



California Regional Water Quality Control Board Los Angeles Region



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Linda S. Adams
Acting Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

August 5, 2011

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

REVISED MONITORING AND REPORTING PROGRAM CI-9579 – CARSON-GORE ACADEMY OF ENVIRONMENTAL STUDIES (FORMERLY 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 Los Angeles Unified School District (LAUSD) 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.

On October 14, 2010, Regional Board staff revised Monitoring and Reporting Program CI-9579, authorizing the installation of C13-GW3 as a substitute well for monitoring well C13-GW20A.

On May 16, 2011, Parsons, on behalf of LAUSD, proposed to implement a pilot study which will consist of injecting ozone within locations identified as “hot spots” in the A-zone groundwater underlying Area B1 of the site. As a result, Parsons is requesting the current monitoring and reporting program (MRP) to be modified to include this ozone injection pilot study under the existing General WDR for the following reasons:

- a. Ozone application is covered under the General WDR (Order No. R4-2007-0019), which is the current permit in place for groundwater at this site.
- b. The proposed technology (ozone injection) uses the same remediation process (chemical oxidation) as the BIOX[®] over-spray. Since the existing monitoring program is established and designed to monitor oxidation indicators (such as contaminant mass reduction, dissolved oxygen, and heterotrophic bacterial plate count), the same monitoring program can be applied for this pilot study as well.

California Environmental Protection Agency

August 5, 2011

- c. Ozone will be applied in a different area of the site and different groundwater zone than the BIOX[®] application; therefore, it will not impact the monitoring of the effects of the BIOX[®] over-spray pilot study.

Parsons also requested that the current MRP of the WDR to be modified to include additional A-zone groundwater monitoring wells (C13-GW1R, C13-GW3, C13-GW12A, C13-GW14A, C13-GW15A, C13-GW17A, C13-GW21A, C13-GW22A, C13-GW-23A, and C13-GW26A) surrounding the ozone injection area. In addition, C13-GW3, C13-GW12A, and C13-GW15A, which are currently utilized as the monitoring wells for the BIOX[®] over-spray and will be also used for the ozone injection activities.

The revised Monitoring and Reporting Program, which incorporates the requested modifications, is enclosed. All monitoring reports should be sent to the Regional Board, ATTN: Information Technology Unit. When submitting monitoring and 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. Also, please do not combine other reports with your monitoring and reports. Submit each type of report as a separate document.

To avoid paying future annual fees, please submit a 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.

In addition, you are required to comply with Electronic Submittal of Information (ESI) as specified in the June 20, 2011, letter (attached).

If you have any additional questions, please contact the Project Manager, Mr. David Koo at (213) 620-6155 or the Unit Chief of Groundwater Permitting, Dr. Eric Wu at (213) 576-6683 regarding this matter.

Sincerely,



Samuel Unger, P.E.
Executive Officer

Enclosures:

1. Monitoring and Reporting Program CI No. 9579 revised on August 5, 2011
2. June 20, 2011 ESI letter

Mr. Ed Morelan
Los Angeles Unified School District
Office of Environmental Health and Safety

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August 5, 2011

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

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

REVISED MONITORING AND REPORTING PROGRAM NO. CI-9579
FOR

CARSON-GORE ACADEMY OF ENVIRONMENTAL STUDIES
(FORMERLY CENTRAL REGION ELEMENTARY SCHOOL #13)
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 revised monitoring program on the effective date (August 5, 2011) of Regional Board Order No. R4-2007-0019. The Quarterly Groundwater Remediation Progress and Discharge Monitoring Report for the Third Quarter 2011, shall be received at the Regional Board by **October 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 1st 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

2nd Revision August 5, 2011
1st Revision October 14, 2010
March 14, 2010

shall explain 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 (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 Figure 1):

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 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

Table 4. Monitoring Program (cont.)

