STATE OF NEW YORK: DEPARTMENT OF ENVIRONMENTAL CONSERVATION

In the Matter of the
Development and Implementation
of an Interim Remedial Measure Program
for a Pre-Design Pilot Study
for an Inactive Hazardous Waste Disposal
Site, Under Article 27, Title 13,
and Article 71, Title 27 of the
Environmental Conservation Law
of the State of New York by

Honeywell International Inc.
Respondent.

ORDER
ON
CONSENT
INDEX # B9-0233-88-07

Site Code # 915026

WHEREAS,

1. The New York State Department of Environmental Conservation (the "Department") is responsible for enforcement of Article 27, Title 13 of the Environmental Conservation Law of the State of New York ("ECL"), entitled "Inactive Hazardous Waste Disposal Sites." This Order is issued pursuant to the Department's authority under, inter alia, ECL Article 27, Title 13 and ECL 3-0301.

2. The Site is an inactive hazardous waste disposal site, as that term is defined at ECL 27-1301.2, located on Fuhrmann Boulevard in the City of Buffalo and is known as the Buffalo Outer Harbor Site (the "Site"). The Department has determined that the Site presents a significant threat to the public health or environment. The Site has been listed in the Registry of Inactive Hazardous Waste Disposal Sites in New York State as Site Number 915026. The Department has classified the Site as a Classification "2" pursuant to ECL 27-1305.4.b. A map of the Site is attached to this Order as Appendix "A".

3. Honeywell International Inc. ("Respondent") is a corporation organized and existing under the laws of the State of Delaware and is doing business in New York State and, the Department alleges, a predecessor company has generated wastes which were disposed at the Site.

4. A. Pursuant to ECL 27-1313.3.a, whenever the Commissioner of Environmental Conservation (the "Commissioner") "finds that hazardous wastes at an inactive hazardous waste disposal site constitute a significant threat to the environment, he may order the owner of such site and/or any person responsible for the disposal of hazardous wastes at such site (i) to develop an inactive hazardous waste disposal site remedial program, subject to the approval of the department, at such site, and (ii) to implement such program within reasonable time limits specified in the order."

B. Any person under order pursuant to ECL 27-1313.3.a has a duty imposed by ECL Article 27, Title 13 to carry out the remedial program committed to under order. ECL 71-2705 provides that any person who fails to perform any duty imposed by ECL Article 27, Title 13 shall be liable for civil, administrative and/or criminal sanctions.

C. The Department also has the power, inter alia, to provide for the prevention and abatement of all water, land, and air pollution. See, e.g., ECL 3-0301.1.i.

5. Following a period of public comment, on March 31, 1999 the Department selected a final remedial alternative for the Site in a Record of Decision ("ROD").

6. The Department and the Respondent agree that the goals of this Order are for Respondent to (i) develop and implement an Interim Remedial Measure Program ("IRM Program") for the Site in accordance with the Department-approved Scope of Work ("SOW") which is attached to this Order as Appendix "B" and the Department-approved IRM Work Plan which shall be submitted in accordance with this Order; and (ii) reimburse the State's administrative costs in accordance

with Paragraph VI of this Order.

7. Respondent, having waived Respondent's rights to a hearing herein as provided by law, and having consented to the issuance and entry of this Order, agrees to be bound by its terms. Respondent consents to and agrees not to contest the authority or jurisdiction of the Department to issue or enforce this Order, and agrees not to contest the validity of this Order or its terms.

NOW, having considered this matter and being duly advised, IT IS ORDERED THAT:

I. Development, Performance and Reporting of IRM Program

A. Within 21 days after the effective date of this Order, Respondent shall submit to the Department a detailed work plan for the IRM Program ("IRM Work Plan") which is a "Chemical Oxidation Pilot Study" ("Pilot Study") consisting of (i) a Phase I Laboratory Study ("Phase I") and, (ii) as appropriate according to the results of the Phase I and the Department-approved SOW, a Phase II Pilot Scale Study ("Phase II"). The IRM Work Plan shall be developed in accordance with the Department-approved Scope of Work and shall describe the methods and procedures to be implemented in performing the IRM.

B. The IRM Work Plan shall include, but not be limited to, the following:

1. A chronological description of the anticipated IRM activities together with a schedule for the performance of these activities.

