

California Regional Water Quality Control Board
North Coast Region

Monitoring and Reporting Program No. R1-2009-0067

For

IN-SITU SOIL AND GROUNDWATER TREATMENT

West College Center, LLC
Former Best Cleaners
1007B West College Avenue
Santa Rosa, California

Sonoma County

GROUNDWATER MONITORING & SAMPLING

The groundwater monitoring network consists of ten A zone monitoring wells, seven B-zone monitoring wells, and one water supply well. Thirteen nested A and B zone injection wells also exist. Groundwater monitoring and sampling will be conducted as follows:

1. Groundwater monitoring activities shall include depth to water measurements in all A-zone and B-zone wells quarterly. Depth to water measurements shall be determined to at least 0.01 foot increments.
2. Groundwater sampling will be conducted according to Table 2, which provides the frequency of sampling and the measurements and analyses to be performed for each well. In addition to the analytes listed in Table 2, groundwater samples will also be analyzed for manganese, arsenic and antimony. All laboratory analyses must be performed at a state certified laboratory. Analytical methods for sample analyses shall achieve practical quantification reporting limits that are adequate for evaluating regulatory action levels for each constituent.
3. The groundwater sampling schedule includes pre-treatment baseline testing, followed by monthly, quarterly and annual performance testing.
4. Evaluation of the performance monitoring schedule will be ongoing and based on the results, and may be modified by the Executive Officer.

AIR QUALITY MONITORING & SAMPLING

5. Pre-injection in-door air quality monitoring measurements shall be collected using a MiniRAE 2000 photoionization detector in all tenant spaces overlying the treatment area to establish baseline measurements of hydrogen sulfide and volatile organic compounds (VOCs) including vinyl chloride, and methane. Pre-injection air quality monitoring shall be conducted as proposed in the January 29, 2009 Air Quality Management Plan (AQMP) prepared by Edd Clark &

Associates, which is public record and available for review at the Regional Water Board office.

6. Post-injection monitoring will be conducted one-month after the first injection event and monthly thereafter. Air samples will be collected using Summa canisters if screening measurements are significantly higher than baseline readings. Air samples will be collected as proposed in the January 29, 2009 AQMP.
7. If screening levels are detected above the BAAQMD action levels and/or if methane is detected at unsafe levels, the contingency plan described in the AQMP including tenant space evacuation, ventilation, post ventilation sampling, and potential engineering controls which may include ongoing ventilation or vapor pathway controls, shall be implemented to eliminate air quality impacts.

REPORTING

8. Reports shall be submitted on a quarterly schedule and are due on or before the 15th day of the month following each quarter. Each quarterly report shall include a section for in situ treatment and reducing agent injection activities, groundwater monitoring and sampling, and air monitoring activities.

The in situ treatment section must include:

- Dates of injection;
- Gallons injected per injection well;
- Dilution rate;
- Organic carbon percentage;
- Injection mixture (whey, emulsified oils, vitamins);
- Injection pressure;
- Injection flow rate; and
- Other pertinent information.

The groundwater monitoring section must include:

- A map showing the calculated groundwater flow gradient for the A and B water bearing zones;
- Maps showing chemical iso-concentrations for PCE and its breakdown products TCE, DCE and VC as the degradation process progresses;
- Groundwater elevation measurements reported in a tabular form indicating the surveyed elevations of each reference point, depth to groundwater from the reference point and the actual groundwater elevation; and groundwater sampling analytical and monitoring data from each sampling event summarized in tabular form, including all previously collected data,

signed laboratory reports, and field logs with instrument calibration records and measurements.

The air monitoring section must include:

- Dates of monitoring;
 - Tenant spaces monitored;
 - Photo Ionization Detector (PID) measurements;
 - Air sampling methods if applicable;
 - Air sampling analytical results if applicable; and
 - Mitigation measures taken, if applicable.
9. All monitoring reports, data and depth to groundwater measurements shall be submitted electronically to the State Water Resources Control Board's Geographic Environmental Information Management System database (GeoTracker) as required by Title 23, Division 3, Chapter 16, Article 12 of the California Code of Regulations (i.e. AB2886 electronic reporting requirements).¹

Ordered By _____
Catherine Kuhlman
Executive Officer
October 1, 2009

¹ Information on AB2886 electronic reporting can be obtained on the Internet by following the Electronic Submittal of Information link on the GeoTracker home page at <http://geotracker.waterboards.ca.gov>.