DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

RCRA Corrective Action
Environmental Indicator (EI) RCRAInfo code (CA725)

Current Human Exposures Under Control

Facility Name: Honeywell International Inc. Tonawanda - Envirotek
Facility Address: 4000 River Road, Tonawanda, NY 14150
Facility EPA ID #: NYD038641601

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

__X__ If yes - check here and continue with #2 below.

_____ If no - re-evaluate existing data, or

_____ if data are not available skip to #6 and enter"IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRAInfo national database ONLY as long as they remain true (i.e., RCRAInfo status codes must be changed when the regulatory authorities become aware of contrary information).

Site Background

Site Location and Description

The Envirotek II facility was a chemical waste treatment and disposal facility that was operated during the 1980's by Envirotek Ltd. This facility occupied a 2.5 acre parcel within the 50 acre former Roblin Steel Plant, which is located at 4000 River Road in the Town of Tonawanda, Erie County, New York (Figure 1).

The Roblin Steel property, which is currently owned by Niagara River World Inc., is designated as a Class 2 Inactive Hazardous Waste Site; it is listed in the New York State Department of Environmental Conservation (NYSDEC) Registry as Site No. 915056 (Figure 2). The Envirotek II Site is also part of the Roblin Steel Site; it does not have a separate Registry number even though the parties responsible for investigating and remediating the site are different from the parties responsible for the remainder of the Roblin Steel Site.

The Roblin Steel property occupies an area between River Road to the east, the Niagara River to the west, Tonawanda Coke Corporation property and the Marathon Ashland Petroleum Company facility to the south, and the Lafarge Corporation ready mix concrete plant and vacant land (also owned by Niagara River World) to the north.

The Envirotek II portion of the Roblin Steel Site has been subdivided into three Operable Units (OUs). An operable unit represents a portion of the site that for technical or administrative reasons can be addressed separately to eliminate or mitigate a release, threat of release or exposure pathway resulting from site contamination. The operable units associated with the Envirotek II Site are summarized as follows:

OU1: Waste
This operable unit consisted of waste present in the Boiler House and Waste Pit No. 6 (Figure 3). While operating, Envirotek disposed of hazardous substances and wastes in various pits and buildings throughout the Roblin Steel property. Lead contaminated ink waste was disposed of in the Boiler House, while liquid wastes were dumped into Waste Pit No. 6 (Figure 3).

OU2: VOC Impacted Soil
This operable unit consisted of volatile organic compounds (VOC) contaminated soil in the area of the former Envirotek facility (Figure 3). Numerous leaks and spills associated with the handling and storage of hazardous substances and wastes occurred at the facility when it was operating. These releases resulted in the contamination of fill and soil near and under the former Envirotek II facility (Figure 3).

OU3: Groundwater
This operable unit consists of VOC contaminated groundwater in the area of the former Envirotek II facility. The numerous spills and leaks associated with Operable Unit 2 resulted in groundwater contamination in the area of the former Envirotek facility.

Operational and Disposal History

The operational and disposal history of the Envirotek II site is summarized as follows:

1984: The NYSDEC issued a Resource Conservation and Recovery Act (RCRA) Permit to Envirotek Ltd. to operate a commercial hazardous waste treatment and disposal facility at the site.

1985: Envirotek paid a $7,000 fine for permit violations, and also entered into a Consent Order to reduce its inventory of hazardous wastes.

1988: Envirotek submitted a Facility Closure Plan that the NYSDEC determined to be unacceptable.

1989: Envirotek Ltd. filed for bankruptcy, and later abandoned the facility when Niagara River World Inc. took possession of the Roblin Property and evicted them. On the basis of their inability to develop an acceptable facility closure plan, the NYSDEC revoked Envirotek's permit to operate a hazardous waste treatment and disposal facility.

Remedial History

Following Envirotek's abandonment of their facility in 1989, the United States Environmental Protection Agency (USEPA) conducted a preliminary investigation of the entire Roblin Steel Property. At the Envirotek II Site, unsecured drums and other containers, along with contaminated process vessels and tanks, were observed. Adjacent to one of the former waste chemical processing buildings, soil contaminated by liquid discharge from a processing still was encountered. This area was designated the Still Discharge Area (SDA; Figure 3).

The preliminary USEPA investigation also included smoke testing of the Roblin Plant sewer system associated with the Envirotek facility and sampling of sewer sediments. The investigation also encountered hazardous substances in concrete pits of the former plant rod mill building. These pits were designated 1 through 3, 3A, 4 and 5 (Figure 3).

The USEPA also identified a group of Potentially Responsible Parties (PRP's) who were former Envirotek customers. The USEPA subsequently entered into an Administrative Order on Consent with this PRP group to perform a more detailed site investigation and to conduct a removal action of the drums, tanks and process vessels.

The PRP Group investigation included the following:

- Collection of soil and groundwater samples across the Roblin Steel Property;
- Identification of areas in addition to the SDA where contamination may have occurred as a result of Envirotek activities;
- Determination of the direction and rate of shallow groundwater flow in the area of the Envirotek II Site;
- Evaluation of the nature and extent of chemical contamination associated with Envirotek activities; and
- Determination of the necessity for further investigation and/or remediation of the Envirotek II Site.

The removal action tasks, which were performed in 1990 and 1993, included the following:

- Removal of 980 drums, 3,500 gallons of liquid wastes, 725,000 pounds of solid wastes, and 146 laboratory pack containers;
- Removal of waste from process vessels, tanks and concrete pits with off-site disposal of the wastes;
- Decontamination of the process vessels, tanks, concrete pits, buildings and equipment; and
- Removal of approximately 175 tons of soil from the SDA.

Remedial Investigation

The NYSDEC and the Envirotek II Site PRP Group entered into a Consent Order on September 2, 1997. This order was amended on August 20, 1998. The Order, and its amendment, obligated the responsible parties to implement a Remedial Investigation/Feasibility Study (RI/FS) remedial program. The purpose of the RI was to define the nature and extent of contamination resulting from previous activities at the site. The RI was conducted in 2 phases: the first

phase was conducted between August and October 1999, with the second phase conducted between March and June 2001. The results of the RI are summarized by environmental media as follows:

Waste Material

The waste material sampled during the RI was the ink waste found in the Boiler House. This waste is part of Operable Unit 1. One composite sample of this waste was collected and analyzed for the characteristics of hazardous waste using the Toxicity Characteristic Leaching Procedure (TCLP). A summary of the detected compounds is given in Table 1, which reveal that the ink waste is a characteristic hazardous waste for lead.

One waste sample was collected from Waste Pit No. 6, which is also part of Operable Unit 1. The analytical results from this sample are summarized in Table 1. Ten VOCs were detected in this sample at concentrations significantly above the Technical and Administrative Guidance Memorandum (TAGM) 4046 soil cleanup objectives (Table 1).

Surface Soil

Four surface soil samples were collected during the RI - one from the location of the former Envirotek facility and three from the Roblin Steel property. Only three VOCs were detected in these samples (methylene chloride, tetrachloroethene, and trichloroethene), with the concentration of each contaminant well below its respective TAGM 4046 soil cleanup objective (Table 1).

Subsurface Soil/Fill

A total of twenty-four soil borings were completed in the Still Discharge Area during the RI. Forty-nine samples of fill and subsurface soil were collected from these borings. No distinction, however, was made between fill material and soil so these media are discussed together.

The analytical data for subsurface soil and fill (Table 1) indicated that the Still Discharge Area was extensively contaminated with VOCs. Within this area the most frequently detected VOCs above the TAGM 4046 soil cleanup objectives were 1,1-dichloroethane, 1,2-dichloroethene, tetrachloroethene, 1,1,1-trichloroethane, trichloroethene and xylenes. Of these contaminants, tetrachloroethene and trichloroethene exhibited more exceedances of their respective TAGM 4046 soil cleanup objectives than the other VOCs. The lateral extent of this VOC contamination is shown on Figure 5.

