

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2003-0098, REVISION NO. 1

FOR
TEICHERT AGGREGATES
MARYSVILLE PLANT
YUBA COUNTY

This Revised Monitoring and Reporting Program (MRP) describes requirements for monitoring industrial wastewater, settling/recycling ponds, excavation ponds, and groundwater. This MRP 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.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form. Field test instruments (such as those used to measure pH 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. The instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of the MRP.

OPERATIONAL STATUS

The Discharger shall maintain records in order to answer the following:

1. Has mining activity occurred during the month? Yes or No
2. Was aggregate wash water generated or discharged into the ponds during the month? Yes or No

GROUNDWATER EXTRACTION RATE MONITORING

Groundwater extraction rate monitoring shall be performed whenever groundwater wells, settling/recycling ponds, or excavation ponds are being pumped. Meters shall be installed as necessary to determine the rate of wastewater recycling and groundwater extraction at all settling/recycling ponds, excavation ponds, and active groundwater extraction wells. Meters shall be read at the end of each day's operation to allow determination of the volume of water pumped "out" of each settling pond, excavation pond, or groundwater extraction well and the volume of wastewater discharged "in" the settling pond and/or excavation pond(s). Time of operation shall be recorded to allow calculation of the groundwater extraction rate. The groundwater extraction rate shall be calculated based on the following formula:

$$\{(out - in)_{\text{settling pond}} + (out - in)_{\text{excavation pond}} + (out)_{\text{gw extraction wells}}\} / \text{operating minutes} = \text{total gw extraction}$$

Monitoring shall include:

| <u>Constituent/Parameter</u> | <u>Units</u> | <u>Sampling</u> | <u>Reporting</u> |
|--|------------------|-----------------|------------------|
| Groundwater Well(s) Extraction ¹ | Gallons | Daily | Monthly |
| Excavation Pond(s) Extraction ¹ | Gallons | Daily | Monthly |
| Settling/recycling Pond(s) Extraction ¹ | Gallons | Daily | Monthly |
| Discharge to Settling/recycling Pond(s) ² | Gallons | Daily | Monthly |
| Discharge to Excavation Pond(s) ² | Gallons | Daily | Monthly |
| Time of Operation ³ | Minutes | Twice Daily | Monthly |
| Groundwater Extraction Rate ⁴ | GPM ⁴ | Calculated | Monthly |

GPM denotes Gallons Per Minute.

- ¹ Extraction rates must be metered at all locations where extraction is occurring. Extraction occurring on floating dredges that result in wastewater discharged immediately back into the excavation pond does not need to be metered.
- ² Discharge of wastewater must be metered at all locations where it is occurring. Discharge occurring on floating dredges that result in wastewater discharged immediately back into the excavation pond does not need to be metered.
- ³ Time of operation shall be recorded at the beginning and end of operations for each day.
- ⁴ Groundwater extraction rate shall be calculated as an average over the daily operational period.

SETTLING/RECYCLING POND MONITORING

All samples shall be collected as described in the technical report required by WDRs Provision E.2.a and shall be collected during the times when the Discharger is actively discharging wastewater. Flow monitoring shall be performed as required in the Groundwater Extraction Rate Monitoring section of this MRP. Monitoring of the settling/recycling pond(s) shall include:

| <u>Constituent/Parameter</u> | <u>Units</u> | <u>Sampling Frequency</u> | <u>Reporting</u> |
|------------------------------|--------------|---------------------------|--------------------------|
| Freeboard | 0.1 Feet | Weekly ³ | Monthly |
| pH | pH Units | Monthly | Monthly |
| Total Mercury ¹ | ng/L | Semi-Annual ² | Semi-Annual ² |

- ¹ The total mercury detection limit shall be no more than 10 ng/L.
- ² Semi-annual denotes twice a year. Samples shall be collected in January and July.
- ³ **May be sampled once a month if no discharge to pond occurred during the previous or current calendar month.**

EXCAVATION POND MONITORING

All samples shall be collected as described in the technical report required by WDRs Provision E.2.a and shall be collected during the times when the Discharger is actively discharging wastewater. Flow monitoring shall be performed as required in the Groundwater Extraction Rate Monitoring section of this MRP. Monitoring of the excavation pond(s) shall include:

| <u>Constituent/Parameter</u> | <u>Units</u> | <u>Sampling Frequency</u> | <u>Reporting</u> |
|------------------------------|--------------|---------------------------|--------------------------|
| Freeboard | 0.1 Feet | Weekly ³ | Monthly |
| pH | pH Units | Monthly | Monthly |
| Total Mercury ¹ | ng/L | Semi-Annual ² | Semi-Annual ² |

¹ The total mercury detection limit shall be no more than 10 ng/L.

