California Regional Water Quality Control Board
North Coast Region

MONITORING AND REPORTING PROGRAM NO. R1-2004-0066

FOR

IN-SITU HEXAVALENT CHROMIUM SOIL AND GROUNDWATER TREATMENT

WILLITS ENVIRONMENTAL REMEDIATION TRUST
Former Remco Hydraulics Facility
934 South Main Street
Willits, California

Mendocino County

MONITORING

1. The depth to groundwater shall be determined to at least 0.01 foot increments in all A-zone, B-zone, and C-zone groundwater monitoring wells identified below. In addition, the depth to groundwater shall be collected in groundwater monitoring wells W17A, TW-1. W12A, W11B, W8B, and W8C. All depth to water level measurements shall be taken on a monthly schedule for three months and quarterly thereafter.

2. The following A-zone, B-zone, and C-zone groundwater monitoring wells shall be sampled in accordance with the following schedule:

   Weekly

   GMX-7A shall be sampled weekly for Dissolved Arsenic using EPA Method 6020 ICP/MS.

   Monthly

   GMX 1A, GMX-3A, GMX-4B, GMX-5B, GMX-6B, GMX-7A, and GMX-41A shall be sampled on a monthly schedule for the following constituents:

Constituent	Analytical Method
Dissolved Arsenic	EPA 6020 ICP/MS
Dissolved Chromium	EPA 6010B
Hexavalent Chromium	EPA 7196A
Dissolved Iron and Manganese	EPA 6010B
Dissolved Antimony	EPA 6020 ICP/MS
Volatile Organic Compounds	EPA 8260
Total Organic Carbon	EPA 415.1
1,4-Dioxane	EPA 8270 SIM
Alkalinity	EPA 310.1
Sulfate	EPA 300.0
Dissolved Sulfide	EPA 376.1

Quarterly

Monitoring Wells B4, EW-1A, GMX-2A, TW2, TW3, TW5, TW8, TW10, W7, W9A, W14A, W21A, W22A, W24A, W37A, EW1B, W4, W31B, W3, W5, W6 shall be sampled on a quarterly schedule for the following constituents:

Constituent	Analytical Method
Dissolved Arsenic	EPA 6020 ICP/MS
Dissolved Chromium	EPA 6010B
Hexavalent Chromium	EPA 7196A
Dissolved Iron and Manganese	EPA 6010B
Dissolved Antimony	EPA 6020 ICP/MS
Volatile Organic Compounds	EPA 8260
Total Organic Carbon	EPA 415.1
1,4-Dioxane	EPA 8270 SIM
Alkalinity	EPA 310.1
Sulfate	EPA 300.0
Dissolved Sulfide	EPA 376.1

3. Contingency Plan

The injection of food grade substances into the subsurface may mobilize iron, manganese, arsenic, and/or antimony. The injection of molasses may also create a temporary increase in the concentration of VOCs in the area of the injection. If these effects remain confined to the injection area, no contingency actions will be taken. However, if any of these effects are observed downgradient of the injection area, the following contingency plan will be implemented.

If groundwater monitoring results indicate an increasing trend of VOCs and metals, a trend analysis using a Mann-Kendall Test will be conducted. If an upward trend is detected at a 90 percent confidence level, and the Maximum Contaminant Level is exceeded for the constituent with the apparent upward trend, the well in which the upward trend was detected will be resampled within three days of receipt of sample results from the laboratory. The resample will be analyzed with a 48 hour turnaround time. If the results of resampling corroborate the upward trend, an effect will be considered verified and contingent action will be triggered.

An in-situ oxygenated zone will be created by injecting a dilute hydrogen peroxide solution approximately 5-feet upgradient and 5 feet downgradient of the contingency wells. Migration of any chemical constituent with the upward trend beyond the contingency well grid will be prevented by creating oxidizing conditions and thereby reversing the chemical reaction. The injection of dilute hydrogen peroxide shall be conducted within 14 days of a verified upward trend.

REPORTING

4. The depth to groundwater shall be reported on a quarterly basis. The quarterly report shall include groundwater gradient contour maps indicating the locations of the monitoring wells measured, and the direction of groundwater flow.

5. All analytical data shall be summarized in tabular form illustrating the date of sampling, the constituents, and the concentrations of each constituent.

6. Groundwater isoconcentration maps shall also be provided on a quarterly basis for each constituent listed in the table above (with the exception of total organic carbon, alkalinity, sulfate, dissolved sulfide) for the A-zone, B-zone and C-zone groundwater monitoring wells sampled as part of the Hexavalent Chromium IRA.

7. The first quarterly report following the second molasses injection conducted in July of 2004, shall provide a discussion of the field activities. Each quarterly report shall contain a section that summarizes the data that has been collected during the quarterly event.

8. The weekly sampling of GMX-7A shall be reported within 8 days of sample collection. The quarterly monitoring reports shall be submitted in accordance with the following schedule:

Quarterly Period	Due Date
January, February, March	April 15
April, May, June	July 15
July, August, September	October 15
October, November, December	January 15

Ordered by

for Catherine E. Kuhlman
Executive Officer
August 3, 2004

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