

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER No. 99-031

ADOPTION OF FINAL SITE CLEANUP REQUIREMENTS AND RESCISSION OF ORDER
NO. 88-012 FOR:

H.B. Fuller Company

for the property located at

6925 Central Avenue
Newark
Alameda County

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter Board), finds that:

1. **Site Location:** The property is located at 6925 Central Avenue in Newark (the site). The site is located in the southwestern portion of the City of Newark. It is approximately 2.5 miles from San Francisco Bay. The area to the north of the site is developed for residential, commercial and industrial occupancy. The area to the south is occupied by the San Francisco Bay National Wildlife Refuge. The San Francisco Bay National Wildlife Refuge borders the bay at this location. The local topography is generally flat to gently sloping. The site elevation is between 15 and 20 feet above mean sea level (see attached map).
2. **Site History:** The site was vacant until 1959. Paisley Products Company owned and occupied the site between 1959 and 1975. In April 1962, Paisley Products Company, part of Nabisco Brands began producing and utilizing chemicals that included benzene, toluene and 1,1,1-trichloroethane.

H.B. Fuller purchased the property in 1975 and occupied the site from 1975 to 1989. They produced and stored industrial adhesives at the site for use in commercial packaging. In 1982, H.B. Fuller investigated the possibility of soil and groundwater pollution due to leakage and/or spillage of chemicals used and stored at the site. H.B. Fuller has reported the use of toluene, tetrachloroethene, trichloroethene and 1,1,1-trichloroethane at the site. H.B. Fuller continued operations at the site until 1989, when they relocated their manufacturing equipment to a new plant in Roseville, California. Major features at the site include the former manufacturing plant building and the

locations of former underground and aboveground storage tanks. The site is currently leased to Stanford Designs. Stanford Designs is a furniture manufacturer. H.B. Fuller is the current property owner.

3. **Named Discharger:** H.B. Fuller Company is named as a discharger because of substantial evidence that it released pollutants to soil and groundwater at the site (including its use of chlorinated solvents at the site and the presence of these same pollutants in soil and groundwater in the vicinity of the onsite use) and because it owned the property during and after the time of the activity that resulted in the discharge, had knowledge of the discharge and the activities that caused the discharge during its ownership of the property, and had the legal ability to prevent the discharge.

Paisley Products Company the previous owner of the property between 1959 and 1975, is not named as a discharger in this order for the following reasons: H.B. Fuller has adequate financial resources to comply with this order; H.B. Fuller has complied with the prior order and H.B. Fuller does not object to Paisley Products Company not being named in this order. However, Paisley Products Company may be named in future if these circumstances change.

If additional information is submitted indicating that other parties caused or permitted any waste to be discharged on the site where it entered or could have entered waters of the state, the Board will consider adding those parties' names to this order.

4. **Regulatory Status:** The site was subject to Site Cleanup Requirements (Order No.88-012) adopted January 20, 1988.
5. **Site Hydrogeology:** The site is located within the Niles Cone groundwater basin. The Newark Aquitard is the uppermost clay unit covering nearly all of the Niles subarea, and is underlain by three identified aquifers, namely, the Newark Aquifer, Centerville-Fremont Aquifer and the Deep Aquifer. Each of these aquifers is separated by an extensive clay aquitard. The Newark Aquifer is the uppermost aquifer within the Niles subarea and ranges between 40 and 170 feet below ground surface (bgs) except in the forebay area where it begins at the surface. Lithologically, the site is characterized by a layer of fill materials underlain by a 10 to 15 feet of sandy clay silt/sand unit termed the shallow zone. These units are collectively termed as the Shallow Zone. Groundwater levels in the shallow zone below the Site generally range between 9 and 15 feet bgs, and the groundwater flow varies between south and southwesterly.
6. **Remedial Investigation:** Remedial investigation began in 1982. The chemical analysis of samples collected revealed the presence of volatile organic compounds (VOC) in soils and groundwater. More than ten field investigations were conducted and approximately 80 data points were sampled.

