

BEFORE THE STATE CORPORATION COMMISSION  
OF THE STATE OF KANSAS

In the matter of the Application of ) Docket No: 20-CONS-3043-CUIC  
TDR Construction, Inc. for a )  
permit to authorize the enhanced ) CONSERVATION DIVISION  
recovery of saltwater into the )  
Moldenhauer #42 well, located ) License No. 32218  
in Franklin County, Kansas )

In the Matter of the Application of ) Docket No. 20-CONS-3079-CUIC  
TDR Construction, Inc. for a )  
permit to authorize the enhanced ) CONSERVATION DIVISION  
recovery of saltwater into the )  
Moldenhauer #30 and ) License No. 32218  
Moldenhauer #45 wells, located in )  
Franklin County, Kansas )

**Pre-Filed Direct Testimonies of Polly Shteamer and Scott Yeargain**

1 **I. Background Information and Qualifications**

2 Q. STATE YOUR NAMES AND ADDRESSES FOR THE RECORD

3 A. Polly Shteamer and Scott Yeargain; 2263 Nevada Road, Ottawa, Kansas 66067.

4 Q. WHAT ARE YOUR OCCUPATIONS AND EDUCATION?

5 A. Each is retired. Each was a teacher; Scott worked in a chemistry lab at the

6 University of Missouri-Columbia medical school doing standard bench chemistry

1 while in graduate school. We had, still do have, financial interests in family farms.  
2 Polly has a BA degree from Tulane University in Art History; Scott has a Ph.D. from  
3 the University of Missouri-Columbia in philosophy; his Ph.D. minor is mathematics;  
4 undergraduate minor is chemistry.

## 5 **II. Modeling Production of the Lease and Predicting Future Production**

6 Q: WHAT ARE THE MODELS AND HOW DO THEY APPLY TO THIS LEASE?

7 A: Our production analysis of the North Moldenhauer lease is based on two  
8 modeling formulae:

$$9 \qquad \qquad \qquad 1/q=(C_p)/q \qquad \qquad \qquad (1)$$

10 And

$$11 \qquad \qquad \qquad \sum_{k=0}^{n-1} (ar^k) = a \left( \frac{1-r^n}{1-r} \right) \qquad \qquad \qquad (2)$$

12 (1) expresses the reciprocal of flowrate (1/q) as equal to cumulative  
13 production/flowrate (C<sub>p</sub>/p) ; as q→0, cumulative production→1.<sup>1</sup> (2) is the  
14 standard geometric progression summing formula, where a=the first term,  
15 n=number of terms, and r=common ratio.

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<sup>1</sup> Estimation of Reserves Using the Reciprocal Rate Method, Society of Petroleum Engineers (SPE 1107981), Reese, Ilk, Blasingame, Texas A&M U.,2007.

1 We will use (1)<sup>2</sup> and (2) in a simple Cartesian plot to establish linear declining  
2 slope trend for Moldenhauer and extend the slope of the 1/q asymptotically to 1  
3 which represents the ultimate estimated recovery from Moldenhauer. Using the  
4 referenced papers and the Reciprocal Rate Method we conclude that this lease  
5 cannot pay its operating costs, royalty, and plugging costs. Further, we conclude  
6 that this has been the condition of this lease for the past five years.

7 There are things of note in Moldenhauer:

8 (i) production on the lease has continued for decades but the 31 producing  
9 well and 19 injection well regime did not commence until 2014; prior to 2014 the  
10 production numbers were sometimes merged with another lease hence not  
11 yielding data exclusive to Moldenhauer and the lease did not have the 50-well  
12 regime reported in the 2014-2018 period;

13 (ii) in 2019 the current operator, TDR, spudded 7 wells on the lease;  
14 production has increased, as indicated on the Cartesian plot, but does not  
15 significantly alter the negative slope of the material rate modeling;

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<sup>2</sup> We also use A Decline Curve Analysis Model Based on Fluid Flow Mechanisms, Society of Petroleum Engineers (SPE 83470), Kewen and Horne, Stanford University, 2003.

