



EDMUND G. BROWN JR.  
GOVERNOR



MATTHEW RODRIGUEZ  
SECRETARY FOR  
ENVIRONMENTAL PROTECTION

**Central Valley Regional Water Quality Control Board**

25 January 2016

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Mr. Chad Hathaway  
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PO Box 81385  
Bakersfield, CA 93380

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Mrs. Shae Lehr  
Jasmin Ranchos Mutual Water Company  
3835 East Thousand Oaks #320  
Westlake Village, CA 91362

**REVISED MONITORING AND REPORTING PROGRAM ORDER NO. 98-205,  
HATHAWAY, LLC AND JAMSIN RANCHOS MUTUAL WATER COMPANY, QUINN LEASE,  
JASMIN OIL FIELD, KERN COUNTY**

Enclosed is the Revised Monitoring and Reporting Program Order No. 98-205 (Revised MRP) for Waste Discharge Requirements Order No. 98-205 regulating the discharge of produced water to Jasmin Ranchos Mutual Water Company's Reservoir.

This Revised MRP requires Hathaway, LLC and Jasmin Ranchos Mutual Water Company to perform specific effluent monitoring at specific frequencies. Failure to comply with the Revised MRP will subject Hathaway, LLC and Jasmin Ranchos Mutual Water Company to further enforcement actions including the potential assessment of civil liability.

If you have any questions regarding this matter, please contact Joshua Mahoney of this office at (559) 444 – 2449 or via email at [Joshua.Mahoney@waterboards.ca.gov](mailto:Joshua.Mahoney@waterboards.ca.gov).

RONALD E. HOLCOMB  
Senior Engineering Geologist  
CEG No. 2390

cc: Julie Macedo, Office of Enforcement, State Water Resources Control Board  
Patrick Pulupa, Office of Chief Counsel, State Water Resources Control Board  
John Borkovich, Division of Water Quality, State Water Resources Control Board  
Steven C. Dalke, Kern-Tulare Water District, 5001 California Avenue #202, Bakersfield, CA 93309

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

REVISED MONITORING AND REPORTING PROGRAM NO. 98-205  
FOR  
HATHAWAY, LLC  
AND  
JASMIN RANCHOS MUTUAL WATER COMPANY  
QUINN LEASE, JASMIN OIL FIELD  
KERN COUNTY

This Revised Monitoring and Reporting Program (MRP) supersedes the Revised Monitoring and Reporting Program Order No. 98-205 dated 1 October 2003 and is required pursuant to Water Code section 13267.

Hathaway, LLC and Jasmin Ranchos Mutual Water Company (hereinafter Discharger) shall not implement any changes to this MRP unless and until the Central Valley Water Board adopts, or the Executive Officer issues, a revised MRP. Changes to a sample location shall be established with concurrence of Central Valley Water Board staff, and a description of the revised stations shall be submitted for approval by the Executive Officer.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. All analyses shall be performed in accordance with ***Standard Provisions and Reporting Requirements for Waste Discharge Requirements***, dated 1 March 1991 (Standard Provisions).

Field test instruments (such as a pH meter) may be used provided that the operator is trained in the proper use of the instrument and each instrument is serviced and/or calibrated at the recommended frequency by the manufacturer or in accordance with manufacturer instructions.

Analytical procedures shall comply with the methods and holding times specified in the following: *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA); *Test Methods for Evaluating Solid Waste* (EPA); *Methods for Chemical Analysis of Water and Wastes* (EPA); *Methods for Determination of Inorganic Substances in Environmental Samples* (EPA); *Standard Methods for the Examination of Water and Wastewater* (APHA/AWWA/WEF); and *Soil, Plant and Water Reference Methods for the Western Region* (WREP 125). Approved editions shall be those that are approved for use by the United States Environmental Protection Agency or the State Water Board's Environmental Laboratory Accreditation Program. The Discharger may propose alternative methods for approval by the Executive Officer.