Subsurface soil and fill samples were also collected from two test pits (Figure 3) completed along a former sewer line to determine if the sewer was a route of contaminant migration. The analytical results from these samples are also summarized in Table 1. Four VOCs were detected in these samples (1,2-dichloroethene, methylene chloride, tetrachloroethene, and trichloroethene), with the concentrations of each contaminant well below its respective TAGM 4046 soil cleanup objective (Table 1).

Groundwater

Sixty-nine groundwater samples from the shallow water bearing zone were collected during the RI. A summary of the detected compounds is given in Table 1. Of the VOCs detected, 1,1-dichloroethane, 1,2-dichloroethene, vinyl chloride and tetrachloroethene exhibited more exceedances of their respective ambient groundwater quality standards than the other VOCs. Two groundwater samples from the deep portion of the intermediate water bearing zone were also collected during the RI. None of the VOCs of concern were detected in these samples (Table 1).

The lateral extent of total VOC contamination in shallow groundwater in 1999 is shown on Figure 6. This figure indicates that total VOC contamination is greatest at the former Envirotek facility and decreases significantly downgradient of the site. Figure 6 also indicates that total VOC concentrations in wells near the Niagara River are below the ambient groundwater quality standards. These data indicate that contaminants from the Envirotek II site are not adversely impacting the Niagara River.

Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the RI/FS. Three IRMs were completed at the Envirotek II Site, which are described as follows:

OU1: Waste
This IRM was completed during April and May, 2003. The activities completed at this operable unit included:

- The excavation, decontamination and backfilling of Waste Pit No. 6, which formerly contained soil, liquid and debris impacted with elevated concentrations of VOCs. These materials were transported to Modern Landfill in Model City, New York for disposal;
- The removal of lead-contaminated ink waste from the Boiler House. This waste was transported to CWM Chemical Services in Model City, New York for treatment and disposal;
- The consolidation and off-site disposal of investigation derived waste (soil, water and personal protective equipment) that was generated during the Remedial Investigation.

Post-excavation samples were not required because the ink waste was removed to the concrete floor of the Boiler House, and the soil and debris in Waste Pit No. 6 were removed to the concrete floor and walls of the pit.

OU2: VOC Impacted Soil
This IRM was completed during October, 2003. The activities completed at this operable unit included:

- The excavation of VOC impacted soil and fill. Excavated material that was not suitable for backfill was transported to either Modern Landfill for disposal or CWM Chemical Services for treatment and disposal;
- The collection of post excavation samples to determine the final limits of excavation to meet the TAGM 4046 soil cleanup objectives; and
- The backfilling of excavated areas and the restoration of the site.

The results of the post-excavation samples are shown in Figure 7. These results indicate that the TAGM 4046 soil cleanup objectives were achieved for all samples except PES-13. In this sample the concentration of tetrachloroethene (2.6 ppm) slightly exceeded the TAGM 4046 soil cleanup objective of 1.4 ppm.

OU3: Groundwater
Following the completion of the IRM at Operable Unit 2, selected monitoring wells were sampled to assess the affect of the IRM on groundwater contamination. The results from these samples are shown on Figure 8, and reveal that groundwater contamination has been reduced significantly since the completion of the IRM (compare Figure 6 with Figure 8). In addition, monitored natural attenuation parameters (e.g., dissolved oxygen, oxidation-reduction potential, chloride, methane) provide evidence that biochemical degradation is the mechanism responsible for the natural attenuation of the groundwater plume.

Groundwater data also show that total VOC concentrations have decreased significantly over time in individual wells. For example, in wells ENV-4 (northwest of Pit 1 on Figure 6) and GW-7 (south of the Boiler House on Figure 6) the concentrations have decreased over 99% (Figure 9). Other wells also exhibit decreases in total VOC concentrations but not as remarkable as ENV-4 and GW-7.

Record of Decision

In March 2005 a Record of Decision (ROD) was issued for the Envirotek II Site. The selected remedy for each operable unit is described as follows:

- **Operable Unit 1: Waste** - No Further Action. The IRM waste removal action completed at this operable unit has eliminated the threat to human health and the environment by removing the source of contamination associated with this operable unit;

- **Operable Unit 2: VOC Impacted Soil** - No Further Action. The IRM soil removal action completed at this operable unit has eliminated the threat to human health and the environment by removing the source of contamination associated with this area to acceptable concentrations; and

- **Operable Unit 3: Groundwater** - Monitored Natural Attenuation. Groundwater at the site will be monitored to show the continued degradation of groundwater contamination resulting from the IRM soil removal activity completed at Operable Unit 2.

2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be "contaminated" [1] above appropriately protective risk-based "levels" (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	Yes	No	?	Rationale / Key Contaminants
Groundwater	X			See Figure 6
Air (indoors) [2]		X		No structures are over the groundwater plume
Surface Soil (e.g., <2 ft)		X		Removed during IRMs
Surface Water		X		See Figure 6
Sediment		X		Site has not impacted the Niagara River
Subsurf. Soil (e.g., >2 ft)		X		Removed during IRMs
Air (outdoors)		X		No breathing zone organic vapors

_____ If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient supporting documentation demonstrating that these "levels" are not exceeded.

__X__ If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the

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[1] "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

[2] Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

_____ If unknown (for any media) - skip to #6 and enter "IN" status code.

Rationale:

Sixty-nine groundwater samples from the shallow water bearing zone were collected during the RI. A summary of the detected compounds is given in Table 1. Of the VOCs detected, 1,1-dichloroethane, 1,2-dichloroethene, vinyl chloride and tetrachloroethene exhibited more exceedances of their respective ambient groundwater quality standards than the other VOCs. Two groundwater samples from the deep portion of the intermediate water bearing zone were also collected during the RI. None of the VOCs of concern were detected in these samples (Table 1).

3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

	Potential **Human Receptors** (Under Current Conditions)						
"Contaminated" Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food[3]
Groundwater	No	No	No	Yes	No	No	No
~~Air (indoors)~~							
~~Soil (surface, e.g., <2 ft)~~							
~~Surface Water~~							
~~Sediment~~							
~~Soil (subsurface e.g., >2 ft)~~							
~~Air (outdoors)~~							

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not "contaminated") as identified in #2 above.

2. enter "yes" or "no" for potential "completeness" under each "Contaminated" Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (Pathways) do not have check spaces ("___"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

_____ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

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[3] Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

__X__ If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation.

_____ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code

Rationale:

Groundwater is contaminated at this site. For a complete exposure pathway to occur, persons would have to come into contact with the contaminated groundwater. Exposure to this media could occur in the future to utility workers or site workers during subsurface construction activities and routine utility work.

4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **"significant"**[4] (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks)?

__X__ If no (exposures can not be reasonably expected to be significant (i.e., potentially "unacceptable") for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

_____ If yes (exposures could be reasonably expected to be "significant" (i.e., potentially "unacceptable") for any complete exposure pathway) - continue after providing a description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

_____ If unknown (for any complete pathway) - skip to #6 and enter "IN" status code

Rationale:

The groundwater analytical results obtained between 1988 and 2004 indicate that natural attenuation of VOCs is occurring at the site. Figure 8 illustrates that the total VOC concentration at the site decreases significantly downgradient of the former Envirotek facility, and also shows that total VOC concentrations have decreased significantly since the completion of the IRM at Operable Unit 2 (compare with Figure 6). In addition, monitored natural attenuation parameters (e.g., dissolved oxygen, oxidation-reduction potential, chloride, methane) provide evidence that biochemical degradation is the mechanism responsible for the natural attenuation of the groundwater plume.

Worker exposures to contaminated groundwater are limited to utility workers or site workers during subsurface construction activities and routine utility work, and are of low frequency and duration. The facility is currently utilized for warehousing and no active subsurface construction is underway or planned

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[4] If there is any question on whether the identified exposures are "significant" (i.e., potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

in the foreseeable future. Risks derived from contact with contaminated groundwater, therefore, are not significant. As a further safeguard, however, a site management plan (SMP) will be developed and implemented as part of the remedy selected in the March 2005 Record of Decision for the Envirotek II Site. The SMP will include institutional controls and engineering controls to: (a) address residual contaminated soils that may be excavated from the site during future redevelopment. The plan will require soil characterization and, where applicable, disposal/reuse in accordance with NYSDEC regulations; (b) evaluate the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; (c) monitor site groundwater, and (d) identify any use restrictions on site development or groundwater use.

