

Form 3160-3
(June 2015)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM0533177A
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator DEVON ENERGY PRODUCTION COMPANY LP		8. Lease Name and Well No. GALAPAGOS 14-26 FED COM
3a. Address 333 West Sheridan Avenue, Oklahoma City, OK 73102		9. API Well No. 3001547291
3b. Phone No. (include area code) (800) 583-3866		10. Field and Pool, or Exploratory JAMES RANCH BONE SPRING, EAST/E
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NENE / 250 FNL / 761 FEL / LAT 32.3110203 / LONG -103.7424911 At proposed prod. zone SESE / 20 FSL / 1210 FEL / LAT 32.2682316 / LONG -103.743963		11. Sec., T. R. M. or Blk. and Survey or Area SEC 14/T23S/R31E/NMP
14. Distance in miles and direction from nearest town or post office*		12. County or Parish EDDY
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 250 feet		13. State NM
16. No of acres in lease 800		17. Spacing Unit dedicated to this well 960.0
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 60 feet		20. BLM/BIA Bond No. in file FED: NMB000801
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3498 feet		22. Approximate date work will start* 01/09/2021
		23. Estimated duration 45 days
24. Attachments		

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- | | |
|--|---|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be requested by the BLM. |

25. Signature (Electronic Submission)	Name (Printed/Typed) JENNY HARMS / Ph: (800) 583-3866	Date 02/26/2020
Title Regulatory Compliance Professional		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575) 234-5959	Date 07/10/2020
Title Assistant Field Manager Lands & Minerals		
Office Carlsbad Field Office		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

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.

APPROVED WITH CONDITIONS
Approval Date: 07/10/2020

(Continued on page 2)

Entered - KMS NMOC

*(Instructions on page 2)

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

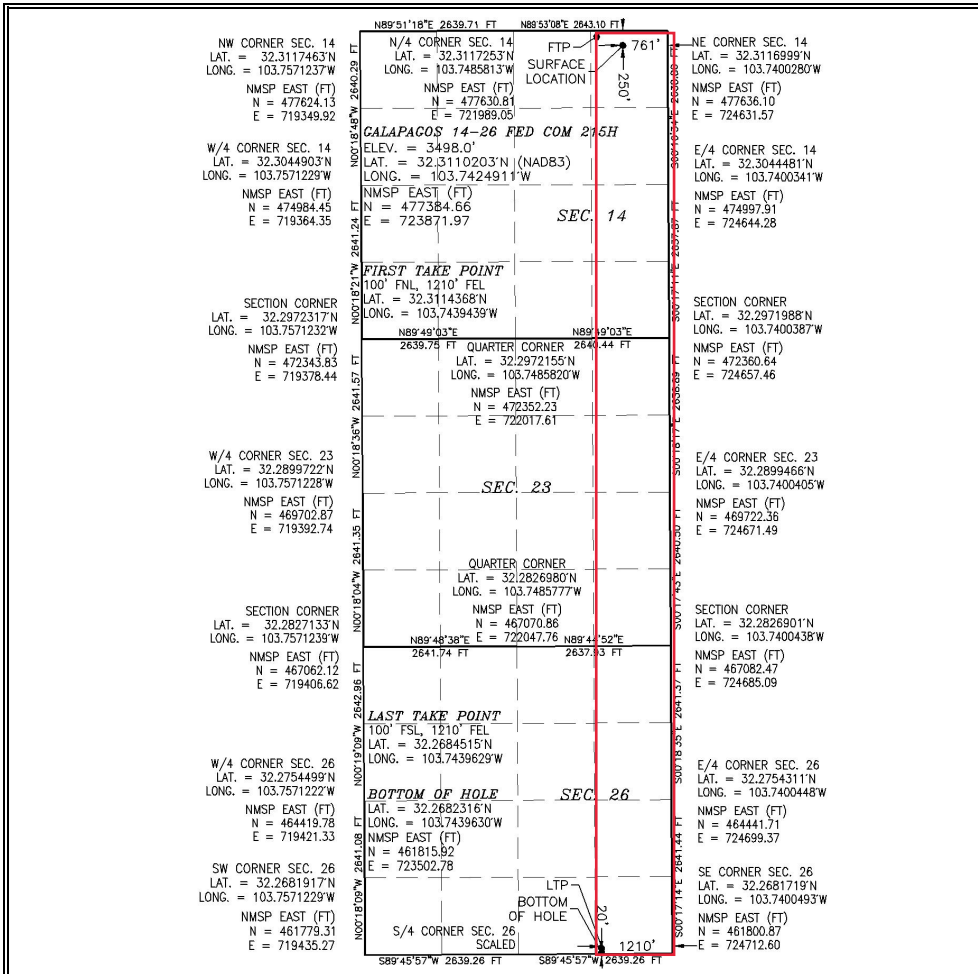
¹ API Number 3001547291	² Pool Code 96919	³ Pool Name James Ranch Bone Spring, East
⁴ Property Code 328888	⁵ Property Name GALAPAGOS 14-26 FED COM	
⁷ OGRID No. 6137	⁸ Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	
		⁶ Well Number 215H
		⁹ Elevation 3498.0

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
A	14	23 S	31 E		250	NORTH	761	EAST	EDDY

¹¹ Bottom Hole Location If Different From Surface									
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	26	23 S	31 E		20	SOUTH	1210	EAST	EDDY

¹² Dedicated Acres 960	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

	<p>¹⁷ OPERATOR CERTIFICATION</p> <p>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.</p> <p>Signature _____ Date _____</p> <p>Printed Name _____</p> <p>E-mail Address _____</p> <p>¹⁸ SURVEYOR CERTIFICATION</p> <p>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.</p> <p>JANUARY 13, 2020</p> <p>Date of Survey _____</p> <p>Signature and Seal of Professional Surveyor _____</p> <p>Certificate Number: _____</p>
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Intent ☒ As Drilled ☐

API #			
Operator Name: DEVON ENERGY PRODUCTION COMPANY, L.P.		Property Name: GALAPAGOS 14-26 FED COM	Well Number 215H

Kick Off Point (KOP)

UL A	Section 14	Township 23S	Range 31E	Lot	Feet 50 FNL	From N/S	Feet 1210 FEL	From E/W	County EDDY
Latitude 32.31157700					Longitude -103.74394100				NAD 83

First Take Point (FTP)

UL A	Section 14	Township 23S	Range 31E	Lot	Feet 100	From N/S NORTH	Feet 1210	From E/W EAST	County EDDY
Latitude 32.3114368					Longitude 103.7439439				NAD 83

Last Take Point (LTP)

UL P	Section 26	Township 23S	Range 31E	Lot	Feet 100	From N/S SOUTH	Feet 1210	From E/W EAST	County EDDY
Latitude 32.2684515					Longitude 103.7439629				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

PECOS DISTRICT

DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Company LP
LEASE NO.:	NMNM0533177A
LOCATION:	Section 14, T.23 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

WELL NAME & NO.:	Galapagos 14-26 Fed Com 211H
SURFACE HOLE FOOTAGE:	450'/N & 509'/W
BOTTOM HOLE FOOTAGE:	20'/S & 550'/W

WELL NAME & NO.:	Galapagos 14-26 Fed Com 212H
SURFACE HOLE FOOTAGE:	450'/N & 539'/W
BOTTOM HOLE FOOTAGE:	20'/S & 1430'/W

WELL NAME & NO.:	Galapagos 14-26 Fed Com 213H
SURFACE HOLE FOOTAGE:	250'/N & 2551'/E
BOTTOM HOLE FOOTAGE:	20'/S & 2310'/W

