CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER No. 99 - 071

ADOPTION OF FINAL SITE CLEANUP REQUIREMENTS AND RESCISSION OF ORDER 88-104 FOR:

MCKESSON HBOC, INC.

for the property located at

33950 SEVENTH STREET
UNION CITY
ALAMEDA COUNTY

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

1. **Site Location**: The former McKesson Chemical Company facility, located at 33950 Seventh Street, Union City, California, occupies approximately 8.5 acres of land adjacent to a residential neighborhood under development on the north and east, recently constructed athletic fields on the west, and a light industrial park on the south.

2. **Site History**: McKesson Chemical Company operated a chemical handling and repackaging facility in Union City, California, from 1971 through November 1986. The site was vacant from 1986 to 1989. Oxford Tire Recycling leased and used the site for a warehouse from 19 to 1992. The site has been vacant from 1992 to date. McKesson HBOC, Inc. has owned the property since 1971. In January 1999, McKesson Corporation purchased HBOC and becam known as McKesson HBOC, Inc. (hereafter McKesson). Before 1971, the land use was agricultural. In the early 1980s, chlorinated hydrocarbons were detected in soil and groundwater beneath the facility. Subsequent investigations detected organic compounds in soil beneath and adjacent to the area where chlorinated hydrocarbons were stored. Th principal chemicals detected are the volatile organic compounds (VOCs) trichloroethen (TCE), tetrachloroethene (PCE), 1,1,1-trichloroethane (1,1,1-TCA) and 1,1-dichloroeth (1,1-DCE). Very low concentrations of chloroform, freon 11, 1,1-DCA, 1,2-DCA, cis- and 1,1,1-TCA are also detected at the site.

3. **Named Discharger**: McKesson is named as a discharger because of substantial evid it released pollutants to soil and groundwater at the site (including the presence of th pollutants in soil and groundwater in the vicinity of the onsite solvent diked area) a it owned the property during and after the time of the activity that resulted in the di had knowledge of the discharge and the activities that caused the discharge during ownership of the property, and had the legal ability to prevent the discharge.

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**: This site was subject to Site Cleanup Requirements (Order No. 88-104) adopted June 15, 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 50 and 170 feet below ground surface (bgs). The topography of the site is flat with an elevation of approximately 65 feet above mean sea level. Lithologic and geophysical logs obtained at the site show that the area is underlain by a series of alluvial deposits consisting of stratified clays, silts, sands, and gravels of variable continuity and thickness. Depth to groundwater varies annually from 35 to 45 feet below ground surface. Three aquifer zones have been identified within the area and have been designated the shallow, intermediate, and deep aquifer zones. These groundwater zones are collectively termed as the Shallow Zone. The Shallow Zone lies above the Newark Aquitard. Groundwater flow direction from the site is generally toward the south. A northwest-southeast trending fault splay of the Hayward fault offsets the intermediate and deep aquifer zones, which is observed as a steep hydraulic gradient across the site. The hydraulic gradient becomes flatter downgradient toward south of the site.

6. **Remedial Investigation**: A remedial investigation (RI) was completed for the site in August 1989. Characterization activities included a soil gas survey, drilling soil borings, installing monitoring wells, and analysis of soil and groundwater samples. Onsite soil sampling identified the source of VOCs to be the former solvent diked area where chlorinated compounds were stored. Fifty-eight monitoring wells were installed to assess the distribution of VOCs in groundwater. Total VOC concentrations for onsite shallow aquifer zone groundwater detected during the RI ranged from 0.02 milligrams per liter (mg/L) to approximately 100 mg/L.

   Tetrachloroethene (PCE), Trichloroethene (TCE), 1,1,1-Trichloroethane (1,1,1-TCA) and 1,1-Dichloroethylene (1,1-DCE) were detected in soil and groundwater beneath the site. Elevated concentrations of inorganic chemicals were not detected in soil and groundwater at the site. The VOC plume originating from the site has migrated approximately 2,500 feet downgradient toward south of the site. The Newark Aquifer is not impacted at the site and off-site. The shallow zone, and the Newark and deeper aquifers are not hydraulically connected at the site. Historical groundwater monitoring data have shown a reduction in contaminant levels over time. The RI is completed at this site.

