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

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION FOR THE PURPOSE OF
CONSIDERING:

CASE 10436
Order No. R-7940-B

AMENDMENT OF COMMISSION ORDER R-7940 TO PROVIDE FOR THE EXPANSION OF THE DESIGNATED VULNERABLE AREA OF THE SAN JUAN BASIN, ELIMINATION OF DISCHARGES TO UNLINED PITS, CREATION OF WELLHEAD PROTECTION AREAS, ESTABLISHMENT OF DEADLINES FOR COMPLIANCE, AND REGISTRATION OF CERTAIN PITS.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9:00 A.M. on January 16, April 9, and May 21, 1992, at Santa Fe, New Mexico, before the Oil Conservation Commission, hereinafter referred to as the "Commission."

NOW, on the 5th day of August, 1992, 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 (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 the water in a manner that will afford reasonable protection against contamination of fresh water supplies designated by the state engineer."

(3) Section 70-2-12 B(21) authorizes the Oil Conservation Division and Commission "to regulate the disposition of nondomestic wastes resulting from the exploration, development, production or storage of crude oil or natural gas to protect public health and the environment."

(4) The State Engineer has designated all surface waters of the State and all ground 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.

(5) In June of 1984, the Oil Conservation Division conducted hearings into proposals for groundwater protection from discharges of produced water into unlined pits in Northwest New Mexico.

(6) In July of 1985 a committee was appointed by the Director of the Oil Conservation Division to study and report on produced water disposal practices in Northwest New Mexico and their resultant impact on groundwater.

(7) Said committee divided itself into long-range and short-range committees.

(8) Data compilation and recommendations from the short-term committee formed the basis for Case No. 8224 which resulted in Oil Conservation Commission Order No. R-7940 which established and defined the "vulnerable area" in Northwest New Mexico where disposal of produced water or production fluids in excess of 5 barrels per day in unlined pits was prohibited.

(9) The long-term committee was charged with investigating unresolved short-term committee issues and met at least 10 times between September, 1985 and October, 1991 resulting in recommendations and suggestions which formed the basis for Oil Conservation Division proposals to expand the vulnerable area and provide for additional groundwater protection measures.

(10) The Division presented unrefuted evidence of ground water contamination from small volume discharges to unlined produced water pits sited in alluvial fill in the currently defined Vulnerable Area.

(11) The high permeability of alluvium allows contaminants, particularly benzene, toluene, ethylbenzene and xylene, to migrate into ground water.

(12) Alluvium is the primary aquifer or subsurface reservoir containing protectable fresh water supplies and as such should be the definitive criteria for establishing water protection measures in an expanded vulnerable area.

(13) Four Corners Gas Producers Association (FCGPA) presented testimony in support of an exemption for dry gas wells outside of the existing vulnerable area producing less than 1 barrel of produced water per day. Evidence was presented to confirm the natural remediation process which works to eliminate groundwater contamination.

Finding: The soil sample evidence presented by FCGPA raised sufficient doubt as to whether dry gas wells were a source of groundwater contamination but lacked critical produced water discharge analysis data and underlying groundwater analysis data to warrant an exemption for dry gas wells at this time.

(14) The New Mexico Oil and Gas Association presented testimony in support of extending the time limit for compliance with discharge elimination in the expanded vulnerable area and requested an exemption for dehydration pits, downstream of producing wells. Both positions were supported by economic arguments. The Oil Conservation Division proposal allows for a one-year extension of time.

Finding: For good cause shown, an extension of up to one and one-half years will adequately accommodate unexpected contingencies and provide adequate protection to ground water. There was no supporting scientific evidence to show that discharges from dehydration pits would not contaminate groundwater so an exemption based solely on economic arguments should not be implemented.

(15) B.C.O. Inc. presented testimony in support of an exception for the Lybrook area based upon the contention that alluvium was not present, and that the relatively impermeable shales of the Nacimiento formation overlaid the Ojo Alamo Sandstone which contained the only potable water supply in the area. Much of the BCO testimony was discredited by subsequent testimony showing protectable ground water in alluvium deposits within the Lybrook area.

Finding: The evidence does not support a no pit exemption for the Lybrook area.

(16) Southwest Research and Information Center (SRIC) presented testimony in support of shorter time frames for compliance in discharge elimination; expanding the proposed expanded vulnerable area to include alluvium underlying the Lee Acres Land Fill, expanding the protection zone around all fresh water discharge points to 1,000 horizontal feet, and to generally expand notice requirements in variance applications.

Finding: Finding 14 provides for an adequate compliance schedule balancing the need for immediate action with the economic realities within the oil field infrastructure. The vulnerable area should be expanded to include the Lee Acres Land Fill alluvium. Public health and the environment will be adequately protected with notification to the owner of the surface and other property owners and occupants within 1/2 mile of the site for which a variance is sought, a public notice requirement, the 31-day waiting period for objections and the public hearing process.