- o **Soil** - VOCs were detected in soil borings during sampling events in 1982. Benzene, Chloroethane, cis-1,2-Dichloroethene (cis-1,2-DCE), 1,1-Dichloroethane (1,1-DCA), 1,1,1-Trichloroethane (1,1,1-TCA) and Trichloroethene (TCE). Specific concentrations of these chemical constituents varied widely. Benzene was primarily detected at concentration levels of 16 to 16000 ug/kg in the southwest area of the storage shed and at much lower concentrations, in the vicinity of the underground storage tank (UST). 1,1,1-TCA and 1,1-DCA were detected at concentration levels of 2000 and 1900 ug/kg respectively, adjacent to the south side of the main building. TCE was found more sporadically across the site at concentration levels of approximately 140 ug/kg. Chloroethane was found in the south area of the main building at concentration levels of 210 ug/kg.

- o **Groundwater** - H.B. Fuller conducted groundwater investigation in the shallow and Newark Aquifer zones to characterize the site and define the contaminants and their impact to these water-bearing zones beneath the site. Groundwater monitoring data is currently obtained from 12 monitoring wells and 6 extraction wells. Chemical analysis of groundwater samples from the shallow zone indicated presence of VOCs. Chemical analysis of groundwater samples from the Newark Aquifer indicated non-detect for VOCs. The contaminant levels in shallow groundwater are substantially above drinking water standard. The following maximum chemical contaminants were detected in shallow groundwater zone. Benzene at concentration levels of 31,000 ug/L, Chloroethane at concentration levels of 13,000 ug/L, 1,1-DCA at concentration levels of 2,900 ug/L, 1,1-DCE at concentration levels of 56 ug/L, 1,2-DCE at concentration levels of 91 ug/L, PCE at concentration levels of 85 ug/L, TCE at concentration levels of 850 ug/L and 1,1,1-TCA at concentration levels of 31,000 ug/L. Historic chemical data has shown a dramatic reduction in contaminant concentrations.

The groundwater plume is delineated. No additional groundwater investigation is needed, if VOC concentrations at the most downgradient monitoring well (F-8) remain stable or decline.

7. **Adjacent Sites:** There are no nearby sites whose contamination or cleanup activities affect the site or are affected by pollution from the site.

8. **Interim Remedial Measures:** H.B. Fuller has implemented soil and groundwater interim remedial measures (IRMs) that included soil excavation, groundwater pump and treat and application of oxygen releasing compounds (ORC) at the site. H.B. Fuller has been conducting groundwater monitoring since 1983.

a. **Interim Soil Remedial Measures**

H.B. Fuller began remedial activity in 1986. The initial sources of pollution were isolated spills that occurred during the transfer and handling of organic chemicals at site. H.B. Fuller implemented soil excavation in the northwest area of the storage shed and at the vicinity of the underground storage tank (UST) where high concentrations of benzene were detected. Approximately 100 cubic yards of soil were excavated at the site.

b. **Interim Groundwater Remedial Measures**

H.B. Fuller began IRMs for the onsite groundwater in 1986 with installation of extraction sumps and a pump and treat system. Monitoring data is currently obtained from 12 monitoring wells and 6 extraction wells. Oxygen releasing compounds (ORC) were applied in area where high concentrations of benzene were detected. The pump and treat system has been effective in reducing concentrations of chloroethane to non detect. TCE has been reduced from 800 ug/L to approximately 20 ug/L. Benzene has been reduced from 10,000 ug/L to approximately 510 ug/L. The pump and treat system was temporarily shut down in November 1997 because concentrations of contaminants were low and probably at asymptotic level. However, to effectively reduce contaminant concentrations to levels below regulatory standards, alternate IRM will be needed. Since 1986, the system has treated about 16 million gallons of groundwater and has removed about 140 pounds of VOCs. The treated groundwater is discharged to the Union Sanitary District's sanitary sewer.

9. **Feasibility Study:** H.B. Fuller developed and evaluated four possible alternatives for further remediation of contaminated groundwater in the shallow zone at the site. The screening of technologies was based on their applicability to site characteristics, on the properties of the chemicals, and on reliability and performance of treatment technologies. The four remedial alternatives are: 1) additional soil excavation, 2) active in situ remediation using hydrogen peroxide to break down VOCs in an exothermic chemical reaction, 3) passive in situ remediation using oxygen releasing compounds to provide oxygen for bioremediation of VOCs and 4) groundwater pump and treat, operating the extraction sump in a pulse mode. H.B. Fuller is performing a final evaluation of the pump and treat system. In the past H.B. Fuller had employed a continuous pumping method while extracting contaminated groundwater. H.B. Fuller now plans to operate the extraction sump in a pulse mode. H.B. Fuller anticipates that operating in a pulse mode will flush benzene that may be absorbed in soil particles thereby improving benzene removal. However active in situ hydrogen peroxide treatment will be undertaken if pulse pumping fails. Active in situ hydrogen peroxide treatment breaks down VOCs faster than bioremediation using oxygen releasing compounds. H.B. Fuller proposes active in situ hydrogen peroxide treatment as the alternate remedy because of implementability,

performance, acceptability, cost effectiveness, and effectiveness and no environmental and public health impacts.

