

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

ORDER No. 00-092

FINAL SITE CLEANUP REQUIREMENTS AND RESCISSION OF ORDERS NOs. 90-032  
and 92-053 FOR:

FMC CORPORATION and 495 EAST BROKAW ROAD, LLC

for the property located at

495 EAST BROKAW ROAD  
SAN JOSE  
SANTA CLARA COUNTY

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

1. **Site Location:** FMC Corporation (FMC) formerly occupied and owned the approximately 4.4 acre property located at 495 East Brokaw Road in northeastern San Jose, Santa Clara County (the Site). The Site is located in a light industrial/commercial neighborhood between the Bayshore (Highway 101) and Nimitz (Interstate 880) Freeways (Figure 1). The Site is bounded by the Stone Container Corporation to the northwest, Junction Oaks Properties to the northeast, Union Pacific (formerly Southern Pacific) Railroad to the southwest, and East Brokaw Road to the southeast.
2. **Site History:** Prior to 1960, the Site use was agricultural. American International Aluminum Corporation (AIA) constructed the bulk of the existing building (currently 76,000 square feet) on the Site in 1960, and used it as an aluminum extrusion and casting facility until approximately the end of 1962. Olin Chemical Corporation (then Olin Mathieson Chemical Corporation) conducted aluminum extrusion operations at the Site from early 1963 through mid 1966. FMC occupied the Site from 1966 until 1983 for the manufacture of military ordnance and logging equipment, and for parts packaging. After FMC ceased manufacturing operations at the Site in 1983, it leased the facility for storage until the property was vacated in January 1988. Aerial photos show that the Site was unpaved until approximately 1980.

Stolte, Inc. owned the property from February 1960 to May 1961 when ownership transferred to United California Bank. The Annuity Board of the Southern Baptist Convention assumed ownership in December 1962 and maintained control of the property until May 1983 when FMC purchased it. Subsequent to FMC's sale of the property to

6000S Corporation in 1987, ownership has changed hands twice more. 6000S Corporation sold the property to 495 East Brokaw Associates in September 1988. 495 East Brokaw Associates later filed for bankruptcy and 6000S Corporation reacquired the property pursuant to an October 1993 settlement of the bankruptcy proceedings. Effective January 19, 1999, 495 East Brokaw Road, LLC ("Owner") purchased the property from 6000S Corporation.

The building on the Site has been leased to various businesses since the late 1980's. Currently, some seven tenants lease portions of the building and variously use these portions for office and for manufacturing and storage purposes.

3. **Adjacent Sites:** There are two neighboring industrial facilities, Stone Container Corporation on the northwest, and Junction Oaks on the northeast. The location of these facilities is shown on Figure 2.

The Stone Container Corporation has operated a corrugated box production plant northwest of the Site since 1986. The box plant has been in operation since 1968 under various owners. In August 1986, Stone Container Corporation abandoned in-place one 10,000 gallon underground diesel storage tank after analytical results of soil samples collected from the fill material surrounding the tank indicated that the soils did not contain fuel hydrocarbons above laboratory reporting limits.

Junction Oaks Properties has owned the property at 1815-1827 Junction Avenue since about 1979. This property was leased to A&B Painting from 1977 to 1981. Since 1981, it has been leased to Ryan Herco Industries, a pipe and equipment distributor. In 1985, two 2,000 gallon gasoline underground storage tanks were removed from the southwestern portion of the Junction Oaks site. In December 1989, Junction Oaks contracted with Blaine Tech Services to remove one 2,000 gallon wastewater underground storage tank and a surface drain (or sump) located near the western property boundary. Tank removal, sampling and analysis were conducted in the presence of an inspector from the San Jose Fire Prevention Bureau's Hazardous Materials Division. Samples collected from soil beneath the removed tank contained concentrations of volatile organic compounds (VOCs) as high as 45 milligrams per kilogram (mg/kg). Groundwater monitoring results indicate Junction Oaks groundwater contains significant levels of trichloroethene (TCE) and other VOCs, including cis -1,2 dichloroethene, trans -1,2 dichloroethene and vinyl chloride.

4. **Named Dischargers:** FMC is named as a discharger based on former occupancy of the Site from 1966 to 1988, and ownership from 1983 to 1987, during which releases of chemicals had occurred. These chemicals have impacted the soil and groundwater beneath the Site and may have migrated offsite. Owner is named as a discharger due

solely to its ownership and control of the Site. If additional information is submitted or otherwise becomes available indicating that other parties caused or permitted any waste to be discharged on the Site or where it migrated to the Site and such waste entered or could have entered waters of the state, the Board will consider adding those parties to this Order.

