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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER NO. 98-035

NPDES NO. CA0078859

WASTE DISCHARGE REQUIREMENTS  
FOR  
SCHAEFER OIL COMPANY  
MOUNT POSO OIL FIELD  
KERN COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Board) finds that:

1. Schaefer Oil Company (hereafter Discharger), a California corporation, submitted a Report of Waste Discharge (RWD), dated 6 June 1996, in support of increased discharge flow under the National Pollutant Discharge Elimination System (NPDES).
2. Mount Poso Oil Field is about 10 miles north and northeast of Bakersfield in Kern County. Attachment A, which is attached hereto and part of this Order by reference, shows the oil field and its general vicinity. The oil field covers an area of about 55 square miles. The climate is dry with hot summers and mild winters. The primary land use in the Mount Poso area is oil field related, with a small portion of the area dedicated to cattle grazing.
3. The Discharger owns and operates crude oil producing wells in Jones, Kelly-Knap, Fowler, Central, and Lamber leases in the Mount Poso Oil Field. Oil and water is generated as part of the oil production. The leases are in Sections 20, 21, 28, 29, and 32, T26S, R28E, MDB&M, with surface water drainage to Little Creek, a Valley Floor Water, as shown on Attachment B, a part of this Order. The leases are within six miles of a 3,000-acre ranch, known as the San Joaquin Hills Ranch (hereafter Ranch), owned by the Discharger.
4. The Board adopted Waste Discharge Requirements (WDRs) Order No. 93-125 (NPDES CA0078859) on 5 August 1993, which prescribes requirements for a maximum daily discharge of 1.4 million gallons per day (mgd) of treated oil field wastewater. The Discharger proposes to increase its discharge flow from 1.4 to 2.16 mgd. There is no change in the discharge locations or methods of treatment and disposal. However, the existing Order does not reflect the increased flow.
5. Nugget Oil Company, a general partnership owned and operated by the heirs of John C. Czaja and Thomas E. Schaal, (hereafter referred to as Nugget) generates oil field wastewater in Bowles and Ring leases, next to the Discharger's property, as shown on Attachment B. The discharge from Nugget is regulated by WDRs Order No. 96-056 (NPDES No. CA0082384) and Cease and Desist (C&D) Order No. 96-075. Nugget reached agreement with the Discharger, and it currently discharges a maximum of 0.76 million gallons a day (mgd) of wastewater via pipeline to the Discharger's treatment facility.

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6. Nugget is in the process of cleaning up its sumps and complying with the requirements and time schedule of the C&D. When finished, the Orders issued to Nugget may be rescinded.
7. Oil and water produced from the leases is discharged to an unlined collection reservoir (main reservoir) and from there to an oil and water separator unit (Wemco owned and operated by the Discharger). The separated oil is pumped into oil production facilities. The separated water (wastewater) is discharged to several unlined reservoirs within the Ranch; a reservoir (Reservoir C) owned by the Cawelo Water District (CWD); and Little Creek, an ephemeral stream and a tributary to Poso Creek, upstream and downstream of a diversion dam in Section 30, T27S, R27E, MDB&M. Little and Poso creeks are waters of the United States. Discharges to and/or from the subject reservoirs, including discharge to Little Creek, are via underground pipelines.
8. The Discharger provided the manufacturer's design specifications of the Wemco unit. The Wemco unit is a No. 120X model with a treatment capacity of 4.3 mgd when all compartments are operated. The Discharger intends to operate three compartments with a treatment capacity of 3.2 mgd.
9. Since adoption of Order No. 93-125, the Discharger only twice discharged to Little Creek, and for periods of less than a day. The temporary discharges to Little Creek were made for maintenance of pipelines and accessories connected to Reservoir C. In 1992, CWD agreed to purchase 0.98 mgd of the produced wastewater and the Discharger will continue to transport up to 0.98 mgd to CWD's Reservoir C. The remaining 1.18 mgd will be discharged to a number of on-site reservoirs owned and operated by the Discharger. Since November 1992, a maximum of 0.98 mgd of the oil production wastewater has almost always been discharged to Reservoir C. The produced water is commingled with water from the Kern River and State Water project, and groundwater, and used for irrigation of about 17,000 acres of farm land owned by farmers in the CWD. During a high rainfall year, wastewater is discharged either to several reservoirs owned by the Discharger or to Little Creek.
10. The RWD describes the combined treated wastewater as follows:
  - Maximum Daily Flow: 2.16 million gallons per day (mgd)<sup>1</sup>
  - Design Flow: 3.2 mgd at 75% oil and grease treatment capacity
  - Average Temperature: 78 ° F Summer; 75 ° F Winter
  - Average pH: 7.5

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<u>Constituents</u>	<u>Units</u>	<u>Maximum Daily Concentrations</u>
Oil and Grease	mg/l	10
Chloride	mg/l	97
Boron	mg/l	0.63
Conductivity <sup>2</sup>	µmhos/cm	998
Iron	mg/l	0.2
Aluminum	mg/l	<1.0
Magnesium	mg/l	0.6
Mercury	µg/l	0.3
BOD <sup>3</sup>	mg/l	11.9

<sup>1</sup> Daily maximum discharge of 1.4 mgd from the Discharger and 0.76 mgd from Nugget.

