California Regional Water Quality Control Board

Los Angeles Region

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December 16, 2003

Ms. Nancy Girten
Brenntag West, Inc.
3270 East Washington Blvd.
Vernon, CA 90023

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
CLAIM NO. 7002 2410 0005 0647 9953

Dear Ms. Girten:

GENERAL WASTE DISCHARGE REQUIREMENTS FOR MOLASSES INJECTION PILOT TEST AT PETROLEUM HYDROCARBON FUEL AND/OR VOLATILE ORGANIC COMPOUND IMPACTED SITES – BRENTAG WEST, INC., 3270 EAST WASHINGTON BOULEVARD, VERNON, CALIFORNIA (FILE NO. 03-174, CI NO. 8676)

We have completed our review of your application for coverage under General Waste Discharge Requirements for the injection and passive infiltration of carbohydrate solution (molasses) at the referenced above site in Vernon, California. The application is for a pilot test to determine the effectiveness of bio-remediation of the volatile organic compounds contaminated groundwater.

Brenntag West, Inc. (hereinafter Discharger) owns and operates a former facility commonly known as the Soco-Lynch facility (Site) located at 3270 East Washington Boulevard in Vernon, California (Figure 1) at Latitude: 118° 12' 28" N and Longitude: 34° 00' 49" W. The primary business activities at the Site involved bulk industrial chemical storage, blending, and distribution. Site investigations indicate that soil and groundwater have been contaminated with volatile organic compounds (VOCs). The VOCs identified in the groundwater include tetrachloroethene (PCE), 1,1,1-trichloroethane (TCA), cis-1,2-dicloroethene (DCE), 1,1-dichloroethane, 1,1-DCE, methylene chloride, methyl ethyl ketone (MEK) (2-butanone), benzene, toluene, and acetone.

On August 8, 2003, Regional Board staff of the Well Investigation Program approved the Remediation Action Plan (RAP) for the pilot project. In the proposed RAP, the Discharger proposes to inject/infiltrate molasses solution into the unsaturated zone and perched groundwater zone through ten wells. The injection to the unsaturated zone will be through five-soil injection wells (IW1 - IW5). The passive infiltration to the perched groundwater zone will be through five-groundwater infiltration wells (PIW1 – PIW5). On October 8, 2003, the Discharge submitted a report of waste discharge (RoWD) for infiltration/injection of a carbohydrate solution at the former Site.

Perched groundwater was generally encountered at approximately 45 feet below ground surface (bgs) in all soil borings and all monitoring wells installed at the site. Groundwater flow direction is to the east-southeast at a gradient of approximately 0.014 feet of vertical displacement per foot of horizontal distance (Figure 1)

The five soil infiltration wells (IW-1 - IW-5) will be installed at the southwest portion of the site, within the former liquid blending area (Figure 14). The proposed molasses solution will be infiltrated to a depth of 30 feet bgs through the soil infiltration wells. The infiltration well area was chosen for the pilot project because of elevated total VOCs detected in soil from the surface to a depth of approximately 40 feet.

The five perched groundwater infiltration wells (PIW-1 through PIW5) are to be installed along the southwestern property boundary and west (and upgradient) of the former underground storage tanks (Figure 14). These groundwater infiltration wells will deliver the carbohydrate solution into the perched groundwater zone in order to provide nutrients for remediation within the saturated zone. The groundwater infiltration wells will be screened from approximately 35 to 50 feet bgs.

Potassium bromide (tracer) will be added to the molasses solution that will be infiltrated from the proposed perched groundwater infiltration wells (PIW1 – PIW-5) during each of the ten pilot test infiltration events. In addition, one infiltration event using a pure solution of potassium bromide will be conducted at two other locations within the upper soil zone (no more than 10 feet in depth) of the pilot project area. The potassium bromide solution (100 mg/L) will be used to evaluate the diffusion of the molasses solution during the pilot test.

