

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2003-0116, REVISION NO. 2

FOR
TEICHERT AGGREGATES
PERKINS PLANT
SACRAMENTO COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring wash water storage ponds, aggregate wash water, concrete plant wash water, 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 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.

ANALYTICAL METHODS

The following standard analytical methods shall be used for wastewater and groundwater samples.

<u>Constituent</u>	<u>Analytical Method</u>	<u>Maximum Practical Quantitation Limit (ug/l except as noted) ^{1,2}</u>
Aluminum	EPA 200.8	1
Antimony	EPA 200.8	0.4
Arsenic	EPA 200.8	1.4
Barium	EPA 200.8	0.8
Cadmium	EPA 200.8	0.5
Total chromium	EPA 200.8	0.9
Hexavalent chromium	SM 3500-C	10
Cobalt	EPA 200.8	0.09
Copper	EPA 200.8	0.5
Lead	EPA 200.8	0.6
Manganese	EPA 200.8	0.1

<u>Constituent</u>	<u>Analytical Method</u>	<u>Maximum Practical Quantitation Limit (ug/l except as noted) ^{1, 2}</u>
Mercury	EPA 200.8	0.2
Molybdenum	EPA 200.8	0.3
Nickel	EPA 200.8	0.5
Selenium	EPA 200.8	7.9
Silver	EPA 200.8	0.1
Thallium	EPA 200.8	0.3
Thorium-232	EPA 200.8	0.1
Uranium	EPA 200.8	0.1
Vanadium	EPA 200.8	2.5
Zinc	EPA 200.8	1.8
Total Petroleum Hydrocarbons	EPA 8015m, diesel	1 mg/L
Chloride	EPA 300	5 mg/L
Sulfate	EPA 300	10 mg/L
Hardness	2340B	10 mg/L
Total dissolved solids	2540C	10 mg/L
Total Kjeldahl nitrogen	EPA 4500	1 mg/L
Nitrate nitrogen	EPA 300	1 mg/L
<u>Total coliform organisms</u>	9221E, 15-tube	2 MPN/100 mL

¹ The Practical Quantitation Limit (PQL) is the lowest concentration for which the laboratory can report a quantitative result. PQLs can vary from lab to lab, and the Maximum PQL is the highest PQL that will be accepted as compliant with this MRP.

² All detections between the Method Detection Limit and the Practical Quantitation Limit shall be reported as trace.

POND MONITORING

Each aggregate wash water pond (including the Prewash and Perkins Ponds) shall be inspected weekly and monitored as follows:

<u>Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Freeboard	0.1 Feet	Measurement	Weekly	Monthly
Berm condition	N/A	Observation	Weekly	Monthly

AGGREGATE WASH WATER MONITORING

Wash water samples shall be collected at the inlets of the Prewash and Perkins Pond systems. Grab samples are considered adequately composited to represent the effluent. At a minimum, the Discharger shall monitor the wastewater as follows:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u> ⁴
Flow	gpd	Meter Observation	Daily	Monthly
pH	Std.	Grab	Monthly	Monthly
Total dissolved solids	mg/L	Grab	Monthly	Monthly
Aluminum ¹	mg/L	Grab	Quarterly	Monthly
Total Petroleum Hydrocarbons ¹	mg/L	Grab	Quarterly ²	Monthly
Standard Minerals ^{1,3}	mg/L	Grab	Quarterly	Monthly

¹ For the Perkins Pond system only.

² The sample frequency shall be daily when slurry from the asphalt plant bag house is discharged to the ponds.

³ Standard Minerals shall include, at a minimum, the following constituents: Barium, Calcium, Magnesium, Sodium, Potassium, Chloride, Nitrate, Sulfate, Alkalinity species, and Hardness.

⁴ Include all results in the Monthly Monitoring Report; quarterly results shall be included in the last Monthly Monitoring Report of the quarter.

READY-MIX PLANT WASH WATER MONITORING

Wash water samples shall be collected at the inlet to the pond. Grab samples are considered adequately composited to represent the effluent. At a minimum, the Discharger shall monitor the wastewater as follows. Analytical testing is not required after an approved sump structure is constructed to replace the pond and the pond has been drained.

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u> ³
Flow	gpd	Meter Observation	Daily	Monthly
pH	Std.	Grab	Monthly	Monthly
Total dissolved solids	mg/L	Grab	Monthly	Monthly
Dissolved metals ¹	ug/L	Grab ²	Quarterly	Monthly

¹ At a minimum, the following metals shall be included: antimony, arsenic, barium, total chromium, hexavalent chromium, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc.

² Samples shall be filtered through a 0.45-micron filter prior to preservation.

³ Include all results in the Monthly Monitoring Report; quarterly results shall be included in the last Monthly Monitoring Report of the quarter.

GROUNDWATER MONITORING

Prior to construction of any additional 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. The purpose of existing monitoring wells is summarized below. Any additional monitoring wells installed after the date of this MRP shall be incorporated into the relevant group based on the purpose defined in the approved Monitoring Well Installation Workplan.