5. Can the "significant" **exposures** (identified in #4) be shown to be within **acceptable** limits?

_____ If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

_____ If no (there are current exposures that can be reasonably expected to be "unacceptable")- continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.

_____ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code.

Rationale and Reference(s): **N/A**

6. Check the appropriate RCRAInfo status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

__X__ YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the **Honeywell International Inc. Tonawanda - Envirotek** facility, **EPA ID # NYD038641601**, located at **4000 River Road, Tonawanda, NY** under current and reasonably expected conditions. This determination represents the best understanding of conditions at the afore-mentioned facility by the State, given the most current data. This determination will be re-evaluated when the State becomes aware of significant changes at the facility.

____ NO - "Current Human Exposures" are NOT "Under Control."

____ IN - More information is needed to make a determination.

Completed by: Glenn M May Date: 9-22-06

Glenn M. May, Project Manager
Engineering Geologist II
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Supervisor: _____ Date: 9/22/06

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Locations where References may be found:

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FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.

TABLE 1
Nature and Extent of Contamination
August 1999 - June 2001 for Soil and Waste
September 1988 - October 2004 for Groundwater

WASTE	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
Operable Unit 1				
Inorganic Compounds (Ink Waste - TCLP[c])	Chromium	0.223	5.0	0 of 1
	Lead	19.1	5.0	1 of 1
Volatile Organic Compounds (VOCs) (Waste Pit No. 6)	1,1-Dichloroethane	1,000	0.2	1 of 1
	1,2-Dichloroethene	220.0	0.3	1 of 1
	Ethylbenzene	1,500	5.5	1 of 1
	Methylene Chloride	1,500	0.1	1 of 1
	4-Methyl-2-Pentanone	1,100	1.0	1 of 1
	Tetrachloroethene	140.0	1.4	1 of 1
	Toluene	12,418	1.5	1 of 1
	1,1,1-Trichloroethane	5,300	0.8	1 of 1
	Trichloroethene	11,000	0.7	1 of 1
	Xylenes	8,200	1.2	1 of 1

SURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
Operable Unit 2				
Volatile Organic Compounds (VOCs)	Methylene Chloride	0.002 - 0.003	0.1	0 of 4
	Tetrachloroethene	ND[d] - 0.1	1.4	0 of 4
	Trichloroethene	ND - 0.006	0.7	0 of 4

TABLE 1
Nature and Extent of Contamination (continued)

SUBSURFACE SOIL/FILL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
Operable Unit 2				
Volatile Organic Compounds (VOCs) (Still Discharge Area Prior to the IRM Soil Removal at OU2)	1,1-Dichloroethane	ND - 2.7	0.2	3 of 49
	1,2-Dichloroethene	ND - 2.4	0.3	2 of 49
	Ethylbenzene	ND - 6.5	5.5	1 of 49
	Methylene Chloride	ND - 6.0	0.1	1 of 49
	Tetrachloroethene	ND - 74.0	1.4	11 of 49
	Toluene	ND - 8.2	1.5	2 of 49
	1,1,1-Trichloroethane	ND - 14.0	0.8	4 of 49
	Trichloroethene	ND - 13.0	0.7	6 of 49
	Xylenes	ND - 30.0	1.2	3 of 49
Volatile Organic Compounds (VOCs) (Sewer Investigation)	1,2-Dichloroethene	0.002	0.3	0 of 2
	Methylene Chloride	ND - 0.001	0.1	0 of 2
	Trichloroethene	ND - 0.005	0.7	0 of 2
	Tetrachloroethene	0.004	1.4	0 of 2

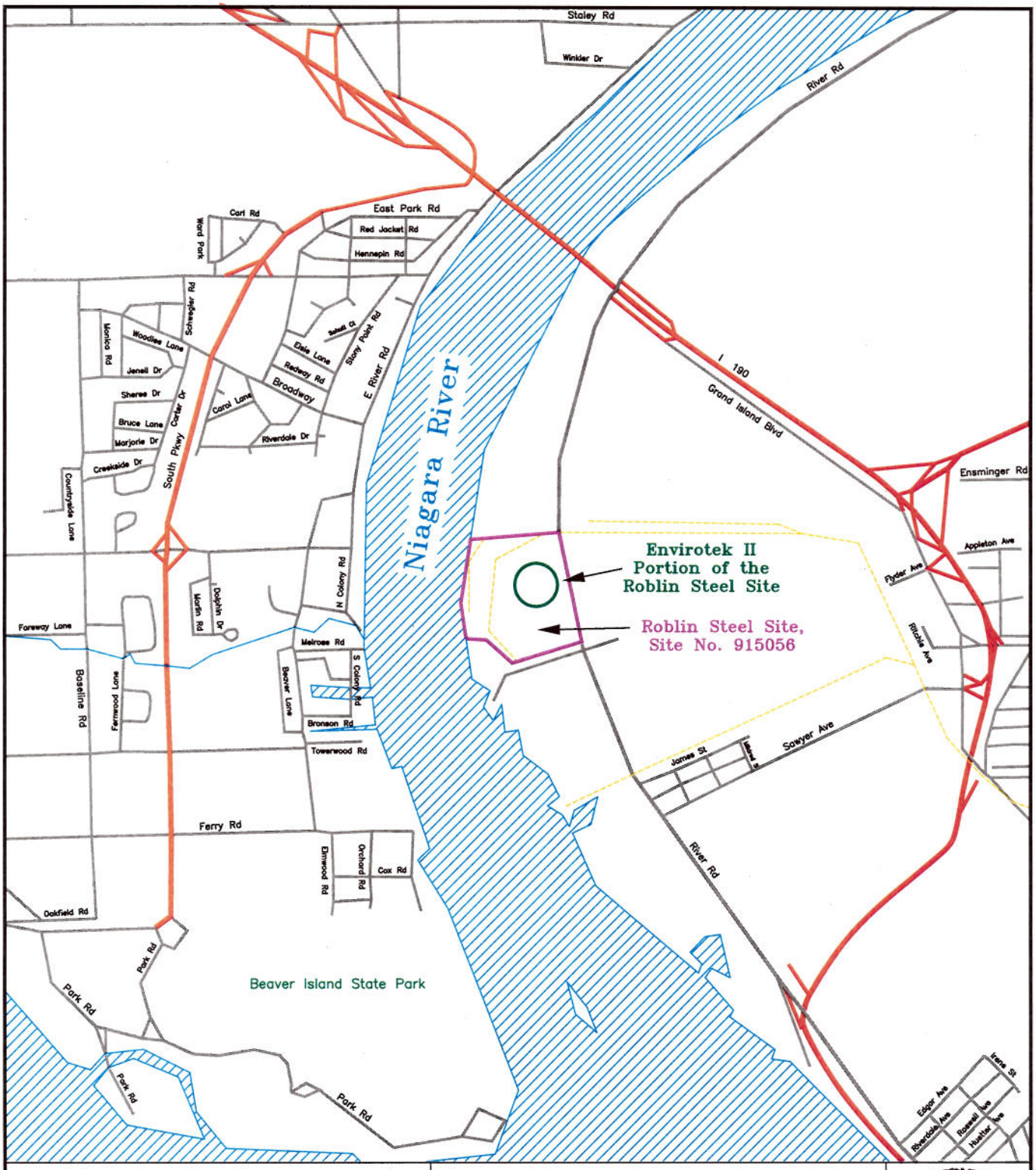
TABLE 1
Nature and Extent of Contamination (continued)