7. **Adjacent Sites**: There are no known nearby sites whose contamination or cleanup activities affect the site. Low levels of VOCs from unknown sources are detected in groundwater southeast of the site at the Catellus Decoto Road properties located at Seventh Street. A portion of the Catellus properties in parcel no. 87-23-29 was filled with debris from former farming operations but this debris does not appear to be the source of the VOCs. Soil and groundwater samples from this area showed only traces of toluene, acetone and 2-butanone.

8. **Interim Remedial Measures**: McKesson has implemented soil and groundwater interim remedial measures (IRMs) that included soil excavation, soil vapor extraction, groundwater pump and treat, and application of hydrogen peroxide compounds at the site. McKesson has been conducting groundwater extraction since 1985.

a. **Interim Soil Remedial Measures**

McKesson began remedial activity in 1985. The initial source of pollution was the solvent diked area where chlorinated compounds were stored. McKesson implemented soil excavation in the solvent diked area where high concentrations of VOCs were detected. Approximately 3,500 cubic yards of impacted soil were excavated at the site in 1987. Soil vapor extraction (SVE) was also implemented from 1991 through 1997. The SVE system was operated for about 14,000 hours and removed an estimated 4,000 pounds of VOCs. On January 19, 1999, Board staff approved closure of the SVE system after it reached asymptotic levels. Above ground and below ground tanks were also removed at the site. VOC concentrations in soil are now below risk based screening levels for residential receptors. No additional soil remediation is needed.

b. **Interim Groundwater Remedial Measures**

McKesson began IRMs for the onsite groundwater in 1985 with installation of a three well pilot pump and treat system. In 1991, the pump and treat system was expanded to include 22 extraction wells with a combined pumping rate of 100 gallons per minute. In 1994 a resin adsorption system was installed with the granulated activated carbon (GAC) system to treat the water before discharge under an NPDES permit. Since 1999 the pump and treat system has treated 240 million gallons of water and removed an estimated 4,000 pounds of VOCs, with an average pumping rate of 100 gpm. The treated groundwater is discharged to a storm drain that flows to an unlined section of Alameda County Flood Control District channel pursuant to the Board's VOC General Permit. A pilot test for active in situ remediation using hydrogen peroxide to break down VOCs in an exothermic chemical reaction was also implemented. McKesson plans to implement further active groundwater remediation because of the high concentrations of VOCs in groundwater.

9. **Feasibility Study**: McKesson developed and evaluated eight 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 chemical properties, and on reliability and performance of treatment technologies. The eight remedial alternatives are: 1) active in situ remediation using potassium permanganate to break down VOCs in an exothermic chemical reaction, 2) active in situ remediation using hydrogen peroxide to break down VOCs in an exothermic chemical reaction, 3) iron filling reactive walls, 4) bioremediation, 5) air sparging, 6) groundwater circulating wells, 7) in-situ ozonation and 8) groundwater pump and treat. McKesson proposes pump and treat as the final remedy because of implementability, performance, acceptability, cost effectiveness, proven effectiveness in reducing VOC concentrations, and no environmental and public health impacts. McKesson concluded that groundwater pump and treat has been effective in plume capture and chemical mass removal.

10. **Cleanup Plan**: McKesson submitted a remedial action plan (RAP) in 1989. A RAP addendum was submitted on February 26, 1999, and a revised RAP addendum on July 2, 1999. The RAP summarizes the remedial investigation, evaluates IRMs and cleanup alternatives, and proposes groundwater pump and treat as a final remedy. It also 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 with groundwater were incomplete pathways. McKesson based this determination on hydrogeologic conditions and observed migration rates for chemicals. The following pathways were found to be complete: incidental ingestion, volatilization from subsurface soils and groundwater, vapor inhalation and dust ingestion from surface soils, and dermal contact and/or ingestion of surface soils or homegrown produce. McKesson 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 as 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 1,1-DCE, 1,1,1-TCA, TCE and PCE. The COCs for surface and subsurface soils are 1,1-DCE, 1,1,1-TCA, TCE and PCE. 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).

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 VOC 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 and soil vapor extraction were implemented and groundwater was still being treated. The excess cancer risk was estimated at 5×10^{-7}. The total hazard index (HI) was determined to be about 0.02. 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 1999 average concentrations in groundwater for the COCs detected at the site, the calculated excess cancer risk for the site is within the acceptable range of 10^{-4} to 10^{-6}.

