



Dan Skopec
Acting Secretary

California Regional Water Quality Control Board Central Valley Region

Robert Schneider, Chair



Arnold
Schwarzenegger
Governor

Fresno Branch Office
1685 E Street, Fresno, California 93706
(559) 445-5116 • Fax (559) 445-5910
<http://www.waterboards.ca.gov/centralvalley>

FILE

18 May 2006

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Jim and Peggy Schaefer
1141 Shadow Hill Way
Beverly Hills, CA 90210

TRANSMITTAL OF ADOPTED WASTE DISCHARGE REQUIREMENTS FOR SAN JOAQUIN HILLS RANCH – RESERVOIRS, KERN COUNTY

Enclosed is an official copy of Order No. R5-2006-0049, as adopted by the California Regional Water Quality Control Board, Central Valley Region, at its 5 May 2005 meeting.

If you have any questions regarding the adopted Order, please call Ryan West at (559) 445-6188.

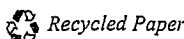
SHELTON R. GRAY
Senior Engineering Geologist

Enclosure(s) Adopted Order
Standard Provisions

- cc: Patricia Gradek, U.S. BLM, Bakersfield
Mr. Randy Adams, California Department of Oil, Gas & Geothermal Resources, Bakersfield
Department of Fish and Game, Region IV, Fresno
Department of Water Resources, San Joaquin District, Fresno
Kern County Environmental Health Services Department, Bakersfield
Kern County Planning and Development Services Department, Bakersfield
Mr. David R. Ansolabehere, Cawelo Water District, Bakersfield

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California Environmental Protection Agency



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2006-0049

WASTE DISCHARGE REQUIREMENTS
FOR
JIM & PEGGY SCHAEFER
SAN JOAQUIN HILLS RANCH - RESERVOIRS
KERN COUNTY

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

1. Jim and Peggy Schaefer (hereafter Discharger) own and operate a six-mile pipeline (hereafter Schaefer Pipeline) and a number of holding reservoirs where oil production wastewater is discharged at the San Joaquin Hills Ranch (hereafter Ranch). Oil Production wastewater is ultimately discharged into the Cawelo Water District's Reservoir "C" via the pipeline.
2. The wastewater is received by the Discharger from SOC Resources, Inc., the current operator of the Jones Lease, in the Mount Poso Oil Field. Wastewater from the Jones Lease is regulated by order No. R5-2006-0050, issued to SOC Resources, Inc. Wastewater is processed through a Wemco oil/water separator before it enters the Schaefer Pipeline. The downstream wastewater recipients have no control over wastewater operations or management by the operator of the Jones Lease.
3. The Ranch contains eight holding reservoirs, originally constructed to hold water for almond farming.
4. Currently discharge is limited to three of the eight holding reservoirs. Water flow eventually goes to "Lower Reservoir B", which then discharges to "Cawelo Reservoir C" (see attachment A). On average, 1300 gallons a minute (1.87 mgd) of produced wastewater is piped to the Cawelo Water District.
5. Some of the wastewater from the Schaefer Pipeline is diverted to cattle watering troughs throughout the area.
6. The Discharger's wastewater disposal operation is currently not regulated by Waste Discharge Requirements (WDRs). WDRs are being issued to assure compliance with current State regulations and Regional Board policies and guidelines.
7. This Order implements the *Water Quality Control Plan for the Tulare Lake Basin, Second Edition* (hereafter Basin Plan), which designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.

LOCATION AND DESCRIPTION

8. The Ranch is approximately seventeen miles north of the City of Bakersfield, in Sections 21, 22, 27, 32, 33, 34, T26S, R27E, and Sections 3, 5, 9, 16, T27S, R27E, MDB&M, as shown on Attachment A that is attached to and made part of this Order. The Ranch is situated on approximately 4,800

JIM & PEGGY SCHAEFER
SAN JOAQUIN HILLS RANCH - RESERVOIRS.
KERN COUNTY

acres (Assessor Parcel Nos. 060-322-15-3, 060-290-43-4, 060-360-01-3, 060-360-18-7, 060-360-19-5, 074-010-27-3, 074-010-28-1, 074-020-37-1, 074-043-01-9, 074-290-08-1, 074-290-09-9, 074-290-04-0, 074-290-05-7, 060-370-62-4, 060-370-46-7). Both the Ranch and the Mount Poso Oil Field are on the east side of the Tulare Lake Basin.