5. **Regulatory Status:** This site is subject to the following Board orders:
  - Site Cleanup Requirements For: FMC Corporation Ground Systems Division and 495 East Brokaw Associates, Order No. 90-032, adopted February 21, 1990; and
  - Amendment to SCO 90-032, Site Cleanup Requirements for FMC Corporation and 495 East Brokaw Associates, Order No. 92-053, adopted May 20, 1992.
  
6. **Site Hydrogeology:** Site soils are a relatively homogenous silty clay from ground surface to a depth of 45 to 50 feet. A gravelly sand unit, approximately 30 to 35 feet thick, underlies the silty clay. Saturated soils are first encountered approximately 8 feet below ground surface. The depth to groundwater is approximately 6 to 8 feet below ground surface in wells screened in the silty clay. Historical Site groundwater data indicate an upward vertical gradient exists between the gravelly sand unit (designated the A-level aquifer) and the silty clay. The hydraulic conductivity of the silty clay is estimated to be 3.3 feet per day, based on hydraulic testing. The Site groundwater has a very flat gradient ranging from 0.002 to 0.005 foot per foot (ft/ft). The groundwater flow velocity in the silty clay is approximately 10 feet per year, based on a porosity of 35 percent. The groundwater flow direction is typically to the northwest, although the flow direction has ranged from west to northeast.
  
7. **Remedial Investigation History and Results:** In 1987 and 1988, as part of "due diligence" prior to purchase, 495 East Brokaw Associates conducted a soil and groundwater investigation at the Site revealing VOCs and petroleum hydrocarbons in the soil, and VOCs in the groundwater in several areas. They also performed some soil remedial activities at that time including removal of several sumps and clarifiers, vertical pipes, and two furnace pits. In February 1988, FMC conducted further investigations of soil and groundwater. FMC reported these results to the Board in the "Comprehensive Site Assessment Report" in August 1989 confirming the initial investigation results. In February 1990, the Board adopted Site Cleanup Requirements Order No. 90-032 requiring completion of site characterization. In response, FMC submitted an "Additional Soil and Groundwater Investigation Report" in April 1991, and an "Addendum to Additional Soil and Groundwater Investigation Report" in June 1991.

Quarterly groundwater monitoring has been conducted and reports submitted in accordance with Order No. 90-032 since the third quarter of 1990. The primary VOC constituents detected in shallow zone groundwater at the site are TCE and

tetrachloroethene (PCE). The two areas primarily impacted at the Site are the northeast corner and the east side of the building in the vicinity of the storm sewer. The nature and extent of impacts are well defined and limited. Historic data indicates that migration is minimal.

The A-level aquifer beneath the Site has not been impacted with VOCs.

8. **Interim Remedial Measures:** In 1988, approximately 1,200 cubic yards of VOC-impacted soil was removed and disposed from areas within the building associated with sumps, furnace pits, and conveyor trenches, and with replacement of portions of the sanitary sewer line.
9. **Feasibility Study:** In accordance with Orders Nos. 90-032 and 92-053, FMC submitted a "Remedial Alternatives Report" in April 1992. The report recommended a combination of capping, a slurry wall, sleeving of the storm sewer, and continued groundwater monitoring.

In accordance with the "Interim Remedial Status Report" dated January 31, 1996, and accepted by the Board in a letter dated March 5, 1996, FMC then prepared a "Baseline Human Health Risk Assessment and Site Specific Target Levels for Soil and Groundwater Report" in May 1996 and a "Revised Remedial Alternatives Report" in July 1996. The "Revised Remedial Alternatives Report" recommended among other things that monitoring well W-31A be abandoned. Monitoring well W-31A was abandoned during the first quarter 1997 following receipt of RWQCB approval letter dated December 12, 1996.

In late 1996, FMC became aware of a unique opportunity to participate with the Board in a "research and development" project to develop methods for setting Site cleanup objectives based on the economic value of resources protected and or restored. In a Board letter dated October 17, 1996 and entitled "Development of Methodology to Quantify Groundwater Quality Objectives and Site Cleanup Objectives Based on Resource Value and Risk", the Site was identified as pilot project for basing cleanup objectives on resource value and risk. In March 1997, FMC submitted the Site as a pilot project and Charlton International (CI) was hired as the consultant to perform these analyses. In late 1998, it was concluded and documented in the February 1999 In-Situ Remedial Alternatives Evaluation Report, that the economic valuation approach would not be feasible for the Site.

