

BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

In the Matter of the Application of Z & L Oil,)	Docket No: 24-CONS-3009-CUIC
LLC (Operator) for a Permit to Authorize the)	
Injection of Saltwater into its Pfhrem #3A Well)	CONSERVATION DIVISION
Located in the NW/4 of Section 18, Township 31)	
South, Range 10 East, Elk County, Kansas.)	License No: 35610

PRE-FILED DIRECT TESTIMONY OF ZACH MILLIGAN

I. BACKGROUND INFORMATION AND QUALIFICATIONS

Q. STATE YOUR NAME AND BUSINESS ADDRESS FOR THE RECORD.

A. My name is Zach Milligan. My business address is Z & L Oil, LLC, P.O. Box 318 Longton, KS 67352.

Q. WHAT IS YOUR OCCUPATION?

A. I am self-employed as an owner and officer of Z & L Oil, LLC ("Z & L") which is an oil and gas service company and also owns and operates about 20 leases and 92 wells near Moline, KS. Z & L performs all kinds of service work in Southeastern Kansas and Northeastern Oklahoma, including but not limited to hydrostatic pipe testing, pulling, workovers, water hauling and other services. Z & L currently owns and operates the Pfhrem lease and is the applicant in this Docket.

Q. WHAT WAS THE NATURE OF YOUR EMPLOYMENT PRIOR TO THAT TIME?

A. In 2012 I started working in the oil and gas industry as a part time endeavor as CTR 24/7, LLC. In 2014 CTR 24/7, LLC began performing hydrostatic pipe testing services and such business quickly grew into a full time occupation. In 2018, an opportunity presented itself for

1 me to purchase a package of approximately 20 oil and gas leases and Z & L was formed at
2 such time in order to complete such acquisition. Z & L continues to own and operate such
3 package of leases which consists of approximately 92 wells and Z & L also owns various
4 pieces of service equipment and performs a wide range of service work for many different
5 operators across Southeast Kansas and Northeast Oklahoma. During my career I have worked
6 on several hundred wells all across Southeastern Kansas and Northeastern Oklahoma.

7 **II. PURPOSE OF THE SUBJECT APPLICATION**

8 **Q. WHAT IS THE PURPOSE FOR FILING THE APPLICATION WHICH IS THE**
9 **SUBJECT OF THIS DOCKET?**

10 A. To obtain authority authorizing the use of one injection well, the Pfhrem #3A, located in
11 Section 18, Township 31 South, Range 10 East, Elk County, Kansas.

12 **Q. PLEASE DESCRIBE THE PROJECT Z & L IS CONDUCTING ON THE PFHREM**
13 **LEASE THAT HAS LED TO THE FILING OF THE SUBJECT APPLICATION.**

14 A. The Pfhrem #3A well was drilled and completed in 2014 as a production well and was worked
15 over in 2023 in order to convert said well to an enhanced oil recovery well. Therefore, the
16 purpose of this Docket is simply to obtain authorization from the KCC to utilize the Pfhrem
17 #3A well as an injection well. By re-injecting produced water back into the same formation
18 from which it was taken, additional fluids will be pushed to the nearby production wells, and
19 in addition, by reducing the water disposal costs associated with the subject lease, the
20 economic life of the Pfhrem lease will be significantly extended. Unless the Pfhrem #3A is
21 authorized as an injection well, significantly less oil will be recovered from the production
22 wells on the Pfhrem Lease thereby wasting a portion of the recoverable oil beneath said lease.

