

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2003-0098

FOR  
TEICHERT AGGREGATES  
MARYSVILLE PLANT  
YUBA COUNTY

This 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.

**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:

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

Monitoring shall include:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Groundwater Well(s) Extraction <sup>1</sup>	Gallons	Daily	Monthly
Excavation Pond(s) Extraction <sup>1</sup>	Gallons	Daily	Monthly
Settling/recycling Pond(s) Extraction <sup>1</sup>	Gallons	Daily	Monthly
Discharge to Settling/recycling Pond(s) <sup>2</sup>	Gallons	Daily	Monthly
Discharge to Excavation Pond(s) <sup>2</sup>	Gallons	Daily	Monthly

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Time of Operation <sup>3</sup>	Minutes	Twice Daily	Monthly
Groundwater Extraction Rate <sup>4</sup>	GPM <sup>4</sup>	Calculated	Monthly

GPM denotes Gallons Per Minute.

<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> Time of operation shall be recorded at the beginning and end of operations for each day.

<sup>4</sup> 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 Frequency</u>
Freeboard	0.1 Feet	Weekly	Monthly
pH	pH Units	Monthly	Monthly
Total Mercury <sup>1</sup>	ng/L	Semi-Annual <sup>2</sup>	Semi-Annual <sup>2</sup>

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

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

### 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 Frequency</u>
Freeboard	0.1 Feet	Weekly	Monthly
pH	pH Units	Monthly	Monthly
Total Mercury <sup>1</sup>	ng/L	Semi-Annual <sup>2</sup>	Semi-Annual <sup>2</sup>

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

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

### 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.

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 Frequency</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	$\mu$ mhos/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 **1<sup>st</sup> 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 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**

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 **1<sup>st</sup> 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: \_\_\_\_\_  
THOMAS R. PINKOS, Executive Officer

6 June 2003

\_\_\_\_\_  
Date

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER NO. R5-2003-0098

WASTE DISCHARGE REQUIREMENTS  
FOR  
TEICHERT AGGREGATES  
MARYSVILLE PLANT  
YUBA COUNTY

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

1. Teichert Aggregates (hereafter Discharger) submitted a Report of Waste Discharge (RWD) dated 24 July 2001; excerpts from the September 1995 Draft Environmental Impact Report (DEIR) describing reclamation; a Mining Application and Reclamation Plan dated 1 April 1994; and RWD Supplemental Information dated 20 December 2001.
2. The aggregate processing plant is at 4249 Hammonton-Smartville Road six miles northeast of Marysville, in Section 12, T15N, R4E, and Section 7, T15N, R5E, MDB&M, as shown on Attachment A, which is attached hereto and made part of this Order by reference. The property is also identified by Assessor's Parcel Numbers 018-150-010 and 018-170-008. Land elevations range from 103 to 85 feet above sea level.
3. The aggregate excavation areas, processing and discharge areas, and the aggregate washing equipment are owned and operated by the Discharger.
4. The facility is located south and adjacent to the Yuba Goldfields. The site has not been previously mined.

**Facility Description**

5. The Discharger will operate an aggregate mining and processing facility that will discharge wastewater from sand and gravel washing operations to a settling/recycling pond system and/or excavation ponds.
6. Mining techniques may include scrapers, track mounted excavators, draglines, and clamshell bucket excavators. The Discharger may also use a floating dredge to excavate earth materials.
7. The facility will include a scale house, office, equipment shop, and equipment wash area. The types of processing equipment will vary depending on product demand. The Discharger may operate portable aggregate washing plants that can be moved on-site when needed to meet demand or generate stockpiles from which to sell product. Portable plants must discharge into established settling/recycle ponds or excavation ponds that comply with the requirements of this Order.
8. The facility consists of approximately 590 acres and is estimated to contain aggregate reserves to a depth of 200 feet providing approximately 100-150 million net tons.

9. The annual production for the Discharger is anticipated to be at least 2.0 million tons of aggregate. Excess product will be stockpiled for later sale.