CONSTITUENT	TYPE OF SAMPLE	UNITS	MINIMUM FREQUENCY OF ANALYSIS
Dissolved Oxygen	In-situ	mg/L	Baseline, quarterly thereafter
Temperature	In-situ	⁰ F/ ⁰ 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

Table 5: Monitoring Wells Surrounding the In-Situ Chemical Oxidation (ISCO) Ozone Treatment Area

Well ID	Groundwater Zone	Location with Respect to the Ozone Treatment Area
C13-GW1R ^a	A	Cross-gradient
C13-GW12A ^a	A	Down-gradient
C13-GW21A	A	Cross-gradient
C13-GW22A	A	Cross-gradient
C13-GW26A	A	Up-gradient

a. Groundwater monitoring well used to monitor groundwater for both pilot studies (BIOX[®] Over-spray and Ozone Injection).

The wells listed in Table 5 will be sampled for the constituents listed in Table 7 as part of the baseline sampling event (two weeks before the ISCO injection begins) and quarterly events (after the ISCO post-injection activities are completed).

Table 6: Monitoring Wells Located Within the In-Situ Chemical Oxidation (ISCO) Ozone Treatment Area

Well ID	Groundwater Zone	Location with Respect to the Ozone Treatment Area
C13-GW3 ^{ab}	A	Sparge well
C13-GW14A ^b	A	Sparge well
C13-GW15A ^{ab}	A	Sparge well
C13-GW17A ^b	A	Sparge well
C13-GW23A ^b	A	Sparge well

a. Groundwater monitoring well used to monitor groundwater for both pilot studies (BIOX[®] Over-spray and Ozone Injection).

b. Proposed sparging location.

The wells listed under in Table 6 will be sampled for the analytes listed in Table 7 as part of the baseline sampling event (two weeks before the ISCO injection begins) and quarterly events (after the ISCO post-injection activities are completed).

Table 7: Monitoring Program – Baseline (Prior to Pilot Test) and Quarterly (Subsequent to Pilot Test)

Constituents	Type of Sample	Units	Sampling Frequency ^c
Dissolved CAM metals, total iron and boron (EPA Method 6010B/6020A/200.7 or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Baseline, quarterly thereafter
Hexavalent Chromium (EPA Method 218.6 or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Baseline, quarterly thereafter
Volatile Organic Compounds (EPA Method 8260B or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Baseline, quarterly thereafter
1,4-Dioxane (EPA Method 8270C or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Baseline, quarterly thereafter
Total Petroleum Hydrocarbons (EPA Method 8015M or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Baseline, quarterly thereafter
Anions (bromide, chloride, bromate, nitrate, nitrite, phosphate, sulfate) (EPA Method 300.1/300 or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Baseline, quarterly thereafter
Manganese (EPA Method 6020 or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Baseline, quarterly thereafter
Cations (sodium, calcium, magnesium, potassium) (EPA Method 6010B/6020A or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Baseline, quarterly thereafter
Total Suspended Solids (EPA Method 2540D or equivalent)	Grab (or low flow sampling when feasible)	mg/L	Baseline, quarterly thereafter
Total Dissolved Solids (EPA Method 2540C or equivalent)	Grab (or low flow sampling when feasible)	mg/L	Baseline, quarterly thereafter
Biological Oxygen Demand (Method SM 5210B or equivalent)	Grab (or low flow sampling when feasible)	mg/L	Baseline, quarterly thereafter
Bicarbonate and Carbonate (method DM 2320B or equivalent)	Grab (or low flow sampling when feasible)	mg/L	Baseline, quarterly thereafter
Fluoride (Method SM 4500-FC or equivalent)	Grab (or low flow sampling when feasible)	mg/L	Baseline, quarterly thereafter

Table 7: Monitoring Program (cont.)