Any potential adverse water quality impacts that may result shall be localized, of short-term duration, and shall not impact any existing or prospective uses of groundwater. Groundwater quality shall be monitored to verify no long-term adverse impact to water quality. There may be small increases associated with soluble gases such as methane, ethane, ethene, and carbon dioxide. The quantities of Molasses infiltrated shall be documented per the Monitoring and Reporting Program No. CI-8676.

Regional Board staff have determined that the proposed discharge meets the conditions specified in Order No. R4-2002-0030, "*General Waste Discharge Requirements for Groundwater Remediation at Petroleum Hydrocarbon Fuel and/or Volatile Organic Compound Impacted Sites*," adopted by this Regional Board on January 24, 2002.

Enclosed are your Waste Discharge Requirements, consisting of Regional Board Order No. R4-2002-0030 (Series No. 041) and Monitoring and Reporting Program No. CI-8676 and Standard Provisions. Please note that the discharge limits in Attachment A (Los Angeles Coastal Plain - West Coast Basin) of Order No. R4-2002-0030 are applicable to your discharge.

The Monitoring and Reporting Program requires you to implement the monitoring program on the effective date of this enrollment (December 16, 2003) under Regional Board Order No. R4-2002-0030. 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-8676, which will assure that the reports

are directed to the appropriate file and staff. Do not combine other reports with your monitoring reports. Submit each type of report as a separate document.

We are sending a copy of Order No. R4-2002-0030 only to the applicant. A copy of the Order will be furnished to anyone who requests it.

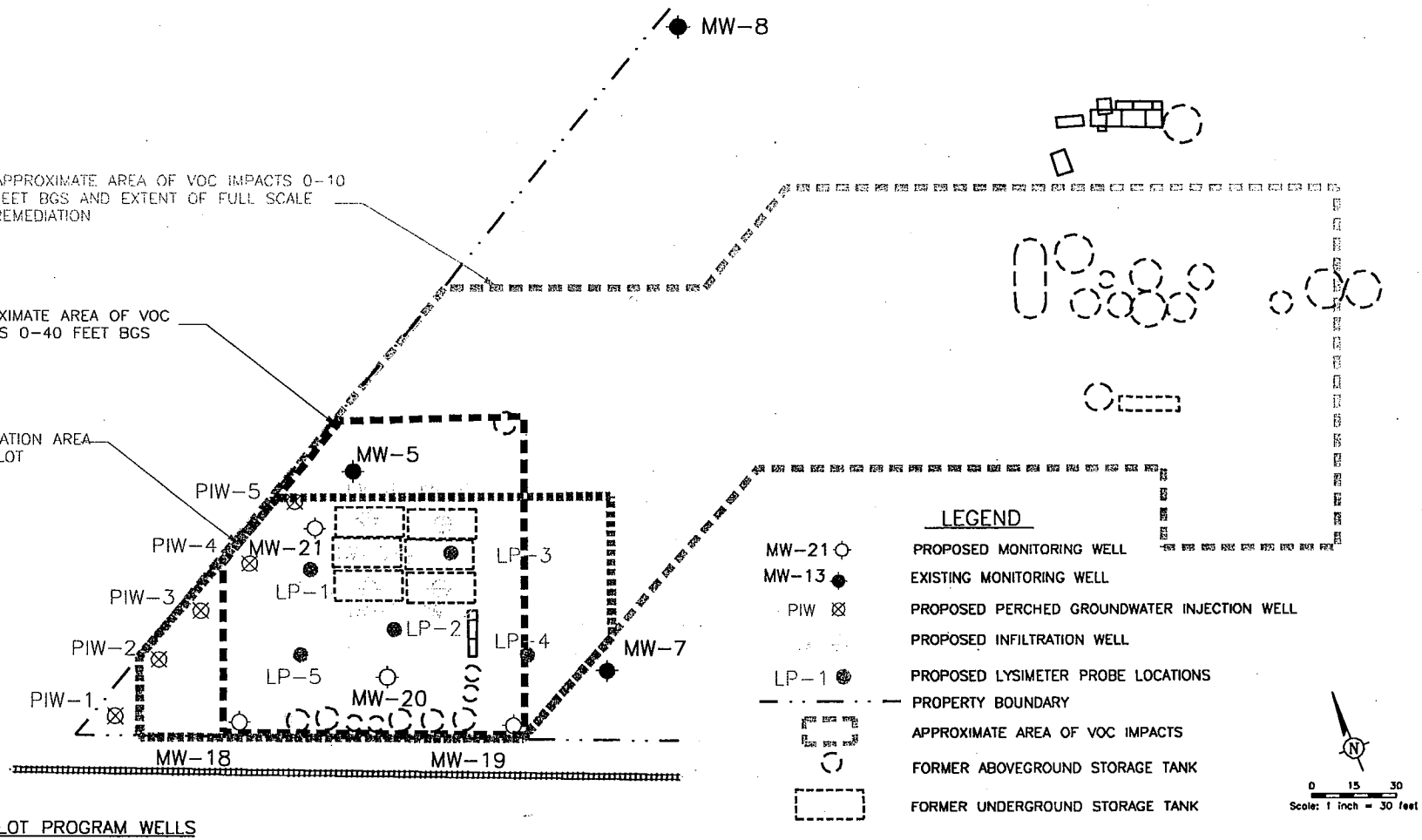
If you have any questions, please contact Mr. Orlando H. Gonzalez at (213) 620-2267.