WELL NAME & NO.:	Galapagos 14-26 Fed Com 214H
SURFACE HOLE FOOTAGE:	250'/N & 2521'/E
BOTTOM HOLE FOOTAGE:	20'/S & 2090'/E

WELL NAME & NO.:	Galapagos 14-26 Fed Com 215H
SURFACE HOLE FOOTAGE:	250'/N & 761'/E
BOTTOM HOLE FOOTAGE:	20'/S & 1210'/E

WELL NAME & NO.:	Galapagos 14-26 Fed Com 216H
SURFACE HOLE FOOTAGE:	250'/N & 731'/E
BOTTOM HOLE FOOTAGE:	20'/S & 330'/E

COA

H2S	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Potash	<input type="checkbox"/> None	<input type="checkbox"/> Secretary	<input checked="" type="checkbox"/> R-111-P
Cave/Karst Potential	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High
Cave/Karst Potential	<input type="checkbox"/> Critical		
Variance	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Flex Hose	<input type="checkbox"/> Other
Wellhead	<input type="checkbox"/> Conventional	<input checked="" type="checkbox"/> Multibowl	<input type="checkbox"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input checked="" type="checkbox"/> Fluid Filled	<input checked="" type="checkbox"/> Cement Squeeze	<input type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H₂S) Drilling Plan shall be activated 500 feet prior to drilling into the **Triste Draw/Sand Dune** formation. 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 **832 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 **24 hours in the Potash Area** 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 **9-5/8** inch intermediate casing shall be set at approximately **4399 feet** is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**
 - ❖ In R111 Potash Areas if cement does not circulate to surface on the first two salt protection casing strings, the cement on the 3rd casing string must come to surface.

Operator has proposed to pump down 13-3/8" X 9-5/8" annulus. Operator must run a CBL from TD of the 9-5/8" casing to surface. Submit results to BLM.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office.
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. 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.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

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 integrity 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 integrity 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.



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

Operator Certification Data Report

07/13/2020

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Jenny Harms

Signed on: 02/25/2020

Title: Regulatory Compliance Professional

Street Address: 333 West Sheridan Avenue

City: Oklahoma City

State: OK

Zip: 73102

Phone: (405)552-6560

Email address: jennifer.harms@dvn.com

Field Representative

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:



APD ID: 10400054598

Submission Date: 02/26/2020

Highlighted data
reflects the most
recent changes

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: GALAPAGOS 14-26 FED COM

Well Number: 215H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - General

APD ID: 10400054598

Tie to previous NOS? N

Submission Date: 02/26/2020

BLM Office: CARLSBAD

User: Jenny Harms

Title: Regulatory Compliance
Professional

Federal/Indian APD: FED

Is the first lease penetrated for production Federal or Indian? FED

Lease number: NMNM0533177A

Lease Acres: 800

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? NO

Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? Y

Permitting Agent? NO

APD Operator: DEVON ENERGY PRODUCTION COMPANY LP

Operator letter of designation:

Operator Info

Operator Organization Name: DEVON ENERGY PRODUCTION COMPANY LP

Operator Address: 333 West Sheridan Avenue

Zip: 73102

Operator PO Box:

Operator City: Oklahoma City

State: OK

Operator Phone: (800)583-3866

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO

Master Development Plan name:

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: GALAPAGOS 14-26 FED COM

Well Number: 215H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: JAMES RANCH
BONE SPRING , EAST

Pool Name: BONESPRING

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: GALAPAGOS 14-26 FED COM

Well Number: 215H

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL,POTASH

Is the proposed well in a Helium production area? N

Use Existing Well Pad? N

New surface disturbance?

Type of Well Pad: MULTIPLE WELL

Multiple Well Pad Name:
GALAPAGOS 14 WELLPAD

Number: 4

Well Class: HORIZONTAL

Number of Legs: 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town:

Distance to nearest well: 60 FT

Distance to lease line: 250 FT

Reservoir well spacing assigned acres Measurement: 960 Acres

Well plat: AA000341609_GALAPAGOS_14_26_FED_COM_215H_WL_P_20200225142053.pdf

Well work start Date: 01/09/2021

Duration: 45 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number: 7899

Reference Datum: KELLY BUSHING

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	250	FNL	761	FEL	23S	31E	14	Aliquot NENE	32.3110203	- 103.7424911	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 053317 7A	3498	0	0	Y
KOP Leg #1	50	FNL	1210	FEL	23S	31E	14	Aliquot NENE	32.311577	- 103.743941	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 053317 7A	- 6384	9900	9882	Y
PPP Leg #1-1	100	FNL	1210	FEL	23S	31E	14	Aliquot NENE	32.3114368	- 103.7439439	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 053317 7A	- 6618	10141	10116	Y

Operator Name: DEVON ENERGY PRODUCTION COMPANY LP

Well Name: GALAPAGOS 14-26 FED COM

Well Number: 215H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
PPP Leg #1-2	2630	FSL	1210	FEL	23S	31E	14	Aliquot NESE	32.304229	- 103.743943	EDD Y	NEW MEXICO	NEW MEXICO	F	NMNM 0404441	- 6957	12817	10455	Y
PPP Leg #1-3	1	FNL	2310	FEL	23S	31E	23	Aliquot NENE	32.297082	- 103.743945	EDD Y	NEW MEXICO	NEW MEXICO	F	NMNM 0405444	- 6957	15459	10455	Y
EXIT Leg #1	100	FSL	1210	FEL	23S	31E	26	Aliquot SESE	32.2684515	- 103.7439629	EDD Y	NEW MEXICO	NEW MEXICO	F	NMNM 0405444A	- 6957	25916	10455	Y
BHL Leg #1	20	FSL	1210	FEL	23S	31E	26	Aliquot SESE	32.2682316	- 103.743963	EDD Y	NEW MEXICO	NEW MEXICO	F	NMNM 0405444A	- 6957	25996	10455	Y

1. Geologic Formations

TVD of target	10455	Pilot hole depth	N/A
MD at TD:	25996	Deepest expected fresh water	

Basin

[illegible]

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

2. Casing Program

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	BTC	0	832	0	832
12 1/4	9 5/8	40	J-55	BTC	0	4399	0	4399
8 3/4	5 1/2	17	P110	BTC	0	25996	0	10455

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

3. Cementing Program (3-String Primary Design)

Casing	# Sks	TOC	Wt. (lb/gal)	Yld (ft ³ /sack)	Slurry Description
Surface	641	Surf	13.2	1.4	Lead: Class C Cement + additives
Int 1	478	Surf	9.0	3.3	Lead: Class C Cement + additives
	154	500' above shoe	13.2	1.4	Tail: Class H / C + additives
Int 1 Intermediate Squeeze	As Needed	Surf	9.0	3.3	Squeeze Lead: Class C Cement + additives
	478	Surf	9.0	3.3	Lead: Class C Cement + additives
	154	500' above shoe	13.2	1.4	Tail: Class H / C + additives
Production	853	500' tieback	9.0	3.3	Lead: Class H / C + additives
	3106	KOP	13.2	1.4	Tail: Class H / C + additives

If cement is not returned to surface during the primary cement job on the surface casing string, a planned top job will be conducted immediately after completion of the primary job.

