

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*5. Lease Serial No.
NMNM114990

6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement, Name and/or No.

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

DEVON ENERGY PRODUCTION COMPANY

Contact: REBECCA DEAL

Email: Rebecca.Deal@dmv.com

3a. Address

333 WEST SHERIDAN AVENUE
OKLAHOMA CITY, OK 73102

3b. Phone No. (include area code)

Ph: 405-228-8429

8. Well Name and No.

JAYHAWK 7-6 FED FEE COM 16H

9. API Well No.

30-025-45540

10. Field and Pool or Exploratory Area

BOBCAT DRAW-UPR WOLFCAMP

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 7 T26S R34E SWSE 615FSL 2150FEL
32.052387 N Lat, 103.507385 W Lon

11. County or Parish, State

LEA COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

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

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleting 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 recompleting in a new interval, a Form 3160-4 must be filed once testing has 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. requests the following changes to the Jayhawk 7 Fed 16 APD:

BHL change from 20 FNL & 2300 FEL, 7-26S-34E to 20 FNL & 2300 FEL, 6-26S-34E

Name Change from Jayhawk 7 Fed 16H to Jayhawk 7-6 Fed Fee Com 16H

TVD/MD Change from 12,445'/17,200' to 12,750'/22,859'

Alternate casing design change removing the 10.625" hole size from the intermediate section and changing the 8.625" casing thread form to a Teklock wedge

Please see attached revised C-102, drilling plan, directional & AC plan, spec sheet and plot.

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #450712 verified by the BLM Well Information System
For DEVON ENERGY PRODUCTION COMPANY, sent to the Hobbs
Committed to AFMSS for processing by MUSTAFA HAQUE on 01/15/2019 (19MH0029SE)

Name (Printed/Typed) REBECCA DEAL

Title REGULATORY COMPLIANCE PROFESSI

Signature (Electronic Submission)

Date 01/15/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By MUSTAFA HAQUE

Title PETROLEUM ENGINEER

Date 01/18/2019

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office Hobbs

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.

(Instructions on page 2)

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

KZ

Additional data for EC transaction #450712 that would not fit on the form

32. Additional remarks, continued

PECOS DISTRICT

DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	DEVON ENERGY PRODUCTION COMPANY LP
LEASE NO.:	NMNM114990
WELL NAME & NO.:	JAYHAWK 7-6 FED FEE COM 16H
SURFACE HOLE FOOTAGE:	615'/S & 2150'/E
BOTTOM HOLE FOOTAGE:	20'/N & 23000'/E
LOCATION:	SECTION 7, T26S, R34E, NMPM
COUNTY:	LEA

COA

H2S	☐ Yes	☒ No	
Potash	☒ None	☐ Secretary	☐ R-111-P
Cave/Karst Potential	☒ Low	☐ Medium	☐ High
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☒ Multibowl	☐ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP

All previous COAs still apply, except for the following:

A. CASING

Primary Casing Design

1. The 10-3/4 inch surface casing shall be set at approximately 900 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of 8 hours or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

requirement.

2. The minimum required fill of cement behind the 7-5/8 inch intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above.

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
- b. Second stage above DV tool:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office.

Operator has proposed to pump down 10 3/4" X 7 5/8" annulus. Operator must run a CBL from TD of the 7 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 should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

Alternate Casing Design:

4. The 13-3/8 inch surface casing shall be set at approximately 900 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
- a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours

after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

- d. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

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

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Excess calculates to 7% - additional cement will be required.**

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
- b. Second stage above DV tool:
 - Cement to surface. If cement does not circulate, contact the appropriate BLM office.

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

6. 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.

MHH 01182019

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)

☒ Chaves and Roosevelt Counties

Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.

During office hours call (575) 627-0272.

After office hours call (575)

☒ 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

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.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code 98094		3 Pool Name BOBCAT DRAW; UPPER WOLFCAMP	
4 Property Code		5 Property Name JAYHAWK 7-6 FED FEE COM			6 Well Number 16H
7 OGRID No. 6137		8 Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.			9 Elevation 3372.5

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
O	7	26 S	34 E		615	SOUTH	2150	EAST	LEA

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
B	6	26 S	34 E		20	NORTH	2300	EAST	LEA

12 Dedicated Acres 160	13 Joint or Infill	14 Consolidation Code	15 Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

NW CORNER SEC. 6 LAT. = 32.0797338°N LONG. = 103.5175316°W NMSP EAST (FT) N = 393699.75 E = 794010.96 W/4 CORNER SEC. 6 LAT. = 32.0724766°N LONG. = 103.5175341°W NMSP EAST (FT) N = 391059.61 E = 794030.14 NW CORNER SEC. 7 LAT. = 32.0652208°N LONG. = 103.5175327°W NMSP EAST (FT) N = 388419.97 E = 794050.53 W/4 CORNER SEC. 7 LAT. = 32.0579557°N LONG. = 103.5175350°W NMSP EAST (FT) N = 385777.11 E = 794089.80 SW CORNER SEC. 7 LAT. = 32.0506923°N LONG. = 103.5175349°W NMSP EAST (FT) N = 383134.75 E = 794089.79				N89°36'09"E 2642.03 FT N/4 CORNER SEC. 6 LAT. = 32.0797290°N LONG. = 103.5090031°W NMSP EAST (FT) N = 393718.07 E = 796652.54 LOT 1 LAST TAKE POINT 100' PNL 2300' FEL LAT. = 32.0794543°N LONG. = 103.5078938°W NMSP EAST (FT) N = 393620.77 E = 796996.87 LOT 2 S/4 CORNER SEC. 6 LAT. = 32.0652211°N LONG. = 103.5089834°W NMSP EAST (FT) N = 388440.30 E = 796698.96 LOT 3 S/4 CORNER SEC. 7 LAT. = 32.0506923°N LONG. = 103.5089824°W NMSP EAST (FT) N = 383156.93 E = 796742.73 LOT 4 S/4 CORNER SEC. 7 LAT. = 32.0506923°N LONG. = 103.5089824°W NMSP EAST (FT) N = 383156.93 E = 796742.73				N89°33'12"E 2643.54 FT NE CORNER SEC. 6 LAT. = 32.0797299°N LONG. = 103.5004697°W NMSP EAST (FT) N = 393738.67 E = 799295.61 LOT 1 BOTTOM OF HOLE LAT. = 32.0796742°N LONG. = 103.5078941°W NMSP EAST (FT) N = 393700.75 E = 796996.18 LOT 2 E/4 CORNER SEC. 6 LAT. = 32.0724880°N LONG. = 103.5004620°W NMSP EAST (FT) N = 391104.19 E = 799318.34 LOT 3 NE CORNER SEC. 7 LAT. = 32.0652284°N LONG. = 103.5004484°W NMSP EAST (FT) N = 388463.24 E = 799339.82 LOT 4 E/4 CORNER SEC. 7 LAT. = 32.0579642°N LONG. = 103.5004452°W NMSP EAST (FT) N = 385820.61 E = 799363.23 SE CORNER SEC. 7 LAT. = 32.0506933°N LONG. = 103.5004452°W NMSP EAST (FT) N = 383177.75 E = 799384.71				17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Rebecca Deal</i> 1/9/2019 Signature Date Rebecca Deal, Regulatory Analyst Printed Name rebecca.deal@dvn.com E-mail Address 18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. NOVEMBER 27, 2018 Date of Survey F. JARAMILLO Signature and Seal of Professional Surveyor Certificate Number FJL10N F. JARAMILLO, PLS 12797 SURVEY NO. 6369B			
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Intent ☒ As Drilled ☐

