

State of New Mexico
Energy, Minerals & Natural Resources

Form C-101
June 16, 2008

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

Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, NM 87505

RECEIVED

Submit to appropriate District Office

JAN 05 2011

☐ AMENDED REPORT

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

¹ Operator Name and Address Energen Resources Corporation 3300 N. A St., Bldg. 4, Ste. 100 Midland, Tx 79705		² OGRID Number 162928 ✓
		³ API Number 30- 025-32852
⁴ Property Code 27820 ✓	⁵ Property Name West Lovington Strawn Unit ✓	⁶ Well No. 11 ✓
⁹ Proposed Pool 1 Townsend Permo, Upper Penn ✓		¹⁰ Proposed Pool 2 Wildcat (Abo) ✓

⁷ Surface Location

UL or lot no. B	Section 33	Township 15 S	Range 35 E	Lot. Idn	Feet from the 760	North/South Line North	Feet from the 2090	East/West line East	County Lea ✓
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⁸ Proposed 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
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Additional Well Location

¹¹ Work Type Code P	¹² Well Type Code O	¹³ Cable/Rotary R	¹⁴ Lease Type Code Fee	¹⁵ Ground Level Elevation 3981
¹⁶ Multiple	¹⁷ Proposed Depth 11935	¹⁸ Formation Strawn	¹⁹ Contractor	²⁰ Spud Date

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17 1/2"	13 3/8"	48.00#	405'	440s sx C	Surface
11"	8 5/8"	32.00#	4698'	700 sx C	Unk
7 7/8"	5 1/2"	17.00#	11,935'	600 sx H	9610' by Temp Surv.

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

West Lovington Strawn Unit, Well #11 is being plugged back and recompleted in a different pool. If recompletion is successful, well will be renamed Klein Fee, Well #1.

Procedure attached.

Permit Expires 2 Years From Approval
Date Unless Drilling Underway

Plugback

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature:

Printed name: **Tracie J Cherry**

Title: **Regulatory Analyst**

E-mail Address: **tracie.cherry@energen.com**

Date: **01-04-11**

Phone: **(432) 684-3692**

OIL CONSERVATION DIVISION

Approved by:

Title: **PETROLEUM ENGINEER**

Approval Date: **JAN 14 2011**

Expiration Date: **JAN 14 2013**

Oil Conservation Division

Conditions of approval : Approval for drilling/workover
ONLY--- CANNOT produce Downhole Commingled until
DHC is approved in Santa Fe.

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

Form C-102
Revised October 12, 2005

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-32852	² Pool Code 40875-59847	³ Pool Name Townsend Permo, Upper Penn; Wildeat
⁴ Property Code 27820	⁵ Property Name West Lovington Strawn Unit (Klein Fee, Well No.1)	⁶ Well Number 11
⁷ OGRID No. 162928	⁸ Operator Name Energen Resources Corporation	⁹ Elevation 3981'

¹⁰ Surface Location

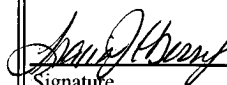
UL or lot no. B	Section 33	Township 15S	Range 35E	Lot. Idn	Feet from the 760	North/South line North	Feet from the 2090	East/West line East	County Lea
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South line	Feet from the	East/West line	County
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¹² Dedicated Acres 40	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

¹⁶				¹⁷ OPERATOR CERTIFICATION <i>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>  Signature Date January 04, 2011 Printed Name Tracie J. Cherry, Regulatory Analyst
				¹⁸ SURVEYOR CERTIFICATION <i>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.</i>
				Date of Survey Signature and Seal of Professional Surveyer:
				Certificate Number

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WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-32852	² Pool Code 40875	³ Pool Name Townsend Permian, Upper Permian, Wildcat
⁴ Property Code 27820	⁵ Property Name West Lovington Strawn Unit (Klein Fee, Well No.1)	⁶ Well Number 11
⁷ OGRID No. 162928	⁸ Operator Name Energen Resources Corporation	⁹ Elevation 3981'

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
B	33	15S	35E		760	North	2090	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

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¹⁶	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. Signature: <i>Tracie J Cherry</i> Date: January 04, 2011 Printed Name: Tracie J Cherry Title: Regulatory Analyst
	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. Date of Survey: Signature and Seal of Professional Surveyer: Certificate Number:

OPERATOR: Please do not report production under this temporary pool code until you have checked with the OCD District I Geologist Paul Kautz, and he confirms where your perfs are producing from and gives you the correct pool code.



