CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 95-065
REVISING SITE CLEANUP REQUIREMENTS FOR:

NCH CORPORATION AND MOHAWK LABORATORIES
932 KIFER ROAD FACILITY
SUNNYVALE, SANTA CLARA COUNTY

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

1. The Mohawk Laboratories site is located near the intersection of Commercial Street and Kifer Road in the City of Sunnyvale (Figure 1). Mohawk Laboratories is a division of NCH Corporation (also known as National ChemSearch). Mohawk Laboratories and NCH Corporation have owned and operated a chemical blending and distribution plant at the site since 1967. The site covers approximately 11 acres, and the regional topography slopes very gently toward the north. A warehouse and office building is located on the south and east portions of the site. The north and western portions of the site are covered with grass.

2. An above-ground tank farm with a capacity of 157,000 gallons was located on the dischargers site from 1967 to 1988. Chemicals stored in the tank farm included chlorinated solvents, methylene chloride, kerosene, xylene, and isopropanol. Chemicals stored in the tank farm were transferred into an on-site blending/warehouse building prior to sale and distribution.

3. Subsurface investigation have revealed significant levels of organic chemical pollution in soils and groundwater beneath the site. Chemicals detected on-site include trichloroethylene (TCE), cis-1,2-dichloroethene (DCE), and perchloroethylene (PCE).

4. Soil samples obtained from a boring located beneath and near the tank farm contained elevated levels of TCE, PCE, and cis-1,2-DCE. Light and dense free product has been detected beneath the former tank farm in the shallow A-zone, and dissolved groundwater contamination in the A-zone extends across the site to the northern site boundary. Dissolved groundwater contamination has also been detected in the A-zone north of the Mohawk site. Trace levels of PCE contamination have been detected in wells in the deeper B-zone.

5. In 1993 three horizontal extraction wells were installed in the area of the former tank farm to remediate soil and light and dense free product on-site. As of August 1994, the remediation system removed approximately 11,000 pounds of VOCs from the subsurface. In October, 1994, a vertical groundwater extraction well was installed on the north area of the property. It has not been determined whether the well is sufficient to prevent migration of dissolved groundwater contamination to off-site areas.

6. The area in the vicinity of the Mohawk Laboratories site is underlain by unconsolidated sedimentary deposits of clay, silt, sand, and gravel extending to depths of at least 1,000 feet below the ground surface. These deposits have been subdivided into aquifers (water producing zones), and semi-permeable to relatively impermeable saturated zones (aquitards). The shallow groundwater zone (A-zone) beneath the Mohawk site is encountered at approximately 15 feet, and extends to approximately 20 feet below the ground surface. The ground water gradient within the shallow A-zone slopes in a north-northeasterly direction. The B-zone is encountered at approximately 45 feet below the ground surface. The thickness of the B-zone has not been determined. The ground water gradient in the B-zone slopes in a northwesterly direction.

7. Based on available data, it appears that contamination existing at the Mohawk site may have impacted areas north (downgradient) of the site. Previous investigation and remedial efforts primarily address soil and groundwater contamination at the Mohawk site. Additional data generated by Mohawk and others is necessary to completely characterize and define the extent of groundwater contamination north of the Mohawk site. Interim and final remedial measures are also necessary in order to prevent continued impacts to groundwater.

8. Several sites exist in the vicinity of the Mohawk Laboratories site that are sources of soil and/or ground water pollution. These facilities include Hewlett-Packard, located at 974 E. Arques Street; Pilkington Barnes Hind, located at 895 Kifer Road, the City of Sunnyvale Corporation Yard, located at 221 Commercial Street, and Philips Semiconductors (formerly Signetics), located at 100 San Lucar Court. A number of other sites in the area are also considered potential sources of groundwater contamination.

   The Board has adopted orders requiring further characterization and cleanup of ground water for the Sunnyvale Corporation Yard site in August 1994, and will consider updated orders for the Pilkington Barnes Hind and Hewlett-Packard sites in February and May 1995. In addition, a number of potential dischargers in the Mohawk vicinity are currently

being required to determine whether releases have occurred on their sites.

9. Mohawk Laboratories is a discharger because it owns and operates the 932 Kifer Road facility. As a parent company and as co-owner of site, NCH Corporation is also a discharger. As additional information is generated for these and other facilities in the area, the Board may modify this Order and the dischargers named in this Order.

10. The Board adopted Order No. 88-121 (Site Cleanup Requirements) for the Mohawk site on July 20, 1988. The intent of this Order is to update the time schedule in Order 88-121 defining the extent of pollution originating at the Mohawk Laboratories site and evaluating final remedial action alternatives.

11. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986, and subsequently amended it. The Basin Plan contains water quality objectives for South San Francisco Bay and contiguous surface and ground waters.

12. The Basin Plan defines existing and potential beneficial uses of the ground water underlying and adjacent to the site. These include:

    a. Industrial process water supply
    b. Industrial service supply
    c. Municipal and domestic supply
    d. Agricultural supply.

13. The Board adopted Resolution No. 89-39, "Incorporation of 'Sources of Drinking Water' Policy into the Water Quality Control Plan" on March 15, 1989. This policy defines ground water as suitable or potentially suitable for municipal or domestic supply as that which : 1) has a total dissolved solids content of less than 3,000 mg/l, and 2) is capable of providing sufficient water to supply a single well with at least 200 gallons a day. Based on available regional ground water data, the ground water underlying and adjacent to the site falls within this category.

14. The discharger has caused or permitted, and threatens to cause or permit, waste to be discharged or deposited where it is or probably will be discharged to waters of the State and creates or threatens to create a condition of pollution or nuisance.

15. Groundwater cleanup standards to be established for the site will be in accordance with State Water Resources Control Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California". The cleanup standards will be based on: a) the Federal or State

Primary or Secondary Maximum Contaminant Level (MCL) or State Action Level (AL), or b) more stringent levels based upon a site specific risk assessment and technical and economic feasibility. If an MCL or AL has not been promulgated, the cleanup standard will be based on the best available site- and chemical-specific health information and will be protective of human health and the environment.

16. For most VOC contaminated sites, a cleanup standard of 1 ppm for total VOCs has been established for unsaturated soils. This cleanup standard will be applied to the site unless the discharger is able to demonstrate, with site-specific data, that higher levels of VOCs in the soils will not threaten the quality of waters of the State and that human health and the environment are protected.

17. This action is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.

18. Pursuant to Section 13304 of the Water Code, 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.

19. The Board has notified the discharger and 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 the opportunity for a public hearing and an opportunity to submit their written views and recommendations.

20. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

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

A. <u>PROHIBITIONS</u>

1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect the beneficial uses of the waters of the State is prohibited.

2. Further significant migration of pollutants 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 the pollutants or adverse distortion of portions of the plume under investigation are prohibited.

B. SPECIFICATIONS

1. The storage, handling, treatment or disposal of polluted soil or ground water shall not create a nuisance as defined in Section 13050(m) of the California Water Code.

2. The discharger shall conduct monitoring activities as needed to define the current local hydrogeologic conditions, and the lateral and vertical extent of ground water pollution. Should monitoring results show evidence of plume migration, additional plume characterization may be required.

C. PROVISIONS

1. The discharger shall comply with all Prohibitions and Specifications immediately, except as modified in accordance with the following time schedule and tasks:

a) COMPLETION DATE: June 15, 1995

TASK: OFF-SITE REMEDIAL INVESTIGATION WORKPLAN
Submit a technical report acceptable to the Executive Officer, which evaluates previous technical data and includes a workplan for additional soil and ground water investigation in order to completely define the extent of pollution extending off-site. The off-site workplan should consider the on-going investigations conducted by other potential dischargers in the area. The workplan should also include a ground water monitoring and sampling plan.

b) COMPLETION DATE: Within 150 days of Executive Officer approval of the workplan specified in Provision C.1.a.

TASK: OFF-SITE REMEDIAL INVESTIGATION REPORT
Submit a technical report acceptable to the Executive Officer, pursuant to the remedial investigation workplan identified in Provision C.1.a., containing the results of the remedial investigation. The Remedial Investigation report

should also consider data generated by investigations conducted by other potential dischargers in the area. Upon review and approval of the Remedial Investigation report by the Executive Officer, and upon review and approval of investigation reports required of other potential dischargers in the area, the remaining tasks of this order may be modified.

c) COMPLETION DATE: Within 60 days of request by the Executive Officer.

TASK: <u>OFF-SITE INTERIM REMEDIAL ACTION WORKPLAN</u> Submit a workplan acceptable to the Executive Officer for remedial measures addressing the extent of groundwater contamination originating from the Mohawk site, as determined in the report specified in Provision C.1.b.

d) COMPLETION DATE: Within 150 days of Executive Officer approval of the workplan specified in Provision C.1.c.

TASK: <u>OFF-SITE INTERIM REMEDIAL ACTION START-UP REPORT</u> Submit a technical report acceptable to the Executive Officer documenting the installation and startup of the off-site interim remedial action measures proposed in the report required pursuant to Provision C.1.c.

e) COMPLETION DATE: September 15, 1996

TASK: <u>COMPLETION OF FEASIBILITY STUDY REPORT AND PROPOSED FINAL REMEDIAL ACTION PLAN</u> Submit a technical report acceptable to the Executive Officer, based on the results of the on and off-site remedial investigations and a performance evaluation of the on and off-site interim remedial action measures, containing the feasibility study and proposed remedial action plan. This technical report shall include proposed soil and ground water cleanup standards based on 1) Specifications B.3. and B.4., and 2) a risk-based approach for all pollutants that may remain in the soil and groundwater. The report should also include a time schedule necessary to implement the proposed final remedial actions.

