

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE NO. 5899
Order No. R-5516

APPLICATION OF ROBERT P. WALLACH,
RAY A. WALLACH, AND PATRICIA LOUISE
WALLACH HOUSE FOR AN EXCEPTION TO
ORDER NO. R-3221, LEA COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 20, 1977, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 30th day of August, 1977, 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:

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

(2) That the applicants, Robert P. Wallach, Ray A. Wallach, and Patricia Louise Wallach House, are the owners of certain gravel pits located in the SW/4 of Section 29, Township 21 South, Range 38 East, NMPM, Lea County, New Mexico.

(3) That Order (3) of Commission Order No. R-3221, as amended, prohibits in that area encompassed by Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico, the disposal, subject to minor exceptions, 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, stream-bed, or arroyo, or in any watercourse, or in any other place or in any manner which would constitute a hazard to any fresh water supplies and said disposal has not previously been prohibited.

-2-

Case No. 5899

Order No. R-5516

(4) That the aforesaid Order No. R-3221 was issued in order to afford reasonable protection against contamination of fresh water supplies designated by the State Engineer through disposal of water produced in conjunction with the production of oil or gas, or both, in unlined surface pits.

(5) That the State Engineer has designated, pursuant to Section 65-3-11 (15), N.M.S.A., 1953 Compilation, all underground water in the State of New Mexico containing 10,000 parts per million or less of dissolved solids as fresh water supplies to be afforded reasonable protection against contamination; except that said designation does not include any water for which there is no present or reasonably foreseeable beneficial use that would be impaired by contamination.

(6) That the applicants seek an exception to the provisions of the aforesaid Order (3) to permit the commercial disposal of produced salt water in the pits described in Finding No. (2) above.

(7) That said pits have been utilized for the mining of Ogallala formation gravels for many years.

(8) That said Ogallala gravels were laid down within an elongate East-West trending channel eroded into the underlying Triassic red bed formations.

(9) That percolation tests indicate that said Triassic red beds are highly resistant to the downward percolation of water within the area of said pits and are essentially impermeable.

(10) That the applicants propose to construct dikes and core trenches across and along said elongate channel in the Triassic red beds within said quarter section to create pits which are essentially impermeable to the lateral flow of water.

(11) That the applicants propose to limit the high water level in any such pit to at least four feet below the Triassic spill point in the pit.

(12) That salt water disposed of into any such impermeable pit as described in Findings Nos. (9) and (10) above will not percolate downward nor migrate laterally outward from said pit and create a hazard to fresh waters, but will evaporate.

(13) That approval for all of the pits requested by applicants in this case should not be granted at this time, but a pilot pit project utilizing the large central pit area

-3-

Case No. 5899

Order No. R-5516

described as Pit 1 and Pit 2 on Figure 4 of Exhibit A in this case should be approved, subject to certain requirements.

(14) That applicants should be required to provide adequate salt water settling tanks to permit removal of oil from the water prior to placement of said water in the evaporation pit, in order to not impair water evaporation.

(15) That in order to ensure that no downward percolation nor outward migration of water from the authorized pit does occur, certain monitor wells should be drilled into the Triassic red beds at specified locations around the pit and a Commission-approved method for monitoring said red beds beneath the pit should be employed.

(16) That an administrative procedure should be adopted whereby additional pits within the SW/4 of said Section 29 may be utilized for salt water disposal.

(17) That approval of the application subject to the above-described conditions will not cause waste, will not violate correlative rights, nor harm fresh waters.

(18) That the application should be approved.

IT IS THEREFORE ORDERED:

(1) That the applicants, Robert P. Wallach, Ray A. Wallach, and Patricia Louise Wallach House, are hereby granted an exception to Order (3) of Commission Order No. R-3221, as amended, to commercially dispose of produced salt water in an unlined surface pit located in the SW/4 of Section 29, Township 21 South, Range 38 East, NMPM, Lea County, New Mexico, consisting of Pit 1 and Pit 2 as identified on Figure 4 of applicant's Exhibit A in the subject case.

