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Department of Environmental Conservation

Division of Hazardous Waste Remediation

Ingersoll-Rand Foundry Inactive Hazardous Waste Site

Site Number 8-51-012
Village of Painted Post
Steuben County, New York

Record of Decision

March 1994



New York State Department of Environmental Conservation
MARIO M. CUOMO, Governor LANGDON MARSH, Acting Commissioner

DECLARATION STATEMENT - RECORD OF DECISION

Ingersoll-Rand Foundry - Inactive Hazardous Waste Site
Village of Painted Post, Steuben County, New York
Site No. 8-51-012

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for the Ingersoll-Rand Foundry inactive hazardous waste disposal site which was chosen in accordance with the New York State Environmental Conservation Law (ECL). The remedial program selected is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Ingersoll-Rand Foundry Inactive Hazardous Waste Site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A bibliography of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Removal action completed earlier at the site has been found adequate; the site no longer poses a significant threat to public health or the environment. Implementing the response action selected in this ROD will insure continued site management required at the site.

Description of Selected Remedy

Based upon the results of the Groundwater Quality Assessment and Focused Feasibility Study (GQA and FFS) for the Ingersoll-Rand Foundry and the criteria identified for evaluation of alternatives, the NYSDEC has selected groundwater monitoring and institutional control as the remedy. The site will also be reclassified. The components of the remedy are as follows:

- Three years (five rounds) of groundwater monitoring for volatile organic compounds to determine if concentrations of these compounds continue to remain below New York State drinking water standard of 5 ppb;
- Institutional Controls: 1) maintain existing site security and fencing and 2) place a deed restriction on that portion of the I-R Foundry within 300 ft. radius of

monitoring well 2B to indicate presence of contaminated soil and to minimize potential for future human exposure. This area has limited subsurface soil contamination with semi-volatile organic compounds; and

- Reclassify the I-R Foundry to a class 4 site. A class 4 site is defined as a site that is properly closed but requires continued management.

New York State Department of Health Acceptance

The New York State Department of Health concurs with the remedy selected for this site as being protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective.

As a part of the selected remedy, the site will be reclassified to class 4 in the New York State registry of inactive hazardous waste disposal sites, indicating that the site is properly closed but requires continued management. The results of groundwater monitoring will be evaluated to determine if additional reclassification or delisting the site from the registry is appropriate.

March 31 1991
Date

Ann Hill DeBarbieri
Ann Hill DeBarbieri
Deputy Commissioner

INACTIVE HAZARDOUS WASTE SITE
ROD - SUMMARY SHEET

Site No.: 8-51-012
Name of the Site: Ingersoll-Rand Foundry Site
Town/County: Village of Painted Post, Steuben County

Prepared by: Region 8 Office
Manmohan D. Mehta, P.E., Project Manager

Description of the problem:

The Ingersoll-Rand (I-R) idled their Painted Post foundry in 1985. An environmental evaluation by I-R in 1986 identified several areas contaminated, primarily with elevated levels of PCBs, in the foundry buildings and in soils immediately outside. The surficial PCB cleanup was completed by the company in 1989 under NYSDEC consent order. Post-removal groundwater quality assessment did not detect PCBs in groundwater; low levels of TCA were detected (up to 2 ppb on-site and 8 ppb off-site). As the Village of Painted Post has also been detecting TCA, generally below 5 ppb, in their water supply well # 4 located approximately 500 feet northeast of the I-R Foundry, I-R was asked to conduct additional quarterly groundwater monitoring. The additional sampling did not indicate the foundry as the source of groundwater contamination. Subsurface soil contamination at one monitoring well - 2B (MW-2B), with elevated levels of polynuclear aromatic hydrocarbons (PAHs), which are semi-volatile organic compounds, was investigated and defined.

Description of the remedy:

The groundwater quality assessment did not indicate I-R Foundry as the source of TCA groundwater contamination. However, since the groundwater at the site and at the Village of Painted Post Village water supply well # 4 continues to detect low levels of TCA, continued limited on-site and off-site groundwater monitoring for an additional 3 years is proposed as a part of the selected remedy. The selected remedy also includes continued maintenance of existing fencing and site security and placing a deed restriction (agreed by I-R) for in-place PAH contaminated soil within a 300 ft. radius of MW-2B to prevent future human exposure. The site will be reclassified to class 4, indicating that the site is properly closed but requires continued management.

Cost:

The estimated present worth of the proposed remedy is \$ 65,900. The estimated cost of maintaining site security and preparing sampling and analysis plan is \$ 22,000 and the average annual operation and maintenance cost for 3 years is \$ 15,850.

Issues:

From 1920s until it closed in 1985, the I-R Foundry produced gray iron castings for their air compressor plant. A cleanup which primarily addressed PCB contamination in the building and the soils was completed at the foundry at an approximate cost of \$ 1.3 million under a NYSDEC consent order.

The remaining issue is the detection of low levels of TCA in groundwater, including the Village of Painted Post well # 4, located 500 ft. northeast of I-R Foundry. The TCA levels are generally below the New York State drinking water standard of 5 ppb. The Village of Painted Post has been blending water from its uncontaminated well # 3, located 900 ft. east of well # 4, with well # 4 water; TCA has not been detected in finished water after chlorination and other treatment.

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RECORD OF DECISION

Ingersoll-Rand Foundry Site
Painted Post, Steuben County, New York
Site # 851012
March 1994

SECTION 1: SITE LOCATION AND DESCRIPTION

The former Ingersoll-Rand (I-R) Foundry site consists of 287,000 sq. ft. of building space on 43 acres of land located on West Water Street in the Village of Painted Post, Steuben County (figure 1). It was in operation from approximately 1920 through December 1985. The Cohocton River is located approximately 1,200 feet south of the property. Land use surrounding the foundry is diverse. The area north of the foundry consists of residential land; open public land lies to the southwest. The remainder of the land surrounding the foundry is used for industrial, commercial and transportation purposes.

After the foundry was idled in December 1985, two main environmental concerns were identified:

1) surficial PCB contamination and 2) possible groundwater contamination. The PCB cleanup was completed in 1989 as an Interim Remedial Measure (IRM) at an approximate cost of \$ 1.3 million; a detailed description is given in Section 3.2 below. The impact of foundry operations on groundwater was studied under post-removal investigation which also included

investigation for an alleged drum disposal area.

SECTION 2: SITE HISTORY

2.1: Operational and Disposal History:

The foundry produced gray iron castings principally for the I-R compressor plant, also located in Painted Post. The operations consisted of pattern construction, sand mold lines, melt furnaces, casting, shakeout, casting cleaning, and pattern and casting storage (figure 2).

In early 1986, an environmental evaluation and cleanup was performed by I-R as a part of their standard facility closure activity. Evidence of possible petroleum and polychlorinated biphenyl (PCB) contamination of soil and other surfaces inside the building which were a result of oil leakage and spills from transformers and capacitors was identified. In July 1986, I-R reported this to the New York State Department of Environmental Conservation (NYSDEC).

2.2: Remedial History

Under the facility closure activities, the above- and below-ground storage tanks were removed, machinery and equipment were cleaned and areas requiring further cleanup were evaluated. A report detailing this cleanup and identifying areas requiring further cleanup was submitted by the company in February 1987.

A work plan for further soil and building PCB cleanup, an IRM, was approved by the NYSDEC and a consent order was signed by NYSDEC and I-R in December 1987. The consent order also required I-R to perform post-removal investigation.

Under IRM, negotiated standards for PCB cleanup were established at 10 parts per million (ppm) for subsurface soil contamination and 50 microgram per square meter ($\mu\text{g}/\text{m}^2$) for surficial contamination of non-porous materials. The work plan required cleanup in 18 areas; twelve involved PCBs, while the remaining involved oils, grease, and general cleanup.

All work elements of the IRM work plan were successfully implemented in 1989. Documentation consisting of (1) a professional engineer's certification, (2) summary of on-site work activities, field observations, and verification sampling were submitted by I-R. The NYSDEC acknowledged completion of the activities performed under the work plan by letter dated January 11, 1990. During this cleanup, 490 gallons of liquid and 756 tons of solid hazardous waste was removed off-site to Model City, N.Y. and Chicago, Ill. for treatment and/or disposal. Cleanup

costs of the IRM, funded by I-R, were approximately \$ 1.3 million.

SECTION 3: CURRENT STATUS

Under post-removal investigation, I-R initially proposed a work plan for the groundwater quality assessment (GQA) beneath the foundry property. Since low levels (generally below 5 ppb) of 1,1,1-trichloroethane (TCA) were detected in the Village of Painted Post water supply well # 4, located approximately 500 feet northeast of the foundry, the scope of work was expanded to include off-site areas (figure 3). The revised work plan was designed to help determine the impact of the I-R Foundry operations on the quality of groundwater, in general, and the Village of Painted Post water supply well # 4, in particular. Field work for the GQA started in December 1991.

Based upon a complaint from a private citizen, a site investigation for alleged drum disposal at the site was initiated in May 1992.

3.1 Summary of the GQA

The purpose of the GQA was to define the nature and extent of any contamination resulting from previous activities at the I-R Foundry site.