GROUNDWATER (SHALLOW)	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)[a]	Frequency of Exceeding SCG
Operable Unit 3				
Volatile Organic Compounds (VOCs) (Prior to the IRM Soil Removal at OU2)	Benzene	ND - 42.0	1.0	11 of 69
	Chloroethane	ND - 79.0	5.0	4 of 69
	1,1-Dichloroethane	ND - 4,800	5.0	14 of 69
	1,2-Dichloroethane	ND - 750.0	5.0	4 of 69
	1,1-Dichloroethene	ND - 300.0	5.0	4 of 69
	1,2-Dichloroethene	ND - 54,000	5.0	30 of 69
	Ethylbenzene	ND - 2,000	5.0	7 of 69
	Methylene Chloride	ND - 6,100	5.0	8 of 69
	Tetrachloroethene	ND - 40,000	5.0	9 of 69
	Toluene	ND - 8,600	5.0	10 of 69
	1,1,1-Trichloroethane	ND - 21,000	5.0	4 of 69
	Trichloroethene	ND - 29,000	5.0	14 of 69
	Vinyl Chloride	ND - 3,400	2.0	16 of 69
	Xylenes	ND - 6,800	5.0	11 of 69

TABLE 1
Nature and Extent of Contamination (continued)

GROUNDWATER (INTERMEDIATE)	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)[a]	Frequency of Exceeding SCG
Operable Unit 3				
Volatile Organic Compounds (VOCs) (Prior to the IRM Soil Removal at OU2)	Benzene	ND	1.0	0 of 2
	Chloroethane	ND	5.0	0 of 2
	1,1-Dichloroethane	ND	5.0	0 of 2
	1,2-Dichloroethane	ND	5.0	0 of 2
	1,1-Dichloroethene	ND	5.0	0 of 2
	1,2-Dichloroethene	ND	5.0	0 of 2
	Ethylbenzene	ND	5.0	0 of 2
	Methylene Chloride	ND	5.0	0 of 2
	Tetrachloroethene	ND	5.0	0 of 2
	Toluene	ND	5.0	0 of 2
	1,1,1-Trichloroethane	ND	5.0	0 of 2
	Trichloroethene	ND	5.0	0 of 2
	Vinyl Chloride	ND	2.0	0 of 2
	Xylenes	ND	5.0	0 of 2

[a] ppb = parts per billion, which is equivalent to micrograms per liter, ug/L, in water;
ppm = parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
[b] SCG = standards, criteria, and guidance values;
[c] TCLP = Toxicity Characteristic Leaching Procedure;
[d] ND = contaminant analyzed but not detected.



Tonawanda West &
Buffalo NW
Quadrangles

Scale Depends on Final Plotted Size

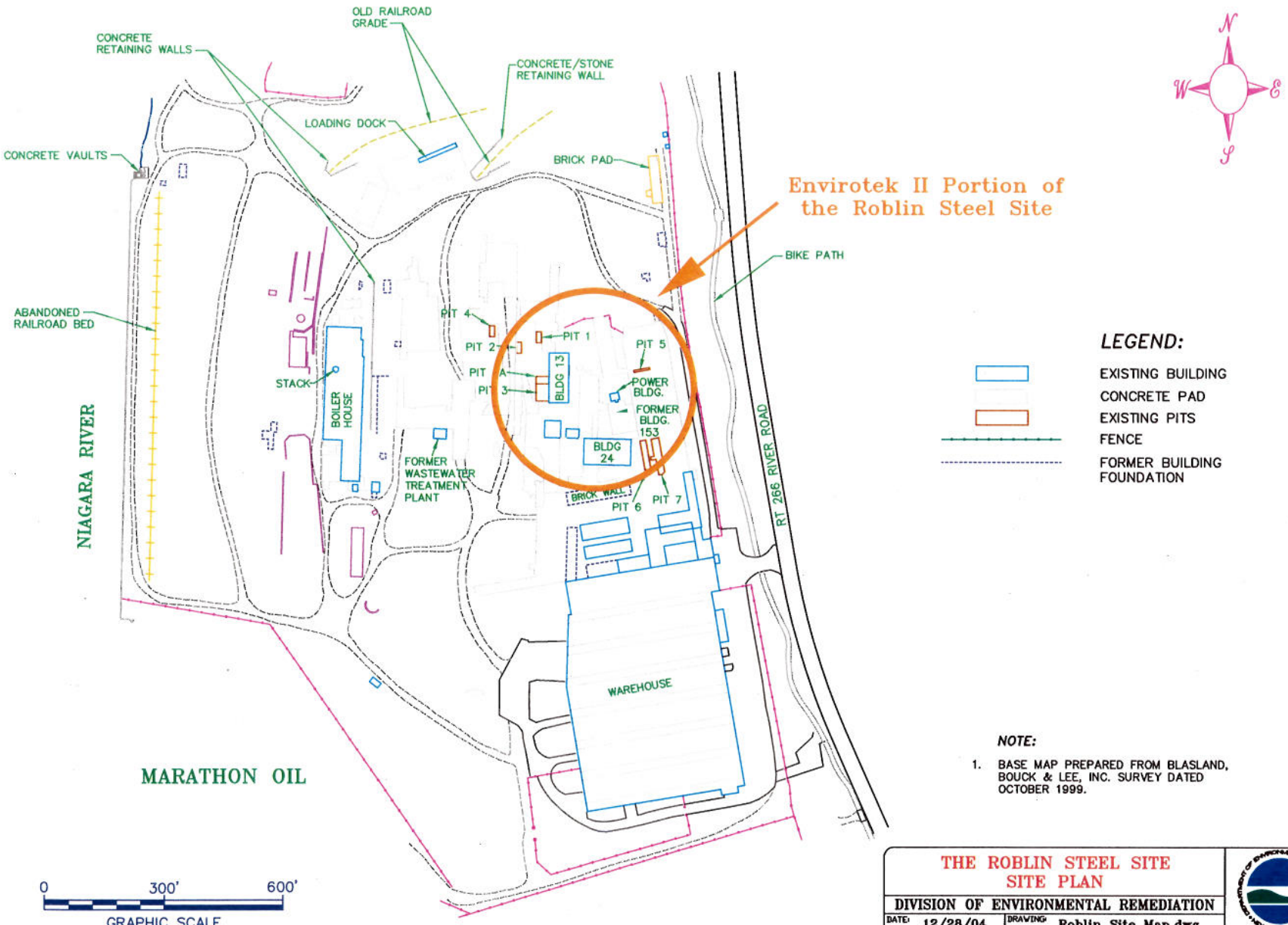
SITE LOCATION MAP

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 11/18/04 | DRAWING: Location.dwg

