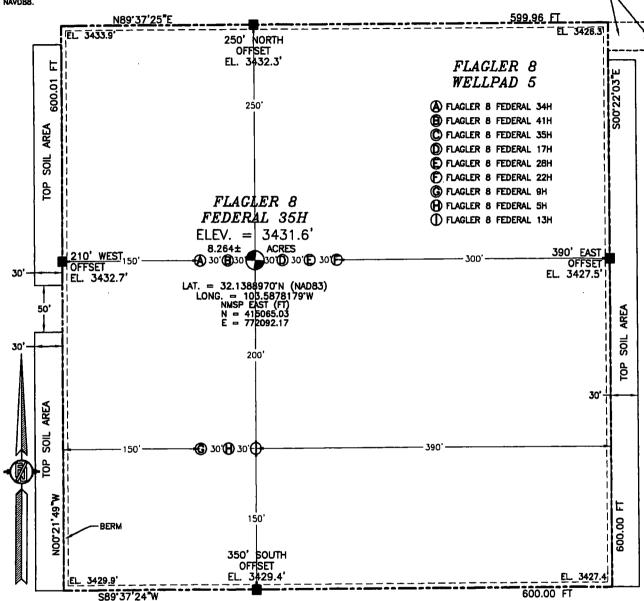
Target Name - hit/miss target - Shape	Dip Angle	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL - Flagler 8 Fed 35 - plan misses target - Point		0.00 0.36ft at 0.00	0.00 Off MD (0.00	4,573.36 TVD, 0.00 N,	253.07 0.00 E)	419,638.38	772,345.24	32.151463	-103.586898
Vertical Point - Flagler 8 - plan hits target cen - Point	0.00 ter	0.00	8,300.00	-175.75	80.00	414,889.28	772,172.17	32.138412	-103.587564 <sub> </sub>

#### Plan Annotations

	Measured	Vertical	Local Coor	dinates		
	Depth (ft)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment	
	2,700.00	2,700.00	0.00	0.00	Begin Nudge	
1	2,862.31	2,862.28	-2.62	1,19	EOB	
1	8,168.13	8,164.77	-173,58	79.01	EOH	
į	8,303.39	8,300.00	-175.75	80.00	Drop to Vertical	
'	8,653.39	8,650.00	-175.75	80.00	KOP @ 8653' MD, 204' FSL, 560' FEL	
1	8,845.97	8,838.96	-205.01	93.30	155.55° TF	
,	9,489,27	9,422.72	-50.00	177.92	1st Take Point @ 9489' MD, 330' FSL, 462' FEL	
1	9,918.67	9,575.00	340.00	200.00	Land Point	
1	14,154,35	9,575.00	4,575.68	200.00	PBHL; 330' FNL, 360' FEL	



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



010 50 100 200 SCALE 1" = 100'

DIRECTIONS TO LOCATION
FROM THE INTERSECTION OF HWY. 128 & DIAMOND ROAD, GO SOUTH
ON DIAMOND ROAD APPROX. 2.4 MILES WHERE PAVEMENT ENDS &
RANCH HOUSE, CONTINUE SOUTH APPROX. 0.5 MILE TO A ""
INTERSECTION, GO SOUTH APPROX. 0.8 MILE TO A CATTLE GUARD,
CONTINUE SOUTH APPROX. 1.1 MILE TO A "INTERSECTION, GO
SOUTHWEST ON LEASE ROAD APPROX 0.8 MILE TO A LEASE ROAD ON
RIGHT (WEST), TURN WEST (RIGHT) GO 1.0 MILE TO GATE, GO
THROUGH GATE, TURN SOUTH ON TRAIL ROAD GO SOUTH 670' TO A
PROPOSED "T" INTERSECTION, CONTINUE SOUTH AND WEST 800' TO
THE NORTHEAST PAD CORNER FOR THIS LOCATION.