2. A Sampling and Analysis Plan that shall include:

(i) A quality assurance project plan that describes the quality assurance and quality control protocols necessary to achieve the initial data quality objectives. This plan shall designate a data validation expert and must describe such individual's qualifications and experience.

(ii) A field sampling plan that defines sampling and data gathering methods in a

manner consistent with the "Fields Methods Compendium," OSWER Directive 9285.2-11 (draft June 1993), as supplemented by the Department.

3. A health and safety plan to protect persons at and in the vicinity of the Site during the performance of the RI/FS which shall be prepared in accordance with 29 CFR 1910 and all other applicable standards by a certified health and safety professional. Respondent shall add supplemental items to this plan necessary to ensure the health and safety of all persons at or in the vicinity of the Site during the performance of any work pursuant to this Order.

4. A citizen participation plan that is, at a minimum, consistent with the relevant provisions of the Department's publication, "Citizen Participation in New York's Hazardous Waste Site Remediation Program: A Guidebook," dated June 1998, and any subsequent revisions thereto, and 6 NYCRR Part 375.

C. In accordance with the schedule in the Department-approved IRM Work Plan, Respondent shall commence the IRM Program.

D. Respondent shall perform the IRM Program in accordance with the Department-approved IRM Work Plan.

E. During the on-Site performance of the IRM Program, Respondent must have on-Site a full-time representative who is qualified to supervise the work done.

F. In accordance with the IRM Work Plan and within the time frame set forth therein Respondent must prepare a Phase I Report ("Phase I Report") and, if the Phase II is implemented, an IRM report ("IRM Report") that includes all data generated and all other information obtained during the IRM Program and identifies any additional data that must be collected. The IRM Report shall be prepared by and have the signature and seal of a professional engineer who shall certify that the IRM Report was prepared, and the IRM Program was

conducted, in accordance with this Order.

II. Reports

A. Respondent shall submit to the parties identified in Paragraph X in the numbers specified therein a Phase I Report and any IRM Report that shall: (i) describe the actions which have been taken toward achieving compliance with this Order during Phase I and/or Phase II of the Pilot Study; (ii) include all results of sampling and tests and all other data received or generated by Respondent or Respondent's contractors or agents in the Phase I, including quality assurance/quality control information, whether conducted pursuant to this Order or conducted independently by Respondent; (iii) identify all work plans, reports, and other deliverables required by this Order that were completed and submitted during the Phase I; (iv) describe all actions, including, but not limited to, data collection and implementation of work plans, that are scheduled for the Phase II, provide other information relating to the progress at the Site and, in accordance with IRM Work Plan determine whether it is appropriate to proceed with Phase II; (v) include any modifications to any work plans that Respondent has proposed to the Department or that the Department has approved.

B. Respondent shall submit the Phase I report to the Department by the thirteenth day following completion of the Phase I. Within 45 days after completion of the Phase II (if performed) Respondent shall submit the IRM Report to the Department that will determine the feasibility of implementing a full scale in situ chemical oxidation remedy for the Site.

C. Respondent also shall allow the Department to attend, and shall provide the Department at least seven days advance notice of the commencement of any field activities associated with the Phase I or Phase II.

III. Review of Submittals

A. 1. The Department shall review each of the submittals Respondent makes pursuant to this Order to determine whether it was prepared, and whether the work done to generate the data and other information in the submittal was done, in accordance with this Order and generally accepted technical and scientific principles. The Department shall notify Respondent in writing of its approval or disapproval of the submittal. All Department-approved submittals shall be incorporated into and become an enforceable part of this Order.

2. a. If the Department disapproves a submittal, it shall so notify Respondent in writing and shall specify the reasons for its disapproval. Within 14 days after receiving written notice that Respondent's submittal has been disapproved, or within such other time as the Department may provide, Respondent shall make a revised submittal to the Department that addresses and resolves all of the Department's stated reasons for disapproving the first submittal.

b. After receipt of the revised submittal, the Department shall notify Respondent in writing of its approval or disapproval. If the Department disapproves the revised submittal, such disapproval shall constitute final agency action and Respondent shall be in violation of this Order and the Department may take any action or pursue whatever rights it has pursuant to any provision of statutory or common law. If the Department approves the revised submittal, it shall be incorporated into and become an enforceable part of this Order.