API #

Operator Name:	Property Name:	Well Number
DEVON ENERGY PRODUCTION CO., L.P.	JAYHAWK 7-6 FED FEE COM	16H

Kick Off Point (KOP)

UL	Section 7	Township 26S	Range 34E	Lot	Feet 200	From N/S FSL	Feet 2300	From E/W FEL	County LEA
Latitude 32.051251					Longitude -103.507879			NAD 83	

First Take Point (FTP)

UL O	Section 7	Township 26S	Range 34E	Lot	Feet 100	From N/S SOUTH	Feet 2300	From E/W EAST	County LEA
Latitude 32.0509729					Longitude 103.5078677			NAD 83	

Last Take Point (LTP)

UL B	Section 6	Township 26S	Range 34E	Lot	Feet 100	From N/S NORTH	Feet 2300	From E/W EAST	County LEA
Latitude 32.0794543					Longitude 103.5078938			NAD 83	

Is this well the defining well for the Horizontal Spacing Unit? ☒ y

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

1. Geologic Formations

TVD of target	12,750	Pilot hole depth	N/A
MD at TD:	22,859	Deepest expected fresh water:	890'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
RUSTLER	891		
TOP SALT	1251		
BASE OF SALT	4961		
BELL CANYON	4961		
CHERRY CANYON	6301		
BRUSHY CANYON	7931		
BONE SPRING	9441		
BONE SPRING 1ST	10381		
BONE SPRING 2ND	10921		
BONE SPRING 3RD	12071		
WOLFCAMP	12491		
STRAWN	15011		

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

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
14.75"	0	900' TVD	10.75"	40.5	J-55	STC	1.125	1.25	1.6
9.875"	0	12,071' TVD	7.625"	29.7	P110	BTC	1.125	1.25	1.6
8.75"	12,071' TVD	12,671' TVD	7.625"	29.7	P110	Flushmax III	1.125	1.25	1.6
6.75"	0	TD	5.5"	20	P110	Vam SG	1.125	1.25	1.6

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

Rustler top will be validated via drilling parameters (i.e. reduction in ROP) and surface casing setting depth revised accordingly if needed.

A variance is requested to wave the centralizer requirement for the 7-5/8" flush casing in the 8-3/4" hole and the 5-1/2" SF/Flush casing in the 6-3/4" hole.

Casing Program (Alternate Design)

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
17.5"	0	900' (TVD)	13.375"	48	H-40	STC	1.125	1.25	1.6
9.875"	0	12,071' (TVD)	8.625"	32	P110 HSCY	Tek-lock Wedge	1.125	1.25	1.6
7.875"	0	22,859' (MD)/ 12,750' TVD	5.5"	20	P110	Vam SG	1.125	1.25	1.6

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

Rustler top will be validated via drilling parameters (i.e. reduction in ROP) and surface casing setting depth revised accordingly if needed.

A variance is requested to wave the centralizer requirement for the 8-5/8" casing in the 9-7/8" hole and the 5-1/2" SF/Flush casing in the 7-7/8" hole.

8-5/8" Intermediate casing will be kept fluid filled.

3. Cementing Program (Primary Design)

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	Slurry Description
Surface	560	14.8	1.34	Tail: Class C Cement + 1% Calcium Chloride
Int	350	9	3.27	Lead: Tuned Light® Cement
	640	13.2	1.6	Tail: (50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite
Intermediate Two-Stage (Bradenhead)	1000	14.8	1.33	Class C Cement + 0.125 lbs/sack Poly-E-Flake
	482	13.2	1.6	Class H w/ additives
Production	861	13.2	1.33	Class H w/ additives

If a DV tool is used, depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
10-3/4" Surface	Surface	50%
7-5/8" Intermediate	Surface	30%
5-1/2" Production Casing	200' Tie-Back to intermediate	25%

Cementing Program (Alternate Design)

Casing	# Sks	Wt. lb/ gal	Yld ft ³ / sac k	Slurry Description
Surface	823	14.8	1.3 4	Tail: Class C Cement + 1% Calcium Chloride
Int	404	9	3.2 7	Lead: Tuned Light® Cement
	410	13.2	1.6	Tail: (50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite
Intermediate Two-Stage (Bradenhead)	750	14.8	1.3 3	Class C Cement + 0.125 lbs/sack Poly-E-Flake
	410	13.2	1.6	Tail: (50:50) Class H Cement w/ additives
Producti on	1787	13.2	1.3 3	Class H Cement w/ additives

If a DV tool is used, depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
13-3/8" Surface	Surface	50%
8-5/8" Intermediate	Surface	30%
5-1/2" Production Casing	200' Tie-Back to intermediate	25%

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
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BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
Intermediate	13-5/8"	5M	Annular	X	50% of rated working pressure
			Blind Ram	X	5M
			Pipe Ram	X	
			Double Ram	X	
			Other*		
Production	13-5/8"	10M	Annular (5M)	X	100% of rated working pressure
			Blind Ram	X	10M
			Pipe Ram	X	
			Double Ram	X	
			Other*		
			Annular		
			Blind Ram		

*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.