Sincerely,

Dennis A. Dickerson
Executive Officer

Enclosures:
1. Board Order No. R4-2002-0030
2. Monitoring and Reporting Program No. CI-8676

cc: Mr. Robert Sams, Office of Chief Counsel, State Water Resources Control Board
Mr. Michael Lauffer, Office of Chief Counsel, State Water Resources Control Board
Mr. Robert Ruscitto, Project Geologist, ARCADIS
Mr. Greg Fiol, Project Manager, ARCADIS
Mr. Barry Molnaa, Principal Scientis, ARCADIS
Mr. Robert Ehe, Los Angeles Regional Water Quality Control Board – Well Investigation Program



PROPOSED PILOT PROGRAM WELLS

PIW-1 TO PIW-5 = PERCHED GROUNDWATER INFILTRATION WELLS

MW-16 TO MW-19 = MONITORING WELLS

IW-1 TO IW-5 = SOIL INFILTRATION WELLS (UST AREA) (OPTIONAL)

LP-1 TO LP-5 = LYSIMETER PROBE LOCATIONS

ARCADIS

PROPOSED PILOT PROGRAM LAYOUT

BRENNTAG WEST INC. (FORMER SOCO-LYNCH CORPORATION)
VERNON, CALIFORNIA

FIGURE
14

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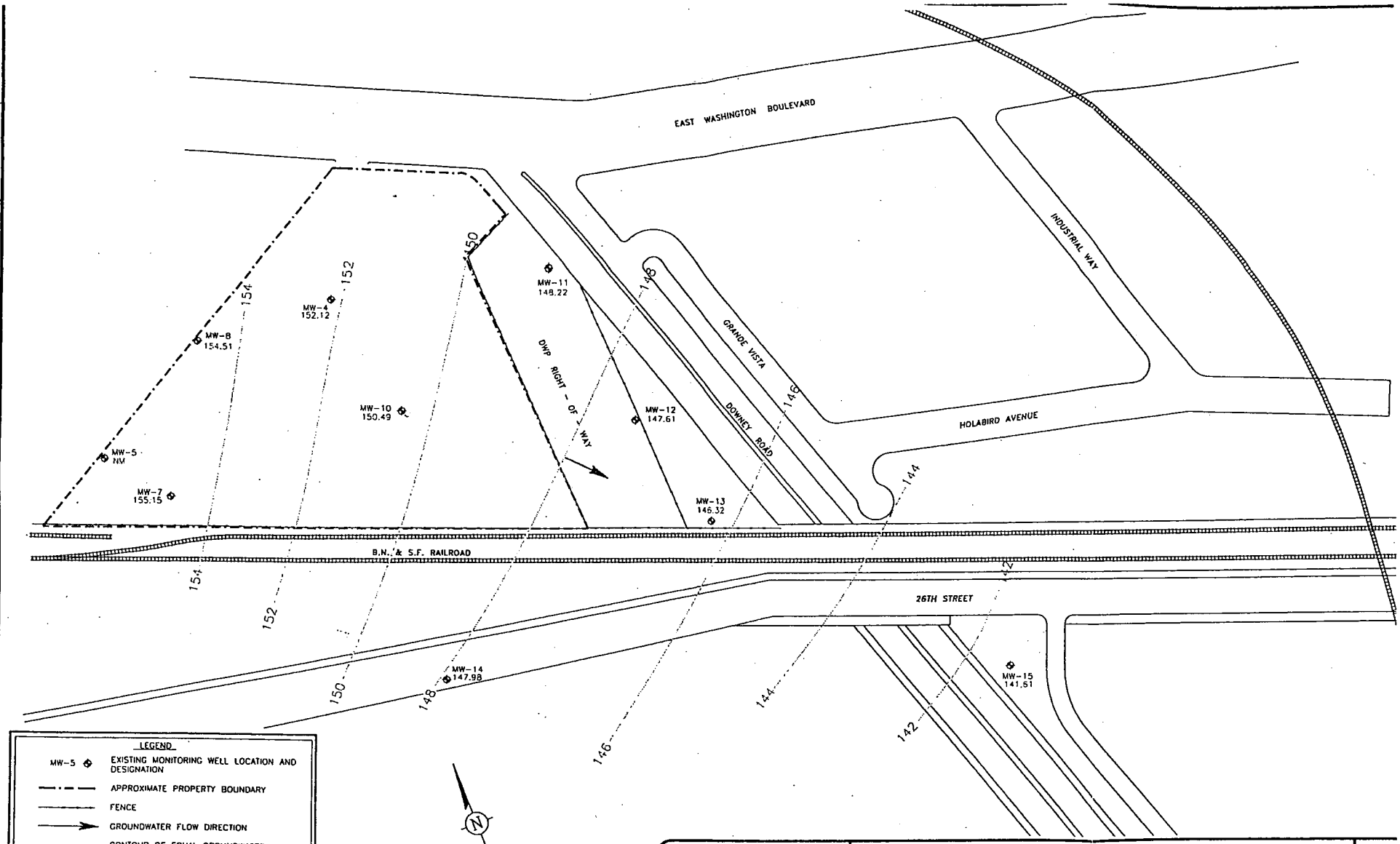

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STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM NO. CI-8676
FOR
BRENNTAG WEST, INC.
(SOCO-LYNCH FACILITY)

ENROLLMENT UNDER REGIONAL BOARD
ORDER NO. R4-2002-0030 (Series No. 041)
FILE NO. 03-174

I. REPORTING REQUIREMENTS

A. Brenntag West, Inc. (hereinafter Discharger) shall implement this monitoring program on the effective date of this enrollment (December 16, 2003) under Regional Board Order No. R4-2002-0030. The first monitoring report under this Program is due by January 15, 2004.

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

Reporting Period	Report Due
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 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 discuss 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.

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 waste discharge requirements. 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 Order No. R4-2002-0030 "*Monitoring and Reporting Requirements*" in addition to the aforementioned requirements.

II. MOLASSES INJECTION MONITORING REQUIREMENTS

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

1. Location Map showing the injection points for the molasses, and

2. Written summary defining:

   - Depth of injection points;
   - Quantity of molasses injected per injection point and per vertical spacing at each point; and
   - Total amount of molasses injected.