<sup>2</sup> Specific electrical conductance @ 25° C, also "EC".

<sup>3</sup> 5-Day, 20 °C biochemical oxygen demand.

11. The production areas that contribute to the discharge and the discharge points are depicted in a flow diagram on Attachment C, a part of this Order by reference. The number, location, and name of each discharge point is as follows:

<u>Discharge Point</u>	<u>Location</u>	<u>Receiving Reservoir or Stream</u>
1	Sec. 29, T26S, R28E	Unnamed drainage channels, tributary to Little Creek Little Creek
	Sec. 4, T27S, R27E	
2	Sec. 9, T27S, R27E	Reservoir 1 Reservoir 2
	Sec. 9, T27S, R27E	
3	Sec. 3, T27S, R27E	Reservoir A
	Sec. 33, T26S, R27E	Reservoir B
	Sec. 33, T26S, R27E	Reservoir B-1
	Sec. 27, T26S, R27E	Reservoir C
	Sec. 27, T26S, R27E	Reservoir D
	Sec. 22, T26S, R27E	Reservoir E
	Sec. 6, T27S, R27E	CWD's Reservoir C

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12. The discharges occur in the Kern Uplands Hydrologic Area (No.558.90) of the south Valley Floor Hydrologic Unit, as depicted on the interagency hydrologic maps prepared by the Department of Water Resources in August 1986. There are four domestic wells within two miles of the reservoirs in Sections 3 and 9, T27S, R27E, MDB&M.
13. The permit includes narrative Receiving Water Limitations C.1.d and C.1.e, which, based on the Basin Plan, prohibit the discharge of toxic constituents in toxic amounts. In response to a request by Board staff, the Discharger submitted a technical report by a California Registered Geologist, dated 15 October 1991, regarding mercury in the discharge. The report indicates that the one-hour average concentration of mercury in the discharge is 0.45 µg/l. The concentration is relatively constant in the wastewater and it is well below the California Department of Health Service's recommended primary maximum contaminant level (MCL) of 2 µg/l for drinking water and the USEPA's recommended one-hour average of 2.1 µg/l for freshwater aquatic life. Due to the nature of the operations, the mercury concentration is expected to be constant and below the primary MCL and the USEPA's recommended limit for freshwater aquatic life.
14. In 1992, the Discharger submitted a report titled *Discharge of Reclaimed Oilfield Waters to San Joaquin Hills Ranch and CWD Reservoir C* (Report). The Report discussed the possibility of using the wastewater to grow crops within the Ranch. However, due to the irrigation water demand within the CWD, the Discharger has consistently discharged to CWD Reservoir C since 1993. Although unlikely, the Discharger may use the wastewater to grow crops within the next five years. Since the produced wastewater flows are insufficient to meet Ranch needs, existing wells will be used to supplement irrigation water.
15. The Ranch includes six water wells drilled to an average depth of 1,910 feet. The six wells have protective casings to an average depth of 905 feet, and water entry is from perforations below 950 feet. The Report concludes that the uppermost aquifer is about 600 feet below ground surface, and aquifers underlying the Ranch are confined and not in hydraulic communication with the ground surface. The Report estimates that any water seeping from the Ranch reservoirs would reach the 600-foot depth in about 58,000 years. Reclaimed water, if ever used in the Ranch, would be used largely by crops and, if it reached groundwater at all, would be in a considerably reduced amount than if left in the reservoirs.
16. Twelve geophysical logs were reviewed by a staff geologist to interpret the subsurface geology and hydrogeology on and adjacent to the Ranch. Geophysical logs verify that there are impermeable layers totaling 350 feet above the first encountered groundwater aquifer. First encountered groundwater is at an average depth of 550 feet below ground surface in

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poorly developed sands. Deeper groundwater appears to be confined from 700 to 1,600 feet and is of good quality. Based on review of the geology and hydrogeology, it is very unlikely that the limited discharges to Little Creek or discharges to the reservoirs would impact or find entrance to groundwater aquifers beneath the Ranch or Little Creek east of Highway 65.

17. Inflow to CWD Reservoir C from sources other than the oil field wastewater averages about 32.1 mgd, with a maximum of 77.6 mgd. The ratios of inflow versus expected oil field wastewater discharges are 79:1, 32:1, and 3.5:1 for maximum, average, and minimum flows, respectively. Water quality of Reservoir C is good and suitable for irrigation with EC, chloride, boron, and oil and grease concentrations of 230  $\mu$ hos/cm, 15.2 mg/l, 0.19 mg/l, and 6 mg/l, respectively.
18. The worst case scenario of water quality in Reservoir C occurs when wastewater is discharged at a maximum of 0.98 mgd; discharge quality is equivalent to the effluent limits; and other inflows to the reservoir are at a minimum 3.2 mgd. Under these conditions water in Reservoir C exhibits the following characteristics:

<u>Constituents</u>	<u>Units</u>	<u>Concentration After Mixing</u>
EC	$\mu$ hos/cm	410
Boron	mg/l	0.23
Chloride	mg/l	34
Oil and Grease	mg/l	6.9

19. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition*, (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for waters of the Basin. These requirements implement the Basin Plan.
20. The Basin Plan contains the following maximum salinity limits for oil field discharges to surface waters or stream channels:

<u>Constituents</u>	<u>Units</u>	<u>Concentration</u>
EC	$\mu$ hos/cm	1,000
Chloride	mg/l	175
Boron	mg/l	1

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21. The Kern River Formation is the principle water bearing unit in the area of the oil field. The direction of flow of groundwater is generally to the west. A 1986 analysis of groundwater from a private well downgradient from the facility shows water quality is good, with less than 0.1 mg/l boron, 290  $\mu$ mhos/cm EC, 12.7 mg/l chloride, less than 0.4 mg/l nitrate, less than 0.05 mg/l iron, and less than 0.1 mg/l arsenic.
22. In a letter dated 15 August 1991, the Department of Fish and Game, Kern County Fishery District, indicated that Little and Poso Creeks in the area and downstream of discharges within Townships 26 and 27 South and Ranges 26 and 28 East are ephemeral in nature and have no permanent aquatic biota. Amphibian species and riparian vegetation and associated wildlife may be present along these water courses.
23. The USEPA and the Board have classified this discharge as a minor discharge.
24. The Basin Plan identifies beneficial uses of Poso Creek as agricultural supply; water contact and non-contact water recreation; groundwater recharge; and warm and cold fresh water habitat, wildlife habitat, and other aquatic resources. The beneficial uses of Poso Creek that are realized are agricultural supply, groundwater recharge, and enhancement of wildlife.
25. The beneficial uses of the underlying groundwater are municipal and domestic, industrial, and agricultural supply.
26. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.2 and State Water Resources Control Board Resolution 68-16. Based on Findings Nos. 14 and 15 (above), the discharge of reclaimed water to the Ranch, Little Creek, on-site reservoirs, and Reservoir C will not affect the water quality of the underlying aquifer. The discharge of the reclaimed water will result in an increase of the volume and mass of pollutants discharged to Little Creek, Reservoir C, and the aquifer underlying the farm land owned by farmers in the CWD. The beneficial uses most likely affected by the pollutants discharged (boron, chloride, and oil and grease) are aquatic life and stock watering for Little Creek; irrigation from Reservoir C; and municipal, domestic, and agricultural supply for the farm land owned by farmers in the CWD. The increase in pollutants discharged will not cause significant impact on beneficial uses and allows for the protection of groundwater supplies, as well as the continued development of oil supplies, both of which benefit the people of the State.
27. Federal Regulations for storm water discharges were promulgated by USEPA on 16 November 1990 (40 CFR Parts 122, 123, 124). The regulations require specific categories of facilities to implement Best Available Technology Economically Achievable

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(BAT) and best Conventional Pollutant Control Technology (BCT) to reduce or eliminate industrial storm water pollution. Regulations specified in 40 CFR Part 122.26 (b)(14)(iii) require facilities involved with oil exploration, production, or conveyance operations which discharge storm water to obtain NPDES permits for the discharge of storm water.

28. The State Water Resources Control Board adopted Order No. 91-13-DWQ (General Permit No. CAS000001) specifying waste discharge requirements for discharges of storm water associated with industrial activities, excluding construction activities. These WDRs require the Discharger to demonstrate that all storm water is contained or to submit a Notice of Intent (NOI) by industries to be covered under the General Permit.
29. The USEPA adopted the National Toxics Rule (NTR) on 5 February 1993. The NTR requires effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. Mercury is detected in the discharge (Finding No. 13), but the concentration is below the primary MCL and the USEPA's recommended limit for freshwater aquatic life. Based on the disposal alternatives, nature of the surface waters in the area, and the expected short frequency of discharge to Little Creek, the discharge is unlikely to cause, or contribute to, an in-stream excursion above a narrative or numerical water quality standard.
30. Effluent limitations and toxic effluent standards established pursuant to Sections 208(b), 301, 302, 303(d), 304, 306, and 307 of the Clean Water Act (CWA) and amendments thereto that are applicable to the discharge are specified herein.
31. Effluent limitations established pursuant to 40 CFR 435.50, et seq. (Oil and Gas Extraction Point Source Category, Agricultural and Wildlife Water Use Subcategory), are applicable to the discharge.
32. The action to adopt waste discharge requirements for the existing reservoirs on the Ranch is exempt from the provisions of the California Environmental Quality Act (CEQA) in accordance with Title 14, California Code of Regulations (CCR), Section 15301.
33. The action to adopt an NPDES permit for discharge to Little Creek is exempt from the provisions of the CEQA (Public Resources Code Section 21100, et seq.), in accordance with Section 13389 of the California Water Code.
34. The Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and had provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

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35. This Order shall serve as an NPDES permit pursuant to Section 402 of the CWA, and amendments thereto, and shall take effect upon the date of hearing, provided USEPA has no objections.
36. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

**IT IS HEREBY ORDERED** that Order No. 93-125 is rescinded and Schaefer Oil Company, its agents, successors and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

**A. Discharge Prohibitions:**

1. Discharge of treated wastewater at location or in a manner different from that described in Finding Nos. 10 and 11 is prohibited.
2. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Standard Provision A.13.
3. Discharge of waste classified as 'hazardous,' as defined in Section 2521 (a) of Title 23, CCR Section 2510, et seq., or 'designated,' as defined in Section 13173 of the California Water Code, is prohibited.