SITE: Envirotek II Portion/Roblin Steel Site

Figure 1



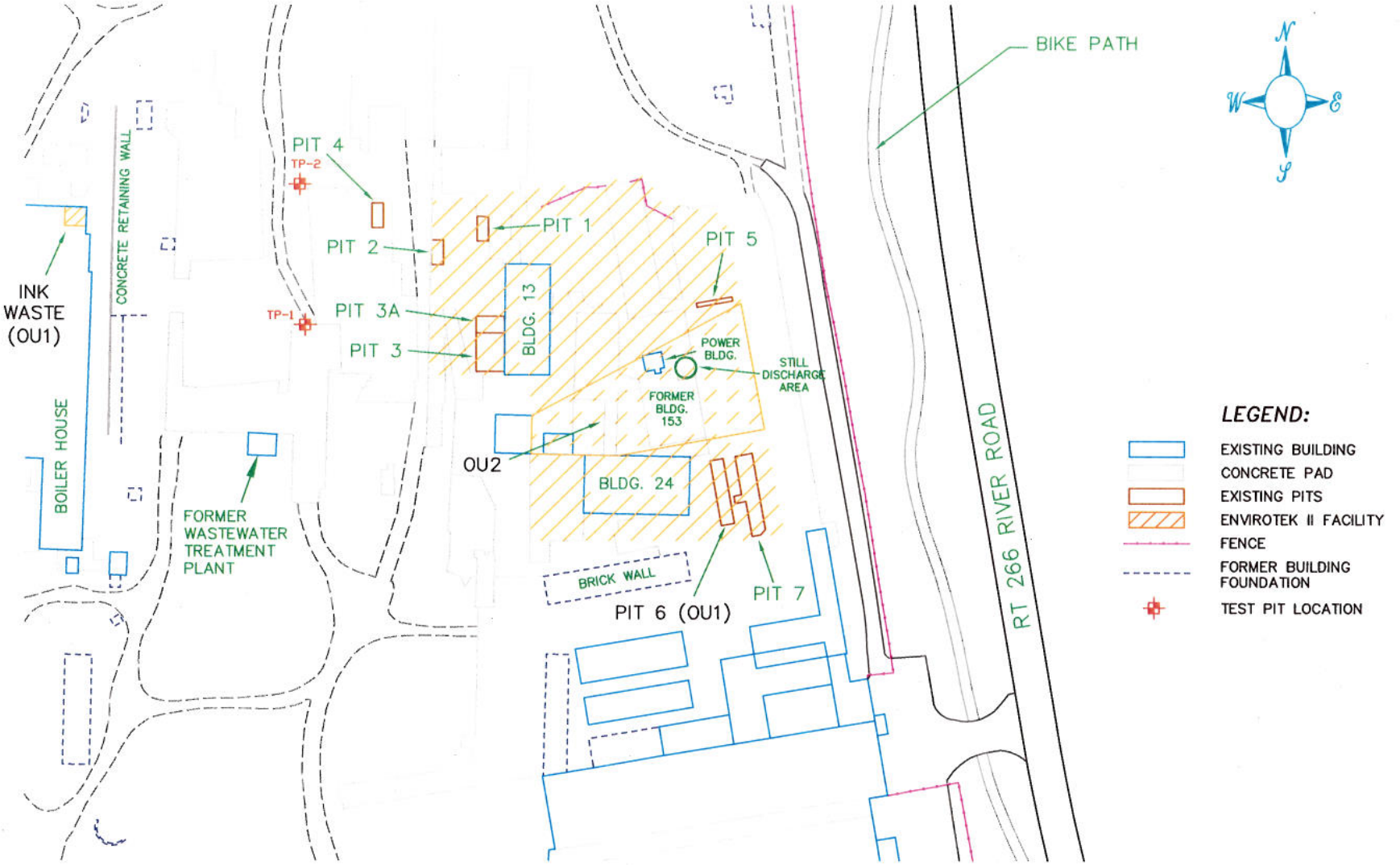
THE ROBLIN STEEL SITE
SITE PLAN

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 12/28/04 | DRAWING: Roblin Site Map.dwg

SITE NAME: Envirotek II Portion/Roblin Steel Site

Figure 2



NOTE:

1. BASE MAP PREPARED FROM BLASLAND, BOUCK & LEE, INC. SURVEY DATED OCTOBER 1999.

0 150' 300'

GRAPHIC SCALE

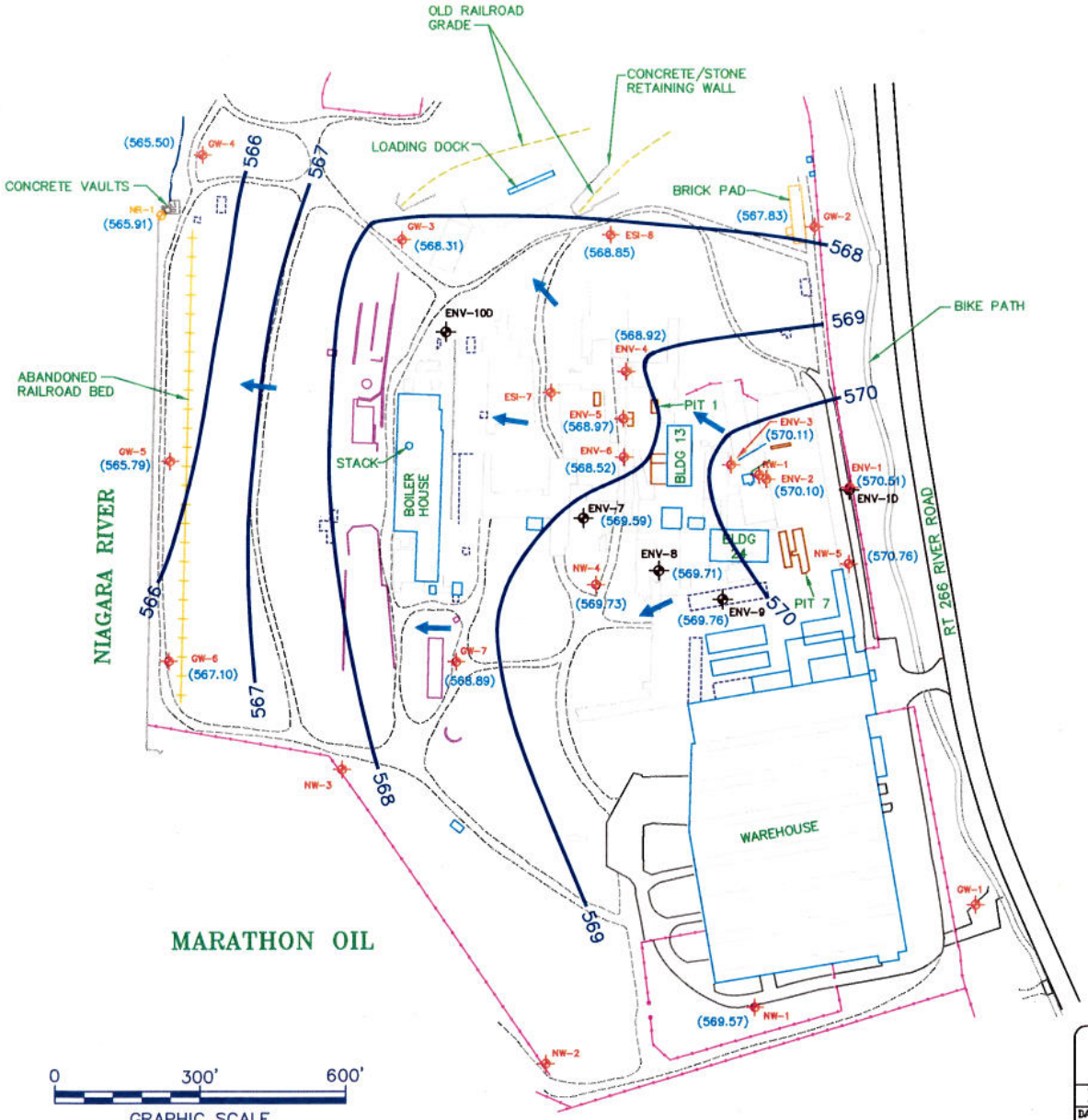
ENVIROTEK II FACILITY
SITE PLAN

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 12/28/04 DRAWING: Roblin Site Map.dwg

SITE NAME: Envirotek II Portion/Roblin Steel Site

Figure 3



LEGEND

- FENCE
- EXISTING BUILDING
- CONCRETE PAD
- FORMER BUILDING FOUNDATION
- ENV-1 — EXISTING MONITORING WELL
- ENV-9 — NEW MONITORING WELL
- NR-1 — STAFF GAUGE
- (570.76) — GROUNDWATER ELEVATION IN FEET (AMSL)
- 569 — GROUNDWATER ELEVATION CONTOUR IN FEET (AMSL)
- GROUNDWATER FLOW DIRECTION

NOTES:

1. BASE MAP PREPARED FROM BLASLAND, BOUCK & LEE, INC. SURVEY DATED OCTOBER 1999.
2. MONITORING WELL DESIGNATIONS:
   GW: NYSDEC MONITORING WELL
   ENV: BBL MONITORING WELL
   NW: NIAGARA RIVER WORLD MONITORING WELL
   ESI: EMPIRE SOILS INVESTIGATIONS MONITORING WELL
3. STAFF GAUGE ON SHEET PILING ALONG NIAGARA RIVER.
4. MONITORING WELL ESI-7 WAS DAMAGED AND NOT USEABLE DURING THE 7/16/01 WATER LEVEL MEASUREMENT EVENT.
5. MONITORING WELLS ENV-7, -8, AND -9 WERE INSTALLED IN MARCH 2001, AND MONITORING WELL GW-1 WAS REPAIRED AND RETROFITTED IN MARCH 2001.