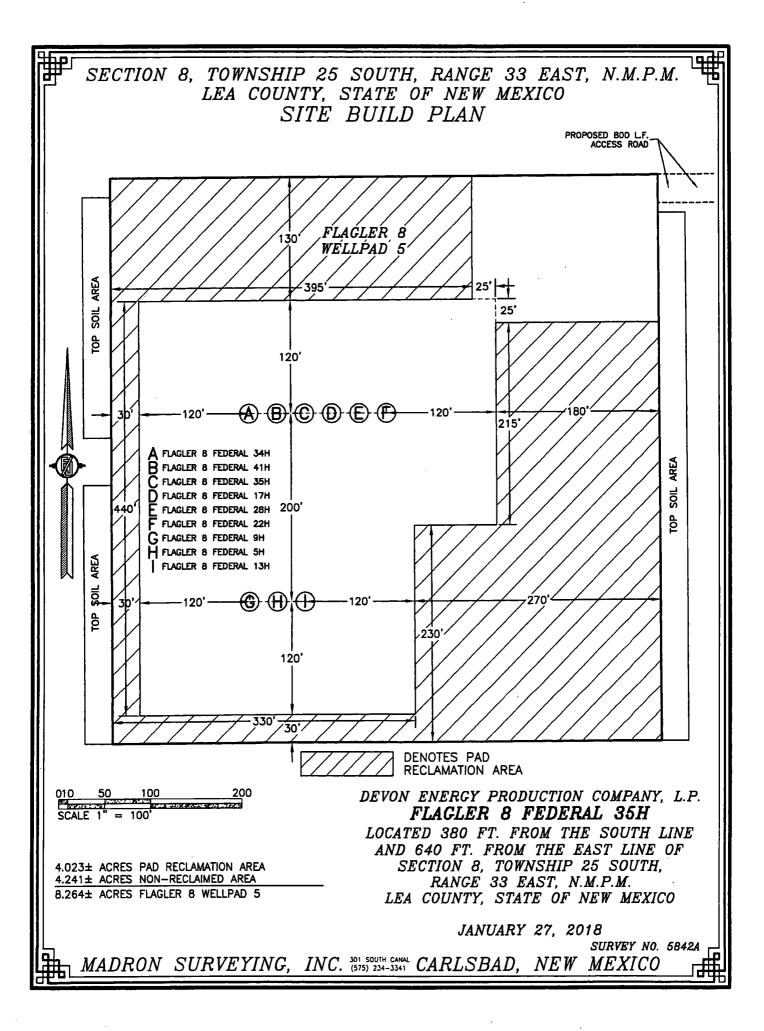
DEVON ENERGY PRODUCTION COMPANY, L.P. FLAGLER 8 FEDERAL 35H

LOCATED 380 FT. FROM THE SOUTH LINE AND 640 FT. FROM THE EAST LINE OF SECTION 8, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M. LEA COUNTY, STATE OF NEW MEXICO

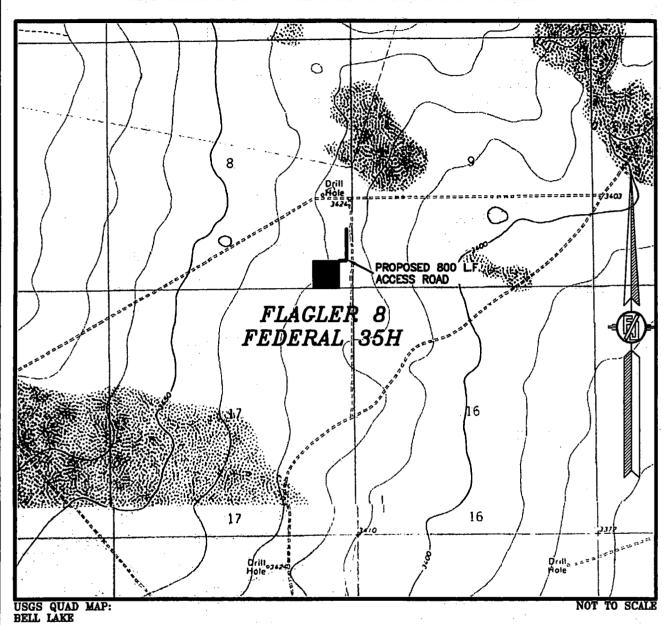
JANUARY 27, 2018

SURVEY NO. 5842A

PROPOSED 800 L.F. ACCESS ROAD



## SECTION 8, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M. LEA COUNTY, STATE OF NEW MEXICO LOCATION VERIFICATION MAP