Casing String	% Excess
Surface	50%
Intermediate	30%
Production	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	50% of rated working pressure
			Blind Ram	X	5M
			Pipe Ram		
			Double Ram	X	
			Other*		
Production	13-5/8"	5M	Annular	X	50% of rated working pressure
			Blind Ram	X	5M
			Pipe Ram		
			Double Ram	X	
			Other*		
			Annular (5M)		
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other*		

5. Mud Program (Three String Design)

Section	Type	Weight (ppg)
Surface	FW Gel	8.5-9
Intermediate	Brine	10-10.5
Production	WBM	8.5-9

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 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.

Additional logs planned		Interval
	Resistivity	
	Density	
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	4893
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.

N	H ₂ S is present
Y	H ₂ S 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 pad.
- 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. At that time an approved BOP stack will be nipped 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

Devon Energy

APD VARIANCE DATA

OPERATOR NAME: Devon Energy

1. SUMMARY OF Variance:

Devon Energy respectfully requests approval for the following additions to the drilling plan:

1. Potential utilization of a spudder rig to pre-set surface casing.

2. Description of Operations

1. A spudder rig contractor may move in their rig to drill the surface hole section and pre-set surface casing on this well.
 - a. After drilling the surface hole section, the rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
 - b. Rig will utilize fresh water based mud to drill surface hole to TD.
2. The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
3. A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wingvalves.
 - a. A means for intervention will be maintained while the drilling rig is not over the well.
4. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
5. Drilling operation will be performed with the big rig. At that time an approved BOP stack will be nipped up and tested on the wellhead before drilling operations commences on each well.
 - a. The BLM will be contacted / notified 24 hours before the big rig moves back on to the pad with the pre-set surface casing.
6. Devon Energy will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
7. Once the rig is removed, Devon Energy will secure the wellhead area by placing a guard rail around the cellar area.

WCDSC Permian NM

Eddy County (NAD 83 NM Eastern)

Sec 14-T23S-R31E

Galapagos 14-26 Fed Com 215H

Wellbore #1

Plan: Permit Plan 1

Standard Planning Report - Geographic

12 February, 2020

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Galapagos 14-26 Fed Com 215H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3523.00ft
Project:	Eddy County (NAD 83 NM Eastern)	MD Reference:	RKB @ 3523.00ft
Site:	Sec 14-T23S-R31E	North Reference:	Grid
Well:	Galapagos 14-26 Fed Com 215H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

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 14-T23S-R31E				
Site Position:		Northing:	477,624.13 usft	Latitude:	32.311746	
From:	Map	Easting:	719,349.92 usft	Longitude:	-103.757124	
Position Uncertainty:		0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.31 °

Well	Galapagos 14-26 Fed Com 215H					
Well Position	+N/-S	0.00 ft	Northing:	477,384.66 usft	Latitude:	32.311020
	+E/-W	0.00 ft	Easting:	723,871.97 usft	Longitude:	-103.742491
Position Uncertainty		0.50 ft	Wellhead Elevation:		Ground Level:	3,498.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/10/2020	6.75	60.08	47,698.51243929

Design	Permit Plan 1			
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	181.35

Plan Survey Tool Program	Date	2/12/2020		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	25,995.81 Permit Plan 1 (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	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,920.76	4.21	294.01	2,920.38	6.28	-14.11	1.00	1.00	0.00	294.01	
9,269.23	4.21	294.01	9,251.74	195.81	-439.60	0.00	0.00	0.00	0.00	
9,549.74	0.00	0.00	9,532.00	200.00	-449.00	1.50	-1.50	0.00	180.00	
9,899.78	0.00	0.00	9,882.04	200.00	-449.00	0.00	0.00	0.00	0.00	
10,799.78	90.00	179.70	10,455.00	-372.95	-445.99	10.00	10.00	0.00	179.70	PBHL - Galapagos 14
25,995.81	90.00	179.70	10,455.00	-15,568.77	-366.19	0.00	0.00	0.00	0.00	PBHL - Galapagos 14

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Galapagos 14-26 Fed Com 215H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3523.00ft
Project:	Eddy County (NAD 83 NM Eastern)	MD Reference:	RKB @ 3523.00ft
Site:	Sec 14-T23S-R31E	North Reference:	Grid
Well:	Galapagos 14-26 Fed Com 215H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

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	477,384.66	723,871.97	32.311020	-103.742491
100.00	0.00	0.00	100.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
200.00	0.00	0.00	200.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
300.00	0.00	0.00	300.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
400.00	0.00	0.00	400.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
500.00	0.00	0.00	500.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
600.00	0.00	0.00	600.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
700.00	0.00	0.00	700.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
800.00	0.00	0.00	800.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
900.00	0.00	0.00	900.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
1,000.00	0.00	0.00	1,000.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
1,100.00	0.00	0.00	1,100.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
1,200.00	0.00	0.00	1,200.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
1,300.00	0.00	0.00	1,300.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
1,400.00	0.00	0.00	1,400.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
1,500.00	0.00	0.00	1,500.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
1,600.00	0.00	0.00	1,600.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
1,700.00	0.00	0.00	1,700.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
1,800.00	0.00	0.00	1,800.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
1,900.00	0.00	0.00	1,900.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
2,000.00	0.00	0.00	2,000.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
2,100.00	0.00	0.00	2,100.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
2,200.00	0.00	0.00	2,200.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
2,300.00	0.00	0.00	2,300.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
2,400.00	0.00	0.00	2,400.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
2,500.00	0.00	0.00	2,500.00	0.00	0.00	477,384.66	723,871.97	32.311020	-103.742491
2,600.00	1.00	294.01	2,599.99	0.36	-0.80	477,385.02	723,871.17	32.311021	-103.742494
2,700.00	2.00	294.01	2,699.96	1.42	-3.19	477,386.08	723,868.78	32.311024	-103.742502
2,800.00	3.00	294.01	2,799.86	3.19	-7.17	477,387.86	723,864.79	32.311029	-103.742515
2,900.00	4.00	294.01	2,899.68	5.68	-12.75	477,390.34	723,859.22	32.311036	-103.742533
2,920.76	4.21	294.01	2,920.38	6.28	-14.11	477,390.94	723,857.86	32.311038	-103.742537
3,000.00	4.21	294.01	2,999.41	8.65	-19.42	477,393.31	723,852.55	32.311044	-103.742554
3,100.00	4.21	294.01	3,099.14	11.63	-26.12	477,396.30	723,845.85	32.311053	-103.742576
3,200.00	4.21	294.01	3,198.87	14.62	-32.82	477,399.28	723,839.14	32.311061	-103.742597
3,300.00	4.21	294.01	3,298.60	17.61	-39.52	477,402.27	723,832.44	32.311069	-103.742619
3,400.00	4.21	294.01	3,398.33	20.59	-46.23	477,405.25	723,825.74	32.311078	-103.742641
3,500.00	4.21	294.01	3,498.06	23.58	-52.93	477,408.24	723,819.04	32.311086	-103.742662
3,600.00	4.21	294.01	3,597.79	26.56	-59.63	477,411.22	723,812.34	32.311094	-103.742684
3,700.00	4.21	294.01	3,697.52	29.55	-66.33	477,414.21	723,805.63	32.311103	-103.742706
3,800.00	4.21	294.01	3,797.25	32.53	-73.04	477,417.19	723,798.93	32.311111	-103.742727
3,900.00	4.21	294.01	3,896.98	35.52	-79.74	477,420.18	723,792.23	32.311119	-103.742749
4,000.00	4.21	294.01	3,996.71	38.50	-86.44	477,423.16	723,785.53	32.311128	-103.742770
4,100.00	4.21	294.01	4,096.44	41.49	-93.14	477,426.15	723,778.82	32.311136	-103.742792
4,200.00	4.21	294.01	4,196.17	44.47	-99.84	477,429.13	723,772.12	32.311144	-103.742814
4,300.00	4.21	294.01	4,295.90	47.46	-106.55	477,432.12	723,765.42	32.311152	-103.742835
4,400.00	4.21	294.01	4,395.64	50.44	-113.25	477,435.11	723,758.72	32.311161	-103.742857
4,500.00	4.21	294.01	4,495.37	53.43	-119.95	477,438.09	723,752.02	32.311169	-103.742879
4,600.00	4.21	294.01	4,595.10	56.42	-126.65	477,441.08	723,745.31	32.311177	-103.742900
4,700.00	4.21	294.01	4,694.83	59.40	-133.36	477,444.06	723,738.61	32.311186	-103.742922
4,800.00	4.21	294.01	4,794.56	62.39	-140.06	477,447.05	723,731.91	32.311194	-103.742944
4,900.00	4.21	294.01	4,894.29	65.37	-146.76	477,450.03	723,725.21	32.311202	-103.742965
5,000.00	4.21	294.01	4,994.02	68.36	-153.46	477,453.02	723,718.50	32.311211	-103.742987
5,100.00	4.21	294.01	5,093.75	71.34	-160.16	477,456.00	723,711.80	32.311219	-103.743009
5,200.00	4.21	294.01	5,193.48	74.33	-166.87	477,458.99	723,705.10	32.311227	-103.743030
5,300.00	4.21	294.01	5,293.21	77.31	-173.57	477,461.97	723,698.40	32.311236	-103.743052