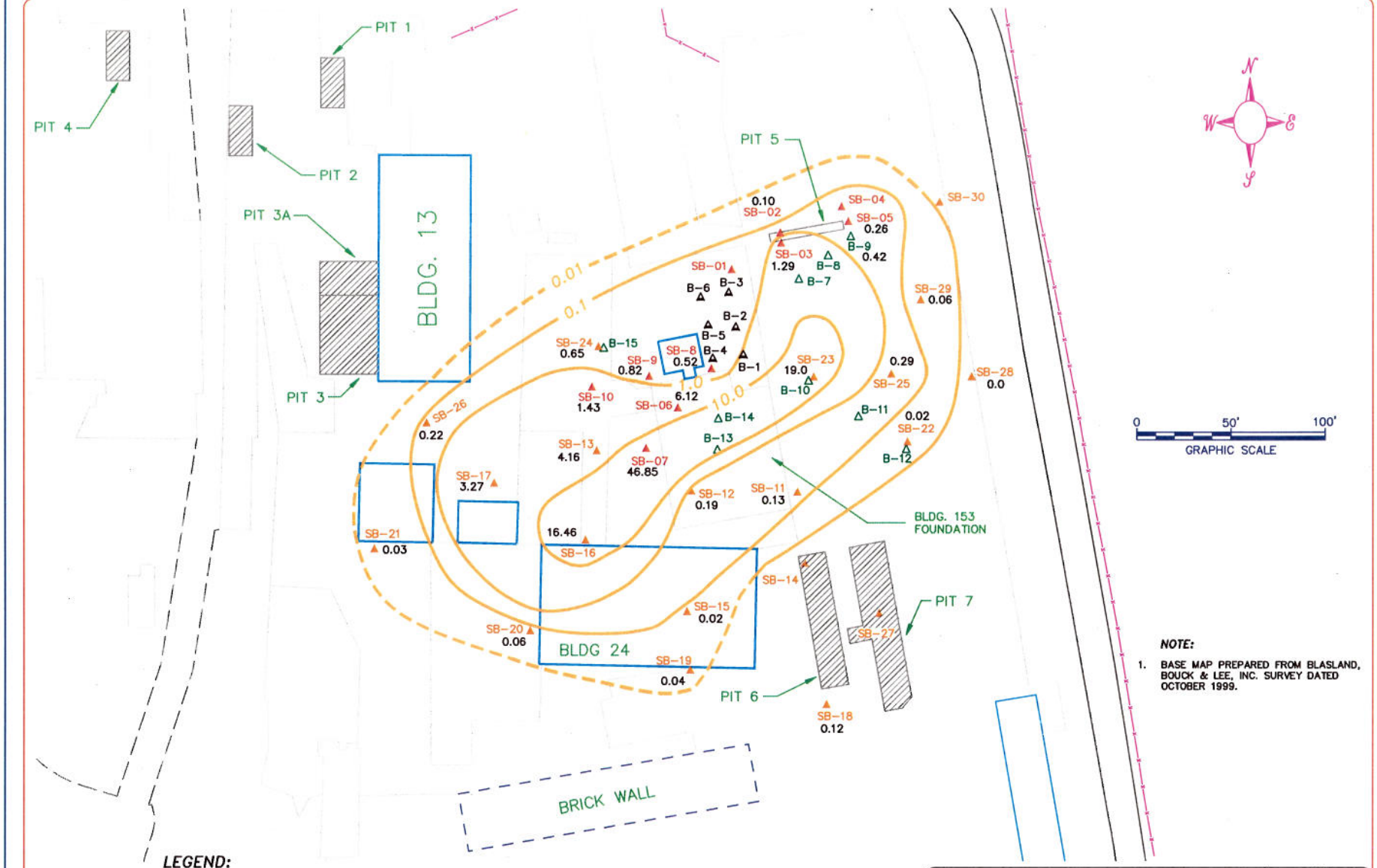
GROUNDWATER CONTOUR MAP (07/16/01)

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 12/28/04 | DRAWING: Roblin Site Map.dwg

SITE NAME: Envirotek II Portion/Roblin Steel Site

Figure 4



NOTE:

1. BASE MAP PREPARED FROM BLASLAND, BOUCK & LEE, INC. SURVEY DATED OCTOBER 1999.

LEGEND:

- EXISTING BUILDING
- CONCRETE PAD
- EXISTING PITS
- FENCE
- SB-11 ▲ SOIL BORING (4/01 & 6/01)
- SB-01 ▲ SOIL BORING (9/99)
- B-11 △ SOIL BORING (5/92)
- B-1 ▲ SOIL BORING (10/90)
- 0.10 TOTAL VOC CONCENTRATION CONTOUR IN PPM. DASHED WHERE INFERRED
- 0.07 TOTAL VOC CONCENTRATION IN PPM

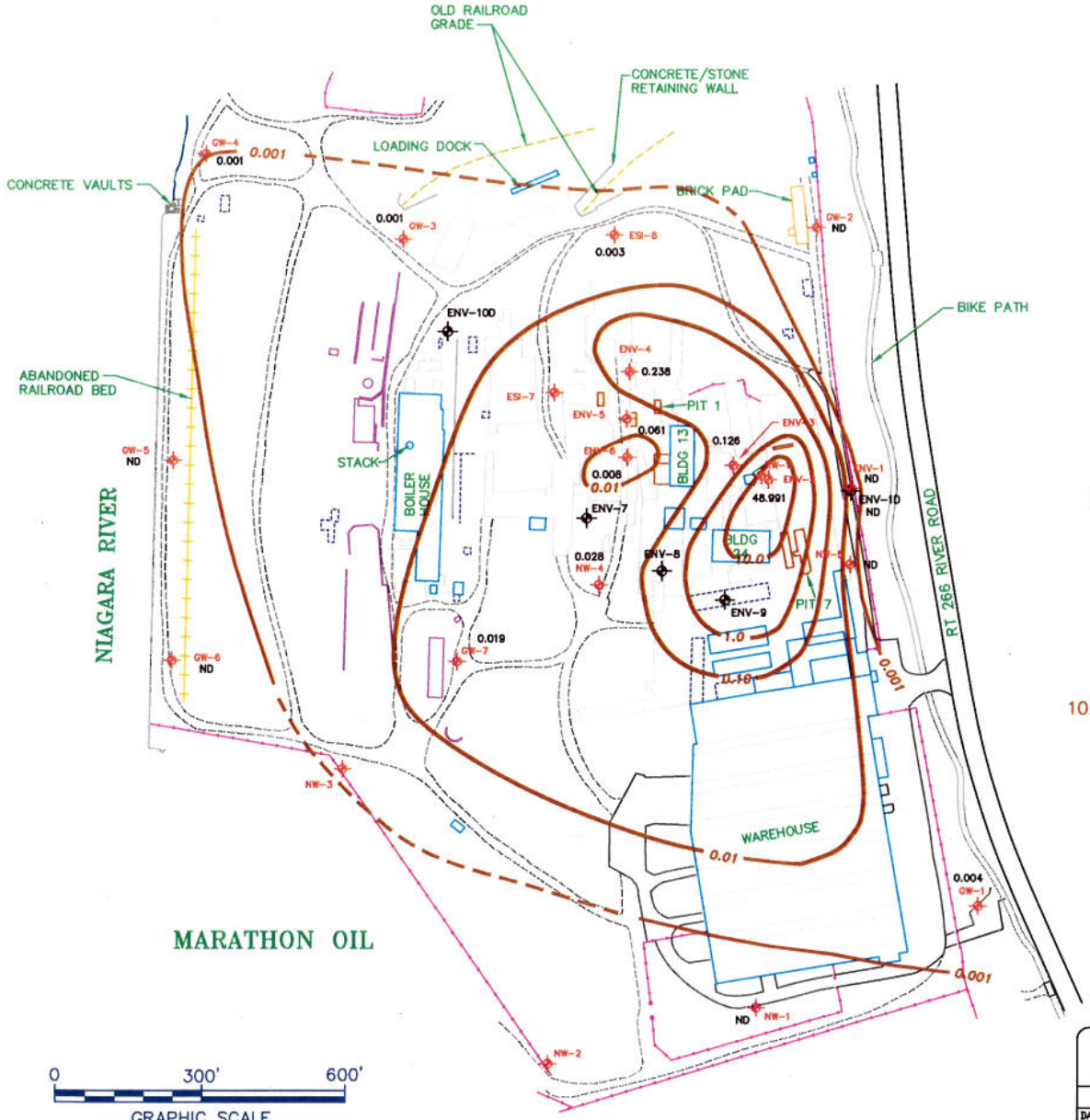
TOTAL SOIL VOC CONCENTRATION CONTOUR MAP