1 (iii) we use equation (2) to forecast cumulative production to 2034 and  
2 estimate income based on the net price of oil reported on the lease 2019 oil  
3 assessment rendition form turned into the Franklin county Assessor's Office;

4 (iv) A critic of an a priori mathematical formulation can say that such  
5 formula overlooks specific pool characteristics of the lease, specifically, viscosity  
6 (API oil gravity), permeability, porosity. The rejoinder to this criticism is that these  
7 factors are already reflected in the production records and to this extent our  
8 calculations are empirical.

9 (v) the reciprocal rate method, expressed by (1), is a modeling method  
10 defended by many petroleum engineers and suggested as a direct method for  
11 estimating reserves;

12 (vi) in graphing production for 2019 we take reported production through  
13 July, 2019 and use a simple proportion equation to project to total 2019  
14 production;

15 (vii) in graphing beyond 2019 we use weighted mean numbers as the  
16 common ratio ( $r$ ) since the volumes of oil produced 2014-2018 vary significantly.

### 1 III. Data

2 Q. WHAT IS PRODUCTION AND HOW DO YOU PROJECT PRODUCTION ONTO  
3 CARTESIAN COORDINATES?

4 A. Lease production, 2014-2019:

5 2014=2,317 bbls.

6 2015=2,556 bbls.

7 2016=1,942 bbls.

8 2017=932 bbls.

9 2018=945 bbls.

10 2019=1,602 bbls. (projected)

11 These production totals show:

12 2014-2015=10.3% increase

13 2015-2016=24% decrease

14 2016-2017=52% decrease

15 2017-2018=1.4% increase

16 2018-2019=69.5% increase

We use this data to graph directly to the Cartesian plot on page 8.

Next, we develop weighted averages for production years 2014-2018. We do not include 2019 to compute weighted averages since 7 new wells are introduced into the production-injection regime. Recent literature using the reciprocal rate method, or decline curve analysis, suggests when production rate is increased (the case in 2019) there is a complementary increase in the negative slope of production over time with a foreshortening of volume ultimately recovered. Equation (1) expresses this: since  $1/q = C_p/q$ , therefore  $1 = q(C_p/q)$ , and consequently  $1 = C_p$ . We have not attempted to put a metric to the effect of ramping up production on volumes ultimately recovered. We will simply take the weighted mean decline of years 2014-2018 and apply that mean to years succeeding 2019.

Here are the weighted mean numbers for production 2014-2018:

$$2014-2015 = (10.3\%) \times (2,317/8,692) = 2.74\% \text{ increase}$$

$$2015-2016 = (-24.02\%) \times (2,556/8,692) = 7.06\% \text{ decrease}$$

$$2016-2017 = (-52.0\%) \times (1,942/8,692) = 11.62\% \text{ decrease}$$

$$2017-2018 = (1.4\%) \times (932/8,692) = 0.15\% \text{ increase}$$

8,692 represents total volume (bbls.) produced 2014-2018 and the numerators express the volumes in a given year (2,317 bbls. were produced in 2014, and so on). These data indicate the weighted mean production for years 2014-2018 declined 15.79%/year.