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Galapagos 14-26 Fed Com 215H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3523.00ft
Project:	Eddy County (NAD 83 NM Eastern)	MD Reference:	RKB @ 3523.00ft
Site:	Sec 14-T23S-R31E	North Reference:	Grid
Well:	Galapagos 14-26 Fed Com 215H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,400.00	4.21	294.01	5,392.94	80.30	-180.27	477,464.96	723,691.70	32.311244	-103.743073
5,500.00	4.21	294.01	5,492.67	83.28	-186.97	477,467.94	723,684.99	32.311252	-103.743095
5,600.00	4.21	294.01	5,592.40	86.27	-193.68	477,470.93	723,678.29	32.311260	-103.743117
5,700.00	4.21	294.01	5,692.13	89.25	-200.38	477,473.92	723,671.59	32.311269	-103.743138
5,800.00	4.21	294.01	5,791.86	92.24	-207.08	477,476.90	723,664.89	32.311277	-103.743160
5,900.00	4.21	294.01	5,891.59	95.23	-213.78	477,479.89	723,658.18	32.311285	-103.743182
6,000.00	4.21	294.01	5,991.32	98.21	-220.48	477,482.87	723,651.48	32.311294	-103.743203
6,100.00	4.21	294.01	6,091.05	101.20	-227.19	477,485.86	723,644.78	32.311302	-103.743225
6,200.00	4.21	294.01	6,190.78	104.18	-233.89	477,488.84	723,638.08	32.311310	-103.743247
6,300.00	4.21	294.01	6,290.51	107.17	-240.59	477,491.83	723,631.38	32.311319	-103.743268
6,400.00	4.21	294.01	6,390.24	110.15	-247.29	477,494.81	723,624.67	32.311327	-103.743290
6,500.00	4.21	294.01	6,489.98	113.14	-254.00	477,497.80	723,617.97	32.311335	-103.743311
6,600.00	4.21	294.01	6,589.71	116.12	-260.70	477,500.78	723,611.27	32.311344	-103.743333
6,700.00	4.21	294.01	6,689.44	119.11	-267.40	477,503.77	723,604.57	32.311352	-103.743355
6,800.00	4.21	294.01	6,789.17	122.09	-274.10	477,506.75	723,597.86	32.311360	-103.743376
6,900.00	4.21	294.01	6,888.90	125.08	-280.80	477,509.74	723,591.16	32.311368	-103.743398
7,000.00	4.21	294.01	6,988.63	128.07	-287.51	477,512.73	723,584.46	32.311377	-103.743420
7,100.00	4.21	294.01	7,088.36	131.05	-294.21	477,515.71	723,577.76	32.311385	-103.743441
7,200.00	4.21	294.01	7,188.09	134.04	-300.91	477,518.70	723,571.06	32.311393	-103.743463
7,300.00	4.21	294.01	7,287.82	137.02	-307.61	477,521.68	723,564.35	32.311402	-103.743485
7,400.00	4.21	294.01	7,387.55	140.01	-314.32	477,524.67	723,557.65	32.311410	-103.743506
7,500.00	4.21	294.01	7,487.28	142.99	-321.02	477,527.65	723,550.95	32.311418	-103.743528
7,600.00	4.21	294.01	7,587.01	145.98	-327.72	477,530.64	723,544.25	32.311427	-103.743550
7,700.00	4.21	294.01	7,686.74	148.96	-334.42	477,533.62	723,537.54	32.311435	-103.743571
7,800.00	4.21	294.01	7,786.47	151.95	-341.12	477,536.61	723,530.84	32.311443	-103.743593
7,900.00	4.21	294.01	7,886.20	154.93	-347.83	477,539.59	723,524.14	32.311452	-103.743614
8,000.00	4.21	294.01	7,985.93	157.92	-354.53	477,542.58	723,517.44	32.311460	-103.743636
8,100.00	4.21	294.01	8,085.66	160.90	-361.23	477,545.57	723,510.74	32.311468	-103.743658
8,200.00	4.21	294.01	8,185.39	163.89	-367.93	477,548.55	723,504.03	32.311476	-103.743679
8,300.00	4.21	294.01	8,285.12	166.88	-374.64	477,551.54	723,497.33	32.311485	-103.743701
8,400.00	4.21	294.01	8,384.85	169.86	-381.34	477,554.52	723,490.63	32.311493	-103.743723
8,500.00	4.21	294.01	8,484.58	172.85	-388.04	477,557.51	723,483.93	32.311501	-103.743744
8,600.00	4.21	294.01	8,584.32	175.83	-394.74	477,560.49	723,477.22	32.311510	-103.743766
8,700.00	4.21	294.01	8,684.05	178.82	-401.44	477,563.48	723,470.52	32.311518	-103.743788
8,800.00	4.21	294.01	8,783.78	181.80	-408.15	477,566.46	723,463.82	32.311526	-103.743809
8,900.00	4.21	294.01	8,883.51	184.79	-414.85	477,569.45	723,457.12	32.311535	-103.743831
9,000.00	4.21	294.01	8,983.24	187.77	-421.55	477,572.43	723,450.42	32.311543	-103.743852
9,100.00	4.21	294.01	9,082.97	190.76	-428.25	477,575.42	723,443.71	32.311551	-103.743874
9,200.00	4.21	294.01	9,182.70	193.74	-434.96	477,578.40	723,437.01	32.311560	-103.743896
9,269.23	4.21	294.01	9,251.74	195.81	-439.60	477,580.47	723,432.37	32.311565	-103.743911
9,300.00	3.75	294.01	9,282.44	196.68	-441.54	477,581.34	723,430.42	32.311568	-103.743917
9,400.00	2.25	294.01	9,382.30	198.81	-446.32	477,583.47	723,425.65	32.311574	-103.743932
9,500.00	0.75	294.01	9,482.26	199.87	-448.70	477,584.53	723,423.26	32.311577	-103.743940
9,549.74	0.00	0.00	9,532.00	200.00	-449.00	477,584.66	723,422.97	32.311577	-103.743941
9,600.00	0.00	0.00	9,582.26	200.00	-449.00	477,584.66	723,422.97	32.311577	-103.743941
9,700.00	0.00	0.00	9,682.26	200.00	-449.00	477,584.66	723,422.97	32.311577	-103.743941
9,800.00	0.00	0.00	9,782.26	200.00	-449.00	477,584.66	723,422.97	32.311577	-103.743941
9,899.78	0.00	0.00	9,882.04	200.00	-449.00	477,584.66	723,422.97	32.311577	-103.743941
KOP @ 9900' MD, 50' FNL, 1210' FEL									
9,900.00	0.00	179.70	9,882.26	200.00	-449.00	477,584.66	723,422.97	32.311577	-103.743941
10,000.00	10.02	179.70	9,981.75	191.26	-448.95	477,575.92	723,423.01	32.311553	-103.743941
10,100.00	20.02	179.70	10,078.21	165.37	-448.82	477,550.03	723,423.15	32.311482	-103.743941
10,141.00	24.12	179.70	10,116.20	149.97	-448.74	477,534.63	723,423.23	32.311439	-103.743941
FTP @ 10141' MD, 100' FNL, 1210' FEL									