If monitoring consistently shows no significant variation in magnitude of a constituent concentration or parameter after a statistically significant number of sampling events, the Discharger may request this MRP be revised to reduce the monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency.

Certain regulations in the California Code of Regulations (CCR), title 14 concerning well stimulation treatment went into effect on 1 July 2015. CCR title 14, section 1761(a) defines well stimulation treatment as treatment of a well designed to enhance oil and gas production or recovery by increasing the permeability of the formation. Examples of well stimulation treatments include hydraulic fracturing, acid fracturing, and acid matrix stimulation. Well stimulation treatment does not include routine well cleanout work; routine well maintenance; routine treatment for the purpose of removal of formation damage due to drilling; bottom hole pressure surveys; routine activities that do not affect the integrity of the well or the formation; the removal of scale or precipitate from the perforations, casing, or tubing; a gravel pack treatment that does not exceed the formation fracture gradient; or a treatment that

involves emplacing acid in a well and that uses a volume of fluid that is less than the Acid Volume Threshold for the operation and is below the formation fracture gradient. CCR, title 14, section 1786(a) states that operators shall not store well stimulation treatment fluids, including produced water from a well that has undergone well stimulation treatment, in sumps or pits.

Pursuant to Senate Bill 4 (Pavley 2013), the California Natural Resources Agency commissioned the California Council on Science and Technology (CCST) to conduct an independent scientific assessment of well stimulation treatments, including hydraulic fracturing, in California. CCST's assessment concluded that produced water from stimulated wells will contain well stimulation chemicals or their reaction by-products and that reuse of produced water for irrigation of crops could be a mechanism for release of well stimulation chemicals to the environment. Pressurized placement of sand or gravel filter packs using pressurized high viscosity fluids (commonly called frac-packing) is a practice that may not meet the strict definition of well stimulation under CCR, title 14, but that employs similar chemicals or their reaction byproducts as those associated with well stimulation activities. Thus discharge of produced water from frac-packed wells may also provide a mechanism for release of those chemicals to the environment. The CCR amendments are independent prohibitions on certain oil production waste disposal practices, in addition to the Water Code authority.

Since Waste Discharge Requirements Order No. 98-205 was adopted on 23 October 1998, the facility configuration was modified to the following: oil/water separation tanks, Wemco unit, seven unlined surface impoundments (ponds), Jasmin Ranchos Mutual Water Company's Reservoir, and Kern-Tulare Water District's Reservoir. In 2009, oil was released to the Jasmin Ranchos Mutual Water Company's Reservoir that triggered an evaluation, completed by the Discharger, of the oil removal efficiency at the facility. The Discharger proposed the current configuration to Central Valley Water Board staff, which was subsequently approved via verbal confirmation.

### **EFFLUENT MONITORING**

Effluent samples shall be representative of the volume and nature of the discharges. The Discharger shall maintain all sampling and analytical results: date, exact place, and time of sampling; dates analyses were performed; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Central Valley Water Board.

A complete list of substances which are tested for and reported on by the testing laboratory shall be provided to the Central Valley Water Board. All peaks must be reported. In addition, both the method detection limit (MDL) and the practical quantification limit shall be reported. Detection limits shall equal or be more precise than USEPA methodologies. Analysis with an MDL greater than the most stringent drinking water standard that results in non-detection needs to be reanalyzed with the MDL set lower than the drinking water standard or at the lowest level achievable by the laboratory. All quality assurance/quality control (QA/QC) samples must be run on the same dates when samples were actually analyzed. Proper chain of custody procedures must be followed and a copy of the completed chain of custody form shall be submitted with the report. All analyses must be performed by an ELAP certified laboratory.

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 below, after

which the frequencies of analysis given in the schedule shall apply for the duration of each such intermittent discharge.

### **POND MONITORING**

A representative wastewater (produced water) sample shall be collected from the first pond. Pond monitoring shall include at least the following:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>	<u>Frequency</u>
Flow	mgd	Metered <sup>1</sup>	Continuous
Table I – Effluent Monitoring	Varies	Grab	Varies

<sup>1</sup> Calculation is acceptable until meter is installed.

