

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION COMMISSION

IN THE MATTER OF THE HEARING CALLED BY THE
OIL CONSERVATION DIVISION UPON ITS OWN
MOTION TO CONSIDER AN ORDER REGULATING THE
DISPOSAL OR COLLECTION OF PRODUCED WATER,
DRILLING FLUIDS, DRILL CUTTINGS, AND COMPLETION
FLUIDS AT COMMERCIAL OR CENTRALIZED SURFACE
DISPOSAL FACILITIES IN MCKINLEY, RIO ARRIBA,
SANDOVAL AND SAN JUAN COUNTIES, NEW MEXICO.

CASE NO. 8835
Order No. R-7940-A

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9:00 o'clock a.m. on February 26 and April 9, 1986, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 9th day of June, 1986, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) Section 70-2-12 B(15) authorizes the Oil Conservation Division and Commission "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 such water in a manner that will afford reasonable protection against contamination of fresh water supplies designated by the state engineer".

(3) The State Engineer has designated all surface waters of the State and all underground waters containing 10,000 milligrams per liter (mg/l) of total dissolved solids (TDS), or less, for which there is a reasonably foreseeable future use as fresh water.

(4) Much production of crude oil and natural gas in New Mexico is accompanied by the co-production of water from the same formation (produced water) which water often contains constituents which can contaminate fresh water supplies.

(5) Drilling fluids used in the exploration for oil and/or gas, including the resultant drill cuttings, may contain chemicals and additives that can contaminate fresh water supplies.

(6) Completion fluids may contain concentrations of chlorides and other constituents that can contaminate fresh water supplies.

(7) Fresh water supplies may be contaminated through improper disposal of the fluids or materials described in Finding Nos. (4), (5), and (6) above either by direct entry of such materials into surface waters or percolation of contaminants into ground water from surface disposal sites.

(8) Volumes of such fluids and/or materials disposed of at commercial or centralized facilities are generally greater than volumes disposed of at an individual well site (considering only fluids or materials used or produced at a well site).

(9) The relatively greater volume of fresh water contaminants found at commercial and centralized disposal facilities presents the potential for a greater volume of contaminant movement into the subsurface and fresh water supplies.

(10) The vulnerability to contamination of fresh water supplies is therefore, in part, affected both by the volume and quality of disposed fluids and solids and the hydrogeology of the area.

(11) By its Order No. R-7940, the Commission adopted special rules to control the disposition of water or fluids produced in connection with the production of oil and natural gas in an area of the San Juan Basin found to be the most vulnerable to contamination from such disposition.

(12) In part, Division Order No. R-7940 requires Division approval of surface disposal facilities that receive produced water removed from or disposed of or stored in the defined Vulnerable Area of the San Juan Basin.

(13) Under said special rules, however, a condition can exist where produced water from the Vulnerable Area is disposed

of, or stored, in an approved pit in proximity to a pit receiving produced water and other oil field fluids and solids from outside the Vulnerable Area and not requiring approval.

(14) This condition is undesirable in that it cannot be assured that the unpermitted facility does not receive water from the Vulnerable Area, nor is the same degree of protection provided to fresh water under equivalent conditions.

(15) Rule 5(a) of Order No. R-7940 provides that no produced water shall be removed from the Vulnerable Area for surface disposal except to approved facilities, but no method exists for tracking such movement.

(16) In order to ensure that such water does go to facilities approved to receive produced water from the Vulnerable Area, commercial surface disposal facilities should be required to keep records on the volume, source, dates, and types of waste received from the Vulnerable Area or other locations.

(17) In order to rectify the issues described in Findings No. 13 through 16 and otherwise to protect fresh waters and to prevent waste in McKinley, Rio Arriba, Sandoval, and San Juan Counties, the Oil Conservation Division (Division) seeks, on its own motion, the promulgation of special rules to require approval of all commercial disposal or collection facilities and to require commercial disposal pit operators to keep and make available records on the volume, source, dates, type of oil field fluids and solid waste received, and the hauling companies using the commercial facilities.

(18) To further assure the protection of fresh water in said four-county area, the Division seeks registration of centralized disposal or collection facilities utilizing ponds, pits or below-grade tanks which facilities receive more than a minimum volume of fluids daily.

(19) The hydrogeology of the area outside the Vulnerable Area is sufficiently diverse to require site-specific reviews for approval of such centralized collection or disposal facilities.

(20) Such a review can be facilitated through the use of a registration form which details the nature and volume of discharge, the construction and materials of holding tanks or pits, the proximity to watercourses and depth to shallow ground water.

(21) Upon review, any centralized facility which does protect fresh water should be approved and any facility which does not should be modified or closed.

(22) A subcommittee of the Long Term Produced Water Study Committee convened by the Director of the Division to assist the Division in its San Juan Basin water protection efforts met during March 1986, to review Division proposals in this case.

(23) While there was general agreement with the Division proposals, there was no agreement as to threshold volumes or conditions for requiring registration of centralized facilities.