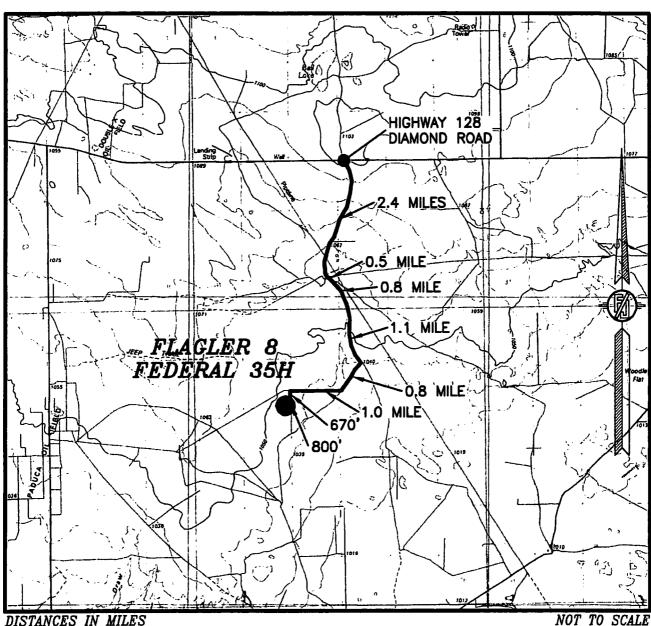
DEVON ENERGY PRODUCTION COMPANY, L.P.
FLAGLER 8 FEDERAL 35H
LOCATED 380 FT. FROM THE SOUTH LINE
AND 640 FT. FROM THE FAST LINE OF

LOCATED 380 FT. FROM THE SOUTH LINE AND 640 FT. FROM THE EAST LINE OF SECTION 8, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M. LEA COUNTY, STATE OF NEW MEXICO

JANUARY 27, 2018

SURVEY NO. 5842A

### SECTION 8, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M. LEA COUNTY, STATE OF NEW MEXICO VICINITY MAP



DIRECTIONS TO LOCATION DIRECTIONS TO LOCATION FROM THE INTERSECTION OF HWY. 128 & DIAMOND ROAD, GO SOUTH ON DIAMOND ROAD APPROX. 2.4 MILES WHERE PAVEMENT ENDS & RANCH HOUSE, CONTINUE SOUTH APPROX. 0.5 MILE TO A "A" INTERSECTION, GO SOUTH APPROX. 0.8 MILE TO A CATTLE GUARD, CONTINUE SOUTH APPROX. 1.1 MILE TO A "Y" INTERSECTION, GO SOUTHWEST ON LEASE ROAD APPROX 0.8 MILE TO A LEASE ROAD ON RIGHT (WEST), TURN WEST (RIGHT) GO 1.0 MILE TO GATE, GO THROUGH GATE, TURN SOUTH ON TRAIL ROAD GO SOUTH 670' TO A PROPOSED "T" INTERSECTION, CONTINUE SOUTH AND WEST 800' TO THE NORTHEAST PAD CORNER FOR THIS LOCATION.