10. **Cleanup Plan:** H.B. Fuller submitted a RAP addendum on February 24, 1999, and a revised remedial action plan (RAP) addendum on March 25, 1999. The RAPs evaluate the remedial investigation IRMs and cleanup alternatives, and propose pulse-pumping of groundwater as a remedy with active in situ hydrogen peroxide treatment as alternate remedy. The revised RAP proposes cleanup standards for groundwater and evaluates risk to human health.
11. **Risk Assessment:** The shallow water-bearing zones underneath the site are not currently used for domestic supply. The risk assessment section of the RAP determined that migration pathways for ingestion or dermal contact of groundwater were incomplete pathways. H.B. Fuller based this determination on hydrogeologic conditions and observed migration rates for chemicals. The following pathways were found to be complete: volatilization from subsurface soils and groundwater, vapor inhalation and dust ingestion from surface soils, and dermal contact and/or ingestion of surface soils. H.B. Fuller evaluated several scenarios during the risk assessment, but three scenarios are appropriate to the scope of this order. Scenario 1 evaluated current site conditions using most recent maximum groundwater VOC concentrations. Scenario 2 evaluated future conditions assuming no use of shallow groundwater, calculating maximum levels of each constituent that will result in acceptable risk levels in surface soil, subsurface soil and groundwater. Scenario 3 is the same a Scenario 2 but assumes future use of shallow groundwater and evaluates residual risks if VOC concentrations are reduced to MCL levels. Attainment of cleanup standards will protect human health in the event that shallow groundwater is used for domestic purposes.

Toxicity Classification for Chemicals of Interest: The constituents of concern (COCs) were identified as the constituents that have been routinely detected in each source media. The COCs for groundwater include benzene, 1,1-DCA, cis-1,2-DCE, 1,1,1-TCA and TCE. The COCs for surface and subsurface soils are benzene, chloroethane, 1,1-DCA, 1,1,1-TCA and TCE. These COCs have been consistently detected above their respective MCL in shallow groundwater zone beneath the site. The risk assessment excluded vinyl chloride and other breakdown products of TCE that have not been detected at the site in scenarios 1 and 2.

Based on EPA's classification, vinyl chloride is class "A" carcinogen (sufficient human evidence). TCE is class "B2" carcinogens (inferring probable human carcinogen, with inadequate human evidence and sufficient evidence from animal experiments). 1,1-DCE is class "C" carcinogen (possible human carcinogen, limited evidence of carcinogenicity in animals with inadequate human data). Cis-1,2-DCE and trans-1,2-DCE are non-carcinogens (class "D" or lower).

Exposure Assessment: Under the current use of the site, there appear to be no complete exposure pathways for ingestion and dermal contact of groundwater. The TCE concentrations in the shallow zone are greater than drinking water standards. This water-bearing zone is currently not being used for drinking water. The deeper aquifer that is used for drinking water has not been impacted by VOCs.

Baseline Risk: The shallow groundwater is not used at this time. There is no complete exposure pathway under the current land use scenario. However, the current benzene and TCE concentrations at the site may pose threat to human health if the impacted water-bearing zone is used for domestic use pending final remediation. The risk assessment was evaluated after soil excavation was implemented and groundwater was still being treated. The excess cancer risk was estimated at 1×10^{-4} . The total hazard index (HI) was determined to be about 1. For comparison, the Board considers the following risk to be acceptable at remediation sites: a hazard index of 1.0 or less for non-carcinogens, and a cumulative excess cancer risk of 10^{-4} or less for carcinogens. Based on the 1997 average concentrations in groundwater for the COCs detected at the site, the calculated excess cancer risk for the Newark site is within the acceptable range of 10^{-4} to 10^{-6} .

There still exist limited benzene and TCE concentrations in the perched zone groundwater, but benzene and TCE vapors do not pose a significant health threat. H.B. Fuller will implement further remediation in the shallow water bearing zone.