B. The Department may request that Respondent modify and/or amplify and expand a submittal if the Department determines, as a result of reviewing data generated by an activity required under this Order or as a result of reviewing any other data or facts, that further work is necessary to achieve the goals of this Order.

IV. Force Majeure

Respondent shall not suffer any penalty under this Order or be subject to any proceeding or action for any remedy or relief if it cannot comply with any requirements of this Order because of any act of God, war, or riot or because of any condition or event entirely beyond the reasonable control of Respondent or its agent or agents carrying out Respondent's obligations under this Order. Respondent shall, within five days of when it obtains knowledge of any such condition, notify the Department in writing and request an appropriate extension or modification of this Order which shall not be unreasonably denied by the Department. Failure to provide such notice within the five day period constitutes a waiver of any claim that a delay is not subject to penalties.

"Force Majeure" shall not include increased costs or expenses of any work to be performed under this Order, the financial inability of the Respondent to perform such work, the failure of Respondent to make complete and timely application for any required approval or permit, or non-attainment of the goals, standards and requirements set forth herein or in the Work Plan.

V. Entry upon Site

Respondent shall obtain approval for entry upon the Site or areas in the vicinity of the Site for itself and any of its agents and contractors and for any duly designated employee, consultant, contractor, or agent of the Department or any State agency for purposes of inspection, sampling, and testing and to ensure Respondent's compliance with this Order. Respondent shall provide the Department with suitable office space at the Site, including access to a telephone, and shall permit the Department full access to all records relating to matters addressed by this Order and job meetings, however, nothing in this Order shall afford the Department the right to review

records which are privileged communications, attorney work product, mental impressions, conclusions, opinions, or legal theories as provided for by applicable New York law.

VI. Payment of State Costs

A. Within 60 days after receipt of an itemized invoice from the Department, Respondent shall pay to the Department a sum of money which shall represent reimbursement for the State's expenses including, but not limited to, direct labor, fringe benefits, indirect costs, travel, analytical costs, and contractor costs incurred by the State of New York for work related to the Site as well as for reviewing and revising submittals made pursuant to this Order, overseeing activities conducted pursuant to this Order, collecting and analyzing samples, and administrative costs associated with this Order. In no event shall the total of such payment exceed $20,000.

B. Costs to be paid pursuant to this Paragraph VI shall be those costs recited in Subparagraph VI.A. incurred by the State of New York after January 1, 2000 and continuing until written approval of the IRM Report is issued by the Department.

C. Such payment shall be made by certified check payable to the Department of Environmental Conservation. Payment shall be sent to the Bureau of Program Management, Division of Environmental Remediation, N.Y.S.D.E.C., 50 Wolf Road, Albany, NY 12233-7010. Itemization of the costs shall include an accounting of personal services indicating the employee name, title, biweekly salary, and time spent (in hours) on the project during the billing period, as identified by an assigned time and activity code. This information shall be documented by reports of Direct Personal Service. Approved agency fringe benefit and indirect cost rates shall be applied. Non-personal service costs shall be summarized by category of expense (e.g., supplies, materials, travel, contractual) and shall be documented by expenditure reports.

D. The Department reserves the right to seek from any responsible party including

Respondent payment of State costs associated with the Site which are not addressed under this Order.

VII. Department Reservation of Rights

A. Nothing contained in this Order shall be construed as barring, diminishing, adjudicating, or in any way affecting any of the Department's civil, criminal, or administrative rights or authorities.

B. Nothing contained in this Order shall be construed to prohibit the Commissioner or his duly authorized representative from exercising any summary abatement powers.

VIII. Indemnification

Respondent shall indemnify and hold the Department, the State of New York, and their representatives and employees harmless for all claims, suits, actions, damages, and costs of every name and description arising out of or resulting from the fulfillment or attempted fulfillment of this Order by Respondent and/or any of Respondent's directors, officers, employees, servants, agents, successors, and assigns.

IX. Public Notice

Within 30 days after the effective date of this Order, Respondents shall file or arrange to have filed a Declaration of Covenants and Restrictions with the Erie County Clerk to give all parties who may acquire any interest in the Site notice of this Order.