DEVON ENERGY PRODUCTION COMPANY, L.P. FLAGLER 8 FEDERAL 35H LOCATED 380 FT. FROM THE SOUTH LINE AND 640 FT. FROM THE EAST LINE OF SECTION 8, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M. LEA COUNTY, STATE OF NEW MEXICO

JANUARY 27, 2018

SURVEY NO. 5842A

## SECTION 8, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M. LEA COUNTY, STATE OF NEW MEXICO AERIAL PHOTO

,

9

PROPOSED 800 L.F. ACCESS ROAD

17

16

NOT TO SCALE AERIAL PHOTO: GOOGLE EARTH NOV. 2017

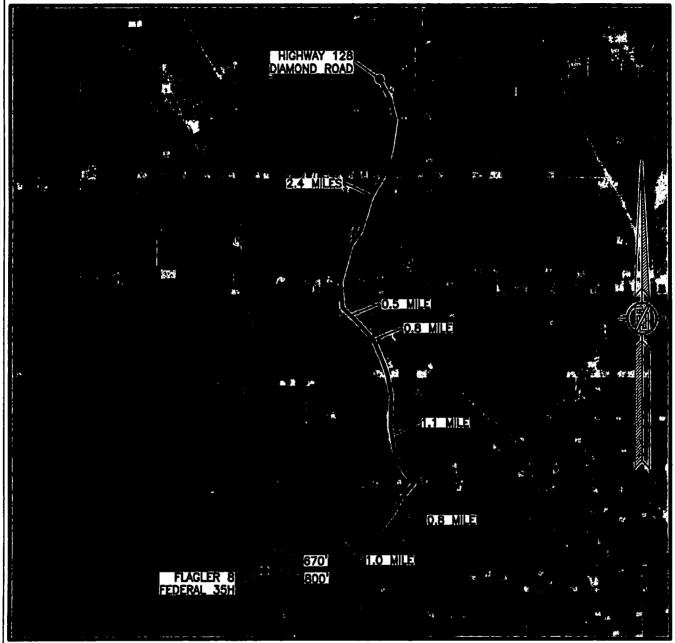
DEVON ENERGY PRODUCTION COMPANY, L.P. FLACLER 8 FEDERAL 35H

LOCATED 380 FT. FROM THE SOUTH LINE AND 640 FT. FROM THE EAST LINE OF SECTION 8, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M. LEA COUNTY, STATE OF NEW MEXICO

JANUARY 27, 2018

SURVEY NO. 5842A

## SECTION 8, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M. LEA COUNTY, STATE OF NEW MEXICO AERIAL ACCESS ROUTE MAP



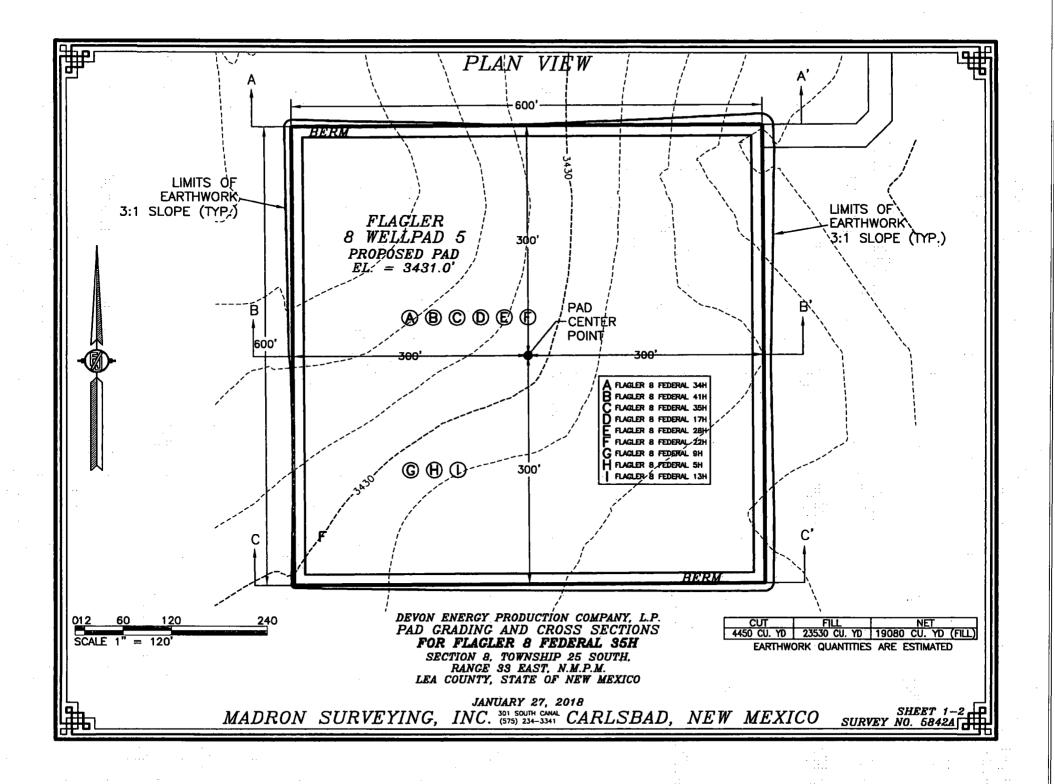
NOT TO SCALE AERIAL PHOTO: GOOGLE EARTH NOV. 2017