9. The Ranch is located on a gently dipping homoclinal sequence of Miocene marine through Pleistocene fluvial sediments derived from the weathering of the Sierra Nevada Mountain Range. The Kern River (Pleistocene) Formation outcrops at the surface, and is underlain by the Etchegoin (Pliocene) and Vedder (Miocene) Formations. The Vedder Formation is the source of produced wastewater.
10. The outcropping Kern River Formation is a series of braided stream units deposited by the ancestral Kern River. It is approximately 900 feet thick and consists largely of poorly to moderately sorted, medium to coarse-grained, arkosic sandstones and conglomerates. Interbedded with the coarsely clastic beds are less prominent, locally continuous, lenticular silts, clays, and mudstones.
11. There are two known active faults that occur near the Ranch. They are the Kern Front Fault and an unnamed fault, which are approximately ten miles south and five miles south of the facility, respectively.
12. Land within the immediate area is used for oil production, cattle grazing, and agriculture.
13. The discharge occurs in the Kern Uplands Hydrologic Area (No. 558.90) of the South Valley Floor Hydrologic Unit, as depicted on interagency hydrologic maps prepared by the Department of Water Resources.
14. The climate is dry, with hot summers and mild winters. Available weather data indicates the average annual precipitation is 7.5 inches. Available evaporation pan data indicates that the average annual Class A pan evaporation is 64.7 inches.
15. The 100-year and 1000-year, 24-hour precipitation events calculated by DWR are 1.98 and 2.57 inches, respectively.
16. In the vicinity of the facility, Little Creek and Poso Creek are small, ephemeral drainage courses. These drainage courses are considered waters of the United States. Some surface flow can be observed in the drainage courses following storm events.
17. FEMA (Federal Emergency Management Agency) flood zone data for Kern County, dated 30 September 2003, indicates that two 100-year flood plains exist within the property boundary of the Ranch.

WASTEWATER CHARACTERISTICS

18. Connate formation water (wastewater) is co-produced in association with oil in the Mount Poso Oil Field. Wastewater at the Discharger's Ranch, received from the Jones Lease, has a low inorganic

JIM & PEGGY SCHAEFER
 SAN JOAQUIN HILLS RANCH - RESERVOIRS
 KERN COUNTY

salt content. Analytical results, sampled by Regional Board staff on 14 March 2005, show that the wastewater has the following characteristics:

<u>Constituent</u>	<u>Units</u>	<u>Average Concentration</u>
Specific Conductance (EC)	µmhos/cm	970
Total Dissolved Solids (TDS)	mg/L	590
Chloride	mg/L	100
Boron	mg/L	0.79

19. Implementation policies in the Basin Plan regarding the disposal of oil field wastewater indicate that the maximum salinity limits for wastewater in unlined sumps overlying groundwater with existing and future probable beneficial uses are:

<u>Constituent</u>	<u>Units</u>	<u>Concentration</u>
Specific Conductance (EC)	µmhos/cm	1000
Chloride	mg/L	200
Boron	mg/L	1

20. Based on Finding Nos. 18 and 19, the discharge of oil field wastewater to reservoirs on the Ranch is consistent with Basin Plan policy.
21. Generally, designated waste is non-hazardous waste that contains pollutants that, under ambient environmental conditions at a waste management unit, could be released in concentrations exceeding applicable water quality objectives or that could reasonably be expected to affect beneficial uses of the waters of the state as contained in the appropriate state water quality control plan. The discharge of designated waste to land is subject to the requirements of Title 27, California Code of Regulations (CCR), Section 20090(b) (hereafter Title 27).
22. The Discharger is exempt from the requirements of Title 27. The exemption is based upon the following:
- The Regional Board is issuing waste discharge requirements;
 - The wastewater discharge, as permitted in the Order, is in compliance with the applicable water quality control plan; and,
 - The wastewater does not need to be managed according to Chapter 11, Division 4.5 of Title 22 as a hazardous waste.

