



# California Regional Water Quality Control Board

## Los Angeles Region



320 W. 4th Street, Suite 200, Los Angeles, California 90013

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Linda S. Adams  
Agency Secretary

Arnold Schwarzenegger  
Governor

October 14, 2010

Mr. Ed Morelan  
Environmental Health Supervisor  
Los Angeles Unified School District  
Office of Environmental Health and Safety  
333 South Beaudry Avenue, 27<sup>th</sup> Floor  
Los Angeles, CA 90017

**REVISED MONITORING AND REPORTING PROGRAM CI-9579 (AUTHORIZATION TO REPLACE MONITORING WELL C13-GW20A WITH C13-GW3) - CENTRAL REGION ELEMENTARY SCHOOL#13, 3200 WEST WASHINGTON BOULEVARD, LOS ANGELES, CALIFORNIA (WDR NO. R4-2007-0019 SERIES NO. 119, MRP NO. CI-9579, FILE NO. 09-192, DTSC SITE CODE 304490)**

Dear Mr. Morelan:

On March 15, 2010, the Central Region Elementary School #13 was provided coverage under General Waste Discharge Requirements (WDR) No. R4-2007-0019, adopted by the Los Angeles Regional Water Quality Control Board (Regional Board) on March 1, 2007. The application of the proprietary mix BIOX® as a pilot test for in-situ groundwater remediation was regulated under the WDR and its corresponding Monitoring and Reporting Program CI-9579.

The Regional Board received and reviewed the electronic mail dated August 25, 2010, submitted by Parsons on your behalf requesting to replace monitoring well C13-GW20A with monitoring well C13-GW3. Monitoring well C13-GW20A was planned to be installed in the alleyway south of the site and outside of the treatment area. Originally, monitoring well C13-GW20A was to be screened in the A-zone, the perched groundwater occurring approximately 72 to 80 feet below ground surface, approximately 30 feet deeper than the BIOX® application zone.

Because of its depth and location, Parsons indicated that monitoring well C13-GW20A could not be installed safely due to the close proximity of the overhead power lines. As an alternative, Parsons proposed that monitoring well C13-GW3 be installed 43 feet west of the previously proposed monitoring well C13-GW20A and screened in the A-zone.

Based on the information provided, you are authorized to install C13-GW3 as a substitute well for proposed monitoring well C13-GW20A (Figure 1). Enclosed is the revised Monitoring and Reporting Program CI-9579 to reflect this change.

All monitoring reports shall be sent to the Regional Board, ATTN: Information Technology Unit. When submitting monitoring or technical reports to the Regional Board per these requirements, please include a reference to "Compliance File No. CI-9579", which will assure that the reports are directed to the appropriate file and staff. Submit each type of report as a separate document. Please do not combine other reports with your monitoring reports.

**California Environmental Protection Agency**



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*Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.*

Mr. Ed Morelan  
Central Region Elementary School #13  
Los Angeles Unified School District

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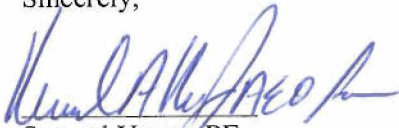
October 14, 2010

To avoid paying future annual fees, please submit written request for termination of your enrollment under the general permit in a separate letter, when your project has been completed and the permit is no longer needed. Be aware that the annual fee covers the fiscal year billing period beginning July 1 and ending June 30, the following year. You will pay the full annual fee if your request for termination is made after the beginning of the new fiscal year beginning July 1.

Board Order No. R4-2007-0019 can be obtained at our web site address:  
[http://www.waterboards.ca.gov/losangeles/board\\_decisions/adopted\\_orders/](http://www.waterboards.ca.gov/losangeles/board_decisions/adopted_orders/)

**If you have any questions, please contact Dr. Angelica Castaneda, at (213) 576-6737 or [acastaneda@waterboards.ca.gov](mailto:acastaneda@waterboards.ca.gov), or Dr. Rebecca Chou, Chief of Groundwater Permitting and Land Disposal, at (213) 620-6156 or [rzhou@waterboards.ca.gov](mailto:rzhou@waterboards.ca.gov).**