Ferrous Iron (Method SM-3500 or equivalent)	Grab (or low flow sampling when feasible)	mg/L	Baseline, quarterly thereafter
Heterotrophic Bacterial Count (Method SM-9215B or equivalent)	Grab (or low flow sampling when feasible)	CFU/mL	Baseline, quarterly thereafter
Color (Method SM-2120B or equivalent)	Grab (or low flow sampling when feasible)	APHA scale	Baseline, quarterly thereafter
Hardness (method SM-2340C or equivalent)	Grab (or low flow sampling when feasible)	mg/L	Baseline, quarterly thereafter
Total Organic Carbon (EPA Method 5310D or equivalent)	Grab (or low flow sampling when feasible)	mg/L	Baseline, quarterly thereafter
Chemical Oxygen Demand (Method SM-5220D or equivalent)	Grab (or low flow sampling when feasible)	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
Temperature	In-situ	°F/°C	Baseline, quarterly thereafter
Turbidity	In-situ	NTU	Baseline, quarterly thereafter
Free Products	In-situ	ft	Baseline, quarterly thereafter
Groundwater Elevation	In-situ	ft	Baseline, quarterly thereafter

c. Baseline groundwater sampling will be conducted approximately two weeks prior to the initiation of the ISCO injection. Quarterly groundwater sampling will be conducted once the post-injection sampling program has been completed at the site.

Table 8: Monitoring Wells Surrounding the In-Situ Chemical Oxidation Ozone Treatment Area

Well ID	Groundwater Zone	Location with Respect to the Ozone Treatment Area
C13-GW1R ^a	A	Cross-gradient
C13-GW12A ^a	A	Down-gradient
C13-GW21A	A	Cross-gradient
C13-GW22A	A	Cross-gradient
C13-GW26A	A	Up-gradient

a. Groundwater monitoring well used to monitor groundwater for both pilot studies (BIOX ® Over-spray and Ozone Injection).

The wells listed in Table 8 will be sampled for the analytes listed in Table 9 during Weeks 1, 3, 5 and 7 of the ISCO Pilot Program.

Table 9: Monitoring Program – During ISCO Injection

Constituents	Type of Sample	Units	Sampling Frequency ^c
Dissolved CAM metals, total iron and boron (EPA Method 6010B/6020A/200.7 or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Week 1, 3, 5, and 7
Hexavalent Chromium (EPA Method 218.6 or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Week 1, 3, 5, and 7
Volatile Organic Compounds (EPA Method 8260B or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Week 1, 3, 5, and 7
Total Petroleum Hydrocarbons (EPA Method 8015M or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Week 1, 3, 5, and 7
Anions (bromide, chloride, bromate, nitrate, nitrite, phosphate, sulfate) (EPA Method 300.1/300 or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Week 1, 3, 5, and 7
Manganese (EPA Method 6020 or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Week 1, 3, 5, and 7
Cations (sodium, calcium, magnesium, potassium) (EPA Method 6010B/6020A or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Week 1, 3, 5, and 7
Total Dissolved Solids (EPA Method 2540C or equivalent)	Grab (or low flow sampling when feasible)	mg/L	Week 1, 3, 5, and 7
Ferrous Iron (Method SM-3500 or equivalent)	Grab (or low flow sampling when feasible)	mg/L	Week 1, 3, 5, and 7

Table 9: Monitoring Program – During ISCO Injection (cont.)

Total Organic Carbon (EPA Method 5310D or equivalent)	Grab (or low flow sampling when feasible)	mg/L	Week 1, 3, 5, and 7
pH	In-situ	pH units	Week 1, 3, 5, and 7
Specific Conductivity	In-situ	µmhos	Week 1, 3, 5, and 7
Oxidation - Reduction Potential	In-situ	mV	Week 1, 3, 5, and 7
Dissolved Oxygen	In-situ	mg/L	Week 1, 3, 5, and 7
Temperature	In-situ	°F/°C	Week 1, 3, 5, and 7
Turbidity	In-situ	NTU	Week 1, 3, 5, and 7
Free Products	In-situ	ft	Week 1, 3, 5, and 7
Groundwater Elevation	In-situ	ft	Week 1, 3, 5, and 7

c. Groundwater sampling will be conducted one week (Week 1) after the pilot injection test start-up and bi-weekly (Week 3, 5, and 7) thereafter.

Table 10: Monitoring Wells Surrounding the In-Situ Chemical Oxidation (ISCO) Ozone Treatment Area

Well ID	Groundwater Zone	Location with Respect to the Ozone Treatment Area
C13-GW1R ^a	A	Cross-gradient
C13-GW12A ^a	A	Down-gradient
C13-GW21A	A	Cross-gradient
C13-GW22A	A	Cross-gradient
C13-GW26A	A	Up-gradient

a. Groundwater monitoring well used to monitor groundwater for both pilot studies (BIOX[®] Over-spray and Ozone Injection).