X. Communications

A. All written communications required by this Order shall be transmitted by United States Postal Service, by private courier service, or hand delivered as follows:

Communication from Respondents shall be sent to:

Edward Belmore
Division of Environmental Remediation
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-7010

with copies to:

1. Director, Bureau of Environmental
Exposure Investigation
New York State Department of Health
Flanigan Square
547 River Street
Troy, New York 12180-2216

2. Peter Buechi
Division of Environmental Remediation
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203

3. Division of Environmental Enforcement
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203

B. Copies of work plans and reports shall be submitted as follows:

1. Four copies (one unbound) to Edward Belmore
Division of Environmental Remediation.

2. Two copies to the Director, Bureau of Environmental
Exposure Investigation.

3. One copy to Peter Buechi.

4. One copy to Division of Environmental Enforcement.

C. Within 30 days after the Department's approval of the IRM Report, Respondent shall submit to the Department one microfilm copy (16 millimeter roll film M type cartridge) of all

Department-approved drawings and submittals. Such submission shall be made to Edward Belmore.

D. Communication to be made from the Department to Respondent shall be sent to:

Mr. David A. Paley, Manager
Remediation & Evaluation Services
Honeywell International, Inc.
101 Columbia Road
Morristown, NJ 07962

With a copy to:

David P. Flynn, Esq.
Phillips, Lytle, Hitchcock, Blaine & Huber LLP
3400 HSBC Center
Buffalo, NY 14202

E. The Department and Respondent reserve the right to designate additional or different addressees for communication or written notice to the other.

XI. Miscellaneous

A. Respondent shall retain professional consultants, contractors, laboratories, quality assurance/quality control personnel, and third party data validators acceptable to the Department to perform the technical, engineering, and analytical obligations required by this Order. The experience, capabilities, and qualifications of the firms or individuals selected by Respondent shall be submitted to the Department within 21 days after the effective date of this Order. The Department's approval of these firms or individuals shall be obtained before the start of any activities for which Respondent and such firms or individuals will be responsible. The responsibility for the performance of the professionals retained by Respondent shall rest solely with Respondent.

B. The Department shall have the right to obtain split samples, duplicate samples, or

such formal approvals as may be required by this Order.

2. If Respondent desire that any provision of this Order be changed, Respondent shall make timely written application, signed by Respondent, to the Commissioner setting forth reasonable grounds for the relief sought. Copies of such written application shall be delivered or mailed to Edward Belmore and to Division of Environmental Enforcement.

M. The effective date of this Order is the date the Commissioner or his designee signs it.

DATED: 8/2, New York
, 2000

JOHN P. CAHILL
Commissioner
New York State Department
of Environmental Conservation

By:

Michael J. O'Toole, Jr.

CONSENT BY RESPONDENT

Respondent hereby consents to the issuing and entering of this Order, waives Respondent's right to a hearing herein as provided by law, and agrees to be bound by this Order.

By: _____

Honeywell International Inc.

Title: Director

Date: 7/27/2000

STATE OF NEW JERSEY)

) s.s.:

COUNTY OF Morris)