GROUNDWATER INFORMATION

23. The uppermost aquifer is approximately 600 feet below ground surface.

JIM & PEGGY SCHAEFER
 SAN JOAQUIN HILLS RANCH - RESERVOIRS
 KERN COUNTY

24. The regional aquifer is the Basal Etchegoin Sand (Pliocene) found at 1800 feet below ground surface.
25. Aquifers underlying the Ranch are confined and not in hydraulic communication with the ground surface.
26. The direction of groundwater flow is generally to the west.
27. The Ranch has six water wells that are 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.
28. A 1986 analysis of groundwater from one of the Ranch's wells shows that water quality is very good. Results are as follows:

<u>Constituent</u>	<u>Units</u>	<u>Concentration</u>
Specific Conductance (EC)	µmhos/cm	290
Chloride	mg/L	< 12.7
Boron	mg/L	< 0.1
Nitrate	mg/L	< 0.4
Arsenic	mg/L	< 0.1
Iron	mg/L	< 0.05

29. The Basin Plan designates beneficial uses of the underlying groundwater as: municipal, domestic, industrial, and agricultural supply.
30. Based on available information, it does not appear that the discharge of produced wastewater to reservoirs on the Ranch will affect the water quality of the underlying aquifers.

OTHER LEGAL REFERENCES

31. The action to adopt waste discharge requirements for existing facilities is exempt from the provisions of the California Environmental Quality Act (CEQA), in accordance with Title 14, California Code of Regulations, Section 15301.
32. This Order requires the Discharger to submit technical reports as authorized under CWC Section 13267 (b)(1), which states in part:

"In conducting an investigation specified in subdivision (a), the Regional Board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste outside of its region that could affect the quality

WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2006-0049
JIM & PEGGY SCHAEFER
SAN JOAQUIN HILLS RANCH - RESERVOIRS
KERN COUNTY

-5-

of water within its region, shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the Regional Board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.”

33. The technical reports required by this Order and attached “Monitoring and Reporting Program No. R5-2006-0049 are necessary to assure compliance with these Waste Discharge Requirements. The Discharger operates the facility that discharges the waste subject to this Order.
34. The Discharger is not required to obtain coverage under a National Pollutant Discharge Elimination System (NPDES) general industrial stormwater permit provided they have not experienced a reportable spill since 19 November 1987. It is the Discharger’s responsibility to comply with USEPA federal stormwater regulations (40 CFR Parts 122, 123, and 124) should it not qualify for exemption.
35. The Regional Board has notified the Discharger, interested agencies, and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
36. The Regional Board, in a public meeting, heard and considered all comments pertaining to this facility and discharge.
37. Any person affected by this action of the Regional Board may petition the State Water Resources Control Board to review the action in accordance with Sections 2050 through 2068, Title 23, California Code of Regulations. The petition must be received by the State Water Resources Control Board, Office of Chief Counsel, within 30 days of the date of issuance of this Order. Copies of the laws and regulations applicable to the filing of a petition are available on the Internet at http://www.waterboards.ca.gov/water_laws/index.html and will be provided on request.

IT IS HEREBY ORDERED that pursuant to §13263 and §13267 of the Water Code, Jim & Peggy Schaefer, their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and plans, policies, and regulations adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. The acceptance, treatment, or discharge of “hazardous waste” is prohibited. For the purposes of this Order, the term “hazardous waste” is as defined in Title 27, Section 20164.

JIM & PEGGY SCHAEFER

SAN JOAQUIN HILLS RANCH - RESERVOIRS

KERN COUNTY

2. Discharges to surface water or surface water drainage courses are prohibited except for stormwater discharges permitted by an active NPDES permit or for facilities exempt from the NPDES permitting requirements.
3. The discharge of wastes other than wastewater associated with the production of crude oil received from the Jones Lease is prohibited.

B. Discharge Specifications

1. Wastewater shall only be discharged to the eight reservoirs described in Finding No. 2, and Cawelo Reservoir "C." Wastewater may also be used for cattle watering troughs throughout the area.
2. All water shut-off valves on the Schaefer Pipeline shall be maintained in an operable condition.
3. Clean, oil absorbent booms (provided by the current operator of the Jones Lease) shall be in place at each active reservoir discharge point. They shall be maintained in place whenever wastewater is being discharged. Following an oil discharge, the booms shall be replaced.
4. If berms are constructed to provide containment for the reservoirs, they shall be designed and maintained to prevent leakage, whether from erosion, slope failure, animal burrowing, or some other cause.
5. The reservoirs shall have sufficient freeboard to prevent overtopping as a result of heavy successive precipitation events, high velocity winds, and seismic shaking. **In no case shall there be less than two feet (measured vertically) of freeboard.**
6. Precipitation and drainage control system shall be designed, constructed, operated, and maintained to accommodate the anticipated volume of precipitation and peak flows from surface runoff under 100-year, 24-hour precipitation conditions. Annually, prior to the anticipated rainy season, any necessary erosion control measures shall be implemented, and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding of the reservoirs.
7. All wastewater storage and disposal facilities shall be operated and maintained to prevent liquids, precipitates, and sludges from concentrating to hazardous levels.
8. Neither the treatment nor the discharge shall cause a nuisance or condition of pollution as defined by the California Water Code, Section 13050.