Q. HOW DO YOU FORECAST FUTURE PRODUCTION?

A. Utilizing (2) we forecast production for years 2020-2029:

10

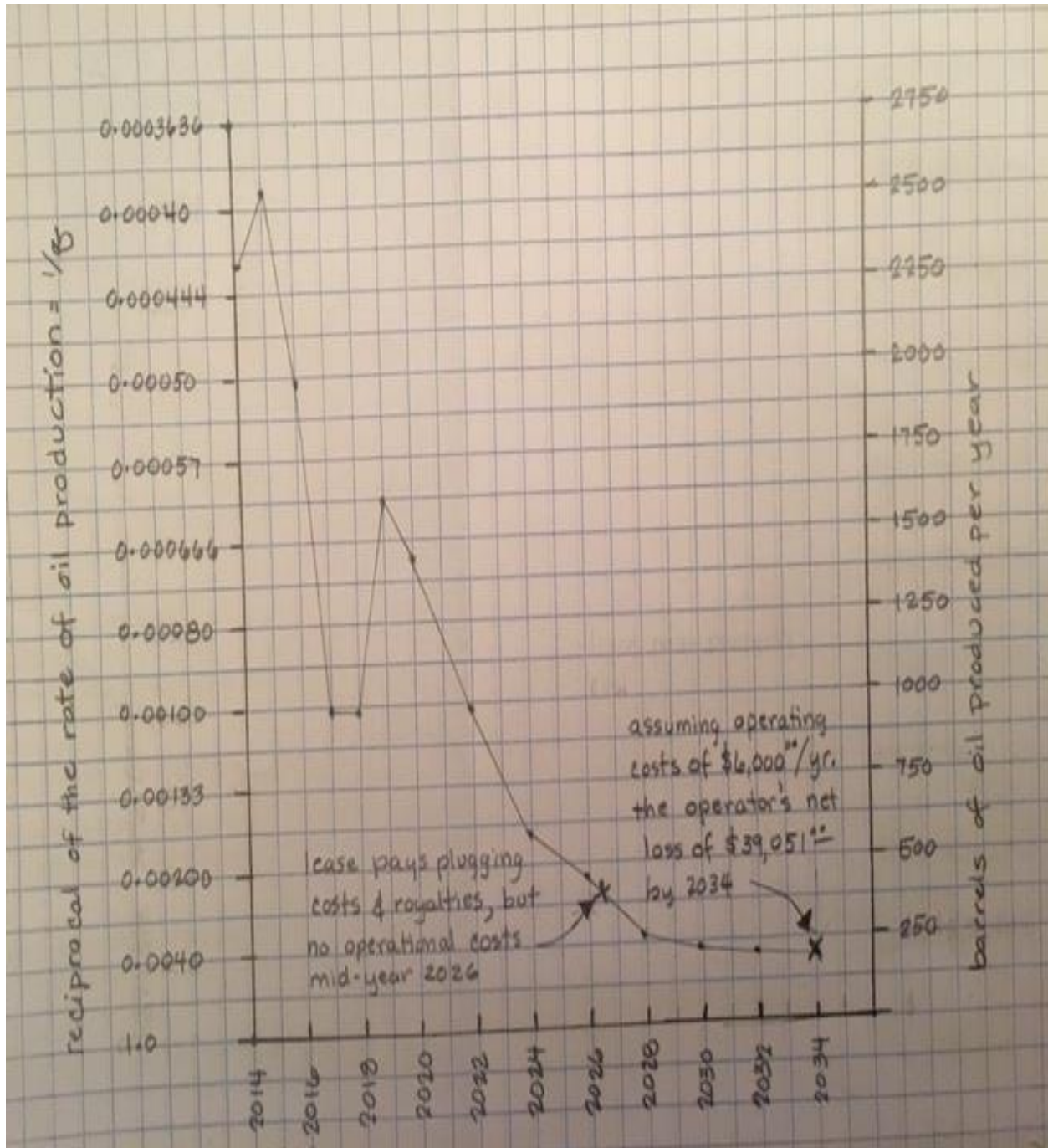
$$\sum (1602 \text{ bbls.})(0.842)^{10}=8,323 \text{ bbls.}$$

1

Where 1602 is 2019 forecast production for Moldenhauer and 0.842 (0.842 X previous year's production=15.79% decline) is the weighted mean decline in production for years 2014-2018. Using  $X_n = ar^{(n-1)}$  we can predict future production for any given year. Thus for production in 2034 we calculate  $(1602)(0.842)^{15}$  to get 121 bbls. where 1602 is 2019 production, 0.842 is the weighted mean decline in annual production and the exponent is the sixteenth term minus one. Below is the Cartesian plot with production reciprocal as left ordinate and total production over time expressed as abscissa.

