

STATE OF NEW MEXICO  
ENERGY MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

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**APPLICATION OF OWL SWD OPERATING, LLC FOR  
AUTHORIZATION TO INJECT, LEA COUNTY, NEW MEXICO.**

**CASE NO. 15723**

**OIL CONSERVATION DIVISION'S POST HEARING BRIEF**

The Division submits this brief to highlight the legal issues in this case and to argue their relation to the evidence adduced at the hearing. The evidence will be reviewed more specifically in our written closing statement when we have had the opportunity to review the transcript.

**I**

**Federal and State Laws**

In this case the Division must interpret and apply both federal and state laws and rules. The examiners are wearing two hats. On the one hand, they must implement relevant provisions of the New Mexico Oil and Gas Act. On the other hand, they must implement the Underground Injection Control ("UIC") program entrusted to the Division by the federal Environmental Protection Agency. If Applicant's salt water disposal application fails on either state or federal grounds, it should be denied.

**A. The New Mexico Oil and Gas Act**

Two provisions of the Oil and Gas Act have specific relevance.

NMSA 1978, Section 70-2-12(B) directs the Division:

(4) to prevent the drowning by water of any stratum or part thereof capable of producing oil or gas or both in paying quantities and to prevent the premature or irregular encroachment of water or any other kind of water encroachment that

reduces or tends to reduce the total ultimate recovery of crude petroleum oil or gas or both oil and gas from any pool.

(15) to regulate the disposition of water produced or used in connection with the drilling for or producing of oil or gas or both and to direct surface or subsurface disposal of water . . . in a manner that will afford reasonable protection against contamination of fresh water supplies designated by the state engineer.

These statutory provisions were adopted in 1935 and 1965, respectively, and thus confer authority wholly independent of the UIC program approved in 1982.

Pursuant to the Section 70-2-12(B)(15), the State Engineer has designated as protectible:

[a]ll underground water in the State of New Mexico containing 10,000 parts per million or less of dissolved solids . . . except . . . any water for which there is no present or reasonably foreseeable beneficial use that would be impaired by contamination. [Letter dated April 13, 1967, from the Office of the State Engineer to the Director of the New Mexico Oil Conservation Division, attached as Exhibit A to this brief.]

Thus, in order to be entitled to the permit it seeks, Applicant must show that its proposed injection of large quantities of highly saline water will not adversely affect total ultimate recovery of crude oil from a significantly depleted, but still producing oil and gas field, or impair any present or reasonably foreseeable future use of water from any affected aquifer.

#### B. The UIC Program

The UIC Program was established pursuant to the federal Safe Drinking Water Act of 1974, 42 U.S.C. Section 300f, *et seq.* The OCD has the power and duty to administer this federal program pursuant to 40 C.F.R. 1600 and the Memorandum of Agreement between the federal Environmental Protection Agency (EPA), Region VI and the New Mexico Energy and Minerals Department, Oil Conservation Division, signed by the EPA Regional Administrator on December

10, 1981 ("the UIC Agreement"). [A copy of the UIC Agreement is attached as Exhibit B to this brief.] Under the UIC program, an aquifer is protectible if it is an "underground source of drinking water" ("USDW"), defined as an aquifer:

- (a)(1) Which supplies any public water system; or
  - (2) Which contains a sufficient quantity of ground water to supply a public water system; and
  - (i) Currently supplies drinking water for human consumption; or
  - (ii) Contains fewer than 10,000 mg/l total dissolved solids; and
  - (b) Which is not an exempted aquifer.
- 40 CFR §144.3 [emphasis added]

The OCD administers the Oil and Gas Act and the UIC program through a single set of rules and procedures, but a person seeking a permit to inject must demonstrate that the requested permit will comply the requirements of both legal regimes.

## II

### Argument and Authorities

#### A. Will the Capitan Reef waters be affected?

As a threshold matter, the Division must find as a fact whether Applicant's proposed operation will affect the Capitan Reef Aquifer. Applicant has strenuously contended that it will not. However, the New Mexico State Land Office presented expert testimony questioning this contention. Because the legal standards differ as to the Capitan Reef from those applicable to the Artesia Group where water will be injected, a finding on this factual issue is foundational.