(2) That prior to utilization of said pit for salt water disposal, applicant shall construct the following-described dikes and core trenches:

- A. A north-northeast/south-southwest trending dike at the west end of the pit area;
- B. A north-northwest/south-southeast trending combination core trench-dike at the east end of the pit area; and

-4-

Case No. 5899

Order No. R-5516

- C. An east-west trending core trench at the south side of the pit area.

(3) That the above-described dikes and core trenches shall be constructed to an elevation of 3,451 feet above sea level and in accordance with good engineering practices and the specifications set forth on pages five and six of applicant's Exhibit "A" in this case. Construction shall be under the supervision and responsibility of the consulting hydrologist in this case.

(4) That prior to utilization of the aforesaid pit for salt water disposal, applicant shall drill the following described monitor wells around the outer perimeter of said pit:

- A. Nine monitor wells along the southern perimeter of said pit, being those wells depicted as monitor wells, pit one, on Figure 4 of applicant's Exhibit "A" in this case;
- B. Three monitor wells at the southeast end of said pit, being those wells depicted as monitor wells, pits one and three on the aforesaid Figure 4;
- C. Two monitor wells at the southwest end of said pit, being those wells depicted as monitor well, pits one and four on Figure 4;
- D. Four monitor wells at the west end of said pit, being those wells depicted as monitor wells on a north-northeast/south-southwest line approximately 75 feet west of the western dike for Pit No. 1; and
- E. Three monitor wells along the northern perimeter of said pit, being those monitor wells depicted as monitor well, pit one, monitor well, pits one and two, and monitor well, pits one, two, and three, on Figure 4;

(5) That each of the above-described monitor wells shall be drilled and cased under the supervision and responsibility of the consulting hydrologist in this case and shall be drilled to a sufficient depth to reach a plane 3427 feet above sea level, and shall be drilled six inches in diameter

-5-

Case No. 5899

Order No. R-5516

and cased with 4-inch PVC casing; casing shall be perforated with at least eight holes per foot from the bottom of the casing to a point 3451 feet above sea level; the casing shall be capped at the surface and each monitor well checked for fluids at least once a month during the first two years of pit operation (for disposal purposes) and quarterly thereafter. Analyses of waters encountered during such tests and the results of such analyses, as well as water levels, shall be reported in writing to the Hobbs District Office of the Commission within 30 days following sampling.

(6) That the applicant shall bore a hole laterally into the Triassic red beds from a point east of the approximate middle of the easternmost dike described in Order No. (2) B above, said hole to be bored under the dike and penetrating a minimum of five feet into the pit area west of said dike; said hole shall be bored at an approximate depth of six to ten feet beneath the top of the Triassic red beds and shall be cased and gravel packed; the westernmost five feet of said casing shall be perforated and the easternmost end of said casing shall be positioned to drain into a covered impermeable sump to detect possible percolation of waters from the floor of the pit into the drain pipe; the monitoring procedures and reporting requirements of Order No. (5) above shall also apply to the aforesaid sump.

(7) In lieu of the percolation detection system required by Order No. (6) above, the Secretary-Director may authorize another acceptable means of detection of downward percolation of waters from the subject pit.

(8) The Secretary-Director shall order suspension of disposal operations into the subject pit if any of the monitoring procedures prescribed in Orders Nos. (4), (5), (6), or (7), or any other condition, gives him good cause to suspect outward migration or downward percolation of waters from said pit. Disposal operations shall not be resumed until the Secretary-Director is satisfied that such measures have been taken to ensure that continued disposal will not constitute a hazard to fresh waters in the area.

(9) That the applicants shall provide for the placement of a pipe, or acceptable substitute, in the pit, said pipe to be marked in such a manner as to readily indicate the depth of the water in the pit and the maximum elevation which the water in said pit shall be permitted to attain.

(10) That at no time shall disposal in the aforesaid pit be permitted if the total quantity of water in the pit,

from both natural precipitation and previous disposal, reaches a plane four feet below the level of the spill point of the Triassic red beds or dikes around such pit, said plane being at an elevation of 3447 feet above sea level.