### **Wastewater Disposal**

10. Mining will begin with removal of overburden to the water table. A dragline along the pit edge will excavate materials to create a pond. Because of the shallow groundwater on-site, an excavation device such as a bucket ladder dredge, clam (grab) excavator, or other apparatus may be floated in the excavated pond.
11. A conveyor belt will transport excavated aggregate materials to the processing plant. Processing equipment consists of wash screens, bucket wheels, crushers, vibratory screens, and a gold recovery circuit. Product is stockpiled and wastewater is discharged to settling/recycle ponds or excavation ponds for which the Discharger has obtained authorization from the Executive Officer.
12. Industrial wastewater originates from washing aggregate materials to remove fine-grained sediments and gold. The wastewater is recycled as much as possible; however, due to infiltration, evaporation, and product moisture carry out, up to 2,000 gallons per minute (gpm) of makeup water is added during processing. All industrial wastewater generated on-site is discharged to a series of settling/recycle ponds or approved excavation ponds. A floating excavator (i.e. dredge) might discharge directly into the excavation pond in which it is working.
13. The initial settling/recycling ponds will cover approximately 13.23-acres in surface area as presented on Attachment B, which is attached hereto and made part of this Order by reference. The Discharger's water balance indicates that the ponds have sufficient capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration using a return period of 100 years. The Discharger plans to reconfigure wastewater ponds as needed to maintain adequate capacity. Reconfiguration of the ponds may result in relocating the ponds on the property. This Order allows ponds to be constructed anywhere on the Designated Disposal Area identified on Attachment B as long as the Discharger is in compliance with this Order and any requirements imposed by other agencies.
14. The Discharger has proposed the use of flocculants to settle fine-grained materials from the wastewater. Because different products may be proposed for use over the life of the project, the Discharger is required to obtain approval from the Executive Officer prior to using any flocculent.
15. A floating dredge may pump excavation pond water for use in on-board processing. Pumping pond water will result in extraction of groundwater that is in hydraulic communication with the pond. To limit that extraction, the Discharger will return the process water to the excavation pond at the rate of extraction, thereby maintaining the pond level and minimizing the amount of groundwater extraction that occurs.
16. As excavation continues, the Discharger may request authorization to discharge wastewater from land-based aggregate processing equipment into excavation ponds. Prior to use, the Discharger

must demonstrate that it has constructed improvements to comply with these requirements and obtain approval from the Executive Officer.

17. Because this is a new facility, no information on wastewater quality is available. However, the use of water may result in modest localized increases of total dissolved solids concentrations.

#### **Site Reclamation**

18. Settling/recycling ponds will be located in former excavation areas and are typically used until they fill up with fine-grained material. Excavation of fine-grained material may occur to prolong the life of the ponds; otherwise the Discharger can construct new ponds on the property. Filled ponds will be reclaimed in accordance with the Discharger's Surface Mining and Reclamation Act (SMARA) Plan.
19. The excavation area will be reclaimed as both a 420-acre lake (approximately 200-feet deep) and 170-acres of adjacent recreational land. The PG&E power line easement will remain in place and the Borphy Water District Canal will be rerouted around the excavation area.
20. The Discharger estimates that ten-percent of the total volume of excavated material will be discharged to the settling ponds as fine-grained sediments.

#### **Other Waste Streams**

21. Domestic wastewater is discharged to a septic system permitted by the Yuba County Environmental Health Department. The system includes a 1,000 gallon septic tank, a 1,000 gallon dosing tank, and 200 linear feet of leach field. The system is sized for ten employees and ten site visitors per day and is oversized to allow flows to increase to 510 gallons per day. The system has provisions for a 100-percent replacement leach field area if needed. Bottled water will be supplied for drinking water.
22. The Discharger will accept cured waste concrete and asphaltic concrete for crushing and recycling.
23. The Discharger intends to manufacture ready mix concrete and asphaltic concrete at a future time but has not submitted plans for either mixing plants. This Order allows production of asphaltic concrete on-site upon the approval of the Executive Officer, but requires a separate RWD for production of ready mix concrete, cement products, or disposal of non-cured cement product wastewater.
24. The Discharger will perform gold recovery using gravimetric methods. No amalgamation or leaching processes will be used in the gold recovery process and any heavy sands recovered will be taken off-site for further processing.
25. Hazardous materials stored at the site are asphaltic oil, motor oil, hydraulic fluid, transmission fluid, lube grease, gear lube, and similar products. Asphaltic oil, fuel, and propane will be stored in aboveground storage tanks. Major equipment repair work is performed off-site. A list of the hazardous materials that will be stored on site is presented below:



<u>Material</u>	<u>Maximum Amount</u>	<u>Material</u>	<u>Maximum Amount</u>
Acetylene	834 ft <sup>3</sup>	Gasoline	500 gal
Oxygen	1,491 ft <sup>3</sup>	Antifreeze	110 gal
Propane	30,000 gal	Waste Oil	110 gal
Diesel	15,000 gal	Waste Antifreeze	55 gal
Asphaltic Cement	90,000 gal	Solvent	110 gal
Oil and Grease	1,500 gal		

**Site-Specific Conditions**

26. Eight existing on-site supply wells will provide the initial water supply; one additional well may be installed if needed. Wells will be decommissioned and removed as necessary as excavation progresses. The current well locations are presented on Attachment B.
27. The average annual precipitation is approximately 21.0 inches and reference evapotranspiration rates average approximately 52.9 inches per year.
28. Surrounding land uses are primarily industrial and agricultural.
29. The Discharger will eventually construct a perimeter berm that will prevent surface water runoff. In the meantime, stormwater will be directed into settling/recycling ponds or excavation ponds. The Discharger has obtained an Industrial Stormwater Permit from the Regional Board.
30. The facility is adjacent to Yuba Goldfields and the Discharger has reported the land was never mined. Because of the close proximity and the potential that sediments might have been placed on the land without historical record, this Order contains mercury monitoring requirements.
31. The San Joaquin loam soil series covers most of the site. Perkins loam covers the northern portion of the site, and a small portion of the eastern part of the property has Redding-Corning complex soils. Alluvial deposits of fine-grained, sand, gravel, and cobbles exist to a depth of at least 200 feet.
32. The facility site is in the Lower Yuba River Hydrologic Basin (No. 515.30), as depicted on interagency hydrologic maps prepared by the Department of Water Resources in August 1986.

**Groundwater Considerations**

33. Depth to groundwater is approximately 10 feet below the ground surface. Groundwater flows to the southwest, but may be influenced locally by groundwater extraction or percolation from settling/recycling ponds.
34. Two groundwater aquifer zones are reported to exist beneath the facility separated by an aquitard 15 to 20 feet thick at a depth of 35 feet. The aquitard does not exist in all locations. Mining will penetrate and remove the aquitard that separates the two zones.

35. Dewatering a pit affects groundwater elevations because it withdraws water from both aquifers but recharges it to the shallow aquifer. The result is increased downward vertical gradients, which could result in degradation of lower aquifer zone water quality.

#### **Treatment and Control Practices**

36. The treatment and control practices described herein provides commonly implemented treatment and control for the subject wastewater, and should prevent the discharge from creating a condition of pollution or nuisance, and maintain water quality. Settling ponds are routinely used in the aggregate mining industry to settle suspended solids.
37. The materials used in the Discharger's operation are natural earth materials subjected to a classification and separation process using recycled wastewater and site groundwater. Flocculants may be added to the wastewater pending Executive Officer approval.
38. In the period before the Discharger began operations, historic mining activities within the Yuba River watershed used mercury to amalgamate gold. Significant amounts of mercury were lost during this process, resulting in residual mercury within the Yuba River sediments. Although the Discharger's property was reportedly not previously mined, the close proximity may have resulted in historic Goldfield sediment deposition on the property. The Discharger is required to evaluate this possibility and additional restrictions on fine-grained sediments may be added based on the Discharger's findings.

