

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

**REVISED MONITORING AND REPORTING PROGRAM NO. CI 8520
FOR
BOEING REALTY CORPORATION - FORMER C-1 FACILITY
LONG BEACH, CALIFORNIA
(CLEANUP AND ABATEMENT ORDER 95-048, FILE NO. 95-034)
ORDER NO. R4-2002-0030 (SERIES NO. 8)**

The Discharger shall implement this monitoring and reporting program on the effective date of this Order.

I. GROUNDWATER MONITORING PROGRAM

A. BUILDING 1D

In the Building 1D area, the following three categories of wells will be included in the revised monitoring and reporting program.

Group A wells: Injection wells IW0254 and IW0257 (Figure 1).

Group B wells: Monitor wells MW2036, MW2039 and MW2040 (Figure 1).

Group C wells: Monitor wells MW2030, MW2035, MW2037, and MW2038 (Figure 1).

The required constituent to be analyzed and the monitoring schedule for each well are shown in the table below.

<u>CONSTITUENT</u>	<u>SAMPLE LOCATIONS</u>	<u>FREQUENCY</u>
Field Parameters ^(a)	Group A, B and C Wells	Baseline ¹
	Group A and B Wells	Post Injection ²
	Group A Wells	Annually
	Group B Wells	Semiannually
Volatile Organic Compounds (EPA Method 8260B)	Group A, B and C Wells	Baseline ¹
	Group A and B Wells	Post Injection ²
	Group A and C Wells	Annually
	Group B Wells	Semiannually
Dissolved Hydrocarbon Gasses ^(b)	Group A, B and C Wells	Baseline ¹
	Group A and B Wells	Post Injection ²
	Group A Wells	Annually
	Group B Wells	Semiannually
	Group C Wells	Biannually
Anions ^(c)	Group A, B and C Wells	Baseline ¹
	Group A and B Wells	Post Injection ²
	Group B Wells	Annually
	Group A and C Wells	Biannually
Volatile Fatty Acids ^(d)	Group B and C Wells	Baseline ¹
	Group A and B Wells	Post Injection ²
	Group A and B Wells	Annually
	Group C Wells	Biannually
Total Organic Carbon (EPA Method 9060 Modified)	Group A, B and C Wells	Baseline ¹
	Group A and B Wells	Post Injection ²
	Group A Wells	Annually
	Group B Wells	Semiannually
	Group C Wells	Biannually
Sulfide	Group B and C Wells	Baseline ¹
	Group B Wells	Post Injection ²
	Group B Wells	Annually
	Group C Wells	Biannually
Dissolved Metals ^(e)	Group A, B and C Wells	Baseline ¹
	Group B Wells	Post Injection ²
	Group B Wells	Annually
	Group A and C Wells	Biannually
DHC Assay ^(f)	Group A, B and C Wells	Baseline ¹
	Group B Wells	Post Injection ²
	Group B Wells	Annually
	Group A and C Wells	Biannually

FOOTNOTES

- (a) Field Parameters include: pH, dissolved oxygen, specific conductance, redox potential, depth to water and temperature.
 - (b) Dissolved Hydrocarbon Gasses include: ethene, ethane and methane.
 - (c) Anions include: chloride, sulfate and nitrate.
 - (d) Volatile Fatty Acids include: acetate, butyrate, lactate and propionate.
 - (e) Dissolved Metals include: iron, manganese and arsenic.
 - (f) DHC Assay to determine presence of Dehalococcoides Ethenogenes (DHE).
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- 1) Baseline sampling for Group B wells will only include MW2036 as MW2039 and MW2040 will not be installed until after injection has been completed. Baseline sampling will occur after wells installed prior to amendment injection.
 - 2) Post injection sampling will also include MW2030, a Group C well that will not be installed at the time of baseline sampling. The post injection sampling will occur not less than 2 or more than 4 weeks post amendment injection.

B. BUILDING 3

All monitoring and reporting requirements related to the injection activities for the Building 3 area have been completed. No additional monitoring and reporting related to this permit is required.

C. BUILDING 14

In the Building 14 area, the following three categories of wells will be included in the modified monitoring and reporting program.