Y	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.
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Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
Y	Are anchors required by manufacturer?
Y	A multibowl wellhead may be 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 5000 (5M) psi. - Wellhead will be installed by wellhead representatives. - 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. - 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 pack-off, 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. - Devon will pressure test all seals above and below the mandrel (but still above the casing) to full working pressure rating. - Devon will test the casing to 0.22 psi/ft or 1500 psi, whichever is greater, as per Onshore Order #2. After running surface casing, a 13-5/8" BOP/BOPE system with a minimum rating of 5M will be installed on the wellhead system and will undergo a 250 psi low pressure test followed by a 5,000 psi high pressure test. The 5,000 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 intermediate casing with a mandrel hanger, the 13-5/8" BOP/BOPE system with a minimum rating of 10M will be installed and tested, with 5M annular being tested to 100% of rated working pressure 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 10,000 psi WP.

	Devon's proposed wellhead manufactures will be FMC Technologies, Cactus Wellhead, or Cameron. Devon requests a variance to use a flexible line with flanged ends between the BOP and the choke manifold (choke line). The line will be kept as straight as possible with minimal turns. Devon requests a variance to run a 5M annular on a 10M BOP system. See separately attached variance request and support documents in AFMSS.
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5. Mud Program

Depth		Type	Weight (ppg)
From	To		
0	Surface Casing Shoe	FW Gel	8.6-8.8
Surface Casing Shoe	Intermediate Casing Shoe	DBE/Cut Brine	9-10
Intermediate Casing Shoe	TD	Oil Based Mud	10-12

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	Int. shoe to KOP
Density	Int. shoe to KOP
X CBL	Production casing

X	Mud log	Intermediate shoe to TD
	PEX	

7. Drilling Conditions

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

Hydrogen Sulfide (H ₂ S) monitors will be installed prior to drilling out the surface shoe. If H ₂ S 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

WCDSC Permian NM

Lea County (NAD83 New Mexico East)

Sec 07-T26S-R34E

Jayhawk 7-6 Fed Fee Com 16H

Wellbore #1

Plan: Permit Plan 2

Standard Planning Report - Geographic

17 December, 2018

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Jayhawk 7-6 Fed Fee Com 16H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3397.50ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3397.50ft
Site:	Sec 07-T26S-R34E	North Reference:	Grid
Well:	Jayhawk 7-6 Fed Fee Com 16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 2		

Project	Lea County (NAD83 New Mexico East)		
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 07-T26S-R34E				
Site Position:		Northing:	383,354.91 usft	Latitude:	32.051193
From:	Lat/Long	Easting:	799,057.94 usft	Longitude:	-103.501496
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.44

Well	Jayhawk 7-6 Fed Fee Com 16H					
Well Position	+N-S	0.00 ft	Northing:	383,775.70 usft	Latitude:	32.052388
	+E-W	0.00 ft	Easting:	797,230.10 usft	Longitude:	-103.507384
Position Uncertainty	0.50 ft	Wellhead Elevation:		Ground Level:	3,372.50 ft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2015	7/23/2018	6.79	59.90	47,730.40467722

Design	Permit Plan 2			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	358.65

Plan Survey Tool Program	Date 12/17/2018			
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks
(ft)	(ft)			
1	0.00	22,859.14 Permit Plan 2 (Wellbore #1)	MWD+HDGM	
			OWSG MWD + HDGM	

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N-S	+E-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(ft)	(ft)	Rate	Rate	Rate	(°)	
(ft)			(ft)			(°/100usft)	(°/100usft)	(°/100usft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,308.62	3.86	199.87	5,308.39	-9.77	-3.53	1.25	1.25	0.00	199.87	
11,584.46	3.86	199.87	11,570.01	-406.86	-147.06	0.00	0.00	0.00	0.00	
11,841.65	0.00	0.00	11,827.00	-415.00	-150.00	1.50	-1.50	0.00	180.00	
12,191.69	0.00	0.00	12,177.04	-415.00	-150.00	0.00	0.00	0.00	0.00	
13,091.69	90.00	359.54	12,750.00	157.94	-154.65	10.00	10.00	0.00	359.54	PBHL - Jayhawk 7 FE
22,859.14	90.00	359.54	12,750.00	9,925.07	-233.92	0.00	0.00	0.00	0.00	PBHL - Jayhawk 7 FE

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Jayhawk 7-6 Fed Fee Com 16H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3397.50ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3397.50ft
Site:	Sec 07-T26S-R34E	North Reference:	Grid
Well:	Jayhawk 7-6 Fed Fee Com 16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 2		

