STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

Petition of Atlantic Oil Company for Review of Order No. 74-184 (NPDES No. CA 0078239) and Order No. 74-189, California Regional Water Quality Control Board, Central Valley Region.	Order No. WQ 75-10

BY THE BOARD:

On February 22, 1974, the California Regional Water Quality Control Board, Central Valley Region (Regional Board) adopted Orders Nos. 74-184 and 74-189. Those orders require Atlantic Oil Company (petitioner) to meet certain effluent limitations.

On March 25, 1974, petitioner filed a petition with the State Water Resources Control Board (State Board) requesting review of Orders Nos. 74-184 and 74-189 and specifically requested that the State Board waive the requirements set forth in the Orders.

I. STATEMENT OF FACTS

The petitioner submitted an NPDES application and a report of waste discharge on June 12, 1973, in connection with the proposed disposal of oil field brine wastewaters. These wastewaters occur as a result of oil production from Atlantic Oil Company wells located in the Poso Creek Oil Field (Premier Area) seven miles northwest of Bakersfield, Kern County, California. The NPDES application resulted in the adoption of Order No. 74-184

on February 22, 1974, which prescribed requirements for the disposal of 0.05 MGD of brine to an unnamed ephemeral stream tributary to Poso Creek. The report of waste discharge resulted in the adoption of Order No. 74-189 on February 22, 1974, which prescribed requirements for the disposal of 0.10 MGD of brine to unlined oil production sumps in the same vicinity.

Poso Creek Oil Field encompasses approximately 46 square miles of rolling hills about six miles northwest of Bakersfield on the east side of the San Joaquin Valley. As of December 31, 1972, about 12.5 percent (3,670 acres) of the gross area of the field was in proved acreage. (Proved acreage is the area in which oil is actually being extracted.) The proved acreage is contained in three producing areas: McVan, Enas and Premier. Over 80 percent of the total proved acreage is in the Premier Area, located in the southern portion of the field.

The two major surface water courses in the field are Poso Creek and Little Creek. In the past, flows in these streams have been continuous and during most of the year the flows have been composed of oil field wastewaters. Water in these streams flows out to the valley floor where it percolates into the groundwater basin or is diverted for irrigation use.

According to reports issued by the Department of Water Resources, wastewaters originating in Poso Creek Oil Field contain heavy amounts of sodium bicarbonate and sodium chloride. Chloride and boron concentrations have ranged from 30-800 mg/l and 0.8-3.0 mg/l, respectively. Specific electrical conductance

values ranging from 740-2,600 micromhos have been detected. Wastewaters from the field exhibit a sodium percentage ranging from 79-98 percent.

In June of 1970, the Department of Water Resources prepared a memorandum report of an investigation of the effect upon groundwater quality resulting from the discharge of oil field production wastewaters to Poso Creek. The report concluded that groundwaters recharged by Poso Creek are being adversely affected by the disposal of oil field brines to Poso Creek and its tributaries.

On November 23, 1970, as a result of the report of the Department of Water Resources, the Regional Board adopted an "Interim Water Quality Control Policy for the Poso Creek Subarea." The policy specified maximum limits for the following water quality indicators:

Water Quality Indicator	Maximum Limit
Specific Electrical Conductance	1,000 micromhos
Chloride	200 mg/l
Boron	1.0 mg/l

These limits were to apply to wastewaters discharged to Poso Creek or its tributaries and to facilities which do not preclude percolation of wastewaters to usable ground or surface waters.

The Regional Board recognized that the limits specified in the policy would require modification of disposal practices and provided that waste discharge requirements would not be revised until two years after adoption of the policy.

Since the adoption of this policy, various operators in the Poso Creek area have undertaken seven subsurface wastewater disposal projects which involve ten new wells. Prior to this time there were no subsurface wastewater disposal projects in the Poso Creek Oil Field, and wastewaters were generally discharged to unlined sumps and surface water drainageways. In 1972, approximately 2.698 million barrels of an estimated total of 30.671 million barrels of wastewaters were disposed of by subsurface injection wells approved by the Division of Oil and Gas.

Oil production in the Poso Creek Oil Field has been declining since at least 1968 when 2.296 million barrels of oil were produced. Between 1970 and 1972 production has declined from 1.840 million barrels to 1.672 million barrels.