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 12/06/04 | DRAWING: Envirotek IRM.dwg

SITE NAME: Envirotek II Portion/Roblin Steel Site

Figure 5



NOTES:

1. BASE MAP PREPARED FROM BLASLAND, BOUCK & LEE, INC. SURVEY DATED OCTOBER 1999.
2. MONITORING WELL DESIGNATIONS:
   GW: NYSDEC MONITORING WELL
   ENV: BBL MONITORING WELL
   NW: NIAGARA RIVER WORLD MONITORING WELL
   ESI: EMPIRE SOILS INVESTIGATIONS MONITORING WELL

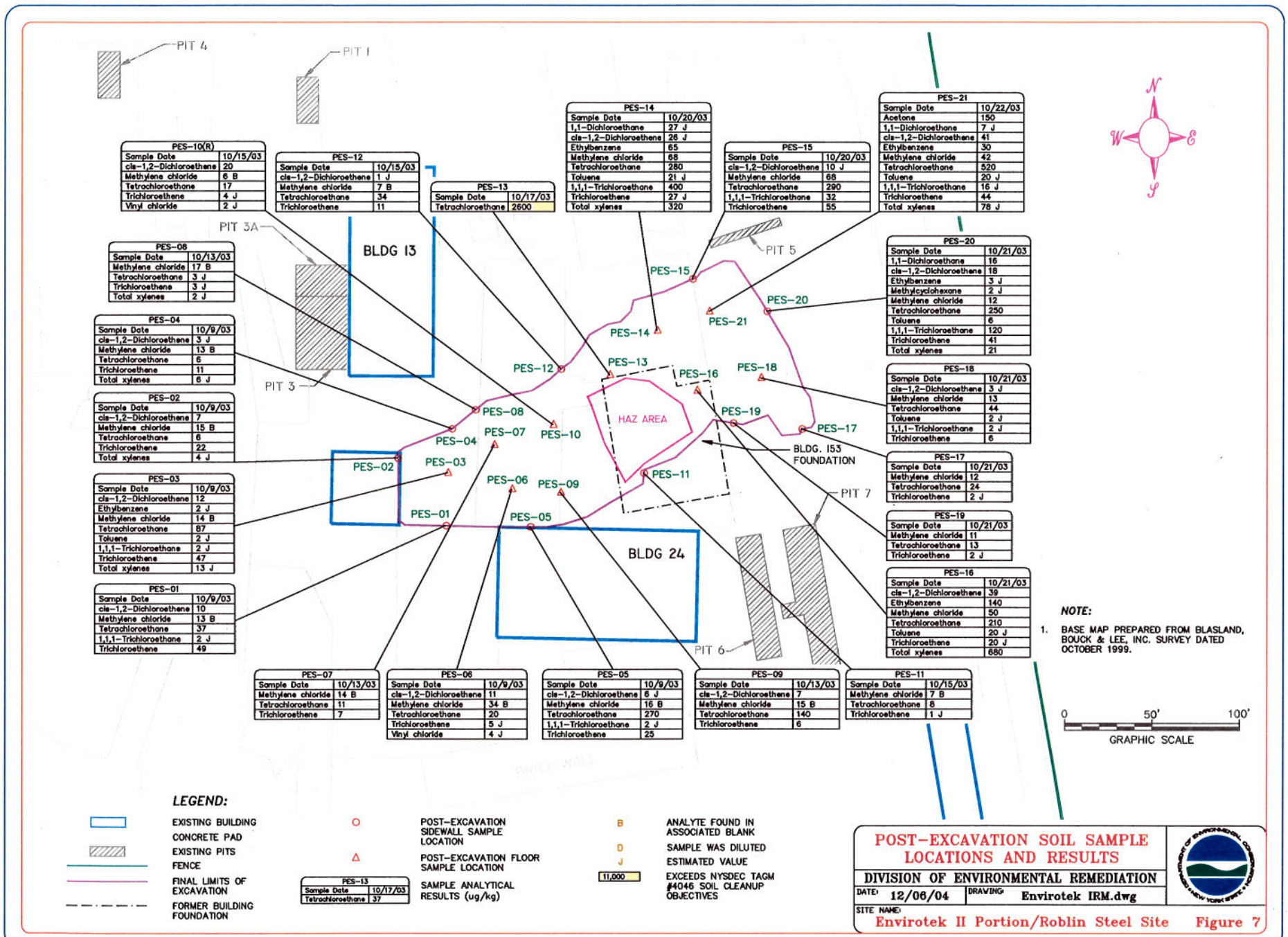
TOTAL GROUNDWATER VOC CONCENTRATION MAP FOR 1999

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 12/28/04 | DRAWING: Roblin Site Map.dwg

SITE NAME: Envirotek II Portion/Roblin Steel Site

Figure 6



PES-10(R)	
Sample Date	10/15/03
cis-1,2-Dichloroethene	20
Methylene chloride	6 B
Tetrachloroethane	17
Trichloroethene	4 J
Vinyl chloride	2 J

PES-12	
Sample Date	10/15/03
cis-1,2-Dichloroethene	1 J
Methylene chloride	7 B
Tetrachloroethane	34
Trichloroethene	11

PES-13	
Sample Date	10/17/03
Tetrachloroethane	2600

PES-14	
Sample Date	10/20/03
1,1-Dichloroethane	27 J
cis-1,2-Dichloroethene	26 J
Ethylbenzene	65
Methylene chloride	68
Tetrachloroethane	280
Toluene	21 J
1,1,1-Trichloroethane	400
Trichloroethene	27 J
Total xylenes	320

PES-15	
Sample Date	10/20/03
cis-1,2-Dichloroethene	10 J
Methylene chloride	68
Tetrachloroethane	290
1,1,1-Trichloroethane	32
Trichloroethene	55

PES-21	
Sample Date	10/22/03
Acetone	150
1,1-Dichloroethane	7 J
cis-1,2-Dichloroethene	41
Ethylbenzene	30
Methylene chloride	42
Tetrachloroethane	520
Toluene	20 J
1,1,1-Trichloroethane	16 J
Trichloroethene	44
Total xylenes	78 J

PES-08	
Sample Date	10/13/03
Methylene chloride	17 B
Tetrachloroethane	3 J
Trichloroethene	3 J
Total xylenes	2 J

PES-04	
Sample Date	10/9/03
cis-1,2-Dichloroethene	3 J
Methylene chloride	13 B
Tetrachloroethane	6
Trichloroethene	11
Total xylenes	6 J

PES-02	
Sample Date	10/9/03
cis-1,2-Dichloroethene	7
Methylene chloride	15 B
Tetrachloroethane	6
Trichloroethene	22
Total xylenes	4 J

PES-03	
Sample Date	10/9/03
cis-1,2-Dichloroethene	12
Ethylbenzene	2 J
Methylene chloride	14 B
Tetrachloroethane	87
Toluene	2 J
1,1,1-Trichloroethane	2 J
Trichloroethene	47
Total xylenes	13 J

PES-01	
Sample Date	10/9/03
cis-1,2-Dichloroethene	10
Methylene chloride	13 B
Tetrachloroethane	37
1,1,1-Trichloroethane	2 J
Trichloroethene	49

PES-20	
Sample Date	10/21/03
1,1-Dichloroethane	16
cis-1,2-Dichloroethene	18
Ethylbenzene	3 J
Methylcyclohexane	2 J
Methylene chloride	12
Tetrachloroethane	250
Toluene	6
1,1,1-Trichloroethane	120
Trichloroethene	41
Total xylenes	21

