CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

REVISED MONITORING AND REPORTING PROGRAM NO. R5-2002-0138

FOR
TEICHERT AGGREGATES
HALLWOOD FACILITY
YUBA COUNTY

This monitoring and reporting program (MRP) incorporates requirements for monitoring the designated disposal area, groundwater, and surface water bodies, and is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

Prior to implementation of sampling activities, Regional Board staff shall approve specific sample station locations. Sample collection stations shall be established such that all samples collected are representative of the volume and nature of the discharge or matrix of material(s) sampled. The person collecting the sample shall be identified along with the time, date, and location of each grab sample on the sample chain of custody form.

Field test instruments (such as those used to measure temperature, pH, EC, and dissolved oxygen) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are calibrated prior to each monitoring event;
3. Instruments are serviced and/or calibrated by the manufacturer at their respective recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of this MRP.

DESIGNATED DISPOSAL AREA MONITORING

The 15-acre aggregate wastewater disposal pond shall be sampled as described below. General Chemistry and Ion Balance sampling shall be conducted only if chemical additives are added to the wash water. Constituents for the General Chemistry and Ion Balance testing are identified in Attachment A. At lease 60 days prior to beginning addition of any chemical additives to the washwater, the Discharger shall provide to the Board a list the proposed additive(s) and associated chemicals present in each additive, and provide an evaluation of the existing monitoring program to ensure that all added chemicals can be detected by the monitoring and sampling program. All samples shall be collected during the times when the Discharger is actively discharging and/or excavating in these ponds.

Constituent/Parameter	Units	Sampling Frequency	Reporting Frequency
Daily Flow	Million Gallons per Day	Continuous Metering	Monthly
Freeboard	0.1 Feet	Weekly	Monthly
pH	pH units	Monthly	Monthly
Electrical Conductivity	μmhos/cm	Monthly	Monthly
General Chemistry[1]	mg/L or as appropriate for constituent	Monthly	Monthly
Ion Balance[1]	mg/L or as appropriate for constituent	Monthly	Monthly
Total Mercury[2]	ng/l	Monthly[3]	Monthly

1 See Attachment A for list of general chemistry and ion constituents. If chemical additions are not used during the month, the monitoring report shall so state.
2 ng/l, nanograms per liter or parts per trillion (ppt), detection limit ≤ 5.0 ng/l, using *Ultra Clean Aqueous Sample Collection and Preservation Technique (FGS 008 and EPA Method 1669).*
3 Samples for Total Mercury shall be collected monthly for eight consecutive months, then sampling shall revert to semi-annually, with reporting during January and July monthly events.

GROUNDWATER MONITORING

The groundwater monitoring program shall begin no later than **1 July 2006**. Samples shall be collected from all groundwater monitoring wells at the facility. Prior to construction of any monitoring wells, the Discharger shall submit a *Groundwater Monitoring Well Installation Workplan* for Board review and approval. Once installed, all wells shall be sampled and analyzed, and results reported as described in the table below.

Prior to sampling, the groundwater elevations shall be measured and the wells shall be purged of at least three well volumes and until temperature, pH, and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 foot. Samples shall be collected using standard EPA methods. Groundwater monitoring shall include, at a minimum, the following:

Constituents	Units	Sampling Frequency	Reporting Frequency
Depth to Groundwater[1]	0.01 Foot	Monthly[2]	Monthly[2]
Groundwater Elevation[1]	0.01 Foot	Monthly[2]	Monthly[2]
Gradient Direction[1]	Feet/Foot	Monthly[2]	Monthly[2]
pH	pH units	Monthly[2]	Monthly[2]
Electrical Conductivity	μmhos/cm	Monthly[2]	Monthly[2]
Turbidity	NTU	Weekly[3]	Monthly[3]
Total Metals/Minerals[4]	ug/L	Monthly[2]	Monthly[2]
Total Mercury[5]	ng/L	Monthly[2,6]	Monthly[2]
TPH[7]	ug/l	Monthly[2]	Monthly[2]