In February 1999, a technical report entitled "In-Situ Remedial Alternatives Evaluation Report" was submitted to the Board. This report presented: the current understanding of Site conditions, an evaluation of available data, a description of supplemental data collection activities, an evaluation of intrinsic biodegradation activities occurring at the

Site, an evaluation of in-situ remediation alternatives, and an implementation plan. The proposed remedy was to stimulate anaerobic biodegradation activities by injecting either benzoate/lactate mixture or Hydrogen Release Compounds (HRC) using direct push technology. HRC injection was proposed as the remedial alternative, subject to a bench scale test and pilot study. HRC injection was suggested as the remedial alternative. The Board approved the "In-Situ Remedial Alternatives Evaluation Report" in March 1999.

Subsequently, a "Work Plan for In-Situ Bioremediation Pilot Study Using HRC Injection" was prepared and submitted to the Board in May 1999. A HRC pilot study was performed at the Site from May through November 1999. HRC was placed in the subsurface by direct push injection from 10 to 30 feet below ground surface at six locations. Results of the pilot study revealed that enhanced bioremediation is occurring at the Site due to HRC injection. The "Pilot Study Results Report and Full-Scale Implementation Work Plan for In-Situ Bioremediation Using HRC Injection" was submitted in February 2000 and approved by the Board staff for full-scale implementation, with the expectation that this action would be the final remedy, by letter dated February 25, 2000.

10. **Risk Assessment:** The document "Baseline Human Health Risk Assessment and Site Specific Target Levels of Soil and Groundwater" was submitted to the Board in May 1996. The purpose of the baseline risk assessment was to determine any potential incremental health risks or adverse health effects caused to on-site workers due to residual levels of chemicals in soil and groundwater at the Site. However, the risk assessment did not contain compound-specific cleanup levels for soil or groundwater.

The Board considers the following risks to be acceptable at remediation sites: an excess cancer risk of  $10^{-4}$  or less for carcinogens, and a hazard index of 1.0 or less for non-carcinogens. Soils at the site meet or are below the acceptable risks as described above.

Soil data collected from the Site during 1988 and May 2000 indicates that the 95% Upper Confidence Limits (95%UCL) for TCE and PCE concentrations within unsaturated soils (vadose zone) are less than their respective USEPA Region IX Preliminary Remediation Goals (PRGs) for residential soils. Therefore, no soil cleanup standards for VOCs were established for the Site. With respect to groundwater, the more stringent of USEPA or California EPA primary Maximum Contaminant Levels (MCLs) will be used as groundwater cleanup goals.

11. **Risk Mitigation:** FMC proposes to mitigate risks associated with residual chemicals in groundwater at the Site by implementing a Risk Management Plan for the entire Site.

The Risk Management Plan may include the following:

- Maintenance of an infiltration reducing cover across the Site (e.g. asphalt, buildings, etc.);
- Implementation of appropriate health and safety measures during excavation activities at the Site;
- Establishing a groundwater monitoring program to evaluate the potential migration of chemicals off-site; and
- Definition of groundwater compliance point(s) and alternative remedial actions should chemical concentrations in groundwater increase in a statistically significant manner.

These actions are to be conducted in accordance with the procedures to be defined in the Risk Management Plan proposed pursuant to Task C.2. of this Order. This Order requires FMC to implement the Risk Management Plan for the entire Site and to monitor groundwater conditions at the Site. Following five years of groundwater monitoring, the Board will evaluate the effectiveness of the groundwater cleanup program. The Board reserves the right to take additional action.

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.

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:

- Municipal and domestic water supply;
- Industrial process water supply;
- Industrial service water supply; and
- Agricultural water supply.

