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Kansas Corporation Commission
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**THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

Before Commissioners: Shari Feist Albrecht, Chair
 Jay Scott Emler
 Pat Apple

IN THE MATTER OF THE APPLICATION)
OF RANGE OIL COMPANY, INC., FOR)
AUTHORITY TO DISPOSE OF SALT WATER)
IN THE BOWMAN #2 SALT WATER)
DISPOSAL WELL, LOCATED IN SECTION 4,)
TOWNSHIP 29 SOUTH, RANGE 3 EAST,)
BUTLER COUNTY, KANSAS)
_____)

DOCKET NO. 15-CONS-469-CUIC

License No. 5120

CONSERVATION DIVISION

PREFILED DIRECT TESTIMONY

OF

JOHN M. WASHBURN

ON BEHALF OF

RANGE OIL COMPANY, INC.

- 1 Q: Please state your name for the record.
- 2 A: John M. Washburn.
- 3 Q: By whom are you employed?
- 4 A: I am employed by Range Oil Company, Inc., having a business address of 9412 E. Central
5 Ave., Wichita, Kansas 67278.
- 6 Q: In which capacity are you employed by Range Oil Company, Inc.?
- 7 A: I am employed as a Geologist in charge of a geographic area which includes Butler County,
8 Kansas.
- 9 Q: Briefly summarize your duties as a Geologist with Range Oil Company, Inc.
- 10 A: My duties as a Geologist, employed by Range Oil Company, Inc., include prospect
11 generation, evaluation of prospect submittals and evaluation of producing properties which
12 are operated by Range Oil Company, Inc. within my area of responsibility. I am also
13 responsible for wellsite supervision and the completion and operation of oil and gas wells
14 and salt water injection or disposal wells within my area of responsibility.

1 Q: Have you had an occasion to testify before the Kansas Corporation Commission prior to your
2 testimony in this matter?

3 A: No.

4 Q: Please briefly summarize your education, training and employment in the field of geology.

5 A: I graduated in 1977 from Fort Hays State University with a BS in Geology. I have been
6 employed with Range Oil Company, Inc. since 1978 (over 36 years). I have training in
7 exploration and log analysis.

8 Q: Are you a member of any professional societies in the field of geology?

9 A: Yes, I am a member of the Kansas Geological Society and the American Association of
10 Petroleum Geologists. In addition, I am presently serving as President of Kansas Geological
11 Foundation.

12 Q: Are you familiar with the Application of Range Oil Company, Inc. in this docket?

13 A: Yes.

14 Q: Please describe the relief which Range Oil Company, Inc. seeks in its Application.

15 A: In its Application, Range Oil Company, Inc. seeks to dispose of salt water in its Bowman #2
16 well ("subject well") which is located in the SW/4 of Section 4, Township 29 South, Range
17 3 East of the Sixth P.M., Butler County, Kansas. This salt water disposal well is located
18 upon the very lease where the salt water, which is associated with commercial oil and gas
19 production, is produced by Range Oil Company, Inc., and it is, therefore, authorized by the
20 pertinent oil and gas lease. Range Oil Company, Inc. requests that a maximum of 1,000
21 bwpd of salt water be disposed in the subject well at a maximum injection pressure of 300
22 psia. Range Oil Company, Inc. seeks to dispose of salt water in the Simpson Sand formation
23 in the subject well.

24 Q: Are you testifying on behalf of Range Oil Company, Inc. in support of the granting of that
25 Application?

26 A: Yes.

1 Q: Are you familiar with the rules and regulations of the Kansas Corporation Commission with
2 respect to the disposal of salt water in wells in Kansas?

3 A: Yes.

4 Q: Has the subject well been completed in a manner which complies with those regulations?

5 A: Yes.

6 Q: Please explain what completion techniques were used to protect the fresh and usable water
7 near the subject well.

8 A: Surface casing was set at 225 feet (the deepest water well in the area is 110 feet). On
9 September 16, 2012, 5.5" steel casing was set at 3,188 feet. The casing is perforated from
10 3,140-3,143 feet KB and from 3,166-3,171 feet KB (in formation intervals which are not
11 productive of oil or gas) for salt water disposal purposes. In addition, 2.375" plastic-lined
12 sealtite tubing was set at 3,110 feet.

13 Q: If the Application filed by Range Oil Company, Inc. is granted by the Commission, will fresh
14 and usable water be protected?