1 Unless otherwise requested by staff, monitoring well MW-4 shall be sampled only for these constituents.
2 Monthly sampling and reporting are required for the first eight months only (July 2006 - February 2007). Thereafter, quarterly sampling and reporting are required, beginning with the first quarter of 2007.
3 Weekly turbidity monitoring and monthly reporting are required for the first eight months only. Thereafter, quarterly turbidity monitoring is required, beginning with the first quarter 2007. Once quarterly sampling begins, if turbidity exceeds 5 NTU during any groundwater sampling event, turbidity sampling shall be conducted on a monthly basis until three consecutive sampling events demonstrate turbidity of < 5 NTU.
4 See Attachment A for list of metals/minerals constituents.
5 Total recoverable mercury, detection limit of 5.0 nanograms per liter (ppt) or less, using *Ultra-Clean Aqueous Sample Collection and Preservation Techniques (FGS-008 and EPA Method 1669).*
6 If weekly or monthly turbidity monitoring indicates the presence of turbidity in any well in excess of 5 NTUs, that well shall be sampled the same day and the sample analyzed for total recoverable mercury.
7 Total Petroleum Hydrocarbons, detection limit of 50 micrograms per liter (ppb) or less by EPA Method 8015 Modified for diesel, and oil & grease.

SURFACE WATER BODY MONITORING

In addition, the Discharger shall collect grab samples from all water bodies (ponds, and/or channels) within 500 feet of the designated disposal area and any active excavation area ponds (mined within the past month). However, if another Discharger's wastewater ponds are within this 500 foot area, then those ponds do not need to be sampled as a result of this Order. If any of these water bodies are on land outside of the Discharger's control, then the Discharger shall either obtain permission to access the water body(ies) or shall submit a report detailing how it proposes to comply with this monitoring requirement. These other water bodies shall be identified in the Sampling and Analysis Plan (SAP), submitted with the Monitoring Well Installation Report. Water body monitoring shall include, at a minimum, the following:

Constituents	Units	Sampling Frequency	Reporting Frequency
pH	pH units	Monthly[1,7,8]	Monthly[1]
Electrical Conductivity	μmhos/cm	Monthly[1,7,8]	Monthly[1]
Turbidity	NTU	Weekly[2,7,8]	Monthly[2]
Total Metals/Minerals[3]	ug/L	Monthly[1,7,8]	Monthly[1]
Total Mercury[4]	ng/L	Monthly[1,5,7,8]	Monthly[1]
TPH[6]	ug/l	Monthly[1,7,8]	Monthly[1]

1 Monthly sampling and reporting are required for the first eight months only (July 2006 – February 2007). Thereafter, quarterly sampling and reporting are required, beginning with the first quarter of 2007.
2 Weekly turbidity monitoring and monthly reporting are required for the first eight months only. Thereafter, monthly turbidity monitoring is required, beginning with January 2007.
3 See Attachment A for list of metals/minerals constituents.
4 Total recoverable mercury, detection limit of 5.0 nanograms per liter (ppt) or less, using *Ultra-Clean Aqueous Sample Collection and Preservation Techniques (FGS-008 and EPA Method 166*9).
5 If weekly or monthly turbidity monitoring indicates the presence of turbidity in any water body in excess of 5 NTUs, that water body shall be sampled the same day and the sample analyzed for total recoverable mercury.
6 Total Petroleum Hydrocarbons, detection limit of 50 micrograms per liter (ppb) or less by EPA Method 8015 Modified for diesel, and oil & grease.
7 Sampling of the concrete lined irrigation canal is not required.
8 Sampling of water bodies located within 100 feet upgradient of groundwater monitoring wells shall not be required. However, staff may request sampling of the waterbodies should additional information be necessary.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., designated disposal area, groundwater, surface water body, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported to the Regional Board.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all Groundwater Monitoring Reports shall be prepared under the direct supervision of a Registered Engineer or Professional Geologist and signed/stamped by the registered professional.

A. Monthly Reports

All sample data colleted during the month shall be reported in the monthly monitoring report. Monthly Reports shall be submitted to the Regional Board by the first day of the second month following the month of sampling (i.e., the January monthly report is due by **1 March).** At a minimum, the reports shall include the following:

1. A scaled map showing relevant structures and features of the facility, and the locations of designated disposal area and surface water body monitoring points and groundwater monitoring points or wells;

2. The results of all designated disposal area monitoring and, for the September 2006 to April 2007 reports, results of surface water body and groundwater monitoring;

3. A comparison of the monitoring data to the discharge specifications, provisions, and groundwater limitations and an explanation of any violation of these requirements;

4. A calibration log verifying calibration of all hand-held monitoring instruments and devices used to comply with the prescribed monitoring program; and