The reports prepared to describe the GQA field activities and findings in detail for the I-R Foundry are: Interim Stratigraphy Report for Phase I - GQA dated January 1992; Phase II - GQA dated September 1992; Subsurface Investigation Report (alleged buried drum

investigation) dated February 9, 1993; Subsurface Evaluation of MW-2B - Additional GQA Investigation dated August 2, 1993; and Quarterly Monitoring Well Sampling Reports dated August 30, 1993, November 4, 1993, December 13, 1993, and February 1994. A summary of the GQA follows:

The GQA activities consisted of the following:

- *Phase I GQA to determine subsurface conditions and collect data to finalize monitoring well construction; and*
- *Phase II GQA - construction of soil borings and monitoring wells for analysis of soils and groundwater as well as physical properties of soil and hydrogeologic conditions.*

The analytical data obtained from the GQA was compared to NYS Applicable Standards, Criteria, and Guidance - SCGs (table 1) in determining remedial alternatives. Groundwater, drinking water and surface water SCGs identified for the I-R Foundry site were based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of the NYS Sanitary Code. For the evaluation and interpretation of soil analytical results, NYSDEC soil cleanup guidelines for the protection of groundwater, background conditions, and risk-based remediation criteria were used to develop remediation goals for soil.

In December 1991, field activities for the Phase I of the GQA were performed. The Interim Stratigraphy Report was submitted by I-R in January 1992. Specific

monitoring well construction methods appropriate for the site were recommended by this report.

In March and April 1992, Phase II of the GQA was conducted. Thirteen monitoring wells were installed at seven locations (figure 3). Six deep monitoring wells (four on-site and two off-site) were installed to a depth of approximately 80 feet to match the well depth at the contaminated Village of Painted Post well # 4. The regional groundwater flow in the Painted Post area has been north-northwest to south-southeast. However, local groundwater flow direction near the site is influenced by the pumping activity of the Village of Painted Post water supply well # 4. No predominant vertical groundwater gradient was evident at the site.

The groundwater sampling did not detect PCBs, the main contaminant of concern at the foundry under the IRM. However, volatile organic compounds, primarily, TCA were detected in groundwater. The highest TCA level of 8 parts per billion (ppb) was detected in an off-site deep monitoring well-5A (MW-5A); the highest on-site TCA level was 2 ppb detected in deep well MW-4C (table 2). The New York State drinking water standard for TCA is 5 ppb. Trace levels of 1,1-dichloroethane, benzene, ethylbenzene, total xylene, and 1,4-dichlorobenzene were also detected in off-site monitoring wells MW-6 and MW-7. A report on groundwater quality assessment was submitted by I-R in September 1992.

A second round of sampling in March 1993, in general, confirmed these results (table 3).

The two rounds of monitoring well sampling completed for the GQA were considered inadequate to verify if the I-R Foundry was contributing to TCA levels detected in the Village of Painted Post well # 4. On June 30, 1993, I-R agreed to perform three additional rounds of quarterly groundwater sampling to account for seasonal variation. The Village of Painted Post well # 4 would be included in each sampling event.

The results of additional sampling confirmed previous data. The highest level of TCA detected during the GQA was in MW-5A, an off-site well (table 3). In summary, the results of GQA did not indicate the I-R Foundry to be the source of TCA contamination in groundwater. At this point, the site investigation was concluded. As a next step, since the groundwater at the site and at the Village of Painted Post detected low levels of TCA (below 5 ppb), it was decided to continue monitoring groundwater quality further as a part of continued site management. The Village of Painted Post, under the current State regulations, is required to monitor their water supply well # 4 on a quarterly basis.

During well drilling, polynuclear aromatic hydrocarbons (PAHs), which are semi-volatile organic compounds, were detected near well MW-2B. A further subsurface evaluation was conducted in this area (figure 4). Soil samples were collected from within the fill material and from the undisturbed soil at eight locations.

Subsequent analysis confirmed that the PAHs in the fill material were stationary and not migrating (table 4). The PAHs in the fill material appear to be petroleum based and are commonly found in creosote, coal tar, and heavy oil-type products. It is believed that treated wood debris disposed of on-site in the fill material and road oiling activities are the cause of the identified PAHs. A subsurface evaluation report of MW 2B dated August 2, 1993 was submitted by I-R.

3.2 Summary of Buried Drum Investigation

In November 1992, following allegations by a private citizen, a sub-surface evaluation was performed. Four trench excavations (approximately 970 linear feet) were advanced to evaluate the fill-natural soil interface of the area in question (figure 5). Each trench was evaluated for stained soil, suspect material, and buried drums. Head space screening was performed at 32 locations within the trenches and 13 soil samples were collected for laboratory analysis. No evidence of drum disposal or presence of solvents were observed in this area (table 5). A subsurface investigation report summarizing field activities and sampling results was submitted by I-R on February 9, 1993.

3.3 Summary of Exposure Pathways:

The focused feasibility study (FFS) report was submitted by I-R on February 1, 1994. The FFS report develops various remedial action alternatives, evaluates these alternatives, and recommends specific

alternative for remedial action at the I-R Foundry site that is protective of human health and the environment. The human and the environmental exposure pathways are discussed below.

3.3.1 Summary of Human Exposure Pathways:

A qualitative health risk assessment was prepared for the I-R Foundry site.

Two human exposure pathways that exist at the I-R Foundry site are: 1) exposure to groundwater; and 2) exposure to on-site soil.

Groundwater exposure: TCA levels identified in monitoring wells located on-site and in the Village of Painted Post well # 4, with one exception, have been below the New York State standard of 5 ppb (tables 2, 3 & 6). The Village of Painted Post, under the current State regulations, is required to monitor their supply well # 4 water quality, quarterly.

Soil exposure: Surficial soil remediation activities were performed at the I-R Foundry site under the NYSDEC consent order and oversight. Also, the foundry is currently fenced, and 24-hour site security is maintained.

Semi-volatile organic compounds detected at a depth of three to six feet below ground surface, in the area of well MW-2B, may pose an elevated level of risk to workers in a scenario where future site use includes invasive activities. Ingersoll-Rand has agreed to place a deed restriction on the site, indicating the

presence of in-place contaminated soil at MW-2B location.

3.3.2 Summary of Environmental Exposure Pathways:

No environmental exposure pathways were identified for the I-R Foundry site.

The semi-volatile organic compounds detected in soil near MW 2B are not exposed at surface and are not migrating. Also, the very low levels of TCA in groundwater at the site do not constitute an environmental threat.

SECTION 4: ENFORCEMENT STATUS

The NYSDEC and the I-R entered into a Consent Order on December 4, 1987. The Order obligates the responsible party to implement a removal action to pre-set cleanup levels and a post-removal site investigation.

Order on consent

Date: December 4, 1987

Index #: B8-0183-87-04

Subject: In the matter of Development and Implementation of a Remedial Program including Post-Removal Investigation for an Inactive Hazardous Waste Disposal Site, pursuant to Article 27, Title 13 of the Environmental Conservation Law.

Upon issuance of the Record of Decision, the NYSDEC will approach the PRP to implement the selected remedy.

SECTION 5: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6NYCRR 375-1.10. These goals are established under the guideline of meeting all standard, criteria, and guidance (SCGs) and protecting human health and the environment.

At a minimum, the remedy selected should eliminate or mitigate all significant threats to public health and to the environment presented by the hazardous waste disposed of at the site through the proper application of scientific and engineering principles.

The goals selected for this site are:

- *Eliminate the threat to surface waters by eliminating any future contaminated surface run-off from the contaminated soils on site;*
- *Eliminate the potential for direct human or animal contact with the contaminated soils on site;*
- *Mitigate the impacts of contaminated groundwater to the environment;*
- *Prevent, to the extent possible, migration of contaminants; and*
- *Provide for attainment of SCGs for groundwater quality at the limit of the area of concern.*

SECTION 6: SUMMARY OF THE EVALUATION OF ALTERNATIVES

Potential remedial alternatives for the I-R Foundry site were identified, screened and

evaluated in a Feasibility Study. This evaluation is presented in a report entitled Focused Feasibility Study - Former Ingersoll Rand Foundry, Painted Post, New York. A summary of the detailed analysis follows.

6.1: Description of Alternatives

The potential remedies are intended to address the contaminated subsurface soils and groundwater at the site.

Alternative 1 - No Action

Under this alternative, no specific actions would be taken to improve the groundwater quality beneath the site. The groundwater beneath the site would be left in its current condition, and any changes would be a direct effect of natural processes, such as biological/chemical/physical degradation, adsorption, and dispersion. Also, no measures would be taken for the in-place contaminated soils.

No costs are associated with the implementation of this alternative.

Alternative 2 - Limited Action

Under this alternative, a groundwater monitoring program would be implemented to assess variations in the groundwater contaminant concentrations. The monitoring program would consist of sampling six on-site monitoring wells and two off-site monitoring wells for volatile organic compounds using USEPA Method 502.2. This alternative also includes institutional controls: maintaining current site security and fencing and placing a

deed restriction to indicate in-place contaminated soil at MW-2B location.

Present Worth: \$ 65,900*

Capital Cost (includes
sampling & analysis
plan - SAP): \$ 22,000

Average Annual Operation
& Maintenance (O&M): \$ 15,750

Time to implement: 3 years.

* includes 5 rounds of sampling.

Alternative 3 - Institutional control

Under this alternative, institutional controls would be placed on the facility property for the contaminated soil and groundwater. The groundwater would be left to its current condition. Existing fencing and site security would be maintained to restrict access to the site. Also, a deed restriction would be enacted for in-place contaminated soil at MW 2B location.

Capital Cost: \$ 14,850

No other costs are involved.

6.2 Evaluation of Remedial Alternatives

The criteria used to compare the potential remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste sites in New York State (6NYCRR Part 375). For each of the criteria, a brief description is provided followed by an evaluation of the alternatives against that criterion. A detailed discussion of the evaluation

criteria and comparative analysis is contained in the Focused Feasibility Study.

The first two evaluation criteria are termed "threshold criteria" and must be satisfied in order for an alternative to be considered for selection.

1. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance.

Alternative 1 - No Action and Alternative 3 - Institutional Control would only partially meet this criterion because there would be no verification that SCGs were met. Alternative 2 - Limited Action would meet this criterion.