The Applicant has the burden of proof on this issue, as on all factual issues necessary to support issuance of a permit. Its evidence indicating that the Reef water will not be affected is based upon computer modeling. Although computer modeling is recognized as a useful tool, the technique has limitations which have led the Division in prior orders to consider such models with some skepticism. *See, e.g.,* Division Order No. R-9913, issued June 16, 1993, admitted as Division Exhibit 10.

B. Standards applicable to the Artesia Group

(1) UIC and State Engineer Standards both apply to the identification of protectible waters.

The Yates and Seven Rivers Formations of the Artesia Group are “exempt aquifers,” thus excluded from the status of an underground source of drinking water and not protectible under the UIC program.<sup>1</sup> This does not, however, conclude the protectability issue. A different standard of exists under the Oil and Gas Act. NMSA Section 70-2-12(B)(15), quoted *supra*. The State Engineer’s designation of protectible waters pursuant to that statute differs from the UIC standard in at least two respects. First, the criterion for usability includes any present or foreseeable beneficial use, whereas the UIC standard is limited to potential use for drinking water. 40 CFR 147.4. Second, the UIC standard exempts water in oil and gas producing formations, 40 CFR 144.6(b)(1), whereas the State Engineer’s designation does not [State Engineer’s letter, Exhibit A hereto]. OCD Rule 19.15.2.7.E(5) NMAC adopts the federal definition of “exempted aquifer,” but OCD rules do not, and cannot, exempt waters designated by the State Engineer from protectability under the Oil and Gas Act. Indeed, the only consequence specifically provided in OCD Rules of an aquifer being designated an exempt aquifer is that untested injection applications may be granted administratively, 19.15.26.8.E(2) NMAC, a moot point in this case. To grant an application for injection into any aquifer where the water quality is 10,000, or less, parts per million (ppm) Total Dissolved Solids (TDS), the Division must be satisfied that granting the application is consistent with the Oil and Gas Act and the State Engineer’s designation, even if the aquifer is exempted from UIC protection.

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<sup>1</sup> The UIC Program Description, which is incorporated by reference in the UIC Agreement, states that “the Division proposes that the Tansil, Yates, Seven Rivers, Queen, Grayburg and San Andres formation of Lea County be classified as exempt aquifers for disposal purposes.” Program Description submitted by OCD to EPA September 15, 1981, at 53.

An issue clearly exists regarding protectible waters in the Seven Rivers. Although there is wide variation in test results, Division Exhibit 3 shows Chloride concentration measurements of 1500 and 2800 ppm respectively from wells in Section 24 of Township 25 South, Range 36 East, between 1½ and 2 miles north of the proposed well, and 1500 ppm from a well in Section 31 of Township 25 South, Range 37 East, approximately one mile southeast. Estimating TDS at twice the Chloride level suggests that water tested at these locations likely contained significantly less than 10,000 ppm TDS. Also, there was testimony that “brackish” water from the Artesia Group has been and could be produced for certain beneficial uses. There was no testimony as to the effect of the proposed injection of water containing 140,000 TDS (Division Exhibit 6) on such use. However, the Applicant had the burden of producing evidence on this issue.

(2) Waste must be prevented and correlative rights protected in a producing formation.

The Seven Rivers is an oil and gas producing formation. Division Exhibit 16 establishes that there are at least 17 producing wells in the area comprising the section where the proposed well will be located and adjoining sections. NMSA Section 70-2-12(B)(4) requires the Division to assess whether proposed injection into a producing reservoir will adversely affect hydrocarbon production from any well, causing waste or impairing correlative rights. Division Order No. R-15626, issued August 12, 2015, Finding Paragraph 11, Page 4. Accordingly, Applicant had the burden to demonstrate that its proposed injection will not adversely affect oil and gas production.

