

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION

September 19, 2014

STAFF REPORT

ITEM: *8

Revised Waste Discharge Requirements for CalPortland Company, Colton Cement Plant, Order No. R8-2014-0044

DISCUSSION:

CalPortland Company (hereinafter Discharger) owns and operates the Colton Cement Plant (hereinafter the Facility), located at 695 South Rancho Avenue, City of Colton, California. The Facility began operations in 1892 and has been in operation for over 100 years. As part of the operations, various materials are mined from the site and used for production of cement. Limestone, shale, quartzite, and small quantity of iron ore are heated and processed in a rotary kiln to produce cement. This process produces a waste stream that is referred to as Cement Kiln Dust (CKD). CKD is primarily composed of calcium carbonate (CaCO₃), calcium oxide (CaO), calcium sulfate (CaSO₄), alkaline salts, and various minerals. This waste stream has been stored onsite for the last 100 years and there is approximately 9.9 million tons of it stockpiled at the site.

The Facility is currently regulated under Regional Board Order No. 78-059, waste discharge requirements for the discharge of cooling water to a percolation pond, dust-slurry wastes to evaporation ponds, and sanitary wastes to subsurface disposal systems. Order No. 78-059 includes effluent limitations for the discharge of these wastes, and monitoring and reporting requirements to determine compliance.

The Discharger is proposing to reclaim the mining pits and eventually close the Facility. On January 27, 2014, the Discharger submitted a report of waste discharge for the reclamation of the mining quarries mostly using mining and plant wastes, including CKD, and closure of the facility. The reclamation activities will be conducted in accordance with Reclamation Plan No. 2012M-01, prepared in accordance with the Surface Mining and Reclamation Act (SMARA) and approved by San Bernardino County on August 1, 2013. Order No. R8-2014-0044 is being issued for disposal of CKD and other mining and plant wastes for reclamation. The Order also updates and replaces Order No. 78-059, to reflect the current water quality objectives for the underlying groundwater management zone.

RECOMMENDATION:

Adopt Order No. R8-2014-0044 as presented.

Comments were solicited from the following entities:

Leslie Graves, SWRCB, (lgraves@waterboards.ca.gov)
Jay M. Grady, California Portland Cement Company (jgrady@calportland.com)
Michael Wetzel, San Bernardino County LEA (Michael.Wetzel@dph.sbcounty.gov)
Juan Espinoza, San Bernardino County LEA (juan.espinoza@dph.sbcounty.gov)
Dianne Ohiosumua, CalRecycle (Dianne.Ohiosumua@CalRecycle.ca.gov)
Gus Romo, San Bernardino County Land Use Services Department (rpg.inc@earthlink.net)
Desirea Haggard, California Portland Cement Company (dhaggard@calportland.com)

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION

ORDER NO. R8-2014-0044

REVISED WASTE DISCHARGE REQUIREMENTS
FOR
CALPORTLAND COMPANY, COLTON FACILITY

Discharger	CalPortland Company
Facility	Colton Cement Plant 695 South Rancho Avenue Colton, California

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Board), finds that:

1. CalPortland Company (hereinafter Discharger) owns and is responsible for the operation and maintenance of the Colton Cement Plant (hereinafter Facility), located at 695 South Rancho Avenue, City of Colton, California. The Facility is approximately 740 acres in size, which includes active open mine pits, and is located within portions of Sections 19 and 30; Township 1 South, Range 4 West, and in portions of Sections 24 and 25; Township 1 South, Range 5 West, San Bernardino Base and Meridian, at latitude 34°37'22" and longitude - 117°20'34". The Facility began operations in 1892 and has been in operation for over 100 years. The location of the site is shown on **Attachment A**, which is hereby made a part of this Order.
2. The Facility is currently regulated under Regional Board Order No. 78-059, waste discharge requirements for the discharge of cooling water to a percolation pond, dust-slurry wastes to evaporation ponds, and sanitary wastes to subsurface disposal systems. Order No. 78-059 includes effluent limitations for the discharge of these wastes, and monitoring and reporting requirements to determine compliance. Order No. 78-059 is being revised to include the latest regulatory requirements and the proposed closure of the facility.
3. On January 27, 2014, the Discharger submitted a report of waste discharge for the reclamation of the onsite mines and closure of the facility. The reclamation activities are conducted in accordance with Reclamation Plan No. 2012M-01, prepared in accordance with the Surface Mining and Reclamation Act (SMARA) and approved by San Bernardino County.
4. Order No. R8-2014-0044 is being issued for mine reclamation and closure activities at the site, and for revision of the wastewater effluent limits to reflect the current water quality objectives for the underlying groundwater management zone.