2. Protection of Human Health and the Environment. This criterion is an overall evaluation of health and environmental impacts to assess whether each alternative is protective.

Alternative 1 - No Action would not meet this criterion. Alternative 2 - Limited Action and Alternative 3 - Institutional Control would meet this criterion.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and implementation are

evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared with the other alternatives.

All the remedial alternatives would meet this criterion as no threats are posed by the current site usage.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of alternatives after implementation of the response actions. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks; 2) the adequacy of the controls intended to limit the risk; and 3) the reliability of these controls.

Alternative 1 - No Action would not meet this criterion as it would not address in-place soil contamination at the site. Alternative 2 - Limited Action and Alternative 3 - institutional control would meet this criterion as it considers deed restriction for the in-place contaminated soil.

5. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

None of the alternatives is required to meet this criterion.

6. Implementability. The technical and administrative feasibility of implementing each alternative is evaluated. Technically, this includes the difficulties associated

with the construction, reliability of the technology, and ability to monitor the effectiveness of the remedy. Administratively, the availability of the necessary personal and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc..

All alternatives would meet this criterion as none pose difficulty in implementation of the remedial action.

7. Cost. Capital and operation and maintenance costs are estimated for each alternative and compared on a present worth basis. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision.

The cost data for the remedial alternatives are:

Alternative 1 - No Action

No costs are associated with this alternative.

Alternative 2 - Limited Action

Present Worth:	\$ 65,900
Capital Cost:	\$ 22,000
Average Annual O&M Cost:	\$ 15,750

Alternative 3 - Institutional Control

Capital Cost:	\$ 14,850
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This final criterion is considered a "modifying criterion" and is taken into account after evaluating those above. It is focused upon after public comments on the Proposed Remedial Action Plan (PRAP) have been received.

8. Community Acceptance - Concerns of the community regarding the GQA report, FFS report, and the Proposed Remedial Action Plan were evaluated. A Responsiveness Summary is attached as appendix A. It describes public comments received and how the Department addressed the concerns raised. If the final remedy selected differed from the proposed remedy, notices to the public would have been issued describing the differences and reasons for the changes.

SECTION 7: SUMMARY OF THE SELECTED REMEDY

Based upon the results of the GQA and FFS, and the evaluation presented in Section 6, the NYSDEC has selected Alternative 2 - Limited Action as the remedy for this site. This selection is based upon the following:

Alternatives 1 - No action is not protective of human health and the environment. Alternative 2 - Limited Action meets all applicable criteria. Alternative 3 - Institutional Control only partially meets SCGs. Since only Alternative 2 - Limited Action meets both threshold criteria: compliance with SCGs and protection of human health and the environment, it is the preferred alternative.

The estimated present worth cost to implement the remedy is \$ 65,900. The estimated capital cost to maintain site security and prepare sampling and analysis plan for the remedy is estimated at \$ 22,000 and the estimated average annual operation and maintenance cost is \$ 15,750.

The elements of the selected remedy are as follows:

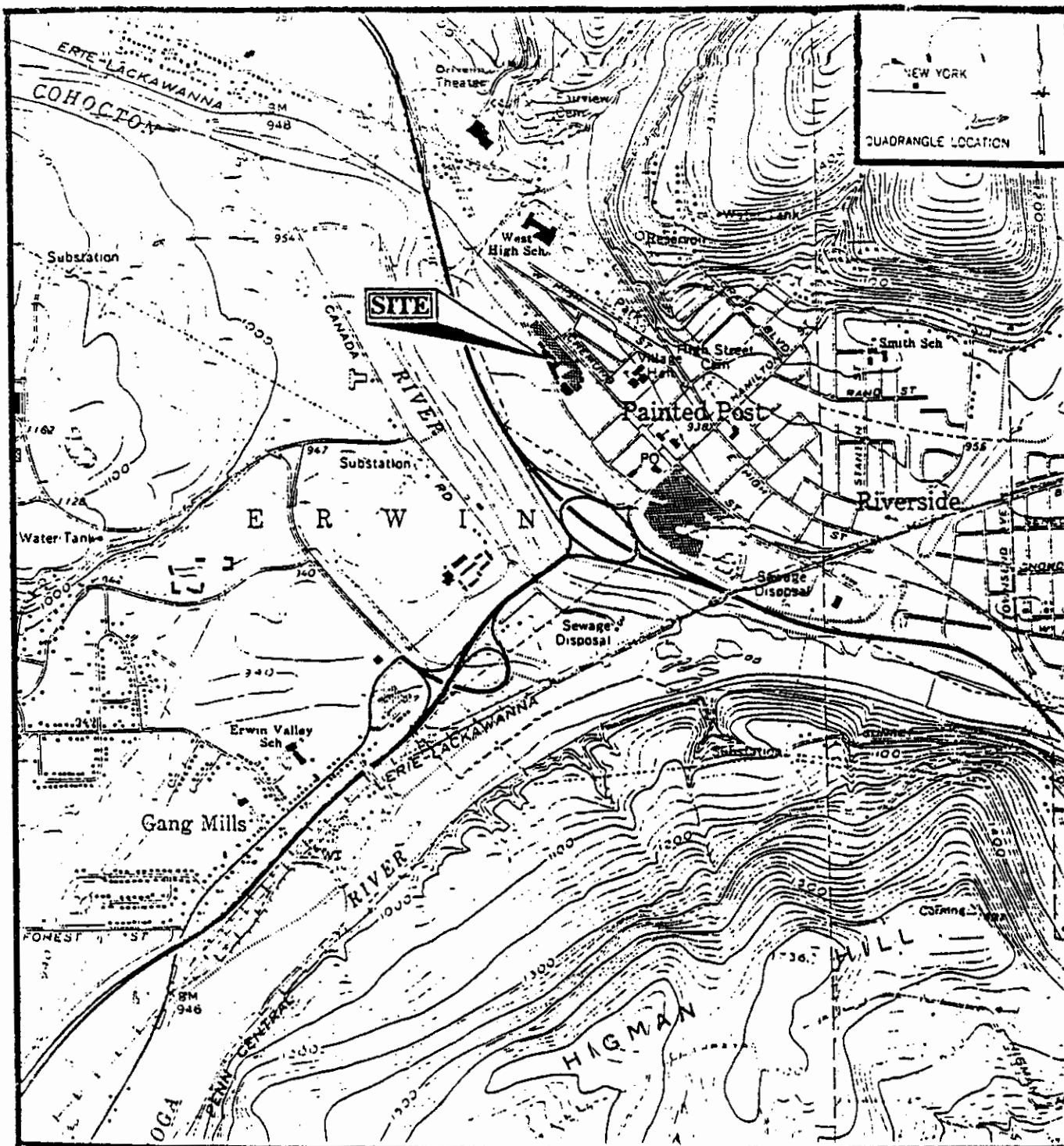
1. Preparation of a sampling and analysis plan to monitor the groundwater quality at the site and immediately off-site for a period of 3 years (five rounds). This plan would outline sampling locations, frequency, and analytical parameters and methodology.
2. Sample locations are: six on-site monitoring wells detecting TCA, and two off-site wells MW 5A&B. The samples will be analyzed for volatile organic compound using USEPA Method 502.2.
3. Placing a deed restriction on the I-R Foundry property indicating the presence of in-place contaminated soil in the MW 2B area.

The chosen alternative includes reclassifying the site to a class 4 which indicates the site is properly closed but requires continued management. The results of the groundwater monitoring will be evaluated to determine if additional reclassification or delisting the site is appropriate.

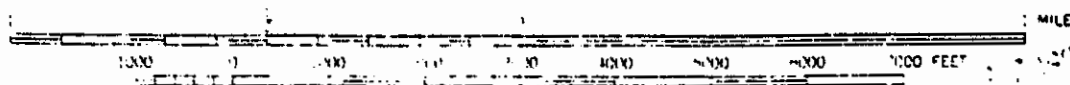
**SECTION 8: HIGHLIGHTS OF
COMMUNITY PARTICIPATION**

<u>Item</u>	<u>Date Issued</u>
Fact Sheet	3/21/91
Fact Sheet/Public Meeting Announcement.....	2/25/94
Public Comment Period.....	2/25-3/28/94
Public Meeting.....	3/7/94

Comments received from the public and the responses from NYSDEC and NYSDOH are included in the attached Responsiveness Summary (Appendix A). The public comments did not modify the selected remedy.



SCALE



SOURCE : U.S.C.S. CORNING QUADRANGLE

INGERSOLL - RAND
FOUNDRY

PAINTED POST, N.Y.