III. GROUNDWATER MONITORING PROGRAM

A groundwater-monitoring program shall be designed to detect and evaluate impacts associated with the molasses injection activities. The following shall constitute the monitoring program for Monitoring Well Nos. MW-5 (upgradient), MW-7 and MW-19 (downgradient), and MW-20 and 21 (source). These sampling stations shall not be changed and any proposed change of monitoring locations shall be identified and approved by the Regional Board Executive Officer (Executive Officer) prior to their use. The Discharger shall conduct baseline sampling prior to molasses injection and regular sampling with the required frequencies of the monitoring wells mentioned above for the following groundwater parameters:

CONSTITUENT	UNITS[1]	TYPE OF SAMPLE	MINIMUM FREQUENCY OF ANALYSIS
pH	pH units	grab	Weekly[2]/Monthly[3]/Quarterly[4]
Temperature	^{0}F	grab	Weekly[2]/Monthly[3]/Quarterly[4]
Oxidation-reduction potential	millivolts	grab	Weekly[2]/Monthly[3]/Quarterly[4]
Specific conductivity	µmhos/cm	grab	Weekly[2]/Monthly[3]/Quarterly[4]
Ferrous iron	µg/L	grab	Weekly[2]/Monthly[3]/Quarterly[4]
Dissolved Oxygen	µg/L	grab	Weekly[2]/Monthly[3]/Quarterly[4]

[1] mg/L: milligrams per liter; µg/L: micrograms per liter; µmhos/cm: microohms per centimeter; °F: degree Fahrenheit

[2] Weekly sampling events are required for the first month from the injection date. The constituents can be monitored using a field test instrument.

[3] Monthly sampling events are required after the first month sampling events for a period of six months.

[4] Quarterly sampling events are required after the monthly sampling events have been completed.

Acetone	µg/L	grab	Monthly[3]/Quarterly[4]
Tetrachloroethene (PCE)	µg/L	grab	Monthly[3]/Quarterly[4]
Trichloroethene (TCE)	µg/L	grab	Monthly[3]/Quarterly[4]
Cis-1,2-dichloroethene (Cis-1,2-DCE)	µg/L	grab	Monthly[3]/Quarterly[4]
Trans-1,2-dichloroethene (Trans-1,2-DCE)	µg/L	grab	Monthly[3]/Quarterly[4]
1,1-dichloroethene (1,1-DCE)	µg/L	grab	Monthly[3]/Quarterly[4]
1,2-dichloroethane (1,2-DCA)	µg/L	grab	Monthly[3]/Quarterly[4]
1,1,1-trichloroethane (1,1,1-TCA)	µg/L	grab	Monthly[3]/Quarterly[4]
Carbon tetrachloride	µg/L	grab	Monthly[3]/Quarterly[4]
1,2,4-trimethylbenzene	µg/L	grab	Monthly[3]Quarterly[4]
1,1,1,2-trichloroethane	µg/L	grab	Monthly[3]/Quarterly[4]
Benzene	µg/L	grab	Monthly[3]/Quarterly[4]
Ethylbenzene	µg/L	grab	Monthly[3]/Quarterly[4]
Toluene	µg/L	grab	Monthly[3]/Quarterly[4]
Total xylene	µg/L	grab	Monthly[3]/Quarterly[4]
Ethene	µg/L	grab	Monthly[3]/Quarterly[4]
Methane	µg/L	grab	Monthly[3]/Quarterly[4]
Dissolved Organic carbon	µg/L	grab	Monthly[3]/Quarterly[4]
Sulfide	µg/l	grab	Monthly[3]/Quarterly[4]
Total dissolved solids	mg/L	grab	Monthly[3]/Quarterly[4]
Sulfate	mg/l	grab	Monthly[3]/Quarterly[4]
Chloride	mg/L	grab	Monthly[3]/Quarterly[4]
Boron	mg/L	grab	Monthly[3]/Quarterly[4]
Bromide	m/L	grab	Monthly[3]/Quarterly[4]
Nitrate	mg/L	grab	Monthly[3]/Quarterly[4]
Carbon dioxide	mg/L	grab	Monthly[3]/Quarterly[4]
Ferrous Iron	µg/L	grab	Monthly[3]/Quarterly[4]
Total iron	µg/L	grab	Monthly[3]/Quarterly[4]

1,4-Dioxane	µg/L	grab	Two-time[6]
1,2,3-trichloropropane	µg/L	grab	Two-time[6]
Priority pollutants[5]	µg/L	grab	Two-time[6]

[5] A complete list of priority pollutants (Attachment A) is attached, but the Discharger is required to test only for volatile organic compounds (VOCs) on the priority pollutant list.