The wells listed in Table 10 will be sampled for the analytes listed in Table 12 during Weeks 9, 13, 17 and 21 of the ISCO Pilot Program. After the Week 21 sampling event, the groundwater monitoring program will transition to the quarterly sampling program (refer to Tables 5, 6 and 7 for the quarterly sampling program).

Table 11: Monitoring Wells Located Within the In-Situ Chemical Oxidation Ozone Treatment Area

Well ID	Groundwater Zone	Location with Respect to the Ozone Treatment Area
C13-GW3 ^{ab}	A	Sparge well
C13-GW14A ^b	A	Sparge well
C13-GW15A ^{ab}	A	Sparge well
C13-GW17A ^b	A	Sparge well
C13-GW23A ^b	A	Sparge well

a. Groundwater monitoring well used to monitor groundwater for both pilot studies (BIOX[®] Over-spray and Ozone Injection).

b. Proposed sparging location.

The wells listed in Table 11 will be sampled for the analytes listed in Table 12 during Weeks 9, 13, 17 and 21 of the ISCO Pilot Program. After the Week 21 sampling event, the groundwater monitoring program will transition to the quarterly sampling program (refer to Tables 5, 6 and 7 for the quarterly sampling program).

Table 12: Monitoring Program –Pilot Program Sampling Post-ISCO Injection

Constituents	Type of Sample	Units	Sampling Frequency ^c
Dissolved CAM metals, total iron and boron (EPA Method 6010B/6020A/200.7 or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Week 9, 13, 17, and 21
Hexavalent Chromium (EPA Method 218.6 or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Week 9, 13, 17, and 21
Volatile Organic Compounds (EPA Method 8260B or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Week 9, 13, 17, and 21
Total Petroleum Hydrocarbons (EPA Method 8015M or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Week 9, 13, 17, and 21
Anions (bromide, chloride, bromate, nitrate, nitrite, phosphate, sulfate) (EPA Method 300.1/300 or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Week 9, 13, 17, and 21
Manganese (EPA Method 6020 or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Week 9, 13, 17, and 21
Cations (sodium, calcium, magnesium, potassium) (EPA Method 6010B/6020A or equivalent)	Grab (or low flow sampling when feasible)	µg/L	Week 9, 13, 17, and 21
Total Dissolved Solids (EPA Method 2540C or equivalent)	Grab (or low flow sampling when feasible)	mg/L	Week 9, 13, 17, and 21
Ferrous Iron (Method SM-3500 or equivalent)	Grab (or low flow sampling when feasible)	mg/L	Week 9, 13, 17, and 21
Total Organic Carbon (EPA Method 5310D or equivalent)	Grab (or low flow sampling when feasible)	mg/L	Week 9, 13, 17, and 21
pH	In-situ	pH units	Week 9, 13, 17, and 21
Specific Conductivity	In-situ	µmhos	Week 9, 13, 17, and 21

Table 12: Monitoring Program –Pilot Program Sampling Post-ISCO Injection (cont.)

Oxidation - Reduction Potential	In-situ	mV	Week 9, 13, 17, and 21
Dissolved Oxygen	In-situ	mg/L	Week 9, 13, 17, and 21
Temperature	In-situ	°F/°C	Week 9, 13, 17, and 21
Turbidity	In-situ	NTU	Week 9, 13, 17, and 21
Free Products	In-situ	ft	Week 9, 13, 17, and 21
Groundwater Elevation	In-situ	ft	Week 9, 13, 17, and 21

c. Groundwater sampling will be conducted on a monthly basis (Week 9, 13, 17, and 21) after the pilot system is shut-down and completed at the site.

After the Week 21 sampling event, the groundwater monitoring program will transition to the quarterly sampling program (refer to Tables 5, 6 and 7 for the quarterly sampling program).

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)"

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.