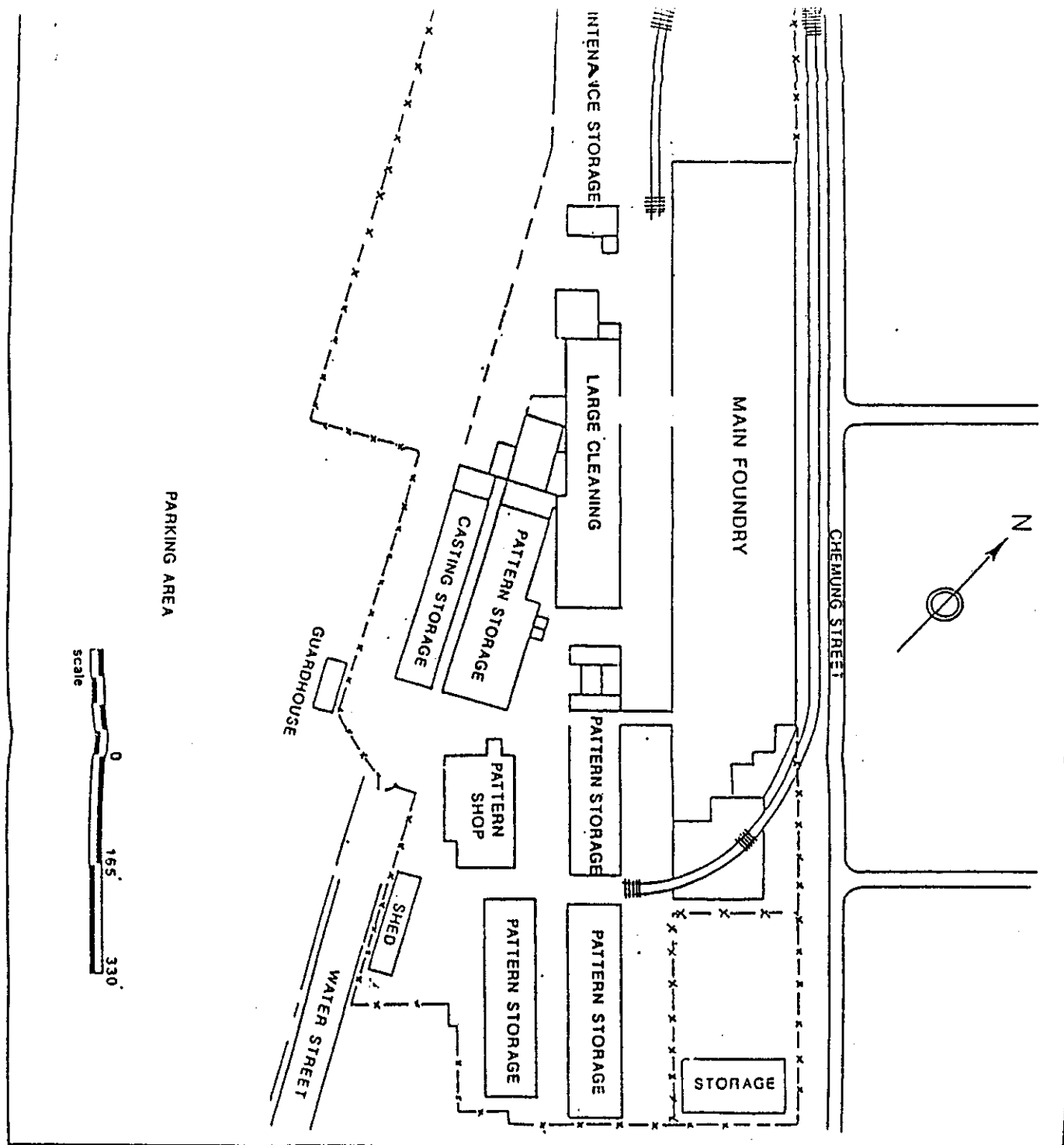


LAW ENVIRONMENTAL
ALBANY, N.Y.

SITE LOCATION

PROJECT NO.52-1532

FIGURE 1



SITE PLAN

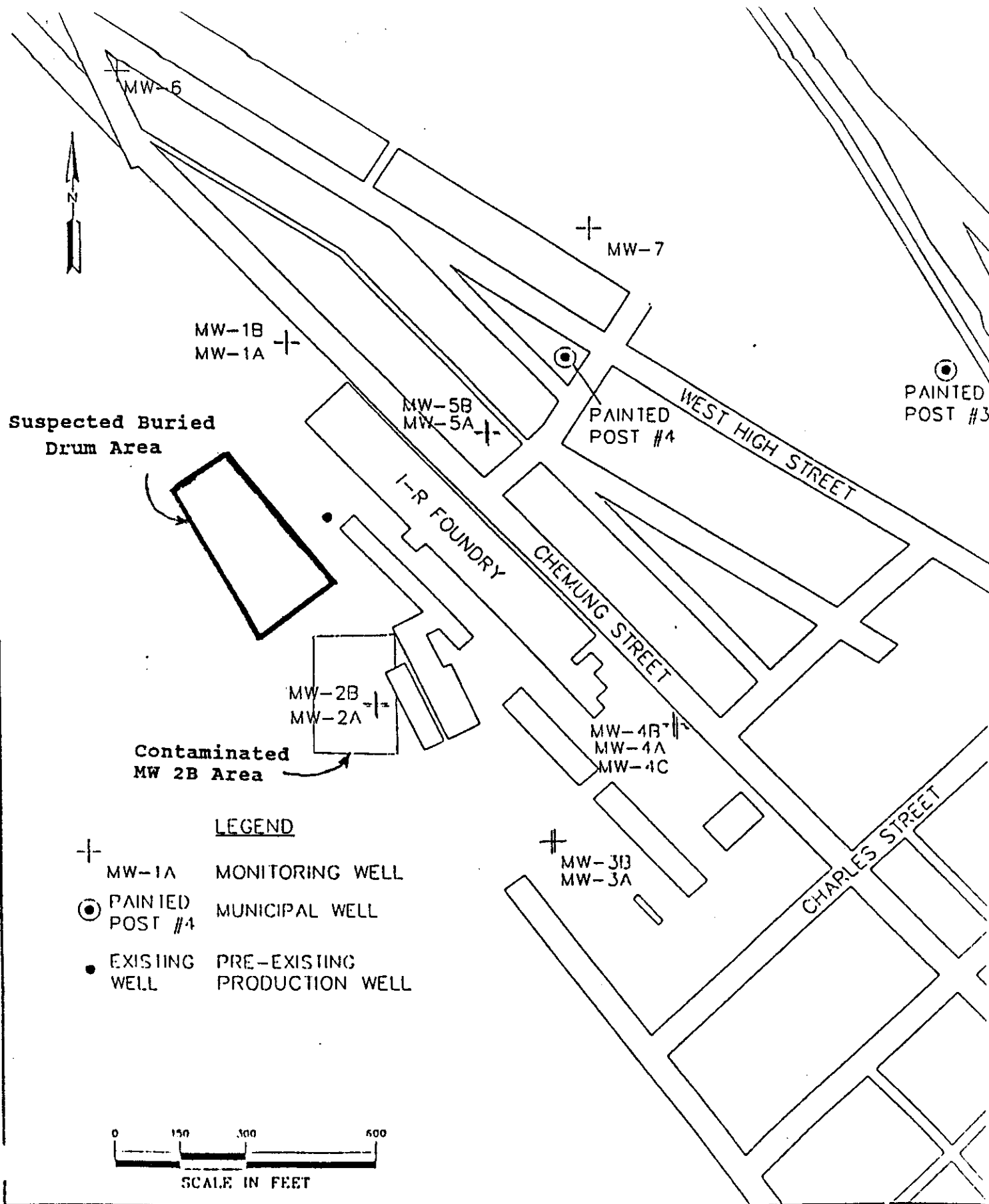
Ingersoll-Rand Foundry Location, Painted Post, NY

Source: Ingersoll-Rand Draft/Design



Bay West, Inc
Environmental Services

Figure 2





● SB-7

● SB-8

SB-6

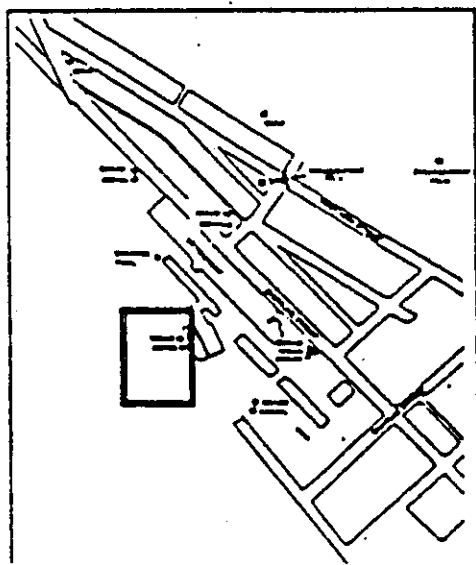
MW-2B ●
MW-2A ● SB-1

●
SB-2

● SB-5

SB-4
●

●
SB-3



FENCE

LEGEND

- MW-3A MONITORING WELL LOCATION
- EXISTING WELL ● PRE-EXISTING PRODUCTION WELL
- PAINTED POST NO. 3 ○ MUNICIPAL WELL
- PROPOSED TEST BORING LOCATION
- SB-3

