CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER 96-083

FINAL SITE CLEANUP REQUIREMENTS
(RESCINDING ORDER 92-085)

NORTH AMERICAN TRANSFORMER
MILPITAS FACILITY
MILPITAS, SANTA CLARA COUNTY

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

1. **Site Location and Description:** North American Transformer (NAT) has owned and operated the site at 1200 Piper Drive in Milpitas since its 1966 to 1967 development from agricultural use to a manufacturing facility for electrical transformers (see site location map, Figure 1).

2. **Named Dischargers and Regulatory Status:** North American Transformer (hereinafter referred to as a discharger) is a discharger because of their ownership and occupancy of the site during which time one or more chemical spills occurred which are consistent with their use of chemicals. The Board has adopted the following orders for this site:

   Site Cleanup Requirements Order No. 90-073
   Site Cleanup Requirements Order No. 92-085 (rescinding Order 90-073)

   SCR Order No. 90-073 specified tasks to determine whether, or not, the site was a source of chemicals of concern to groundwater. The results of these investigations identified two areas of concern - Bay 1 and the transformer oil pipeline (TOP) area (Figure 2). Clayey soils containing elevated concentrations of volatile organic compounds (VOCs) were characterized and excavated from the Bay 1 area. In addition, NAT installed and operated a soil vapor extraction system at Bay 1. Releases from an underground pipeline were discovered in the TOP area. Chemicals of concern in soils at the TOP area included polychlorinated biphenyls (PCBs), trichloroethane (TCA), and total petroleum hydrocarbons (TPH) as transformer oil and petroleum naptha. Free phase TPH was discovered on the groundwater table in the immediate vicinity of the TOP area.

In SCR Order No. 92-085 NAT was named as a discharger of TPH and TCA due to the release at the TOP area. Order 92-085 required NAT to prepare a Final Cleanup Objectives and Actions (FCOA) Report, evaluate and propose remedial solutions for Bay 1 and the TOP area, and to implement the identified remedies. NAT was in the early stages of free phase product remediation at the time the Board issued Order 92-085. Since then the additional remedial and monitoring activities conducted at the site indicate that the Bay 1 soil vapor extraction (SVE) has accomplished its remedial objectives, that TCA in groundwater has declined to concentrations well below maximum contaminant levels (MCLs), and that free phase TPH in the TOP area has been largely recovered.

3. **Site History:** The site was used primarily for agricultural purposes prior to the initiation of industrial activities in 1961. The South Yard (Figure 2) portion of the site was used for storage of wrapped pipes by Ameron Incorporated between 1961 and 1970. The major portion of the site has been used by NAT for transformer manufacturing since construction of the main building in 1967.

4. **Adjacent Facilities:** Four facilities are located adjacent to NAT: Jones Chemicals Inc. (Jones) operates a facility immediately adjacent upgradient to the east; Milpitas Business Park is located to the south; the Great Mall of the Bay Area (former Ford Motor Company Facility) is downgradient to the west; and a light industrial park to the north (see Figure 1). The RWQCB has issued Site Cleanup Requirements Orders to both Jones and Ford Motor Company. Remedial activities are being conducted by those parties pursuant to the requirements of their respective Orders.

5. **Offsite Plumes:** A plume of chlorinated solvents originating from a 1982 spill on the Jones property has migrated across the NAT and onto the upgradient edge of the Great Mall of the Bay Area property. The Jones remediation system consists of two rows of extraction wells on the NAT property, upgradient of the TOP area and an additional row on the upgradient edge of the Great Mall property.

6. **Site Geology and Hydrology:** The site is located within the Coast Range geomorphic province at the northern extent of the Santa Clara Valley and the southern portion of San Francisco Bay. The ground surface is relatively flat, with a gentle slope toward the west. The facility is underlain by inter- bedded alluvial sediments composed of sand, gravel, silt and clay. Groundwater elevation measurements indicate a westward gradient in the shallow and intermediate groundwater zones. Shallow (45 to 20 feet MSL) and intermediate (10 to -25 feet MSL) groundwater zones beneath the NAT property have been impacted by VOCs due to a 1982 release on the Jones Site. Petroleum hydrocarbon and TCA impacts related to the NAT site are restricted to the shallow zone.