KLEIN FEE #1 (Formerly WLSU #11)

API #: 30-025-32852/ AFE #: PB071110

**Abo/Wolfcamp
Lea County, New Mexico**

COMPLETION PROCEDURE

December 30, 2010

A. OBJECTIVE:

1. Perforate the Abo and Wolfcamp, acidize and frac as necessary & test for productivity.
2. Put the well on production into the existing/upgraded production facilities.

B. WELL DATA:

See attached wellbore diagram...

C. PROCEDURE:

NO PAINTED TOOLS ARE TO BE RAN IN THIS WELL.
USE ONLY BESTOLIFE "2000" THREAD COMPOUND.
WATCH FOR EXCESSIVE USE OF THE THREAD COMPOUND.
KEEP A TIW VALVE OPEN & ON THE RIG FLOOR @ ALL TIMES.

1. Notify the Lea County/Zip Franklin Memorial Airport Manager or his representative @ (505) 393-4943 or 396-8521 prior to MIRUPU (Aeronautical Study Number - 2006-ASW-8462-OE).
2. MIRU workover rig w/ 2-15 ft rig mats (1 for the Rig & 1 for the Tubing).
Note: Make sure that the derrick is properly flagged w/ a minimum 2'x 2' stiffened Aviation Orange colored flag & a red or white medium intensity flashing beacon light in accordance w/ the FAA 70/7460-1K Circular Advisory.
3. MI & set 1-500 barrel lined frac tank, steam clean the inside of the tank & fill the tank w/ enough FFW & Schlumberger's L-64 liquid clay stabilizer to satisfy all of the anticipated fluid requirements for this Completion.
Note: Be sure & filter the water down to 2 microns through a FTR filter unit.

C. PROCEDURE CONTINUED:

4. ~~NU~~ a 7-1/16" x 3M# manual BOP w/ 2 7/8" & CSO rams.
5. POOH with 2-7/8" tubing.
6. RU Gray or Schlumberger WL under a pack-off, run their CBL/VDL/CMT/GR/CCL & a CNL/GR/CCL log from PBTD back up to 6,000' FS & RDWL. Determine TOC and notify Midland Engineering.
Note: Tie these logs into Gillespie's Klein Fee #1 CNL/Litho-Density/GR log dated 3/18/1995.
7. RU WL under a full lubricator & perforate w/ 4" "EXP" guns loaded w/ 3-25.0 gram, Titan "SDP" (P# -EXP-3325-321T, 0.42" EHD / 47.4" PD) 120 degree phased JSPF above the TOC per engineering instructions.
8. RU a kill truck to pump into casing to verify ability for squeeze cement job. Vary rate and monitor pressure. Notify Midland Engineering and wait for orders.
9. RU WL under a full lubricator, RIH and set CICR above squeeze perfs. POOH RD WL, RIH with Stinger on 2-7/8" tubing.
10. RU a Schlumberger Well Services Cementers. RU on tubing and test annulus w/ BOP closed and tubing out of CICR. Test circulation. Sting into CICR and establish pump in rate. Squeeze cement through perfs per instructions. Sting out of CICR and reverse excess cement. POOH w/ Tubing. WOC.
11. RIH w/ 4-3/4" bit and DC. Drill Cement and CICR, RIH to PBTD. Pressure test cement Squeeze to 1000#. Pump clean up, PUH to 10364' then spot 300 gallons of 15% HCl double inhibited (5 GPT) acid w/ the pre-determined/lab-tested additives using 2% FKCLPF & RD Schlumberger.
Note: These additives are to be derived from the acid/oil compatibility-testing conducted from off-setting Strawn production prior to moving on this well.
12. Finish POOH w/ the 2 7/8" tubing & LD the BHA.

STAGE 1 Test

13. RU Wireline under a full-lubricator & perforate Zone 1 w/ 3 1/8" "Select-Fire/EEG" guns loaded w/ 3-19 gram Titan "SDP" (P# -EXP-3319-322T, 0.40" EHD / 38.9" PD) 120 degree phased JSPF @ the following intervals:
10,364' (1 ft / 3 holes)
10,350' through 10,364' (14 ft / 42 holes)
for a total of 45 holes in the 2 intervals over the 15' of gross interval & RDWL.
Note: Plan to perforate from the bottom-upward. Once the first/bottom interval has been shot, pump into these holes to insure that the future acid will be going past all of the intervals.