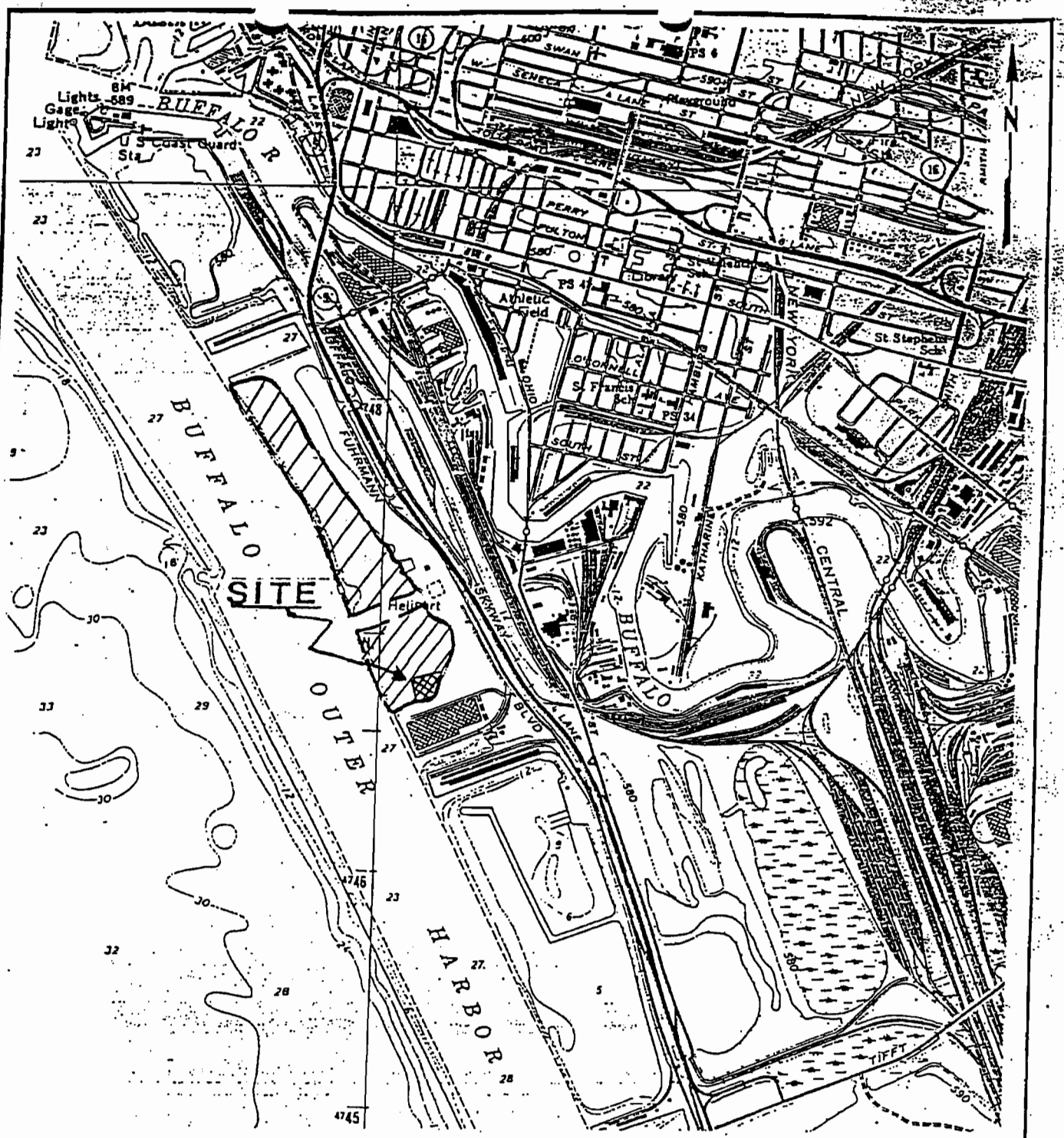
On this 27th day of July in the year 2000 before me, the undersigned, a notary public in and for said State, personally appeared Ted Fischer, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s) or the person upon behalf of which the individual(s) acted, executed this instrument.

_____

Notary Public

ELISSA CONSTANCE BENES
A Notary Public of New Jersey
My Commission Expires July 11, ~~2000~~ 2005

Appendix A



LATITUDE: 42°52'04"
LONGITUDE: 78°52'38"

SCALE
0 1000 2000 3000 4000 FEET

REFERENCE: U.S.G.S. 7.5' Topographic Map
Buffalo SE, NY (1965), Buffalo NE, NY (1965)
and Buffalo NW, NY-ONT. (1965) Quadrangles

Buffalo Outer Harbor/Radio Tower Area
Site No. 9-15-026

NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION

SITE LOCATION MAP

FIGURE 1

Appendix B

SCOPE OF WORK FOR
CHEMICAL OXIDATION TREATABILITY STUDY
BUFFALO OUTER HARBOR SITE/RADIO TOWER AREA
(NYSDEC SITE NO. 9-15-026)
BUFFALO, NEW YORK

1. PROJECT BACKGROUND

The Buffalo Outer Harbor Site/Radio Tower Area is located in the City of Buffalo, Erie County, New York. Past filling operations in the Radio Tower Area of the Site resulted in disposal of a waste sludge containing elevated levels of nitrobenzene. The New York State Department of Environmental Conservation (NYSDEC) has determined that this disposal activity resulted in potentially significant threats to human health and the environment. In order to eliminate or mitigate the threats to human health and the environment, the NYSDEC, in a March 1999 Record of Decision (ROD) selected excavation followed by bioremediation or low temperature thermal desorption to meet the remedial objectives.

Following issuance of the ROD, *in situ* chemical oxidation of soils and groundwater in the Radio Tower Area was considered as a potentially cost-effective, feasible alternative to excavation and bioremediation. To further evaluate this remedy, Honeywell will conduct laboratory bench-scale and pilot-scale treatability studies using *in situ* chemical oxidation. Figure 1 depicts the Radio Tower Area of the Site where bench and pilot studies will be performed.