7. SOIL AND GROUNDWATER INVESTIGATIONS AND REMEDIAL ACTIVITIES

7.1 Final Cleanup Objectives and Actions Report: NAT submitted a FCOA Report in accordance with the provisions of SCR Order 92-085. This Order adopts the cleanup levels and actions proposed in the FCOA as amended. The FCOA report included a summary of all previous investigations, a human health risk assessment, and recommendations for completion of three remedial actions in areas of concern. The human health risk assessment concluded that there were no excess risks associated with the chemicals in soils and groundwater at the site given the current industrial use. The three remedial actions included conducting SVE for removal of VOCs in soils which could not be excavated in the Bay 1 area, excavation of soils impacted with PCBs at concentrations above 25 mg/kg in the TOP area, and continued operation of the free phase product skimming system. At this time each of these tasks has been completed as described below.

7.2 Completion of West Bay 1 SVE Activities: NAT installed a soil vapor extraction (SVE) system at Bay 1 to remediate soils which could not be excavated. This work was conducted consistent with the requirements of Order No. 92-085 and is described in the FCOA report. The SVE system has been operated since 1992. The results of monitoring and pulsing of the system indicate that concentrations of VOCs in soils have been reduced to the extent possible using SVE. This order recognizes the completion of remediation activities in this area.

7.3 TOP Area PCB Soil Excavations: PCB impacted soils in the TOP area with concentrations above 25 mg/kg were excavated and disposed offsite in late 1993/early 1994 in accordance with the provisions of Order 92-085. These soils included a significant portion of the soils impacted by petroleum hydrocarbons. These activities were documented in the PCB Excavation Report prepared by Law Environmental. This order recognizes the completion of PCB soil removal activities in the TOP area.

7.4 TCA in Soil and Groundwater: There was a known release of transformer oil containing TCA in the TOP area. As discussed above in Section 6.3, NAT conducted a soils excavation in the TOP area. Potential source soils were removed in conjunction with this activity. Concentrations of TCA in groundwater downgradient of the TOP area have been significantly below MCLs for several years. Therefore, no further monitoring or remediation is required for TCA.

7.5 Recovery of Free Phase Product in the TOP Area: The free phase transformer oil in the TOP area is being remediated by the use of an oil skimming system. The system was expanded in three stages to include skimming from 18 total wells. A total of over 2400 gallons of transformer oil was recovered by the system. Currently there is negligible free phase oil in monitoring wells and essentially no recovery of oil in the skimming

system. This is apparently both a result of the success of the system at recovering oil and the seasonal fluctuations in groundwater elevations. This Order sets a final task for closure of remedial activities in the area when it can be demonstrated that the goal of removal of free phase product has been achieved.

7.6 Dissolved Phase TPH Downgradient of the TOP Area: Dissolved phase transformer oil has been detected intermittently in groundwater samples collected from monitoring wells located downgradient of the TOP area since 1994. These periodic occurrences are likely related to fluctuations of the groundwater gradients resulting from regional groundwater extraction programs. No cleanup standards are established for TPH as dissolved phase transformer oil in groundwater. It is recognized that low concentrations of this TPH may persist in groundwater but they are not considered to represent a threat to human health or the environment, based upon information presented in the FCOA human health risk assessment. These compounds are amenable to natural biodegradation. Continued groundwater monitoring of dissolved TPH is necessary to determine if significant migration occurs. Should monitoring indicate that significant adverse migration of residual dissolved TPH is occurring, the Board may require additional measures to be taken.

8. **Scope of This Order:** This Order contains tasks for curtailment of the free phase product extraction system in the TOP area and development of a self-monitoring program to address remaining dissolved TPH in groundwater. This Order also adopts the cleanup levels and actions proposed in the FCOA as amended, recognizes the completion of primary remedial activities at the site and affirms closure of all areas of concern with exception of the TOP area. This Order rescinds SCR Order 92-085.