#### **Basin Plan, Beneficial Uses, and Regulatory Considerations**

39. The Water Quality Control Plan, for the Sacramento and San Joaquin River Basins, Fourth Edition, (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Board. Pursuant to Section 13263(a) of the California Water Code, waste discharge requirements must implement the Basin Plan.
40. Surface water drainage is either to unnamed tributaries and the Yuba River or to Reed's Creek, a tributary of the Feather River. The Basin Plan at page II-2.00 states: "*The beneficial uses of any specifically identified water body generally apply to its tributary streams.*" The Basin Plan does not specifically identify beneficial uses for the unnamed tributaries of the Yuba River nor for Reed's Creek, but the Basin Plan does identify beneficial uses for the Yuba and Feather Rivers, to which they are tributary. The beneficial uses of the Yuba River are agricultural supply; hydropower generation; water contact recreation; non-contact recreation; warm freshwater habitat; cold freshwater habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; and wildlife habitat. The beneficial uses of the Feather River are municipal and domestic supply, agricultural supply, water contact recreation, non-noncontact water recreation, warm freshwater habitat, cold freshwater habitat, migration of aquatic organisms, spawning, reproduction, and/or early development, and wildlife habitat. In addition, State Board Resolution No 88-63, incorporated into the Basin Plan pursuant to Regional Board Resolution 89-056, requires the Regional Board to assign the municipal and domestic supply use to water bodies that do not have beneficial uses specifically identified in the Basin Plan. Therefore, the unnamed tributaries of the Yuba River and Reed's Creek have the beneficial uses of municipal

and domestic supply, in addition to the beneficial uses assigned by the tributary language discussed above.

41. The beneficial uses of the underlying groundwater are municipal and domestic water supply, agricultural supply, industrial service supply, and industrial process supply.
42. State Water Resources Control Board (State Board) Resolution No. 68-16 allows the degradation of groundwater quality if the Regional Board determines that:
  - a. The degradation is consistent with the maximum benefit to the people of the State.
  - b. The degradation will not unreasonably affect present and anticipated future beneficial uses;
  - c. The degradation does not cause exceedance of one or more water quality objectives; and
  - d. The discharger employs best practicable treatment and control to minimize degradation.
43. The Regional Board has considered antidegradation pursuant to State Board Resolution No. 68-16, and finds that not enough data exists to determine whether this discharge is consistent with those provisions. Therefore, this Order provides a timeline for data collection to determine whether the discharge will cause an increase in groundwater constituents above background levels. If the discharge is causing such an increase, then the Discharger may be required to cease the discharge, line the ponds, implement source control, change the method of disposal, or take other action to prevent groundwater degradation.
44. Federal regulations for the stormwater discharges were promulgated by the U.S. Environmental Protection Agency on 16 November 1990 (40 CFR Parts 122, 123, and 124). The regulations require that specific categories of facilities which discharge stormwater associated with industrial activities obtain NPDES permits. The Discharger has obtained a National Pollutant Discharge Elimination System Industrial Stormwater permit.
45. Section 13267(b) of California Water Code states that: "In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of discharging, or who proposes to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of discharging, or who proposes to discharge waste outside of its region that could affect the quality of the waters of the state 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 reports 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."

The monitoring and reporting program required by this Order and the attached Monitoring and Reporting Program No. R5-2003-0098 are necessary to assure compliance with these waste discharge requirements. The Discharger operates the facility that discharges the waste subject to this Order.

46. This discharge is exempt from the requirements of *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, et seq., (hereinafter Title 27). The exemption, pursuant to Section 20090(b), is based on the following:
- a. The Regional Board is issuing waste discharge requirements,
  - b. The discharge complies with the Basin Plan, and
  - c. The wastewater does not need to be managed according to Chapter 11, Division 4.5, Title 22, CCR as a designated or hazardous waste.