15 A: Yes.

16 Q: Please explain.

17 A: There will be three layers of fresh and usable water protection with respect to disposal of salt
18 water in the Bowman No. 2 well. First, the subject well has been completed and will be
19 operated pursuant to the rules and regulations of the Commission. These regulations are
20 designed to protect fresh and usable waters in Kansas. Thus, by compliance with these
21 regulations, protection of fresh and usable waters is assured. Secondly, salt water will be
22 disposed through perforations in the casing from 3,140-3,143 feet KB and from 3,166-3,171
23 feet KB. There are numerous impermeable shale layers between 3,140 feet and fresh water
24 at 110 feet. Thus, disposed salt water will not reach fresh or usable water. Finally, the
25 Kansas Corporation Commission staff ran a Mechanical Integrity Test on the Bowman well
26 on November 6, 2014. The test showed annular pressure of 380 psia, which proves that the

1 casing in the subject well is sound so that salt water will be disposed of at the intervals
2 intended. In short, it is my opinion that, because of the manner in which the well has been
3 designed and completed, fresh and usable water will be protected if the Application filed by
4 Range Oil Company, Inc. is granted by the Commission

5 Q: Are you familiar with the protest filed in this docket?

6 A: Yes.

7 Q: Could you restate the concerns of the protestants with respect to disposal of salt water in the
8 subject well.

9 A: The protestants believe that disposal of salt water in the subject well may lead to
10 earthquakes. They are also concerned that the Commission may be lax in enforcing the rules
11 and regulations pertaining to salt water disposal wells, resulting in pollution of their fresh
12 water. Finally, the protestants fear that the disposed salt water may be toxic and may cause
13 cancer through water contamination, if the salt water is disposed of in the subject well.
14 However, none of these concerns are well-founded in view of the Commission's steadfast
15 enforcement of its rules and regulations pertaining to salt water disposal wells, including
16 those which I have discussed earlier in my testimony.

17 Q: Please explain.

18 A: Rex Buchanan and other Kansas Geological Survey personnel are still studying induced
19 seismicity in Harper and Sumner counties where very large volumes of water are being
20 disposed (over 30,000 bwpd). Salt water disposal wells in Butler County, Kansas, with
21 disposal volumes of 10 to 10,000 bwpd, have been in operation for over 70 years with no
22 evidence of induced seismicity. Thus, there is no real risk of earthquakes occurring in Butler
23 County, Kansas, or elsewhere, if the Application is granted by the Commission. Secondly,
24 the Commission is very serious about compliance with its rules and regulations, particularly
25 concerning salt water disposal. Furthermore, Range Oil Company, Inc., which has operated
26 oil and gas wells and produced oil and gas in Kansas for over 40 years, has an outstanding

1 compliance record. Range Oil Company, Inc. fully understands its duty to protect the
2 environment, and it will fully comply with all pertinent regulations. Thus, there is no
3 evidence to support any contention that the Commission and Range Oil Company, Inc.
4 cannot be entrusted to protect fresh and usable waters. Finally, the Commission has long
5 maintained that the safest way to dispose of salt water is through a disposal well located on
6 the lease where the salt water is produced. Indeed, there is more environmental danger posed
7 if salt water is accumulated in a tank or tanks on the leased premises so that it can be hauled
8 from the lease by truck to be disposed of in a commercial disposal well which would likely
9 be located near the lease anyway. Thus, the Application, if granted, actually operates to
10 protect the protestant's lands and waters from any deleterious substance in the salt water to
11 be disposed of in the subject well. As I noted earlier in my testimony, there will be three
12 layers of protection of fresh water supply.

13 In sum, the very small volume of water disposal that Range Oil Company, Inc. plans
14 to initiate will not contaminate fresh water or trigger any earthquakes. Range Oil Company,
15 Inc. has been operating 38 salt water disposal wells within a 70-mile radius of the Bowman
16 #2 salt water disposal well (some for over 40 years) with no problems. There has been no
17 fracture treatment of this site or the Bowman #1 with any associated chemicals.

18 Q: Do you recommend that the Commission grant the pertinent Application?

19 A; Yes. By disposal into the Bowman No. 2 well of the salt water which is produced from the
20 pertinent lease operated by Range Oil Company, Inc., in the vicinity of the well, lease
21 operating costs are lower than are operating costs if the salt water needs to be hauled by truck
22 from the pertinent lease. It would cost Range Oil Company, Inc. approximately \$2,600.00
23 per month to haul saltwater from the lease by truck. Importantly, if the Application is denied,
24 these additional costs result in waste and lead to the violation of the correlative rights of
25 Range Oil Company, Inc., and its royalty interest owners, because incurring these
26 unnecessary costs will lead to premature abandonment of reserves which are otherwise

1 producible if the subject Application is granted. Thus, granting the Application is necessary
2 to prevent waste and to protect the correlative rights of Range Oil Company, Inc. and its
3 royalty interest owners. Moreover, as I have testified, fresh and usable water will be
4 protected if the Application is granted.

5 Q: Thank you. I have no further questions for you at this time.

CERTIFICATE OF SERVICE

I hereby certify that on this 16th day of February, 2015, true and correct copies of the above and foregoing Prefiled Direct Testimony of John M. Washburn on Behalf of Range Oil Company, Inc. were served by depositing a copy of the same in the United States Mail, postage prepaid, and properly addressed to the parties set forth below and the original and seven (7) copies were hand-delivered to the Kansas Corporation Commission as permitted by law.

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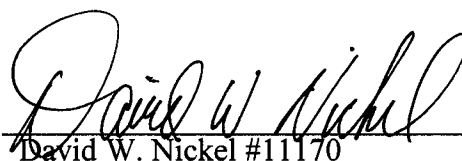
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