Group A wells: Injection wells IW0219 and IW0223.

Group B wells: Performance monitoring well in treatment area MW1052.

Group C wells: Other Monitor wells; two existing wells, MW2001 and MW1059, and two wells installed pre-injection, MW2093 and MW2094 (C¹ Wells), and one well installed to the Middle Bellflower Aquitard (MBA) post injection, MW2092 (C²Well).

Group D wells: Monitor wells (installed post injection) MW2095 and MW2091.

All Group A, B, C and D wells will be sampled for selected analytes during pre-injection (baseline) and post-injection monitoring. Groundwater well locations are shown in attached Figure 2.

The required constituents to be analyzed and the monitoring schedule for each well group for Building 14 are shown in the table below.

CONSTITUENT	SAMPLE LOCATIONS	FREQUENCY
Field Parameters ^(a)	Group A, B and C ¹ Wells	Baseline
	Group A, B, C ² and D Wells	Post Injection
	Group A Wells	Annually
	Group B and D Wells	Semiannually
	Group C Wells	Annually
Volatile Organic Compounds	Group A, B and C ¹ Wells	Baseline
	Group A, B, C ² and D Wells	Post Injection
	Group A Wells	Annually
	Group B and D Wells	Semiannually
	Group C Wells	Annually
Dissolved Hydrocarbon Gasses ^(b)	Group A, B and C ¹ Wells	Baseline
	Group C ² and D Wells	Post Injection
	Group A Wells	Annually
	Group B and D Wells	Semiannually
	Group C Wells	Biannually
Anions ^(c)	Group A, B and C ¹ Wells	Baseline
	Group C ² and D Wells	Post Injection
	Group B and D Wells	Annually
	Group C Wells	Biannually
Volatile Fatty Acids ^(d)	Group B and C ¹ Wells	Baseline
	Group A, B, C ² and D Wells	Post Injection
	Group A, B and D Wells	Annually
	Group C Wells	Biannually
Total Organic Carbon	Group A, B and C ¹ Wells	Baseline
	Group A, B, C ² and D Wells	Post Injection
	Group B and D Wells	Semiannually
	Group C Wells	Biannually
Sulfide	Group B and C ¹ Wells	Baseline
	Group C ² and D Wells	Post Injection
	Group B and D Wells	Annually
	Group C Wells	Biannually
Dissolved Metals ^(e)	Group A, B and C ¹ Wells	Baseline
	Group C ² and D Wells	Post Injection
	Group B and D Wells	Annually
	Group A and C Wells	Biannually
DHC Assay ^(f)	Group A, B and C ¹ Wells	Baseline
	Group C ² and D Wells	Post Injection
	Group B and D Wells	Annually
	Group A and C Wells	Biannually

FOOTNOTES

- (a) Field Parameters include: pH, dissolved oxygen, specific conductance, redox potential, depth to water and temperature.
- (b) Dissolved Hydrocarbon Gasses include: ethene, ethane and methane.
- (c) Anions include: chloride, sulfate and nitrate.
- (d) Volatile Fatty Acids include: acetate, butyrate, lactate and propionate.
- (e) Dissolved Metals include: iron, manganese and arsenic.
- (f) DHC Assay to determine presence of Dehalococcoides Ethenogenes (DHE).

D. BUILDING 36

In the Building 36 area, the following two groups of groundwater wells will be included in the revised monitoring and reporting program. One more round of sampling is required under this monitoring and reporting program.

Group A: MW2083, MW2084, MW2085, MW2086, MW2087, and MW1069 (six wells total).

Group B: MW2088, MW2089, and MW1070 (three wells total).

Groundwater well locations are shown in attached Figure 3.

The required constituents to be analyzed and the monitoring schedule for each well group for Building 36 are shown in the table below.

