

DATE IN <u>9.14.10</u>	SUSPENSE	ENGINEER <u>WJ</u>	LOGGED IN <u>9.14.10</u>	TYPE <u>DHC</u>	APP NO. <u>1025749882</u>
------------------------	----------	--------------------	--------------------------	-----------------	---------------------------

ABOVE THIS LINE FOR DIVISION USE ONLY

# NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



*Fasken*

*Federal "26A" #5*

## ADMINISTRATIVE APPLICATION CHECKLIST 30-025-39810

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

### Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]  
 [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]  
 [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]  
 [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]  
 [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]  
 [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

*4321*

- [1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]
- [A] Location - Spacing Unit - Simultaneous Dedication  
☐ NSL ☐ NSP ☐ SD
- Check One Only for [B] or [C]
- [B] Commingling - Storage - Measurement  
☒ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM
- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery  
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR
- [D] Other: Specify \_\_\_\_\_
- [2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or Does Not Apply
- [A] ☐ Working, Royalty or Overriding Royalty Interest Owners
- [B] ☐ Offset Operators, Leaseholders or Surface Owner
- [C] ☐ Application is One Which Requires Published Legal Notice
- [D] ☒ Notification and/or Concurrent Approval by BLM or SLO  
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E] ☒ For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F] ☐ Waivers are Attached

- [3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

- [4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

**Note:** Statement must be completed by an individual with managerial and/or supervisory capacity.

Kim Tyson  
Print or Type Name

Kim Tyson  
Signature

Regulatory Analyst  
Title

9-3-2010  
Date

kimt@forl.com  
e-mail Address

District I  
1625 N. French Drive, Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Artesia, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-107A  
Revised June 10, 2003

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

APPLICATION TYPE  
☒ Single Well  
☐ Establish Pre-Approved Pools  
EXISTING WELLS  
☐ Yes ☒ No

APPLICATION FOR DOWNHOLE COMMINGLING

Fasken Oil and Ranch, Ltd. 303 W. Wall St., Ste. 1800, Midland, TX 79701

Operator Address  
Federal "26A" 5 J, Sec. 26, T18S, R33E Lea  
Lease Well No. Unit Letter-Section-Township-Range County  
OGRID No. 151416 Property Code API No. 30-025-39810 Lease Type: ☒ Federal ☐ State ☐ Fee

DATA ELEMENT	UPPER ZONE	INTERMEDIATE ZONE	LOWER ZONE
Pool Name	Corbin; Queen, South (oil)		EK; Delaware
Pool Code	13920		21655
Top and Bottom of Pay Section (Perforated or Open-Hole Interval)	4532' - 4545' Perforated		5124' - 5742' Perforated
Method of Production (Flowing or Artificial Lift)	Artificial Lift		Artificial Lift
Bottomhole Pressure (Note: Pressure data will not be required if the bottom perforation in the lower zone is within 150% of the depth of the top perforation in the upper zone)	Not Required		Not Required
Oil Gravity or Gas BTU (Degree API or Gas BTU)	37° API		38° API
Producing, Shut-In or New Zone	New Zone		New Zone
Date and Oil/Gas/Water Rates of Last Production. (Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data.)	Date: No History Rates:	Date: Rates:	Date: No History Rates:
Fixed Allocation Percentage (Note: If allocation is based upon something other than current or past production, supporting data or explanation will be required.)	Oil Gas 55 % 67 %	Oil Gas % %	Oil Gas 45 % 33 %

ADDITIONAL DATA

Are all working, royalty and overriding royalty interests identical in all commingled zones?  
If not, have all working, royalty and overriding royalty interest owners been notified by certified mail?  
Yes ☒ No ☐  
Yes ☐ No ☐  
Are all produced fluids from all commingled zones compatible with each other?  
Yes ☒ No ☐  
Will commingling decrease the value of production?  
Yes ☐ No ☒  
If this well is on, or communitized with, state or federal lands, has either the Commissioner of Public Lands or the United States Bureau of Land Management been notified in writing of this application?  
Yes ☒ No ☐  
NMOCD Reference Case No. applicable to this well: \_\_\_\_\_

Attachments:

C-102 for each zone to be commingled showing its spacing unit and acreage dedication.  
Production curve for each zone for at least one year. (If not available, attach explanation.)  
For zones with no production history, estimated production rates and supporting data.  
Data to support allocation method or formula.  
Notification list of working, royalty and overriding royalty interests for uncommon interest cases.  
Any additional statements, data or documents required to support commingling.