At present, there is no known use of shallow groundwater 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 USEPA and CAL EPA MCLs. Cleanup to this level will result in acceptable residual risk to humans.
- d. **Basis for Soil Cleanup Standards:** The 95% UCL for TCE and PCE concentrations within vadose zone soils (surface to a depth of 8.5 feet) were calculated in accordance with the EPA protocol outlined in the Methods for Evaluating the Attainment of Cleanup Standards – Volume 1: Soils and Solid Media published by the EPA in 1989. The results indicated that the 95%UCL for both TCE and PCE were below their respective USEPA Region IX PRGs for residential soils. Therefore, no soil cleanup standards are established for the Site under this Order.
13. **Cleanup Plan:** In accordance with the January 2000 "Pilot Study Results Report and Full-Scale Implementation Work Plan for In-Situ Bioremediation Using HRC Injection", HRC injection was performed at the Site in May 2000 at approximately 98 injection points. The HRC was injected throughout most of the impacted saturated zone starting

approximately 8 feet below ground surface and ending at 28 feet below ground surface. Following injection, the injection boreholes were filled with a cement slurry. Injection field activities were completed in three weeks. Baseline groundwater samples were collected from seven existing monitoring wells and one newly-installed monitoring well prior to HRC injection. One of these wells (PW-4) was abandoned after sample collection and data from an existing well (W-2) will be utilized. Seven groundwater monitoring wells will be monitored every two months, for six months, to observe the effectiveness of the HRC injection. After six months, these wells will be monitored on a quarterly basis. HRC distribution, remediation effectiveness, and the condition of the anaerobic environment will be evaluated from the collected data. Complete remediation is anticipated to require two to five years.

14. **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 of 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 FMC 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 if further cleanup actions should be taken.
15. **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.
16. **Basis for 13304 Order:** FMC 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.
17. **Cost Recovery:** Pursuant to California Water Code Section 13304, the dischargers are 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.
18. **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.

19. **Notification:** The Board has notified the dischargers, 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.
20. **Public Hearing:** The Board, at a public meeting, heard and considered all comments pertaining to this discharge.

**IT IS HEREBY ORDERED**, pursuant to Section 13304 of the California Water Code, that FMC and Owner (or the respective agents, successors, or assigns of FMC or Owner) 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:** FMC shall implement the cleanup plan described in Findings 11 & 13.
2. **Groundwater Cleanup Standards:** The following groundwater cleanup standards shall be met in on-Site monitoring wells (W-1, W-2, W-4, W-5, W-6, W-8, W-9, W-10, W-13, W-29, W-30) and W-36 identified in the Self-Monitoring Program:

Constituent	Standard (ug/l)	Basis
Trichloroethene (TCE)	5	CAL and USEPA Primary MCL
cis-1,2-Dichloroethene (cis-1,2-DCE)	6	CAL EPA Primary MCL
Vinyl Chloride	0.5	CAL EPA Primary MCL
trans-1,2-Dichloroethene (trans-1,2-DCE)	10	CAL EPA Primary MCL
Tetrachloroethene (PCE)	5	CAL and USEPA Primary MCL
1,1,1-Trichloroethane (1,1,1-TCA)	200	CAL EPA Primary MCL
1,1-Dichloroethane (1,1-DCA)	5	CAL EPA Primary MCL
1,1-Dichloroethene (1,1-DCE)	6	CAL and USEPA Primary MCL

## **C. TASKS**

### **1. HRC FULL-SCALE IMPLEMENTATION REPORT**

COMPLIANCE DATE: September 29, 2000

Submit a technical report acceptable to the Executive Officer documenting the completion of HRC injection pursuant to the approved work plan.

### **2. RISK MANAGEMENT PLAN**

COMPLIANCE DATE: November 30, 2000

Submit a Risk Management Plan acceptable to the Executive Officer that proposes risk mitigation measures associated with exposure to residual chemicals in groundwater such as implementation of appropriate health and safety measures during potential demolition, and any excavation and/or construction activities at the Site.

### **3. PROPOSED INSTITUTIONAL CONSTRAINTS**

COMPLIANCE DATE: March 31, 2001

Submit a technical report acceptable to the Executive Officer documenting procedures to be used by Owner, and future owners and associated occupants of the Site, 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 zone 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: July 31, 2005

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.

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 the 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. **DELAYED COMPLIANCE**

If FMC or Owner is delayed, interrupted, or prevented from meeting one or more of the completion dates specified for the above tasks, the particular party 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:** FMC 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:** FMC or Owner, as applicable, 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 FMC or Owner 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), FMC or Owner, as applicable, 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 FMC.
5. **Self-Monitoring Program:** FMC 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.

9. **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).
10. **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 San Jose Fire Department
  - b. Santa Clara County Health Department
  - c. Santa Clara Valley Water District
  - d. CAL EPA – Department of Toxic Substances Control

The Executive Officer may modify this distribution list as needed.