2. Technical reports evaluating proposed interim and final remedial actions will include a projection of the cost, effectiveness, benefits and impact on public health, welfare, and environment of each alternative action. The remedial investigation and feasibility study shall

consider Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300 et seq.); Superfund Amendments and Reauthorization Act of 1986; CERCLA/SARA guidance documents with reference to Remedial Investigations and Feasibility Studies and Removal Actions; and both the State Water Resources Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California" and Resolution No. 92-49, "Policies and Procedures for Investigations and Cleanup and Abatement of Discharges Under Water Code Section 13304."

3. Any proposal for the discharge of extracted ground water must initially consider the feasibility of reclamation, or discharge to a publicly owned treatment works (POTW), as specified in Board Resolution No. 88-160. If it can be demonstrated that reclamation or discharge to a POTW is technically and economically unfeasible, a proposal for discharge to surface water shall be considered. Such proposal for discharge to surface water shall include the above demonstration and a completed application for an NPDES permit.

4. If the discharger is delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the discharger shall promptly notify the Executive Officer. In the event of such delays, the Board may consider modification of the task completion dates established in this Order.

5. The discharger shall submit to the Board acceptable self-monitoring program reports containing results of work performed according to a program approved by the Executive Officer.

6. The self-monitoring program reports shall also summarize the status of compliance with the Prohibitions, Specifications, and Provisions of this Order and shall be submitted quarterly to the Board, according to the schedule below, commencing with the report for the first quarter, due April 30, 1995.

Quarter	1st quarter	2nd quarter	3rd quarter	4th quarter
Period	Jan-March	April-June	July-Sept	Oct-Dec
Due Date	April 30	July 31	October 31	January 31

The quarterly reports shall include:

a. a summary of work completed since the previous quarterly report, and work projected to be completed by the time of the next report,

b. appropriately scaled and labeled maps showing the location of all monitoring wells, extraction wells, and existing structures,
c. updated water table and piezometric surface maps for all affected water bearing zones, or alternatively, isoconcentration maps for key contaminants in all affected water bearing zones,
d. a cumulative tabulation of all well construction data, ground water levels and chemical analysis results for site monitoring wells in the monitoring program approved by the Executive Officer,
e. a cumulative tabulation of volume of extracted ground water and chemical analysis for all site ground water extraction wells,
f. identification of potential problems which will cause or threaten to cause noncompliance with this Order and what actions are being taken or planned to prevent these obstacles from resulting in noncompliance with this Order, and
g. in the event of noncompliance with the Prohibitions, Provisions and Specifications of this Order, the report shall include written justification for noncompliance and proposed actions to achieve compliance.

7. All hydrogeological plans, specifications, reports, and documents shall be signed by or stamped with the seal of a registered geologist, certified engineering geologist or professional engineer.

8. 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 records for Board review.

9. 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.

10. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order, shall be provided to the following agencies:

    a. Santa Clara Valley Water District
    b. Santa Clara County Health Department
    c. City of Sunnyvale

    The Executive Officer may additionally require copies to be provided to the California Environmental Protection

Agency - Department of Toxic Substances Control, the U.S. Environmental Protection Agency, Region IX, and/or a local repository for public use.

11. The discharger shall permit the Board or its authorized representatives, in accordance with Section 13267(c) of the California Water Code:

    a. Entry upon premises in which any pollution sources exist, 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 terms and conditions of this Order.
    c. Inspection of any monitoring equipment or methodology implemented in response to this Order.
    d. Sampling of any ground water or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.

12. The discharger shall file a report on any changes in site occupancy and ownership associated with the 932 Kifer Road site.

13. The discharger shall be liable, pursuant to Section 13304 of the Water Code, 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 procedures established in that program. Any disputes raised by the discharger over the reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures of that program.

14. If any hazardous substance is discharged in or on any waters of the State, or discharged and deposited where it is, or probably will be discharged in or on any waters of the State, the discharger shall report such a discharge to this Board, at (510) 286-1255 on weekdays during office hours from 8 a.m. to 5 p.m., and to the Office of Emergency Services at (800) 852-7550 during non-office hours. A written report shall be filed with the Board within five (5) working days and shall contain information relative to: the nature of waste or pollutant, quantity involved, duration of incident, cause of spill, Spill Prevention Control and Countermeasure Plan (SPCC) in effect, if any, estimated size of affected

area, nature of effects, corrective measures that have been taken or planned, and a schedule of these activities, and persons notified.