The current benzene and TCE concentrations may pose non-carcinogenic excessive risk if the shallow water-bearing zone is used for domestic purpose. Therefore, institutional constraints are appropriate to limit the on-site exposure. Institutional constraints include a deed restriction that notifies future owners of sub-surface contamination and prohibits the use of the shallow water-bearing zone beneath the site as a source of drinking water until cleanup standards are met.

Post-Remediation Risk: Attainment of cleanup standards will protect human health in the event that shallow groundwater is used for domestic purposes. For the carcinogenic chemicals, the excess cancer risk predicted by this analysis is less than 1×10^{-4} or less than 1 excess cancer cases in a population of 10,000. This cancer risk level lies within the Board's acceptable risk range. Likewise, the total HI for non-carcinogenic compounds was found to be about 1×10^{-2} , at or below an acceptable level.

12. **Basis for Cleanup Standards**

- a. **General:** State Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California," applies to this discharge and requires attainment of background levels of water quality, or the highest level of water quality which is reasonable if background levels of water quality cannot be restored. Cleanup levels other than background must be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial uses of such water, and not result in exceedance of applicable water quality objectives. The previously cited cleanup plan provides sufficient rationale that background levels of water quality cannot be restored. This order and its requirements are consistent with Resolution No. 68-16.

State Board Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304," applies to this discharge. This order and its requirements are consistent with the provisions of Resolution No. 92-49, as amended.

- b. **Beneficial Uses:** The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995. This updated and consolidated plan represents the Board's master water quality control planning document. The revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on July 20, 1995, and November 13, 1995, respectively. A summary of regulatory provisions is contained in Title 23, California Code of Regulations, Section 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwaters.

Board Resolution No. 89-39, "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas of high TDS, low yield, or naturally high contaminant levels. Groundwater underlying and adjacent to the site qualifies as a potential source of drinking water.

The Basin Plan designates the following potential beneficial uses of groundwater underlying and adjacent to the site:

- o Municipal and domestic water supply
- o Industrial process water supply
- o Industrial service water supply
- o Agricultural water supply
- o Freshwater replenishment to surface waters

At present, there is no known use of the shallow water-bearing zone underlying the site for the above purposes.

- c. **Basis for Groundwater Cleanup Standards:** The groundwater cleanup standards for the site are based on applicable water quality objectives and are the more stringent of EPA and California primary maximum contaminant levels (MCLs). Cleanup to this level will result in acceptable residual risk to humans.
13. **Future Changes to Cleanup Standards:** The goal of this remedial action is to restore the beneficial uses of groundwater underlying and adjacent to the site. Results from other sites suggest that full restoration of beneficial uses to groundwater as a result of active remediation at this site may not be possible. If full restoration of beneficial uses is not technologically nor economically achievable within a reasonable period of time, then the discharger may request modification to the cleanup standards or establishment of a containment zone, a limited groundwater pollution zone where water quality objectives are exceeded. Conversely, if new technical information indicates that cleanup standards can be surpassed, the Board may decide that further cleanup actions should be taken.
14. **Reuse or Disposal of Extracted Groundwater:** Board Resolution No. 88-160 allows discharges of extracted, treated groundwater from site cleanups to surface waters only if it has been demonstrated that neither reclamation nor discharge to the sanitary sewer is technically and economically feasible.
15. **Basis for 13304 Order:** The discharger has caused or permitted waste to be discharged or deposited where it is or probably will be discharged into waters of the State and creates or threatens to create a condition of pollution or nuisance.
16. **Cost Recovery:** Pursuant to California Water Code Section 13304, the discharger is hereby notified that the Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this order.
17. **CEQA:** This action is an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15321 of the Resources Agency Guidelines.
18. **Notification:** The Board has notified the discharger and all interested agencies and persons of its intent under California Water Code Section 13304 to prescribe site cleanup requirements for the discharge, and has provided them with an opportunity to submit their written comments.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the discharger (or its agents, successors, or assigns) shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous substances in a manner which will degrade water quality or adversely affect beneficial uses of waters of the State is prohibited.
2. Further significant migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.
3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of wastes or hazardous substances are prohibited.