VII. ELECTRONIC SUBMITTAL OF INFORMATION (ESI) TO GEOTRACKER

The Discharger shall submit all reports required under this Monitoring and Reporting Program, including groundwater monitoring data associated with the Waste Discharge Requirements, to the State Water Resources Control Board GeoTracker database, in addition to submitting hard copies to the Regional Board office. Once the Discharger demonstrates mastery of electronic submittal of reports to GeoTracker for the Site, it may request that the Regional Board waive the requirement of submitting hard copies of reports.

Ordered by: Samuel Unger
Samuel Unger, P.E.
Executive Officer

Date: August 5, 2011

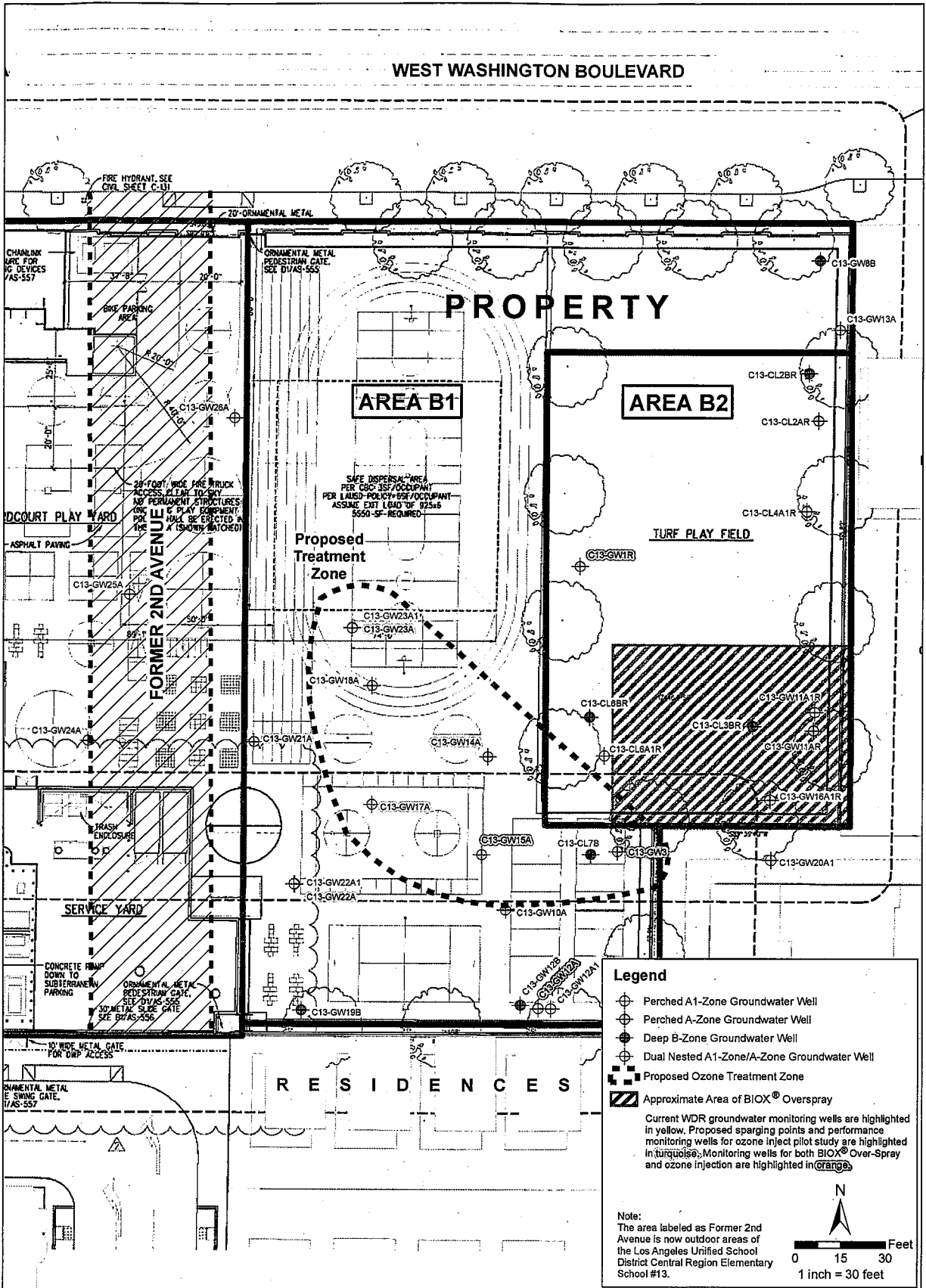


FIGURE	1
REV	3

**SITE MAP SHOWING
BIOX® OVER-SPRAY AND
OZONE INJECTION AREAS
WITH MONITORING
NETWORK**

LAUSD
**Central Region
Elementary School #13**

PARSONS	Job No. (440875)			
Pasadena, CA	Designed	1	07/30/2008	GLP
	Drawn	1	10/21/2009	RGS
	Revised	1	7/22/2011	DM
	Checked	1	3/30/2011	SO
	Reviewed	1	3/30/2011	MB
	Approved	1	3/30/2011	TW



California Regional Water Quality Control Board Los Angeles Region



Linda S. Adams
Acting Secretary for
Environmental Protection

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(213) 576-6600 • Fax (213) 576-6640
<http://www.waterboards.ca.gov/losangeles>

Edmund G. Brown Jr.
Governor

June 20, 2011

To Dischargers and Interested Parties

ELECTRONIC SUBMITTAL OF INFORMATION TO GEOTRACKER FOR WASTE DISCHARGE REQUIREMENTS (WDR) UNDER GROUNDWATER PERMITTING PROGRAM (NON-CHAPTER 15 WDR)

For several years, parties responsible for cleanup of leaks from underground storage tanks and other groundwater cleanup and land disposal sites have been required to electronically submit over the internet their groundwater analytical data, the surveyed locations of monitoring wells, the PDF copies of reports and certain other data to the State Water Resources Control Board's (SWRCB) Geotracker database. The Geotracker system currently has information submitted by responsible parties for over 10,000 groundwater cleanup sites statewide.