(11) That the applicant shall install and maintain in good condition wooden or metal settling tanks, and shall allow all oil field brines to remain in such tanks for a sufficient period of time to permit residual oil contained in said brines to be skimmed off, and not be passed on with the brines to the disposal pit.

(12) That the applicant shall install and maintain in good condition meters or other measuring devices to permit an accurate determination of the quantity of water disposed of in the pit.

(13) That the applicant shall file a monthly report with the Commission in accordance with Rule 1120 of the Commission Rules and Regulations, reporting each source and quantity of disposal water and the total quantity disposed of.

(14) That the Secretary-Director of the Commission may administratively authorize the utilization of any of the remaining pits in the SW/4 of said Section 29 for salt water disposal upon a showing by the applicants that such pits will be constructed and operated in conformance with the provisions of this order and upon a showing of satisfactory operation of the pit authorized herein for a period of at least one year.

(15) The Secretary-Director may amend the above-specified frequencies for monitoring upon a showing that such amendment would not constitute a hazard to the fresh waters in the area.

(16) That the Secretary-Director of the Commission may by administrative order rescind the authorization for use of any pit approved under the provisions of this order whenever it reasonably appears to the Secretary-Director that such rescission would serve to protect fresh water supplies from contamination.

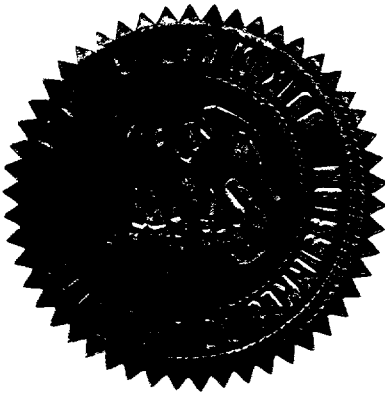
(17) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

-7-

Case No. 5899
Order No. R-5516

DONE at Santa Fe, New Mexico, on the day and year herein-
above designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION



Phil R. Lucero Sept. 6, 1977
PHIL R. LUCERO, Chairman

Emery C. Arnold
EMERY C. ARNOLD, Member

Joe D. Ramey
JOE D. RAMEY, Member & Secretary

S E A L

dr/

dr/

Dr

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 5899

Order No. R- 5516

du

302

APPLICATION OF ROBERT P. WALLACH,
RAY A. WALLACH, AND PATRICIA LOUISE
WALLACH HOUSE FOR AN EXCEPTION TO
ORDER NO. R-3221, LEA COUNTY, NEW MEXICO.

YJ

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 20, 1977,
at Santa Fe, New Mexico, before the Oil Conservation Commission
of New Mexico, hereinafter referred to as the "Commission."

NOW, on this _____ day of _____, 1977, 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:

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

(2) That the applicants, Robert P. Wallach, Ray A. Wallach,
and Patricia Louise Wallach House, are the owners of certain gravel
pits located in the SW/4 of Section 29, Township 21 South, Range 38
East, Lea County, New Mexico.

(3) That Order (3) of Commission Order No. R-3221, as amended, prohibits in that area encompassed by Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico, the disposal, subject to minor exceptions, 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 watercourse, or in any other place or in any manner which would constitute a hazard to any fresh water supplies and said disposal has not previously been prohibited.

(4) That the aforesaid Order No. R-3221 was issued in order to afford reasonable protection against contamination of fresh water supplies designated by the State Engineer through disposal of water produced in conjunction with the production of oil or gas, or both, in unlined surface pits.

(5) That the State Engineer has designated, pursuant to Section 65-3-11 (15), N.M.S.A., 1953 Compilation, all underground water in the State of New Mexico containing 10,000 parts per million or less of dissolved solids as fresh water supplies to be afforded reasonable protection against contamination; except that said designation does not include any water for which there is no present or reasonably foreseeable beneficial use that would be impaired by contamination.

(6) That the applicants seek an exception to the provisions of the aforesaid Order (3) to permit the commercial disposal of produced salt water in the pits described in Finding No. (2) above.