Division Exhibit 5 compares reported water injection into Applicant’s existing Maralo Sholes B No. 2 disposal well with water production from the Sholes B 25 Well No. 1, a producing gas well less than one-half mile away. That exhibit indicates a strong correlation between spikes in injection into the existing disposal well and subsequent spikes in water production from the Sholes B 25 No. 1. Applicant argues that the force of Division Exhibit 5 is blunted by “corrected”

production reports for the Sholes B 25 No. 1 which allegedly show a lesser correlation. However, Applicant offered absolutely no non-hearsay evidence (not even a legal *residuum*) of the reason for, or accuracy of, the “corrected” reports. “New Mexico courts require that an administrative action be supported by some evidence that would be admissible in a jury trial. This has been referred to as the legal *residuum* rule.” *Duke City Lumber Company v. New Mexico Environmental Improvement Bd.*, 101 N.M. 291, 295; 681 P.2d 717, 721; 1984 -NMSC- 042, ¶19. On this record, it would not be unreasonable to draw inferences adverse to Applicant from its failure to produce properly admissible evidence.

The Division may also consider Applicant’s Exhibit 1.F, which may indicate a negative correlation between injection spikes in 2010, 2015 and 2016, and gas production from offsetting wells.

Defendant has not shown that water intrusion into producing oil or gas wells will not occur as a result of the high injection volume this Application contemplates.

C. Standards applicable to the Capitan Reef Aquifer

Unless the Division finds that the Capitan Reef Aquifer will not be affected, it must treat that aquifer as a potential injection zone and therefore cannot permit the proposed injection in this proceeding.

The Capitan Reef Aquifer is an Underground Source of Drinking Water for UIC purposes and a fresh water supply designated by the State Engineer under the Oil and Gas Act. It was conceded at the hearing that the Reef is an existing source of municipal water in some places, and evidence shows that Reef waters at certain locations in the vicinity of the proposed injection have tested below 10,000 ppm TDS. Applicant’s Exhibit 1.L, page 219A, lines 24 and 25. The Reef is therefore an Underground Source of Drinking Water as defined in OCD Rule

19.15.2.7.U(1) NMAC. No part of the Capitan Reef Aquifer has been designated as exempt pursuant to the notice and hearing requirements of OCD Rule 19.15.26.8.E(3) NMAC or 40 CFR 144.7. A designation of any portion of the Capitan Reef as an exempt aquifer would have to comply with applicable UIC requirements, including the following:

40 CFR §144.7 provides:

(b)(1) The Director may identify (by narrative description, illustrations, maps, or other means) and describe in geographic and/or geometric terms (such as vertical and lateral limits and gradient) which are clear and definite, all aquifers or parts thereof which the Director proposes to designate as exempted aquifers using the criteria in § 146.4 of this chapter.

\* \* \*

(b)(3) For approved State programs exemption of aquifers identified . . . shall be treated as a program revision under [40 USC] § 145.32” [which requires EPA approval].

Clearly the record in this case is not adequate to define a specific portion of the Capitan Reef Aquifer that should be exempted, and even if that were possible, there would still be the requirement for EPA approval. Thus, if the Division is unable to find that the Capitan Reef Aquifer will not be affected, it should dismiss this application without prejudice, allowing Applicant to commence proceedings to designate that portion of the Capitan Aquifer which could constitute an exempt aquifer.

### III

#### Authority to Condition Permit

At the hearing, the Division argued that if a permit were issued for Applicants proposed injection operation, it should be conditioned on Applicant’s constructing monitoring wells to determine if the injectant dispersal patten will conform to its witnesses’ predictions. The Division urges that this be required if a permit is issued. There is a need to determine how injection wells

in the "Back-Reef area" will perform because: (1) the Capitan Reef is a valuable source of drinking water, including for public water systems, (2) this area is close to the Reef, and (3) more applications for injection into the Artesia Group in this area are likely. Furthermore, the presence of numerous abandoned oil and gas wells in the vicinity will make a requirement to establish monitoring wells less onerous than it might otherwise be. Observations from such wells could provide data to determine if injection pursuant to any permit is likely to affect the Reef or neighboring oil or gas wells.

The Division has authority to impose conditions on a permit. 40 CFR §144.52, a part of the regulations governing the UIC program, authorizes permit conditions "as appropriate, on a case-by-case basis," expressly including conditions requiring monitoring.