In situ chemical oxidation is a remedial technology that chemically breaks down subsurface organic contamination through treatment with a blend of catalysts, oxidizers, viscosity enhancers, and mobility control enhancers. These agents are injected through a site-specific delivery system, providing sufficient distribution to treat contaminants in the area of concern. For this study, laboratory bench-scale studies will be conducted to (1) determine if the *in situ* chemical oxidation process can successfully treat the impacted soils and groundwater; and (2) calculate an optimal catalyst/oxidizer mix for use in a pilot-scale study. With the completion of a successful laboratory bench-scale study, a pilot-scale treatment study will be performed to determine the efficiency and extent of influence of the chemical oxidation process.

2. LABORATORY BENCH-SCALE WORK SCOPE

Injection Well Installation/Bulk Sampling

Prior to the laboratory study, composite soil and groundwater samples will be collected from the Radio Tower Area to provide material for laboratory treatability studies. Soil samples will be collected from three soil borings in the vicinity of SB-73. Sample collection depth will be based upon visual observations, PID readings, and previous analytical data

from the December 1995 Remedial Investigation Report. Approximately 26 pounds of soil will be collected from the three borings.

After the soil samples are collected, the three soil borings will be converted to 4-inch-diameter injection wells (see Figure 1 for locations). Composite groundwater samples will be collected from the 4-inch-diameter wells. Approximately 7 liters of groundwater will be collected from the installed injection wells (total of six one-liter bottles, two 250-ml amber bottles, and two sets of two 40-ml vials).

Composite soil and groundwater samples will be submitted to the laboratory for bench-scale treatability testing. Details and methods for soil boring installation, injection well installation and construction, soil sampling, and groundwater sampling are contained in the June 2000 Work Plan for Chemical Oxidation Treatability Study, Buffalo Outer Harbor Site, Buffalo, New York (Work Plan).

Laboratory Study

Samples sent to the laboratory for treatability testing will be subjected to a series of studies to evaluate whether the *in situ* chemical oxidation process can treat the impacted soil and groundwater. The bench-scale studies will determine the optimum mix of catalyst/oxider amendments for use during the pilot-scale study. Initial and treated samples will be analyzed at various steps to determine effects of the process on volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs).

Bench-scale experiments will be preformed by injecting a series of catalyst and oxidizer amendments into a series of reaction vessels. The stoichiometric molar ratio of the reagent combination used will be different in each reaction vessel. The amount of residual peroxide remaining in each reaction vessel will determine whether additional treatments are needed. Following the last treatment, the reaction vessels will remain undisturbed until the oxidizer is completely consumed. Once the oxidizer is consumed, soil and groundwater samples from each of the reaction vessels will be analyzed for residual VOCs and SVOCs.

Additional details describing the laboratory study, including oxidizer and catalyst amendments, and quality assurance/quality control (QA/QC) requirements, are contained in the Work Plan.

3. PILOT-SCALE STUDY WORK SCOPE

If the laboratory study is effective in reducing concentrations of target compounds, a pilot-scale study will be initiated. If VOC and SVOC concentrations are reduced greater than 70% relative to the control sample data, this will be considered a significant reduction. A pilot study would then be warranted to gather additional information on the remedial alternative.

The goal of the pilot-scale test is to determine (1) the efficiency and extent of influence of the chemical oxidation treatment applications in soil and groundwater, and (2) whether the cleanup goal of 14 mg/kg for nitrobenzene in soil, as specified in the ROD, can be achieved by utilizing this technology.

Pilot-Scale Treatment Program

The pilot program will consist of injecting the site-specific blend of catalysts, oxidizers, viscosity enhancers, and mobility control enhancers, determined during the laboratory-scale study, into the subsurface over a short period of time. The injection system will consist of three 4-inch PVC injection points, screened in the contaminated zone of the aquifer (see Figure 1). Two three-day treatments will be performed. The second treatment will be conducted 30 days after the completion of the first treatment. Specific chemicals to be injected, including the oxidizing agent and catalysts, are identified in the Work Plan.

Site-specific monitoring will be performed before, during, and after each treatment event to obtain information related to the treatment process and the subsurface characteristics. The monitoring will determine the efficiency of the *in situ* chemical oxidation process in reaching the remedial objective.