<sup>2</sup> Unless otherwise specified or approved, semi-annual samples shall be collected in April and October. Results shall be reported in the second and fourth quarters monitoring report.

### **JASMIN RANCHOS MUTUAL WATER COMPANY RESERVOIR**

A representative sample of the water discharged to Jasmin Ranchos Mutual Water Company and Kern-Tulare Water District shall be collected near the Jasmin Ranchos Mutual Water Company's Reservoir. Effluent monitoring shall include at least the following:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>	<u>Frequency</u>
Flow	mgd	Calculated	Daily
Table I – Effluent Monitoring	Varies	Grab	Varies

### **FACILITY MONITORING**

Markers shall be in place with calibrations indicating the water level at design capacity and available operational freeboard. The freeboard shall be monitored at the ponds and reservoir to the nearest tenth of a foot monthly and results included in the quarterly report.

Annually, prior to the anticipated rainy season, but no later than 30 September, the Discharger shall conduct an inspection of the facility. The inspection shall assess repair and maintenance needed for: oil booms; drainage control systems; slope failure; any change in site conditions that could impair the integrity of the waste management unit or precipitation and drainage control structures; and shall assess preparedness for winter conditions including, but not limited to, erosion and sedimentation control. The Discharger shall take photos of any problems areas before and after repairs. Any necessary construction, maintenance, or repairs shall be completed by 31 October. Annual facility inspection reporting shall be submitted by 30 November.

The Discharger shall inspect all precipitation, diversion, and drainage facilities for damage within 7 days following major storm events (e.g., a storm that causes continual runoff for at least one hour) capable of causing flooding, damage, or significant erosion. The Discharger shall take photos of any problem areas before and after repairs. Necessary repairs shall be completed within 30 days of the inspection.

## **REPORTING REQUIREMENTS**

All monitoring results shall be reported in Quarterly Monitoring Reports which are due by the first day of the second month after the calendar quarter. Therefore, monitoring reports are due as follows:

First Quarter Monitoring Report: 1 May  
Second Quarter Monitoring Report: 1 August  
Third Quarter Monitoring Report: 1 November  
Fourth Quarter Monitoring Report: 1 February

**A transmittal letter shall accompany each monitoring report.** The transmittal letter shall discuss any violations that occurred during the reporting period and all actions taken or planned for correcting violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions or a time schedule for implementing the corrective actions, reference to the previous correspondence is satisfactory. Reports shall be submitted whether or not there is a discharge.

The following information is to be included on all monitoring reports, as well as report transmittal letters:

Hathaway, LLC and Jasmin Ranchos Mutual Water Company  
Quinn Lease, Jasmin Oil Field  
Waste Discharge Requirements 98-205  
GeoTracker Site Global ID: T10000007320

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

In addition to the details specified in Standard Provision C.3, monitoring information shall include the method detection limit (MDL) and the Reporting limit (RL) or practical quantitation limit (PQL). If the regulatory limit for a given constituent is less than the RL (or PQL), then any analytical results for that constituent that are below the RL (or PQL) but above the MDL shall be reported and flagged as estimated.

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 quarterly monitoring reports. Such increased frequency shall be indicated on the quarterly monitoring reports.

All monitoring reports shall comply with the signatory requirements in Standard Provision B.3. All monitoring reports that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1.

**A. All Quarterly Monitoring Reports shall include, at a minimum, the following:**

**Pond and Reservoir Reporting:**

1. Tabular summary of current and historical results for both sample locations (Pond and Jasmin Ranchos Mutual Water Company's Reservoir) as specified on page 2 and 3.
2. For each month of the quarter, calculation of the maximum daily flow, average daily flow, and total monthly flow.
3. For each sample of Boron, the Discharger shall calculate the 12-month rolling average of the discharge using the current value for that month averaged with the historical values for the previous 11 months.