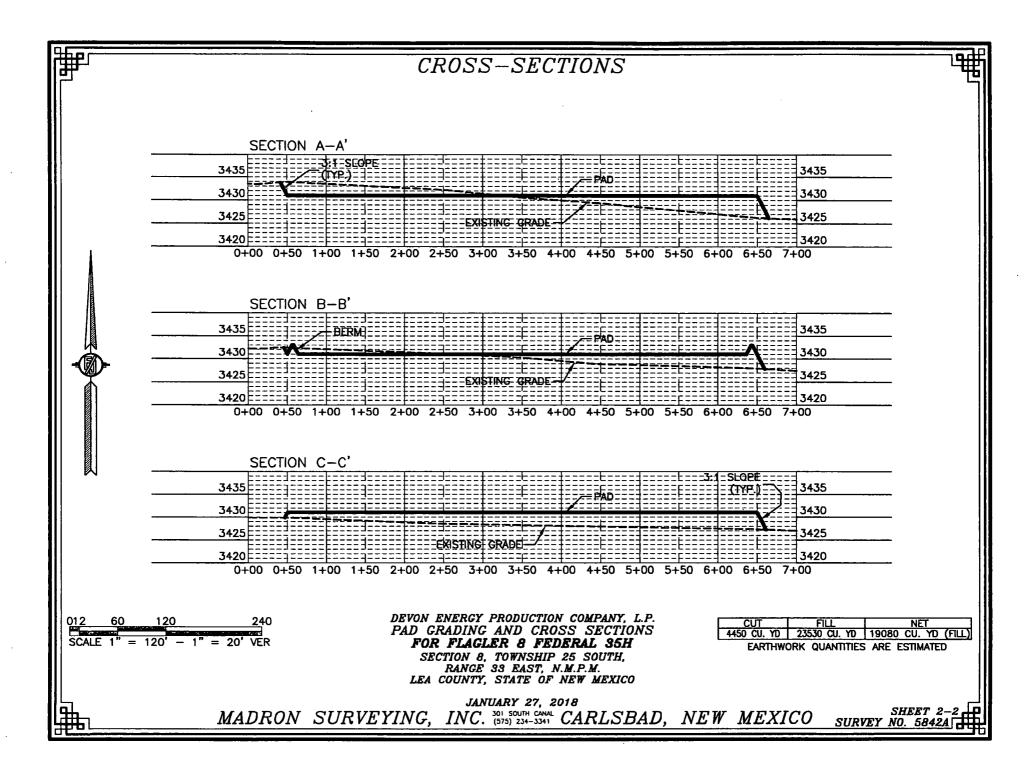
DEVON ENERGY PRODUCTION COMPANY, L.P. FLAGLER 8 FEDERAL 35H

LOCATED 380 FT. FROM THE SOUTH LINE AND 640 FT. FROM THE EAST LINE OF SECTION 8, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M. LEA COUNTY, STATE OF NEW MEXICO