(24) At the hearing, the Commission was presented three threshold pit registration options as follows:

(a) an industry proposal to utilize a numerical rating system involving assigning points to various factors such as depth to ground water, volume of produced water entering the facility, and the total dissolved solids (TDS) in such water;

(b) a Division modification of the numerical rating system; and,

(c) a Division proposal to utilize a maximum 16 barrels per day as a level at and below which registration would not be required, except upon written notice by the Division that the centralized facility may not provide adequate protection of fresh water.

(25) The information required for the numerical rating system, including the depth to other than shallow ground water or TDS of the produced water, may not always be available to the owner or other person determining if centralized facilities must be registered and may be subject to interpretation.

(26) A 16-barrel per day exemption level is generally consistent with that adopted in the other major producing area of the State, is clear, and should be adopted.

(27) The Director of the Division should be granted the authority to suspend the use of any commercial or centralized disposal or storage facility when such suspension is necessary to protect fresh water.

(28) The Special Rules for Commercial and Centralized Facilities-San Juan Basin, New Mexico, contained in Exhibit "A" attached to this order contain provisions consistent with the

-5-

Case No. 8835

Order No. R-7940-A

foregoing findings and which will assure improved protection of fresh water in the subject four-county area and should be adopted.

IT IS THEREFORE ORDERED THAT:

(1) Special Rules and Regulations governing the disposal of produced water, drilling fluids, drill cuttings, and completion fluids at all commercial facilities or centralized facilities utilizing ponds, pits or below grade tanks within McKinley, Rio Arriba, Sandoval and San Juan Counties, New Mexico, are hereby promulgated as shown on Exhibit "A" attached to this order.

(2) Jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSISON

JIM BACA, MEMBER


ED KELLEY, MEMBER


R. L. STAMETS,
Chairman and Secretary

S E A L

SPECIAL RULES FOR COMMERCIAL AND CENTRALIZED DISPOSAL AND STORAGE FACILITIES-SAN JUAN BASIN, NEW MEXICO

RULE 1. Applicability

These rules shall apply to all commercial facilities or centralized facilities that dispose of or store produced water, drilling fluids, drill cuttings or completion fluids within McKinley, Rio Arriba, San Juan and Sandoval Counties, New Mexico. The pit registration and approval requirements of these rules shall not apply to those facilities which are regulated by the Oil Conservation Division under the rules and regulations of the New Mexico Water Quality Control Commission.

RULE 2. Definitions

(a) Fresh water (to be protected) includes all surface waters and includes all underground waters containing 10,000 milligrams per liter or less of total dissolved solids except for those which, after notice and hearing, it is found there is no reasonably foreseeable beneficial use which would be impaired by contamination of such waters.

(b) Produced water shall mean those waters produced in conjunction with the production of crude oil and/or natural gas and commonly collected at field storage, processing or disposal facilities, including but not limited to: lease tanks, commingled tank batteries, burn pits, LACT units, dehydrators, and community or lease salt water disposal systems and which may be collected at gas processing plants, pipeline drips and other processing or transportation facilities.

(c) Completion fluids shall mean those fluids which are intended to be or actually are introduced into and recovered from a well after the well is drilled including but not limited to salt solutions, fracturing fluids, acidizing fluids and packer fluids.

(d) Drill cuttings shall mean particles of formation obtained from a well during drilling operations and brought to the surface by drilling fluid or air in rotary drilling or bailed out in cable tool drilling.

CASE NO. 8835
ORDER NO. R-7940-A
EXHIBIT "A"

(e) Drilling fluids shall mean a mixture of water or other fluids and one or more of the various mud-making materials such as clay, weighting materials, chemicals, or any other additives.

(f) Commercial surface disposal or collection facilities shall mean those facilities that receive compensation for collection, disposal, evaporation or storage of produced water, drilling fluids, drill cuttings, and/or completion fluids in surface pits, ponds, or below grade tanks.

(g) Centralized surface disposal or collection facilities shall mean those facilities other than the commercial surface disposal or collection facilities that receive produced water, drilling fluids, drill cuttings, and/or completion fluids from any off-well-site location for collection, disposal, evaporation, or storage in surface pits, ponds, or below grade tanks. Examples include facilities operated by a producer or those operated by any governmental entity including landfills.

(h) Watercourse shall mean any lakebed or gully, draw, streambed, wash, arroyo, or natural or man-made channel through which water flows or has flowed.

RULE 3. Commercial Surface Disposal Facilities to be Approved

(a) Effective July 1, 1986, no produced water, drilling fluids, drill cuttings or completion fluids may be received at commercial surface disposal or collection facilities except at such facilities as may be approved by the Division.

(b) The Director of the Division is hereby authorized to approve administratively the use of lined or unlined pits or below grade tanks at commercial facilities for collection, disposal, or storage of produced water, drilling fluids, drill cuttings, or completion fluids upon a proper showing that the tank or pit is, or will be constructed and operated in such a manner as to ensure structural integrity, and to protect fresh waters.