5. As part of the operations at the Facility, various materials are mined from the site and used for production of cement. Limestone, shale, quartzite, and small quantity of iron ore are heated and processed in a rotary kiln to produce cement. This process produces a waste stream that is referred to as Cement Kiln Dust (CKD). CKD is primarily composed of calcium carbonate (CaCO_3), calcium oxide (CaO), calcium sulfate (CaSO_4), alkaline salts, and various minerals. Currently, there are approximately 9.9 million tons of CKD stockpiled at the site.
6. The Discharger is proposing to use the stockpiles of CKD and other wastes to fill the mining pits. Most of these wastes consist of soil and rocks and are considered as inert wastes. However, CKD waste exhibits a high pH (greater than 12) and therefore is considered a designated waste as defined in California Water Code (CWC) §13173¹.
7. Since 1993, over 4,000 samples CKD wastes and soil and groundwater beneath the CKD waste storage area have been analyzed. The results do not show any impacts to soil or groundwater beneath the site. Based on these results, it appears that the use of these materials for mining pit reclamation should not have any adverse impacts on groundwater resources in the area.
8. On April 22, 2014, the Discharger submitted a workplan titled, "Construction Design Plan for CalPortland Colton Quarry Reclamation". The Plan includes three steps for the reclamation process: 1) preparation of the quarry to receive CKD; 2) placement of CKD in the quarry; and 3) construction of a cover over the CKD material. Regional Water Board staff reviewed and approved the Plan on May 6, 2014.
9. The discharge of wastes to land is regulated under California Code of Regulations, Title 27 (Title 27). The terms used in this Order are contained in Title 27, Subdivision 1, Chapter 2, §20150, §20163, and §20164.
10. Storm water discharges from the Facility are currently regulated under the State Water Resources Control Board's (State Board) Water Quality Order No. 97-03-DWQ, NPDES General Permit No. CAS000001, for discharges of storm water associated with industrial activities, WDID # 8 36I006256 (On July 1, 2015, Order No. 2014-0057-DWQ will replace Order No. 97-03-DWQ).
11. A Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) became effective on January 24, 1995. The Basin Plan and its subsequent amendments specify beneficial uses and water quality objectives for waters in the Santa Ana Region. The requirements specified in this Order are necessary to protect the water quality objectives and the beneficial uses.

¹ 13173. "Designated waste" means either of the following:

(a) Hazardous waste that has been granted a variance from hazardous waste management requirements pursuant to Section 25143 of the Health and Safety Code.

(b) Nonhazardous waste that consists of, or contains, pollutants that, under ambient environmental conditions at a waste management unit, could be released in concentrations exceeding applicable water quality objectives or that could reasonably be expected to affect beneficial uses of the waters of the state as contained in the appropriate state water quality control plan.

12. The Facility is located within the Riverside-A Groundwater Management Zone, the beneficial uses of which include:
 - a. Municipal and domestic supply,
 - b. Agricultural supply,
 - c. Industrial service supply, and
 - d. Industrial process supply.
13. This Order establishes minimum standards for site reclamation and closure of the Facility. In the event of an inconsistency between the provisions of this Order and the Basin Plan, the more protective water quality provision shall prevail.
14. This Order does not preempt or supersede the authority of municipalities, flood control agencies, or other federal, state or local agencies to prohibit, restrict, or control discharges of waste subject to their jurisdiction.
15. In compliance with the California Environmental Quality Act (CEQA), the San Bernardino County Planning Department, as the Lead Agency, adopted a Negative Declaration on August 1, 2013 for this reclamation project. The Negative Declaration indicates that this project will not have a significant effect on the environment. The Regional Board has participated as a Responsible Agency during the CEQA public review period. As a Responsible Agency, pursuant to CEQA Guidelines section 15096, the Regional Board has considered the Negative Declaration in issuing this Order.
16. The Regional Board has notified the Discharger and interested agencies and persons of its intent to revise waste discharge requirements for the Facility.
17. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Discharger, in order to meet the applicable provisions contained in the California Water Code and Title 27 Regulations, shall comply with the following:

A. DISCHARGE SPECIFICATIONS

1. Wastes discharged at the Facility shall be limited to the approved fill materials that include soil and rock excavated from within the site such as quarry waste and plant waste (waste that includes an assortment of stockpiled manufactured and natural waste materials related to the cement plant operations) and native soil, CKD materials, and imported clean soil.
2. The placement of the above waste materials shall be in accordance with the approved construction design plan (Stantec, April 11, 2014).