1 **Q. AS PART OF THE APPLICATION PROCESS, THE APPLICANT WAS REQUIRED**
2 **TO PUBLISH NOTICE AS WELL AS GIVE NOTICE BY MAIL TO ALL**
3 **LANDOWNERS AND LEASEHOLD INTEREST OWNERS WITHIN A HALF MILE**
4 **OF THE PFHREMLEASE. WERE THOSE NOTICE REQUIREMENTS COMPLIED**
5 **WITH?**

6 A. Yes.

7 **Q. WILL THE INJECTION WELL WHICH IS THE SUBJECT OF THE PENDING**
8 **APPLICATION COMPLY WITH ALL APPLICABLE RULES AND REGULATIONS**
9 **PROMULGATED BY THE KANSAS CORPORATION COMMISSION?**

10 A. Yes.

11 **Q. IN YOUR OPINION WILL THE WELL CONSTRUCTION AND DESIGN OF THE**
12 **SUBJECT WELL PROPERLY PROTECT THE FRESH AND USABLE WATER**
13 **RESOURCES IN THE AREA?**

14 A. Yes.

15 **Q. IN YOUR OPINION WILL GRANTING THE APPLICATION WHICH IS THE**
16 **SUBJECT OF THIS DOCKET PREVENT WASTE?**

17 A. Yes.

18 **Q. IN YOUR OPINION WILL INJECTION INTO THE MISSISSIPPI FORMATION**
19 **THROUGH THE SUBJECT INJECTION WELL BE CONTAINED WITHIN THE**
20 **SAID MISSISSIPPI FORMATION?**

21 A. Yes.

22 **Q. IN YOUR OPINION WILL INJECTION AT THE PROPOSED RATES AND**

1 **PRESSURES THROUGH THE SUBJECT INJECTION WELL INTO THE**
2 **MISSISSIPPI FORMATION INITIATE FRACTURES THROUGH THE STRATA**
3 **OVERLAYING THE SAID MISSISSIPPI FORMATION THAT COULD ENABLE**
4 **INJECTION FLUID OR FORMATION FLUID TO ENTER FRESH AND USABLE**
5 **WATER STRATA?**

6 A. No. Injection at the rates and pressures proposed in the subject application are very common
7 in this area for injection wells into the Mississippi formation. In addition, several impermeable
8 formations separate the Mississippi formation from the fresh and usable water formations in
9 this area. Thus, the only way injection or formation fluid could migrate up and enter a fresh
10 and usable water strata would be through a casing failure. However, the well completion report
11 and Mechanical Integrity Test to be performed on the subject well will verify that there is no
12 casing failure in the subject well.

13 **Q. THE SUBJECT APPLICATIONS REQUEST A MAXIMUM INJECTION RATE OF**
14 **1,000 BBLs/DAY AND A MAXIMUM INJECTION PRESSURE OF 700 PSIG,**
15 **PLEASE EXPLAIN WHY THESE RATES AND PRESSURES ARE NEEDED?**

16 A. The Mississippi formation often accepts water without applying any additional pressure and
17 is extremely porous and fractured. However, at times additional pressure is needed in order
18 for the Mississippi formation to accept injected water. If the subject authority is obtained, we
19 will begin injection at 0 psig but there will be times when injection pressure will need to be
20 increased up to 700 psig in order to cause said formation to continue accepting water
21 continuously. In my opinion we would not be able to operate the Pfhrem #3A effectively
22 unless the rates and pressures requested in Z & L's application are granted. The injection rate

1 is important as well, because the Pfhrem #3A needs to be able to accept all of the produced
2 water from the Pfhrem Lease even as the oil cut continues to decrease and as additional wells
3 are drilled on such lease. Therefore, all of the produced water from the existing production
4 wells and any new wells drilled on the Pfhrem Lease, will be injected into the subject injection
5 well. Therefore, the request for 1000 bbls/day is based upon the needs of the production
6 operations being conducted upon the Pfhrem Lease. In addition, both the injection rate and
7 volume are consistent with other operations in the area and also with the rates and pressures
8 approved by the Commission for other injection wells in the area.