PRE-APPROVED POOLS

If application is to establish Pre-Approved Pools, the following additional information will be required:

List of other orders approving downhole commingling within the proposed Pre-Approved Pools  
List of all operators within the proposed Pre-Approved Pools  
Proof that all operators within the proposed Pre-Approved Pools were provided notice of this application.  
Bottomhole pressure data.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Kim Tyson TITLE Regulatory Analyst DATE 9-3-2010  
TYPE OR PRINT NAME Kim Tyson TELEPHONE NO. (432) 687-1777  
E-MAIL ADDRESS kimt@for1.com

## District I

1625 N. French Dr., Hobbs, NM 88240

## District II

1301 W. Grand Avenue, Artesia, NM 88210

## District III

1000 Rio Brazos Rd., Aztec, NM 87410

## District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

## State of New Mexico

Energy, Minerals &amp; Natural Resources Department

## OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

Form C-102

Revised July 16, 2010

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-025-39810	<sup>2</sup> Pool Code 13920	<sup>3</sup> Pool Name Corbin; Queen, South (Oil)
<sup>4</sup> Property Code	<sup>5</sup> Property Name Federal "26A"	<sup>6</sup> Well Number 5
<sup>7</sup> OGRID No. 151416	<sup>8</sup> Operator Name Fasken Oil and Ranch, Ltd.	<sup>9</sup> Elevation 3821' GL

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot 1 dn	Feet from the	North/South line	Feet from the	East/West line	County
J	26	18S	33E		1875'	South	2255'	East	Lea

<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot 1 dn	Feet from the	North/South line	Feet from the	East/West line	County

<sup>12</sup> Dedicated Acres 40	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
-------------------------------------	-------------------------------	----------------------------------	-------------------------

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.

16				<sup>17</sup> 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. Signature <u>Kim Tyson</u> Date <u>9-3-2010</u> Printed Name <u>Kim Tyson</u> E-mail Address <u>kimt@forl.com</u>
			<div style="border: 1px solid black; padding: 5px; text-align: center;">• #5</div>	<sup>18</sup> 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. Date of Survey _____ Signature and Seal of Professional Surveyor: _____ Certificate Number _____

16				<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><u>Kim Tyson</u>                      9-3-2010 Signature                                  Date</p> <p>Kim Tyson Printed Name</p> <p>kimt@forl.com E-mail Address</p>
		<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;">● #5</div>		<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><u>Kim Tyson</u>                      9-3-2010 Signature                                  Date</p> <p>Kim Tyson Printed Name</p> <p>kimt@forl.com 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>Date of Survey _____ Signature and Seal of Professional Surveyor: _____</p> <p>Certificate Number _____</p>

**Fasken Oil and Ranch, Ltd.**

**Federal 26 "A" No. 5**

**Application for Downhole Commingling**

Additional Data

Since the Federal 26 "A" No. 5 has yet to be completed, there is no production data available for either the Delaware or Queen intervals in this well. However, predicted production curves were generated using production data from correlative offset wells. Furthermore, log calculations were performed and compared to the other wells within the area to help in predicting the expected production rates and ultimate recoveries.

Based on the information stated above, the production allocation for the Delaware and Bone Springs should be as follows:

EK Delaware	25 bopd	45%	21 mcfpd	33%
EK Queen	30 bopd	55%	42 mcfpd	67%

All working, royalty and overriding interests in this well are common and therefore, no notice is required.