(17) Based upon public health and environmental risk assessment, all parties agreed that there should be no blanket exclusions within the existing vulnerable area because of higher population densities.

(18) The economics of pit closure were addressed in testimony but this issue is not germane to this case since pits would eventually be closed at well abandonment even if granted an exception.

(19) The economic impact of prohibiting operators from discharging production fluids into unlined earthen pits could be substantial with resultant negative effects on state revenues because many marginal gas wells could not sustain the additional burden of installing tanks or lining pits, but providing reasonable protection to fresh water supplies requires implementation of rules and regulations which prohibit discharges of production fluids into unlined pits in water bearing alluvium and protection of fresh water sources such as water supply wells and springs.

(20) To prevent unnecessary regulation which imposes unnecessary costs on operators resulting in corresponding reductions in revenues without offsetting public health and environmental benefits, there should be a reasonable procedure established to grant variances to discharge prohibition where the applicant can demonstrate that:

(a) the discharge site is not located in water bearing alluvium or is outside the boundaries of the Vulnerable or Expanded Vulnerable Areas; or

(b) the discharge quality meets or exceeds New Mexico Water Quality Control Commission (WQCC) Ground Water Standards; or

(c) no protectable ground water (as defined by the New Mexico State Engineer) is present or if present, will not be adversely affected by the discharge; and

(d) the discharge is not located within a Wellhead Protection Area.

IT IS THEREFORE ORDERED THAT:

(1) The areas currently defined as "Vulnerable Area" under OCC Order R-7940 (1) (a,b and c) are expanded to include those alluvial areas which lie within 50 vertical feet, measured perpendicularly to the drainage channel, of all major perennial and ephemeral creeks, canyons, washes, arroyos and draws located within the oil and gas producing areas of the San Juan Basin in northwestern New Mexico.

(2) To protect fresh waters, Special Rules and Regulations governing the disposal of oil and gas wastes in the Vulnerable Area of San Juan, McKinley, Rio Arriba and Sandoval Counties are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS FOR THE DISPOSAL OF OIL AND NATURAL GAS WASTES IN THE VULNERABLE AREA IN SAN JUAN, MCKINLEY, RIO ARRIBA AND SANDOVAL COUNTIES, NEW MEXICO

RULE 1. APPLICABILITY

These rules shall apply to the disposal of all oil and natural gas waste within the Vulnerable Area whether such wastes are disposed of within or without said area.

RULE 2. DEFINITIONS

(a) Alluvium includes detrital material which has been transported by water or other erosional forces and deposited at points along the flood plain of a watercourse. It is typically composed of sands, silts and gravels, exhibits high porosity and permeability and generally carries fresh water.

(b) Fresh water to be protected includes the water in lakes and playas, the surface waters of all streams regardless of the quality of the water within any given reach, and all underground waters containing 10,000 milligrams per liter (mg/l) or less of total dissolved solids (TDS). The water in lakes and playas shall be protected from contamination even though it may contain more than 10,000 mg/l of TDS unless it can be shown that

hydrologically connected fresh water will not be adversely affected.

(c) Oil and natural gas wastes shall mean those wastes produced in conjunction with the production, refining, processing and transportation of crude oil and/or natural gas and commonly collected at field storage, processing or disposal facilities, and waste collected at gas processing plants, refineries and other processing or transportation facilities.

(d) Field storage, processing or disposal facilities include but are not limited to: separators, dehydrators, blowdown pits, workover pits, burn pits, lease tanks, commingled tank batteries, LACT units, community or lease salt water disposal systems, gathering and transmission line drip pits.

(e) Pits are defined as below grade or surface excavations which receive any type of oil and gas waste as described above.

RULE 3. PROHIBITIONS

(a) Disposal of oil and natural gas wastes produced within the Vulnerable Area onto the ground surface or into unlined pits is prohibited.

(b) Current discharges of oil and natural gas wastes to unlined pits within the Vulnerable Area will be eliminated pursuant to the following schedule:

(1) All discharges of oil and natural gas wastes to all unlined pits located in the areas defined as the original Vulnerable Area by Order R-7940 (1) (a,b, and c) will be eliminated within one year of the effective date of this order.

(2) All discharges of oil and natural gas wastes into unlined pits located in those areas included in the expanded Vulnerable Area as defined in this order will be eliminated within two years of the effective date of this order. The expanded area will include alluvial areas within fifty vertical feet of the following major tributaries of the respective river systems:

a. San Juan River

Armenta Canyon
Benito Canyon
Bloomfield Canyon
West Fork Bloomfield Canyon
Caballo Canyon
Cabresto Canyon
Canon Bancos
Canon Largo
Carracas Canyon
Chaco River/Chaco Wash
Chavez Canyon
Collidge Canyon
Laguna Seca Draw
Locke Arroyo
Malpais Arroyo
Mansfield Canyon
Manzanares Canyon
Many Devils Wash
Munoz Canyon
Negro Andy Canyon
Ojo Amarillo Canyon
Potter Canyon
Pump Canyon
Rattlesnake Wash