#### IV

#### Conclusion

The Division accordingly urges that the requested permit be denied, or, in the alternative, be conditioned upon establishment of an appropriate monitoring program to demonstrate that both ground water and hydrocarbon resources are adequately protected.



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Attorney for Oil Conservation Division



Certificate of Service

I hereby certify that the above pleading was served on the following parties by electronic mail on August 25, 2017.

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Attorney for New Mexico State Land Office



David K. Brooks



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

April 13, 1967

ADDRESS CORRESPONDENCE TO:  
STATE CAPITOL  
SANTA FE, NEW MEXICO 87501

S. E. REYNOLDS  
STATE ENGINEER

Mr. A. L. Porter, Jr.  
Secretary-Director  
Oil Conservation Commission  
Santa Fe, New Mexico

Dear Mr. Porter:

All underground water in the State of New Mexico containing 10,000 parts per million or less of dissolved solids is hereby designated by the State Engineer pursuant to Section 65-3-11. (15) N.M.S.A., 1953 Compilation; except that this designation shall not include any water for which there is no present or reasonably foreseeable beneficial use that would be impaired by contamination. This designation supercedes all previous designations pertaining to underground water.

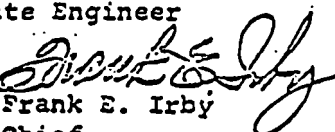
For your information I am attaching a memorandum dated April 10, 1967 and the map mentioned therein which shows the areas and formations in which water of 10,000 parts per million or less commonly occurs.

The surface water designation previously made remains unchanged.

FEI/ma  
encl.

Yours truly,

S. E. Reynolds  
State Engineer

By:   
Frank E. Irby  
Chief  
Water Rights Div.

Program Description  
Exhibit 13

**Exhibit A**  
**to Post-Hearing Brief**  
**Case No. 15723**

UNDERGROUND INJECTION CONTROL PROGRAM FOR CLASS II WELLS

Memorandum of Agreement

Between

The State of New Mexico

and

The United States Environmental Protection Agency,  
Region 6

I. General

This Memorandum of Agreement (Agreement) establishes policies, responsibilities, and procedures for the State of New Mexico Underground Injection Control Program for Class II injection wells (State Program) as authorized by Part C of Section 1425 of the Safe Drinking Water Act (Pub. L. 93-523, as amended) (SDWA or the Act).

This Agreement is entered into by the New Mexico Oil Conservation Division of the New Mexico Energy and Minerals Department and signed by Joe Ramey, Director of the Oil Conservation Division (the State) with the United States Environmental Protection Agency (EPA), Region 6 and signed by \_\_\_\_\_, EPA Regional Administrator (EPA or Regional Administrator). After it is signed by the State and the Regional Administrator, this Agreement shall become effective the date the notice of State Program approval is published in the Federal Register.

This Agreement may be modified upon the initiative of the State or EPA. Modifications must be in writing and must be signed by the Director and the Regional Administrator. Modifications may be made by revision prior to the effective date of this Agreement or after the effective date by consecutively numbered and dated addenda attached to this Agreement.

This Agreement shall remain in effect as long as the State has primary enforcement authority for the State Program.

When the State has a fully approved program, EPA will not take enforcement actions without providing prior notice to the State and otherwise complying with Section 1423 of the SDWA. Nothing in this Agreement shall restrict EPA's authority to take Federal enforcement action under Section 1423 of the SDWA.

The State shall administer the State Program in accordance with the program submissions, the SDWA, and the applicable regulations.

EPA shall promptly inform the State of the issuance, content, and meaning of Federal statutes, regulations, guidelines, standards, judicial decisions, policy decisions, directives, and any other factors which might affect the State Program.

The State shall promptly inform EPA of any proposed or pending modifications to laws, regulations, or guidelines, and any judicial decisions or administrative actions which might affect the State Program and the State's authority to administer the program. The State shall promptly inform EPA of any resource allocation changes (for example, personnel, budget, equipment, etc.) which might affect the State's ability to administer the program.