Pilot-Scale Sampling/Monitoring Program

Prior to the initiation of the pilot-scale study, soil and groundwater samples will be collected from discrete locations in the Radio Tower Area, to accurately determine baseline conditions within the expected radius of influence of the injection wells. The baseline sampling event, in the vicinity of the three injection wells, will consist of the following:

- Drilling of six soil borings, and conversion to 2-inch-diameter monitoring wells (see Figure 1 for preliminary locations). Final locations will be determined following installation of injection wells, and an evaluation of local groundwater flow. Details concerning this evaluation are contained in the Work Plan.
- Collection of six soil samples, one sample from each of the six borings referenced above. Samples will be analyzed for VOCs and SVOCs by USEPA Method 8260 and 8270, respectively.
- Collection of nine groundwater samples, one from each of the three injection wells, and one from each of the six new monitoring wells. Samples will be analyzed for VOCs and SVOCs by USEPA Method 8260 and 8270, respectively; total iron; and total organic carbon.

Thirty days after the first treatment, intermediate stage groundwater samples will be collected to determine the effectiveness of the initial treatment. The intermediate groundwater sampling program consists of the following:

- Collection of five groundwater samples: one from each of the three injection wells, two from monitoring wells (locations to be determined following the evaluation of groundwater flow). Samples will be analyzed for VOCs and SVOCs by USEPA Method 8260 and 8270, respectively; total iron; and total organic carbon.

The second treatment will be administered following the intermediate stage groundwater sample collection. Thirty days after the second treatment (at the conclusion of the pilot-scale test), soil and groundwater sampling will be conducted at the same locations

and depths as the baseline samples to determine the effectiveness of the injections. Groundwater and soil sampling, at this stage of the pilot study, will consist of the following:

- Drilling of six soil borings immediately adjacent to the baseline soil boring/monitoring well locations.
- Collection of six soil samples, one sample from each of the six borings referenced above. Samples will be analyzed for VOCs and SVOCs by USEPA Method 8260 and 8270, respectively.
- Collection of nine groundwater samples, one from each of the three injection wells, and one from each of the four monitoring wells installed during the baseline sampling event. Samples will be analyzed for VOCs and SVOCs by USEPA Method 8260 and 8270, respectively; total iron; and total organic carbon.
- Surveying (location and relative elevation) of the nine wells installed as part of this study.

4. REPORTING

A brief status report will be submitted immediately following the laboratory study. This report will present the findings of the laboratory study, and recommendations for a pilot study, including concentrations and proposed chemical injection rates.