CONSTITUENT	SAMPLE LOCATIONS	FREQUENCY
Field Parameters ^(a)	Group A and B Wells	Semiannually
Volatile Organic Compounds (EPA Method 8260B)	Group A and B Wells	Semiannually
Dissolved Hydrocarbon Gasses ^(b)	Group A and B Wells	Semiannually
Anions ^(c)	Group A and B Wells	Semiannually
Volatile Fatty Acids ^(d)	Group A and B Wells	Semiannually
Total Organic Carbon (EPA Method 9060 Modified)	Group A and B Wells	Semiannually
Sulfide	Group A and B Wells	Semiannually
Dissolved Metals ^(e)	Group A and B Wells	Semiannually
DHC Assay ^(f)	Group A and B Wells	Semiannually

FOOTNOTES

- (a) Field Parameters include: pH, dissolved oxygen, specific conductance, redox potential, depth to water and temperature.
- (b) Dissolved Hydrocarbon Gasses include: ethene, ethane and methane.
- (c) Anions include: chloride, sulfate and nitrate.
- (d) Volatile Fatty Acids include: acetate, butyrate, lactate and propionate.
- (e) Dissolved Metals include: iron, manganese and arsenic.
- (f) DHC Assay to determine presence of Dehalococcoides Ethenogenes (DHE).

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

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

AMENDMENT INJECTION MONITORING REQUIREMENTS

The reports shall contain the following information regarding injection activities:

1. Depth of injection points;
2. Quantity, type, and concentration of amendment injected and dates injected;
3. Total amount of amendment injected;
4. Verification of amendment injected: and
5. Analytical data wells from each injection test area.

II. REPORTING REQUIREMENTS

A. BUILDING 1D

Monitoring reports shall be received by the dates in the following schedule. This monitoring and reporting program supersedes all previous requirements. The first monitoring report under this Program is due by January 31, 2006.

Reporting Period	Sampling Month	Report Due Date
Baseline and Post Injection Monitoring	Baseline: After wells installed prior to amendment injection Post injection: not less than 2 or more than 4 weeks post amendment injection	January 31, 2006
Installation Report	Not Applicable	February 31, 2006
April – September 2006	April	October 31, 2006
October 2006 – March 2007	October	April 30, 2007
April – September 2007	April	October 31, 2007
October 2007 – March 2008	October	April 30, 2008
Final Status Report	Not applicable	June 30, 2008

B. BUILDING 3

All monitoring and reporting requirements related to the injection activities for the Building 3 area have been completed. No additional monitoring and reporting related to this permit is required to be completed.

C. BUILDING 14

Monitoring reports shall be received by the dates in the following schedule. This monitoring and reporting program supersedes all previous requirements. The first monitoring report under this Program is due by July 29, 2005.

Reporting Period	Sampling Month	Report Due Date
January – June 2005	April (Pilot Test)	July 29, 2005
Final Pilot Test Report	Not Applicable	September 30, 2005
Baseline and Post Injection Monitoring	Baseline: After wells installed prior to amendment injection Post injection: not less than 2 or more than 4 weeks post amendment injection	October 31, 2005
Installation Report	Not Applicable	January 31, 2006
October 2005 – March 2006	October	April 28, 2006
April – September 2006	April	October 31, 2006
October 2006 – March 2007	October	April 30, 2007
April – September 2007	April	October 31, 2007
October 2007 – March 2008	October	April 30, 2008
Final Status Report	Not Applicable	June 30, 2008

D. BUILDING 36

Monitoring reports shall be received by the dates in the following schedule. This monitoring and reporting program supersedes all previous requirements. The Discharger is required to submit the following reports by its due date:

Reporting Period	Sampling Month	Report Due Date
April – September 2005	July	October 31, 2005
Final Report	Not Applicable	January 31, 2006

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.

III. CERTIFICATION STATEMENT

Each report shall contain the following completed 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)"

IV. MONITORING FREQUENCIES

Specifications in this monitoring program are subject to periodic revisions. Monitoring requirements may be modified or revised by the Executive Officer based on review of monitoring data submitted pursuant to this Order. Monitoring frequencies may be adjusted to a less frequent basis or parameters and locations dropped by the Executive Officer if the Discharger makes a request and the request is backed by statistical trends of monitoring data submitted.

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: _____
Jonathan Bishop
Executive Officer

Date: June 22, 2005