**B. Fourth Quarter Monitoring Reports**, in addition to the above, by 1 February of each year, the Discharger shall submit a written report to the Executive Officer containing the following:

**Facility information:**

1. The names and general responsibilities of all persons employed to operate the produced water treatment systems.
2. The names and telephone numbers of persons to contact regarding the Facility for emergency and routine situations.
3. A statement certifying when the flow meters and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration (Standard Provision C.4).
4. A summary of all spills/releases, if any, that occurred during the year, tasks undertaken in response to the spills, and the results of the tasks undertaken.
  - At a minimum, spill/releases that occurred at the following locations shall be reported: (1) Hathaway's Quinn Lease, (2) all produced water delivery networks connecting Hathaway's Quinn Lease and reservoirs owned or operated by Jasmin Ranchos Mutual Water Company and Kern-Tulare Water District.
5. Annual mass balance of the Jasmin Ranchos Mutual Water Company's Reservoir. At a minimum, the following shall be included:
  - Annual volume of fluid entering the Jasmin Ranchos Mutual Water Company's Reservoir (volumes for each source need to be reported), and
  - Annual volume of fluid to each discharge location (volumes for each discharge need to be reported) from the Jasmin Ranchos Mutual Water Company's Reservoir.
6. A description of all fluids and source(s) (i.e., leases) of fluid being discharged to the Jasmin Ranchos Mutual Water Company's Reservoir, and a list of potential chemicals or contaminants (i.e., any chemicals used for exploration, production, separation, or treatment) that may enter the produced water stream.
7. A summary (i.e., flow diagram, or description) that clearly illustrates all processes and locations for produced wastewater during extraction, treatment, storage, and disposal.
8. The total volume of irrigation water blended with produced water per month (in barrels):
  - Ratio of produced water and irrigation water per month.
9. A map of the following:
  - Hathaway's produced water treatment facility,
  - Hathaway's produced water storage area,
  - Jasmin Ranchos Mutual Water Company's Reservoir, and
  - All additional locations receiving produced water for disposal or storage.

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

Ordered by: Clay L. Rodgers  
*for* PAMELA C. CREEDON, Executive Officer  
1/25/2016  
(Date)

**Table I – Effluent Monitoring**

<u>Parameters</u>	<u>Units</u>	<u>Monitoring Frequency</u>	<u>US EPA or other Method</u>	<u>Reporting Frequency</u>
<b><u>Field Parameters</u></b>				
Temperature	°F <sup>1</sup>	Monthly	Meter	Quarterly
Electrical Conductivity	µmhos/cm <sup>2</sup>	Monthly	Meter	Quarterly
pH	pH units	Monthly	Meter	Quarterly
<b><u>Monitoring Parameters</u></b>				
Total Dissolved Solids (TDS)	mg/L <sup>3</sup>	Bi-Monthly	160.1	Quarterly
Electrical Conductivity	µmhos/cm	Bi-Monthly	120.1	Quarterly
Boron, dissolved	mg/L	Bi-Monthly	6010B	Quarterly
<b><u>Standard Minerals</u></b>				
Alkalinity as CaCO <sub>3</sub>	mg/L	Bi-Monthly	310.1	Quarterly
Bicarbonate Alkalinity as CaCO <sub>3</sub>	mg/L	Bi-Monthly	310.1	Quarterly
Carbonate Alkalinity as CaCO <sub>3</sub>	mg/L	Bi-Monthly	310.1	Quarterly
Hydroxide Alkalinity as CaCO <sub>3</sub>	mg/L	Bi-Monthly	310.1	Quarterly
Sulfate, dissolved	mg/L	Bi-Monthly	300.0	Quarterly
Nitrate-N, dissolved	mg/L	Bi-Monthly	300.0	Quarterly
Calcium, dissolved	mg/L	Bi-Monthly	6010B	Quarterly
Magnesium, dissolved	mg/L	Bi-Monthly	6010B	Quarterly
Sodium, dissolved	mg/L	Bi-Monthly	6010B	Quarterly
Potassium	mg/L	Bi-Monthly	6010B	Quarterly
Chloride	mg/L	Bi-Monthly	300.0	Quarterly
<b><u>Oil and Grease</u></b>	mg/L	Bi-Monthly	1664A	Quarterly
<b><u>Volatile Organic Compounds</u></b>				
Full Scan	µg/L	Bi-Monthly	8260B	Quarterly
<b><u>PAHs</u></b> <sup>4</sup>	µg/L <sup>5</sup>	Quarterly	8270	Quarterly
<b><u>Total Petroleum Hydrocarbons (TPH)</u></b>	µg/L	Quarterly	418.1	Quarterly
<b><u>Stable Isotopes</u></b>				
Oxygen ( <sup>18</sup> O)	pCi/L <sup>6</sup>	Quarterly	900.0	Quarterly
Deuterium (Hydrogen 2, <sup>2</sup> H, or D)	pCi/L	Quarterly	900.0	Quarterly
<b><u>Radionuclides</u></b>				
Radium-226	pCi/L	Quarterly	SM <sup>7</sup> 7500-Ra	Quarterly
Radium-228	pCi/L	Quarterly	SM 7500-Ra	Quarterly
Gross Alpha particle (excluding radon and uranium)	pCi/L	Quarterly	SM 7110	Quarterly
Uranium	pCi/L	Quarterly	200.8	Quarterly