**B. Effluent Limitations:**

1. Effluent shall not exceed the following limits:

<u>Constituents</u>	<u>Units</u>	<u>Daily Maximum</u>	<u>Monthly Average</u>
EC	µmhos/cm	1,000	---
Chloride	mg/l	175	---
Boron	mg/l	1	0.65
Oil and grease	mg/l	35	---
Mercury	µg/l	2.4	0.012

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2. The discharge shall not have a pH less than 6 or greater than 9.
3. The daily maximum discharge flow shall not exceed 2.16 mgd.

**C. Receiving Water Limitations:**

Receiving water limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this permit.

1. The discharge shall not cause the following in Little Creek, drainage channels tributary to Little Creek, CWD's Reservoir C, or on-site reservoirs identified in Finding No. 11.
  - a. Fungi, slimes, or other objectionable growths.
  - b. The normal ambient pH to fall below 6.5, exceed 8.3, or change by more than 0.3 units.
  - c. Deposition of material that causes nuisance or adversely affects beneficial uses.
  - d. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.
  - e. Toxic pollutants to be present in the water column, sediments, or biota in concentrations that adversely affect beneficial uses; that produce detrimental response in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health.
  - f. Violations of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board pursuant to the CWA and regulations adopted thereunder.
2. In addition to C.1 above, the discharge shall not cause the following in Little Creek, drainage channels tributary to Little Creek, or CWD's Reservoir C:
  - a. Oils, greases, waxes, or other materials to form a visible film or coating on the water surface or on the stream bottom.
  - b. Oils, greases, waxes, floating material (liquids, solids, foams, and scums) or suspended material to create a nuisance or adversely affect beneficial uses.

- c. Esthetically undesirable discoloration.
- d. The normal ambient temperature to increase more than 2.8° C (5° F).

**D. Groundwater Limitations:**

The discharge, in combination with other sources, shall not cause groundwater underlying the discharge locations to contain waste constituents in concentrations statistically greater than background water quality, except for EC. In no case shall the discharge, in combination with other sources, cause underlying groundwater to exceed an annual average incremental increase in EC of 6 µmhos/cm during any five-year period.

**E. Provisions:**

1. The Discharger shall comply with the "Standard Provisions and Reporting Requirements (NPDES), "dated 1 March 1991", which are part of this Order. This attachment and its individual paragraphs are referred to as "Standard Provision(s)."
2. The Discharger shall comply with the attached Monitoring and Reporting Program No 98-035 and any revisions thereto as ordered by the Executive Officer.
3. This Order expires on **1 February 2003** and the Discharger must file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of such date in application for renewal of waste discharge requirements if it wishes to continue the discharge.
4. By **30 April 1998**, the Discharger shall submit a Notice of Intent to comply with the State Water Resources Control Board General NPDES Permit for Discharges of Storm Water Associated with Industrial Activities. Alternatively, by **30 April 1998**, the Discharger may submit written certification with accompanying documentation that: a) all storm water is contained on site; or b) precipitation runoff from the site does not contact crude oil or other materials associated with oil production which could contaminate storm water.
5. If the Discharger plans to use the produced wastewater to grow crops within the Ranch, the Discharger shall submit an irrigation management plan that balances crop needs with available water and identifies specific areas for recycling of oil production wastewater on its 3,000-acre ranch at least 120 days in advance of wastewater recycling. The management plan shall be subject to review and approval by the Executive Officer.

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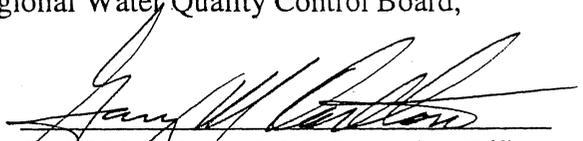
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6. In the event of any change in control or ownership of land or waste discharge facilities described herein, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision D.6 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved by the Executive Officer.

7. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of this Order.
8. The Board will review this Order periodically and will revise requirements when necessary.

I, GARY M. CARLTON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 27 February 1998.

  
GARY M. CARLTON, Executive Officer

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. 98-035

NPDES NO. CA0078859

FOR  
SCHAEFER OIL COMPANY  
MOUNT POSO OIL FIELD  
KERN COUNTY

**EFFLUENT MONITORING**

Effluent samples should be collected at the effluent of the Wemco unit prior to discharge. Effluent samples should be representative of the volume and quality of the discharge. Time of collection of samples shall be recorded. Effluent monitoring shall include at least the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Total flow	mgd	Estimate	Daily
Conductivity <sup>1</sup>	µmhos/cm	Grab	Monthly
Boron	mg/l	Grab	Monthly
Chloride	mg/l	Grab	Monthly
Oil and Grease <sup>2</sup>	mg/l	Grab	Monthly
pH	pH units	Grab	Monthly

<sup>1</sup> Specific electrical conductance @ 25° C, also "EC".