Prior to the use of an alternative test (a test not listed in Section d.3. of the Program Description) for mechanical integrity, the State shall submit a written request to the Regional Administrator and shall obtain his/her written approval. No approval shall be required for the State to conduct experimental test programs at any time.

An underground source of drinking water (USDW) shall be defined as an aquifer or portion thereof which supplies water for human consumption, or in which the ground water contains fewer than 10,000 mg/l TDS, and is not an exempted aquifer. An aquifer or portion thereof which would otherwise meet the definition of USDW and which is not otherwise exempt for the intended purpose under terms of the State Program may be exempted from protection under this program by the Director after public notice and opportunity for public hearing upon approval by the Regional Administrator. An aquifer or portion thereof may be exempted if it does not currently serve as a source of drinking water and it can not now and will not in the future serve as a source of drinking water because:

1. It is mineral, hydrocarbon or geothermal energy producing;
2. It is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical;
3. It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption;  
or
4. It is located over a Class III Well mining area subject to subsidence or catastrophic collapse.

All aquifer exemptions subsequent to program approval shall be subject to public hearing and to approval by the Regional Administrator.

## II. Responsibilities

### A. Sharing of Information on Class II Operations.

All information and records obtained or used in the administration of the State Program, including all underground injection control (UIC) permit files, shall be available to EPA or its authorized representative upon request without restriction. Any information obtained from the State by EPA which is subject to a claim of confidentiality shall be treated by EPA in accordance with EPA regulations governing confidentiality (40 CFR Part 2).

EPA shall furnish to the State the information in its files which the State needs to implement the State Program, subject to EPA regulations governing confidentiality (40 CFR Part 2).

The State shall retain records used in the administration of the program for 5 years (the current year plus four) unless an enforcement action is pending. In that event, all records pertaining to such action shall be retained until such action is resolved.

### B. State Reports on Class II Operations.

The State shall submit to the Regional Administrator a mid-year and an annual report on the operation of the State Program.

The State shall submit to EPA no later than 30 days after the first 6 months of the fiscal year a mid-year report of the first 6 months. This report shall include a detailed description of the State's implementation of its program, suggested program changes, a description of activities by program element, including summaries of monitoring, surveillance and enforcement programs, an estimate of expenditures by program element, and an account of all UIC related complaints reviewed by the State and action taken.

The State shall submit to EPA no later than 45 days after the end of the fiscal year an annual program report of the entire year with emphasis on the last 6 months. This report shall include a detailed description of the State's implementation of its program, suggested program changes, a description of activities by program element, including summaries of monitoring, mechanical integrity testing and inspection, corrective action, surveillance and enforcement programs, an estimate of expenditures by program element, an account of all UIC related complaints reviewed by the State and action taken, and an updated inventory of active underground injection operations.

The State shall submit all reports in the format requested by EPA. Report formats shall normally be furnished to the State prior to the award of grant funds and any substantive changes shall have the concurrence of the State.

#### C. Program Evaluation for Class II Operations.

EPA shall conduct an annual evaluation of the State Program using the State reports and requested information to determine State Program consistency with the program submission, the SDWA, the applicable regulations, and applicable guidance and policies. The evaluation will include a review of financial expenditures.

EPA shall submit a draft of the program evaluation to the State for their review and comment within 15 working days after the submission of the annual program report. The State shall have 15 working days to submit comments on the draft evaluation to EPA. EPA shall make recommendations to the State based on the program evaluation.

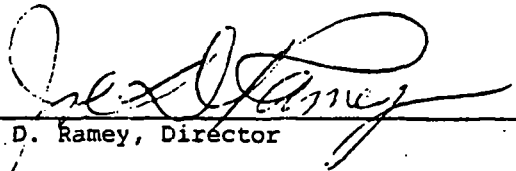
EPA may conduct a second evaluation during the year at their discretion.

#### D. Compliance Monitoring and Enforcement for Class II Operations.

The State shall enforce the State Program in accordance with the enforcement procedures outlined in the program submission. The State shall take timely and appropriate enforcement actions against any person in violation of any State Program requirement. Situations endangering human health will receive immediate and paramount attention.