B. CLEANUP PLAN AND CLEANUP STANDARDS

1. **Implement Cleanup Plan:** The discharger shall implement the cleanup plan described in finding 10.
2. **Groundwater Cleanup Standards:** The following groundwater cleanup standards shall be met in all wells identified in the Self-Monitoring Program:

Constituent	Standard (ug/l)	Basis
Benzene	1	California MCL
1,1-Dichloroethane	5	California MCL
Cis-1,2-Dichloroethylene	6	California MCL
Trans-1,2-Dichloroethylene	10	California MCL
1,1-Dichloroethylene	6	California MCL
Tetrachloroethene	5	California MCL
Trichloroethylene	5	EPA/California MCL
Vinyl Chloride	0.5	California MCL

C. TASKS

1. **SUBMIT TECHNICAL REPORT ON EVALUATION OF PUMP & TREAT AND WORKPLAN ON GROUNDWATER REMEDIAL ALTERNATIVE IF APPLICABLE**

COMPLIANCE DATE: July 31, 1999

Submit a technical report acceptable to the Executive Officer for evaluation of the pulse mode operation of the pump and treat system. Submit a workplan for alternative groundwater remediation system if the pulse mode operation of the extraction system fails. The workplan should describe all significant implementation steps and should include an implementation schedule.

2. **IMPLEMENTATION OF ALTERNATIVE GROUNDWATER REMEDIATION SYSTEM**

COMPLIANCE DATE: September 15, 1999

Submit a technical report acceptable to the Executive Officer documenting completion of necessary tasks identified in the Task 1. If pulse mode operation of the pump and treat system is effective, no report is needed. Proposals for further system expansion or modification may be included in annual reports (see Self-Monitoring Program).

3. **PROPOSED INSTITUTIONAL CONSTRAINTS**

COMPLIANCE DATE: June 15, 2000

Submit a technical report acceptable to the Executive Officer documenting procedures to be used by the discharger to prevent or minimize human exposure to soil and groundwater contamination prior to meeting cleanup standards. Such procedures shall include a deed restriction prohibiting the use of shallow groundwater as a source of drinking water.

4. **IMPLEMENTATION OF INSTITUTIONAL CONSTRAINTS**

COMPLIANCE DATE: 60 days after Executive Officer approval

Submit a technical report acceptable to the Executive Officer documenting that the proposed institutional constraints have been implemented.

5. **FIVE-YEAR STATUS REPORT**

COMPLIANCE DATE: June 15, 2004

Submit a technical report acceptable to the Executive Officer evaluating the effectiveness of the approved cleanup plan. The report should include:

- a. Summary of effectiveness in controlling contaminant migration and protecting human health and the environment
- b. Comparison of contaminant concentration trends with cleanup standards
- c. Comparison of anticipated versus actual costs of cleanup activities
- d. Performance data (e.g. groundwater volume extracted, chemical mass removed, mass removed per million gallons extracted)
- e. Cost effectiveness data (e.g., cost per pound of contaminant removed)
- f. Summary of additional investigations (including results) and significant modifications to remediation systems
- g. Additional remedial actions proposed to meet cleanup standards (if applicable) including time schedule

If cleanup standards have not been met and are not projected to be met within a reasonable time, the report should assess the technical practicability of meeting cleanup standards and may propose an alternative cleanup strategy.

6. **PROPOSED CURTAILMENT**

COMPLIANCE DATE: 60 days prior to proposed curtailment

Submit a technical report acceptable to the Executive Officer containing a proposal to curtail remediation. Curtailment includes system closure (e.g., well abandonment), system suspension (e.g., cease extraction but wells retained), and significant system modification (e.g., major reduction in extraction rates, closure of individual extraction wells within extraction network). The report should include the rationale for curtailment. Proposals for final closure should demonstrate that cleanup standards have been met, contaminant concentrations are stable, and contaminant migration potential is minimal. The proposal shall include a schedule for implementation.

7. **IMPLEMENTATION OF CURTAILMENT**

COMPLIANCE DATE: 60 days after Executive Officer approval

Submit a technical report acceptable to the Executive Officer documenting completion of the tasks identified in Task 6.

8. **EVALUATION OF NEW HEALTH CRITERIA**

COMPLIANCE DATE: 90 days after requested
by Executive Officer

Submit a technical report acceptable to the Executive Officer evaluating the effect on the approved cleanup plan of revising one or more cleanup standards in response to revision of drinking water standards, maximum contaminant levels, or other health-based criteria.