NOTE: DRAWING NOT TO SCALE



CAPSULE
ENVIRONMENTAL ENGINEERING INC.
1870 CAMDEN AVE. SUITE 216
ST. PAUL, MINNESOTA 55113
(612) 224-2444

INGERSOLL-RAND COMPANY
PAINTED POST, NEW YORK

PROPOSED TEST BORING LOCATIONS

DATE: MARCH 1983

FIGURE NO.: 4

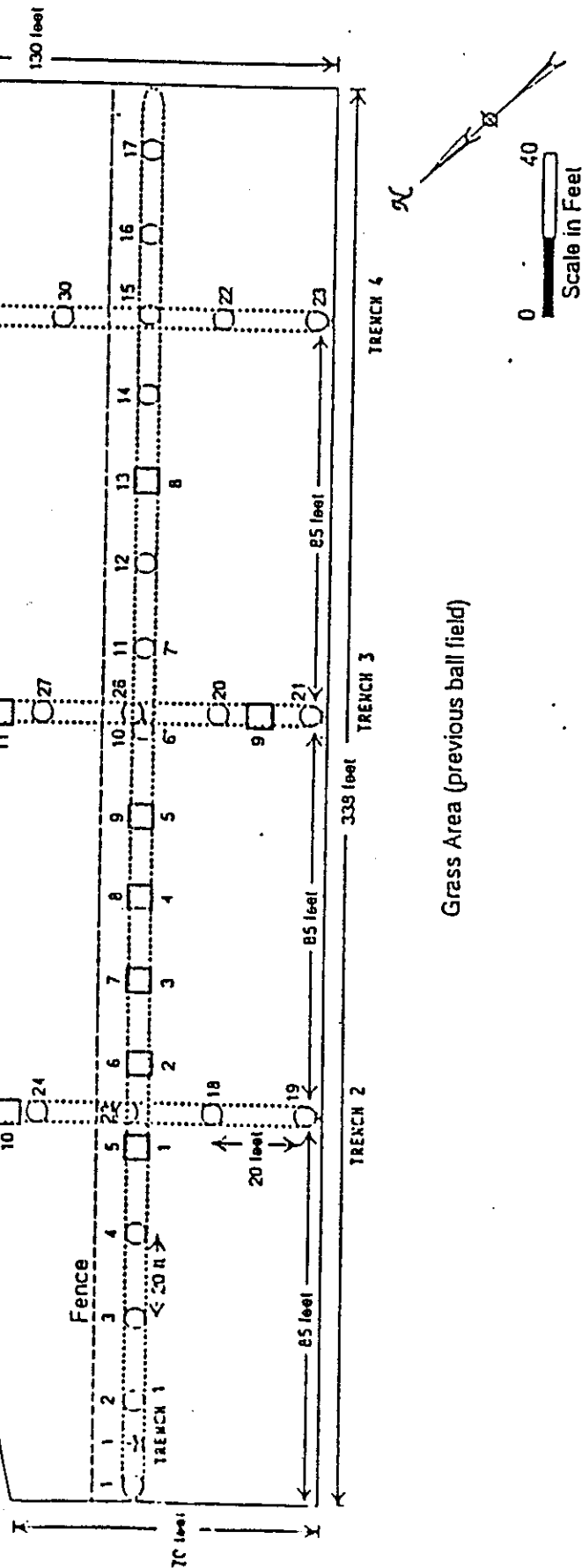
Main Foundry Facility

FEB 10 1993

HAZ. WASTE
D.E.C. REC #8

Transformer Area
(35,000 Volts)

Asphalt (4" oil rock, 12" gravel base)



Grass Area (previous ball field)

ENVIRONMENTAL PRODUCTS & SERVICES, INC.

Soil Sampling

(November 9 - 12, 1992)

Painted Post Foundry

- ☐ Environmental Samples
- ☐ Headspace Samples
- ☒ Drum Sample
- ☐ Trenches
- 6, 7* Environmental samples collected, but not submitted (based on field screening).

POST

DATE: November 16, 1992

PROJECT NO.: 2AB8961

SCALE: 1" = 40'

FIGURE NO.: 5

DRAWN BY: DHC (from Capsule)

LOCATION: Painted Post, NY

TABLE - 1

APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS)
FOR CHEMICALS OF CONCERN
INGERSOLL-RAND FOUNDRY, PAINTED POST, NEW YORK
New York State SCGs

MEDIUM	REQUIREMENTS	CITATION
Groundwater	Groundwater must meet NYS Class GA groundwater standards. These standards are most stringent of: - Standards for Class GA Groundwater - NYS MCLs for Public Water Supplies - MCLs promulgated under the safe Drinking water Act	6 NYCRR Part 703 6 NYCRR Part 703.5 10 NYCRR Subpart 5-1 40 CFR Part 141 10 NYCRR Part 170
Surface water	Surface water at the site must meet NYS Ambient Water Quality Standards for Class D Water bodies.	6 NYCRR Part 701.14
Soil	- Soils at the site must meet NYS Guidance Memorandum for Soil Cleanup Objectives and Cleanup Levels - NYS Cleanup Criteria for Aquatic Sediments	NYSDEC TAGM # 4046 November 16, 1993 NYSDEC Fish & Wildlife Criteria

TABLE 2
Volatile Organics Water Quality Data Summary

Groundwater Quality Assessment

Ingersoll-Rand Foundry
Painted Post, NY

Sample I.D.	Date	1,1- Dichloro- ethane	cis-1,2- Dichloro- ethene	Chloroform	1,1,1- Trichloro- ethane	Trichloro- ethene
NY Standard (A)		5	5	7	5	5
MW - 1A	05-May-92	ND	ND	ND	(0.2)	ND
MW - 1B	08-May-92	ND	ND	ND	1	ND
MW - 2A	12-May-92	ND	ND	ND	ND	ND
MW - 2B	12-May-92	ND	1	ND	ND	(0.7)
MW - 3A	13-May-92	ND	ND	ND	ND	ND
MW - 3B	13-May-92	ND	ND	ND	(0.3)	ND
MW - 4A	13-May-92	ND	ND	ND	ND	ND
MW - 4B	13-May-92	(0.3)	ND	ND	ND	ND
MW - 4C	13-May-92	1	ND	ND	2	1
MW - 5A	12-May-92	1	ND	ND	8	ND
MW - 5B	13-May-92	ND	ND	(0.1)	(0.6)	(0.1)
MW - 6	08-May-92	ND	ND	ND	(0.03)	ND
MW - 7	08-May-92	1	ND	ND	2	ND

NOTES:

Values shown in parentheses are Estimated Values where the result is less than the sample quantitation limit but greater than zero.

(A) - New York State Department of Environmental Quality (1991)

(1) - Applies to the sum of para and ortho isomers

TICs - Tentatively Identified Compounds

* - Denotes that this compound was also detected in the associated blank

ND - Non-detectable

All concentration units are micrograms per liter (ug/l)

TABLE - 3

SUMMARY OF QUARTERLY MONITORING WELL SAMPLE ANALYSIS
TCA RESULTS

All concentration units are micrograms per liter (ug/l)

SAMPLE I.D.	March 1993 First Quarter	July 1993 Second Quarter	October 1993 Third Quarter	December 1993 Fourth Quarter
MW-1A	0.2	0.49	ND	ND
MW-1B	1	1.5	0.41	0.69
MW-2A	ND	ND	ND	ND
MW-2B	ND	0.30	ND	0.34
MW-3A	ND	ND	ND	ND
MW-3B	ND	0.55	ND	0.31
MW-4A	0.7	0.76	0.29	ND
MW-4B	ND	ND	ND	ND
MW-4C	2	1.3	0.50	0.45
MW-5A	7	0.83*	5.4	4.7
MW-5A DUPE	NA	6.5	5.0	NA
MW-5B	0.5	6.3*	0.20	0.27
MW-6	2	ND	ND	ND
MW-7	ND	0.73	1.3	ND
Municipal Well 4	NA	4.1	3.4	ND**
NY STANDARD	5	5	5	5

* An error was made by the laboratory during the second quarter sampling event by transposing sample designator 5A and 5B. Results for MW-5A Dupe are reflective of actual ground water conditions at this location.

NA - Not Applicable, no duplicate or municipal well samples collected during these sampling events.

** Municipal well #4 sample was collected by the Village of Painted Post, New York, Water Department on November 4, 1993.

TCA - 1,1,1-Trichloroethane

ND - Nondetectable

TABLE 4

SUBSURFACE EVALUATION OF MW-28, DATED FEBRUARY 9, 1993
 SEMI-VOLATILE COMPOUND RESULTS
 FORMER INGERSOLL-RAND FOUNDRY, VILLAGE OF PAINTED POST, NEW YORK

LOCATION	DEPTH	BENZO(A) ANTHRACENE	BENZO(B) FLUORANTHENE	BENZO(K) FLUORANTHENE	BENZO(GH) PERYLENE	BENZO(A) PYRENE	CHRYSENE	FLUORANTHENE	INDENO (1,2,3-CD) PYRENE	PHENANTHRENE	PYRENE
SB-1	3"	210	620	220	350	260	400	220	360	220	220
SB-2	6"	270(j)	200(j)	180(j)	79(j)	180(j)	270(j)	390(j)	86(j)	460	460
SB-3	3"	600	1300	8700	3700	8700	8800	5700	4600	840	840
SB-3	13"	170(j)	390(j)	140(j)	180(j)	220(j)	270(j)	160(j)	200(j)	ND	ND
SB-4	3"	1700	5000	2800	1600	1700	3600	2100	1700	590	590
SB-5	•	-	-	-	-	-	-	-	-	-	-
SB-6	3"	7700	18000	14000	2100	10000	14000	8200	2600	2100	2100
SB-6	7"	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB-7	3"	6600	24000	22000	4700	12000	8500	6200	6300	1700	1700
SB-7	11"	ND	ND	ND	ND	350(j)	ND	ND	ND	ND	ND
SB-8	3"	3700	14000	8100	2000	5100	5800	3600	2300	2400	2400
SB-8	6"	ND	100(j)	ND	43(j)	ND	ND	ND	ND	ND	ND

ND - NOT DETECTED

• - UNABLE TO COLLECT SOIL SAMPLES DUE TO SUBSURFACE OBSTRUCTIONS
 ALL VALUES ARE REPORTED IN PARTS PER BILLION

(j) - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the results are less than the sample quantitation limit but greater than 200.