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Galapagos 14-26 Fed Com 215H
Company:	WCDCS Permian NM	TVD Reference:	RKB @ 3523.00ft
Project:	Eddy County (NAD 83 NM Eastern)	MD Reference:	RKB @ 3523.00ft
Site:	Sec 14-T23S-R31E	North Reference:	Grid
Well:	Galapagos 14-26 Fed Com 215H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,200.00	30.02	179.70	10,168.71	123.13	-448.60	477,507.79	723,423.37	32.311366	-103.743941
10,300.00	40.02	179.70	10,250.50	65.81	-448.30	477,450.48	723,423.67	32.311208	-103.743941
10,400.00	50.02	179.70	10,321.09	-4.83	-447.92	477,379.83	723,424.04	32.311014	-103.743941
10,500.00	60.02	179.70	10,378.35	-86.66	-447.49	477,298.00	723,424.47	32.310789	-103.743941
10,600.00	70.02	179.70	10,420.52	-177.19	-447.02	477,207.47	723,424.95	32.310540	-103.743941
10,700.00	80.02	179.70	10,446.33	-273.67	-446.51	477,110.99	723,425.45	32.310275	-103.743942
10,799.78	90.00	179.70	10,455.00	-372.95	-445.99	477,011.71	723,425.98	32.310002	-103.743942
10,800.00	90.00	179.70	10,455.00	-373.17	-445.99	477,011.49	723,425.98	32.310001	-103.743942
10,900.00	90.00	179.70	10,455.00	-473.17	-445.46	476,911.49	723,426.50	32.309727	-103.743942
11,000.00	90.00	179.70	10,455.00	-573.17	-444.94	476,811.50	723,427.03	32.309452	-103.743942
11,100.00	90.00	179.70	10,455.00	-673.16	-444.41	476,711.50	723,427.55	32.309177	-103.743942
11,200.00	90.00	179.70	10,455.00	-773.16	-443.89	476,611.50	723,428.08	32.308902	-103.743942
11,300.00	90.00	179.70	10,455.00	-873.16	-443.36	476,511.50	723,428.60	32.308627	-103.743942
11,400.00	90.00	179.70	10,455.00	-973.16	-442.84	476,411.50	723,429.13	32.308352	-103.743942
11,500.00	90.00	179.70	10,455.00	-1,073.16	-442.31	476,311.50	723,429.65	32.308077	-103.743942
11,600.00	90.00	179.70	10,455.00	-1,173.16	-441.79	476,211.51	723,430.18	32.307802	-103.743942
11,700.00	90.00	179.70	10,455.00	-1,273.16	-441.26	476,111.51	723,430.70	32.307528	-103.743942
11,800.00	90.00	179.70	10,455.00	-1,373.15	-440.74	476,011.51	723,431.23	32.307253	-103.743942
11,900.00	90.00	179.70	10,455.00	-1,473.15	-440.21	475,911.51	723,431.75	32.306978	-103.743942
12,000.00	90.00	179.70	10,455.00	-1,573.15	-439.69	475,811.51	723,432.28	32.306703	-103.743943
12,100.00	90.00	179.70	10,455.00	-1,673.15	-439.16	475,711.51	723,432.80	32.306428	-103.743943
12,200.00	90.00	179.70	10,455.00	-1,773.15	-438.64	475,611.52	723,433.33	32.306153	-103.743943
12,300.00	90.00	179.70	10,455.00	-1,873.15	-438.11	475,511.52	723,433.85	32.305878	-103.743943
12,400.00	90.00	179.70	10,455.00	-1,973.15	-437.59	475,411.52	723,434.38	32.305603	-103.743943
12,500.00	90.00	179.70	10,455.00	-2,073.14	-437.06	475,311.52	723,434.90	32.305329	-103.743943
12,600.00	90.00	179.70	10,455.00	-2,173.14	-436.54	475,211.52	723,435.43	32.305054	-103.743943
12,700.00	90.00	179.70	10,455.00	-2,273.14	-436.01	475,111.52	723,435.95	32.304779	-103.743943
12,800.00	90.00	179.70	10,455.00	-2,373.14	-435.49	475,011.52	723,436.48	32.304504	-103.743943
12,817.00	90.00	179.70	10,455.00	-2,390.14	-435.40	474,994.52	723,436.57	32.304457	-103.743943
Cross NM0404441 @ 12817' MD, 2641' FSL, 1210' FEL									
12,900.00	90.00	179.70	10,455.00	-2,473.14	-434.96	474,911.53	723,437.00	32.304229	-103.743943
13,000.00	90.00	179.70	10,455.00	-2,573.14	-434.44	474,811.53	723,437.53	32.303954	-103.743943
13,100.00	90.00	179.70	10,455.00	-2,673.14	-433.91	474,711.53	723,438.06	32.303679	-103.743943
13,200.00	90.00	179.70	10,455.00	-2,773.14	-433.39	474,611.53	723,438.58	32.303404	-103.743943
13,300.00	90.00	179.70	10,455.00	-2,873.13	-432.86	474,511.53	723,439.11	32.303130	-103.743944
13,400.00	90.00	179.70	10,455.00	-2,973.13	-432.34	474,411.53	723,439.63	32.302855	-103.743944
13,500.00	90.00	179.70	10,455.00	-3,073.13	-431.81	474,311.54	723,440.16	32.302580	-103.743944
13,600.00	90.00	179.70	10,455.00	-3,173.13	-431.29	474,211.54	723,440.68	32.302305	-103.743944
13,700.00	90.00	179.70	10,455.00	-3,273.13	-430.76	474,111.54	723,441.21	32.302030	-103.743944
13,800.00	90.00	179.70	10,455.00	-3,373.13	-430.24	474,011.54	723,441.73	32.301755	-103.743944
13,900.00	90.00	179.70	10,455.00	-3,473.13	-429.71	473,911.54	723,442.26	32.301480	-103.743944
14,000.00	90.00	179.70	10,455.00	-3,573.12	-429.19	473,811.54	723,442.78	32.301205	-103.743944
14,100.00	90.00	179.70	10,455.00	-3,673.12	-428.66	473,711.55	723,443.31	32.300931	-103.743944
14,200.00	90.00	179.70	10,455.00	-3,773.12	-428.14	473,611.55	723,443.83	32.300656	-103.743944
14,300.00	90.00	179.70	10,455.00	-3,873.12	-427.61	473,511.55	723,444.36	32.300381	-103.743944
14,400.00	90.00	179.70	10,455.00	-3,973.12	-427.08	473,411.55	723,444.88	32.300106	-103.743944
14,500.00	90.00	179.70	10,455.00	-4,073.12	-426.56	473,311.55	723,445.41	32.299831	-103.743945
14,600.00	90.00	179.70	10,455.00	-4,173.12	-426.03	473,211.55	723,445.93	32.299556	-103.743945
14,700.00	90.00	179.70	10,455.00	-4,273.11	-425.51	473,111.55	723,446.46	32.299281	-103.743945
14,800.00	90.00	179.70	10,455.00	-4,373.11	-424.98	473,011.56	723,446.98	32.299006	-103.743945
14,900.00	90.00	179.70	10,455.00	-4,473.11	-424.46	472,911.56	723,447.51	32.298732	-103.743945
15,000.00	90.00	179.70	10,455.00	-4,573.11	-423.93	472,811.56	723,448.03	32.298457	-103.743945
15,100.00	90.00	179.70	10,455.00	-4,673.11	-423.41	472,711.56	723,448.56	32.298182	-103.743945
15,200.00	90.00	179.70	10,455.00	-4,773.11	-422.88	472,611.56	723,449.08	32.297907	-103.743945