There still exist relatively elevated VOC concentrations in the shallow zone groundwater. McKesson will continue remediation of the shallow water bearing zone.

The current VOC 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 subsurface 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^{-6} or less than 1 excess cancer cases in a population of 1,000,000. 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 2×10^{-2}, which is 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 groundwater.

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 that 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 that 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
1,1-DCE	6	California MCL
1,1,1-TCA	200	EPA Primary MCL
1,1-DCA	5	EPA Primary MCL
Cis-1,2-DCE	6	California MCL
Trans-1,2-DCE	10	California MCL
Vinyl Chloride	0.5	California MCL
TCE	5	EPA Primary MCL
PCE	5	EPA Primary MCL

C. TASKS

1. PROPOSED INSTITUTIONAL CONSTRAINTS

COMPLIANCE DATE: November 15, 1999

Submit a technical report acceptable to the Executive Officer documenting procedures to be used by the discharger to prevent or minimize human exposure to 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.

2. 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.

3. FIVE-YEAR STATUS REPORT

COMPLIANCE DATE: August 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.

4. 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.

5. **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 4.

6. **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.

7. **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.

8. **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 Union City Environmental Programs Department
   b. Cal/EPA Department of Toxic Substances Control
   c. 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. 88-104.

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 September 15, 1999.