#### **California Environmental Quality Act Considerations**

47. On 7 February 1996, the Yuba County Planning Commission adopted Resolution No. 96-04 certifying the Final Environmental Impact Report (EIR) for the Teichert Yuba Hoffman Plant (renamed Marysville Plant), which incorporates a mitigation monitoring plan (twice annual inspections) as described therein. The Commission found that the Draft and Final EIR set forth impacts for which there is no feasible mitigation or alternative. The Commission also found that overriding considerations of the project's economic and social benefits rendered the unmitigated impacts as acceptable.
48. On 26 March 1996, the Yuba County Board of Supervisors adopted the *General Plan Amendment 94-01, Change of Zone 94-01 (Triangle Properties/Teichert Aggregates) – A change of zoning for 590 acres from Agricultural Rural Residential (A/RR) to Extractive Industrial (M-2) and amends the Land Use Map of the General Plan from Rural Residential to Extractive Industrial*. The Supervisors found that despite the occurrence of significant environmental effects that cannot be feasibly mitigated or avoided, there exist certain overriding economic, social and other considerations for approving the General Plan Amendment 94-01 and Change of Zone 94-01.
49. Yuba County Planning Commission adopted Resolution No. 00-14 approving surface mining permit 00-01 and issued a statement of overriding considerations on 20 June 2000.
50. Yuba County Planning Commission issued Surface Mining Permit SMP 00-03 (Teichert) to California Mine ID #91-58-0019 Yuba Hoffman Mine (renamed Marysville Plant) on 23 January 2001 by Resolution #PC 01-01, recorded on 19 March 2001, effective on 28 March 2001.

#### **Public Notice**

51. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, have been considered in establishing the following conditions of discharge.
52. The Discharger and interested agencies and persons have been notified of the Regional Board's intent to prescribe waste discharge requirements for this discharge, and have been provided an opportunity for a public hearing and an opportunity to submit written views and recommendations.

53. All comments pertaining to the discharge have been heard and considered in a public meeting.

**IT IS HEREBY ORDERED** that pursuant to California Water Code (CWC) Sections 13263 and 13267, Teichert Aggregates, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, shall comply with the following:

*[Note: Other prohibitions, conditions, definitions, and some methods of determining compliance are contained in the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated 1 March 1991, which are part of this Order.]*

**A. Discharge Prohibitions:**

1. The discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. By pass around, or overflow from, the settling/recycling pond(s) or excavation pond(s) is prohibited.
3. Discharge of domestic waste to any area or facility other than the Yuba County permitted septic tank system or regularly serviced portable toilets is prohibited.
4. Discharge of any industrial waste (including aggregate wastewater, assay wastes, laboratory wastes, or vehicle maintenance wastes) to the septic system is prohibited.
5. Discharge of waste classified as 'hazardous,' as defined in Chapter 15, Sections 2521(a) of Title 23, CCR, Section 2510, et seq., (hereinafter Chapter 15), or 'designated,' as defined in Section 13173 of the California Water Code, is prohibited.
6. The discharge of waste from sources other than from the site derived aggregate washing is prohibited.
7. Discharge of wastewater from any asphalt plant is prohibited.
8. An independent WDRs Order shall control discharge of any concrete or cement related wastewater. Discharge of any noncured concrete or cement related wastewater under this WDRs Order is prohibited.
9. Chemical methods to recover gold such as amalgamation, cyanide leach, or any other chemical method are prohibited.

**B. Discharge Specifications:**

1. All industrial wastewater shall be recycled to the extent possible.
2. The groundwater extraction rate including flows from wells or net flow from excavation ponds shall not exceed 2,000 gpm as a daily average based on the extraction rate and hours of operation as defined in the monitoring and reporting program.