Federal "26-A" No. 5

Sandstone Pay Parameters		
	Queen	Delaware
$S_w <$	0.55	0.6
$GR <$	70	70
$\Phi >$	0.1	0.1
$PEF <$	3	3
$Rw =$	0.045	0.045

Zone	Depth	Depth to	X-plot Φ	Sw	Pay, h	BVW	Φh	hcf Φ <sup>2</sup> h <sup>2</sup> (1-sw)	Temp °F	B <sub>o</sub> (rb/stb)	Recovery Factor	Acres	EUR MBO
<b><u>Queen</u></b>													
Penrose	4500.00	4600.00	15.93%	48.79%	12	0.0777	1.9120	0.9791	104	1.25	0.19	40	46.18
<b>Total Queen:</b>													<b><u>46.18</u></b>
<b><u>DELAWARE</u></b>													
Bell Canyon Dolomite	5150.00	5350.00	7.05%	23.96%	10.0	0.0169	0.7050	0.5361	106	1.25	0.15	40	19.96
Bell Canyon Sand	5270.00	5280.00	10.99%	38.16%	4.0	0.0419	0.4395	0.2718	106	1.25	0.15	20	5.06
Cherry Canyon	5650.00	5800.00	10.88%	56.36%	12.0	0.0613	1.3050	0.5695	107	1.25	0.15	40	21.21
<b>Total Delaware:</b>													<b><u>46.23</u></b>
<b>TOTAL OIL</b>													<b><u>92.42</u></b>

# Rate/Time Graph

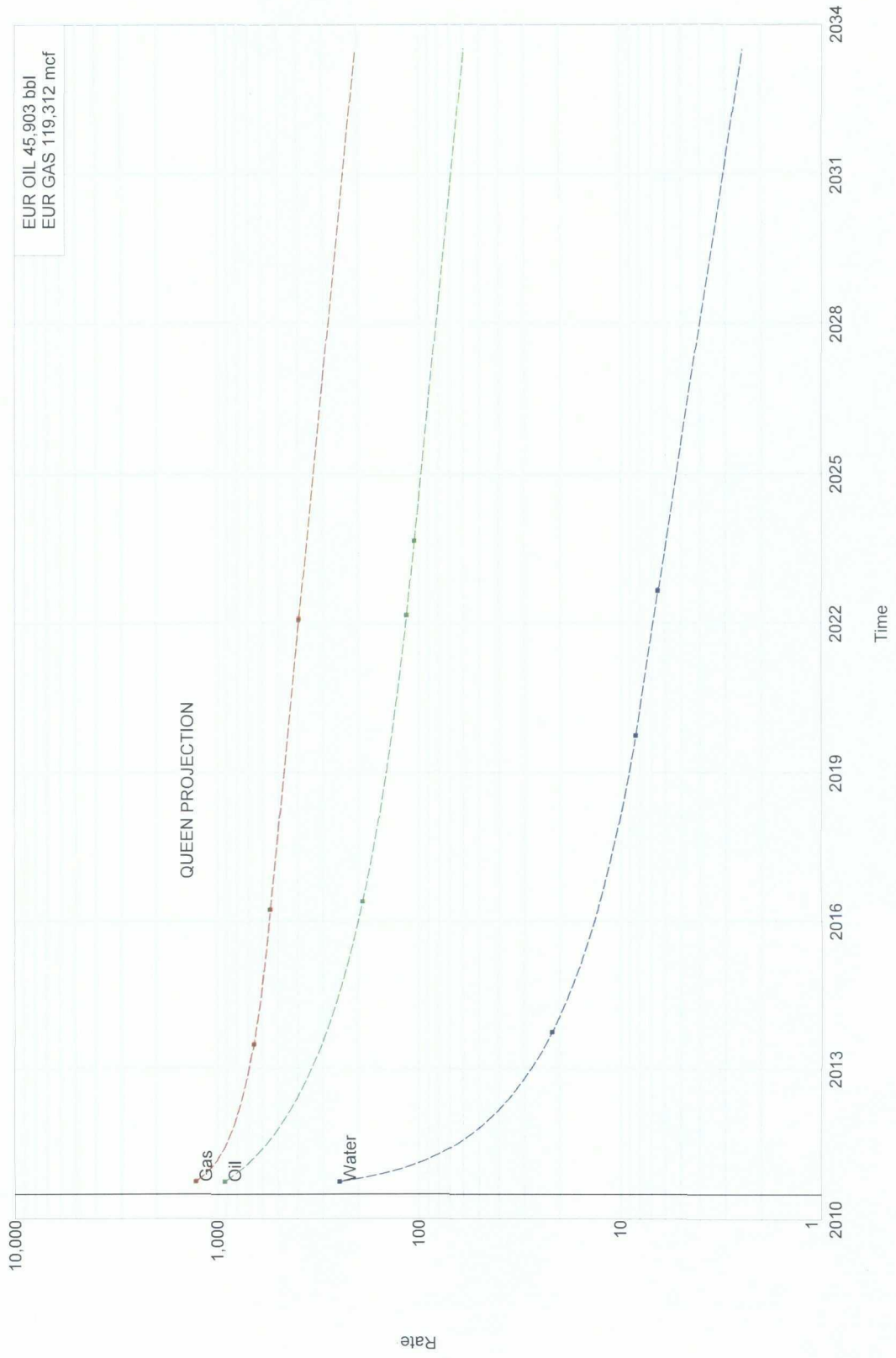
Lease Name: FEDERAL 26 A (5)  
County, ST: LEA, NM  
Location: 26N 18S 33E SE SW