TABLE 5

Volatile Organic Compounds
 Subsurface Investigation Report, Dated February 9, 1993
 Ingersoll-Rand Company, Painted Post, New York

Sample I.D.	Methylene Chloride	Acetone	Benzene	Ethyl Benzene	Other Compounds
Soil Sample 1	1 (J)	ND	ND	ND	
Soil Sample 2	ND	ND	ND	ND	
Soil Sample 3	ND	ND	ND	ND	
Soil Sample 4	2 (J)	ND	ND	ND	
Soil Sample 5	ND	ND	ND	ND	
Soil Sample 6	ND	ND	ND	ND	
Soil Sample 7	ND	ND	ND	ND	
Soil Sample 8	10 (J)	ND	ND	ND	
Soil Sample 9	ND —	ND	ND	ND	
Soil Sample 10	2 (J)	ND	1 (J)	0.8	1 (J) 4-Methyl-2-pentanone 0.05 (J) Styrene 0.9 (J) Toluene
Soil Sample 11	ND	440	ND	ND	32.0 2-Butanone
Soil Sample 12	1 (J)	ND	ND	ND	6.0 (J) 2-Butanone
Drum Sample 1	4 (J)	ND	ND	ND	

J - Indicates and estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

TABLE 6

VILLAGE OF PAINTED POST WELL # 4 SAMPLING RESULTS

DATE OF SAMPLE COLLECTION	TCA LEVEL in Parts per billion (ppb)	NEW YORK STATE DRINKING WATER STANDARD in ppb
3/13/91	Non-detected	5
5/15/91	2	5
7/31/91	3	5
11/27/91	Non-detected	5
3/18/92	Non-detected	5
6/17/92	Non-detected	5
9/2/92	4	5
12/16/92	1	5
3/10/93	4	5
7/29/93	3	5
8/30/93	6	5
11/4/93	Non-detected	5

TCA = 1,1,1-Trichloroethane

Appendix - A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Ingersoll-Rand Foundry Site
Painted Post, Steuben county, New York
Site ID # 851012

The following are responses from the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH), to the questions and comments made at the March 7, 1994 public meeting which presented the proposed remedial action plan for the Ingersoll-Rand (I-R) Foundry site. Some of the questions are grouped together or divided to formulate an appropriate response and to avoid repetition; a dash at the beginning indicates a grouped or divided question.

This responsiveness summary forms a part of the Record of Decision issued by the NYSDEC for the site.

Q. How large is the suspected drum area?

A. The suspected drum area is south of the main former foundry building in the northwest corner of the facility property. Pursuant to a NYSDEC approved work plan, I-R investigated an area 338 feet long and varying in width between 70 and 130 feet. The total area was 33,800 square feet. This investigation was done through the use of four trenches; totalling 980 linear feet. All trenches were excavated from the surface through all fill material to natural sediment. Soil samples were screened using an HNu photoionization meter and visual observation. Select samples were collected and analyzed at a laboratory. No drums were identified during the trenching operation, and no contamination was identified.

Q. Did I understand you correctly that you concluded that Ingersoll-Rand was not the cause of the groundwater contamination?

A. The results obtained from sampling thirteen monitoring wells (nine on-site and four off-site) five times in different seasons did not indicate the I-R Foundry to be the source of TCA in the groundwater. It is important to understand, however, that the levels identified on-site and in the Village of Painted Post municipal well #4 (with the exception of one sampling event) were below the New York State (NYS) drinking water standard of 5 parts per billion (ppb). The only monitoring well that consistently exceeded 5 ppb was MW-5A located off-site, northeast of the foundry.

- Q. In monitoring of the groundwater, you recommend semi-annual monitoring, yet when you conducted the study, it was monitored four times a year; would it be a prudent measure to continue to make sure that the groundwater is safe?

Are you done after three years?

- A. The Village of Painted Post water supply well #4 has been monitored on a quarterly basis for a period of three years with very little fluctuation in the concentration of 1,1,1-trichloroethane (TCA). Similarly, the results of five sampling events for 13 monitoring wells have been fairly consistent. Based upon the fact that the levels have not changed significantly, it is our belief that semi-annual monitoring for the first two years and annual monitoring the third year for a total of five events is sufficient to detect anomalies. After three years, the monitoring results will be re-evaluated to determine if further monitoring is needed.

The Village of Painted Post, under current State regulations, is required to monitor their water supply well # 4, on a quarterly basis.

- Q. The Village of Painted Post public water supply Well #4 is fluctuating. It may show more contamination.

- A. Compared with other sites managed by NYSDEC, the data from municipal well #4 and the I-R monitoring network is remarkably consistent. However, as a precautionary measure, the Village of Painted Post will continue to monitor its water supply well quarterly.

- Q. Most recently in 1993, the highest level for TCA was 6 ppb; it is still over NYS drinking water standards.

- A. The most recent result of November 1993 indicates non-detect for TCA. Only once over the past 30 months, the contaminant level in municipal well #4 has exceeded the NYS drinking water standard of 5 ppb.

- Q. Why are the depths of the deep wells at Ingersoll-Rand not the same as the municipality (village wells)?

- A. The main objective of installing the deep wells was to determine if the foundry is the source of TCA found in the Village of Painted Post water supply well # 4. The depths of these wells were, therefore, kept approximately in the same range as that of the Village of Painted Post water supply well # 4. The Village of Painted Post well # 4 is approximately 79' deep; the deep monitoring wells are screened at a depth of 80'.

- Q. Was NYSDEC aware that the general area northwest of the foundry was used as a disposal area in the 1920s - 1930s (MW-5A and MW-5B area)? Various sands, including core sand and petroleum distillates, were held there, not deep, but in shallow layers. Near the area listed as a suspected drum burial site and at the MW-1A and MW-1B location, patterns were stored. Oak and mahogany were exposed to distillates. They were weather dried, stored, and burned up. Patterns were in the field. This has been ongoing since its inception.
- A. Initially, polychlorinated biphenyles (PCBs) were the main concern at the foundry; however, to account for other unknown past disposal activities, such as that you described, the soil and the groundwater were tested for a long list of chemicals. The only contaminant consistently detected was TCA at low levels in groundwater.
- Q. Many people in the neighborhood, particularly women, have died from cancer. The number of cancer surgeries that people in the area have had over the past 15 years is high. Other illness have occurred as well. Some of the men from the neighborhood worked at the foundry, but none of the women with health problems worked at plants. One woman with medical problems was asked by her physician if she had been around any hazardous waste. Concern was expressed for neighborhood children's health as well as that of West High School students.

The school was built on a filled-up swamp; groundwater level is five feet below the surface.

- A. A cancer fact sheet, developed by the NYSDOH Cancer Surveillance Program, was made available at the meeting. The fact sheet provided general information regarding cancer. Several residents were interested in discussing specific medical concerns with NYSDOH medical staff. NYSDOH medical staff will be contacting those residents.

Cancer develops in people of all ages but most often in the middle-aged and the elderly. Researchers do not fully understand why some people develop cancer while others do not. Most cancer cases in the United States are believed to be associated in some way with our personal habits, our life-style or our physical surroundings.

Exposure from the workplace is carefully investigated, although they are associated with only a small percentage of concerns. The neighborhood men who worked at the foundry may have had occupational exposures to chemicals used at the plant which increased their or their risk for developing health problems. In addition, the men may have carried

chemicals home with them on their clothing and may have exposed their families to these chemicals, thus potentially increasing the risk for the development of health problems in their families. If residents are concerned about occupational exposures, NYSDOH medical staff are available to discuss individual cases.

It is not likely that the neighborhood children and high school students were exposed to contaminants at the foundry. Site access to the foundry has been restricted by fencing and 24-hour security. Surface contamination, consisting of PCBs and oil and grease, was removed from the on-site soils and buildings at the I-R Foundry in 1988.

- Q. Groundwater at the site was tested and PCBs were found. There's something wrong with the groundwater and the drinking water.
- A. Groundwater samples that were collected at the site have shown the presence of low levels of volatile organic compounds, including TCA. The levels of these volatile organic compounds have not exceeded groundwater standards. PCBs were never found in groundwater samples collected from the site. PCBs were found in samples collected from on-site soils and other building surfaces. The PCB contamination was removed from the soils and building surfaces with NYSDEC oversight as a part of the site clean-up that occurred in 1988.

The Village of Painted Post's municipal water supply well # 4 has been sampled on a quarterly basis since 1989. Samples collected from this municipal well have shown the presence of low levels of TCA. The levels of that compound in the Village of Painted Post water supply well have remained below the drinking water standard of 5 ppb, with one exception. The sample taken in August 1993 had a TCA concentration of 6 ppb. A chemical fact sheet that discussed possible health effects from exposure to TCA was made available at the meeting. The compound has not been identified as a human carcinogen.

- Q. The fact sheet says 8 ppb, not 6 ppb.
- A. The 8 ppb concentration was detected at monitoring well MW-5A located off-site, whereas the 6 ppb concentration was detected at the Village of Painted Post water supply well #4.
- Q. There is no evidence that PCBs came from the plant. What about methyl chloroform? Didn't that come from the foundry? Was that solvent used at the plant? Do we know if TCA was

used in normal operations or you're not sure if TCA was used by Ingersoll-Rand?

A. PCB contamination was removed from the soils and building surfaces at the foundry in 1988. There is no evidence that the PCBs have migrated off of the facility grounds. Secondly, methyl chloroform (or TCA as it is more commonly called) is not a material that was used at the foundry. TCA is a typical degreasing solvent and is used more commonly where machining and fabrication operations occur. TCA is used to remove grease and oils from metal surfaces. These types of operations did not occur at the foundry. In addition, a records search of material safety data sheets and inventory records did not reveal that TCA was used at the foundry.

Q. What triggers a health study for an area like this? What methods do you use to conduct the study?

A. The need for a health study can be determined in different ways. If NYS Department of Health staff working on a particular site feel that a study is warranted, they can request a cancer incidence study. A cancer incidence study can also be requested by citizens.

Citizens can write a letter to the NYS Department of Health indicating the area of concern to them. NYSDOH will then develop a map outlining the area of concern and any additional area that must be included to make the study large enough to be statistically valid. The map and a letter will then be sent to the requesting citizen to ensure that the area they are concerned about was included. The cancer incidence study can then be performed.

A cancer incidence study uses information from the New York State Cancer Registry. Hospitals are required to report to the Registry any cancerous tumor diagnosed in New York State. The Registry includes the address of each patient at the time of their diagnosis. Information on the population of the study area is obtained from census data. The expected number of newly-diagnosed cancer cases, by sex and location of cancer in the body, is calculated based on the age and sex distribution of persons in the study area. The actual number of newly diagnosed cancer cases, by sex and location of cancer in the body, is counted from the New York State Registry records. It is then determined if a significant increase of cancers has occurred in the study area.