(7) That said pits have been utilized for the mining of Ogallala formation gravels for many years.

(8) That said Ogallala gravels were laid down within an elongate East-West trending channel eroded into the underlying Triassic red bed formations.

(9) That percolation tests indicate that said Triassic red beds are highly resistant to the downward percolation of water within the area of said pits and are essentially impermeable.

(10) That the applicants propose to construct dikes and core trenches across and along said elongate channel in the Triassic red beds within said quarter section to create pits which are essentially impermeable to the lateral flow of water.

(11) That the applicants propose to limit the high water level in any such pit to at least four feet below the Triassic spill point in the pit.

(12) That salt water disposed of into any such impermeable pit as described in Findings Nos. (9) and (10) above will not percolate downward nor migrate laterally outward from said pit and create a hazard to fresh waters, but will evaporate.

(13) That approval for all of the pits requested by applicants in this case should not be granted at this time, but a pilot pit project utilizing the large central pit area described as Pit 1 and Pit 2 on Figure 4 of Exhibit A in this case should be approved, subject to certain requirements.

(14) That applicants should be required to provide adequate salt water settling tanks to permit removal of oil from the water prior to placement of said water in the evaporation pit, in order to not impair water evaporation.

(15) That in order to ensure that no downward percolation nor outward migration of water from the authorized pit does occur, certain monitor wells should be drilled into the Triassic red beds at specified locations around the pit and a Commission-approved method for monitoring said red beds beneath the pit should be employed.

(16) That an administrative procedure should be adopted whereby additional pits within the SW/4 of said Section 29 may be utilized for salt water disposal.

(17) That approval of the ~~subject~~ application subject to the above-described conditions will not cause waste, will not violate correlative rights, nor harm fresh waters.

(18) That the application should be approved.

IT IS THEREFORE ORDERED:

(1) That the applicants, Robert P. Wallach, Ray A. Wallach, and Patricia Louise Wallach House, are hereby granted an exception to Order (3) of Commission Order No. R-3221, as amended, to commercially dispose of produced salt water in an unlined surface pit located in the SW/4 of Section 29, Township 21 South, Range 38 East, Lea County, New Mexico, consisting of Pit 1 and Pit 2 as identified on Figure 4 of applicant's Exhibit A in the subject case.

(2) That prior to utilization of said pit for salt water disposal, applicant shall construct the following-described dikes and core trenches:

- A. A north-northeast/south-southwest trending dike at the west end of the pit area;
- B. A north-northwest/south-southeast trending combination core trench-dike at the east end of the pit area; and
- C. An east-west trending core trench at the south side of the pit area.

(3) That the above-described dikes and core trench^s shall be constructed to an elevation of 3,451 feet above sea level and in accordance with good engineering practices and the specifications set forth on pages five and six of applicant's Exhibit "A" in this case. Construction shall be under the supervision and responsibility of the consulting hydrologist in this ~~xxxx~~ case.

(4) That prior to utilization of the aforesaid pit for salt water disposal, applicant shall drill the following described monitor wells around the outer perimeter of said pit:

- A. Nine monitor wells along the southern perimeter of said pit, being those wells depicted as monitor wells, pit one, on Figure 4 of applicant's Exhibit "A" in this case;
- B. Three monitor wells at the southeast end of said pit, being those wells depicted as monitor wells, pits one and three on the aforesaid Figure 4;
- C. Two monitor wells at the southwest end of said pit, being those wells depicted as monitor well, pits one and four on Figure 4;
- D. Four monitor wells at the west end of said pit, being those wells depicted as monitor wells on a north-northeast/south-southwest line approximately 75 feet west of the western dike for Pit No. 1;
- E. Three monitor wells along the northern perimeter of said pit, being those monitor wells depicted as monitor well, pit one, monitor well, pits one and two, and monitor well, pits one, two, and three, on Figure 4; and

~~F. One monitor well not depicted on Figure 4, but located approximately 60 feet east of the eastern dike for Pit No. 1 at a point approximately east of the "X 10" symbol on Figure 4.~~