JANUARY 27, 2018

SURVEY NO. 5842A

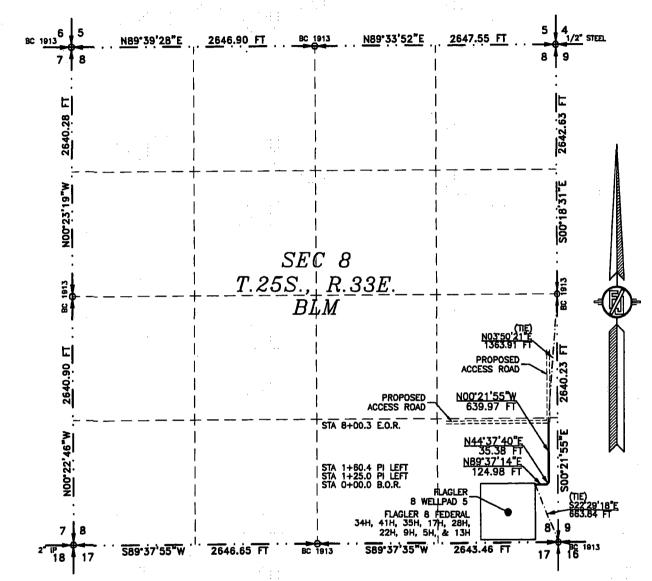




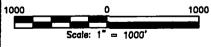
ACCESS ROAD PLAT

ACCESS ROAD FOR FLAGLER 8 WELLPAD 5 (FLAGLER 8 FEDERAL 34H, 41H, 35H, 17H, 28H, 22H, 9H, 6H, & 13H WELLS)

DEVON ENERGY PRODUCTION COMPANY. L.P. CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING SECTION 8. TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M. LEA COUNTY, STATE OF NEW MEXICO JANUARY 27, 2018



SEE NEXT SHEET (2-2) FOR DESCRIPTION



#### GENERAL NOTES

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

SHEET: 1-2

*MADRON SURVEYING.* 

#### 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 STRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAD THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING INTERESTATE OF NEW MEXICO.

IN WITNESS WHEREOR, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

NEW MEXICO, ITHIS

MADRON SURVEYING, INC. 3D1 SOUTH CANAL CARLSBAD, NEW MEXICO 88220 Phone (575) 234-3341

SURVEY NO. 5842A

*ARLSBAD NEW MEXICO* 

#### ACCESS ROAD PLAT

ACCESS ROAD FOR FLAGLER 8 WELLPAD 5 (FLAGLER 8 FEDERAL 34H, 41H, 35H, 17H, 28H, 22H, 9H, 5H, & 13H WELLS)

DEVON ENERGY PRODUCTION COMPANY, L.P. CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING SECTION 8, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M. LEA COUNTY, STATE OF NEW MEXICO JANUARY 27, 2018

#### DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 8, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M., LEA COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE SE/4 SE/4 OF SAID SECTION 8, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M., WHENCE THE SOUTHEAST CORNER OF SAID SECTION 8, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M. BEARS S22'29'18"E, A DISTANCE OF 663.84 FEET; THENCE N89'37'14"E A DISTANCE OF 124.98 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED; THENCE N44°37'40"E A DISTANCE OF 35.38 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED; THENCE NOO 21'55"W A DISTANCE OF 639.97 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE EAST QUARTER CORNER OF SAID SECTION 8, TOWNSHIP 25 SOUTH, RANGE 33 EAST, N.M.P.M. BEARS NO3\*50'21"E, A DISTANCE OF 1363.91 FEET;

SAID STRIP OF LAND BEING 800.33 FEET OR 48.51 RODS IN LENGTH, CONTAINING 0.551 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SE/4 SE/4 800.33 L.F. 48.51 RODS 0.551 ACRES

#### SURVEYOR CERTIFICATE

eulinglydd. Sarahililo yls.

SO1 SOUTH CANAL

#### GENERAL NOTES

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

SHEET: 2-2

*MADRON SURVEYING* 

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12787, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND SURRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY, AND FLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF-NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

THIS NEW MEXICO.

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

SURVEY NO. 5842A

*XRLSBAD*