Cottonwood Canyon
Creighton Canyon
Dain Arroyo
Eagle Nest Wash
Eul Canyon
Farmington Glade
Frances Creek
Gallegos Canyon
Gobernador Canyon
Green Canyon
Hare Canyon
Head Canyon
Horn Canyon
Kutz Canyon
La Fragua Canyon
La Jara Canyon
Red Wash
Ruins Canyon
Salt Creek Wash
Shiprock Wash
Shumway Arroyo
Slane Canyon
Little Slane Canyon
Stevens Arroyo
Stewart Canyon
Sullivan Canyon
Tom Gale Canyon
Vaca Canyon
Valdez Canyon
Waughan Arroyo
Wright Canyon

Unnamed arroyo in parts of Sections 21 and 22, Township 29 North, Range 12 West, known as the Lee Acres Landfill arroyo.

b. Animas River

Arch Rock Canyon
Barton Arroyo
Blancett Arroyo
Bohanan Canyon
Calloway Canyon
Cook Arroyo
Cox Canyon
Ditch Canyon
Estes Arroyo
Flora Vista Arroyo
Hampton Arroyo
Hart Canyon
Hood Arroyo
Johnson Arroyo
Jones Arroyo
Kiffen Canyon
Knowlton Canyon
Kochis Arroyo
Miller Canyon
Rabbit Arroyo
Tucker Canyon
Williams Arroyo
Wyper Arroyo

c. La Plata River

Barker Arroyo
Conner Arroyo
Cottonwood Arroyo
Coyne Arroyo
McDermott Arroyo
Murphy Arroyo
Pickering Arroyo
Thompson Arroyo
Two Cross Arroyo

(c) All discharges to unlined pits located in alluvial material within fifty vertical feet of all remaining tributaries to the San Juan, Animas and La Plata Rivers will be eliminated within three years from the effective date of this order.

(d) A wellhead protection area to provide protection for springs and fresh water wells outside the original and expanded Vulnerable Areas is hereby established. All discharges to unlined pits within a radius of 1000 horizontal feet of such areas will be eliminated within two years from the effective date of this order.

(e) Wellhead protection areas shall not include areas around water wells which are drilled after the effective date of this order if such water wells are located within 1000 feet of an existing source of oil or natural gas waste.

(f) For good cause shown, the Director of the Division may administratively allow an extension of the time schedule for elimination of discharges to unlined pits, as described above, for a period not to exceed one and one-half years.

(g) The transfer of fluids out of the Vulnerable and Expanded Vulnerable Areas and Wellhead Protection Areas for disposal into unlined or unpermitted pits is prohibited unless specifically authorized by the Director of the Division.

RULE 4. SURFACE DISPOSAL FACILITIES TO BE APPROVED/REGISTERED

(a) No oil and natural gas wastes may be disposed of or stored in below grade tanks or lined pits except after application to and approval by the Division. The Division Director may administratively approve the use of lined pits and below grade tanks within the Vulnerable Area for disposal or storage of oil and natural gas wastes upon a proper showing that the tank or lined pit will be constructed and operated in such a manner as to safely contain the wastes to be placed therein and to detect leakage therefrom.

(b) All unlined pits outside the Vulnerable Areas and Wellhead Protection Areas receiving greater than five (5) barrels of fluids per day will be registered with the Oil Conservation Division (OCD) within one year of the effective date of this order.

RULE 5. PIT CLOSURE

(a) Applications or plans to close existing unlined pits in the Vulnerable and Expanded Vulnerable Areas and Wellhead Protection Areas will be submitted to the OCD for approval within sixty (60) days from the date of elimination of discharge.

RULE 6. VARIANCES

(a) The Director of the OCD may administratively approve a variance to the discharge prohibition on a case by case basis if the discharger can demonstrate that:

1. the discharge site is not located in alluvium or is outside the boundaries of the Vulnerable or Expanded Vulnerable Areas; or

2. the discharge quality meets or exceeds New Mexico Water Quality Control Commission (WQCC) Ground Water Standards; or

3. no protectable ground water (as defined by the New Mexico State Engineer) is present or if present, will not be adversely affected by the discharge; and

4. the discharge is not located within a Wellhead Protection Area:

(b) Notice of request for variance for a specific discharge point will be sent by the operator to the owner of the surface and other property owners and occupants within 1/2 mile of the site for which the variance is sought. Notice shall be by certified mail, return receipt requested, or other means of service for which proof of receipt is available. Such persons will be given twenty (20) days from the date of receipt of notice to comment to the OCD on the request. In addition, the applicant must provide public notice, in a form approved by the Division, by advertisement in a newspaper of general circulation published within the State and circulated within the county in which the variance is sought.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JAMI BAILEY
Member

WILLIAM W. WEISS,
Member

WILLIAM J. LEMAY,
Chairman

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