EPA shall conduct periodic site and activity inspections on Class II injection operations. The Regional Administrator will normally notify the State at least 7 days before any such inspection and allow opportunity for the State to accompany EPA on any such inspection.

OIL CONSERVATION DIVISION

  
\_\_\_\_\_  
Joe D. Ramey, Director

9/17/81  
Date

ENVIRONMENTAL PROTECTION AGENCY, Region 6

\_\_\_\_\_  
Regional Administrator

\_\_\_\_\_  
Date

UNDERGROUND INJECTION CONTROL PROGRAM FOR CLASS II WELLS  
Memorandum of Agreement  
Between  
The State of New Mexico  
and  
The United States Environmental Protection Agency,  
Region 6

ADDENDUM NO. 1

That wells used for disposal of waters brought to the surface in connection with oil or natural gas production, when such waters are recovered at gas plants, will be regulated (permitted, reviewed, inspected, etc.) in the same manner as any such well on an individual lease or in a community disposal system.

That such wells will also be so regulated when said produced water is commingled with waste waters from any such gas plant where such plant is an integral part of production operations provided that the waters are not classified as a hazardous waste at the time of injection.

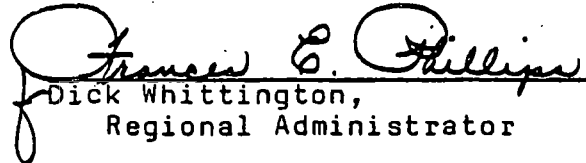
Oil Conservation Division

  
\_\_\_\_\_  
Joe D. Ramey, Director

\_\_\_\_\_  
June 10, 1982

\_\_\_\_\_  
Date

Environmental Protection Agency, Region 6

  
\_\_\_\_\_  
Dick Whittington,  
Regional Administrator

\_\_\_\_\_  
June 28, 1982

\_\_\_\_\_  
Date

UNDERGROUND INJECTION CONTROL PROGRAM FOR CLASS II WELLS  
Memorandum of Agreement  
Between  
The State of New Mexico  
and  
The United States Environmental Protection Agency,  
Region 6

ADDENDUM No. 2

Section II.B. shall be edited as follows. Deletions are lined through and additions are underlined (underlined).

B. State Reports on Class II Operations.

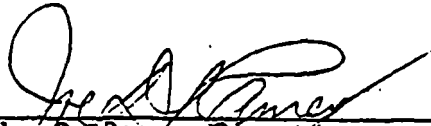
The State shall submit to the Regional Administrator ~~a mid year and~~ an annual report on the operation of the State Program.

~~The State shall submit to EPA no later than 30 days after the first 6 months of the fiscal year a mid year report of the first 6 months. This report shall include a detailed description of the State's implementation of its program, suggested program changes, a description of activities by program element, including summaries of monitoring, surveillance and enforcement programs, an estimate of expenditures by program element, and an account of all UIC related complaints reviewed by the State and action taken.~~

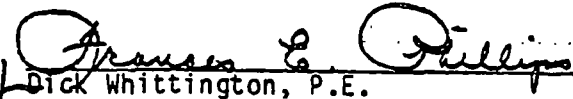
The State shall submit to EPA no later than 45 days after the end of the ~~fiscal~~ calendar year an annual program report of the entire year ~~with emphasis on the last 6 months~~. This report shall include a detailed description of the State's implementation of its program, suggested program changes, a description of activities by program element, including summaries of monitoring, mechanical integrity testing and inspection, corrective action, surveillance and enforcement programs, an estimate of expenditures by program element, an account of all UIC related complaints reviewed by the State and action taken, and an updated inventory of active underground injection operations.



The State shall submit all reports in the format requested by EPA. Report formats shall normally be furnished to the State prior to the award of grant funds and any substantive changes shall have the concurrence of the State.

  
\_\_\_\_\_  
Joe D. Ramey, Director  
Oil Conservation Division

11-8-82  
Date

  
\_\_\_\_\_  
Dick Whittington, P.E.  
Environmental Protection Agency, Region 6

11-18-82  
Date