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	383,775.70	797,230.10	32.052388	-103.507384
100.00	0.00	0.00	100.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
200.00	0.00	0.00	200.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
300.00	0.00	0.00	300.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
400.00	0.00	0.00	400.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
500.00	0.00	0.00	500.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
600.00	0.00	0.00	600.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
700.00	0.00	0.00	700.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
800.00	0.00	0.00	800.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
900.00	0.00	0.00	900.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
1,000.00	0.00	0.00	1,000.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
1,100.00	0.00	0.00	1,100.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
1,200.00	0.00	0.00	1,200.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
1,300.00	0.00	0.00	1,300.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
1,400.00	0.00	0.00	1,400.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
1,500.00	0.00	0.00	1,500.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
1,600.00	0.00	0.00	1,600.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
1,700.00	0.00	0.00	1,700.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
1,800.00	0.00	0.00	1,800.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
1,900.00	0.00	0.00	1,900.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
2,000.00	0.00	0.00	2,000.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
2,100.00	0.00	0.00	2,100.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
2,200.00	0.00	0.00	2,200.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
2,300.00	0.00	0.00	2,300.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
2,400.00	0.00	0.00	2,400.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
2,500.00	0.00	0.00	2,500.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
2,600.00	0.00	0.00	2,600.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
2,700.00	0.00	0.00	2,700.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
2,800.00	0.00	0.00	2,800.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
2,900.00	0.00	0.00	2,900.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
3,000.00	0.00	0.00	3,000.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
3,100.00	0.00	0.00	3,100.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
3,200.00	0.00	0.00	3,200.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
3,300.00	0.00	0.00	3,300.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
3,400.00	0.00	0.00	3,400.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
3,500.00	0.00	0.00	3,500.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
3,600.00	0.00	0.00	3,600.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
3,700.00	0.00	0.00	3,700.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
3,800.00	0.00	0.00	3,800.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
3,900.00	0.00	0.00	3,900.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
4,000.00	0.00	0.00	4,000.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
4,100.00	0.00	0.00	4,100.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
4,200.00	0.00	0.00	4,200.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
4,300.00	0.00	0.00	4,300.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
4,400.00	0.00	0.00	4,400.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
4,500.00	0.00	0.00	4,500.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
4,600.00	0.00	0.00	4,600.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
4,700.00	0.00	0.00	4,700.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
4,800.00	0.00	0.00	4,800.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
4,900.00	0.00	0.00	4,900.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
5,000.00	0.00	0.00	5,000.00	0.00	0.00	383,775.70	797,230.10	32.052388	-103.507384
5,100.00	1.25	199.87	5,099.99	-1.03	-0.37	383,774.67	797,229.73	32.052386	-103.507386
5,200.00	2.50	199.87	5,199.94	-4.10	-1.48	383,771.60	797,228.61	32.052377	-103.507389
5,300.00	3.75	199.87	5,299.79	-9.23	-3.34	383,766.47	797,226.76	32.052363	-103.507395
5,308.62	3.86	199.87	5,308.39	-9.77	-3.53	383,765.93	797,226.57	32.052362	-103.507396

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Jayhawk 7-6 Fed Fee Com 16H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3397.50ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3397.50ft
Site:	Sec 07-T26S-R34E	North Reference:	Grid
Well:	Jayhawk 7-6 Fed Fee Com 16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 2		

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	3.86	199.87	5,399.56	-15.55	-5.62	383,760.15	797,224.48	32.052346	-103.507403	