1

2



3

4



1 Q. CAN YOU OFFER AN INTERPRETATION OF THE PLOTTED DATA?

2 A. If we take production for the next ten years, 2019 through 2028 we find  
3 Moldenhauer producing 8,323 bbls. Future price of oil is unknown. If we take the  
4 price of oil reported by operator on the 2019 oil rendition form, \$37.74, and take  
5 the product of 8,323 and \$37.74 we find Moldenhauer yielding \$314,110 gross  
6 income over the period. Assuming an average cost of plugging a well at \$4,500  
7 and taking the product of \$4,500 for 57 known wells on Moldenhauer one  
8 concludes the plugging liability is \$256,500. Records indicate TDR, the operator,  
9 pays 1/8 gross production in royalties which translates to \$39,264 over the 10-  
10 year period. Thus, from gross revenues of \$314,110 one subtracts plugging costs  
11 and royalty costs to yield total 10-year revenue \$18,346. From \$18,346 one  
12 would subtract labor, transportation, electricity, repairs, taxes, legal fees, water  
13 (purchased from Franklin county Rural Water #1) and other court-recognized  
14 "reasonable and prudent operator" expenses. We conclude that this lease does  
15 not produce in paying quantities. We make note that TDR information response  
16 of October 29, 2019 stated in response to question #11 that it had purchased  
17 water from Franklin county Rural Water #1 1,089,720 gallons of fresh water. An  
18 industrial account at Franklin County Rural Water #1 is charged \$7.96/1,000  
19 gallons; these numbers indicate that TDR has spent \$8,674 so far in 2019 for

1 water alone. This further indicates that this lease cannot pay its liabilities. Using  
2 formula (2) we find that the lease produces sufficient gross revenues to pay its  
3 plugging liability ( $57 \times \$4,500$ ) and royalties ( $(1/8)(\text{total production to July, 2026})$ )  
4 by about July, 2026, yet this forecast does not include operating costs. If one  
5 assumes operational costs of \$6,000/yr. (which we believe underestimates:  
6 water purchase, labor, electricity, insurance, repairs, taxes, travel, maintenance)  
7 then one finds the lease produces \$358,228 in gross revenue by 2034 with  
8 liabilities of \$256,500 (cost of plugging 57 wells), \$44,779 (royalties), and \$96,000  
9 (operational costs) for a net loss of \$39,051.

10 Q. WHAT ARE THE LEGAL IMPLICATIONS OF A LEASE WHICH DOES NOT PRODUCE  
11 IN PAYING QUANTITIES?

12 A. We contend that a lease ceases on its own terms when it does not produce in  
13 paying quantities. (*Baytide v. Continental Resources, Inc.* 231 P.2d 1144 (Okla.  
14 2010) It does not take a court order to terminate a lease. Further, in *Reese*  
15 *Enterprises, Inc. v. Lawson* (220 Kan. 300 (Kan. 1976) the Kansas high court states  
16 “In our opinion the better approach is to follow the innumerable cases which  
17 apply an objective test, where the determination of “paying quantities” turns  
18 upon a mathematical computation.” We believe we have supplied such a