<sup>2</sup> Four grab samples in a 45-minute period.

If results of monitoring a pollutant appear to violate effluent limits, the frequency of sampling must be increased to daily until compliance is verified. If effluent monitoring detects a pollutant at a concentration greater than the daily maximum limit, the Discharger shall resample and reanalyze the discharge immediately after receiving knowledge of the exceedance. The frequency of sampling must be increased to daily until compliance is verified.

If the discharge is intermittent rather than continuous, then on the first day of each such intermittent discharge, the Discharger shall monitor and record data for all of the constituents listed above, after which the frequencies of analysis given in the schedule shall apply for the duration of each such intermittent discharge. In no event shall the Discharger be required to monitor and record data more often than twice the frequencies listed in schedule.

### RECEIVING WATER MONITORING

All receiving water samples shall be grab samples. Receiving water samples shall be taken when discharge is to the Little Creek.

<u>Station</u>	<u>Description</u>
R-1	500 feet upstream from the point of discharge to Little Creek <sup>1</sup>
R-2	100 feet downstream from the point of discharge on Little Creek

<u>Constituent</u>	<u>Units</u>	<u>Station</u>	<u>Sampling Frequency</u>
pH	pH Units	R-1, R-2	Monthly
Temperature	° F	R-1, R-2	Monthly
EC	µmhos/cm	R-1, R-2	Monthly
Boron	mg/l	R-1, R-2	Monthly
Chloride	mg/l	R-1, R-2	Monthly
Oil and Grease <sup>2</sup>	mg/l	R-1, R-2	Monthly
Flow <sup>3</sup>	mgd	R-1, R-2	Monthly

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<sup>1</sup> To be sampled only when upstream flow is present.

<sup>2</sup> Four grab samples in a 45-minute period.

<sup>3</sup> Estimate.

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Stations R-1 and R-2. Attention shall be given to the presence or absence of:

- |                                 |  |
|---------------------------------|--|
| a. Floating or suspended matter | e. Visible films, sheens, or coatings      |
| b. Discoloration                | f. Fungi, slimes, or objectionable growths |
| c. Bottom deposits              | g. Potential nuisance conditions           |
| d. Aquatic life                 |  |

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Notes on receiving water conditions shall be summarized in the monitoring report.

### REPORTING

Monitoring results shall be submitted to the Board by the **20th day of the month** following sample collection. Annual monitoring results shall be submitted by the **20th day of the month following each calendar year, respectively.**

In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in a manner that clearly illustrates whether the discharge is complying with waste discharge requirements.

If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.

By **20 January of each year**, the Discharger shall submit a written report to the Executive Officer containing the following:

- a. The names and general responsibilities of all persons responsible for the Wemco unit and discharge.
- b. The names and telephone numbers of persons to contact regarding the facility for emergency and routine situations.
- c. A statement certifying when monitoring instruments and devices for purposes of assuring compliance with this Order were last calibrated, including identification of who performed the calibration (Standard Provision C.6)
- d. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the treatment facility as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.

The Discharger may also be requested to submit an annual report to the Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

All reports submitted in response to the Order shall comply with the signatory requirements of Standard Provision D.6.

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The Discharger shall implement the above monitoring program on the first day of the month following the effective date of this Order.