9. **Basin Plan:** 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 23 CCR 3912. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and groundwaters.

10. **Beneficial Use:** The potential beneficial uses of groundwater underlying and adjacent to the site include:

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

11. **Basis for 13304 Order:** 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.

12. **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.

13. **CEQA:** The 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.

14. **Notification:** The Board has notified the discharger and interested agencies and persons of its intent to prescribe site cleanup requirements and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

15. **Public Hearing:** The Board, in a public meeting, heard and considered all comments pertaining to these requirements.

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. 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. Methods employed to investigate, contain, and/or clean up polluted soil and groundwater which will cause significant adverse migration of pollution are prohibited.

B. CLEANUP STANDARDS

1. No cleanup standards are established for TPH as dissolved phase transformer oil in groundwater. It is recognized that low concentrations of this TPH may persist in groundwater but they are not considered to represent a threat to human health or the environment. These compounds are amenable to natural biodegradation. Information presented in the FCOA human health risk assessment indicate that there are no known effects related to the TPH compounds found in transformer oil and petroleum naptha.

C. TASKS

1. PROPOSED CURTAILMENT FOR THE TOP AREA FREE PHASE PRODUCT RECOVERY

COMPLIANCE DATE: 60 days prior to proposed curtailment

Submit a technical report acceptable to the Executive Officer containing a proposal to curtail remediation of free phase product in the TOP area. 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 contaminant concentrations are stable and contaminant migration potential is minimal.

2. PROPOSE SELF MONITORING PROGRAM FOR DISSOLVED HYDROCARBON

COMPLIANCE DATE: 90 days after adoption of this Order

Submit a technical report acceptable to the Executive Officer proposing a self monitoring program to address the remaining dissolved TPH in groundwater.

3. 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 1.

4. **FIVE-YEAR STATUS REPORT**

COMPLIANCE DATE: five years after date of adoption of this Order

If applicable, submit a technical report acceptable to the Executive Officer evaluating the effectiveness of the approved cleanup plan. The report may be submitted prior to the indicated date if sufficient information for final closure has been obtained. The report should include:

- o summary of effectiveness in controlling contaminant migration and protecting human health and the environment
- o evaluation of contaminant concentration trends
- o performance data (e.g. volume of free phase product recovered)
- o cost effectiveness data (e.g. cost per pound of contaminant removed)
- o summary of additional investigations (including results) and significant modifications to remediation systems
- o additional remedial actions proposed (if applicable) including time schedule

If closure has not been achieved and is not projected to be achieved within a reasonable time, the report should assess the technical practicability of an alternative cleanup strategy.

5. **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. **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. **Contractor Qualifications:** All hydrogeologic documents (plans, specifications, and reports) 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.

6. **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).

7. **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. Santa Clara Valley Water District
   b. Milpitas Fire Department

8. **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.

9. **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) 286-1255 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.

10. **Rescission of Existing Order:** This Order rescinds Orders No. 92-085.