Project: j:\piapps\dwights\ptools90\projects\cs\lfederal 26 a 3.mdb

Operator: FASKEN OIL AND RANCH LTD  
Field Name: CORBIN SOUTH

Date: 9/1/2010  
Time: 9:08 AM

## FEDERAL 26 A - CORBIN SOUTH



# Rate/Time Graph

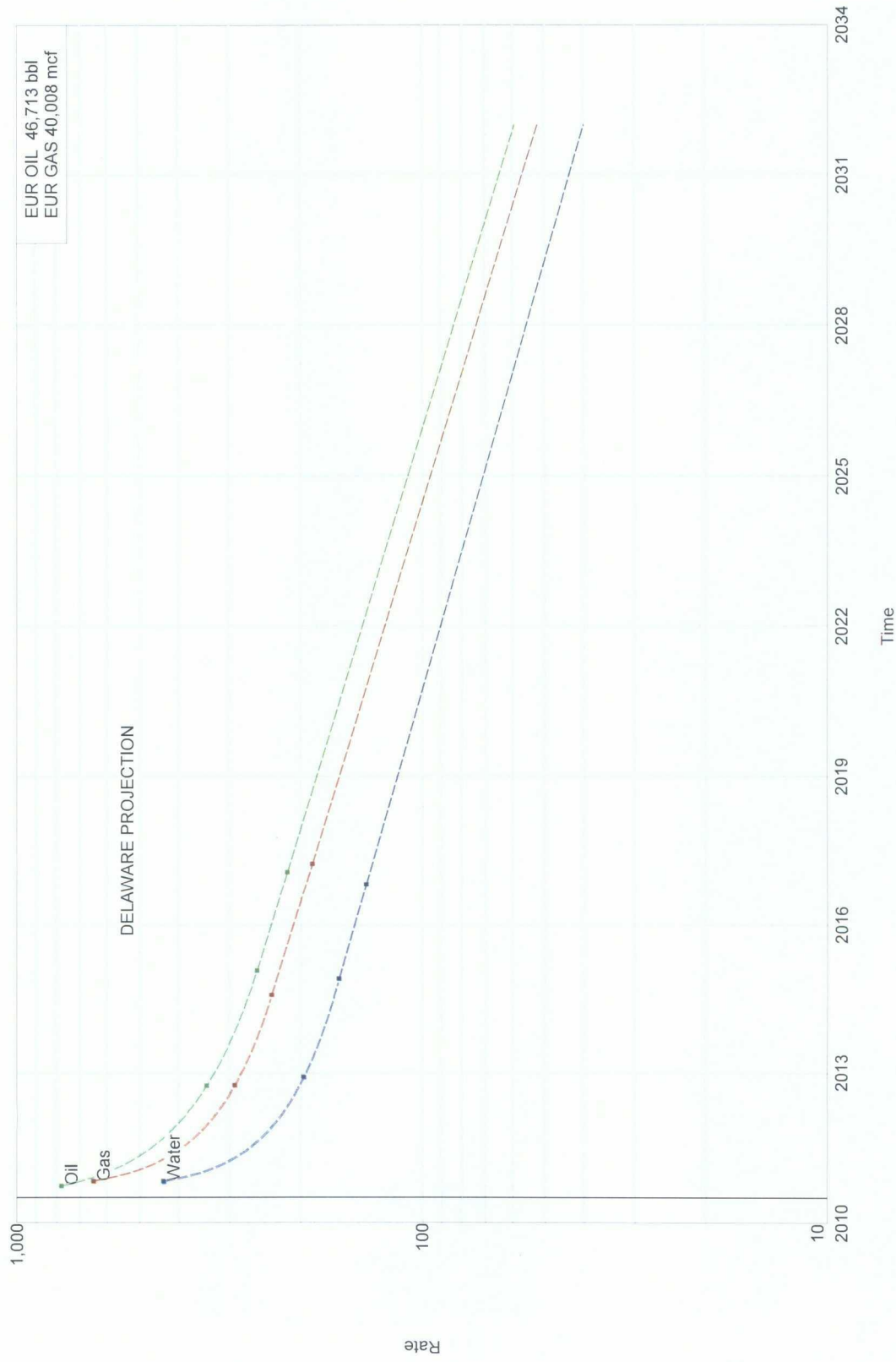
Date: 9/1/2010  
Time: 9:07 AM

Project: j:\piapps\dwights\ptools90\projects\cs\lfederal 26 a 3.mdb

Lease Name: FEDERAL 26 A - DELAWARE PROJECTION (POST DRILLING) (5)  
County, ST: LEA, NM  
Location: 26H 18S 33E SE SE NE