(5) That each of the above-described monitor wells shall be drilled and cased under the supervision and responsibility of the consulting hydrologist in this case and shall be drilled to a

sufficient depth to reach a plane 3427 feet above sea level, and shall be drilled six inches in diameter and cased with 4-inch PVC casing; casing shall be perforated with at least eight holes per foot from the bottom of the casing to a point 3451 feet above sea level; ~~(except for the well described in Finding No. (4) E above, in which only the lowermost ten feet of casing shall be perforated)~~ the casing shall be capped at the surface and each monitor well checked for fluids at least once a month during the first two years of pit operation (for disposal purposes) and quarterly thereafter. *Analyses of waters encountered during such tests and the results of such analyses, as well as water levels, shall be reported in writing to the Hobbs District Office of the Commission within 30 days following sampling.*

(6) That the applicant shall bore a hole laterally into the Triassic red beds from a point east of the approximate middle of the easternmost dike described in Order No. (2) B above, said hole to be bored under the dike and penetrating a minimum of five feet into the pit area west of said dike; said hole shall be bored at an approximate depth of six ^{to ten} feet beneath the top of the Triassic red beds and shall be cased and gravel packed; the westernmost five feet of said casing shall be perforated and the easternmost end of said casing shall be positioned to drain into a covered impermeable sump to detect possible percolation of waters from the floor of the pit into the drain pipe; the monitoring procedures and reporting requirements of Order No. (5) above shall also apply to the aforesaid sump.

(7) In lieu of the percolation detection system required by Order No. (6) above, the Secretary-Director may authorize another acceptable means of detection of downward percolation of waters from the subject pit.

(8) The Secretary-Director shall order suspension of disposal operations into the subject pit if any of the monitoring procedures prescribed in Orders Nos. (4), (5), (6), or (7), or any other condition, gives him good cause to suspect outward migration ~~or~~ downward percolation of waters from said pit. Disposal operations shall not be resumed until the Secretary-Director is satisfied that such measures have been taken to ensure that continued disposal will not constitute a hazard to fresh waters in the area.

(9) That the applicants shall provide for the placement of a pipe, or acceptable substitute, in the pit, said pipe to be marked in such a manner as to readily indicate the depth of the water in the pit and the maximum elevation which the water in said pit shall be permitted to attain.

at no time shall disposal in the aforesaid pit be permitted
(10) ~~That the applicants shall not permit the water in said~~
if the total quantity of water in the pit, from both natural precipitation and previous disposal, reaches
a plane four feet below the level of the spill point of the Triassic red beds or dikes around such pit, said plane being at an elevation of 3447 feet above sea level.

(11) That the applicant shall install and maintain in good condition wooden or metal settling tanks, and shall allow all oil field brines to remain in such tanks for a sufficient period of time to permit residual oil contained in said brines to be skimmed off, and not be passed on with the brines to the disposal *pit*.

(12) That the applicant shall install and maintain in good condition meters or other measuring devices to permit an accurate determination of the quantity of water disposed of in *the pit*.

(13) That the applicant shall file a monthly report with the Commission in accordance with Rule 1120 of the Commission Rules and Regulations, reporting each source and quantity of disposal water and the total quantity disposed of.

(14) That the Secretary-Director of the Commission may administratively authorize the utilization of any of the remaining pits in the SW/4 of said Section 29 for salt water disposal upon a showing by the applicants that such pits will be constructed and operated in conformance with the provisions of this order and upon a showing of satisfactory operation of the pit authorized herein for a period of at least one year.

(15) The Secretary-Director may amend the above-specified frequencies for monitoring upon a showing that such amendment would not constitute a hazard to the fresh waters in the area.

-8-

Case No. 5899

Order No. R-

(16) That the Secretary-Director of the Commission may by administrative order rescind the authorization for use of any pit approved under the provisions of this order whenever it reasonably appears to the Secretary-Director that such rescission would serve to protect fresh water supplies from contamination.

(17) That 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.