5. Copies of the laboratory analytical report(s)

B. Quarterly Monitoring Report

Beginning in the first quarter 2007, the Discharger shall establish a quarterly sampling schedule for surface water body and groundwater monitoring such that samples are obtained approximately every three months. Quarterly monitoring reports shall be submitted to the Regional Board by the **1st day of the second month after the quarter** (i.e. the January-March quarterly report is due by May 1st) and may be combined with the monthly report. The Quarterly Report shall include the following:

1. Results of the surface water body and groundwater monitoring;

2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDR, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged;

3. Calculation of groundwater elevations and discussion of seasonal trends if any;

4. A narrative discussion of the analytical results for all surface water body and groundwater locations monitored including spatial and temporal tends, with reference to summary data tables, graphs, and appended analytical reports (as applicable);

5. A comparison of the monitoring data to the surface water and groundwater limitations and an explanation of any violation of those requirements;

6. Summary data tables of historical and current water table elevations and all analytical results;

7. A scaled map showing relevant structures and features of the facility, the locations of surface water body monitoring points and groundwater monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum; and

8. Copies of laboratory analytical report(s) for surface water body and groundwater monitoring.

C. Annual Monitoring Report

An Annual Monitoring Report shall be submitted by **1 February of each year**, and may be combined with the December monthly monitoring report. At a minimum, the Annual Monitoring Report shall include the following:

1. A written summary of the all significant actions taken during the year;

2. A tabular summary of the all data reported in the Monthly Monitoring Reports;

3. If requested by staff, tabular and graphical summaries of all monitoring data obtained during the previous year;

4. A discussion of compliance and the corrective action taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements; and

5. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.

A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain a statement by the discharger, or the discharger's authorized agent, under penalty of perjury, that to the best of the signer's knowledge the report is true, accurate and complete.

The Discharger shall implement the above monitoring program as of the date of this Order.

Ordered by: Original Signed by
PAMELA C. CREEDON, Executive Officer

June 29, 2006
(Date)

General Chemistry

Analysis	Water Matrix Method [1]	Preservative	Minimum Sample Size
pH	150.1	4°C	25 ml
Conductivity	2510	4°C	100 ml
Turbidity	2130B	4°C	200 ml
Total Dissolved Solids	2540C	4°C	200 ml
Total Suspended Solids	2540D	4°C	500 ml
Settleable Solids	2540F	4°C	1000 ml
Total Solids	2540B	4°C	1000 ml
Net Volatile Residue	2540E	4°C	100 ml
Total Acidity	2310B	4°C	100 ml
Total Alkalinity	2310B	4°C	100 ml
Total Hardness	2340B	4°C	100 ml
Methylene Blue Active Substance	5540C	4°C	250 ml

1 Recommended analytical method. Equivalent methods may be used.

Ion Balance

Analysis	Preservative	Minimum Sample Size
Anions: Bromide, Chloride, F, NO_2, NO_3, PO_4, SO_3, SO_4	4°C	500 ml
Alkalinity(Total) as $CaCO_3$, CO_3, HCO_3, OH	4°C HNO_3 to pH<2.0	1000 ml
Cation: Al, Ca, Co, Cr, Cu, Fe, K, Mg, Mn, Na, Pb, Zn	4°C	
pH, Total Ion Balance (Calculated in meq/L)	4°C	

Total Metals / Minerals

Analysis	Water Matrix Method [1]	Preservative	Minimum Sample Size
Antimony	200.7	4°C HNO_3 to pH<2.0	100 ml
Arsenic	200.9	4°C HNO_3 to pH<2.0	100 ml
Cadmium	200.7	4°C HNO_3 to pH<2.0	100 ml
Calcium	200.7	4°C HNO_3 to pH<2.0	100 ml
Iron	200.7	4°C HNO_3 to pH<2.0	100 ml
Lead	200.9	4°C HNO_3 to pH<2.0	500 ml
Magnesium	200.7	4°C HNO_3 to pH<2.0	100 ml
Manganese	200.7	4°C HNO_3 to pH<2.0	100 ml
Molybdenum	200.7	4°C HNO_3 to pH<2.0	100 ml
Nickel	200.7	4°C HNO_3 to pH<2.0	100 ml
Sodium	200.7	4°C HNO_3 to pH<2.0	100 ml
Sulfide	4500-S	4°C ZnAc+NaOH to pH<9.0	500 ml
Sulfite	4500-SO_3	4°C	50 ml
Sulfate	300.0	4°C	100 ml
Thallium	200.7	4°C HNO_3 to pH<2.0	100 ml

1 Recommended analytical method. Equivalent methods may be used.