Operator: FASKEN OIL & RANCH, LTD.  
Field Name: E-K

FEDERAL 26 A - DELAWARE PROJECTION (POST DRILLING) - E-K





# Rate/Time Graph

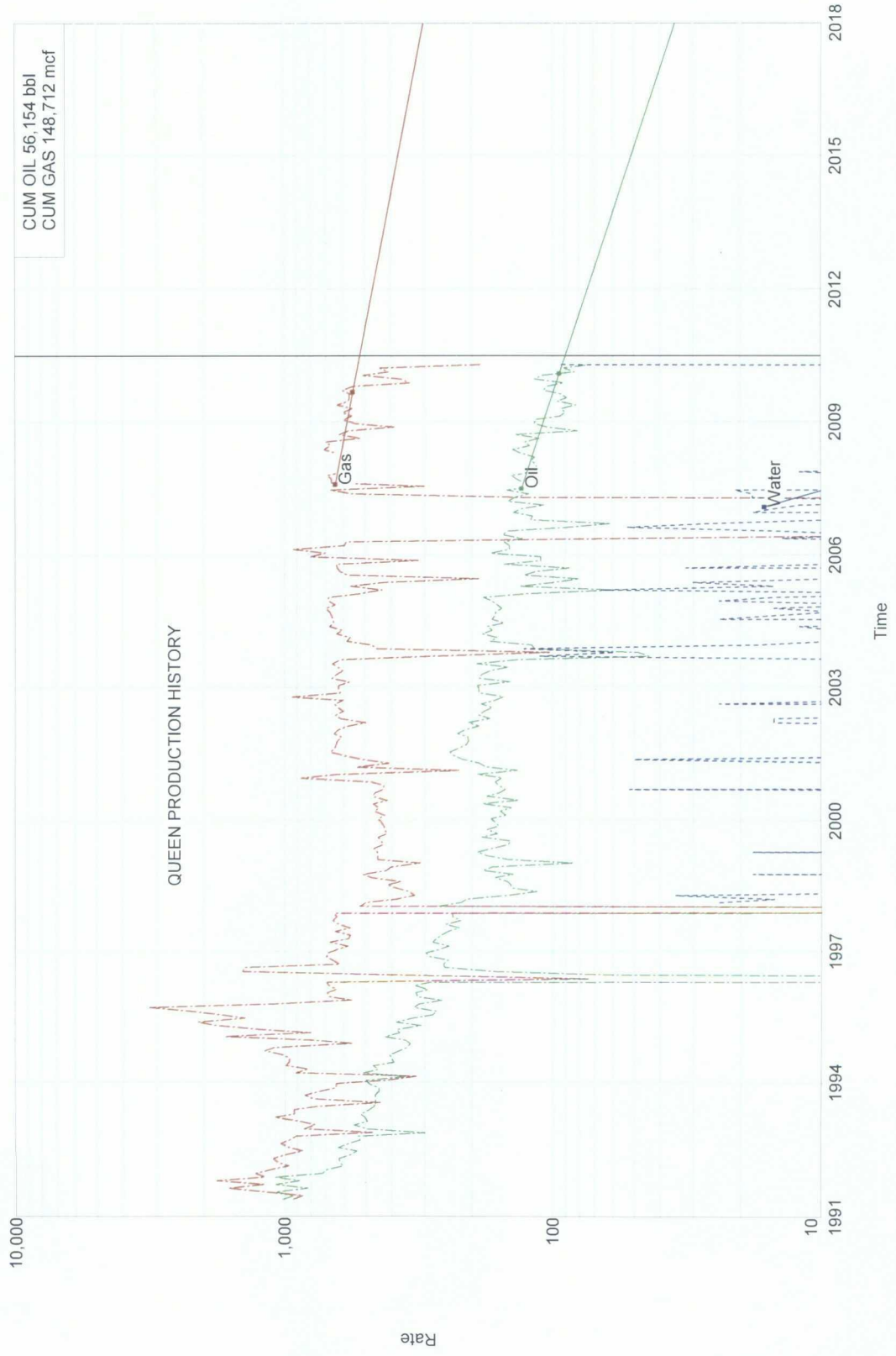
Lease Name: FEDERAL 26 A (1)  
County, ST: LEA, NM  
Location: 26N 18S 33E SE SW

Project: j:\piapps\dwights\ptools90\projects\csfederal 26 a 3.mdb

Operator: FASKEN OIL AND RANCH LTD  
Field Name: CORBIN SOUTH

Date: 8/9/2010  
Time: 3:35 PM

## FEDERAL 26 A - CORBIN SOUTH



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0137  
Expires: March 31, 2007

**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.  
NM - 26692

6. If Indian, Allottee or Tribe Name

**SUBMIT IN TRIPLICATE – Other instructions on page 2.**

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

Fasken Oil and Ranch, Ltd.

3a. Address  
303 West Wall St., Suite 1800, Midland, TX 79701

3b. Phone No. (include area code)  
432-687-1777

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
1875' FSL & 2255' FEL, Sec. 26, T18S, R33E

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

8. Well Name and No.  
Federal "26A" No. 5

9. API Well No.  
30-025-39810

10. Field and Pool or Exploratory Area  
EK; Delaware

11. Country or Parish, State  
Lea, NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other <u>Downhole</u>
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	<u>Commingle</u>
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

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

Fasken Oil and Ranch, Ltd. proposes to downhole commingle the EK; Delaware at a depth of 5124' - 5742' and the Corbin; Queen, South (Oil) at a depth of 4532' - 4545' in the Federal "26A" No. 5 well. Production will be allocated as per what is on the downhole commingling application.

