

California Regional Water Quality Control Board  
North Coast Region

Monitoring and Reporting Program No. R1-2012-0114

WDID No. 1B10043RSON

FOR

THE CARRINGTON COMPANY

And

JAMES W. CODDING

For

BENNETT VALLEY CLEANERS  
2753 Yulupa Avenue  
Santa Rosa, California

Case No. 1NSR404

Sonoma County

This Monitoring and Reporting Program (MRP) is issued pursuant to California Water Code Section 13267(b) and requires monitoring for groundwater, sub-surface vapor, and indoor air, and the submittal of data and technical reports in paper and electronic format for activities associated with the continued implementation of remedial activities under General Waste Discharge Requirements Order No. R1-2009-0105 (Order 0105). The objectives of monitoring conducted under this MRP are to provide the Dischargers and Regional Water Board staff with information concerning the effectiveness of the treatment method, the protection of human health and the environment, and groundwater quality; and to demonstrate compliance with the provisions of Order 0105. The "Table of Monitoring Requirements" incorporated as Appendix 1 of this MRP summarizes the monitoring requirements for groundwater, indoor air, and sub-surface vapor that are specified below.

Under the authority of the California Water Code Section 13267, the Dischargers named above are required to comply with the following:

## GROUNDWATER AND SOIL VAPOR MONITORING

### General Requirements

1. The depth to groundwater shall be measured to the nearest 0.01-foot prior to monitoring well purging and sampling. Groundwater elevations shall be reported in tabular form indicating the surveyed elevations of each well reference point, depth to groundwater from the reference point, and the actual groundwater elevation. The data generated from the elevation readings must be referenced to mean sea level.
2. All monitoring wells shall be purged of at least three casing volumes of water, or until dry, prior to sampling. Monitoring wells shall be allowed to recharge to at least 80% of the initial casing volume prior to sampling. All purge water shall be impounded pending analysis for proper disposal. An alternative well-purging protocol may be used upon the written approval of the Executive Officer.
3. The procedures used for sub-surface vapor and indoor air sampling shall be consistent with current and subsequent revisions of sampling guidance issued by the California Department of Toxic Substances Control. Sub-surface vapor probe sampling procedures shall include leak detection testing and shall include the use of a tracer gas and containment shroud during the sample collection. Analytical results for vapor samples shall be reported in micrograms per cubic meter.
4. Chemical analyses required by this MRP shall be conducted by laboratories certified for those analyses by the California Department of Health Services.
5. Analyses for volatile organic compounds (VOCs) shall include the compounds: cis- 1, 2-Dichloroethene, trans- 1,2-Dichloroethene, Tetrachloroethene, Trichloroethene, and Vinyl Chloride.
6. The laboratory methods for analysis of indoor air and sub-surface vapor shall achieve practical quantitation limits sufficiently low to assess the screening levels for each constituent of concern identified in the guidance document: *Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties* (CalEPA Office of Environmental Health Hazard Assessment. January 2005).

### Groundwater Monitoring Requirements

7. Groundwater monitoring wells BVC-4, BVC-5, BVC-7, BVC-8, BVC-9, BVC-10-I, BCV-11-I, BVC-12-I, BVC-13, EX-1, EX-2, and EX-3 shall be sampled semi-annually during the first and third calendar quarters. The groundwater samples shall be tested for the following parameters:
  - a. VOCs; and
  - b. Water quality parameters: total organic carbon, dissolved oxygen, oxidation-reduction potential (ORP), pH, and temperature.

8. If the ORP values measured in either groundwater monitoring well BVC-7, BVC-8, or BVC-12-I are negative, then that well shall be sampled and analyzed for the dissolved metals arsenic, iron, and manganese.
9. If analytical results for either well BVC-7, BVC-8, or BVC-12-I exceed baseline levels for dissolved arsenic, iron, or manganese, then all subsequent groundwater samples from that well shall be analyzed for dissolved mercury and vanadium, in addition to dissolved arsenic, iron, and manganese, until concentrations of these dissolved metals have returned to background levels for two consecutive sampling events.
10. If analytical results for dissolved metals in either well BVC-7, BVC-8, or BVC-12-I exceed baseline levels for that well for two consecutive sampling events, then a plan to monitor and mitigate the mobilization of the constituents must be submitted within sixty days of receipt of the laboratory data.

### **Sub-Slab Vapor Monitoring Requirements**

11. Vapor samples from monitoring probes VM-1, VM-4, VM-5, VM-6, VM-7, VM-8, VM-9, and VM-9-SS shall be sampled semi-annually, during the first and third calendar quarters, in conjunction with indoor air sampling activities. The vapor samples shall be tested for VOCs.

### **Indoor Air Monitoring Requirements**

12. Indoor air samples shall be collected during business hours semi-annually, in conjunction with sub-surface vapor sampling, in the following tenant locations: the restaurant, the coffee bar, the cleaners, two locations in the Dollar Store, the liquor store, the tanning salon, and the bank. The indoor air samples shall be analyzed for VOCs.