5,500.00	3.86	199.87	5,499.33	-21.88	-7.91	383,753.82	797,222.19	32.052329	-103.507410	
5,600.00	3.86	199.87	5,599.11	-28.20	-10.19	383,747.49	797,219.90	32.052311	-103.507418	
5,700.00	3.86	199.87	5,698.88	-34.53	-12.48	383,741.17	797,217.62	32.052294	-103.507426	
5,800.00	3.86	199.87	5,798.65	-40.86	-14.77	383,734.84	797,215.33	32.052276	-103.507433	
5,900.00	3.86	199.87	5,898.43	-47.19	-17.06	383,728.51	797,213.04	32.052259	-103.507441	
6,000.00	3.86	199.87	5,998.20	-53.51	-19.34	383,722.19	797,210.76	32.052242	-103.507448	
6,100.00	3.86	199.87	6,097.97	-59.84	-21.63	383,715.86	797,208.47	32.052224	-103.507456	
6,200.00	3.86	199.87	6,197.75	-66.17	-23.92	383,709.53	797,206.18	32.052207	-103.507463	
6,300.00	3.86	199.87	6,297.52	-72.50	-26.20	383,703.20	797,203.89	32.052190	-103.507471	
6,400.00	3.86	199.87	6,397.29	-78.82	-28.49	383,696.88	797,201.61	32.052172	-103.507478	
6,500.00	3.86	199.87	6,497.07	-85.15	-30.78	383,690.55	797,199.32	32.052155	-103.507486	
6,600.00	3.86	199.87	6,596.84	-91.48	-33.06	383,684.22	797,197.03	32.052138	-103.507493	
6,700.00	3.86	199.87	6,696.61	-97.80	-35.35	383,677.89	797,194.75	32.052120	-103.507501	
6,800.00	3.86	199.87	6,796.39	-104.13	-37.64	383,671.57	797,192.46	32.052103	-103.507508	
6,900.00	3.86	199.87	6,896.16	-110.46	-39.93	383,665.24	797,190.17	32.052086	-103.507516	
7,000.00	3.86	199.87	6,995.93	-116.79	-42.21	383,658.91	797,187.89	32.052068	-103.507524	
7,100.00	3.86	199.87	7,095.71	-123.11	-44.50	383,652.58	797,185.60	32.052051	-103.507531	
7,200.00	3.86	199.87	7,195.48	-129.44	-46.79	383,646.26	797,183.31	32.052034	-103.507539	
7,300.00	3.86	199.87	7,295.25	-135.77	-49.07	383,639.93	797,181.02	32.052016	-103.507546	
7,400.00	3.86	199.87	7,395.03	-142.10	-51.36	383,633.60	797,178.74	32.051999	-103.507554	
7,500.00	3.86	199.87	7,494.80	-148.42	-53.65	383,627.28	797,176.45	32.051982	-103.507561	
7,600.00	3.86	199.87	7,594.58	-154.75	-55.93	383,620.95	797,174.16	32.051964	-103.507569	
7,700.00	3.86	199.87	7,694.35	-161.08	-58.22	383,614.62	797,171.88	32.051947	-103.507576	
7,800.00	3.86	199.87	7,794.12	-167.41	-60.51	383,608.29	797,169.59	32.051930	-103.507584	
7,900.00	3.86	199.87	7,893.90	-173.73	-62.79	383,601.97	797,167.30	32.051912	-103.507591	
8,000.00	3.86	199.87	7,993.67	-180.06	-65.08	383,595.64	797,165.02	32.051895	-103.507599	
8,100.00	3.86	199.87	8,093.44	-186.39	-67.37	383,589.31	797,162.73	32.051878	-103.507606	
8,200.00	3.86	199.87	8,193.22	-192.71	-69.66	383,582.98	797,160.44	32.051860	-103.507614	
8,300.00	3.86	199.87	8,292.99	-199.04	-71.94	383,576.66	797,158.16	32.051843	-103.507622	
8,400.00	3.86	199.87	8,392.76	-205.37	-74.23	383,570.33	797,155.87	32.051826	-103.507629	
8,500.00	3.86	199.87	8,492.54	-211.70	-76.52	383,564.00	797,153.58	32.051808	-103.507637	
8,600.00	3.86	199.87	8,592.31	-218.02	-78.80	383,557.68	797,151.29	32.051791	-103.507644	
8,700.00	3.86	199.87	8,692.08	-224.35	-81.09	383,551.35	797,149.01	32.051774	-103.507652	
8,800.00	3.86	199.87	8,791.86	-230.68	-83.38	383,545.02	797,146.72	32.051756	-103.507659	
8,900.00	3.86	199.87	8,891.63	-237.01	-85.66	383,538.69	797,144.43	32.051739	-103.507667	
9,000.00	3.86	199.87	8,991.40	-243.33	-87.95	383,532.37	797,142.15	32.051721	-103.507674	
9,100.00	3.86	199.87	9,091.18	-249.66	-90.24	383,526.04	797,139.86	32.051704	-103.507682	
9,200.00	3.86	199.87	9,190.95	-255.99	-92.53	383,519.71	797,137.57	32.051687	-103.507689	
9,300.00	3.86	199.87	9,290.72	-262.32	-94.81	383,513.38	797,135.29	32.051669	-103.507697	
9,400.00	3.86	199.87	9,390.50	-268.64	-97.10	383,507.06	797,133.00	32.051652	-103.507704	
9,500.00	3.86	199.87	9,490.27	-274.97	-99.39	383,500.73	797,130.71	32.051635	-103.507712	
9,600.00	3.86	199.87	9,590.04	-281.30	-101.67	383,494.40	797,128.42	32.051617	-103.507720	
9,700.00	3.86	199.87	9,689.82	-287.62	-103.96	383,488.07	797,126.14	32.051600	-103.507727	
9,800.00	3.86	199.87	9,789.59	-293.95	-106.25	383,481.75	797,123.85	32.051583	-103.507735	
9,900.00	3.86	199.87	9,889.36	-300.28	-108.53	383,475.42	797,121.56	32.051565	-103.507742	
10,000.00	3.86	199.87	9,989.14	-306.61	-110.82	383,469.09	797,119.28	32.051548	-103.507750	
10,100.00	3.86	199.87	10,088.91	-312.93	-113.11	383,462.77	797,116.99	32.051531	-103.507757	
10,200.00	3.86	199.87	10,188.68	-319.26	-115.40	383,456.44	797,114.70	32.051513	-103.507765	
10,300.00	3.86	199.87	10,288.46	-325.59	-117.68	383,450.11	797,112.42	32.051496	-103.507772	
10,400.00	3.86	199.87	10,388.23	-331.92	-119.97	383,443.78	797,110.13	32.051479	-103.507780	
10,500.00	3.86	199.87	10,488.00	-338.24	-122.26	383,437.46	797,107.84	32.051461	-103.507787	
10,600.00	3.86	199.87	10,587.78	-344.57	-124.54	383,431.13	797,105.55	32.051444	-103.507795	
10,700.00	3.86	199.87	10,687.55	-350.90	-126.83	383,424.80	797,103.27	32.051427	-103.507802	
10,800.00	3.86	199.87	10,787.32	-357.22	-129.12	383,418.47	797,100.98	32.051409	-103.507810	