C. PROCEDURE CONTINUED:

14. RIH w/ a 2 7/8" x 5 1/2" "Arrow-Set 1X" packer w/ a WL re-entry guide, XO, 2 7/8" x 2.25" seat nipple & the 2 7/8" L-80 6.50# EUE 8rd ERW R-2 tubing down to within 50-60' of the top perforation. Set packer, ND BOP, install wellhead. RU to frac down tubing.
15. RU Schlumberger Well Services for **Stage #1** & prepare to acidize Zone 1 via the 2-7/8" tubing w/ the **300** gallons of spot acid plus **3.0M** gallons of additional 15% HCl acid (**3,300** gallons total) & sand-frac Zone 1 as per the attached Schlumberger Frac-Schedule using **6,000#** as your absolute maximum pressure for this job.
16. Call the start of the flush when falling off of the 2.0 ppg sand & flush the end of the 2.0 ppg stage w slick 2% FKCLW down to within 2-3 barrels of the top perforation, SD & record the Instant through 15-minute casing pressures (Also note the closure time & pressures).
17. Flow the well back to the test tank until dead.
18. RU the swab-tools w/ a new swab-mandrel & no-go, plan on using 2 load/wire cups & commence swabbing.
19. Recover the load water ASAP to determine the entry rate & oil-cut after the acid treatment.
20. If the well kicks-off & sustains flow, begin flow-testing @ once for results. Wait on orders before proceeding.

Stage 2 Test

21. RU to release packer. ND wellhead, equalize packer, Unset packer. Kill well if needed. NU BOP, POH w/ packer.
22. RU Wireline under a full-lubricator. RIH w/ a 5 1/2" 10M# Plugwell "Quick-Drill" CIBP. Set the CIBP above Zone 1 @ 10,250' & POOH.
23. RIH & perforate Zone 2 and Zone 3 w/ 3 1/8" "Select-Fire/EEG" guns loaded w/ 3-19 gram Titan "SDP" (P# -EXP-3319-322T, 0.40" EHD / 38.9" PD) 120 degree phased JSPF @ the following intervals:

9,810' through 9,824'	(14 ft / 42 holes)
9,702' through 9,710'	(8 ft / 24 holes)

for a total of 66 holes in the 2 intervals over the 24' of gross interval & RDWL
24. RIH w/ a 2 7/8" "Arrow-Set 1X" packer w/ a Wireline re-entry guide, XO, 2 7/8" x 2.25" seat nipple & the 2 7/8" L-80 6.50# EUE 8rd ERW R-2 tubing. Place end of tubing @ 9,824' . PU Schlumberger pumping and spot 500 gal 15% HCl acid. PUH and Set packer, ND BOP, install wellhead. RU to treat down tubing.

C. PROCEDURE CONTINUED:

25. RU Schlumberger Well Services to break down and acidize Zone 2 & 3 via the 2-7/8" tubing w/ the spot acid plus **5.0M** gallons of additional 15% HCl acid dropping 75 1.3 SG "Hi-Temp Bio-balls".
26. Start straight out on acid, pump **500** gallons of the acid ahead, increase the rate up to **5-8 BPM** w/ a maximum pressure of **6,000#**, attempt to ball-out w/ the evenly spaced ball-sealers, SD, surge the balls & allow them ample time to fall.
27. Continue with sand-frac Zone 2 & 3 as per the attached Schlumberger Frac-Schedule using **6,000#** as your absolute maximum pressure for this job.
28. Call the start of the flush when falling off of the 2.0 ppg sand & flush the end of the 2.0 ppg stage w slick 2% FKCLW down to within 2-3 barrels of the top perforation, SD & record the Instant through 15-minute casing pressures (Also note the closure time & pressures).
29. Open the well back up to the reserve ASAP & commence load recovery @ a controlled & monitored rate of 1-1 1/2 BPM. **Note:** If the well starts to cut significant oil during the flow-back, switch the stream of flow to the test tank right away to avoid **any** spray of oil over the reserve, pasture or field.
30. Continue flow-testing the well @ the 1-1 1/2 BPM rate to recover the load water & evaluate the well or until the well dies.
31. RU the swab-tools w/ a new swab-mandrel & no-go, plan on using 2 load/wire cups & commence swabbing.
32. Recover the load water ASAP to determine the entry rate & oil-cut after the acid treatment.
33. If the well kicks-off & sustains flow, begin flow-testing @ once for results. Wait on orders before proceeding.