Sincerely,



Samuel Unger, PE  
Executive Officer

Enclosures

1. Figure 1. BIOX® application area and compliance monitoring wells
2. Monitoring and Reporting Program CI No. 9579 revised on October 14, 2010

cc: Patrick Nejadian, Department of Public Health, County of Los Angeles  
Amit Pathak, Department of Toxic Substances Control, Cypress  
Mehdi Bettahar, Parsons

***California Environmental Protection Agency***



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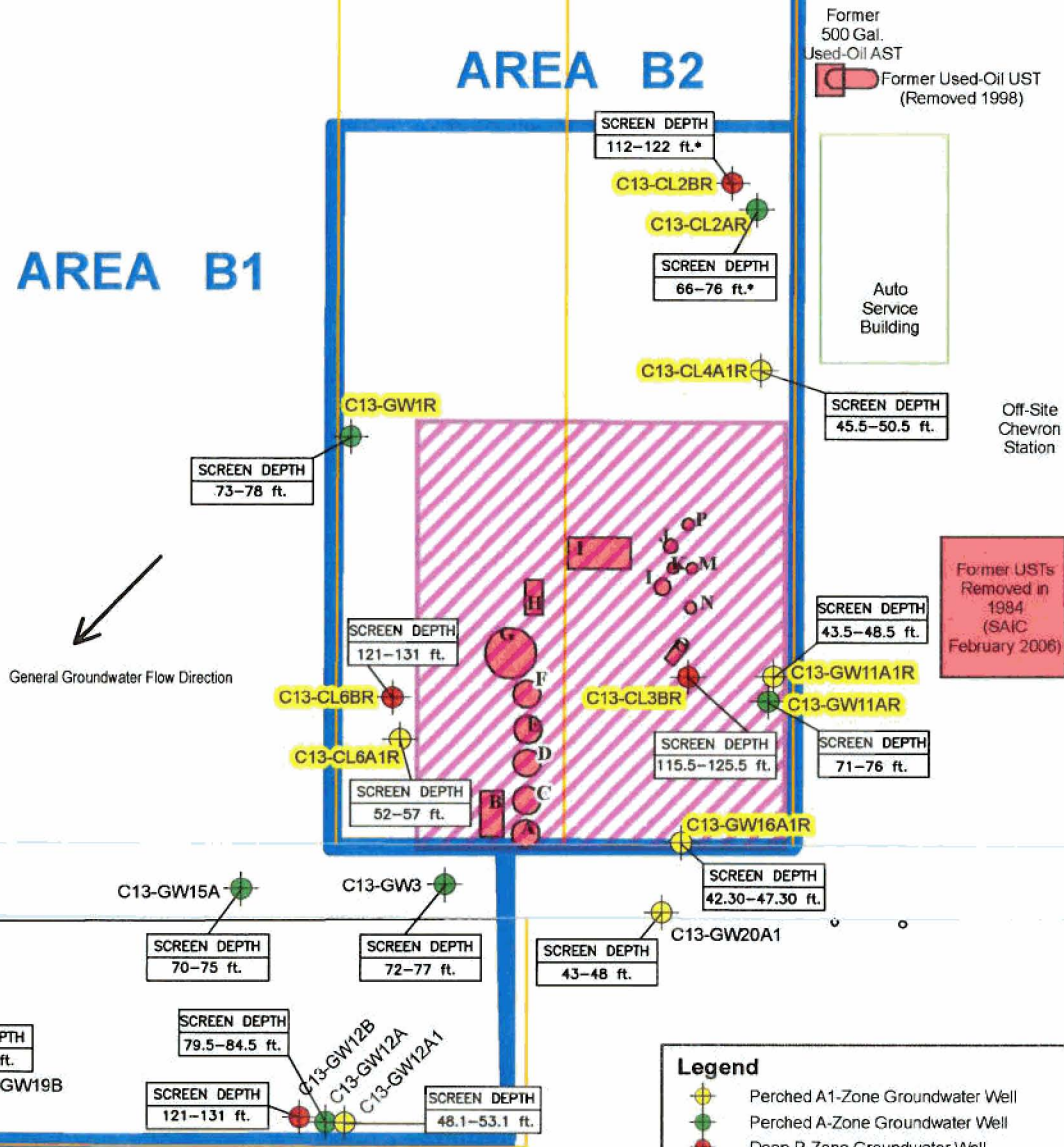
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# WASHINGTON BOULEVARD

SIDEWALK

## AREA B1

## AREA B2



General Groundwater Flow Direction

**Notes:**  
 \* Original Wells C13-CL2A and C13-CL2B were installed in an area of the Site (Northern drop-off) approximately 3 ft. below Site grade. Screen Depth intervals presented reflect the approximate depth below Site grade.