1 computation. The original Moldenhauer lease, dated 18 March, 1959 states that  
2 the lease “remains in force” “as long thereafter as oil and gas, or either of them is  
3 produced from said land by the lessee.” This is the habendum clause of the lease  
4 and *Wrestler v. Colt* (7 Kan. App 2d 553555, 644 P.2d 1342 (1982) and *Texaco, Inc.*  
5 *v. Fox* 618 P. 2d 844 (Kan, 1980) make it clear that the language “in paying  
6 quantities” need not be specifically written into the lease because such language  
7 is implied by the language “and as long thereafter,” which language is in the lease.  
8 There are other legal implications for continuing to operate a lease which cannot  
9 pay its liabilities. K.S.A. 55-601 and K.S.A. 55-602 define waste and proscribe  
10 waste. Fresh water is certainly an economic resource of the state<sup>3</sup> and we state  
11 that this lease has “consumed” 1,089,720 gallons of fresh water<sup>4</sup> in the first 10  
12 months of 2019 and this consumption has been in the service of a lease which is  
13 unable to produce oil in paying quantities, that is, sufficient to cover its legal  
14 liabilities and operational costs. TDR states that it uses 50% fresh water in its  
15 injection volumes on this lease. Further, this water is purchased from a public  
16 water supply in Franklin county, Fr. Co. Rural Water #1. The Regional Advisory  
17 Committee for the Marais des Cygnes river, an advisory committee established by

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<sup>3</sup> K.S.A. 76-326 specifically references underground water as one of the “natural products of economic importance” in the state of Kansas.

<sup>4</sup> Protesters’ Information Request dated October 21, 2019; TDR’s response dated October 29, 2019.

1 the Kansas Water Office, has established as one of its priority goals for the  
2 watershed a standard of 10 percent water supply surplus relative to consumption  
3 until 2050. To meet this standard the committee has envisioned purchasing acre-  
4 feet of water in Melvern reservoir and construction of a large water-  
5 impoundment. The goals of this advisory committee are available on the KWO  
6 website where they are detailed under links related to the Marais des Cygnes  
7 Advisory Committee. Scott is a member of that committee. It is not as a member  
8 of this committee that he files this testimony. Yet, as a member of this  
9 committee, he is aware of the significant costs of conserving and storing water in  
10 large volumes. To this extent we consider the Moldenhauer lease a wasteful use  
11 of fresh water. By comparison, we have done reciprocal rate modeling using  
12 geometric progression series on other recent applications for injection wells in  
13 nearby leases and we reason that these leases are producing sufficient volumes of  
14 oil to easily pay all liabilities and operational costs.

#### 15 **IV. Abandoned wells**

16 Q. WHAT EVIDENCE CAN YOU PROVIDE WHICH INDICATES THAT ABANDONED  
17 WELLS ARE OF PARTICULAR CONCERN ON THE MOLDENHAUER LEASE?

1 A. We have evidence that there exist abandoned wells within a ¼ mile area of  
2 review of the subject wells in this docket. On p. 153 of book 6-B of Sec. 29, Twp.  
3 15W, R. 21 E in the Franklin county Recorder's office, one finds record of an oil  
4 and gas lease dated 15 July, 1924; the grantee is E.E. Jones; the grantor is H.C.  
5 McLain. We believe that such record mandates a physical examination of  
6 Moldenhauer with a metal detector since records of spudding, dry holes, plugging  
7 are incomplete from that era. Such a mandate, we believe, is enjoined by K.S.A.  
8 55-179(d): "For the purpose of this section, any well which has been abandoned,  
9 in fact, and has not been plugged pursuant to the rules and regulations in effect  
10 at the time of plugging such well shall be and is hereby deemed likely to cause  
11 pollution of any usable water strata or supply." Further, our own 1920s era map  
12 "Franklin County circa 1920 Oil and Gas Wells," drawn by Roy S. Baker, Franklin  
13 county cartographer, on May 13, 2006 indicates an abandoned oil on the extreme  
14 SW corner SESW corner of section 29. Going further, we have a "Franklin-Miami  
15 Oil Field Map" from F.E. Gallup Map Company, 919 Baltimore Ave., K.C. Mo.,  
16 which indicates a dry hole in the extreme SW corner of section 29 SESW.