Put on Production

34. ND wellhead, equalize and release packer. NU BOP, POOH with tubing.
35. PU & RIH w/ a 4 3/4" 5-Bladed mill, BS, XO & 2 7/8" API SN on the 2 7/8" tubing.
36. Drill-out the the CIBP @ 10,250' then continue on down & wash the sand out back down to the PBSD @ 11,455'.
37. Circulate the hole until the returns are clean & free of any sand, displace the hole w/ 170 barrels of good/clean 2% FKCLW then POOH w/ the tubing & LD the BHA.

C. PROCEDURE CONTINUED:

38. If the casing is not flowing back, pour 5 gallons of corrosion inhibitor down the casing & RIH w/ production string as per Superintendent's design.
39. If the tubing is not flowing back, pour 5 gallons of corrosion inhibitor down the tubing & PU & RIH w/ a rod string as per Superintendent's design.
40. L&P the tubing to 500# w/ filtered 2% KCl water, check for good pump action, re-check the pump spacing (Plan to leave the pump spaced 1 ft off of bottom w/ 8-10 ft of polish rod out above the stuffing box) & clamp the rods off.
41. RD the pulling unit, clean the location & turn the well over to the Production Group to set the pumping unit, plumb-in & place the well on production.

D. ATTACHMENTS:

Wellbore Diagram

ENERGEN RESOURCES CORP

Klein Fee No. 1
(formerly WLSU #011)

LEA COUNTY, NM

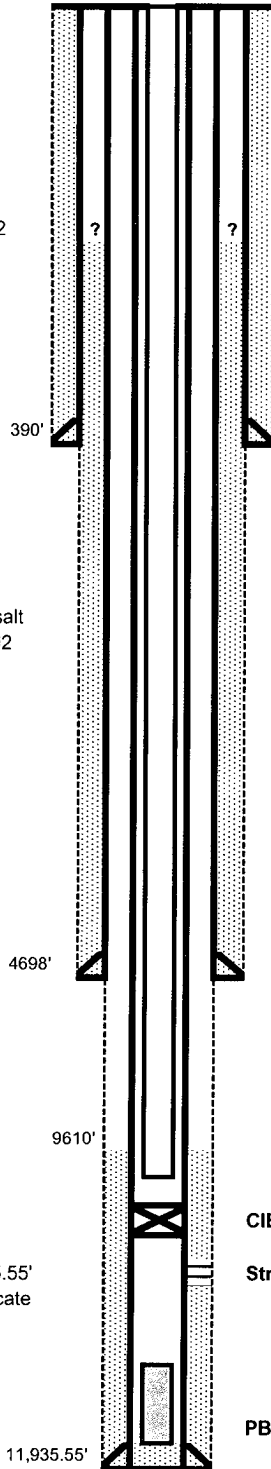
Current Condition TA'd
09/7/2005

Conductor:
None

Surface Casing:
13-3/8" 48#, H-40 @ 390'
Cemented to surface
with 440 sx Class "C" w/2% CaCl₂
Circulated 75 sx to surface

Intermediate Casing:
8-5/8" 32#, J-55 & S-80 @ 4698'
700 sx total
(L) 500 sx Class "C" Lite w/5% salt
(T) 200 sx Class "C" w/1% CaCl₂
TOC: Unknown

Production Casing:
5-1/2" 17#, S-95 & N-80 @ 11,935.55'
Preflushed w/ 1000 gals metasilicate
and cmted w/ 600sx Class "H" w/
.70% FL-25, 3% KCl, .2% FP-8.
Displaced w/ 277 BFW.
TOC: 9610' BTS



GL Elevation: 3981'

KB Elevation: 3996.5' -- 15.5' above GL

Location: 760' FNL x 2090' FEL

Sec 33-15S-35E

Spud: 02/15/1995

API : 30-025-32852

Tubing Detail (all depths KB)

#	Item	Size	Weight	Grade	From	To
347	Tubing	2 7/8"	6.5	N-80	Surf	11100'

CIBP set at 11475' (no Cement)

Strawn Perfs: 11,572-11,582' w/ 2 JSPF (21 holes)

PBD: 11,796' (2 Vann guns left in hole--One Loaded and One Fired); 11,898'

TD: 11,935'

Note: 03/31/95 Dropped bar to fire guns. Guns did not fire. Made several attempts to fish bar. While pulling fishing tool after third fishing attempt, the fishing tool tripped the mechanical tubing release dropping the Vann guns to PBD. Left in hole: 4" loaded carrier guns, firing head, handling sub with no-go, 1 jt. 2-7/8" 6.5# N-80 tbg & mechanical tubing release. (total footage 50.7')

7/7/98 Fished firing bar and dropped Vann Guns. Had 1/32" CaCO₃ scale on firing bar.