Highlighted well IDs represent the final name of the recently replaced groundwater monitoring wells. Well locations and screen depths presented are from original wells. Replacement well locations and screen depths will be updated once the final grade is achieved at the site.

### Legend

- Perched A1-Zone Groundwater Well
- Perched A-Zone Groundwater Well
- Deep B-Zone Groundwater Well
- Approximate Area of BIOX® Over-Spray
- Former Underground/Aboveground Storage Tank
- Building
- Area B Boundaries

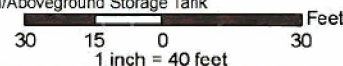


FIGURE 1	REV 1	<b>BIOX® OVER-SPRAY AREA AND SELECT MONITORING WELLS</b>	<b>LAUSD</b>  Central Region Elementary School #13	<b>PARSONS</b>  Pasadena, CA	Job No. (440875)			
					Designed	1	07/30/2008	
					Drawn	1	09/16/2009	GLP
					Revised	1	09/28/2010	DM
					Checked	1	09/28/2010	SO
					Reviewed	1	09/28/2010	MB
					Approved	1	09/28/2010	TW

STATE OF CALIFORNIA  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM NO. CI-9579  
FOR

CENTRAL REGION ELEMENTARY SCHOOL#13 (SITE)  
FOR LOS ANGELES UNIFIED SCHOOL DISTRICT  
3200 WEST WASHINGTON BOULEVARD  
LOS ANGELES, CALIFORNIA 90018

(PILOT TEST FOR GROUNDWATER REMEDIATION  
USING *IN-SITU* CHEMICAL OXIDATION)  
FILE NO. 09-192, DTSC NO. 304490

ORDER NO. R4-2007-0019  
SERIES NO. 119

I. REPORTING REQUIREMENTS

- A. Los Angeles Unified School District (hereinafter Discharger) shall implement this monitoring program on the effective date of Regional Board Order No. R4-2007-0019. The Quarterly Groundwater Remediation Progress and Discharge Monitoring Report for the Fourth Quarter 2010, shall be received at the Regional Board by **January 15, 2011**. Subsequent reports shall be received at the Regional Board according to the following schedule:

<u>Monitoring Period</u>	<u>Report Due</u>
January – March	April 15
April – June	July 15
July – September	October 15
October – December	January 15

- B. If there is no discharge or injection during any reporting period, the report shall so state. Monitoring reports must be addressed to the Regional Board, Attention: Information Technology Unit.
- C. By March 1<sup>st</sup> of each year, the Discharger shall submit an annual summary report to the Regional Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous calendar year. In addition, the Discharger shall explain the compliance record and the corrective actions taken, or planned, which may

Revised October 14, 2010  
March 14, 2010

be needed to bring the discharge into full compliance with the waste discharge requirements (WDRs).

- D. Laboratory analyses – all chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by the California Department of Public Health Environmental Laboratory Accreditation Program (ELAP). A copy of the laboratory certification shall be provided each time a new and/or renewal certification is obtained from ELAP.
- E. The method limits (MLs) employed for groundwater analyses shall be lower than the permit limits established for a given parameter, unless the Discharger can demonstrate that a particular ML is not attainable and obtains approval for a higher ML from the Regional Board Executive Officer (Executive Officer). The Discharger shall submit a list of the analytical methods employed for each test and the associated laboratory quality assurance/quality control (QA/QC) procedures upon request by the Regional Board.
- F. Groundwater samples must be analyzed within allowable holding time limits as specified in 40 CFR Part 136. All QA/QC samples must be run on the same dates when samples were actually analyzed. The Discharger shall make available for inspection and/or submit the QA/QC documentation upon request by Regional Board staff.
- G. Each monitoring report must affirm in writing that “All analyses were conducted at a laboratory certified for such analyses by the California Department of Health Services and in accordance with current United States Environmental Protection Agency (USEPA) guideline procedures or as specified in this Monitoring Program.” Proper chain of custody procedures must be followed and a copy of the completed chain of custody form shall be submitted with the report.
- H. Each monitoring report shall contain a separate section titled “Summary of Non-Compliance” which discusses the compliance record and the corrective actions taken or planned that may be needed to bring the discharge into full compliance with WDRs. This section shall be located at the front of the report and shall clearly list all non-compliance with WDRs, as well as all exclusions of effluent limitations.
- I. The Discharger shall maintain all sampling and analytical results: date, exact place, and time of sampling; dates analyses were performed; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.
- J. If the Discharger performs analyses on any groundwater samples more frequently than required by this Order using approved analytical methods, the results of those analyses shall be included in the report.
- K. In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized to demonstrate compliance with the requirements and, where applicable, shall include results of receiving water observations.