17 We state K.S.A. 55-179, which limits the Commission's attention to abandoned  
18 wells which were not plugged to the standards at the time they were plugged, is  
19 misguided legislation. These standards sometimes present a risk to fresh and

1 usable waters because the Conservation Division's standards, at the time of  
2 plugging, were not sufficient to protect water. It is common to find in the  
3 Conservation Division's well plugging records this language: "Well was filled with  
4 shale and soil from bottom to 400 feet. Bridged at 75 feet and filled to top with  
5 soil and rock."<sup>5</sup> The danger of such plugging standard is demonstrated by a  
6 conservation division form called a "Verbal Permit Form," regarding the "Old 1"  
7 well on the Blunk lease, the same lease referred to above (footnote #5). The  
8 Verbal Permit Form, dated 21 July, 1982 indicates that Old 1 "broke out when  
9 they put water flood on lease." Our concern with the Moldenhauer lease is that  
10 we have evidence of the presence of old wells and even if they were plugged to  
11 the standards of the 1930s, 1940s, 1950s, and 1960s these old plugged wells may  
12 break out "when they put water flood on lease."

13 An additional feature of the Moldenhauer lease which we bring to the  
14 Commission's attention here is that a plethora of wells in eastern Franklin county  
15 do not have completion information filed with the Commission yet have been  
16 spudded and are often even producing wells. This feature of having no  
17 completion report is relevant to the Moldenhauer lease, of subject here, because

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<sup>5</sup> Well Plugging Record, State Corporation Commission, well no. I, Blunk lease, Franklin county, Kansas, 30 June, 1939.

1 this lease has numerous wells with "Intent to Drill" forms filed with the  
2 Commission yet no further forms filed. The conclusion we draw from this set of  
3 circumstances is that having only an "Intent to Drill" form on file is related  
4 inconclusively with: (i) the well was spudded; (ii) the well was spudded and is  
5 producing; (iii) the well was spudded and is not producing, is inactive for less than  
6 a year, not formally abandoned; (iv) the well was spudded, has been inactive for  
7 years; and (v) the well was spudded and plugged. All such conditions, (i)-(v) are  
8 violations of Commission regulations and state statute. Condition (i) will, over  
9 time, lead to at least one of the other conditions. and yet we believe we can  
10 provide instances of (i) existing at present in Franklin county in the Marais des  
11 Cygnes watershed. For an instance of (ii) look at wells Blunk #2, #3, #5, #6 #7, and  
12 #9 in the Blunk lease in Sec. 18, Twp. 17 S., R. 21 E. Here we list API numbers in  
13 the Moldenhauer lease for which "Intent to Drill" records are on file with the  
14 commission but for which no completion records exist:

15 API 15-059-20023

16 API 15-059-25002

17 API 15-059-25003

18 API 15-059-25004

1	API 15-059-25005
2	API 15-059-25080
3	API 15-059-25149
4	API 15-059-25153
5	API 15-059-25155
6	API 15-059-25156
7	API 15-059-25169
8	API 15-059-25185
9	API 15-059-25243
10	API 15-059-25244
11	API 15-059-25246
12	API 15-059-25247
13	API 15-059-25254
14	API 15-059-25299
15	API 15-059-25302



1 API 15-059-25303

2 API 15-059-25305

3 API 15-059-25306

4 API 15-059-25356

5 API 15-059-25355

6 API 15-059-25357

7 API 15-059-25358

8 API 15-059-26413

9 API 15-059-26415

10 Each of these API numbers represents, in our thinking, a threat to fresh and  
11 usable water on the Moldenhauer lease because we have clear evidence, as  
12 presented on the Blunk lease, that “Intent to Drill” applications are correlated  
13 with on-going operations at a well head, which operations are not permitted,  
14 monitored, or inspected by staff at the Commission.