11. **Reporting of Changed Owner or Operator:** Owner shall file a technical report on any changes in site occupancy or ownership associated with the property described in this Order.
12. **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, FMC or Owner, as applicable, 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.

13. **Rescission of Existing Order:** This Order supercedes and rescinds Orders Nos. 90-032 and 92-053.
14. **Periodic SCR Review:** The Board will review this Order periodically and may revise it when necessary. FMC or Owner, as applicable, may request revisions

and, upon review, the Executive Officer may recommend that the Board revise these requirements.

I, Dr. Lawrence P. Kolb, Acting 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 August 16, 2000.

  
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Dr. Lawrence P. Kolb,  
Acting Executive Officer

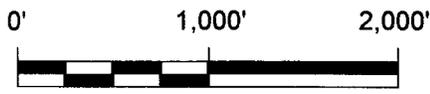
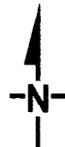
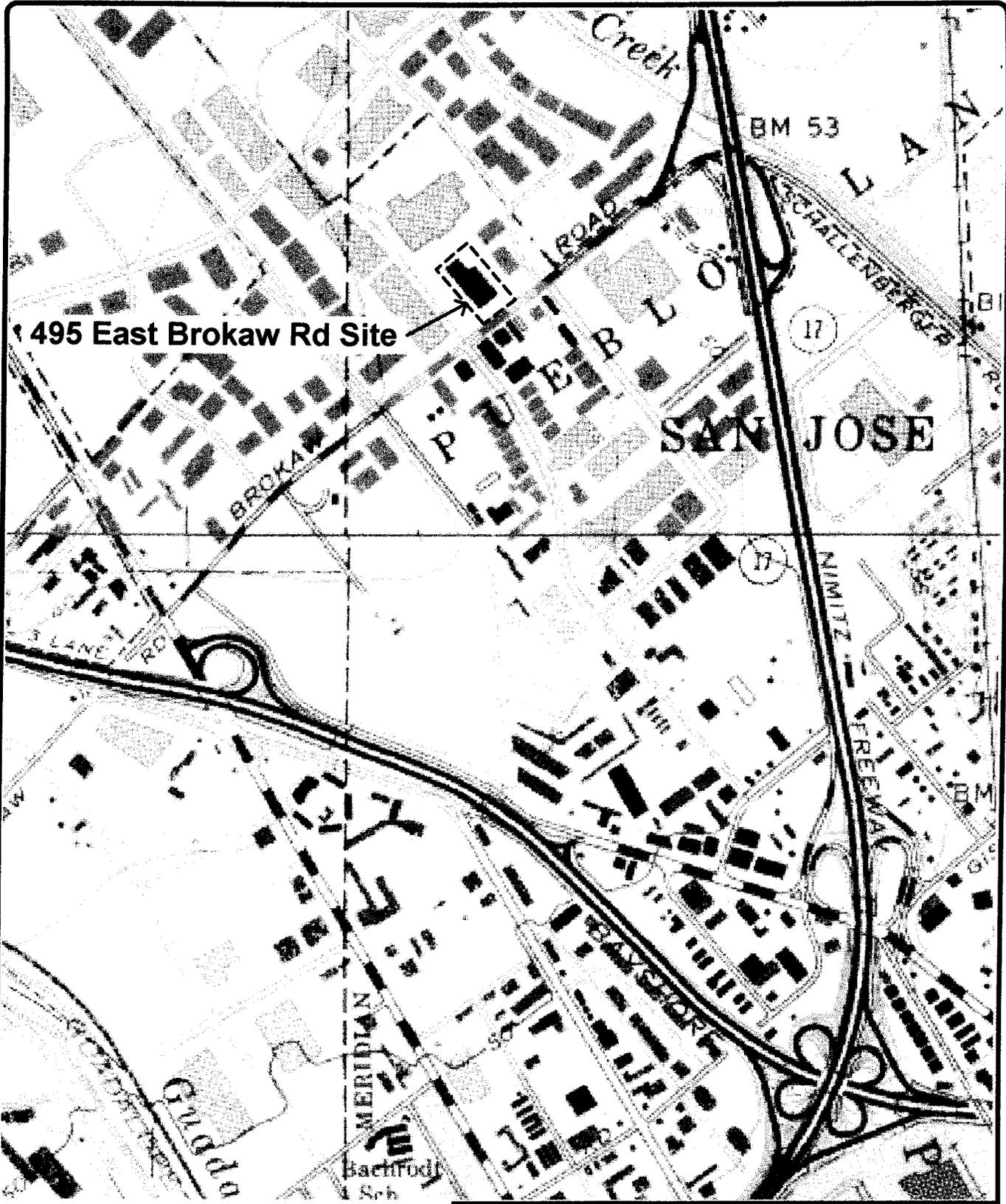
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FAILURE TO COMPLY WITH THE REQUIREMENTS OF THIS ORDER MAY SUBJECT YOU TO ENFORCEMENT ACTION, INCLUDING BUT NOT LIMITED TO: IMPOSITION OF ADMINISTRATIVE CIVIL LIABILITY UNDER WATER CODE SECTIONS 13268 OR 13350, OR REFERRAL TO THE ATTORNEY GENERAL FOR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