C. Provisions

1. Oil spills into any reservoir need to be reported to the Office of Emergency Services at (559) 445-6125. The current operator of the Jones Lease is considered responsible for


WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2006-0049
JIM & PEGGY SCHAEFER
SAN JOAQUIN HILLS RANCH - RESERVOIRS
KERN COUNTY

-7-

cleanup, restoration, wildlife impacts, or other environmental impacts or violations that result from spills, leaks, or upsets at the facility where the wastewater is generated.

2. The Discharger shall comply with those applicable sections of the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated 1 March 1991, which are attached to and made part of this Order. To the extent that the Standard Provisions are inconsistent with any terms, conditions, or requirements in this Order, this Order shall govern.
3. Technical and monitoring reports specified in this Order are requested pursuant to Section 13267 of the Water Code. The Discharger shall comply with Monitoring and Reporting Program No. R5-2006-050, which is attached to and made part of this Order. Failing to furnish the reports by the specified deadlines or falsifying information in the reports, are misdemeanors that may result in assessment of civil liabilities against the Discharger.
4. The Discharger may be required to submit additional technical reports as directed by the Executive Officer.
5. The Discharger shall notify Regional Board staff in writing of any proposed change in ownership or responsibility for construction or operation of the facility. This notification shall be given **90 days** prior to the effective date of the change and shall be accompanied by an amended Report of Waste Discharge and any technical documents needed to demonstrate continued compliance with this Order. In the event of any change in ownership of the wastewater facility, the Discharger shall notify the succeeding owner or operator in writing of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Regional Board office.
6. The Discharger shall maintain a copy of this Order and make it available at all times to facility operating personnel, who shall be familiar with its contents, and to regulatory agency personnel upon request.
7. The Discharger shall immediately notify Regional Board staff of any flooding, equipment failure, slope failure, or other change in site conditions, which could impair the integrity of waste containment facilities or precipitation and drainage control structures.
8. Regional Board staff will review this Order periodically and will revise these requirements when necessary.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that 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 5 May 2006.


PAMELA CREEDON, Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2006-0049
FOR
JIM & PEGGY SCHAEFER
SAN JOAQUIN HILLS RANCH - RESERVOIRS
KERN COUNTY

Compliance with this Monitoring and Reporting Program, and with the Standard Provisions and Reporting Requirements dated 1 March 1991, is ordered by Waste Discharge Requirements Order No. R5-2006-0049.

Failure to comply with this Program, or with the Standard Provisions and Reporting Requirements, constitutes noncompliance with the Waste Discharge Requirements and the Water Code, which can result in the imposition of civil monetary liability.

A. REQUIRED REPORTS

<u>Report</u>	<u>Due</u>
1. Wastewater Monitoring (Section C.1)	Annually¹
2. Facility Inspection (Section C.2)	Annually¹

¹ The Annual Report is due by 1 August of each year and shall include all analytical results and measurements performed during the year, and the facility inspection results.

B. REPORTING

The Discharger shall report monitoring data and information as required in this Monitoring and Reporting Program and as required by appropriate sections of the Standard Provisions and Reporting Requirements. Reports that do not comply with the required format will be **REJECTED** and the Discharger shall be deemed to be in noncompliance with the Waste Discharge Requirements. In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible.

C. MONITORING

1. Wastewater Monitoring

At least once annually, a representative sample for wastewater analysis shall be taken at the point of discharge into Cawelo Reservoir "C." If discharge is not occurring, a representative sample shall be taken from wastewater within Lower Reservoir B. Chemical analyses used in monitoring shall be performed as required by Water Code Section 13176 and Health and Safety Code Section 100825. Minimum analytical requirements for waste discharged at the facility are as follows:

<u>Parameter/Constituent</u>	<u>Analytical Method</u> ¹	<u>Reporting Units</u>
Total Annual Flow	estimate	bbl or gal
Electrical Conductivity, EC @ 25°C	EPA 120.1	µmhos/cm
Total Dissolved Solids, TDS	SM 2540C	mg/L
Chloride	EPA 300.0	mg/L
Boron	EPA 200.7	mg/L
Benzene, Toluene, Ethylbenzene, and Xylene compounds	EPA 8260	µg/L

¹ Other approved analytical methods may be proposed if they provide equal or greater accuracy or precision.