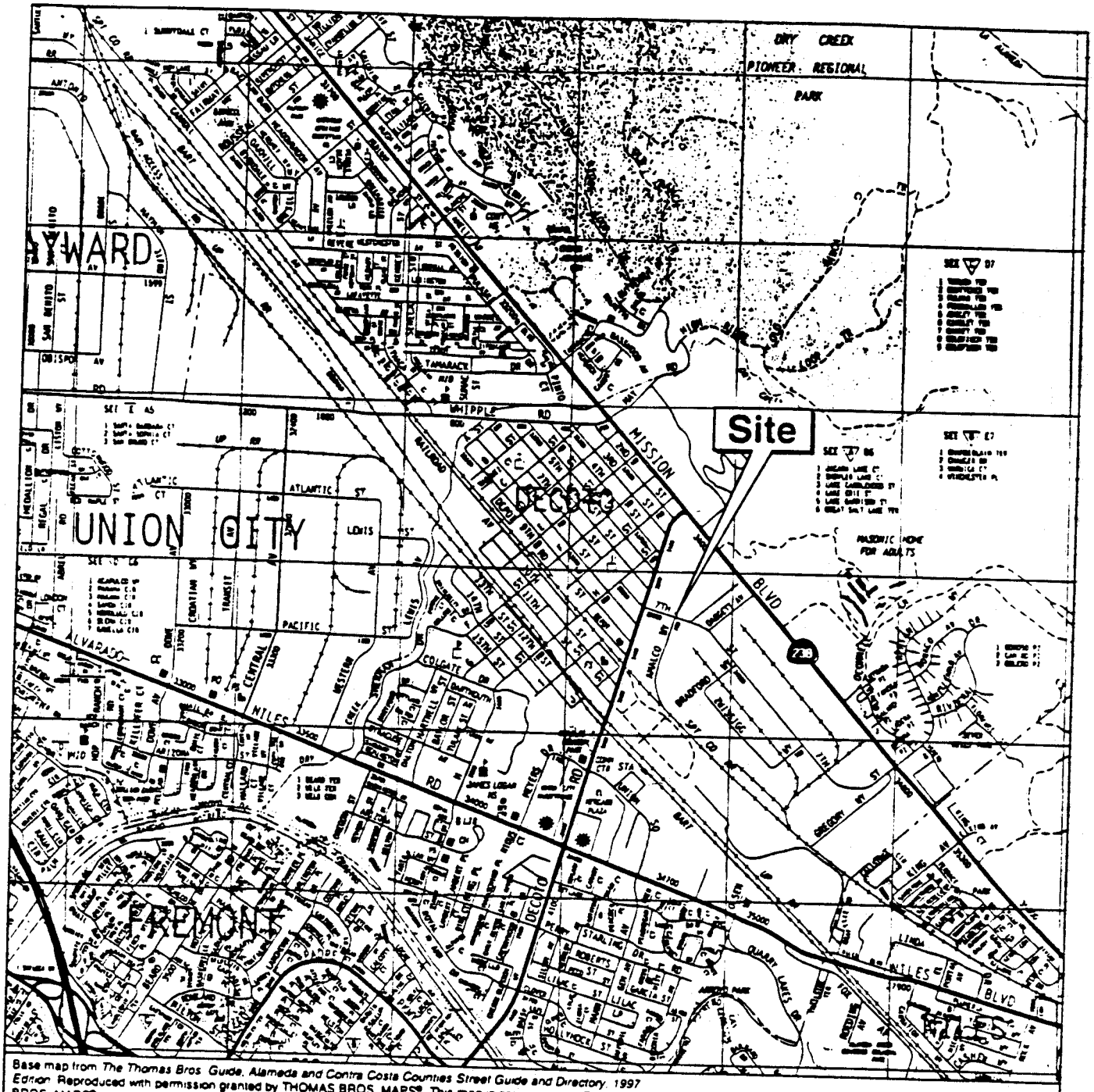
Loretta K. Barsamian
Executive Officer

==========

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

==========

Attachments: Site Map
Self-Monitoring Program



Base map from *The Thomas Bros. Guide, Alameda and Contra Costa Counties Street Guide and Directory, 1997 Edition*. Reproduced with permission granted by THOMAS BROS. MAPS®. This map is copyrighted by THOMAS BROS. MAPS®. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale without permission. All rights reserved.

0 0.5 mile

GEOMATRIX

SITE LOCATION MAP
Former McKesson Facility
Union City, California

Project No
5231

Figure
1

S:\5200\5231\se 9902\ fig 01 ai

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM FOR:

MCKESSON HBOC, INC.

for the property located at

33950 SEVENTH STREET
UNION CITY
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 - 071.

2. **Monitoring**: The discharger shall measure groundwater elevations semiannually 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
OW-1	A	8010	ES-1	SA	8010
OW-3	A	8010	ES-2A	SA	8010
OW-4	SA	8010	ES-2B	SA	8010
OW-5	SA	8010	ES-3	SA	8010
OW-7	A	8010	ES-4	SA	8010
OW-8	A	8010	ES-6	SA	8010
OW-9	A	8010	ES-7	SA	8010
OW-10	SA	8010	ES-8	SA	8010
OW-11	A	8010	ES-9	SA	8010
OW-12	A	8010	ES-10	SA	8010
OW-13	SA	8010	ES-11	SA	8010
OW-14	A	8010	ES-12	SA	8010
OW-16	SA	8010	ES-13	SA	8010

OW-17	A	8010	ES-15	SA	8010
OW-18	A	8010	ES-16	SA	8010
OW-19	SA	8010	ES-17	SA	8010
OW-21	SA	8010	ES-18	SA	8010
OW-22	SA	8010	ES-19	SA	8010
OW-23	SA	8010	ES-20	SA	8010
OW-24	SA	8010	ES-21	SA	8010
OW-25	A	8010	ES-22	SA	8010
OW-26	A	8010	GB-1	SA	8010
OW-28	SA	8010	GB-3	SA	8010
EW-2	A	8010	IW-10	SA	8010
IW-1	A	8010	IW-11	SA	8010
IW-2	SA	8010	IW-12	SA	8010
IW-3	A	8010	IW-13	SA	8010
IW-4	SA	8010	IW-16	SA	8010
IW-5A	SA	8010	IW-17	SA	8010
IW-6	SA	8010	EI-1	A	8010
IW-7	SA	8010	EI-2	A	8010
IW-8	A	8010	DW-5	SA	8010
IW-9	SA	8010	DW-6	SA	8010
DW-1	A	8010	DW-7	SA	8010
DW-3	A	8010	DW-8	A	8010
DW-4	A	8010	DW-9	A	8010

Key: SA = Semi-Annually 8010 = EPA Method 8010 or equivalent
A = Annually

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 January 31, 2000. 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, remedial measures if any) and work planned for the following semi-annual reporting period.

4. **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.

5. **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.

6. **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.

7. **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 September 15, 1999.

Loretta K. Barsamian
Executive Officer