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Attachments: Site Location Map (Figure 1)  
Site Features (Figure 2)  
Self-Monitoring Program

P:\SITEGIS\485EBRW\WORK\



Scale: 1" = 1,000'

TITLE		<b>Site Location</b>	
LOCATION		FMC Corporation - 495 East Brokaw Road	
 <b>HSI GEOTRANS</b> <small>A TETRA TECH COMPANY</small>	CHECKED BY	JAA	FIGURE:  <b>1</b>
	DRAFTED BY	GJG	
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	DATE	01/07/2000	

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### 495 EAST BROKAW ROAD SITE

Stone Container Corporation

Junction Oaks Properties

Test-O-Pac Industries, Inc.

3B-Productions

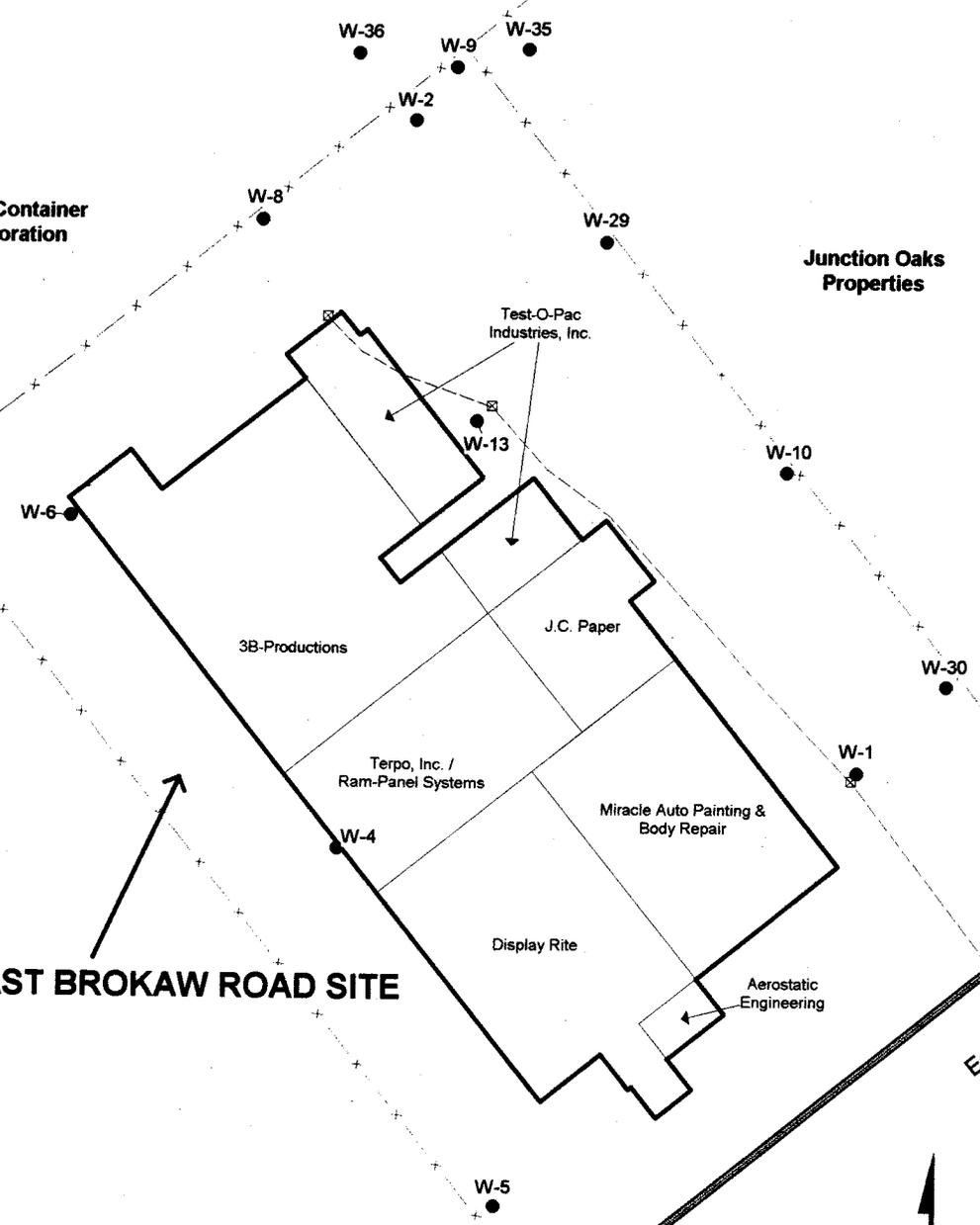
J.C. Paper

Terpo, Inc. / Ram-Panel Systems

Miracle Auto Painting & Body Repair

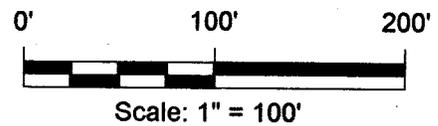
Display Rite

Aerostatic Engineering



### Explanation

-  Building
-  Fence / Property Boundary
-  Street
-  Storm Sewer Line / Catch Basins
-  Monitor Well



TITLE			
<b>Site Features</b>			
LOCATION			
FMC Corporation - 495 East Brokaw Road			
 <b>HSI GEOTRANS</b> A TETRA TECH COMPANY	CHECKED BY	JAA	FIGURE: <b>2</b>
	DRAFTED BY	G.J.G.	
	FILE NAME	Sitemap3.wor	
	DATE	01/07/2000	

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM FOR:

FMC CORPORATION and 495 EAST BROKAW ROAD, LLC

for the property located at

495 EAST BROKAW ROAD  
SAN JOSE  
SANTA CLARA 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 Board Order No. 00-092.
2. **Monitoring:** FMC Corporation ("FMC") 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
W-1	Q	8010	W-10	Q	8010
W-2	Q	8010	W-13	Q	8010
W-4	Q	8010	W-29	A	8010
W-5	Q	8010	W-30	A	8010
W-6	Q	8010	W-35	Q	8010
W-8	Q	8010	W-36	Q	8010
W-9	Q	8010			

Key: Q = Quarterly      8010 = EPA Method 8010 or equivalent  
A = Annually

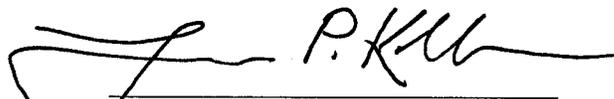