Q. If someone has a cancerous tumor removed and another tumor appears, will this appear on the cancer registry?

- A. If a patient has a cancerous tumor removed from one site in the body, such as breast, and a new cancerous tumor appears at a different site, such as the lung, the new cancer is recorded on the registry. Non-cancerous tumors are not recorded on the Registry.
- Q. I have a few questions on the water as it moves under ground. The groundwater is probably moving toward the river. Why not put in test wells between the foundry and the Cohocton River? Were the wells properly placed? I had a geologist look at this.
- A. Based upon the water level measurements that have been collected for the 13 wells installed by I-R, the groundwater flow direction is generally northwest to southeast, the same as the regional groundwater flow direction. In other words, groundwater flow is in a direction that is parallel to Chemung Street and is not going towards the Cohocton River. This data indicate it is not necessary to have any wells between the foundry and the river itself. If the geologist you refer to has any questions, please feel free to contact the NYSDEC - Avon Division of Hazardous Waste Remediation hydrogeologist.
- Q. Isn't it unusual that the groundwater flows in that direction?
- A. The redirection of the Cohocton River from its original river basin area may account for the change in the flow direction. In addition, the pumping activity of the municipal wells also influences the flow direction. Based upon the information that is available, groundwater flow direction is generally northwest to southeast parallel to Chemung Street.
- Q. If I-R did not cause contamination, what did? Could the flood of 1972 have carried some of it over to monitoring wells 5A and 5B?
- A. Based upon the information that has been collected from the wells that have been installed, it does not indicate that the I-R Foundry is the source of contamination. A source of the contamination has not been identified.

Although, the flood of 1972 may have dispersed some materials in locations that would not normally have been impacted, the fact remains that MW-5A and MW-5B are groundwater samples, and groundwater is located at approximately 13 feet below surface level. Based upon the lack of contamination in soil samples collected during the installation of wells MW-5A and MW-5B, it would appear that the contamination that has been identified in the ground

water is not the result of the deposition of TCA in this area as a result of the flood. If TCA had been deposited in the area surrounding MW-5A and MW-5B and was in fact impacting the groundwater, there would be evidence of the TCA in the overburden soils.

- Q. Why weren't people told? We were not told a thing in 1985 and 1986 before it closed down. We found out in 1991/92 when the neighbors had a well put in their yard.
- A. In 1985 and 1986, NYSDEC did not have as aggressive citizen participation program as it is now. The first NYSDEC guideline regarding this program was published in August 1988; it was included in Title 6 of New York Compilation of Rules and Regulation (6 NYCRR) part 375 - Inactive Hazardous Waste Disposal Site Remedial Program - in May 1992. A fact sheet giving update on site clean-up and groundwater investigation was distributed in March 1991. The monitoring well # 5 in your neighbor's back yard was installed in April 1992.
- Q. MW-7 was in the middle of Craig Park. That was a swamp that was filled in.
- A. MW-7 was installed in an effort to get a sidegradient sample to the Village of Painted Post water supply well #4. This well has identified low level TCA contamination in the groundwater. During the installation of MW-7, no contamination was detected in soil.
- Q. Another concern relating to the time prior to the flood of 1972, there were two cupolas indicated north of the foundry. Was any sampling done in and around this area? In 1975, they tore down the two cupolas, one 100-ton and the other 90-ton because of OSHA, and put in three 20-ton electric furnaces in the same area.
- A. The cleanup that was conducted occurred on either side of the electric melt furnaces. PCBs and oil were detected in these areas.
- Q. I would like the data available from the area near the cupolas. Is Varsol, a petroleum distillate, a trade name. It comes in 55-gallon drums. Is that what you are talking about or is that a separate compound?
- A. TCA is a chlorinated organic compound whereas Varsol is a petroleum distillate material. These materials represent two distinctly different types of compounds. Sampling data from the furnace area can be found in the document repository at the Corning Library on Denison Parkway. The title of the document is Final Analytical Review at the

Ingersoll-Rand Foundry Site, dated November 1, 1989.

Q. Was something like Varsol also tested for?

A. The analyses that were conducted for the site included volatiles, semi-volatiles, PCBs, grease and oils, and metals. As a result of the volatile and semi-volatile organic testing that was done, Varsol or Varsol-type materials would have been identified if present.

Q. The entire foundry had a wooden floor with creosote. I-R scooped the sand out and put it out in the field in the Water Street Extension area, right behind Rambler's Restaurant, across from Burger King.

A. The only creosote related semi-volatile organic compounds identified were in soil at the MW-2B location; these were found to be stationary and not migrating. There has been no indication of creosote contamination in the groundwater. The only contaminant identified in groundwater was TCA. TCA is not a compound that is associated with foundry sands or creosote block.

Q. TCA will dissipate into the ground and therefore is different from PCBs which will stay put. It's a slight amount of what was there 30 - 40 years ago. It could have been 10 to 100 times that amount. The TCA will leach into the ground and move on. Has nature taken its course?

A. The NYSDEC does not have data from 30 - 40 years ago which would provide information, along with the recent data, to show trends, migrating pathways, etc. Without this information, we can not determine what nature has done over time. However, you are right that TCA will move more readily than PCBs in soil.

Q. When the Village well sample showed TCA above the standard, didn't the municipality have to put a stripping tower or some kind of treatment system onto the well?

A. Treatment of a public water supply for contamination with volatile organic compounds (VOCs) usually is not required for one high sample result. First, the supply must have a maximum contaminant level (MCL) violation. In case of TCA, the MCL is 5 micrograms per liter ($\mu\text{g/l}$), which is 5 ppb. In order to get an MCL violation, this level must be exceeded on the average of the original and any check samples the water supplier takes. For example, if a quarterly sample has a level of 6 $\mu\text{g/l}$, the Village must take at least two check samples. If both check samples contain less than 5 $\mu\text{g/l}$ of the contaminant, the average of the samples will be less than 6 $\mu\text{g/l}$. Therefore, no MCL

violation has taken place. The samples from the Village well # 4 have consistently averaged well below 5 µg/l. Therefore, there has never been an MCL violation.

Another factor considered in determining if treatment is required is the level of chemical in the distribution system. In Painted Post's case, water from well # 4 with low levels of TCA is blended with water from well # 3, which is not contaminated. TCA has not been detected in the finished water after chlorination and other treatment. There would not be any point in installing a special treatment system when the chemical is not detected in the water supply.

As you may know, the City of Corning has a tower behind Wegmans that is used to treat Corning's water. However, the levels of contamination found in the City of Corning's well were 10 to 100 times higher than any level found in Painted Post wells.

Additionally, current laboratory tests cannot be relied upon to always give results that are accurate to the nearest 1 µg/l. At concentrations as low as 5 and 6 µg/l, there is no statistical difference in the numbers that are reported.

- Q. NYSDOH uses ppb; water pollution control uses ppt. Why is it that water pollution people use much more stringent guidelines?
- A. Water pollution control deals with many compounds and contaminants and the corresponding levels for release vary from ppb, ppm, mg/l. The NYSDEC Division of Water does have some water quality standards in the ppt range but detection at these levels is not reliable because the technology has not advanced to that point. Analytical results at the ppt level are not reproducible, reliable and are often theoretical or extrapolated values.
- Q. Representatives are here from Ingersoll-Rand, NYSDEC, NYSDOH, yet no one is here from the Village of Painted Post. Three of them (trustees) work at Ingersoll-Rand and I will let them know about their non-concern for residents.
- A. Representatives from the Village of Painted Post were informed of the meeting by fact sheet distributed on February 28, 1994, just as you were. The NYSDEC and the NYSDOH will continue to work with the Village of Painted Post for issues related to public water supply.
- Q. Will the Village of Painted Post wells continue to be monitored quarterly?

- A. The Village of Painted Post will continue to monitor municipal well #4 on a quarterly basis.
- Q. Could you please include standards or New York State limits for Table 4 of the proposed remedial action plan?
- A. The levels that have been identified in Table 4 are for semi-volatile compounds called polynuclear aromatic hydrocarbons (PAHs). There are no regulatory limits for these compounds. The guidance values being used at other similar sites are: for non-carcinogenic total PAHs in soil - 10,000 $\mu\text{g/kg}$ (ppb) and for carcinogenic total PAHs in soil - 5,000 $\mu\text{g/kg}$. The area in question is a localized area around wells MB-2A and MB-2B and at 3 - 12 ft. depth. The Concentrations that were found may pose an elevated level of risk to human health if exposure to these compounds should occur. A deed restriction, indicating the presence of this contamination in soil, will be placed for MW-2B area, as a part of the selected remedy.
- Q. Since contaminated soil was left at the site, and monitoring wells 5A and 5B have shown contamination, how safe is it for homeowners to dig in their yards? Can the contamination move through the air? Since how long that soil at MW-2B has been contaminated?
- A. The contaminated soil found in the MW-2B area of the site is a localized area around monitoring wells MW-2A and MW-2B located within the foundry. The contaminants are at a depth of 3 to 12 feet below ground surface and are stationary and not migrating through the soil or the groundwater. As they are semi-volatile materials and are found below surface level, the potential for their release to the air is minimal. A deed restriction will be placed on the site to indicate presence of contamination in this one specific area; this should minimize potential for future human exposure, if excavation is to occur. This soil contamination may have occurred many years ago.

When installing wells 5A and 5B, located on a neighbor's property, no soil contamination was detected. The low levels of TCA found in the groundwater is not likely to migrate to the surface or into the air. It is important to note that there is no human exposure to the groundwater at this location.

- Q. With respect to monitoring wells 5A and 5B, how far down do these wells go? What, if anything, can be done to lower the contamination at 5A and 5B?