9. **EVALUATION OF NEW TECHNICAL INFORMATION**

COMPLIANCE DATE: 90 days after requested
by Executive Officer

Submit a technical report acceptable to the Executive Officer evaluating new technical information which bears on the approved cleanup plan and cleanup standards for this site. In the case of a new cleanup technology, the report should evaluate the technology using the same criteria used in the feasibility study. Such technical reports shall not be requested unless the Executive Officer determines that the new information is reasonably likely to warrant a revision in the approved cleanup plan or cleanup standards.

10. **ADDITIONAL OFF-SITE INVESTIGATION WORKPLAN**

COMPLIANCE DATE: 60 days after requested
by Executive Officer

Submit a workplan acceptable to the Executive Officer to define the vertical and lateral extent of groundwater pollution of the property boundary if VOC concentrations increase at the most downgradient monitoring well (F-8). The workplan should specify investigation methods and a proposed time schedule. Work may be phased to allow investigation to proceed efficiently.

11. **ADDITIONAL OFF-SITE INVESTIGATION REPORT**

COMPLIANCE DATE: Deadline in the approved
Task 10 workplan

Submit a technical report acceptable to the Executive Officer documenting completion of necessary tasks identified in the Task 10 workplan and, if necessary, proposing additional remedial actions.

12. **Delayed Compliance:** If the discharger is delayed, interrupted, or prevented from meeting one or more of the completion dates specified for the above tasks, the discharger shall promptly notify the Executive Officer and the Board may consider revision to this Order.

D. PROVISIONS

1. **No Nuisance:** The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in California Water Code Section 13050(m).
2. **Good O&M:** The discharger shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this Order.
3. **Cost Recovery:** The discharger shall be liable, pursuant to California Water Code Section 13304, to the Board for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. If the site addressed by this Order is enrolled in a State Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to the procedures established in that program. Any disputes raised by the discharger over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.
4. **Access to Site and Records:** In accordance with California Water Code Section 13267(c), the discharger shall permit the Board or its authorized representative:

- a. Entry upon premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
 - b. Access to copy any records required to be kept under the requirements of this Order.
 - c. Inspection of any monitoring or remediation facilities installed in response to this Order.
 - d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.
5. **Self-Monitoring Program:** The discharger shall comply with the Self-Monitoring Program as attached to this Order and as may be amended by the Executive Officer.
 6. **Contractor / Consultant Qualifications:** All technical documents shall be signed by and stamped with the seal of a California registered geologist, a California certified engineering geologist, or a California registered civil engineer.
 7. **Lab Qualifications:** All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control (QA/QC) records for Board review. This provision does not apply to analyses that can only reasonably be performed on-site (e.g., temperature, dissolved oxygen, redox potential, conductivity etc.).
 8. **Document Distribution:** Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the following agencies:
 - a. City of Newark
 - b. Alameda County Water District

The Executive Officer may modify this distribution list as needed.

9. **Reporting of Changed Owner or Operator:** The discharger shall file a technical report on any changes in site occupancy or ownership associated with the property described in this Order.

10. **Reporting of Hazardous Substance Release:** If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, the discharger shall report such discharge to the Regional Board by calling (510) 622-2300 during regular office hours (Monday through Friday, 8:00 to 5:00).

A written report shall be filed with the Board within five working days. The report shall describe: the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/agencies notified.

This reporting is in addition to reporting to the Office of Emergency Services required pursuant to the Health and Safety Code.

11. **Rescission of Existing Order:** This Order supersedes and rescinds Order No. 88-012.
12. **Periodic SCR Review:** The Board will review this Order periodically and may revise it when necessary.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 25, 1999.


Loretta K. Barsamian
Executive Officer

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FAILURE TO COMPLY WITH THE REQUIREMENTS OF THIS ORDER MAY SUBJECT YOU TO ENFORCEMENT ACTION, INCLUDING BUT NOT LIMITED TO: IMPOSITION OF ADMINISTRATIVE CIVIL LIABILITY UNDER WATER CODE SECTIONS 13268 OR 13350, OR REFERRAL TO THE ATTORNEY GENERAL FOR INJUNCTIVE RELIEF OR CIVIL OR CRIMINAL LIABILITY

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Attachments: Site Map
Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM FOR:

H.B. Fuller Company

for the property located at

6925 Central Avenue
Newark
Alameda County

1. **Authority and Purpose:** The Board requests the technical reports required in this Self-Monitoring Program pursuant to Water Code Sections 13267 and 13304. This Self-Monitoring Program is intended to document compliance with site cleanup requirements Order No. 99-031.