3. Wastewater shall not be discharged to any excavation pond from land-based aggregate washing equipment until groundwater monitoring wells have been installed and written authorization for the discharge has been provided by the Executive Officer.
4. In any pond in which excavation is occurring, pond water shall not be pumped to waste to lower floating excavation equipment (e.g., a dredge), to reduce the amount of sediment in the pond, or for other reasons unless:
  - a. Engineered controls have been constructed to allow recycled/settled pond water to immediately migrate back to the pond resulting in no net removal of groundwater at the pond, and
  - b. Staff gauges have been installed to allow determination of water levels when equipment is operating and not operating.
5. Newly constructed or rehabilitated berms or levees (excluding filter barriers between ponds within the settling/recycling ponds area) that contain or control the flow of water shall be designed and constructed under the supervision of a California Registered Civil Engineer or Engineering Geologist.
6. The discharge shall remain within the designated disposal area at all times. Wastewater shall not be discharged to areas not identified on Attachment B.
7. The discharge shall not cause the wastewater ponds or excavation ponds to have a pH less than 6.5 or greater than 8.5.
8. No waste constituent shall be released or discharged, or placed where it will be released or discharged, in a concentration or a mass that causes violation of the Groundwater Limitations.
9. All stockpiled products shall be managed to prevent erosion of sediment to surface water drainage courses.
10. The Discharger shall operate all systems and equipment to maximize treatment of the wastewater and optimize the quality of the discharge.
11. Freeboard shall never be less than two feet in any pond, as measured vertically from the water surface to the lowest point of overflow.
12. The wastewater ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with the historical rainfall patterns.
13. On or about 1 November of each year, available pond storage capacity shall at least equal the volume necessary to comply with Discharge Specifications No. B.11 and B.12.

14. Neither the treatment nor the discharge shall cause a nuisance or condition of pollution as defined by the California Water Code, Section 13050.
15. The discharge shall remain within the settling/recycling ponds or excavation ponds at all times.
16. Operation of an asphaltic concrete plant is prohibited until the Discharger submits technical reports and receives written approval from the Executive Officer as described in Provisions F.2.g and F.2.h.
17. The Discharger shall comply with all applicable sections of the Aboveground Petroleum Storage Tank Regulations (Section 25270, Health and Safety Code).
18. Any waste material derived from auxiliary gold recovery or quantification operations (such as laboratory assay) shall be contained and disposed of off-site at an appropriate facility.
19. At least **90-days** prior to scheduled use of flocculants the Discharger shall submit a technical report that describes the proposed flocculants, the application rate, and the fate and transport of the flocculants and any daughter products in the environment. The Discharger must obtain written approval from the Executive Officer prior to use of flocculants.
20. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the activity area.
21. All wastewater ponds shall be managed to prevent breeding of mosquitoes. In particular:
  - a. An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.
  - b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.
  - c. Dead algae, vegetation, and debris shall not accumulate on the water surface.

**C. Solids Disposal:**

1. Collected screenings, sludge, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer, and consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, et seq.
2. Any proposed change in sludge use or disposal practice from a previously approved practice shall be reported to the Executive Officer in the next monthly monitoring report.

3. Disposal of septage shall comply with existing Federal, State, and local laws and regulations, including permitting requirements and technical standards included in 40 CFR 503.

**D. Groundwater Limitation:**

The discharge shall not cause underlying groundwater to contain waste constituents in concentrations statistically greater than background water quality.

**E. Provisions:**

1. All technical reports required herein 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. To demonstrate compliance with sections 415 and 3065 of Title 16, CCR, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
2. The following reports shall be submitted pursuant to Section 13267 of the California Water Code:
  - a. By **7 July 2003**, the Discharger shall submit a technical report and map defining all sampling locations and freeboard measuring points required by Monitoring and Reporting Program No. R5-2003-0098.
  - b. By **5 August 2003**, the Discharger shall submit certification that sufficient flow meters have been installed to determine the total groundwater extraction pumping rate for all wells and excavation ponds in compliance with the monitoring and reporting program.
  - c. By **5 August 2003**, the Discharger shall submit a Mercury Concentration in Soil Investigation Workplan to investigate the possibility that mercury contaminated sediments may have been placed on the property to be mined. The investigation should include sampling of surface, shallow, and deeper sediments to determine mercury concentrations. The workplan shall be generally consistent with Attachment C, *Guidelines for Collection of Soil and Water Samples*.
  - d. By **4 September 2003**, the Discharger shall submit an Operations and Maintenance Plan, including (a) notification procedures and actions to be taken when the wastewater in the ponds fail to meet specified requirements for freeboard, pH, or creates a condition of pollution or nuisance, (b) weed abatement measures and vector control practices, and (c) a berm inspection and maintenance program. This plan shall also describe the procedures that will be implemented



during the event of an unauthorized discharge to surface water or surface water drainage courses.