15 And yet another concern for water in our Marais des Cygnes watershed: inactive  
16 wells which have remained so in violation of KCC regulation, which qualify as  
17 abandoned by statute, and with regard to which the Commission has exercised no

1 regulatory or enforcement authority granted it by the state and by the EPA  
2 through the 1996 amendments to the Safe Drinking Water Act. We below offer as  
3 evidence an entire lease, the McGinnis lease, Sec. 32, Twp. 17S, R21E, NE1/4,  
4 which has 34 producing pump jacks, innumerable injection pump jacks, has not  
5 produced a barrel of oil since November, 2016. The structures on this lease  
6 constitute a public nuisance as defined in K.S.A. 55-177; the landscape is blighted  
7 visually, environmentally. We offer this lease in evidence as a prelude to what we  
8 see occurring on Moldenhauer. The case we offer here is that the Blunk lease and  
9 the McGinnis leases foreshadow what is happening on Moldenhauer and that the  
10 failures displayed by Blunk and McGinnis are not so much operator failures as  
11 they are demonstrations of a state agency which has been lax in its regulatory  
12 responsibilities and the consequences of such are borne by the patrons of  
13 Franklin County Rural Water #6, the biological fauna in the Marais des Cygnes, our  
14 own investments in eastern Franklin, the children and staff at U.S.D. 288, Central  
15 Heights School, and the taxpayers of the state of Kansas, who, through the  
16 mechanism of the Regional Advisory Committee of the Marais des Cygnes, may  
17 asked to bear the cost of constructing a water impoundment facility to meet the  
18 priority goals of the Regional Advisory Committee. With a 45 minute bicycle ride  
19 from our farm I can reach 2 leases, one in a flood plain (Blunk), which have idle

1 wells (for more than 2 years; I-10 and I-11 on Blunk) and more than 34 on  
2 McGinnis) which are in violation of regulations and about which the Commission  
3 does nothing. Because of this we attempt to protect ourselves, the things we  
4 value, because the Commission doesn't. We see Moldenhauer following the  
5 same sorry narrative of Blunk and McGinnis.

6 **V. Water Chemistry**

7 Q. IS THERE EVIDENCE TO SUGGEST THAT OIL AND GAS OPERATIONS, INCLUDING  
8 THE MOLDENHAUER LEASE'S OPERATIONS, AFFECT WATER QUALITY AT FRANKLIN  
9 COUNTY RURAL WATER #6?

10 A. Well, this is complicated. We believe that there is a cumulative effect in  
11 demonstration at RW#6. Both operators and the Commission have not done due  
12 diligence in protecting water. We will provide some numbers and then draw a  
13 conclusion. Ottawa public water supply is 17 miles upstream from Franklin  
14 county Rural Water #6, which gets its water from an intake pipe in the Marais des  
15 Cygnes river. This intake pipe is about 2.5 miles east of Rantoul, Kansas. Between  
16 these two public water supplies lie the tributary of the Moldenhauer lease and  
17 many other leases. Below are partial results of the Consumer Confidence Reports  
18 from these two PWSs for years 2016, 2017, and 2018.

1					
2		2016	2017	2018	average
3	Chloride (mg/l)				
4	Ottawa	21	14	23	
5	RW#6	47	83	42	
6	RW#6 averages 233% higher over the period.				
7	Conductivity				
8	@ 25 C, umhos/cm				
9	Ottawa	340	300	390	
10	RW#6	610	740	580	
11	RW#6 averages 92% higher over the period				
12	Corrosivity				
13	Lang				
14	Ottawa	0.077	-0.49	-0.12	
15	RW#6	0.36	0.055	0.17	
16	RW#6 averages 240% more conductive.				

1 Total Dissolved

2 Solids mg/l

3 Ottawa 190 190 200

4 RW#6 360 360 300

5 RW#6 averages 76% higher.

6 Our hypothesis is that the Moldenhauer lease, along with many, many other  
7 leases, can explain these result differentials. There are no oil or gas leases with  
8 tributaries which lead to the Marais des Cygnes upstream from Ottawa. This is  
9 also true: the 2019 Consumer Confidence Report, which reports for 2018, notes a  
10 Lead and Copper Rule violation. By contrast, in the 34 years we have been  
11 customers of Rural Water #2, which is supplied by the city of Ottawa, 17 miles  
12 upstream from rural water #6, we have never had a Lead and Copper Rule  
13 violation. We do not know the sampling regimen associated with the lead and  
14 copper violation at rural water #6. But we do know that high chloride content is  
15 associated with corrosivity and that lead and copper go into solution more readily  
16 in such environments. We believe this data should (1) give the Commission pause  
17 in issuing permits for these three injection wells, and, (2) give the Commission  
18 reason for reviewing the Area Permit for this lease. Our conclusion is that the