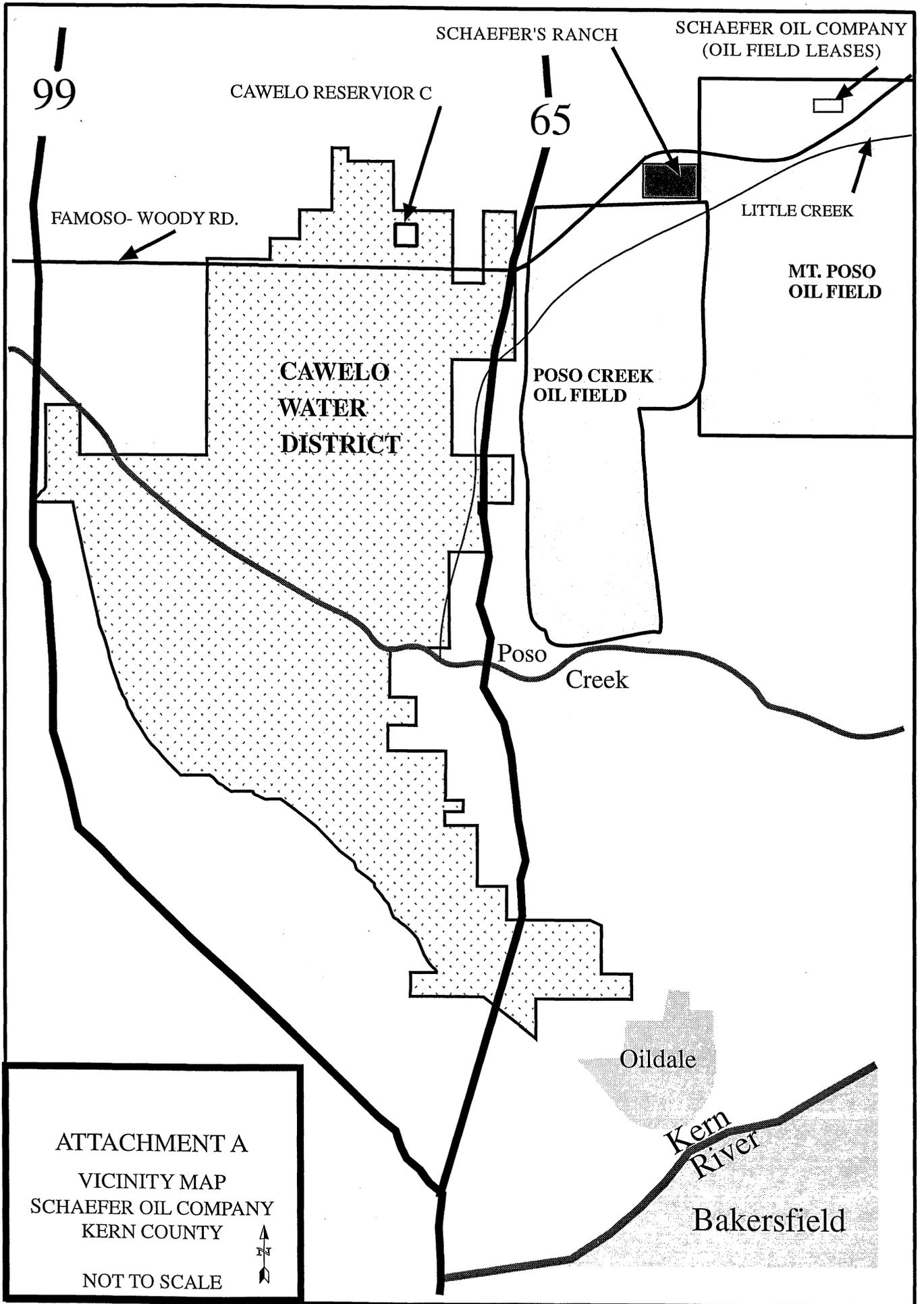
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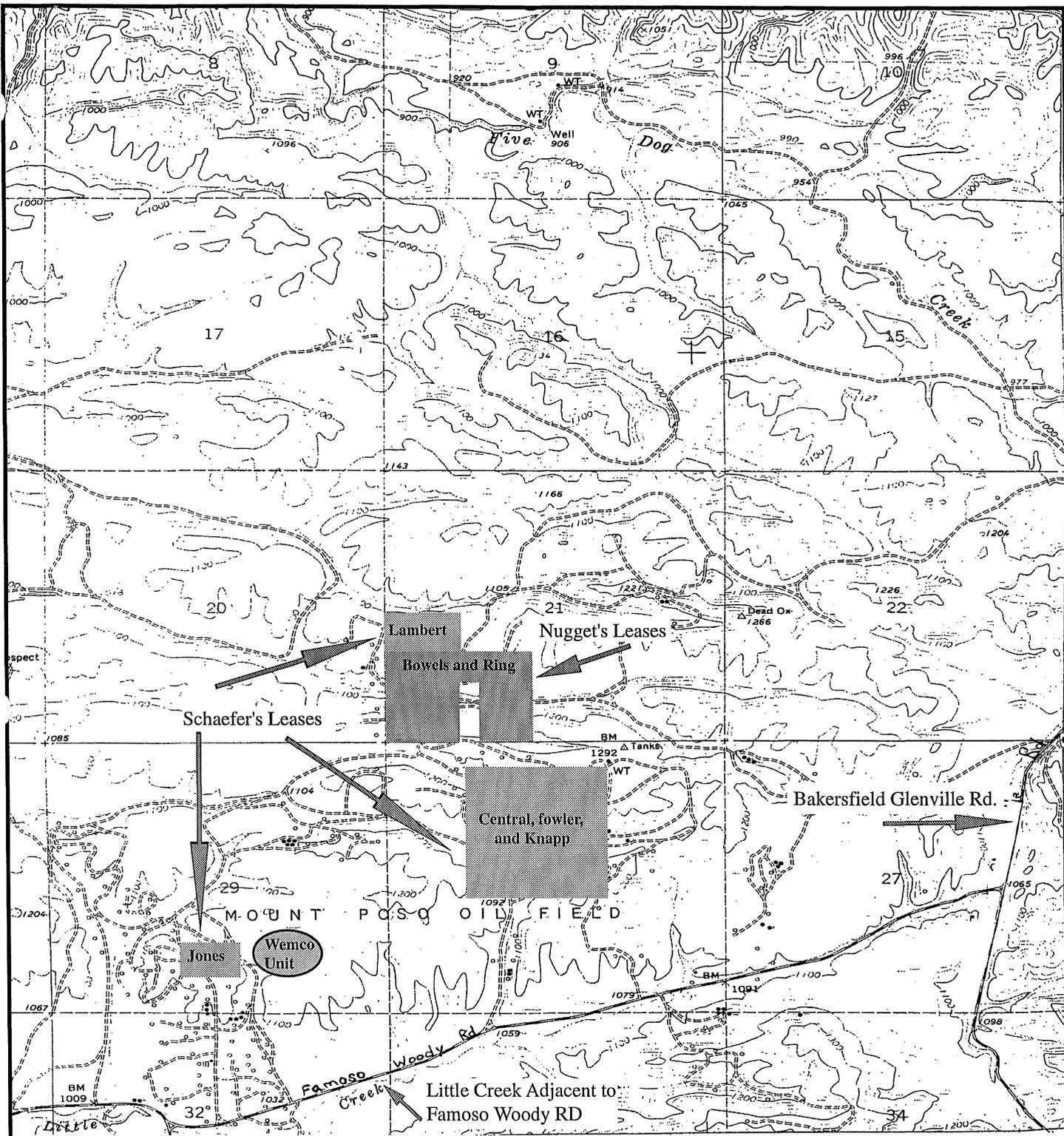
  