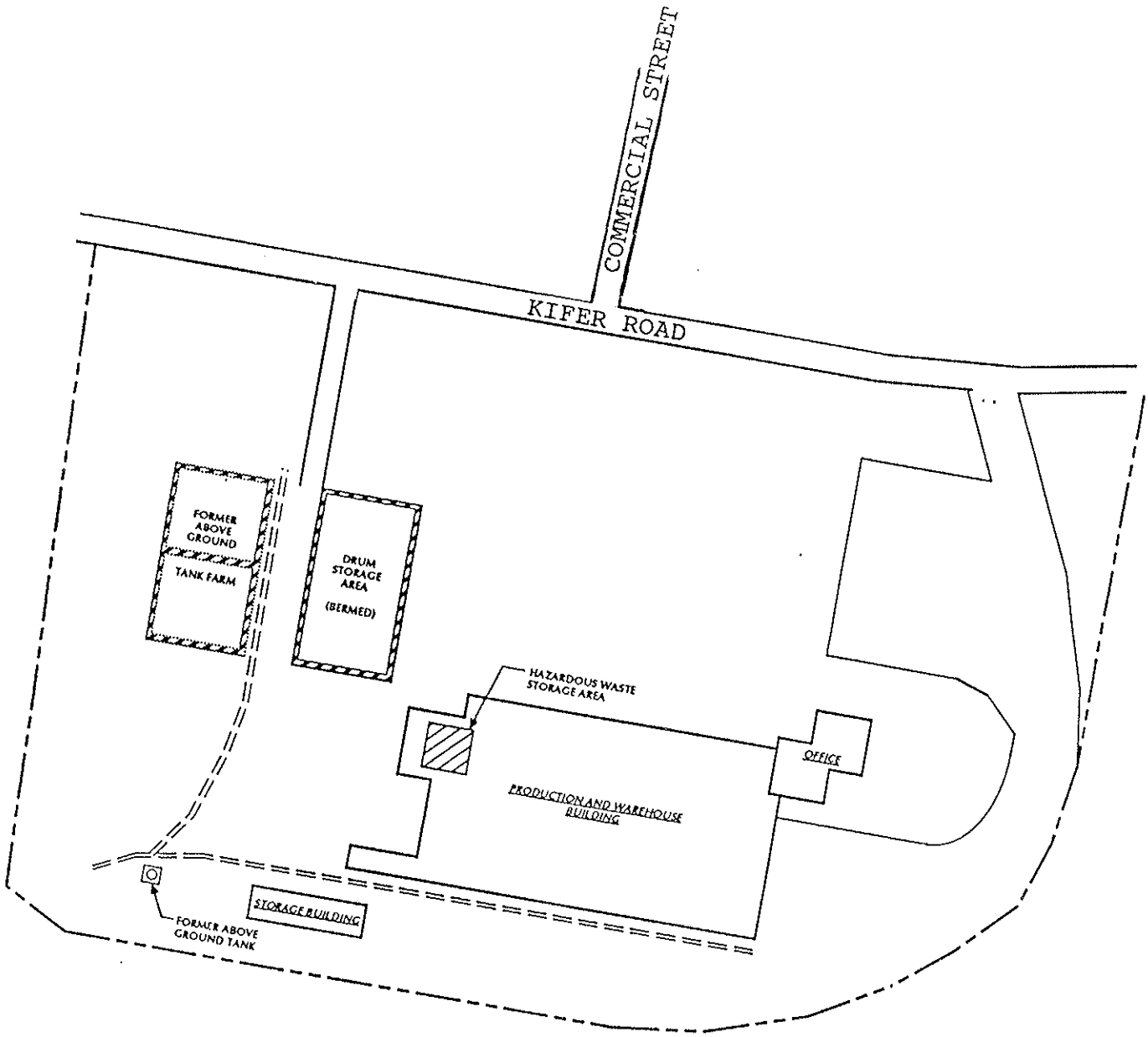
15. This Order hereby rescinds Site Cleanup Requirements Order 88-121.

16. The Board will review this Order periodically and may revise the requirements when necessary.

I, Steven R. Ritchie, 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 March 15, 1995.

Steven R. Ritchie
Executive Officer

Attachments:
Figure 1. Site Map



NOT TO SCALE

NORTH

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SITE MAP

MOHAWK LABORATORIES
932 KIFER ROAD
SUNNYVALE, SANTA CLARA COUNTY

DRAWN BY: CSF | DATE: 10/26/94

map source: Brown & Caldwell 1987