2. Freeboard Inspection

The freeboard shall be monitored on the reservoirs. A permanent marker shall be placed in the reservoirs with calibration including the water level at maximum capacity and available freeboard (minimum of two feet). Freeboard observations/measurements shall be conducted and recorded monthly. Freeboard monitoring reports shall be submitted with the annual reports.

3. Facility Inspection

The Discharger shall inspect all surface impoundment and drainage facilities for damage annually and following any major storm event and report any damage within 24 hours to Regional Board staff. Necessary repairs shall be implemented as soon as practicable and the Discharger shall report any subsequent repairs within 30 days of completion. The results of inspections shall be summarized in the annual report.

4. Pipeline Inspection

The entire pipeline and all gate valves shall be inspected at least twice annually. Repairs of damage or problems shall be reported within 24 hours to Regional Board staff. Pipeline inspections shall be submitted with the annual report.

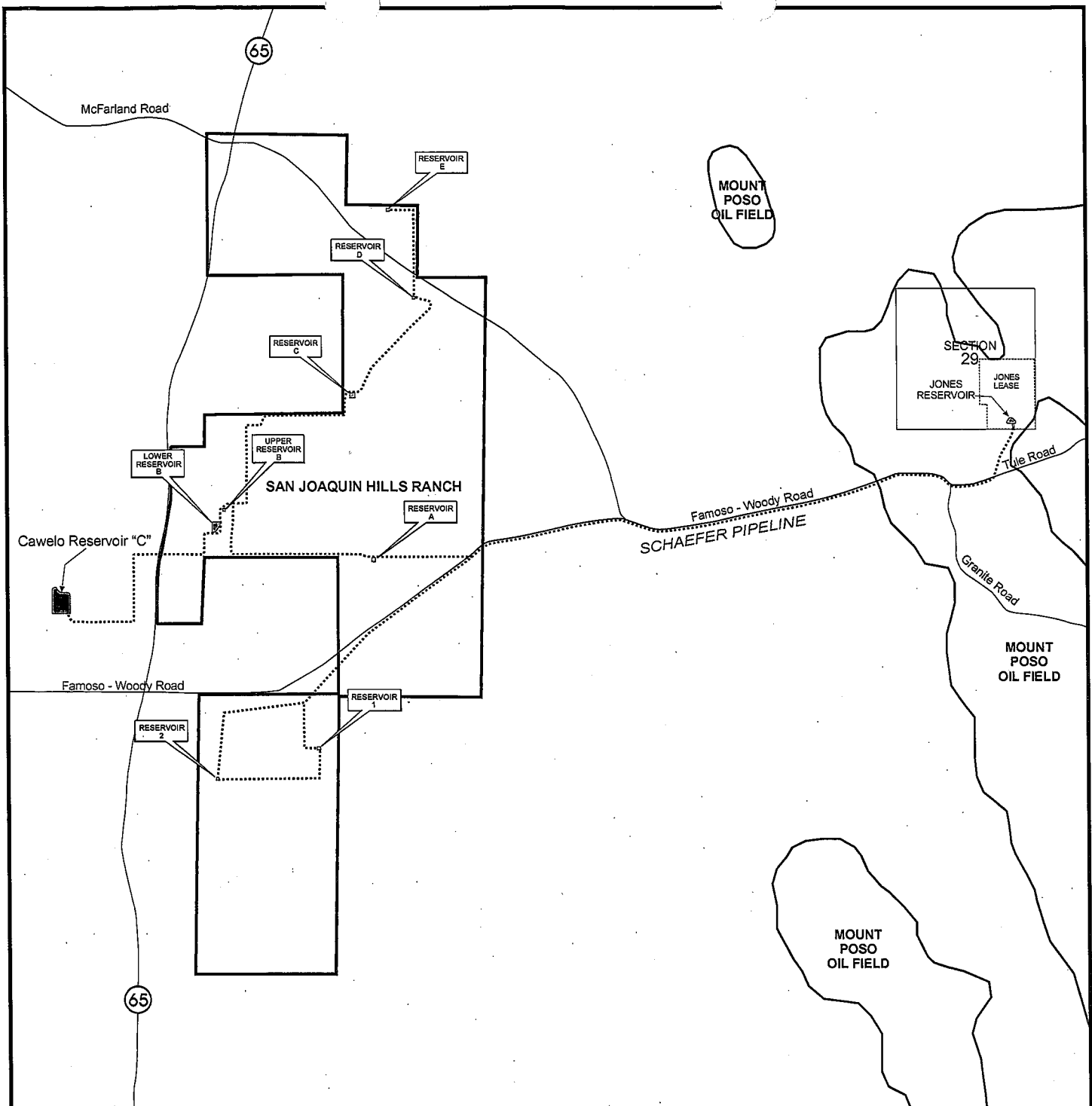
Ordered by:





PAMELA C. CREEDON, Executive Officer

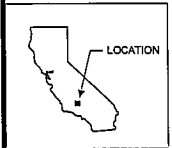
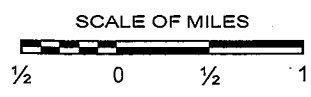
5 May 2006

(Date)



LEGEND

-  Schaefer Pipeline
-  Reservoirs



ATTACHMENT A

ORDER NO. _____

WASTE DISCHARGE REQUIREMENTS

FOR

JIM & PEGGY SCHAEFER

SAN JOAQUIN HILLS RANCH - RESERVOIRS

KERN COUNTY

LOCATION MAP

INFORMATION SHEET

ORDER NO. R5-2006-0049
JIM & PEGGY SCHAEFER
SAN JOAQUIN HILLS RANCH - RESERVOIRS
KERN COUNTY

Jim and Peggy Schaefer (hereafter Discharger) own and operate a six-mile pipeline (Schaefer Pipeline) and a number of holding reservoirs where oil production wastewater is discharged at the San Joaquin Hills Ranch. The Schaefer Pipeline was constructed 25 years ago. The Discharger's Ranch is located in Sections 21, 22, 27, 32, 33, 34, T26S, R27E, and Sections 3, 5, 9, 16, T27S, R27E, MDB&M, Kern County. The facility is approximately seventeen miles north of the City of Bakersfield.

Oil production wastewater is received from SOC Resources, Inc., the current operator of the Jones Lease, in the Mount Poso Oil Field, Kern County. Wastewater enters the Schaefer Pipeline from the Jones Lease and is discharged first to the San Joaquin Hills Ranch, where it is stored in holding reservoirs. Wastewater from the holding reservoirs is then discharged to Cawelo Reservoir "C," which is owned and operated by the Cawelo Water District. The Cawelo Water District mixes the wastewater with other fresh water for agricultural distribution. On average, 1300 gallons a minute (1.87 mgd) of produced wastewater is discharged to Cawelo Reservoir "C."

Wastewater discharged at the San Joaquin Hills Ranch is not regulated by Waste Discharge Requirements (WDRs). To achieve compliance with current Regional Board policy and State regulations, WDRs are being issued and will incorporate a monitoring and reporting program.

The climate is hot, with dry summers and mild winters. Available weather data indicates the average annual precipitation is 7.5 inches. Available evaporation pan data indicates that the average annual Class A pan evaporation is 64.7 inches. Two 100-year flood plains exist on the San Joaquin Hills Ranch.

The Ranch is located on a gently dipping homoclinal sequence of Miocene marine through Pleistocene fluvial sediments derived from the weathering of the Sierra Nevada Mountain Range. The Kern River (Pleistocene) Formation outcrops at the surface, and is underlain by the Etchegoin (Pliocene) and Vedder (Miocene) Formations. The Vedder Formation is the source of produced wastewater. There are two known active faults that occur near the facility.

Aquifers underlying the facility are confined and not in hydraulic communication with the ground surface. The outcropping Kern River Formation is approximately 900 feet thick and consists largely of sandstones and conglomerates that are interbedded with lenticular silts, clays, and mudstones. The regional aquifer is the Basal Etchegoin Sand found at 1800 feet below ground surface. The beneficial uses of the underlying groundwater are municipal, domestic, industrial, and agricultural supply. There are 6 water wells on the Ranch.

The discharge of produced wastewater to reservoirs on the San Joaquin Hills Ranch should not affect the water quality of the underlying aquifers. Wastewater from the reservoirs meets Basin Plan policies regarding the disposal of oil field wastewater in unlined sumps overlying groundwater with existing and future probable beneficial uses.