GARY M. CARLTON, Executive Officer

27 February 1998

(Date)

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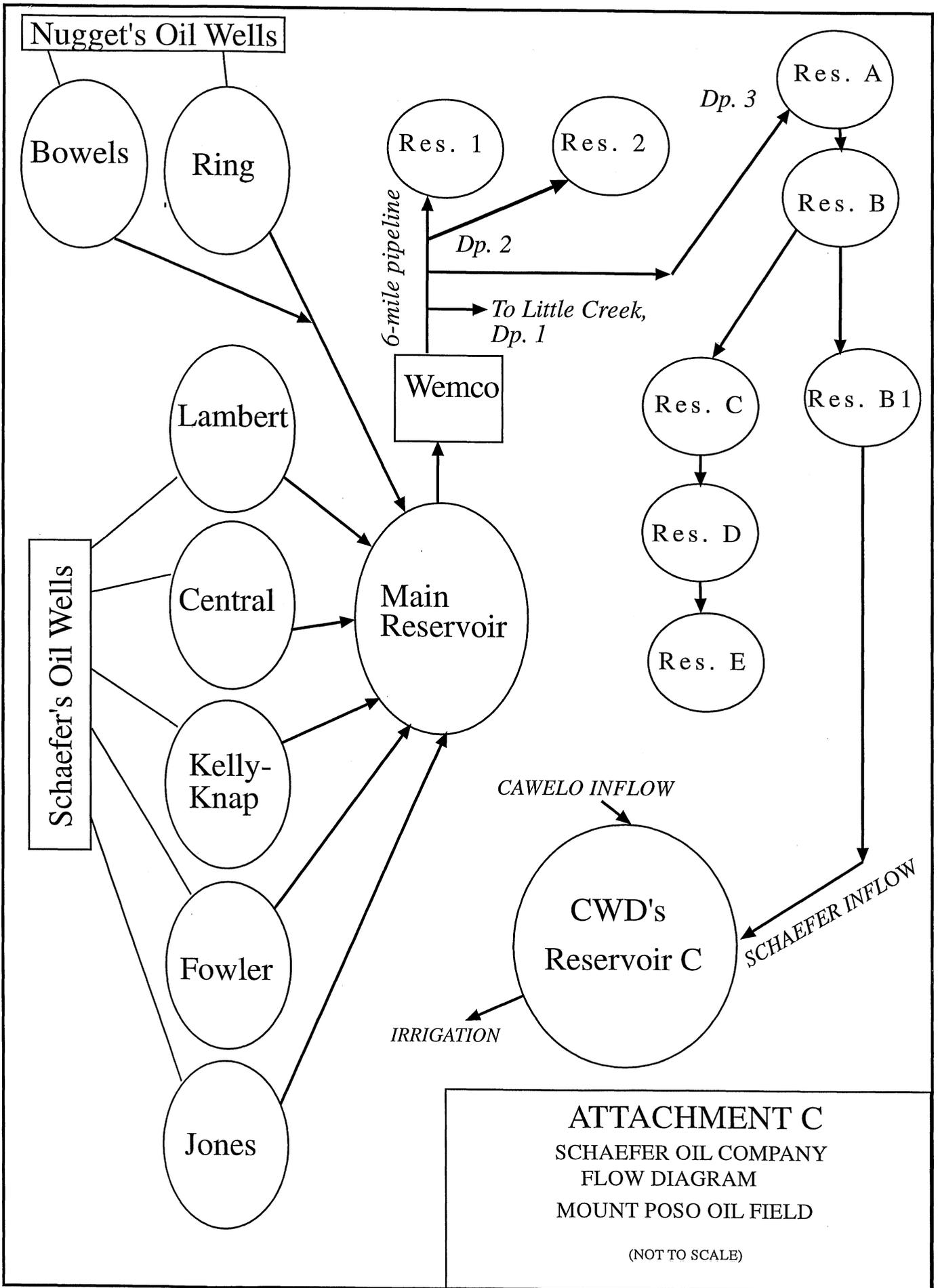
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## ATTACHMENT B

