

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

**MONITORING AND REPORTING PROGRAM NO. CI-9086
FOR
ARCO BURNETT ST. VALVE BOX FACILITY
TERMINAL ISLAND FREEWAY S. OF WILLOW ST., LONG BEACH**

**ENROLLMENT UNDER REGIONAL BOARD
ORDER NO. R4-2005-0030 (Series No. 058)**

I. REPORTING REQUIREMENTS

- A. Atlantic Richfield Company (hereinafter Discharger) shall implement this monitoring program at Arco Burnett Street Valve Box Facility, located at State Highway 103, ¼ miles south of Willow Street, Long Beach, on the effective date of this enrollment (October 13, 2006) under Regional Board Order No. R4-2005-0030. The first monitoring report under this Program is due by January 15, 2007.

Monitoring reports shall be received by the dates in the following schedule:

<u>Reporting 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 January 30 of each year, beginning January 30, 2008, 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 be needed to bring the discharge into full compliance with the waste discharge requirements (WDRs).
- D. 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 discharge requirements, as well as all excursions of effluent limitations.
- E. The Discharger shall comply with requirements contained in Section G of Regional Board Order No. R4-2005-0030 "*Monitoring and Reporting Requirements*" in

addition to the abovementioned requirements

II. INJECTION MONITORING REQUIREMENTS FOR THE PILOT PROJECT

HYDROGEN PEROXIDE SOLUTION INJECTION

The quarterly reports shall contain the following information regarding the injection activities. If there is no injection, during any reporting period, the report shall so state:

1. Location Map showing injection point for the hydrogen peroxide solution
2. Written summary defining:
 - Depth of injection points;
 - Quantity of hydrogen peroxide solution injected per injection point; and
 - Total amount of hydrogen peroxide injected at site.
3. Monthly visual inspection at each injection well shall be conducted to evaluate the well casing integrity for a period of three months after each injection. The quarterly report shall include a summary of the visual inspection.

OZONE INJECTION MONITORING REQUIREMENTS

The quarterly reports shall contain the following information regarding injection activities:

1. Location map showing injection points used for the ozone.
2. Written and tabular summary defining the quantity of ozone injected per month to the groundwater and a summary describing the days during which the injection system has been operating:

CONSTITUENT	UNITS	TYPE OF SAMPLE	MINIMUM FREQUENCY OF ANALYSIS
Total ozone delivered per injection point	grams/day	--	<ul style="list-style-type: none"> • Bi-weekly for the first month following injection • Monthly for the next 3 months • Quarterly thereafter

III. GROUNDWATER MONITORING PROGRAM FOR THE PILOT PROJECT

A groundwater-monitoring program shall be designed to detect and evaluate impacts associated with the injection activities (hydrogen peroxide and ozone). The following shall constitute the monitoring program. The monitoring wells shall include the following (see Figure 3 – Well Location Map by Delta Environmental Consultants, Inc.):

Up-gradient: MW-9 and MW-16
 Side-gradient: MW-4, MW-18, and MW-21
 Down-gradient: MW-13 and MW-22
 Injection Area: MW-5, MW-6, MW-8, MW-15, and MW-20

These sampling locations shall not be changed without the approval by the Regional Board Executive Officer (Executive Officer). The Discharger shall conduct baseline sampling from the above monitoring wells prior to the injection for the constituents included in the following table. Groundwater from the wells noted above shall be monitored for the duration of the remediation in accordance with the following discharge monitoring program:

CONSTITUENT	UNITS ¹	TYPE OF SAMPLE	MINIMUM FREQUENCY OF ANALYSIS
Total petroleum hydrocarbons as gasoline (TPHg) and as diesel (TPHd)	µg/L	Grab	<ul style="list-style-type: none"> • 1 week before injection • Bi-weekly for the first month following injection • Monthly for the next 3 months • Quarterly thereafter
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)	µg/L	Grab	<ul style="list-style-type: none"> • 1 week before injection • Bi-weekly for the first month following injection • Monthly for the next 3 months • Quarterly thereafter
Methyl tertiary butyl ether (MTBE), Tertiary butyl alcohol (TBA), Tertiary amyl methyl ether (TAME), Di-isopropyl ether (DIPE), Ethyl tertiary butyl ether (ETBE)	µg/L	Grab	<ul style="list-style-type: none"> • 1 week before injection • Bi-weekly for the first month following injection • Monthly for the next 3 months • Quarterly thereafter
Ethanol	µg/L	Grab	<ul style="list-style-type: none"> • 1 week before injection • Bi-weekly for the first month following injection

			<ul style="list-style-type: none"> • Monthly for the next 3 months • Quarterly thereafter
Total dissolved solids Chloride Sulfate	mg/L	Grab	<ul style="list-style-type: none"> • Semi-annually
Oxidation-reduction potential	milivolts		<ul style="list-style-type: none"> • 1 week before injection • Bi-weekly for the first month following injection • Monthly for the next 3 months • Quarterly thereafter
Dissolved oxygen	µg/L	Grab	<ul style="list-style-type: none"> • 1 week before injection • Bi-weekly for the first month following injection • Monthly for the next 3 months • Quarterly thereafter
Dissolved ferrous iron	µg/L	Grab	<ul style="list-style-type: none"> • 1 week before injection • Bi-weekly for the first month following injection • Monthly for the next 3 months • Quarterly thereafter
Total chromium and chromium six ² Bromide	µg/L	Grab	<ul style="list-style-type: none"> • 1 week before injection • Bi-weekly for the first month following injection • Monthly for the next 3 months • Quarterly thereafter
PH	pH units	Grab	<ul style="list-style-type: none"> • 1 week before injection • Bi-weekly for the first month following injection • Monthly for the next 3 months • Quarterly thereafter
Temperature	⁰ F/ ⁰ C	Grab	<ul style="list-style-type: none"> • 1 week before injection • Bi-weekly for the first month following injection • Monthly for the next 3 months • Quarterly thereafter
Groundwater elevation	Feet, mean sea level and below ground surface	In situ	<ul style="list-style-type: none"> • 1 week before injection • Bi-weekly for the first month following injection

			<ul style="list-style-type: none">• Monthly for the next 3 months• Quarterly thereafter
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¹ µg/l - micrograms per liter

² The Discharger is required to monitor for total chromium and chromium six if total chromium is detected in the baseline samples. The monitoring is required only for the well(s) that the total chromium was detected.

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

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.

V. 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)"

Arco Burnett St. Valve Box Facility
(State Highway 103, S. of Willow St.)
Monitoring and Reporting Program No. CI-9086

SLIC No. 696, Site ID#1848900
Order No. R4-2005-0030

All records and reports submitted in compliance with this Order are public documents and will be made available for inspection during business hours at the office of the California Regional Water Quality Control Board, Los Angeles Region, upon request by interested parties. Only proprietary information, and only at the request of the Discharger, will be treated as confidential.

Ordered by: _____
Jonathan S. Bishop
Executive Officer

Date: October 13, 2006