FMC shall sample any new monitoring or extraction wells quarterly and analyze groundwater samples for the same constituents as shown in the above table. FMC may propose changes in the above table; any proposed changes are subject to Executive Officer approval.

3. **Quarterly Monitoring Reports:** FMC shall submit quarterly monitoring reports to the Board no later than 30 days following the end of the quarter (e.g. report for first quarter of the year due April 30). The first quarterly monitoring report shall be due on October 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 FMC'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 fourth quarterly 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 fourth quarterly 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 fourth quarterly report each year.

- e. **Status Report:** The quarterly report shall describe relevant work completed during the reporting period (e.g. site investigation, interim remedial measures) and work planned for the following quarter. The Status Report shall also include any and all activities related to the Risk Management Plan, Task C.2.
4. **Violation Reports:** If FMC or Owner, as applicable, violates requirements in the Site Cleanup Requirements, then the particular party shall notify the Board office by telephone as soon as practicable once the party has knowledge of the violation. Board staff may, depending on violation severity, require the party to submit a separate technical report on the violation within five working days of telephone notification.
5. **Other Reports:** Owner 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:** FMC or its 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 FMC. 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, Dr. Lawrence P. Kolb, Acting Executive Officer, hereby certify that this Self-Monitoring Program was adopted by the Board on August 16, 2000.

  
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Dr. Lawrence P. Kolb  
Acting Executive Officer