(c) The operator of any existing unapproved commercial collection or disposal facilities must notify the Division of the location of such facilities on or before September 1, 1986.

RULE 4. Commercial Surface Disposal Facility Records

Each operator of a commercial surface disposal or

collection facility shall keep and make available for inspection, records for each calendar month on the source, location, volume and type of waste (produced water, acids, completion fluids, drilling mud, etc.), date of disposal, and hauling company that disposes of fluids or material in their facility. Such records shall be maintained for a period of two years from the date of disposal.

RULE 5. Registration of Centralized Surface Disposal or Collection Facilities

(a) Except as provided by Rule 5(c) and 5(d) below, the owner/operator of any existing centralized surface disposal or collection facility seeking the continued use thereof for disposal or collection purposes, must file a Pit Registration Form with the Division in the form attached as "Exhibit A" hereto by September 1, 1986.

(b) Except as provided by Rule 5 (c) and 5 (d) below, the owner/operator of any proposed centralized surface disposal or collection facility to be constructed after September 1, 1986, must file a Pit Registration Form with the Division at least ninety days prior to the date of initiation of construction of the facility. Within 30 days of receipt of a registration form, the Division will notify the applicant in writing if there is a need to provide additional information pursuant to Rule 7.

(c) The requirement for filing a Pit Registration Form shall not apply to centralized facilities which never receive during any 24-hour period more than 16 barrels of produced water, or to pipeline drip pits; provided that such facilities are not located within a watercourse or within ten feet to ground water as measured from the base of the pit or tank; provided further, however, that upon written notice by the Division Director to the owner/operator of any such pit(s) or tank(s) that the location, discharge, or other factor(s) relating to the pit or tank may not provide for adequate protection of fresh water supplies, such form shall be filed within thirty days.

(d) These rules shall not apply to any pit that is utilized during emergency drilling conditions for a period of up to ten days provided that such pit is not located within a watercourse or within ten feet to ground water as measured from the base of the pit, and further provided that permission to use such pit shall immediately be sought from the Aztec district office.

(e) Notwithstanding any other provision of these rules, centralized facilities receiving any fluids other than, or in addition to, produced water, such as

completion fluids, drilling mud, etc., shall be required to file a Pit Registration Form with the Division, clearly indicating the type and volumes of fluids and other materials disposed of.

RULE 6. Location, Construction and Operation Requirements

(a) Applications for approval of the design, construction, and installation of lined pits or below grade tanks should be made in accordance with Division "Guidelines". The location, construction, and operation of any commercial or centralized disposal or storage facility shall be such as to prevent contamination of fresh water.

(b) The criteria to be utilized by the Division in determining whether facilities covered by these rules present a threat of fresh water contamination are:

- 1) Volume of Discharge
- 2) Type of Pit (lined, unlined, tank)
- 3) Types and Total Dissolved Solids of Fluids
- 4) Presence and Concentration of Contaminants in Pit Fluids
- 5) Surface Location and Proximity to Water Courses
- 6) Nature and Permeability of Vadose Zone
- 7) Depth to Ground water
- 8) Aquifer Water Quality
- 9) Nature and Areal Extent of Aquifer Potentially Affected
- 10) Such Other Relevant Factors as the Division May Determine

RULE 7. Permits, Additional Information, Appeals

(a) Upon a showing that operation of a centralized facility will not present a hazard to fresh water resources, the Director of the Division shall approve such facility for the stated use.

(b) If, upon review of a Pit Registration Form, the Division determines that utilization of any existing or proposed pit may present a threat of contamination to fresh water supplies, the Division shall request and the owner/operator shall provide such additional relevant information as the Division believes is necessary.

(c) If, upon review of all information regarding a Pit Registration Form, the Division believes that utilization of the facility may present a threat of contamination to fresh water supplies, the Division shall notify the owner/operator in writing of this fact and specify the reasons that the Division believes the

facility presents a threat of contamination to fresh water supplies. This notice shall invite the owner/operator to consult with the Division to initiate such design, operation, or site changes as the Division believes are necessary to ensure structural integrity and allow the facility to comply with water protection requirements.

(d) If the Division and the owner/operator of a facility are unable to agree on such changes as the Division believes are necessary, the Division shall issue a second notice to such owner/operator specifying the potential threat(s) to fresh water supplies posed by the facility. The owner/operator of the facility shall then have thirty days from receipt of such notice in which to request a hearing to show that construction or operation of the facility will not result in contamination of fresh water supplies for the reasons set forth by the Division. Failure of the owner/operator to request a hearing shall result in a finding by the Division that the facility as designed or operated poses a threat of contamination to fresh water supplies and such facility, if proposed, shall not be constructed or, if existing, shall immediately cease operations.

RULE 8.

Nothing in these rules shall prohibit the Director of the Division from taking immediate action to suspend the use of any commercial or centralized disposal or storage facility when such suspension is necessary to protect fresh water.