Please see attached downhole commingling applicataion.

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

Name (Printed/Typed)  
Kim Tyson

Title Regulatory Analyst

Signature

*Kim Tyson*

Date 09/03/2010

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

Title

Date

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

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)

**Recommended Completion Procedure**  
**Federal 26 A No. 5**  
**1875' FSL and 2255' FEL**  
**Sec 26, T-18-S, Range 33-E**  
**API #30-025-39811**  
**A.F.E. 1801**

**OBJECTIVE:**  
**WELL DATA:**

Original Completion

8-5/8" 24# J-55:	Set at 1645.65' w/800 sx, circ 106 sx cement
5-1/2" 15.5# J-55 LT&C casing:	Set at 5968.84', DV Tool @ 3354.49', 1 <sup>st</sup> stage cmt w/500 sx, cir. 100sx.; 2 <sup>nd</sup> stage cmt w/725 sx – TOC @ 966' by TS.
KB:	14'
TD:	6000'
PBTD:	DV

1. Level location and install mast anchors.
2. Set test tank and build flowline from wellhead to test tank. Remove wing valves from casings and install XXH nipples and 3000 psi ball valves.
3. Pipe all casings to surface and wrap with wax as needed. Wrap casings and nipples with 4" pipe wrap tape and pipe to surface. Back fill cellar with pea gravel. Set pipe racks and take delivery of ~6,000' 2-3/8" EUE 8rd N-80 tubing, 3k manual BOP, and 2-3/8" flow tree. Clean boxes and pins and tally tubing.
4. RUPU, tighten bolts on wellhead flange and test casing to 2000 psi for 20 minutes. ND flange and NU BOP.
5. RIW w/ 4-3/4" bit, 1 3-1/2" drill collar, 5-1/2" casing scraper, 5- 3-1/2" drill collars and 2-3/8" tubing to DV tool at 3354.49'.
6. RU reverse unit with power swivel and drill out cement and DV tool with 2% KCl water. Reciprocate casing scraper through DV +/-10 times until no drag is felt. Circulate wellbore clean.
7. Test casing and DV tool to 2,000 psi for 15 minutes. Continue RIW w/ bit and tbg, and tag PBTD at +/- 5921.06'. Cleanout if necessary.
8. RU acid pump truck and pickle 500 gallons 15% HCl double inhibited acid down tubing and a little bit around backside at 1/2 to 1 bpm.
9. RU on tubing/casing annulus and reverse acid to pit at 1 to 1-1/2 bpm.
10. Circulate and displace well with 2% KCl water.
11. POW leaving bit @ 5745'. Spot 500 gallons 7-1/2% HCl acid @ 5745'.
12. POW while standing tubing in derrick & lay down bit and collars. RD reverse unit.
13. RUWL and run 2000' (minimum) of GR correlation log from +/- 5968'-3968'. RIW with 3-1/8" expendable slick casing gun and perforate Delaware Cherry Canyon as follows:

**5732'-42' w/ 2 JSPF, 60 degree phased, 0.40" EH, 20h**  
**5712'-18' w/ 2 JSPF, 60 degree phased, 0.40" EH, 12h**  
**5689'-92' w/ 2 JSPF, 60 degree phased, 0.40" EH, 6h**

**5674'-77' w/ 2 JSPF, 60 degree phased, 0.40" EH, 6h**  
**5660'-63' w/ 2 JSPF, 60 degree phased, 0.40" EH, 6h**

Total - 50 holes. All Perforations should be correlated to Baker Hughes Compensated Z-Densilog, Compensated Neutron Log, Spectralog, Gamma Ray Log dated 8-12-2010. POW w/ WL, make sure all shots fired and RDWL.