**Table I – Effluent Monitoring**

<u>Parameters</u>	<u>Units</u>	<u>Monitoring Frequency</u>	<u>US EPA or other Method</u>	<u>Reporting Frequency</u>
<b><u>Constituents of Concern</u></b>				
Lithium	mg/L	Quarterly	200.7	Quarterly
Strontium	mg/L	Quarterly	200.7	Quarterly
Iron	mg/L	Quarterly	200.8	Quarterly
Manganese	mg/L	Quarterly	200.8	Quarterly
Antimony	mg/L	Quarterly	200.8	Quarterly
Arsenic	mg/L	Quarterly	200.8	Quarterly
Barium	mg/L	Quarterly	200.8	Quarterly
Beryllium	mg/L	Quarterly	200.8	Quarterly
Cadmium	mg/L	Quarterly	200.8	Quarterly
Chromium (total)	mg/L	Quarterly	200.8	Quarterly
Chromium (hexavalent)	mg/L	Quarterly	7196A	Quarterly
Cobalt	mg/L	Quarterly	200.8	Quarterly
Copper	mg/L	Quarterly	200.8	Quarterly
Lead	mg/L	Quarterly	200.8	Quarterly
Mercury	mg/L	Quarterly	7470A	Quarterly
Molybdenum	mg/L	Quarterly	200.8	Quarterly
Nickel	mg/L	Quarterly	200.8	Quarterly
Selenium	mg/L	Quarterly	200.8	Quarterly
Silver	mg/L	Quarterly	200.8	Quarterly
Thallium	mg/L	Quarterly	200.8	Quarterly
Vanadium	mg/L	Quarterly	200.8	Quarterly
Zinc	mg/L	Quarterly	200.8	Quarterly
<b><u>Oil Production and Process Chemicals and Additives</u></b> <sup>8</sup>	µg/L	Quarterly	As Appropriate <sup>9</sup>	Quarterly

<sup>1</sup> Degrees Fahrenheit

<sup>2</sup> Micromhos per centimeter

<sup>3</sup> Milligrams per liter

<sup>4</sup> Polycyclic aromatic hydrocarbons

<sup>5</sup> Micrograms per liter

<sup>6</sup> Picocuries per liter

<sup>7</sup> Standard Methods

<sup>8</sup> A list of all chemicals and or additives used in the production and or processing of all oil and wastewater discharged into ponds or on to the ground surface

<sup>9</sup> Appropriate analytical methods may be proposed by the Discharger but are subject to the approval of the Assistant Executive Officer