² Semi-annual denotes twice a year. Samples shall be collected in January and July.

³ **May be sampled once a month if no excavation or discharge to the pond occurred within the previous or current calendar month.**

GROUNDWATER MONITORING

Prior to construction and/or sampling of any groundwater monitoring wells, the Discharger shall submit plans and specifications to the Board for review and approval. Once installed, all new wells shall be added to the MRP and shall be sampled and analyzed according to the schedule below. **Effective 1 April 2012 and continuing until the date that mining and/or the discharge of aggregate wash water resumes, groundwater monitoring is not required.**

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

| <u>Constituent/Parameter</u> | <u>Units</u> | <u>Sampling Frequency</u> | <u>Reporting</u> |
|------------------------------|--------------|---------------------------|------------------|
| Groundwater Elevation | 0.01 ft. | Quarterly | Quarterly |
| Depth to Groundwater | 0.01 ft. | Quarterly | Quarterly |
| Groundwater Gradient | feet/feet | Quarterly | Quarterly |
| Gradient Direction | Bearing | Quarterly | Quarterly |
| pH | pH units | Quarterly | Quarterly |
| Electrical Conductivity | μmhos/cm | Quarterly | Quarterly |
| Total Dissolved Solids | mg/L | Quarterly | Quarterly |

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, pond, 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 in the next scheduled monitoring report.

A. Monthly Monitoring Reports

Monthly reports shall be submitted to the Regional Board on the **1st day of the second month following sampling** (i.e. the January Report is due by 1 March). At a minimum, the reports shall include:

1. Results of operational status, groundwater extraction rate, settling/recycling pond, and excavation pond monitoring;
2. A comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements. Data shall be presented in tabular format;
3. If requested by staff, copies of laboratory analytical report(s);
4. A discussion of all sludge removed from ponds, septage or other solid waste disposal;
5. A calibration log verifying calibration of all monitoring instruments and devices used to comply with the prescribed monitoring program;
6. A discussion of any disposal of fine-grained materials and how the disposal is compliant with the recommendations included in the Mercury Characterization in Soil Investigation Report required by WDRs Provision E.2.f.

B. Quarterly Monitoring Reports

If aggregate mining and/or washing of aggregate material did not occur during the calendar quarter, then the quarterly monitoring shall state so, and give a projected timeline for resuming mining and/or aggregate washing operations.

The Discharger shall establish a quarterly sampling schedule for groundwater, settling/recycling pond, and excavation pond 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 1 May) and may be combined with the monthly report. The Quarterly Report shall include the following:

1. Results of groundwater monitoring;
2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater 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, an assessment of groundwater flow direction and gradient on the date of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends if any;

4. A narrative discussion of the analytical results for all groundwater locations monitored including spatial and temporal trends, with reference to summary data tables, graphs, and appended analytical reports (as applicable);
5. A comparison of monitoring data to the groundwater limitations and an explanation of any violation of those requirements;
6. Summary data tables of historical and current water table elevations and analytical results;
7. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum;
8. Copies of laboratory analytical report(s) for groundwater monitoring;
9. Any semi-annual data collected at the settling/recycling pond or excavation ponds.

C. Annual Report

An Annual Report shall be prepared as the fourth quarter monitoring report. The Annual Report will include all monitoring data required in the monthly/quarterly schedule. The Annual Report shall be submitted to the Regional Board by **1 February** each year. In addition to the data normally presented, the Annual Report shall include the following:

1. The contents of the regular groundwater monitoring report for the last sampling event of the year;
2. If requested by staff, tabular and graphical summaries of all data collected during the year;
3. An evaluation of the groundwater quality at the facility;
4. A discussion of compliance and the corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements;
5. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program;
6. Summary of information on the disposal of sludge and/or solid waste;
7. A discussion of the hydraulic capacity of the settling/recycling ponds and if warranted, a schedule for submittal of technical reports to develop new settling/recycling ponds or excavation ponds;

8. A Water Balance and Capacity Calculation Report that demonstrates adequate storage and disposal capacity to ensure full compliance with the WDRs. The water balance shall evaluate the settling pond area's ability to provide sufficient capacity on a monthly basis, and shall consider evaporation, direct precipitation, storm water runoff contribution, percolation, and estimated rate of sedimentation. Rainfall amounts shall be based on the total annual precipitation based on a return period of 100 years, distributed monthly in accordance with historical rainfall patterns. Note that the established maximum daily percolation rate cannot exceed ten percent of the minimum saturated hydraulic conductivity and the evaporation rate cannot exceed 80 percent of the established pan evaporation rate for the area. For the purpose of this analysis, "full compliance" means maintaining two feet of freeboard in all ponds.

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
23 March 2012
Date

BPK