How safe is the area near monitoring wells 5A and 5B?
Years ago it was not as safe.

- A. Monitoring wells 5A and 5B represent a deep and a shallow well. Total depths for these wells are 79.5 feet and 26 feet, respectively. Based upon the contamination levels that have been identified (up to 8 ppb), and absence of human exposure to the groundwater at this location, remedial activity is not warranted for the groundwater. Also, it is not likely that the contaminants found at these depths and at these concentrations will migrate to the surface.
- Q. In the empty drum storage area, parallel to Chemung Street, did you notice a pattern in the quarterly monitoring results, especially in the summertime? Is there a correlation between the decrease in the water table elevation (which is likely during summer months) and a rise in contaminant levels? Why was there no well at 120 feet?
- A. There does not appear to be any significant change in contaminant levels as a result of seasonal groundwater fluctuations. Any variability of contaminant levels observed in these wells is statistically insignificant.

Monitoring wells 120 feet deep can be drilled, however, in this case, it was not necessary to go deeper than 80 feet which is the depth of Village of Painted Post water supply well # 4.

- Q. The preferred remedy includes maintaining an existing guard 24 hours a day. He is strictly a fire watcher. He can't keep people off the I-R Foundry property. It is not fenced in on the Chemung Street side of the foundry, vents are open, and there are open vents on roof. I have seen kids play in there.
- A. Twenty-four-hour site security will continue to be maintained, as necessary, and will be used to restrict unauthorized access to the site. Maintenance of a fence around monitoring well 2B limiting access is also a part of the remedy.
- Q. What is the definition of a class 4 site? Can it go up for public sale?
- A. Classification code 4, as defined in the New York State Registry of Inactive Hazardous Waste Disposal Sites, means that the site is properly closed but requires continued management.

Yes, the site can go up for public sale.

- Q. As a Class 4 the property can be sold; can it be sold for residential? Will there be any restrictions, only businesses? If it is sold, is there some way to make sure

the new owners know it was contaminated and it was cleaned up? Can it be homes; a development?

- A. As a class 4, the site can be sold for any purpose. There will be a deed restriction placed on a portion of the site near monitoring well 2B. Documents regarding the completed cleanup are available at the Corning library and at the Region 8 office of the NYSDEC. Moreover, it is our experience that the buyer(s) of such an industrial site are extremely cautious regarding the environmental liability issues. Zoning requirements are at the discretion of the local municipality.
- Q. Is there a timeframe (in reference to the proposed building demolition)? Will they keep the grass cut? There are rattlesnakes in there.
- A. I-R, in their March 7, 1994 letter to NYSDEC, have indicated that the proposed building demolition will take place in June 1994. Groundskeeping work be at the discretion of I-R.
- Q. Is any part of the facility being used for storage? I see trucks going by every day.
- A. Yes, the facility is being used for pattern storage.
- Q. There's a liability involved in purchasing a past or current inactive hazardous waste site. Will businesses be held liable for "X" number of years in the future?
- A. Businesses responsible for causing contamination can be held liable for any number of years in the future. A "Responsible Party" by definition means any or all of the following: (1) the current owner and the current operator of the site or any portion thereof; (2) the owner, and operator, of the site or any portion thereof at the time any hazardous waste disposal occurred; (3) any person who generated any hazardous waste that was disposed of at the site; (4) any person who transported any hazardous waste to the site, provided that such site was selected by that person; (5) any person who disposed of any hazardous waste at the site; (6) any person who, by contract, agreement, or otherwise arranged for the transportation of any hazardous waste to the site or the disposal of any hazardous waste at the site; (7) any other person determined to be responsible according to applicable principles of statutory or common law liability.
- Q. I have heard or read in newspapers, radio, and TV that Ingersoll-Rand has been the subject of environmental monitoring. There are 37 (discharge) points into the Cohocton and Chemung Rivers for (monitoring) contamination.

Are any of these monitoring points focused between the foundry and the Cohocton River? Over the past five years, Ingersoll-Rand has been cited for pollution. Was this from the plant itself?

I know I-R has a spill team when they lose coolants. At what frequency (daily, weekly, monthly, quarterly) they are being monitored? . The river use to be right next to the main plant and was moved over 400 yards.

- A. The Ingersoll-Rand Foundry site, which is the subject of this investigation, was idled in December 1985. The NYSDEC knows of no discharge or of a reason why there would be a discharge from this facility. To our knowledge, this foundry site has not been cited for environmental problems over the past five years. What you are referring to, may relate to different corporate properties in Painted Post.
- Q. Are the (discharge) points needed at the foundry?
- A. The NYSDEC knows of no reason for discharge points at the foundry. The only monitoring that will be done at the foundry will be for the groundwater.
- C. At the regular planning board meeting, a geographical mapping system with information from the EPA and SPDES register is being developed. Maps of the Painted Post area are being verified locally.
- Q. Is it possible or to test air quality over the site? Is the air polluted? As the groundwater goes down, what is it doing to the air? Is it likely that higher temperatures cause more air pollution?
- A. Semi-volatile organic compounds were identified in a localized area at location MW-2B at 3 - 12 feet below the ground surface. Also trace levels of TCA in groundwater at 20 - 80 ft depth are not likely to migrate to the surface. No air pollution problems are thus expected at this site even at higher ambient temperatures.
- Q. When the cupolas were in place between 1940 - 1970, I-R purchased car engine blocks which were used for castings for the base metal iron process. I-R loaded these blocks from the top down into the heat; oil and ethylene glycol were vaporized and there were explosions and BOOM. At that point, could they have been contaminating the environment? Everything was black, there would be soot on cars, clothes, even the inside of windows in the winter. What is your experience with respect to this?

Castings, engine blocks, and molten metal exploded and the

gases were not all completely destroyed. A stack of transmissions were stored near monitoring well #1. The fumes were atrocious and smoke would go into our house.

A. The loading of castings for base metal iron into the cupolas resulted in the incineration of some of the organic compounds present due to the high temperatures encountered. Although some residual organic material may have remained, the more probable cause of the black soot was the coke that was used to fire the cupolas. The Department has no data to confirm any releases from the processes to which you are referring.

Q. There is an existing production well (the foundry water well which is not used for drinking). Was it tested?

A. There were actually two production wells on site. Both wells were tested initially in 1985 and no contamination was found.

Q. How will the new storm water regulations impact this facility? Industries have rules. How will this site be treated by SPDES permit?

A. This site is not regulated by the new storm water regulations since it is not in operation. As stated earlier, the Department is not aware of any need for a State Pollution Discharge Elimination System (SPDES) permit at this site.

Q. Are there any storm drains that drain to the village to our street? If there are holes or seepage, could that be causing contamination?

If pipes are open, soil contamination could be deeper down, even after the flood of 1972?

A. Yes, there are storm drains on the facility property. The direction that they drain is unknown. However, if the storm drains were to leak, the material would have to percolate down through the soil to get to the groundwater. Sampling has not indicated any contaminant sources in the soils near any storm drains.

A. For the material to impact groundwater, it would have to percolate down through the soil to get to the groundwater. Sampling has not indicated any contaminant sources in soils that could be the cause of the TCA contamination found in the groundwater including the Village of Painted Post municipal well #4.

Q. Can it wash into the street? Even our storm sewer on

Chemung Street, when it rains, turns into a canal. You cannot even drive a car from the curb to the railroad track, a distance of 100 - 150 yards.

A. Although the potential may have existed for materials to wash along the surface, in order to get to the groundwater, contaminants would need to percolate down through all of the soils to get to the groundwater table. There has been no indication of soil contamination in the areas where monitoring wells have been placed.

Q. Could contamination in monitoring well 5A be from this?

We know there was a huge cistern by those wells.

A. During the installation of monitoring wells MW-5A and MW-5B, screening and sampling was conducted. There was no indication of TCA in the soil. Groundwater TCA levels at monitoring well 5A are consistently in the range of 5 - 8 ppb, which marginally exceed the 5 ppb NYS Drinking Water Standard. The source of this TCA can not be determined from this investigation. Monitoring well 5A is located approximately 250 ft. northeast of the I-R Foundry. It is believed to be cross gradient or downgradient, depending upon the pumping activity of the public water supply well. It is important to note that the public is not exposed to groundwater at this location.

Q. Did you find the top and bottom of the water table?

A. Wells were installed to look at both surface and deep contamination. Deeper wells were installed to what was believed to be the bottom of the aquifer in a number of areas.

Appendix - B
Administrative Record

ADMINISTRATIVE RECORD

- 1) Final Analytical Review for Ingersoll-Rand Foundry Site, November 1, 1989
- 2) Revised Proposal for Groundwater Quality Assessment, August 12, 1991
- 3) Interim Stratigraphy Report for Phase - I Groundwater Quality Assessment, January 1992
- 4) Fact Sheet by New York State Department of Environmental Conservation, March 1992
- 5) Groundwater Quality Assessment - Ingersoll-Rand Foundry, September 1992
- 6) Subsurface Investigation Report (alleged drum disposal area), February 9, 1993
- 7) Subsurface evaluation of MW-2B - Additional Groundwater Quality Assessment, August 2, 1993
- 8) First Quarter Well Sampling Event Report, August 30, 1993
- 9) Second Quarter Well Sampling Event Report, November 4, 1993
- 10) Third Quarter Well Sampling Event Report, December 13, 1993
- 11) Fourth Quarter Well Sampling Event Report, February 8, 1994
- 12) Focussed Feasibility Study Report - Former Ingersoll-Rand Foundry, February 25, 1994
- 13) Fact Sheet/Public Meeting Announcement, February 1994
- 14) Record of Decision (ROD), including Responsiveness Summary of March 7, 1994 public meeting