In addition to submitting hard copies of reports to the Los Angeles Regional Water Quality Control Board (Regional Board) office, dischargers are directed to submit all reports required under the waste discharger requirements (WDR) adopted by the Regional Board, including groundwater monitoring data in Electronic Data Format, well and discharge location data, and searchable pdf reports and correspondence, to the SWRCB's Geotracker database. The electronic copy is intended to eventually replace the need for a paper copy and is expected to be relied upon for all public information requests, regulatory review, and compliance/enforcement activities. Once dischargers demonstrate mastery of electronic submittal of reports to Geotracker, dischargers may request that the Regional Board waive the requirement of submitting hard copies of reports for the Site.

For submitting data and reports, dischargers or their representatives will need to set up a Geotracker user account. Instruction to set up a Geotracker account is found at our Electronic Submittal of Information (ESI) website:

http://www.waterboards.ca.gov/ust/electronic_submittal/index.shtml

Our ESI website also contains information that will aid your transition to electronic data and reporting submittal, such as guidelines on claiming and getting access to a facility, uploading of analytical data in specified Electronic Data Format (EDF), PDF of reports, and well survey templates. For general assistance in searching or utilizing Geotracker, please contact Geotracker Help Desk at (866) 480-1028 or Geotracker@waterboards.ca.gov. For questions about using Geotracker, please contact Mr. Hamid Foolad at (916) 341-5791 or hfoolad@waterboards.ca.gov. For regulatory requirement questions, please contact the WDR project manager assigned to each WDR. A site-specific amendment to each WDR Monitoring and Reporting Program will be sent to each discharger for ESI requirements and will include project manager contact information.

California Environmental Protection Agency

ESI Implementation Schedule

The Regional Board will implement electronic submittal of information (ESI) in phases:

Phase 1: Effective July 1, 2011, all groundwater cleanup WDR dischargers are required to comply with ESI. The facilities that were issued WDRs for Underground Storage Tanks Program have been required to submit electronic formatted data since 2002. Facilities within the Site Cleanup Program and Land Disposal Program were added in 2005.