3. COVER SPECIFICATIONS

- a. The cover shall be constructed with soil material meeting a maximum particle size of 4 inches and shall have a minimum of 20 percent fines passing #200 sieve.

- b. The cover thickness shall be a minimum of 4 feet, which is constructed of one foot of foundation layer consisting of alluvium, with a maximum permeability of 2.5×10^{-5} cm/s, and three feet of overburden material consisting of processed quarry and plant wastes, with a maximum permeability of 1.5×10^{-4} cm/s.
- c. As part of the Construction Quality Assurance (CQA), fill soils, CKD, and cover soils shall be sampled and tested to assure that the cover is appropriately constructed in accordance with the approved plans and specifications. Table 1 below shows the testing methods and frequency for CQA testing.

Table 1. Testing Methods and Frequencies

Material	Test Type	Test Method	Frequency
Soil fill	Maximum Dry Density/Optimum Moisture Content	ASTM D1557	10,000 CY, or change in fill material
	In-Place Density and Water Content	ASTM D1556 or D6938	1,000 CY
CKD	Maximum Dry Density/Optimum Moisture Content	ASTM D1557	10,000 CY, or change in fill material
	In-Place Density and Water Content	ASTM D1556 or D6938	1,000 CY
Cover	Particle Size Distribution	ASTM D422	10,000 CY
	Maximum Dry Density/Optimum Moisture Content	ASTM D1557	10,000 CY, or change in fill material
	In-Place Density and Water Content	ASTM D1556 or D6938	1,000 CY

4. PRECIPITATION AND DRAINAGE CONTROL:

- a. Final cover shall be designed, constructed, and maintained to prevent, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, and washout which could occur as a result of precipitation from a 100-year, 24-hour frequency storm.
- b. Final cover grade shall be constructed to achieve an average of three to four percent slope as required by the Construction Design Plan.

5. DISCHARGE OF WASTEWATER:

- a. Discharge of waste in a manner that could reach waters of the State in excess of the following limits is prohibited:

Constituents	Annual Average Concentration Limitation (mg/L)
Total Dissolved Solids	560
Boron	0.75

- b. Slurry wastes shall not be discharged, or caused to be discharged, in a manner which will allow the waste to reach waters of the State.

B. PROHIBITIONS

1. No hazardous wastes, designated wastes other than CKD, tires, or liquid wastes shall be deposited at the Site.
2. Non-hazardous solid wastes, such as decomposable organic refuse, ordinary household and commercial refuse, tin cans, metals, paper and paper products, plasterboard, cloth and clothing, wood and wood products, lawn clippings, sod, shrubbery, hair, hide, bones, dead animals, roofing paper, tar paper, unquenched ashes mixed with refuse, market refuse, garbage, etc., shall not be deposited at the Facility.
3. Materials of a toxic nature such as insecticides and poisons shall not be deposited at the Site.
4. No radioactive materials shall be deposited at the Site.
5. No asbestos or asbestos products shall be deposited at the Site.
5. Neither the discharge nor any treatment of wastes shall cause pollution or nuisance.

C. PROVISIONS

1. Discharger shall comply with Monitoring and Reporting Program No. R8-2014-0044.
2. All wastes shall be maintained on property owned or controlled by the Discharger.
3. The Discharger shall remove and properly dispose of any wastes that are placed at the site in violation of this Order.
4. The Discharger shall notify Regional Board staff by telephone and/or email within two business days of determination of any violation of this Order. Within seven days, the notification shall be submitted in writing to the Regional Board, unless this requirement is waived by Regional Board staff.