[6] The first sampling event is required within the first year from the effective day of this permit and the second is required one year after the date of first sampling event.

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. 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)"

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: _____ Date: December 16, 2003

Dennis A. Dickerson
Executive Officer

ATTACHMENT A

PRIORITY POLLUTANTS

Metals

Antimony
Arsenic
Beryllium
Cadmium
Chromium
Copper
Lead
Mercury
Nickel
Selenium
Silver
Thallium
Zinc

Miscellaneous

Cyanide
Asbestos (only if specifically required)

Pesticides & PCBs

Aldrin
Chlordane
Dieldrin
4,4'-DDT
4,4'-DDE
4,4'-DDD
Alpha-endosulfan
Beta-endosulfan
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
Alpha-BHC
Beta-BHC
Gamma-BHC
Delta-BHC
Toxaphene
PCB 1016
PCB 1221
PCB 1232
PCB 1242
PCB 1248
PCB 1254
PCB 1260

Base/Neutral Extractibles

Acenaphthene
Benzidine
1,2,4-trichlorobenzene
Hexachlorobenzene
Hexachloroethane
Bis(2-chloroethyl) ether
2-chloronaphthalene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
3,3'-dichlorobenzidine
2,4-dinitrotoluene
2,6-dinitrotoluene
1,2-diphenylhydrazine
Fluoranthene
4-chlorophenyl phenyl ether
4-bromophenyl phenyl ether
Bis(2-chloroisopropyl) ether
Bis(2-chloroethoxy) methane
Hexachlorobutadiene
Hexachlorocyclopentadiene
Isophorone
Naphthalene
Nitrobenzene
N-nitrosodimethylamine
N-nitrosodi-n-propylamine
N-nitrosodiphenylamine
Bis (2-ethylhexyl) phthalate
Butyl benzyl phthalate
Di-n-butyl phthalate
Di-n-octyl phthalate
Diethyl phthalate
Dimethyl phthalate
Benzo(a) anthracene
Benzo(a) pyrene
Benzo(b) fluoranthene
Benzo(k) fluoranthene
Chrysene
Acenaphthylene
Anthracene
1,12-benzoperylene
Fluorene
Phenanthrene
1,2,5,6-dibenzanthracene
Indeno (1,2,3-cd) pyrene
Pyrene
TCDD

Acid Extractibles

2,4,6-trichlorophenol
P-chloro-m-cresol
2-chlorophenol
2,4-dichlorophenol
2,4-dimethylphenol
2-nitrophenol
4-nitrophenol
2,4-dinitrophenol
4,6-dinitro-o-cresol
Pentachlorophenol
Phenol

Volatile Organics

Acrolein
Acrylonitrile
Benzene
Carbon tetrachloride
Chlorobenzene
1,2-dichloroethane
1,1,1-trichloroethane
1,1-dichloroethane
1,1,2-trichloroethane
1,1,2,2-tetrachloroethane
Chloroethane
Chloroform
1,1-dichloroethylene
1,2-trans-dichloroethylene
1,2-dichloropropane
1,3-dichloropropylene
Ethylbenzene
Methylene chloride
Methyl chloride
Methyl bromide
Bromoform
Dichlorobromomethane
Chlorodibromomethane
Tetrachloroethylene
Toluene
Trichloroethylene
Vinyl chloride
2-chloroethyl vinyl ether
Xylene

vbc 6/6/00