- e. By **4 September 2003**, the Discharger shall submit a workplan for characterization of groundwater quality. The workplan shall describe the installation of groundwater monitoring wells to allow evaluation of the groundwater quality upgradient and downgradient of the settling/recycling ponds and any excavation pond to which wastewater will be discharged. Monitoring wells shall be constructed to yield representative samples from the first saturated interval and shall comply with applicable well standards. The workplan shall be consistent with, and include the items listed in, the first section of Attachment D, *“Items to be Included in a Monitoring Well Installation Workplan and a Monitoring Well Installation Report of Results.”*
- f. By **23 October 2003**, the Discharger shall submit a technical report describing the findings of the Mercury Concentration in Soil Investigation. The report shall include a complete tabulation of the data collected in the investigation and other relevant data and an evaluation of acceptable uses of fine-grained materials based on the concentration of mercury in soil.
- g. By **3 December 2003**, the Discharger shall submit a groundwater well installation report. The report shall be consistent with, and include the items listed, in the second section of Attachment D.
- h. At least **90 days** prior to operation of an asphaltic concrete plant, the Discharger shall submit a workplan describing all facility modifications necessary to contain and treat/dispose/recycle all wastewater. The workplan shall clearly demonstrate how the proposed facility modifications will comply with all requirements of this Order and prevent adverse impacts to water quality.
- i. At least **30 days** prior to operation of an asphaltic concrete plant, the Discharger shall submit a report certifying that all wastewater facility modifications necessary to protect water quality have been completed in accordance with the approved workplan.
- j. If, as a result of the monitoring conducted by MRP No.R5-2003-0098, mercury is detected at concentrations equal to or greater than 50 nanograms per liter (ng/l) in settling/recycling ponds or excavation ponds, then within **90 days** the Discharger shall submit a workplan to characterize mercury in the water, sediment, and groundwater. Within **120 days** of approval by the Executive Officer of the workplan the Discharger shall submit a report describing the results. If such report demonstrates the presence of mercury at concentrations that may cause bioaccumulation as a result of the final reclamation of the site, then within **120 days**, the Discharger shall submit a technical report evaluating alternatives to reduce mercury to acceptable levels. Upon request of the Executive Officer, the

Discharger shall create a financial assurance account (as described in Title 27 of the CCR) to mitigate bioaccumulation effects of the available mercury.

If a new water quality objective or criterion different than 50 ng/l is promulgated by the Regional Board, the State Water Resources Control Board or the U.S. Environmental Protection Agency, then this permit may be reopened and staff may reevaluate the need for characterization of mercury concentrations in the water and sediment within the settling/recycling ponds areas and excavation ponds.

- k. At least **90 days** prior to initiating discharge the Discharger shall submit an RWD for the manufacture of ready mix concrete or any use or disposal of non-cured concrete or cement related wastewater.
  - l. At least **90 days** prior to initiating discharge to a new settling/recycling pond or excavation pond the Discharger must submit a technical report describing how the discharge will comply with the requirements and receive written approval from the Executive Officer prior to beginning the discharge.
3. The Discharger shall comply with Monitoring and Reporting Program No. R5-2003-0098, which is a part of this Order, and any revisions thereto as ordered by the Executive Officer.
4. The Discharger shall comply with the “Standard Provisions and Reporting Requirements for Waste Discharge Requirements”, dated 1 March 1991, which are attached hereto and by reference a part of this Order. This attachment and its individual paragraphs are commonly referenced as “Standard Provision(s).”
5. The Discharger shall submit to the Regional Board on or before each compliance report due date the specified document, or if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is reported, then the Discharger shall state the reasons for noncompliance and shall provide a schedule to come into compliance.
6. The Discharger shall report promptly to the Regional Board any material change or proposed change in the character, location, or volume of the discharge.
7. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, then the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to this office.
8. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.

