

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

**MONITORING AND REPORTING PROGRAM NO. CI-8822
FOR
NORTHROP GRUMMAN SYSTEMS COPORATION
(FORMER NORTHROP GRUMMAN EAST COMPLEX FACILITY – BUILDING 3-10)**

**ENROLLMENT UNDER REGIONAL BOARD
ORDER NO. R4-2002-0030 (Series No. 055)
FILE NO. 04-176**

I. REPORTING REQUIREMENTS

- A. Northrop Grumman Systems Corporation (hereinafter Discharger) shall implement this monitoring program on the effective date of this enrollment (December 10, 2004) under Regional Board Order No. R4-2002-0030. The first monitoring report under this Program is due by April 15, 2005.

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 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 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 Order No. R4-2002-0030 “*Monitoring and Reporting Requirements*” in addition to the aforementioned requirements.

II. INJECTION MONITORING REQUIREMENTS

A. Hydrogen Peroxide with fenton's Reagent Injection

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

1. Location Map showing injection points for the Hydrogen Peroxide with fenton's reagent.
2. Written summary defining:
 - Depth of injection points;
 - Quantity of hydrogen peroxide with fenton's reagent injected per injection point; and
 - Total amount of hydrogen peroxide with fenton's reagent 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.

B. Sodium Lactate Solution and Phosphate Buffer Solution Injection

1. Location Map showing injection points for the sodium lactate and phosphate buffer solution.
2. Written summary defining:
 - Depth of injection points;
 - Quantity of sodium lactate solution and phosphate buffer solution injected per injection point; and
 - Total amount of sodium lactate and phosphate buffer solution injected at site;

III. GROUNDWATER MONITORING PROGRAM

A groundwater-monitoring program shall be designed to detect and evaluate impacts associated with the injection activities (hydrogen peroxide with fenton's reagent injection and sodium lactate solution and phosphate buffer solution injection). The following shall constitute the monitoring program for upgradient well P3MW6; downgradient wells PS-4 PS-5, P3MW2; source wells PS-1, PS-2, and PS-3 (Figure 3-2). 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 from wells P3MW2, P3MW6 and

PS-1 through PS-5 one or two weeks prior to hydrogen peroxide with fenton's reagent injection and regular sampling with the required frequencies from the upgradient, downgradient, and source monitoring wells for the following constituents:

<u>CONSTITUENT</u>	<u>UNITS</u> ¹	<u>TYPE OF SAMPLE</u>	<u>MINIMUM FREQUENCY OF ANALYSIS</u>
Acetone	µg/L	grab	Monthly ² /Quarterly ³
Tetrachloroethene (PCE)	µg/L	grab	Monthly ² /Quarterly ³
Trichloroethene (TCE)	µg/L	grab	Monthly ² /Quarterly ³
Cis-1,2-dichloroethene (Cis-1,2-DCE)	µg/L	grab	Monthly ² /Quarterly ³
Trans-1,2-dichloroethene (Trans-1,2-DCE)	µg/L	grab	Monthly ² /Quarterly ³
1,1-dichloroethene (1,1-DCE)	µg/L	grab	Monthly ² /Quarterly ³
1,2-dichloroethane (1,2-DCA)	µg/L	grab	Monthly ² /Quarterly ³
1,1,1-trichloroethane (1,1,1-TCA)	µg/L	grab	Monthly ² /Quarterly ³
Carbon tetrachloride	µg/L	grab	Monthly ² /Quarterly ³
1,2,4-trimethylbenzene	µg/L	grab	Monthly ² /Quarterly ³
1,1,1,2-trichloroethane	µg/L	grab	Monthly ² /Quarterly ³
Benzene	µg/L	grab	Monthly ² /Quarterly ³
Ethylbenzene	µg/L	grab	Monthly ² /Quarterly ³
Toluene	µg/L	grab	Monthly ² /Quarterly ³
Total xylene	µg/L	grab	Monthly ² /Quarterly ³
Methane	µg/L	grab	Monthly ² /Quarterly ³
Dissolved Organic carbon	µg/L	grab	Monthly ² /Quarterly ³
Temperature ⁴	°F	grab	Monthly ² /Quarterly ³
Color	Unit color	grab	Monthly ² /Quarterly ³
PH ⁴	pH units	grab	Monthly ² /Quarterly ³
Oxidation-reduction potential ⁴	millivolts	grab	Monthly ² /Quarterly ³
Specific conductivity ⁴	µmhos/cm	grab	Monthly ² /Quarterly ³

Ferrous iron	µg/L	grab	Monthly ² /Quarterly ³
Dissolved Oxygen ⁴	µg/L	grab	Monthly ² /Quarterly ³
Total dissolved solids	mg/L	grab	Quarterly ³
Sulfate	mg/l	grab	Quarterly ³
Chloride	mg/L	grab	Quarterly ³
Boron	mg/L	grab	Quarterly ³
Bromide	m/L	grab	Quarterly ³
Chromium hexavalent	m/L	grab	Quarterly ³
Nitrate	mg/L	grab	Quarterly ³
Total nitrogen	µg/L	grab	Quarterly ³
Carbon dioxide	mg/L	grab	Quarterly ³
Manganese	µg/L	grab	Quarterly ³
Total iron	µg/L	grab	Quarterly ³
Alkalinity	µg/L	grab	Quarterly ³
Biological Oxygen Demand	µg/L	grab	Quarterly ³
Chemical Oxygen Demand	µg/L	grab	Quarterly ³
1,4-Dioxane	µg/L	grab	One-time ⁵
1,2,3-trichloropropane	µg/L	grab	One-time ⁵
Priority pollutants ⁶	µg/L	grab	One-time ⁵

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

² Monthly sampling events are required for a period of six months from the injection date.

³ Quarterly sampling events are required after the six months sampling events.

⁴ Field instrument will be used to test for this constituent.

⁵ One time sampling event before the injection of permanganate is required for this constituent from wells P3MW2 and P3MW6. If detected, quarterly monitoring is required from the same monitoring wells.

⁶ A complete list of priority pollutants (Attachment A) is attached, but the Discharger is required to analyze only for metals (including chromium six) from wells PS-1, PS-2, PS-3, P3MW2 and P3MW6.

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: _____
Jonathan Bishop
Executive Officer

Date: December 10, 2004