14. RU pump truck on casing and displace spot acid into perforations using 12 bbls of 2% KCl water at 3,000 psi maximum pressure. Record ISIP, 5", 10", & 15" shut-in pressures. Report results to Midland Office.
15. ND BOP and NU 5k frac valve.
16. Set 6-500 bbl clean frac tanks. Fill each to maximum capacity with 2% powdered KCl water.
17. **FRAC DATE SEPTEMBER 15<sup>th</sup>**. RU Superior Pumping Services and E&P Wireline. Frac the Cherry Canyon, Bell Canyon, & Penrose formations in three stages according to "Federal\_26A\_5\_FracProcedure.xls". Max pressure 3,850 psi.
18. RD frac crew and wireline truck.
19. NU BIW stripper rubber and RU reverse unit and RIW w/ 4-3/4" mill, seating nipple, and tubing to top of composite plug at +/- 4000'. RU XH flowback manifold with double chokes and flowback iron with plug catcher on inlet side of manifold, and lay line to reverse pit, and test tank.
20. Drill out composite bridge plugs at 4000', 4600', & 5320'. Circulate well clean after each plug and check for sand entry while circulating. Continue RIW and clean out to PBTD 5921' and circulate well clean. **Note flow rate and pressure after drilling each plug and report on daily drilling reports.**
21. POW with tubing and LD BHA.
22. RIW with 5-1/2" Arrowset packer, sn, and 2-3/8" tubing and set packer @ +/- 4350'. Swab well to flowback tank, evaluating hourly fluid entry rates and cuts. Report results to Midland office for assistance in artificial lift design.
23. Once well has cleaned up enough to run artificial lift equipment, release packer and POW. RIW with production tubing and rod string according to design to follow.
24. Space out rods and leave rods stacked out on stuffing box.
25. Set pumping unit and run electrical service to unit.
26. Clean and level location.
27. Report daily well test to Midland office on drilling reports.

Centralized casing on bottom joint, joints 2 through 9, joint 13, joint 17, joint 21, and joint 25, one above and one below DV tool.

Casing Detail: 5-1/2" 15.5# J-55 LT&C casing

1 Weatherford float shoe	1.30'	@
1 shoe joint	45.58'	
1 Weatherford float collar	0.90'	5921.06'
8 joints Flint coated casing	334.00'	5587.06'

3 joints casing	140.62'	5446.44'
1 jt. marker	20.63'	5425.81'
28 joints casing	1229.66'	4196.15'
1 joint marker	20.17'	4175.98'
19 joints casing	819.42'	3356.56
1 Weatherford DV tool	2.07'	3354.49
<u>76 jts. casing</u>	<u>3360.09'</u>	
137 jts. total	5974.44'	
less cut-off	- 17.60'	
total pipe	5956.84'	
below KB	+ 12.00'	
landed @	5968.84'	

#### Cement Detail:

1<sup>st</sup> Stage: 10 bfw, 500 gallons Mud Flush, 10 bfw, 500 sx Starbond H with 0.6% C-12, 0.25% C-45, 3 lbs/sx Gilsonite, 0.25% R-38, and 3% salt (s.w. 13.2 ppg, yield 1.60 ft<sup>3</sup>/sx). PD at 5:00 pm CDT 8-13-10. Pressured up to 1900 psi, opened DV tool and circulated 100 sx cement to bins.

2<sup>nd</sup> Stage: 20 bfw, 525 sx Lite "C" with 6% gel, 1/4# celloflake, 0.25% R-38, and 5% salt (s.w. 12.4 ppg, yield 2.10 ft<sup>3</sup>/sx) plus 200 sx class "C" with 2% Calcium Chloride and 0.25% R-38 (s.w. 14.8 ppg, yield 1.35 ft<sup>3</sup>/sx). Plug down 1:00 am CDT 8-14-10, differential pressure 750 psi. Did not circulate cement. Dropped bomb and closed DV tool.