II. BIOX OVER-SPRAY MONITORING REQUIREMENT

Once the pilot test has been performed by over-spraying BIOX® on the capillary fringe of the shallow groundwater A1-zone, a report documenting the results of the pilot test shall be submitted to the Regional Board. The pilot test must include the results of baseline parameters in groundwater prior to the application of BIOX®. The pilot test report is due by **January 15, 2011**.

The report(s) shall contain the following information regarding the pilot test activities:

1. Map showing the location(s) of the sprayed area.
2. A thorough summary of the quantities of materials used for the BIOX® mix. Include application/over-spray dates, total area of the application, solution concentrations, total solution used (in gallons).
3. Interpretation of the results and evaluation of the pilot test effectiveness.

III. GROUNDWATER MONITORING PROGRAM

The Discharger shall conduct groundwater monitoring at the site. Groundwater samples shall be collected from the groundwater monitoring wells described by function in Tables 1, 2 and 3 (refer to attached Groundwater Over-spray Area Map):

**Table 1. Monitoring wells surrounding the BIOX® over-spray area**

Well ID	Groundwater Zone	Location with respect to the over-spray area
**C13-CL4A1R	A1	Up-gradient
**C13-CL2AR	A	Up-gradient
**C13-CL6A1R	A1	Cross-gradient
**C13-GW1R	A	Cross-gradient
C13-GW20A1	A1	Cross/down-gradient
*C13-GW3	A	Down-gradient
C13-GW12A1	A1	Down-gradient
C13-GW12A	A	Down-gradient
C13-GW15A	A	Down-gradient
**C13-CL2BR	B	Up-gradient
C13-GW12B	B	Down-gradient
**C13-CL6BR	B	Cross-gradient

\* C13-GW3 replaced monitoring well C13-GW20A as of October 14, 2010

\*\* "R" indicates that the original well was replaced after the excavation was back-filled

**Table 2. Monitoring wells located within the BIOX® over-spray area**

Well ID	Groundwater Zone	Location with respect to the over-spray area
**C13-GW11A1R	A1	Within the area of treatment
**C13-GW16A1R	A1	Within the area of treatment
**C13-GW11AR	A	Within the area of treatment

\*\* "R" indicates that the original well was replaced after the excavation was back-filled

**Table 3. Sentinel/Recovery Wells**

Well ID	Groundwater Zone	Location with respect to the over-spray area
**C13-CL6A1R	A1	Cross-gradient
C13-GW15A	A	Down-gradient
C13-GW20A1	A1	Cross/down-gradient
*C13-GW3	A	Down-gradient
C13-GW12A1	A1	Down-gradient
C13-GW12A	A	Down-gradient

\* C13-GW3 replaced monitoring well C13-GW20A as of October 14, 2010

\*\* "R" indicates that the original well was replaced after the excavation was back-filled

Groundwater from the groundwater monitoring wells listed in Tables 1, 2, and 3 above shall be monitored for the duration of the remediation in accordance with the following discharge monitoring program:

**Table 4. Monitoring Program**

CONSTITUENT	TYPE OF SAMPLE	UNITS	MINIMUM FREQUENCY OF ANALYSIS
Dissolved CAM metals, total iron and boron (EPA Method 6010B/200.7 or similar)	Grab	µg/L	Baseline, quarterly thereafter
Hexavalent Chromium (EPA Method 218.6)	Grab	µg/L	Baseline, quarterly thereafter
Volatile Organic Compounds (EPA Method 8260B)	Grab	µg/L	Baseline, quarterly thereafter
1,4-Dioxane (EPA Method 8270C)	Grab	µg/L	Baseline, quarterly thereafter
Total petroleum hydrocarbons (EPA Method 8015M)	Grab	µg/L	Baseline, quarterly thereafter

**Table 4. Monitoring Program (cont.)**

CONSTITUENT	TYPE OF SAMPLE	UNITS	MINIMUM FREQUENCY OF ANALYSIS
Anions (bromide, chloride, bromate, nitrate, nitrite, phosphate, sulfate) (EPA Method 300.1 or similar) Manganese (EPA Method 6020 or similar)	Grab	µg/L	Baseline, quarterly thereafter
Cations (sodium, calcium, magnesium, potassium) (EPA Method 6010B or similar)	Grab	µg/L	Baseline, quarterly thereafter
Total suspended solids (EPA Method 2540D)	Grab	mg/L	Baseline, quarterly thereafter
Total dissolved solids (EPA Method 2540C)	Grab	mg/L	Baseline, quarterly thereafter
Biological Oxygen Demand (Method SM 5210B)	Grab	mg/L	Baseline, quarterly thereafter
Bicarbonate and carbonate (Method SM 2320B)	Grab	mg/L	Baseline, quarterly thereafter
Fluoride (Method SM 4500-FC or similar)	Grab	mg/L	Baseline, quarterly thereafter
Ferrous iron (Method SM-3500)	Grab	mg/L	Baseline, quarterly thereafter
Heterotrophic bacterial count (Method SM-9215B)	Grab	CFU/mL	Baseline, quarterly thereafter
Color (Method SM-2120B)	Grab	APHA scale	Baseline, quarterly thereafter
Hardness (Method SM-2340C)	Grab	mg/L	Baseline, quarterly thereafter
Total Organic Carbon (EPA Method 5310D)	Grab	mg/L	Baseline, quarterly thereafter
Chemical oxygen demand (Method SM-5220D)	Grab	mg/L	Baseline, quarterly thereafter
pH	In-situ	pH units	Baseline, quarterly thereafter
Specific Conductivity	In-situ	µmhos	Baseline, quarterly thereafter
Oxidation - Reduction Potential	In-situ	mV	Baseline, quarterly thereafter
Dissolved Oxygen	In-situ	mg/L	Baseline, quarterly thereafter



**Table 4. Monitoring Program (cont.)**

CONSTITUENT	TYPE OF SAMPLE	UNITS	MINIMUM FREQUENCY OF ANALYSIS
Temperature	In-situ	<sup>0</sup> F/ <sup>0</sup> C	Baseline, quarterly thereafter
Turbidity	In-situ	NTU	Baseline, quarterly thereafter
Free product	In-situ	ft	Baseline, quarterly thereafter
Groundwater elevation	In-situ	ft	Baseline, quarterly thereafter

All groundwater monitoring reports must include, at a minimum, the following:

- a. Well identification, date and time of sampling;
- b. Sampler identification, and laboratory identification;
- c. Quarterly observation of groundwater levels, recorded to 0.01 feet mean sea level and groundwater flow direction.

IV. MONITORING FREQUENCIES

Monitoring frequencies may be adjusted to a less frequent basis or parameters may be modified by the Executive Officer if the Discharger makes a request and the Executive Officer determines that the request is adequately supported by statistical trends of monitoring data submitted.

V. CERTIFICATION STATEMENT

Each report shall contain the following declaration:

"I certify under penalty of law that this document, including all attachments and supplemental information, was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.

Executed on the \_\_\_\_ day of \_\_\_\_\_ at \_\_\_\_\_.

\_\_\_\_\_ (Signature)

\_\_\_\_\_ (Title)"

Central Region Elementary School #13  
WDR Order No. R4-2007-0019  
Monitoring and Reporting Program No. CI-9579

VI. PUBLIC DOCUMENTS

These records and reports are public documents and shall be made available for inspection during normal business hours at the office of the California Regional Water Quality Control Board, Los Angeles Region.

Ordered by:



Samuel Unger, PE  
Executive Officer

Date:

10/14/10