Planning Report - Geographic

Database: EDM r5000.141_Prod US
 Company: WCDSC Permian NM
 Project: Lea County (NAD83 New Mexico East)
 Site: Sec 07-T26S-R34E
 Well: Jayhawk 7-6 Fed Fee Com 16H
 Wellbore: Wellbore #1
 Design: Permit Plan 2

Local Co-ordinate Reference: Well Jayhawk 7-6 Fed Fee Com 16H
 TVD Reference: RKB @ 3397.50ft
 MD Reference: RKB @ 3397.50ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,900.00	3.86	199.87	10,887.10	-363.55	-131.40	383,412.15	797,098.69	32.051392	-103.507817
11,000.00	3.86	199.87	10,986.87	-369.88	-133.69	383,405.82	797,096.41	32.051375	-103.507825
11,100.00	3.86	199.87	11,086.64	-376.21	-135.98	383,399.49	797,094.12	32.051357	-103.507833
11,200.00	3.86	199.87	11,186.42	-382.53	-138.27	383,393.17	797,091.83	32.051340	-103.507840
11,300.00	3.86	199.87	11,286.19	-388.86	-140.55	383,386.84	797,089.55	32.051323	-103.507848
11,400.00	3.86	199.87	11,385.97	-395.19	-142.84	383,380.51	797,087.26	32.051305	-103.507855
11,500.00	3.86	199.87	11,485.74	-401.52	-145.13	383,374.18	797,084.97	32.051288	-103.507863
11,584.46	3.86	199.87	11,570.01	-406.86	-147.06	383,368.84	797,083.04	32.051273	-103.507869
11,600.00	3.62	199.87	11,585.51	-407.81	-147.40	383,367.89	797,082.70	32.051271	-103.507870
11,700.00	2.12	199.87	11,685.39	-412.53	-149.11	383,363.17	797,080.99	32.051258	-103.507876
11,800.00	0.62	199.87	11,785.35	-414.79	-149.92	383,360.91	797,080.18	32.051252	-103.507879
11,841.65	0.00	0.00	11,827.00	-415.00	-150.00	383,360.70	797,080.10	32.051251	-103.507879
11,900.00	0.00	0.00	11,885.35	-415.00	-150.00	383,360.70	797,080.10	32.051251	-103.507879
12,000.00	0.00	0.00	11,985.35	-415.00	-150.00	383,360.70	797,080.10	32.051251	-103.507879
12,100.00	0.00	0.00	12,085.35	-415.00	-150.00	383,360.70	797,080.10	32.051251	-103.507879
12,191.69	0.00	0.00	12,177.04	-415.00	-150.00	383,360.70	797,080.10	32.051251	-103.507879
KOP & FTP @ 12192' MD, 200' FSL, 2300' FEL									
12,200.00	0.83	359.54	12,185.35	-414.94	-150.00	383,360.76	797,080.10	32.051251	-103.507879
12,300.00	10.83	359.54	12,284.71	-404.79	-150.08	383,370.91	797,080.02	32.051279	-103.507879
12,400.00	20.83	359.54	12,380.79	-377.55	-150.30	383,398.15	797,079.79	32.051354	-103.507879
12,500.00	30.83	359.54	12,470.69	-334.03	-150.66	383,441.67	797,079.44	32.051473	-103.507879
12,600.00	40.83	359.54	12,551.66	-275.57	-151.13	383,500.13	797,078.97	32.051634	-103.507879
12,700.00	50.83	359.54	12,621.25	-203.93	-151.71	383,571.77	797,078.39	32.051831	-103.507879
12,800.00	60.83	359.54	12,677.34	-121.30	-152.38	383,654.40	797,077.71	32.052058	-103.507879
12,900.00	70.83	359.54	12,718.23	-30.19	-153.12	383,745.51	797,076.97	32.052309	-103.507879
13,000.00	80.83	359.54	12,742.68	66.64	-153.91	383,842.34	797,076.19	32.052575	-103.507880
13,091.69	90.00	359.54	12,750.00	157.94	-154.65	383,933.64	797,075.45	32.052826	-103.507880
13,100.00	90.00	359.54	12,750.00	166.25	-154.72	383,941.95	797,075.38	32.052849	-103.507880
13,200.00	90.00	359.54	12,750.00	266.25	-155.53	384,041.95	797,074.57	32.053124	-103.507880
13,300.00	90.00	359.54	12,750.00	366.24	-156.34	384,141.94	797,073.76	32.053398	-103.507880
13,400.00	90.00	359.54	12,750.00	466.24	-157.15	384,241.94	797,072.95	32.053673	-103.507880
13,500.00	90.00	359.54	12,750.00	566.24	-157.96	384,341.93	797,072.13	32.053948	-103.507880
13,600.00	90.00	359.54	12,750.00	666.23	-158.78	384,441.93	797,071.32	32.054223	-103.507880
13,700.00	90.00	359.54	12,750.00	766.23	-159.59	384,541.93	797,070.51	32.054498	-103.507881
13,800.00	90.00	359.54	12,750.00	866.23	-160.40	384,641.92	797,069.70	32.054773	-103.507881
13,900.00	90.00	359.54	12,750.00	966.22	-161.21	384,741.92	797,068.89	32.055048	-103.507881
14,000.00	90.00	359.54	12,750.00	1,066.22	-162.02	384,841.92	797,068.08	32.055323	-103.507881
14,100.00	90.00	359.54	12,750.00	1,166.22	-162.83	384,941.91	797,067.26	32.055597	-103.507881
14,200.00	90.00	359.54	12,750.00	1,266.21	-163.64	385,041.91	797,066.45	32.055872	-103.507881
14,300.00	90.00	359.54	12,750.00	1,366.21	-164.46	385,141.91	797,065.64	32.056147	-103.507881
14,400.00	90.00	359.54	12,750.00	1,466.21	-165.27	385,241.90	797,064.83	32.056422	-103.507882
14,500.00	90.00	359.54	12,750.00	1,566.20	-166.08	385,341.90	797,064.02	32.056697	-103.507882
14,600.00	90.00	359.54	12,750.00	1,666.20	-166.89	385,441.90	797,063.21	32.056972	-103.507882
14,700.00	90.00	359.54	12,750.00	1,766.20	-167.70	385,541.89	797,062.40	32.057247	-103.507882
14,800.00	90.00	359.54	12,750.00	1,866.19	-168.51	385,641.89	797,061.58	32.057522	-103.507882
14,900.00	90.00	359.54	12,750.00	1,966.19	-169.33	385,741.89	797,060.77	32.057796	-103.507882
15,000.00	90.00	359.54	12,750.00	2,066.19	-170.14	385,841.88	797,059.96	32.058071	-103.507883
15,100.00	90.00	359.54	12,750.00	2,166.18	-170.95	385,941.88	797,059.15	32.058346	-103.507883
15,200.00	90.00	359.54	12,750.00	2,266.18	-171.76	386,041.88	797,058.34	32.058621	-103.507883
15,300.00	90.00	359.54	12,750.00	2,366.18	-172.57	386,141.87	797,057.53	32.058896	-103.507883
15,400.00	90.00	359.54	12,750.00	2,466.17	-173.38	386,241.87	797,056.71	32.059171	-103.507883
15,500.00	90.00	359.54	12,750.00	2,566.17	-174.20	386,341.86	797,055.90	32.059446	-103.507883
15,600.00	90.00	359.54	12,750.00	2,666.17	-175.01	386,441.86	797,055.09	32.059721	-103.507883
15,700.00	90.00	359.54	12,750.00	2,766.16	-175.82	386,541.86	797,054.28	32.059996	-103.507884