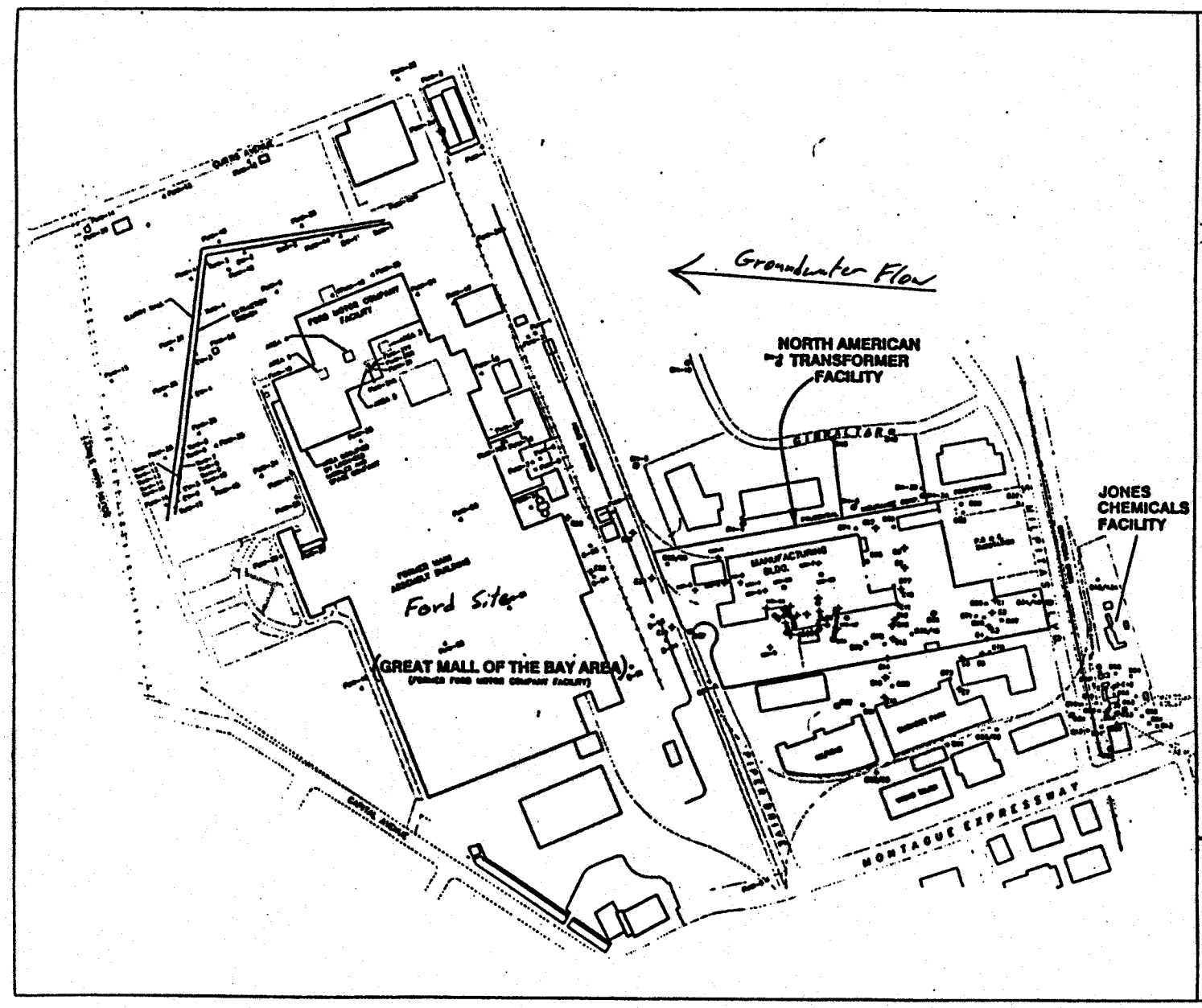
11. **Periodic SCR Review:** The Board will review this Order periodically and may revise it when necessary.

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 June 19, 1996.

Loretta K. Barsamian
Executive Officer

Attachments:

Figure One, Site Map
Figure Two, Investigation Area Map



N

0 450 900

(Approximate Scale in Feet)

LEGEND

- Fence or Property Line
- NAT Abandoned Monitoring Wells
- NAT Shallow Monitoring Well
- Shallow Monitoring Well (<40 feet deep)
- Intermediate-Depth Monitoring Well (>40 and <70 feet deep)
- Jones Deeper Monitoring Well (>70 feet deep)
- Jones Shallow and Intermediate-Depth Composite Well
- Jones Monitoring Well Pair (Shallow and Intermediate-Depth)
- Jones Extraction Well
- Jones Water-Level Observation Well
- Jones Monitoring/Extraction Well Cluster
- Ford Destroyed Well
- Ford Monitoring or Extraction Well
- Abandoned Temporary Piezometers
- Soil Boring

Notes:

1. All locations are approximate.
2. Wells labeled DH-# are Prudential monitoring wells.

Erler & Kalinowski, Inc.

Regional Location Map

North American Transformer
Milpitas, California
January 1996
EKI 900032.00
Figure 1