## **REPORTING**

Monitoring reports shall be submitted semi-annually in paper format to the Regional Water Board according to the following schedule:

<u>Report</u>	<u>Monitoring Period</u>	<u>Report Due Date</u>
First Semi-annual	January through March	April 30 <sup>th</sup>
Second Semi-annual	July through September	October 31 <sup>st</sup>

All reports, workplans, and laboratory analytical data submitted for the site shall also be submitted in electronic format to the State Water Resources Control Board's Geographic Environmental Information Management System database (GeoTracker) as specified in Title 23, Division 3, Chapter 30, Article 2, Sections 3890-3895 of the California Code of Regulations.

Each semi-annual monitoring report shall include the following elements:

- A. Groundwater elevation maps for each monitored water-bearing zone showing groundwater elevations relative to the locations of monitoring wells, vapor monitoring points, and other significant features.

- B. Analytical data tables summarizing the current and historical analytical results in chronological sequence for each permanent groundwater and vapor monitoring point, and for all indoor air sample locations.
- C. Copies of the following: well purging and sampling field logs; chain of custody documentation showing the time and date of collection and person collecting; and signed laboratory reports including quality control data and explanations of analytical anomalies, if any. Monitoring reports shall identify the type of instruments that were used for field-measured data, and shall include copies of the pre and post-calibration records or provide other assurance for field data quality. These supporting documents may be included as appendices in the report.
- D. An assessment of the indoor air quality and vapor-phase contaminant migration, including a discussion that summarizes and evaluates vapor-intrusion mitigation efforts. The discussion must describe the actions and timing of mitigation efforts such as changes made to the heating, ventilation, and air conditioning system operations within the tenant spaces. The discussion should identify any additional mitigation needed to control potential sub-surface vapor intrusion to indoor air.

Original Signed By  
Luis Rivera For

Ordered by \_\_\_\_\_  
Matthias St. John  
Executive Officer

November 15, 2012

## Table of Monitoring Requirements

MONITORING POINT	LOCATION DESCRIPTION	MONITORING FREQUENCY	CONSTITUENTS TO BE MONITORED
BVC-4	Shallow-Zone Groundwater Monitoring	Semi-Annual	VOCs and Water Quality Parameters <sup>1</sup>
BVC-5	Shallow-Zone Groundwater Monitoring	Semi-Annual	VOCs and Water Quality Parameters <sup>1</sup>
BVC-7	Down-gradient Shallow-zone Groundwater Monitoring	Semi-Annual	VOCs; Water Quality Parameters <sup>1</sup> ; and Dissolved Metals <sup>2</sup>
BVC-8	Down-gradient Shallow-zone Groundwater Monitoring	Semi-Annual	VOCs; Water Quality Parameters <sup>1</sup> ; and Dissolved Metals <sup>2</sup>
BVC-9	Shallow-Zone Groundwater Monitoring	Semi-Annual	VOCs and Water Quality Parameters <sup>1</sup>
BVC-10-I	Intermediate-Zone Groundwater Monitoring	Semi-Annual	VOCs and Water Quality Parameters <sup>1</sup>
BVC-11-I	Intermediate-Zone Groundwater Monitoring	Semi-Annual	VOCs and Water Quality Parameters <sup>1</sup>
BVC-12-I	Down-gradient Intermediate-Zone Groundwater Monitoring	Semi-Annual	VOCs; Water Quality Parameters <sup>1</sup> ; and Dissolved Metals <sup>2</sup>
BVC-13	Shallow-Zone Groundwater Monitoring	Semi-Annual	VOCs and Water Quality Parameters <sup>1</sup>
EX-1	Shallow-Zone Groundwater Monitoring	Semi-Annual	VOCs and Water Quality Parameters <sup>1</sup>
EX-2	Shallow-Zone Groundwater Monitoring	Semi-Annual	VOCs and Water Quality Parameters <sup>1</sup>
EX-3	Shallow-Zone Groundwater Monitoring	Semi-Annual	VOCs and Water Quality Parameters <sup>1</sup>
VM-1	Soil Vapor Probe	Semi-Annual	VOCs
VM-4	Soil Vapor Probe	Semi-Annual	VOCs
VM-5	Soil Vapor Probe	Semi-Annual	VOCs
VM-6	Soil Vapor Probe	Semi-Annual	VOCs
VM-7	Soil Vapor Probe	Semi-Annual	VOCs
VM-8	Soil Vapor Probe	Semi-Annual	VOCs
VM-9	Soil Vapor Probe	Semi-Annual	VOCs
VM-9-SS	Sub-Slab Vapor Probe	Semi-Annual	VOCs
On-Site Tenant Units	Indoor Air Sampling	Semi-Annual	VOCs

(1) a) Analyses for VOCs shall include the compounds: cis- 1,2-Dichloroethene, trans- 1,2-Dichloroethene, Tetrachloroethene, Trichloroethene, and Vinyl Chloride;

b) Water quality parameters to be tested shall include total organic carbon, dissolved oxygen, oxidation-reduction potential (ORP), pH, and temperature.

(2) If the ORP values measured in samples from the well are negative, then the well shall be sampled and analyzed for the dissolved metals arsenic, iron and manganese. If analytical results for either well BVC-7, BVC-8, or BVC-12-I exceed baseline levels for dissolved arsenic, iron, or manganese, then the subsequent groundwater samples from that well shall be analyzed for dissolved mercury, and vanadium in addition to dissolved arsenic, iron, manganese, until concentrations of these dissolved metals have returned to background levels for two consecutive sampling events.