9 **Q. ARE ALL OF THE WELLS WITHIN A QUARTER MILE RADIUS OF THESE**
10 **INJECTION WELLS COMPLETED IN A MANNER TO PROTECT FRESH AND**
11 **USABLE WATER RESOURCES?**

12 A. I believe they are.

13 **Q. THE PROTESTANT HAS EXPRESSED A CONCERN ABOUT THE FRESH WATER**
14 **AQUIFER IN THE AREA AND GROUND WATER. COULD YOU PLEASE**
15 **ADDRESS THOSE CONCERNS?**

16 A. The Well Completion Report for the subject well indicates that when the well was drilled the
17 operator drilled down approximately 42 feet, and set that length of 8.625 inch surface casing,
18 and cemented it to the surface. Then they drilled down to the total depth of 2,673 feet using
19 5.5" casing and cemented it to the surface. The casing was then perforated at 2,253' to 2,287'
20 in the Mississippi formation which is the producing formation. Then 2,215 feet of sealtite
21 tubing was ran into the well and a 2.375" Arrow J Type Packer was set at the bottom of said
22 tubing. Before this well is placed into operation as an injection well a Mechanical Integrity

1 Test ("MIT") will be successfully performed upon this well to ensure the integrity of the well
2 construction. This well will also be required to pass an MIT every five years as required by
3 KCC regulations. Additionally, Z & L will inspect the Pfhrem Lease every day and our pumper
4 is knowledgeable enough to detect any issues that could arise, such as leaks, excessive
5 pressures, etc. With the well construction techniques utilized, the MIT tests, and the daily
6 monitoring by Z & L the subject well sufficiently protects all fresh and usable water.

7 **Q. IN YOUR OPINION DOES THE SUBJECT INJECTION WELL POSE A**
8 **SIGNIFICANT RISK TO FRESH AND USABLE GROUND WATER FORMATIONS**
9 **IN THE AREA?**

10 A. No.

11 **Q. DO YOU BELIEVE THAT THE GRANTING OF THIS APPLICATION WILL**
12 **ALLOW INCREASED PRODUCTION ON THE PFHREM LEASE WITHOUT**
13 **CAUSING ANY HARM TO FRESH AND USABLE WATER IN THE AREA?**

14 A. Yes.

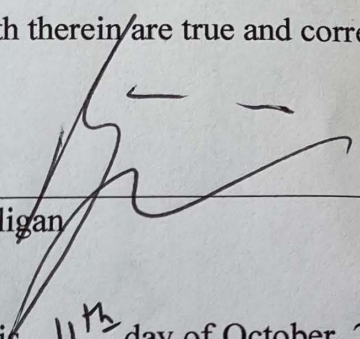
15 **Q. DOES THIS COMPLETE YOUR TESTIMONY TO THE COMMISSION?**

16 A. Yes.

VERIFICATION OF ZACH MILLIGAN

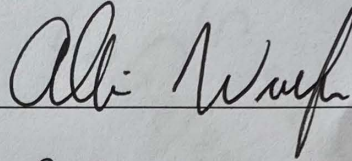
STATE OF KANSAS
COUNTY OF ELK, ss:

I, Zach Milligan, being first duly sworn on oath, depose and state that I am the witness identified in the foregoing Prefiled Testimony of Zach Milligan; that I have read the testimony and am familiar with its contents; and that the facts set forth therein are true and correct.



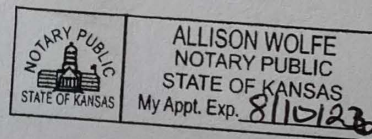
Zach Milligan

SUBSCRIBED AND SWORN to before me this 11th day of October, 2023.



Notary Public

Appointment/Commission Expires: 8-10-2026



CERTIFICATE OF SERVICE

I hereby certify that a copy of the above and foregoing was sent via electronic mail this 13th day of October, 2023, addressed to:

Frank L. Wilson
fwilson1952@hotmail.com

Todd Bryant
t.bryant@kcc.ks.gov

Ryan Cox
r.cox@kcc.ks.gov

Kelcey Marsh
k.marsh@kcc.ks.gov

Jonathan R. Myers
j.myers@kcc.ks.gov



Keith A. Brock, #24130
ANDERSON & BYRD, LLP
216 S. Hickory ~ P.O. Box 17
Ottawa, Kansas 66067
(785) 242-1234, telephone
(785) 242-1279, facsimile
kbrock@andersonbyrd.com
Attorneys for Z & L Oil, LLC