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Jayhawk 7-6 Fed Fee Corn 16H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3397.50ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3397.50ft
Site:	Sec 07-T26S-R34E	North Reference:	Grid
Well:	Jayhawk 7-6 Fed Fee Corn 16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
15,800.00	90.00	359.54	12,750.00	2,866.16	-176.63	386,641.85	797,053.47	32.060270	-103.507884	
15,900.00	90.00	359.54	12,750.00	2,966.16	-177.44	386,741.85	797,052.66	32.060545	-103.507884	
16,000.00	90.00	359.54	12,750.00	3,066.16	-178.25	386,841.85	797,051.84	32.060820	-103.507884	
16,100.00	90.00	359.54	12,750.00	3,166.15	-179.06	386,941.84	797,051.03	32.061095	-103.507884	
16,200.00	90.00	359.54	12,750.00	3,266.15	-179.88	387,041.84	797,050.22	32.061370	-103.507884	
16,300.00	90.00	359.54	12,750.00	3,366.15	-180.69	387,141.84	797,049.41	32.061645	-103.507885	
16,400.00	90.00	359.54	12,750.00	3,466.14	-181.50	387,241.83	797,048.60	32.061920	-103.507885	
16,500.00	90.00	359.54	12,750.00	3,566.14	-182.31	387,341.83	797,047.79	32.062195	-103.507885	
16,600.00	90.00	359.54	12,750.00	3,666.14	-183.12	387,441.83	797,046.98	32.062469	-103.507885	
16,700.00	90.00	359.54	12,750.00	3,766.13	-183.93	387,541.82	797,046.16	32.062744	-103.507885	
16,800.00	90.00	359.54	12,750.00	3,866.13	-184.75	387,641.82	797,045.35	32.063019	-103.507885	
16,900.00	90.00	359.54	12,750.00	3,966.13	-185.56	387,741.82	797,044.54	32.063294	-103.507885	
17,000.00	90.00	359.54	12,750.00	4,066.12	-186.37	387,841.81	797,043.73	32.063569	-103.507886	
17,100.00	90.00	359.54	12,750.00	4,166.12	-187.18	387,941.81	797,042.92	32.063844	-103.507886	
17,200.00	90.00	359.54	12,750.00	4,266.12	-187.99	388,041.81	797,042.11	32.064119	-103.507886	
17,300.00	90.00	359.54	12,750.00	4,366.11	-188.80	388,141.80	797,041.29	32.064394	-103.507886	
17,400.00	90.00	359.54	12,750.00	4,466.11	-189.62	388,241.80	797,040.48	32.064668	-103.507886	
17,500.00	90.00	359.54	12,750.00	4,566.11	-190.43	388,341.80	797,039.67	32.064943	-103.507886	
17,599.00	90.00	359.54	12,750.00	4,665.10	-191.23	388,440.79	797,038.87	32.065215	-103.507886	
Cross Section @ 17599' MD, 0' FSL, 2300' FEL										
17,600.00	90.00	359.54	12,750.00	4,666.10	-191.24	388,441.79	797,038.86	32.065218	-103.507886	
17,700.00	90.00	359.54	12,750.00	4,766.10	-192.05	388,541.79	797,038.05	32.065493	-103.507887	
17,800.00	90.00	359.54	12,750.00	4,866.10	-192.86	388,641.78	797,037.24	32.065768	-103.507887	
17,900.00	90.00	359.54	12,750.00	4,966.09	-193.67	388,741.78	797,036.43	32.066043	-103.507887	
18,000.00	90.00	359.54	12,750.00	5,066.09	-194.48	388,841.78	797,035.61	32.066318	-103.507887	
18,100.00	90.00	359.54	12,750.00	5,166.09	-195.30	388,941.77	797,034.80	32.066593	-103.507887	
18,200.00	90.00	359.54	12,750.00	5,266.08	-196.11	389,041.77	797,033.99	32.066867	-103.507887	
18,300.00	90.00	359.54	12,750.00	5,366.08	-196.92	389,141.77	797,033.18	32.067142	-103.507888	
18,400.00	90.00	359.54	12,750.00	5,466.08	-197.73	389,241.76	797,032.37	32.067417	-103.507888	
18,500.00	90.00	359.54	12,750.00	5,566.07	-198.54	389,341.76	797,031.56	32.067692	-103.507888	
18,600.00	90.00	359.54	12,750.00	5,666.07	-199.35	389,441.76	797,030.74	32.067967	-103.507888	
18,700.00	90.00	359.54	12,750.00	5,766.07	-200.17	389,541.75	797,029.93	32.068242	-103.507888	
18,800.00	90.00	359.54	12,750.00	5,866.06	-200.98	389,641.75	797,029.12	32.068517	-103.507888	
18,900.00	90.00	359.54	12,750.00	5,966.06	-201.79	389,741.75	797,028.31	32.068792	-103.507888	
19,000.00	90.00	359.54	12,750.00	6,066.06	-202.60	389,841.74	797,027.50	32.069066	-103.507889	
19,100.00	90.00	359.54	12,750.00	6,166.05	-203.41	389,941.74	797,026.69	32.069341	-103.507889	
19,200.00	90.00	359.54	12,750.00	6,266.05	-204.22	390,041.74	797,025.87	32.069616	-103.507889	
19,300.00	90.00	359.54	12,750.00	6,366.05	-205.04	390,141.73	797,025.06	32.069891	-103.507889	
19,400.00	90.00	359.54	12,750.00	6,466.04	-205.85	390,241.73	797,024.25	32.070166	-103.507889	
19,500.00	90.00	359.54	12,750.00	6,566.04	-206.66	390,341.73	797,023.44	32.070441	-103.507889	
19,600.00	90.00	359.54	12,750.00	6,666.04	-207.47	390,441.72	797,022.63	32.070716	-103.507889	
19,700.00	90.00	359.54	12,750.00	6,766.03	-208.28	390,541.72	797,021.82	32.070991	-103.507890	
19,800.00	90.00	359.54	12,750.00	6,866.03	-209.09	390,641.71	797,021.01	32.071265	-103.507890	
19,900.00	90.00	359.54	12,750.00	6,966.03	-209.90	390,741.71	797,020.19	32.071540	-103.507890	
20,000.00	90.00	359.54	12,750.00	7,066.02	-210.72	390,841.71	797,019.38	32.071815	-103.507890	
20,100.00	90.00	359.54	12,750.00	7,166.02	-211.53	390,941.70	797,018.57	32.072090	-103.507890	
20,200.00	90.00	359.54	12,750.00	7,266.02	-212.34	391,041.70	797,017.76	32.072365	-103.507890	
20,300.00	90.00	359.54	12,750.00	7,366.01	-213.15	391,141.70	797,016.95	32.072640	-103.507891	
20,400.00	90.00	359.54	12,750.00	7,466.01	-213.96	391,241.69	797,016.14	32.072915	-103.507891	
20,500.00	90.00	359.54	12,750.00	7,566.01	-214.77	391,341.69	797,015.32	32.073190	-103.507891	
20,600.00	90.00	359.54	12,750.00	7,666.00	-215.59	391,441.69	797,014.51	32.073464	-103.507891	
20,700.00	90.00	359.54	12,750.00	7,766.00	-216.40	391,541.68	797,013.70	32.073739	-103.507891	
20,800.00	90.00	359.54	12,750.00	7,866.00	-217.21	391,641.68	797,012.89	32.074014	-103.507891	
20,900.00	90.00	359.54	12,750.00	7,965.99	-218.02	391,741.68	797,012.08	32.074289	-103.507891	