9. A copy of this Order shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.
10. The Regional Board will review this Order periodically and revise requirements when necessary.

I, THOMAS R. PINKOS, Executive Officer, do hereby certify 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 6 June 2003.

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THOMAS R. PINKOS, Executive Officer

TRO: 6/6/03

## INFORMATION SHEET

WASTE DISCHARGE REQUIREMENTS NO. R5-2003-0098  
TEICHERT AGGREGATES  
MARYSVILLE PLANT  
YUBA COUNTY

Teichert Aggregates (Discharger) is developing an aggregate mine at 4249 Hammonton-Smartville Road, six miles northeast of Marysville. The property consists of approximately 590 acres. Processing consists of excavation of earth materials, aggregate washing, and rock crushing. Excavation is expected to reach depths of 200 feet below ground surface (bgs) and groundwater will be encountered approximately 10 feet bgs. The Discharger is expected to produce at least two million tons of aggregate per year with a total mine output estimated to be 100-150 million net tons.

Mining will be performed by scrapers, track mounted excavators, draglines, clamshell excavators, and may include a floating dredge. Portable aggregate washing plants may be temporarily sited to produce additional aggregate if demand warrants.

Wastewater will be discharged to settling ponds configured to allow use of recycled water to wash aggregate or into excavation ponds. Any excavation pond into which wastewater will be discharged must first be approved in writing by the Executive Officer. The Order does not contain a wastewater discharge flow limit but does limit groundwater extraction from all sources to a maximum of 2,000 gallons per minute calculated as an average over the daily operational period. The Discharger can request approval to use flocculants to allow faster settling of suspended solids in wastewater but must first obtain written authorization from the Executive Officer prior to initiating such use.

The Discharger plans to operate an asphaltic concrete plant and a concrete plant at the site. The asphaltic concrete plant can be operated after submitting technical reports on how the plant will be operated in accordance with the WDRs, and receiving written approval from the Executive Officer. Operation of any concrete or cement mixing plant, or discharge of non-cured concrete, cement related waste product, or related wastewater is prohibited until an independent Report of Waste Discharge (RWD) is submitted and WDRs are adopted.

The Discharger intends to use gravimetric processes to recover gold while processing aggregate. Chemical methods to recover gold such as amalgamation, cyanide leach, or any other chemical method are prohibited. All laboratory waste must be containerized and disposed of in accordance with applicable regulations. Discharge of such wastes to the septic system or industrial wastewater system is prohibited.

The plant has limited operational staff and they will use bottled water for domestic use. The Discharger will use on-site disposal for domestic wastewater permitted through Yuba County Health Department.

The Discharger is required to install groundwater monitoring wells and monitor groundwater on a quarterly basis to determine if the discharge is impacting groundwater quality. Monitoring wells will be installed at the settling/recycling ponds and any excavation pond that will receive wastewater.

The RWD reported the property has not been previously mined. However, due to the close proximity of the Goldfields where mercury was discharged to the environment by historic gold mining activities, an

evaluation of the presence of mercury in sediment is required. That evaluation will require soil samples to be collected and analyzed for the presence of mercury. In addition, the Discharger is required to monitor mercury concentrations in settling/recycling ponds and excavation ponds, on a semi-annual basis (twice per year). These monitoring requirements are designed to allow evaluation of the presence of mercury and the potential for methylation of mercury and subsequent bioaccumulation. Scientists are studying the chemistry of the movement of mercury from the water column, into sediment, and then into the food chain. Further investigation of the presence and concentration of mercury is required if the total mercury concentration in settling/recycling pond water or excavation pond water samples exceed 50 ng/L. If the concentrations are confirmed, the technical report must identify alternatives to reduce the discharge of mercury.

Depending on the levels of mercury found, the final reclamation plan, and the concerns for potential bioaccumulation, the Executive Officer may require that the Discharger create a financial assurance account (as described in Title 27 of the California Code of Regulations) for mitigation of the bioaccumulative effects of the mercury.

The direction of general surface drainage is either to the Yuba River or Reed's Creek, a tributary to the Feather River.