2. **Monitoring:** The discharger shall measure groundwater elevations quarterly in all monitoring wells, and shall collect and analyze representative samples of groundwater according to the following table:

Well #	Sampling Frequency	Analyses	Well #	Sampling Frequency	Analyses
E8	SA	8260	F1	SA	8260
F2	SA	8260	E7	SA	8260
E6	SA	8260	F3	SA	8260
F8	SA	8260	F11	SA	8260
E4	SA	8260	F4	SA	8260
E5	SA	8260	F5	SA	8260
F12	SA	8260	ES3	SA	8260

Key: SA = Semi-Annually

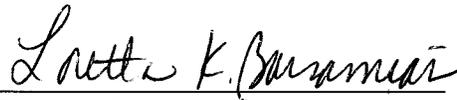
8260 = EPA Method 8260 or equivalent

The discharger shall sample any new monitoring or extraction wells quarterly and analyze groundwater samples for the same constituents as shown in the above table. The discharger may propose changes in the above table; any proposed changes are subject to Executive Officer approval.

3. **Semi-annual Monitoring Reports:** The discharger shall submit semi-annual monitoring reports to the Board no later than 30 days following the end of the semi-annual period (i.e., report for July through December period due January 31). The first semi-annual monitoring report shall be due on July 31, 1999. The reports shall include:
 - a. **Transmittal Letter:** The transmittal letter shall discuss any violations during the reporting period and actions taken or planned to correct the problem. The letter shall be signed by the discharger's principal executive officer or his/her duly authorized representative, and shall include a statement by the official, under penalty of perjury, that the report is true and correct to the best of the official's knowledge.
 - b. **Groundwater Elevations:** Groundwater elevation data shall be presented in tabular form, and a groundwater elevation map should be prepared for each monitored water-bearing zone. Historical groundwater elevations shall be included in the second semi-annual monitoring report each year.
 - c. **Groundwater Analyses:** Groundwater sampling data shall be presented in tabular form, and an isoconcentration map should be prepared for one or more key contaminants for each monitored water-bearing zone, as appropriate. The report shall indicate the analytical method used, detection limits obtained for each reported constituent, and a summary of QA/QC data. Historical groundwater sampling results shall be included in the second semi-annual monitoring report each year. The report shall describe any significant increases in contaminant concentrations since the last report, and any measures proposed to address the increases. Supporting data, such as lab data sheets, need not be included (however, see record keeping - below).
 - d. **Groundwater Extraction:** If applicable, the report shall include groundwater extraction results in tabular form, for each extraction well and for the site as a whole, expressed in gallons per minute and total groundwater volume for the quarter. The report shall also include contaminant removal results, from groundwater extraction wells and from other remediation systems (e.g., soil vapor extraction), expressed in units of chemical mass per day and mass for the quarter. Historical mass removal results shall be included in the second semi-annual monitoring report each year.

- e. **Status Report:** The semi-annual monitoring report shall describe relevant work completed during the reporting period (e.g., site investigation, interim remedial measures) and work planned for the following semi-annual reporting period.
- 5. **Violation Reports:** If the discharger violates requirements in the Site Cleanup Requirements, then the discharger shall notify the Board office by telephone as soon as practicable once the discharger has knowledge of the violation. Board staff may, depending on violation severity, require the discharger to submit a separate technical report on the violation within five working days of telephone notification.
- 6. **Other Reports:** The discharger shall notify the Board in writing prior to any site activities, such as construction or underground tank removal, which have the potential to cause further migration of contaminants or which would provide new opportunities for site investigation.
- 7. **Record Keeping:** The discharger or his/her agent shall retain data generated for the above reports, including lab results and QA/QC data, for a minimum of six years after origination and shall make them available to the Board upon request.
- 8. **SMP Revisions:** Revisions to the Self-Monitoring Program may be ordered by the Executive Officer, either on his/her own initiative or at the request of the discharger. Prior to making SMP revisions, the Executive Officer will consider the burden, including costs, of associated self-monitoring reports relative to the benefits to be obtained from these reports.

I, Loretta K. Barsamian, Executive Officer, hereby certify that this Self-Monitoring Program was adopted by the Board on May 25, 1999.



Loretta K. Barsamian
Executive Officer