Phase 2: Effective October 1, 2011, industrial, commercial and municipal WDR dischargers, excluding 26 National Pollutant Discharge Elimination System/Water Recycling Requirements (NPDES/WRR) major dischargers (See attached Table 1) are required to comply with ESI.

Major NPDES/WRR Dischargers

Twenty-six major NPDES/WRR dischargers previously began an effort to submit electronic data in to the State Water Board's California Integrated Water Quality System (CIWQS) database. An evaluation of the facility data in CIWQS will be conducted, and at a future date NPDES/WRR dischargers may also be required to submit their groundwater data into CIWQS or Geotracker.

Training and Outreach

Two identical training and outreach sessions will be held for dischargers, consultants and the public to introduce them to the ESI requirements and its application:

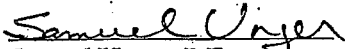
Date: Wednesday, July 13, 2011 and Monday, September 26, 2011
Time: 1pm - 3pm
Location: Regional Water Quality Control Board – Los Angeles Region
320 W. 4th Street, 1st Floor Carmel Room
Los Angeles, CA 90013

Please RSVP for the training if you plan to attend by e-mailing Ms. Rosie Villar at rvillar@waterboards.ca.gov.

In addition, once available we will post a recording of the training on our internet site at http://www.waterboards.ca.gov/losangeles/water_issues/programs/ground_water_permitting.shtml

If you have any questions or need additional information, please contact Groundwater Permitting Unit Chief, Dr. Eric Wu, at (213)576-6683 or ewu@waterboards.ca.gov or Groundwater Permitting and Land Disposal Section Chief, Dr. Rebecca Chou, at 213-576-6618 or rhou@waterboards.ca.gov.

Sincerely,



Samuel Unger, P.E.
Executive Officer

Enclosure: Table 1 – 26 Major NPDES/WRR Dischargers List

Table 1 - 26 Major NPDES/WRR Dischargers List

Primary_Discharger	Facility_Name	Order_Number	CI_Number
Burbank City Department of Public Work (DPW)	Burbank Waste Water Reclamation Plant (WWRP)	91-101	6753
Camarillo Sanitary District	Camarillo Water Reclamation Plant (WRP)	87-132	6187
Camrosa Water District	Camrosa WWRP	95-059	0821
City of San Buenaventura	Ventura WWRP	87-045	6190
County of Ventura Special Districts	Moorpark Waste Water Treatment Plant (WWTP)	R4-2002-0028	8371
District of Southern California	Alamitos Barrier Recycled Water Project	R4-2005-0061	8956
Las Virgenes Municipal Water District (MWD)	Rancho Las Virgenes Farm	79-107	6438
Las Virgenes MWD	Tapia WRF	97-072	6189
Los Angeles City Bureau of Sanitation, Water Reclamation Division	Tillman WWRP	R4-2007-0008	6185
Los Angeles City DWP	Harbor Water Recycling Project	R4-2003-0025	8537
Los Angeles City DWP	HWRP Barrier Project	R4-2003-0134	8654
Los Angeles County DPW	Malibu Mesa WWRP	00-167	5689
Los Angeles County Sanitation Districts (LACSD)	Long Beach WWRP	97-072	6184
LACSD	Los Coyotes WWRP	97-072	6182
LACSD	Montebello Forebay Groundwater Recharge	91-100	5728
LACSD	Pomona WRP	97-072	6241
LACSD	San Jose Creek WRP	97-072	6372
LACSD	Saugus WRP	97-072	6188
LACSD	Valencia Water Reclamation Plant	97-072	6186
LACSD	Whittier Narrows Water Reclamation Plant, El Monte	97-072	6844
Oxnard City	Oxnard WWTP	R4-2008-0083	9456
Simi Valley City	Simi Valley WWRP	87-046	6408
US Navy Southwest Division	San Clemente Island WWTP	R4-2004-0057	8734
Ventura City	Ventura WRF	87-045	6190
West Basin MWD	Edward C. Little Water Recycling Facility	01-043	7453
West Basin MWD	Edward C. Little Water Recycling Facility	R4-2006-0069	7485