patrons of RW#6, many of whom are our friends and neighbors, carry the chemical risks of the industry-friendly Commission regulatory and enforcement regimes.

## **VI. Conclusion**

Q. WHAT ARE YOUR BASIC CONCLUSIONS?

A. This lease cannot produce oil in paying quantities without unloading its liabilities onto the citizens of the state or on to other producers who pay into the Abandoned Well fund. The narrative which we believe will unfold here is displayed in close-by leases: the Blunk lease and the McGinnis lease. Reciprocal rate modeling, along with geometric progression summing has demonstrated, to us, that there exist many financially healthy leases in eastern Franklin county; the Moldenhauer lease is not one of them. Mr. Town, TDR principal, states that he began operating this lease on January 1, 2019 (Pre-filed Testimony, p. 3, l. 4; Mr. Brock, his counsel, says he began operating the lease on July 15, 2019.) TDR's Area Permit, filed August 30, 2019 anticipates 95 injection wells on this lease. The lease now has 57 wells, 31 of which are producing. If the TDR spuds an additional 75 injection wells (the current number on the lease is about 20) the lease plugging liability increases from \$256,500 to an astonishing \$594,000 (132 total wells; the

current 57 wells plus an 75 new wells). We think these astonishing figures demonstrate a lack of analysis of the lease and is part of the explanation for eastern Franklin county being an unremediated graveyard of old leases which violate conscience, statute, and trust.

Q. WHAT IS A RESOLUTION FOR YOUR PROTEST?

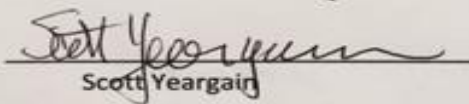
A. TDR provides a surety bond for plugging all the spudded wells, all improperly plugged wells, and wells it spuds in the future on the lease. Such a bond would be tied to the lease in perpetuity; and, the operating permit of TDR would need be tied to payment of such bond premium; and, such arrangement be described in language approved by all parties in these dockets. In addition, the Commission covenants, via an appropriate mechanism, that all leases in Franklin county which have not been producing in paying quantities for the past 3 years will be declared invalid. Short of the above, we urge this Commission to exercise its fiduciary and regulatory responsibilities and deny these three injection applications in light of the evidential considerations presented herein.

### Verifications of Polly Shteamer and Scott Yeargain

Polly Shteamer and Scott Yeargain, being duly sworn, upon each of his or her oaths, do hereby state that they have read the document titled "Pre-Filed Direct Testimonies of Polly Shteamer and Scott Yeargain" to which this Verification is attached, that each is aware of the contents, and each declares that the statements contained in said document are true and correct to the best of their information, knowledge, and belief.

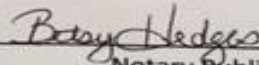


Polly Shteamer



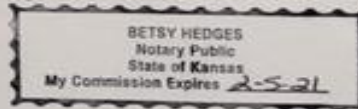
Scott Yeargain

SUBSCRIBED AND SWORN to before me on this 26<sup>th</sup> day of November, 2019.



Notary Public

Appointment/Commission Expires: February 5, 2021





## CERTIFICATE OF SERVICE

We hereby certify that a copy of the above and foregoing was sent via U.S. Mail, postage prepaid, hand-delivery, or electronically, this 26th day of November, 2019 to:

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3  
4  
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2

3

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5

/s/ Scott Yeargain

Scott Yeargain

2263 Nevada Road

Ottawa, Kansas 66067