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Galapagos 14-26 Fed Com 215H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3523.00ft
Project:	Eddy County (NAD 83 NM Eastern)	MD Reference:	RKB @ 3523.00ft
Site:	Sec 14-T23S-R31E	North Reference:	Grid
Well:	Galapagos 14-26 Fed Com 215H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
15,300.00	90.00	179.70	10,455.00	-4,873.11	-422.36	472,511.56	723,449.61	32.297632	-103.743945
15,400.00	90.00	179.70	10,455.00	-4,973.11	-421.83	472,411.57	723,450.13	32.297357	-103.743945
15,459.00	90.00	179.70	10,455.00	-5,032.10	-421.52	472,352.57	723,450.44	32.297195	-103.743945
Cross section @ 15459' MD, 0' FNL, 2310' FEL									
15,500.00	90.00	179.70	10,455.00	-5,073.10	-421.31	472,311.57	723,450.66	32.297082	-103.743945
15,600.00	90.00	179.70	10,455.00	-5,173.10	-420.78	472,211.57	723,451.18	32.296807	-103.743945
15,700.00	90.00	179.70	10,455.00	-5,273.10	-420.26	472,111.57	723,451.71	32.296533	-103.743945
15,800.00	90.00	179.70	10,455.00	-5,373.10	-419.73	472,011.57	723,452.23	32.296258	-103.743946
15,900.00	90.00	179.70	10,455.00	-5,473.10	-419.21	471,911.57	723,452.76	32.295983	-103.743946
16,000.00	90.00	179.70	10,455.00	-5,573.10	-418.68	471,811.58	723,453.28	32.295708	-103.743946
16,100.00	90.00	179.70	10,455.00	-5,673.10	-418.16	471,711.58	723,453.81	32.295433	-103.743946
16,200.00	90.00	179.70	10,455.00	-5,773.09	-417.63	471,611.58	723,454.33	32.295158	-103.743946
16,300.00	90.00	179.70	10,455.00	-5,873.09	-417.11	471,511.58	723,454.86	32.294883	-103.743946
16,400.00	90.00	179.70	10,455.00	-5,973.09	-416.58	471,411.58	723,455.38	32.294608	-103.743946
16,500.00	90.00	179.70	10,455.00	-6,073.09	-416.06	471,311.58	723,455.91	32.294333	-103.743946
16,600.00	90.00	179.70	10,455.00	-6,173.09	-415.53	471,211.58	723,456.44	32.294059	-103.743946
16,700.00	90.00	179.70	10,455.00	-6,273.09	-415.01	471,111.59	723,456.96	32.293784	-103.743946
16,800.00	90.00	179.70	10,455.00	-6,373.09	-414.48	471,011.59	723,457.49	32.293509	-103.743946
16,900.00	90.00	179.70	10,455.00	-6,473.08	-413.96	470,911.59	723,458.01	32.293234	-103.743946
17,000.00	90.00	179.70	10,455.00	-6,573.08	-413.43	470,811.59	723,458.54	32.292959	-103.743947
17,100.00	90.00	179.70	10,455.00	-6,673.08	-412.91	470,711.59	723,459.06	32.292684	-103.743947
17,200.00	90.00	179.70	10,455.00	-6,773.08	-412.38	470,611.59	723,459.59	32.292409	-103.743947
17,300.00	90.00	179.70	10,455.00	-6,873.08	-411.86	470,511.60	723,460.11	32.292134	-103.743947
17,400.00	90.00	179.70	10,455.00	-6,973.08	-411.33	470,411.60	723,460.64	32.291860	-103.743947
17,500.00	90.00	179.70	10,455.00	-7,073.08	-410.81	470,311.60	723,461.16	32.291585	-103.743947
17,600.00	90.00	179.70	10,455.00	-7,173.07	-410.28	470,211.60	723,461.69	32.291310	-103.743947
17,700.00	90.00	179.70	10,455.00	-7,273.07	-409.76	470,111.60	723,462.21	32.291035	-103.743947
17,800.00	90.00	179.70	10,455.00	-7,373.07	-409.23	470,011.60	723,462.74	32.290760	-103.743947
17,900.00	90.00	179.70	10,455.00	-7,473.07	-408.71	469,911.61	723,463.26	32.290485	-103.743947
18,000.00	90.00	179.70	10,455.00	-7,573.07	-408.18	469,811.61	723,463.79	32.290210	-103.743947
18,100.00	90.00	179.70	10,455.00	-7,673.07	-407.65	469,711.61	723,464.31	32.289935	-103.743947
18,200.00	90.00	179.70	10,455.00	-7,773.07	-407.13	469,611.61	723,464.84	32.289661	-103.743947
18,300.00	90.00	179.70	10,455.00	-7,873.07	-406.60	469,511.61	723,465.36	32.289386	-103.743948
18,400.00	90.00	179.70	10,455.00	-7,973.06	-406.08	469,411.61	723,465.89	32.289111	-103.743948
18,500.00	90.00	179.70	10,455.00	-8,073.06	-405.55	469,311.61	723,466.41	32.288836	-103.743948
18,600.00	90.00	179.70	10,455.00	-8,173.06	-405.03	469,211.62	723,466.94	32.288561	-103.743948
18,700.00	90.00	179.70	10,455.00	-8,273.06	-404.50	469,111.62	723,467.46	32.288286	-103.743948
18,800.00	90.00	179.70	10,455.00	-8,373.06	-403.98	469,011.62	723,467.99	32.288011	-103.743948
18,900.00	90.00	179.70	10,455.00	-8,473.06	-403.45	468,911.62	723,468.51	32.287736	-103.743948
19,000.00	90.00	179.70	10,455.00	-8,573.06	-402.93	468,811.62	723,469.04	32.287462	-103.743948
19,100.00	90.00	179.70	10,455.00	-8,673.05	-402.40	468,711.62	723,469.56	32.287187	-103.743948
19,200.00	90.00	179.70	10,455.00	-8,773.05	-401.88	468,611.63	723,470.09	32.286912	-103.743948
19,300.00	90.00	179.70	10,455.00	-8,873.05	-401.35	468,511.63	723,470.61	32.286637	-103.743948
19,400.00	90.00	179.70	10,455.00	-8,973.05	-400.83	468,411.63	723,471.14	32.286362	-103.743948
19,500.00	90.00	179.70	10,455.00	-9,073.05	-400.30	468,311.63	723,471.66	32.286087	-103.743948
19,600.00	90.00	179.70	10,455.00	-9,173.05	-399.78	468,211.63	723,472.19	32.285812	-103.743949
19,700.00	90.00	179.70	10,455.00	-9,273.05	-399.25	468,111.63	723,472.71	32.285537	-103.743949
19,800.00	90.00	179.70	10,455.00	-9,373.04	-398.73	468,011.63	723,473.24	32.285263	-103.743949
19,900.00	90.00	179.70	10,455.00	-9,473.04	-398.20	467,911.64	723,473.76	32.284988	-103.743949
20,000.00	90.00	179.70	10,455.00	-9,573.04	-397.68	467,811.64	723,474.29	32.284713	-103.743949
20,100.00	90.00	179.70	10,455.00	-9,673.04	-397.15	467,711.64	723,474.81	32.284438	-103.743949
20,200.00	90.00	179.70	10,455.00	-9,773.04	-396.63	467,611.64	723,475.34	32.284163	-103.743949
20,300.00	90.00	179.70	10,455.00	-9,873.04	-396.10	467,511.64	723,475.87	32.283888	-103.743949
20,400.00	90.00	179.70	10,455.00	-9,973.04	-395.58	467,411.64	723,476.39	32.283613	-103.743949