<u>Well ID</u>	<u>Primary Purpose</u>
Background-1	Site background
Main Office-1	Main Office septic system
Minerals Lab-1	Minerals Lab septic system
Minerals Lab-2	Minerals Lab septic system
Minerals Lab-3	Minerals Lab septic system
Precast-1	Former Precast Plant Office septic system
Rock Plant-1	Rock Plant septic system
QA Lab-1	QA Lab septic system
Ready Mix-1	Ready Mix pond
Ready Mix-2	Ready Mix pond
Ready Mix-3	Ready Mix pond

Prior to sampling, groundwater elevations shall be measured and each well shall be purged of at least three casing volumes until pH and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet. Water table elevations shall be calculated based on surveyed wellhead elevations and used to determine groundwater gradient and direction of flow. Samples shall be collected using approved EPA methods. Groundwater monitoring shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling and Reporting Frequency</u> ¹
Depth to groundwater ¹	Feet	Measurement	Quarterly
Groundwater elevation ¹	Feet	Calculated	Quarterly
Gradient	Feet/feet	Calculated	Quarterly
Flow direction	degrees	Calculated	Quarterly
pH ¹	Std.	Grab	Quarterly
Total Dissolved Solids ¹	mg/L	Grab	Quarterly
Total Kjeldahl Nitrogen ²	mg/L	Grab	Quarterly
Nitrate nitrogen ²	mg/L	Grab	Quarterly
Total Coliform Organisms ^{2, 3}	MPN/100 mL	Grab	Quarterly
Dissolved metals ^{4, 5, 6}	mg/L	Grab	Quarterly

¹ Required for all wells.

- 2 Required for upgradient and septic system monitoring wells only (including all Minerals Lab wells).
- 3 Using a minimum of 15 tubes or three dilutions.
- 4 Required for background, Ready-Mix Pond, and Minerals Lab septic system wells only.
- 5 Metals shall include arsenic, barium, total chromium, hexavalent chromium, copper, mercury, molybdenum, nickel, and zinc.
- 6 Samples shall be filtered through a 0.45-micron filter prior to preservation.

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.

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 Geologist and signed by the registered professional.

A. Monthly Monitoring Reports

Monthly Monitoring 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 Monthly Monitoring Report shall include:

1. Results of pond, aggregate wash water, and Ready-Mix Plant wash water monitoring.
2. A map depicting the locations of all active all wash water ponds, storm water ponds, slurry deposition areas, and the locations where freeboard is measured.
3. 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.
4. If requested by staff, copies of laboratory analytical report(s).
5. A discussion of all mineral lab, and other off-site industrial waste disposal.
6. A calibration log verifying calibration of all monitoring instruments and devices used to comply with the prescribed monitoring program.
7. The dates and volume of wastewater discharged from the asphalt plant bag house to the ponds.

B. Quarterly Monitoring Reports

The Discharger shall establish a quarterly sampling schedule for groundwater monitoring such that samples are obtained approximately every three months. Quarterly Monitoring Reports shall be submitted to the Board by the **1st day of the second month after the quarter** (i.e. the January-March quarter is due by May 1st) each year. The Quarterly

Monitoring Report shall include the following:

1. 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 WDRs, 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;
2. A table showing well construction details such as well number, groundwater zone being monitored, coordinates (longitude and latitude), ground surface elevation, reference elevation, elevation of screen, elevation of bentonite, elevation of filter pack, and elevation of well bottom;
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. Groundwater contour maps for all groundwater zones monitored;
5. A table showing historical lateral and vertical (if applicable) flow directions and gradients;
6. Tabulated results of groundwater monitoring data.
7. A narrative discussion of the analytical results for all groundwater locations monitored including spatial and temporal trends and pollutant plume delineation, with reference to summary data tables, graphs, figures, and appended analytical reports (as applicable);
8. Isocontour pollutant concentration maps for all monitored groundwater zones;
9. A comparison of monitoring data to the groundwater limitations and an explanation of any violation of those requirements;
10. Summary data tables of historical and current water table elevations and analytical results;
11. 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;
12. Copies of laboratory analytical report(s) for groundwater monitoring.
13. If applicable, the status of any ongoing remediation, including cumulative information on the mass of pollutant removed from the subsurface, system operating time, the effectiveness of the remediation system, and any field notes pertaining to the operation and maintenance of the system; and
14. If applicable, the reasons for and duration of all interruptions in the operation of any remediation system, and actions planned or taken to correct and prevent interruptions.

C. Annual Monitoring Report

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

1. If requested by staff, tabular and graphical summaries of all monitoring data collected during the year;
2. 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.
3. A Water Balance and Capacity Calculation Report that presents calculation of the current capacity of the wastewater pond system and evaluation of the wastewater storage system's ability to adequately contain all rainfall and industrial wastewater discharged to the pond. 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.

A transmittal letter shall accompany each self-monitoring report. The letter shall discuss any violations 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 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.

- Original Signed by -
PAMELA C. CREEDON, Executive Officer

1-22-07
(Date)

ALO:1/30/07