SCHAEFER OIL COMPANY  
MOUNT POSO OIL FIELD

Sections 21, 28, AND 29, T26S, R28E, MDB&M  
KERN COUNTY

USGS 7.5' Sand Canyon Quad



**ATTACHMENT C**  
 SCHAEFER OIL COMPANY  
 FLOW DIAGRAM  
 MOUNT POSO OIL FIELD

(NOT TO SCALE)

## INFORMATION SHEET

SCHAEFER OIL COMPANY  
MOUNT POSO OIL FIELD  
KERN COUNTY

Schaefer Oil Company (hereafter Discharger), a California corporation, submitted a Report of Waste Discharge (RWD) in support of increased discharge flow under the National Pollutant Discharge Elimination System (NPDES). The discharge is currently regulated by Waste Discharge Requirements (WDRs) Order No. 93-125 (NPDES CA0078859). The Discharger owns and operates crude oil producing wells in the Jones, Kelly-Knapp, Fowler, Central, and Lambert leases in the Mount Poso Oil Field.

Oil and water produced from the leases is discharged to a collection reservoir (main reservoir) and from there to an oil and water separator unit (Wemco) owned and operated by the Discharger. The separated oil is pumped into oil production facilities. The separated water (wastewater) is discharged to any or a combination of eight unlined reservoirs within a 3,000-acre ranch (Ranch) owned by the Discharger; a reservoir (Reservoir C) owned by the Cawelo Water District (CWD); and Little Creek, an ephemeral stream and a tributary to Poso Creek, a water of the United States.

In 1992, the Discharger considered using the wastewater to grow crops within the Ranch. However due to the irrigation water demand within the CWD, the Discharger has consistently discharged to Reservoir C. Since 1993, the Discharger only twice discharged to Little Creek for a period of less than a day for maintenance purposes. The Discharger may use the wastewater to grow crops in the Ranch.

Pursuant to an agreement between the Discharger and Nugget Oil Company (hereafter Nugget), a maximum of 0.76 million gallons a day (mgd) of produced oil field wastewater from Nugget has been discharged to the Discharger's treatment facility since late 1996. The discharge from Nugget is currently regulated by WDRs Order No. 96-056 (NPDES No. CA0082384) and Cease and Desist Order No. 96-075 (C&D). Nugget generates oil field wastewater in Bowles and Ring leases, next to the Discharger's property and currently discharges a maximum of 0.76 million gallons a day (mgd) of wastewater via pipeline to the Discharger's facility. Nugget is in the process of cleaning up its sumps and complying with the requirements and time schedule of the C&D. When finished, the Orders issued to Nugget will be rescinded.

The Discharger provided us with the manufacturer's design specifications of the Wemco unit. According to the specification, the Wemco unit provides adequate treatment capacity for Discharger's and Nugget's produced wastewater. The maximum daily discharge to the Wemco unit is 2.16 mgd.

CWD is in agreement to receive the proposed maximum daily wastewater. Wastewater from Reservoir B-1, owned by the Discharger, is transported to Reservoir C via an underground pipeline.

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Inflow to Reservoir C from sources other than oil field wastewater averages about 32.1 mgd, with a maximum of 77.6 mgd. The ratios of inflow versus the expected oil field wastewater discharges are 79:1, 32:1, and 3.5:1 for maximum, average, and minimum flows, respectively. Water quality of Reservoir C is good and suitable for irrigation with EC, chloride, boron and oil and grease concentrations of 230  $\mu$ mhos/cm, 15.2 mg/l, 0.19 mg/l, and 6 mg/l, respectively. Under the worst case scenario, water quality in the reservoir remains suitable for agriculture with maximum 410  $\mu$ mhos/cm EC, 0.23 mg/l boron, 34 mg/l chloride, and 6.9 mg/l oil and grease.

The Kern River Formation is the principle water bearing unit in the area of the oil field. The direction of flow of groundwater is generally to the west. Depth to groundwater beneath the proposed recycling areas on the Ranch is about 910 feet, and is confined. A 1986 analysis of groundwater from a private well downgradient from the facility shows water quality is good, with less than 0.1 mg/l boron, 290  $\mu$ mhos/cm EC, 12.7 mg/l chloride, less than 0.4 mg/l nitrate, less than 0.05 mg/l iron, and less than 0.1 mg/l arsenic.

The effluent salinity limits prescribed in the Order reflects the Basin Plan policy regarding oil field discharges to surface waters or stream channels. The effluent oil and grease limitation is pursuant to 40 CFR 435.50, et seq. (Oil and Gas Extraction Point Source Category, Agricultural and Wildlife Water Use Subcategory). There is no evidence that the slight increase will cause significant impacts on the beneficial uses of Reservoir C and aquatic life, which is the instream beneficial use most likely affected by the pollutants.

The action to adopt waste discharge requirements for existing reservoirs on the Ranch is exempt from the provisions of the California Environmental Quality Act (CEQA) in accordance with Title 14, California Code of Regulations, Section 15301.

The action to adopt an NPDES permit for discharge to Little Creek is exempt from the provisions of the CEQA (Public Resources Code Section 21100, et seq.), in accordance with Section 13389 of the California Water Code.

RA:ra/fmc: 2/27/98