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Galapagos 14-26 Fed Com 215H
Company:	WCDSO Permian NM	TVD Reference:	RKB @ 3523.00ft
Project:	Eddy County (NAD 83 NM Eastern)	MD Reference:	RKB @ 3523.00ft
Site:	Sec 14-T23S-R31E	North Reference:	Grid
Well:	Galapagos 14-26 Fed Com 215H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
20,500.00	90.00	179.70	10,455.00	-10,073.03	-395.05	467,311.65	723,476.92	32.283338	-103.743949
20,600.00	90.00	179.70	10,455.00	-10,173.03	-394.53	467,211.65	723,477.44	32.283064	-103.743949
20,700.00	90.00	179.70	10,455.00	-10,273.03	-394.00	467,111.65	723,477.97	32.282789	-103.743949
20,742.00	90.00	179.70	10,455.00	-10,315.03	-393.78	467,069.65	723,478.19	32.282673	-103.743949
Cross section @ 20742' MD, 0' FNL, 1210' FEL									
20,800.00	90.00	179.70	10,455.00	-10,373.03	-393.48	467,011.65	723,478.49	32.282514	-103.743950
20,900.00	90.00	179.70	10,455.00	-10,473.03	-392.95	466,911.65	723,479.02	32.282239	-103.743950
21,000.00	90.00	179.70	10,455.00	-10,573.03	-392.43	466,811.65	723,479.54	32.281964	-103.743950
21,100.00	90.00	179.70	10,455.00	-10,673.03	-391.90	466,711.66	723,480.07	32.281689	-103.743950
21,200.00	90.00	179.70	10,455.00	-10,773.03	-391.38	466,611.66	723,480.59	32.281414	-103.743950
21,300.00	90.00	179.70	10,455.00	-10,873.02	-390.85	466,511.66	723,481.12	32.281139	-103.743950
21,400.00	90.00	179.70	10,455.00	-10,973.02	-390.33	466,411.66	723,481.64	32.280865	-103.743950
21,500.00	90.00	179.70	10,455.00	-11,073.02	-389.80	466,311.66	723,482.17	32.280590	-103.743950
21,600.00	90.00	179.70	10,455.00	-11,173.02	-389.27	466,211.66	723,482.69	32.280315	-103.743950
21,700.00	90.00	179.70	10,455.00	-11,273.02	-388.75	466,111.66	723,483.22	32.280040	-103.743950
21,800.00	90.00	179.70	10,455.00	-11,373.02	-388.22	466,011.67	723,483.74	32.279765	-103.743950
21,900.00	90.00	179.70	10,455.00	-11,473.02	-387.70	465,911.67	723,484.27	32.279490	-103.743950
22,000.00	90.00	179.70	10,455.00	-11,573.01	-387.17	465,811.67	723,484.79	32.279215	-103.743950
22,063.00	90.00	179.70	10,455.00	-11,636.01	-386.84	465,748.67	723,485.12	32.279042	-103.743951
Cross NM0405444A @22063' MD, 1321' FNL, 1210' FEL									
22,100.00	90.00	179.70	10,455.00	-11,673.01	-386.65	465,711.67	723,485.32	32.278940	-103.743951
22,200.00	90.00	179.70	10,455.00	-11,773.01	-386.12	465,611.67	723,485.84	32.278666	-103.743951
22,300.00	90.00	179.70	10,455.00	-11,873.01	-385.60	465,511.67	723,486.37	32.278391	-103.743951
22,400.00	90.00	179.70	10,455.00	-11,973.01	-385.07	465,411.68	723,486.89	32.278116	-103.743951
22,500.00	90.00	179.70	10,455.00	-12,073.01	-384.55	465,311.68	723,487.42	32.277841	-103.743951
22,600.00	90.00	179.70	10,455.00	-12,173.01	-384.02	465,211.68	723,487.94	32.277566	-103.743951
22,700.00	90.00	179.70	10,455.00	-12,273.00	-383.50	465,111.68	723,488.47	32.277291	-103.743951
22,800.00	90.00	179.70	10,455.00	-12,373.00	-382.97	465,011.68	723,488.99	32.277016	-103.743951
22,900.00	90.00	179.70	10,455.00	-12,473.00	-382.45	464,911.68	723,489.52	32.276741	-103.743951
23,000.00	90.00	179.70	10,455.00	-12,573.00	-381.92	464,811.69	723,490.04	32.276466	-103.743951
23,100.00	90.00	179.70	10,455.00	-12,673.00	-381.40	464,711.69	723,490.57	32.276192	-103.743951
23,200.00	90.00	179.70	10,455.00	-12,773.00	-380.87	464,611.69	723,491.09	32.275917	-103.743951
23,300.00	90.00	179.70	10,455.00	-12,873.00	-380.35	464,511.69	723,491.62	32.275642	-103.743951
23,400.00	90.00	179.70	10,455.00	-12,972.99	-379.82	464,411.69	723,492.14	32.275367	-103.743952
23,500.00	90.00	179.70	10,455.00	-13,072.99	-379.30	464,311.69	723,492.67	32.275092	-103.743952
23,600.00	90.00	179.70	10,455.00	-13,172.99	-378.77	464,211.69	723,493.19	32.274817	-103.743952
23,700.00	90.00	179.70	10,455.00	-13,272.99	-378.25	464,111.70	723,493.72	32.274542	-103.743952
23,800.00	90.00	179.70	10,455.00	-13,372.99	-377.72	464,011.70	723,494.25	32.274267	-103.743952
23,900.00	90.00	179.70	10,455.00	-13,472.99	-377.20	463,911.70	723,494.77	32.273993	-103.743952
24,000.00	90.00	179.70	10,455.00	-13,572.99	-376.67	463,811.70	723,495.30	32.273718	-103.743952
24,100.00	90.00	179.70	10,455.00	-13,672.99	-376.15	463,711.70	723,495.82	32.273443	-103.743952
24,200.00	90.00	179.70	10,455.00	-13,772.98	-375.62	463,611.70	723,496.35	32.273168	-103.743952
24,300.00	90.00	179.70	10,455.00	-13,872.98	-375.10	463,511.71	723,496.87	32.272893	-103.743952
24,400.00	90.00	179.70	10,455.00	-13,972.98	-374.57	463,411.71	723,497.40	32.272618	-103.743952
24,500.00	90.00	179.70	10,455.00	-14,072.98	-374.05	463,311.71	723,497.92	32.272343	-103.743952
24,600.00	90.00	179.70	10,455.00	-14,172.98	-373.52	463,211.71	723,498.45	32.272068	-103.743952
24,700.00	90.00	179.70	10,455.00	-14,272.98	-373.00	463,111.71	723,498.97	32.271794	-103.743953
24,800.00	90.00	179.70	10,455.00	-14,372.98	-372.47	463,011.71	723,499.50	32.271519	-103.743953
24,900.00	90.00	179.70	10,455.00	-14,472.97	-371.95	462,911.72	723,500.02	32.271244	-103.743953
25,000.00	90.00	179.70	10,455.00	-14,572.97	-371.42	462,811.72	723,500.55	32.270969	-103.743953
25,100.00	90.00	179.70	10,455.00	-14,672.97	-370.90	462,711.72	723,501.07	32.270694	-103.743953
25,200.00	90.00	179.70	10,455.00	-14,772.97	-370.37	462,611.72	723,501.60	32.270419	-103.743953
25,300.00	90.00	179.70	10,455.00	-14,872.97	-369.84	462,511.72	723,502.12	32.270144	-103.743953
25,400.00	90.00	179.70	10,455.00	-14,972.97	-369.32	462,411.72	723,502.65	32.269869	-103.743953