5. The Discharger shall maintain a copy of this Order at the site so as to be available at all times to site personnel and regulatory agencies.
6. The Discharger shall permit Regional Board staff:
 - a. Entry upon premises where a discharge source is located;
 - b. To copy any records required to be kept under terms and conditions of this order;
 - c. To photograph or videotape any structures, facilities, activities, or other phenomena that could result in adverse impacts to water quality and that are pertinent to compliance of the facility with this Order; and
 - d. To sample any discharges.
7. The Discharger shall notify the Regional Board in writing of any proposed change in ownership or responsibility for closure of the facility. This notification shall be given prior to the effective date of the change and shall include a statement by the new Discharger that all site closure and cover construction will be in compliance with any existing waste discharge requirements.
8. Due to the nature of the CKD material as a designated waste, the Discharger shall file a deed notice with the Recorder of the County in which the site is located, which identifies the prior uses and waste discharge practices at the property. The notice shall include a property description and a map that identifies the location of the buried wastes. Confirmation of recordation and a copy of the deed notice shall be provided to the Executive Officer within 60 days of site closure.

D. REQUIRED REPORTS AND NOTICES

1. Reporting Provisions:
 - a. All applications, reports and information submitted to the Regional Board shall be signed and certified in accordance with 40CFR §122.22.
 - b. The Discharger shall furnish, within a reasonable time, any information the Regional Board may request to determine whether cause exists for modifying, reissuing, or terminating this Order. The Discharger shall also furnish to the Regional Board, upon request, copies of records that this Order requires the Discharger to maintain.
2. The Discharger shall give advance notice to the Regional Board of any planned changes in the site activities that may result in noncompliance with this Order.
3. In the event of any change in control or ownership of land or waste discharge facilities currently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter. A copy of this letter shall be signed by the new owner accepting responsibility for complying with this Order, and shall be forwarded to the Executive Officer of the Regional Board.

4. Reporting Requirement:

Within 60 days of the completion of the closure activities, the Discharger shall submit the following documents and reports for review and approval by the Executive Officer of the Regional Board:

- a. A final closure CQA report outlining all the closure activities and test results for quality assurance and quality control for the placement of soil fill, CKD, and the cover, such as compaction, moisture content, etc.
- b. A copy of the deed notice required as part of Provision B.8 above.

E. RESCISSION

This Order rescinds Order No. 78-059.

I, Kurt V. Berchtold, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on September 19, 2014.



Kurt V. Berchtold
Executive Officer

Attachment A Location Map



**STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION**

MONITORING AND REPORTING PROGRAM NO. R8-2014-0044

**FOR
CALPORTLAND COMPANY
COLTON CEMENT FACILITY**

A. General

1. Sample collection, storage, and analysis shall be performed according to the most recent version of U.S. EPA Standard Methods (U.S. EPA Publication SW-846 and 40 CFR Part 136).
2. Pursuant to Section 13176, Article 4, Chapter 3, Division 7 of the California Water Code, a certified laboratory registered by the State Department of Public Health shall perform all the analyses. Specific methods of analysis used must be identified in the monitoring reports.
3. By January 30 of each year, the Discharger shall submit an annual report to the Regional Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the discharger shall discuss the compliance record and the corrective actions taken or planned which may be needed to bring the discharge into full compliance with the waste discharge requirements.
4. All reports shall be signed by a responsible officer or a duly authorized representative of the Discharger and shall be submitted under penalty of perjury to:

RB8-santaana@waterboards.ca.gov

5. All reports shall be maintained by the Discharger and shall be retained for a minimum of five years.

B. Effluent Monitoring

A sampling station shall be established for each point of discharge and shall be located where representative samples of the effluent can be obtained. The following shall constitute the effluent monitoring program:

Constituents	Units	Type of Sample	Minimum Frequency of Analysis
Total Dissolved Solids	mg/L	Grab	Quarterly
Boron	mg/L	Grab	Quarterly
Electrical Conductivity	µS/cm	Grab	Quarterly

1. The average daily volume of the wastes to the percolation ponds, and evaporation ponds shall be determined separately and recorded.
2. Samples shall be collected on the fifth working day of January, April, July, and October.

C. Water Supply Well Monitoring

On the fifth working day of July of each year, the following constituents of the water supply shall be determined:

Constituents	Units
TDS	Mg/L
Chloride	Mg/L
Electrical Conductivity	μ S/cm

All monitoring reports shall be submitted to the Regional Board in the annual report specified in A.3, and shall include:

1. Results of the mineral analyses;
2. Flow data; and
3. A statement regarding the maintenance of all wastes on the property owned and controlled by the discharger. All monitoring reports shall be signed by a responsible officer or duly authorized representative of the California Portland Cement Company and shall be submitted under penalty of perjury.



Kurt V. Berchtold
Executive Officer

Date: September 19, 2014