PES-18	
Sample Date	10/21/03
cis-1,2-Dichloroethene	3 J
Methylene chloride	13
Tetrachloroethane	44
Toluene	2 J
1,1,1-Trichloroethane	2 J
Trichloroethene	6

PES-17	
Sample Date	10/21/03
Methylene chloride	12
Tetrachloroethane	24
Trichloroethene	2 J

PES-19	
Sample Date	10/21/03
Methylene chloride	11
Tetrachloroethane	13
Trichloroethene	2 J

PES-16	
Sample Date	10/21/03
cis-1,2-Dichloroethene	39
Ethylbenzene	140
Methylene chloride	50
Tetrachloroethane	210
Toluene	20 J
Trichloroethene	20 J
Total xylenes	680

PES-07	
Sample Date	10/13/03
Methylene chloride	14 B
Tetrachloroethane	11
Trichloroethene	7

PES-06	
Sample Date	10/9/03
cis-1,2-Dichloroethene	11
Methylene chloride	34 B
Tetrachloroethane	20
Trichloroethene	5 J
Vinyl chloride	4 J

PES-05	
Sample Date	10/9/03
cis-1,2-Dichloroethene	6 J
Methylene chloride	16 B
Tetrachloroethane	270
1,1,1-Trichloroethane	2 J
Trichloroethene	25

PES-09	
Sample Date	10/13/03
cis-1,2-Dichloroethene	7
Methylene chloride	15 B
Tetrachloroethane	140
Trichloroethene	6

PES-11	
Sample Date	10/15/03
Methylene chloride	7 B
Tetrachloroethane	8
Trichloroethene	1 J

NOTE:

1. BASE MAP PREPARED FROM BLASLAND, BOUCK & LEE, INC. SURVEY DATED OCTOBER 1999.

LEGEND:

- EXISTING BUILDING
- CONCRETE PAD
- EXISTING PITS
- FENCE
- FINAL LIMITS OF EXCAVATION
- FORMER BUILDING FOUNDATION
- POST-EXCAVATION SIDEWALL SAMPLE LOCATION
- POST-EXCAVATION FLOOR SAMPLE LOCATION
- SAMPLE ANALYTICAL RESULTS (ug/kg)

PES-13	
Sample Date	10/17/03
Tetrachloroethane	37

- B — ANALYTE FOUND IN ASSOCIATED BLANK
- D — SAMPLE WAS DILUTED
- J — ESTIMATED VALUE
- 11,000 — EXCEEDS NYSDEC TAGM #4046 SOIL CLEANUP OBJECTIVES

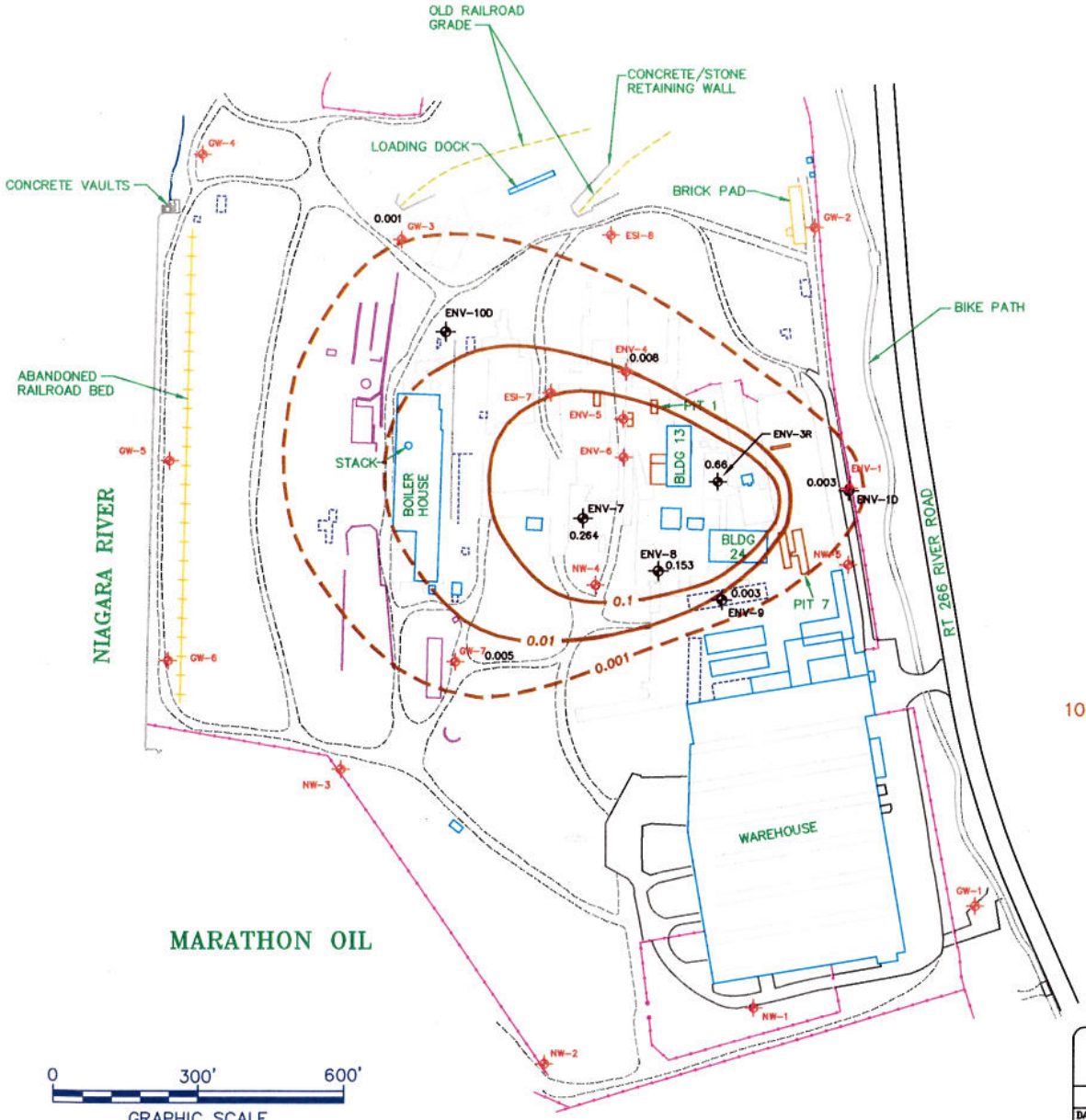
POST-EXCAVATION SOIL SAMPLE LOCATIONS AND RESULTS

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 12/06/04 | DRAWING: Envirotek IRM.dwg

SITE NAME: Envirotek II Portion/Roblin Steel Site

Figure 7



N
W
E
S

LEGEND

- FENCE
- EXISTING BUILDING
- CONCRETE PAD
- FORMER BUILDING FOUNDATION
- ENV-1 — EXISTING MONITORING WELL
- ENV-9 — NEW MONITORING WELL
- NR-1 — STAFF GAUGE
- 0.153 — TOTAL VOC CONCENTRATION IN PPM
- 10.0 — TOTAL VOC CONCENTRATION CONTOUR IN PPM FOR SEPTEMBER 2004

NOTES:

1. BASE MAP PREPARED FROM BLASLAND, BOUCK & LEE, INC. SURVEY DATED OCTOBER 1999.
2. MONITORING WELL DESIGNATIONS:
   GW: NYSDEC MONITORING WELL
   ENV: BBL MONITORING WELL
   NW: NIAGARA RIVER WORLD MONITORING WELL
   ESI: EMPIRE SOILS INVESTIGATIONS MONITORING WELL

TOTAL GROUNDWATER VOC CONCENTRATION MAP FOR 2004

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 12/28/04 | DRAWING: Roblin Site Map.dwg

SITE NAME: Envirotek II Portion/Roblin Steel Site

Figure 8

Figure 9. Total VOC concentration over time for select monitoring wells.