Atlantic Oil Company has two oil field waste discharge sites. Both discharges of the petitioner readily percolate into the groundwater basin of the Poso Creek Subarea. Beneficial uses of Poso Creek are listed in Orders Nos. 74-184 and 74-189 as agricultural supply, esthetic enjoyment, and preservation of fish, wildlife, and other aquatic resources or preserves.

The specific requirements which petitioner challenges prohibit the discharge of certain constituents in excess of the limits listed below:

Constituent	Unit	Maximum Daily Rate
Specific Electrical Conductance at 25°C	micromhos	1000
Chlorides	mg/l lbs/day	200 83
Boron	mg/l lbs/day	1.0 0.4

II. CONTENTIONS AND FINDINGS

1. Contention. The Regional Board's action was improper because thirty plus years of discharge prove that this wastewater has had the beneficial uses which are specified in the Orders.

Petitioner points out that for several decades pasture and other crops have been raised by irrigating with the wastewater. Petitioner further contends that the land to which its wastewater is discharged is a barren area and that because of the discharge an oasis has been created, thereby satisfying the beneficial use of esthetic enjoyment. Petitioner also contends that discharge of its wastewaters protect the beneficial use of preservation of fish, wildlife, and other aquatic resources or preserves.

Petitioner concludes that the action of the Regional Board in adopting Orders Nos. 74-184 and 74-189 will, in effect, result in termination of any discharge because of the economic burden of meeting the effluent requirements, thereby interfering with the beneficial uses which are promoted by the discharge.

Findings. The Regional Board has established waste discharge requirements for the petitioner based on a water quality control policy in a manner deemed necessary to protect the beneficial uses of ground and surface waters in the Poso Creek Subarea, especially the beneficial use of agricultural irrigation.

The Department of Water Resources studies and report which formed the basis for the Regional Board's water quality control policy concluded that oil field wastewater was contributing to the degradation of groundwater in the Poso Creek Subarea. The study

showed high electrical conductivity levels in certain sectors of the Poso Creek groundwater and demonstrated increasing chloride levels in certain wells in the Subarea, both situations resulting from the discharge of brine wastewaters by oil field operators.

There are many valuable permanent crops grown in the Poso Creek Subarea. Landowners in this area depend almost entirely on well water to meet their irrigation needs.

Petitioner presented evidence that certain grasses (bermuda, wild oats) and wildlife (birds) were thriving in the area of operation.

The fact that immediate harm to vegetation and animal life in the area of Atlantic Oil Company's operation has not occurred does not change the fact that because of brine wastewater discharges the groundwater is becoming increasingly saline. The Regional Board must consider long-range effects as well as short-term benefits connected with this dishcarge. In adopting the waste discharge requirements, the Regional Board obviously was following the standards set out in the "Interim Water Quality Control Policy for the Poso Creek Subarea," the purpose of which is to provide long-term water quality protection for the ground and surface waters in the Poso Creek Subarea. The fact that the discharges may be contributing toward preservation of fish, wildlife and other aquatic resources or preserves is an important consideration. In this particular case, the lasting effects of groundwater salinity pose a most serious problem which precludes continuation of the petitioner's discharge in its present condition.

2. Contention. Petitioner contends that it is unable to comply with the effluent limitations in Orders Nos. 74-184 and 74-189 because the cost of doing so would be prohibitive. Petitioner contends that production is not sufficient to pay for a disposal system such as an injection well, and that enforcement of these requirements would deprive petitioner of its property without sufficient reason or proper trial.

Findings. Petitioner presented no facts to support its second contention. There was no evidence presented on alternative disposal methods, other than injection wells, nor evidence of the actual expense of an injection well. The expense associated with disposal by injection would vary depending on the circumstances. Some companies have been able to use existing wells with little present production in which to dispose of wastewater by reinjection without undue cost. In any event, without evidence in support of the contention, the Regional Board did not err in adoption of Orders Nos. 74-184 and 74-189.

III. CONCLUSIONS AND ORDER

Having considered the contentions of the petitioner and the records of the Regional Board, we conclude that the action of the Regional Board in adopting Orders Nos. 74-184 and 74-189 was appropriate and proper.

IT IS HEREBY ORDERED that the petition for review of Orders Nos. 74-184 and 74-189 is denied.

Dated: April 17, 1975

/s/ W. W. Adams
W. W. Adams, Chairman

/s/ W. Don Maughan
W. Don Maughan, Vice Chairman

/s/ Roy E. Dodson
Roy E. Dodson, Member

/s/ Mrs. Carl H. Auer
Mrs. Carl H. (Jean) Auer, Member