



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

M E M O R A N D U M

TO: WILLIAM J. LEMAY, DIVISION DIRECTOR

FROM: VICTOR T. LYON, CHIEF ENGINEER *Wsh*

SUBJECT: DIVISION ORDER NO. R-3221

Case No. 9235, application of Conoco Inc. for exception to the no-pit order, brought to light an apparent deficiency in the subject order. The Environmental Bureau had issued a set of guidelines by memorandum dated October 22, 1985 for presenting a case for exceptions to the order but the memorandum may not have had sufficient impact to notify interested parties that it described the burden of proof for an applicant to obtain an exception.

The examiners have suggested that a hearing be held proposing to make the October 22, 1985 memorandum an exhibit attached to Order No. R-3221.

I think it is appropriate for David Boyer or one of his staff to present the testimony on behalf of the Division.

February 25, 1988
fd/

cc: David Boyer

Memo

m.s. p.c.

From

VICTOR T. LYON
Chief Petroleum Engineer

Case 9328

To Bill -

Mike + David C. feel the memo prepared several years ago by David B needs to be added to order R-3221 so operators will be officially aware of what needs to be presented at hearing for disposal in underlaid pits.

If you agree we can docket a hearing to amend order R-3221 by making that memo a part of the order. I think David B should be the witness.

Agreed - Let's open
case to include memo -
WTR



TONEY ANAYA
GOVERNOR

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION



1935 - 1985

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SANTA FE, NEW MEXICO 87501
(505) 827-5800

M E M O R A N D U M

TO: OCD STAFF, ATTORNEYS PRACTICING BEFORE
THE DIVISION, APPLICANTS

FROM: R. L. STAMETS, DIRECTOR *RLS*

SUBJECT: HEARINGS FOR EXCEPTIONS TO ORDER NO. R-3221,
SOUTHEAST NEW MEXICO, "NO-PIT" ORDER

DATE: OCTOBER 22, 1985

Background

On May 1, 1967, the Oil Conservation Commission entered Order No. R-3221 which prohibits disposal of water produced in conjunction with the production of oil or gas on the surface of the ground, or in any other place or manner which will constitute a hazard to fresh water supplies in the area encompassed by Lea, Eddy, Chaves, and Roosevelt Counties. The order was amended by Order No. R-3221-B on July 25, 1968, to define a large area in the vicinity of Clayton Basin and Nash Draw where high concentrations of chloride exist and where produced water could be disposed of while providing reasonable protection against contamination of fresh water supplies designated by the State Engineer. Since then 25 cases requesting exceptions to Order No. R-3221 have been approved while several others have been denied for various reasons. It is the purpose of this memorandum to outline some of the relevant concerns and provide a standardized procedure for applicants and hearing officers to follow in hearing and deciding such cases.

Legal Considerations

- (1) The Division is authorized by Section 70-2-12 B (15) of the Oil and Gas Act to make rules, regulations, and orders for the purpose of

- (5) Findings (5) and (6) of Order No. R-3221 determined that the disposal of water produced in conjunction with the production of oil or gas, or both, on the surface of the ground, or in any pit, pond, lake, depression, draw, streambed, or arroyo, or in any other watercourse, constitutes a hazard to existing fresh water supplies, as designated by the State Engineer, in the vicinity of such disposal; and that such disposal, or any other disposal in any other place or manner which will constitute a hazard to any fresh water supplies should be prohibited in the above listed counties so as to afford reasonable production of fresh water supplies.
- (6) Finding (12) of Order No. R-3221 determined that produced water surface disposal of not more than one barrel per day per 40-acre tract served by the pits presented little hazard to fresh water.
- (7) Paragraph No. (3) of Order No. R-3221 prohibited the disposal of produced water in the manner described in paragraph (5) above in Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico.
- (8) As an amendment to Order No. R-3221, Order No. R-3221-B excepted major portions of Clayton Basin and Nash Draw in Lea and Eddy Counties based (1) on the existence of a number of large surface ponds, or lakes, containing extremely high concentrations of chlorides within the area [Finding (8)] and (2) on the determination that the reasonable protection against contamination of fresh water supplies by surface disposal of produced water would not be advanced by the enforcement of Order No. R-3221 in that area [Finding (11)].

Exception Procedures

An exception will be granted only if an applicant demonstrates that potentially usable ground water will not be affected. The following procedures should be followed in review of application for exceptions to Order No. R-3221 as amended:

- (1) Based upon the Findings in Order No. R-3221, the Division must assume groundwater to be present at shallow depths throughout the area defined in

water for use at present or in the reasonably foreseeable future using treatment methods reasonably employed in public water supply systems. Methods in common use include aeration, air stripping, carbon adsorption, chemical precipitation, chlorination, flotation, fluoridation and granular filtration. Methods known to be used under special circumstances include desalination, ion exchange, and ozonation.