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Jayhawk 7-6 Fed Fee Com 16H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3397.50ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3397.50ft
Site:	Sec 07-T26S-R34E	North Reference:	Grid
Well:	Jayhawk 7-6 Fed Fee Com 16H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
21,000.00	90.00	359.54	12,750.00	8,065.99	-218.83	391,841.67	797,011.27	32.074564	-103.507892	
21,100.00	90.00	359.54	12,750.00	8,165.99	-219.64	391,941.67	797,010.45	32.074839	-103.507892	
21,200.00	90.00	359.54	12,750.00	8,265.98	-220.46	392,041.67	797,009.64	32.075114	-103.507892	
21,300.00	90.00	359.54	12,750.00	8,365.98	-221.27	392,141.66	797,008.83	32.075389	-103.507892	
21,400.00	90.00	359.54	12,750.00	8,465.98	-222.08	392,241.66	797,008.02	32.075663	-103.507892	
21,500.00	90.00	359.54	12,750.00	8,565.97	-222.89	392,341.66	797,007.21	32.075938	-103.507892	
21,600.00	90.00	359.54	12,750.00	8,665.97	-223.70	392,441.65	797,006.40	32.076213	-103.507892	
21,700.00	90.00	359.54	12,750.00	8,765.97	-224.51	392,541.65	797,005.59	32.076488	-103.507893	
21,800.00	90.00	359.54	12,750.00	8,865.96	-225.32	392,641.65	797,004.77	32.076763	-103.507893	
21,900.00	90.00	359.54	12,750.00	8,965.96	-226.14	392,741.64	797,003.96	32.077038	-103.507893	
22,000.00	90.00	359.54	12,750.00	9,065.96	-226.95	392,841.64	797,003.15	32.077313	-103.507893	
22,100.00	90.00	359.54	12,750.00	9,165.95	-227.76	392,941.63	797,002.34	32.077588	-103.507893	
22,200.00	90.00	359.54	12,750.00	9,265.95	-228.57	393,041.63	797,001.53	32.077862	-103.507893	
22,300.00	90.00	359.54	12,750.00	9,365.95	-229.38	393,141.63	797,000.72	32.078137	-103.507894	
22,400.00	90.00	359.54	12,750.00	9,465.94	-230.19	393,241.62	796,999.90	32.078412	-103.507894	
22,500.00	90.00	359.54	12,750.00	9,565.94	-231.01	393,341.62	796,999.09	32.078687	-103.507894	
22,600.00	90.00	359.54	12,750.00	9,665.94	-231.82	393,441.62	796,998.28	32.078962	-103.507894	
22,700.00	90.00	359.54	12,750.00	9,765.93	-232.63	393,541.61	796,997.47	32.079237	-103.507894	
22,779.13	90.00	359.54	12,750.00	9,845.06	-233.27	393,620.74	796,996.83	32.079454	-103.507894	
LTP @ 22779' MD, 100' FNL, 2300' FEL										
22,800.00	90.00	359.54	12,750.00	9,865.93	-233.44	393,641.61	796,996.66	32.079512	-103.507894	
22,859.13	90.00	359.54	12,750.00	9,925.06	-233.92	393,700.74	796,996.18	32.079674	-103.507894	
PBHL; 20' FNL, 2300' FEL										
22,859.14	90.00	359.54	12,750.00	9,925.07	-233.92	393,700.75	796,996.18	32.079674	-103.507894	

Design Targets										
Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL - Jayhawk 7 FED	-	0.00	0.00	0.00	9,925.07	-233.92	393,700.75	796,996.18	32.079674	-103.507894
- plan misses target center by 9927.83ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)										
- Point										
VP - Jayhawk 7 FED 16l	-	0.00	0.00	11,500.00	-566.63	-145.74	383,209.07	797,084.36	32.050834	-103.507869
- plan misses target center by 163.88ft at 11524.69ft MD (11510.37 TVD, -403.08 N, -145.69 E)										
- Point										

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
12,191.69	12,177.04	-415.00	-150.00	KOP & FTP @ 12192' MD, 200' FSL, 2300' FEL	
17,599.00	12,750.00	4,665.10	-191.23	Cross Section @ 17599' MD, 0' FSL, 2300' FEL	
22,779.13	12,750.00	9,845.06	-233.27	LTP @ 22779' MD, 100' FNL, 2300' FEL	
22,859.13	12,750.00	9,925.06	-233.92	PBHL; 20' FNL, 2300' FEL	

WCDSC Permian NM

WELL DETAILS: Jayhawk 7-6 Fed Fee Com 16H

RKB @ 3397.50ft

3372.50

Northing 383775.70 Easting 797230.10 Latitude 32.052388 Longitude -103.507384

SECTION DETAILS Permit Plan 2

MD	Inc	Azi	TVD	+N/-S	+E/-W	Diag	V/Sect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5000.00	0.00	0.00	5000.00	0.00	0.00	0.00	0.00	
5308.62	3.86	199.87	5308.39	-9.77	-3.53	1.25	-9.68	
11584.46	3.86	199.87	11570.01	-406.86	-147.06	0.00	-403.28	
11841.65	0.00	0.00	11827.00	-415.00	-150.00	1.50	-411.35	
12191.69	0.00	0.00	12177.04	-415.00	-150.00	0.00	-411.35	KOP & FTP @ 12192' MD, 200' FSL, 2300' FEL
13091.69	90.00	359.53	12750.00	157.94	-154.65	10.00	181.54	
22859.14	90.00	359.53	12750.00	9925.07	-233.92	0.00	9927.83	PBHL: 20' FNL, 2300' FEL