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Galapagos 14-26 Fed Com 215H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3523.00ft
Project:	Eddy County (NAD 83 NM Eastern)	MD Reference:	RKB @ 3523.00ft
Site:	Sec 14-T23S-R31E	North Reference:	Grid
Well:	Galapagos 14-26 Fed Com 215H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
25,500.00	90.00	179.70	10,455.00	-15,072.97	-368.79	462,311.72	723,503.17	32.269595	-103.743953
25,600.00	90.00	179.70	10,455.00	-15,172.96	-368.27	462,211.73	723,503.70	32.269320	-103.743953
25,700.00	90.00	179.70	10,455.00	-15,272.96	-367.74	462,111.73	723,504.22	32.269045	-103.743953
25,800.00	90.00	179.70	10,455.00	-15,372.96	-367.22	462,011.73	723,504.75	32.268770	-103.743953
25,900.00	90.00	179.70	10,455.00	-15,472.96	-366.69	461,911.73	723,505.27	32.268495	-103.743953
25,916.00	90.00	179.70	10,455.00	-15,488.96	-366.61	461,895.73	723,505.36	32.268451	-103.743954
LTP @ 25916' MD, 100' FSL, 1210' FEL									
25,995.80	90.00	179.70	10,455.00	-15,568.76	-366.19	461,815.93	723,505.78	32.268232	-103.743954
PBHL; 20' FSL, 1210' FEL									
25,995.81	90.00	179.70	10,455.00	-15,568.77	-366.19	461,815.92	723,505.78	32.268232	-103.743954

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL - Galapagos 14-26	0.00	0.00	0.00	-15,568.77	-366.19	461,815.92	723,505.78	32.268232	-103.743954
- plan misses target center by 10455.00ft at 25995.81ft MD (10455.00 TVD, -15568.77 N, -366.19 E)									
- Point									

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
9,899.78	9,882.04	200.00	-449.00	KOP @ 9900' MD, 50' FNL, 1210' FEL	
10,141.00	10,116.20	149.97	-448.74	FTP @ 10141' MD, 100' FNL, 1210' FEL	
12,817.00	10,455.00	-2,390.14	-435.40	Cross NM0404441 @ 12817' MD, 2641' FSL, 1210' FEL	
15,459.00	10,455.00	-5,032.10	-421.52	Cross section @ 15459' MD, 0' FNL, 2310' FEL	
20,742.00	10,455.00	-10,315.03	-393.78	Cross section @ 20742' MD, 0' FNL, 1210' FEL	
22,063.00	10,455.00	-11,636.01	-386.84	Cross NM0405444A @22063' MD, 1321' FNL, 1210' FEL	
25,916.00	10,455.00	-15,488.96	-366.61	LTP @ 25916' MD, 100' FSL, 1210' FEL	
25,995.80	10,455.00	-15,568.76	-366.19	PBHL; 20' FSL, 1210' FEL	

Devon Energy

WELL DETAILS: Galapagos 14-26 Fed Com 215H

RKB @ 3523.00ft 3498.00			
Northing	Easting	Latitude	Longitude
477384.66	723871.97	32.311020	-103.742491

SECTION DETAILS Permit Plan 1

	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect	Annotation
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	
	2920.76	4.21	294.01	2920.38	6.28	-14.11	1.00	-5.95	
	9269.23	4.21	294.01	9251.74	195.81	-439.60	0.00	-185.42	
5	9549.74	0.00	0.00	9532.00	200.00	-449.00	1.50	-189.39	
6	9899.78	0.00	0.00	9882.04	200.00	-449.00	0.00	-189.39	KOP @ 9900' MD, 50' FNL, 1210' FEL
7	10799.78	90.00	179.70	10455.00	-372.95	-445.99	10.00	383.34	
8	25995.81	90.00	179.70	10455.00	-15568.77	-366.19	0.00	15573.08	PBHL; 20' FSL, 1210' FEL