- (b) The applicant can attempt to demonstrate for water currently contaminated, either by natural processes or human activity such that it cannot be beneficially used now or in the future, that the further addition of types and volumes of contaminants will not cause impairment of uncontaminated waters, beyond what would occur through natural movement.
- (c) The applicant can attempt to demonstrate that the groundwater present is not of sufficient volume to provide a reliable water supply for beneficial use, including domestic or stock use. This could occur if the shallow water was located in a discontinuous stratigraphic zone or lens of limited areal extent.

The above options are only examples; other alternatives can be considered as long as water that has future beneficial use is protected.

Summary

The burden of proof to demonstrate that an exception should be granted is on the applicant. It may be necessary for the applicant to prepare and submit a complete hydrologic report for the vicinity of the proposed surface disposal site. This has been done previously and successfully for sites near Eunice, Loco Hills and Laguna Plata. No application is ever to be granted simply because it is not opposed.

Exceptions to Order No. R-3221 granted pursuant to these procedures may be administratively rescinded by the Division Director whenever it reasonably appears to the director that such rescission would serve to protect fresh water supplies from contamination.

said order unless the applicant specifically documents otherwise. The absence of wells does not necessarily indicate lack of groundwater, since wells are drilled only when a water supply is needed. Likewise, the lack of a sufficient water supply to provide for commercial or industrial use does not mean that a supply sufficient to provide domestic or stock water does not exist. Also, the lack of groundwater at a site does not mean that the surface discharge could not impair other groundwater, since the discharged water could move down dip in the subsurface so as to commingle in the reasonably foreseeable future with an uncontaminated water supply and impair its use. The applicant must show that discharge in an area containing no groundwater will not cause impairment in an adjacent area with groundwater.

(2) The Division must assume that any groundwater present that could be affected by surface disposal has 10,000 mg/l or less of total dissolved solids unless otherwise documented by the applicant. This includes shallow groundwater at the site, or groundwater that could be impaired by movement of contaminated groundwater.

(3) The Division must further assume, unless the applicant demonstrates otherwise, that present or reasonably foreseeable beneficial use of water that has 10,000 mg/l or less of total dissolved solids would be impaired by contamination due to surface disposal of produced water. An applicant has several options to attempt to demonstrate lack of beneficial use:

(a) If water is of very poor quality nearing 10,000 mg/l, the applicant can present current water use, future projected use, availability of alternative supplies, etc., in an attempt to demonstrate that there is no reasonable relationship between the economic and social costs of failure to grant the exception and benefits to be gained from continuing to protect the water for domestic or agricultural use now or in the future. The water would be considered or judged to be already so contaminated that it would be economically or technologically impractical to treat the



STATE OF NEW MEXICO

STATE ENGINEER OFFICE

SANTA FE

S. E. REYNOLDS
STATE ENGINEER

April 13, 1967

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

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.

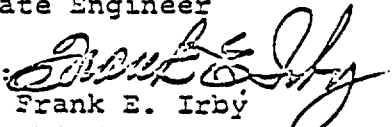
The surface water designation previously made remains unchanged.

FEI/ma
encl.

Yours truly,

S. E. Reynolds
State Engineer

By:


Frank E. Irby
Chief

Water Rights Div.



STATE OF NEW MEXICO
STATE ENGINEER OFFICE
SANTA FE

S. E. REYNOLDS
STATE ENGINEER

July 10, 1985

BATAAN MEMORIAL BUILDING
STATE CAPITOL
SANTA FE, NEW MEXICO 87503

Mr. Dick Stamets
New Mexico Oil Conservation
Division
Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Stamets:

Pursuant to our conversation of July 9, 1985, I am revising my letter of May 15, 1985 to read as follows:

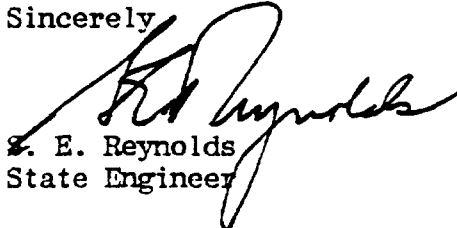
All underground waters in the State of New Mexico containing 10,000 milligrams/liter or less of dissolved solids are hereby designated by the State Engineer pursuant to Section 70-2-12-B.(15) NMSA, 1978; except that this designation shall not include any water for which there is no present or reasonably foreseeable beneficial use that would be impaired by contamination. This designation supersedes all previous designations pertaining to underground water.

The water in lakes and playas should not be contaminated even though they contain more than 10,000 milligrams/liter of total dissolved solids unless it can be shown that contamination of the lake or playa will not adversely affect ground water hydrologically connected to the lake or playa.

The surface waters of all streams within the State of New Mexico regardless of the quality of the water within any given reach are designated for protection.

The 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 occur were furnished you in my May 15, 1985 letter.

Sincerely


S. E. Reynolds
State Engineer

SER*pat