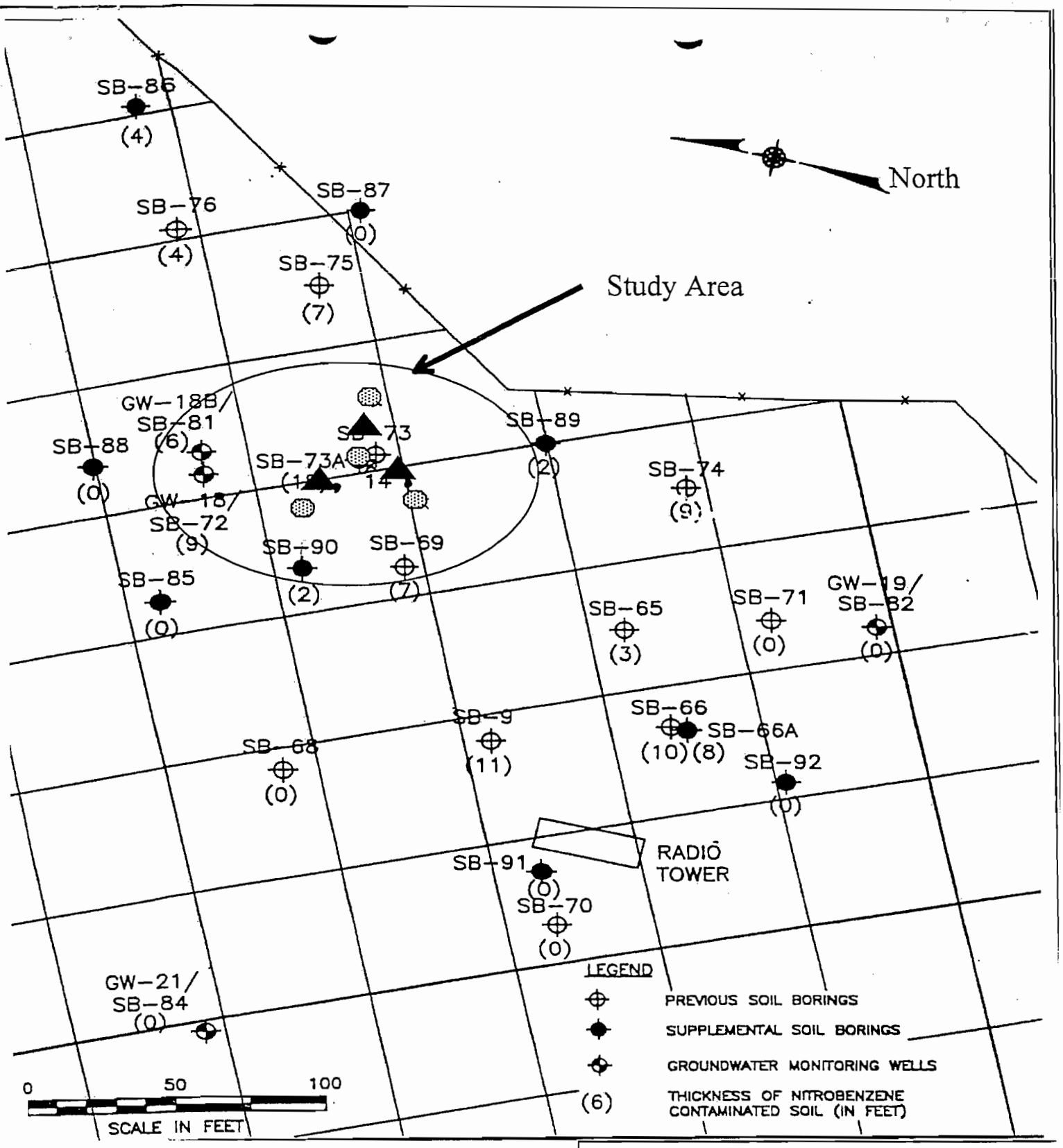
A final report will be prepared, which will contain details of the *in situ* chemical oxidation process, a description of all field activities, boring logs, results of laboratory analyses, an evaluation of the effectiveness of the chemical oxidation treatments on soil and groundwater in the Radio Tower Area, and recommendations for full-scale implementation of the process, if applicable. The report will predict whether the cleanup goal of 14 mg/kg for nitrobenzene in soil, as specified in the ROD, can be achieved utilizing this technology. An estimated time frame and cost estimate for attainment of the cleanup goal, to compare with previously presented remedies, will be provided.

5. SCHEDULE

Following execution of a Consent Order between Honeywell and NYSDEC, and NYSDEC approval of the Work Plan, the laboratory study will be completed within seven weeks. If the laboratory study is successful, the field efforts for the pilot-scale study will be completed within 13 weeks after laboratory study completion. A report will be prepared and submitted to NYSDEC within seven weeks after completion of the pilot study field work. The total project schedule, from NYSDEC approval of the scope of work to report submittal, is 27 weeks.

6. QA/QC AND HEALTH AND SAFETY

The existing August 1994 RI/FS QA/QC Plan and Health and Safety Plan by Dvirka and Bartilucci will be referenced in the June 2000 Work Plan and utilized as appropriate to implement the chemical oxidation study. An addendum to both plans is contained in the June 2000 Work Plan, with specific information related to the chemical oxidation work.



Proposed Injection Well

Proposed Soil Boring/Monitoring Well

Only 4 of 6 total locations are shown. Final locations for all borings to be determined after flow analysis.

Modified from Dvirka and Bartilucci, Feasibility Study Report, Buffalo Outer Harbor Site, July 1998, Fig. 3-5

FIGURE 1

Buffalo Outer Harbor/Radio Tower Area
Buffalo, New York
***In Situ* Chemical Oxidation Pilot Study**
Site Plan

PARSONS ENGINEERING SCIENCE, INC.
DESIGN * RESEARCH * PLANNING
180 LAWRENCE BELL DRIVE - SUITE 100 * WILLIAMSVILLE, N.Y. 14221 * 716 / 633-707