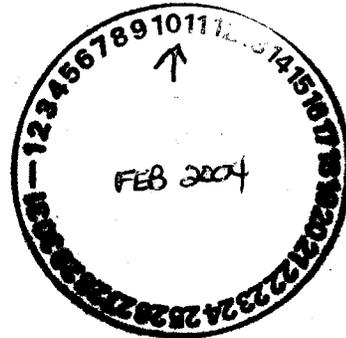


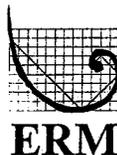
GOJO Industries, Inc.

Environmental Contamination, Assessment,  
and Remediation Summary Report  
*Former Abbott Laboratories Facility*  
*16900 Aberdeen Road*  
*Laurinburg, North Carolina*

July 13, 2003



ERM NC, PC  
7300 Carmel Executive Park  
Suite 200  
Charlotte, NC 28226



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## 1.0 INTRODUCTION

The former Abbott Laboratories facility location is shown in Figure 1. There have been two documented ground water incidents at the facility, including a release of halogenated solvents from a former solvent evaporation pit, and a release of #2 fuel oil from an above-ground storage tank piping system. The locations of the two releases, and the resulting ground water contaminant plumes are shown in Figure 2. The history of environmental releases from the facility is summarized below.

| Date                | Event   |
|---------------------|---|
| 1968-1969           | Abbott purchased and constructed facility.  |
| 1970                | Abbott began manufacturing operations at the facility.  |
| 1970-1976           | Solvent evaporation pit in use.   |
| 1989                | <b>Solvent pit contamination discovered.</b><br>NCDENR Division of Waste Management - Superfund Section<br>Case # NO NCD 000 0040 |
| 2000-<br>January 30 | <b>1,500 gallon #2 fuel oil release occurred.</b><br>NCDENR Ground Water Incident #21511.   |

A complete history of environmental issues related to the site is provided in Table 1.

According to the fuel oil release Comprehensive Site Assessment Report (Matrix, 6/2003), the following potential contaminant source areas have been identified at the site (see Figure 3):

### *Potential Ground Water Contamination Source Areas*

| Source # | Source                       | Tank Volume (gallons) | Stored Product            | Installation Date | Current Status       |
|----------|------------------------------|-----------------------|---------------------------|-------------------|----------------------|
| 1        | AST#1                        | 8,000                 | #2 Fuel oil               | 1996              | Active               |
| 2        | AST #2                       | 250                   | Diesel fuel               | NA                | Active               |
| 3        | AST #3                       | 3,000                 | #2 Fuel oil               | 1998              | Active               |
| 4        | AST #4                       | 500                   | #2 Fuel oil               | NA                | Active               |
| 5        | AST #5                       | 5,000                 | Freon 113                 | NA                | Inactive             |
| 6        | UST #1                       | 15,000                | #2 Fuel oil               | 1970              | Closed in-place 1997 |
| 7        | UST #2                       | 10,000                | #2 Fuel oil               | 1980              | Closed in-place 1997 |
| 8        | Raw materials shed #1        |                       | Flammable virgin solvents |                   | Inactive             |
| 9        | Raw materials shed #2        |                       | Toxics and oxidizers      |                   | Inactive             |
| 10       | Hazardous waste storage shed |                       | RCRA waste storage area   |                   | Inactive             |
| 11       | Solvent evaporation pit      |                       | TCE, Freon 113            |                   | Active 1970-1976     |

Additional information regarding the solvent and fuel oil releases at the site is presented in Sections 4.0 and 5.0.

## 2.0 HYDROGEOLOGY

The site is located in the Coastal Plain Geologic province of North Carolina. The Coastal Plain consists of marine sediments deposited from Cretaceous period (65-136 million years ago) to the present. The site is located in a local geomorphic feature referred to as a Carolina Bay. A Carolina Bay is a shallow oval topographic depression that frequently contains marsh and swamp sedimentary deposits, including peat and/or sand. A brief summary of the general site hydrogeology is provided below.

| <u>Depth</u> | <u>Stratigraphy</u>  |
|--------------|--|
| 3-8 ft.      | Water table depth (varies across site).  |
| 0-25 ft.     | Surficial re-worked clayey sand deposits.<br>Shallow aquifer unit. $K = 0.02$ ft/day   |
| 25-80 ft.    | Middendorf Formation - fine to coarse sand with minor clay layers.<br>Principal (lower) aquifer is hosted in this unit. $K = 0.28$ ft/day. |
| 80 ft.       | Clay confining unit.   |

Ground water flow is to the south-southwest as shown in Figure 4.

## 3.0 SENSITIVE RECEPTORS

The primary sensitive receptors that have been identified in the vicinity of the site are water supply wells. Two private wells are located 1,400 feet from the release (1 irrigation, 1 out of service). Additional wells are located more than 1,500 feet from the sources of contaminant releases at the site. A water well location map is shown in Figure 4.

## 4.0 SOLVENT RELEASE

The solvent release was discovered in 1989. The source of the release was a former solvent evaporation pit that was in operation from 1970 through 1976. Abbott laboratories negotiated an Administrative Order on Consent for the assessment and remediation of solvent contaminated soil and ground water in 1991. A copy of the consent agreement is provided in Appendix A.

The current remediation strategy for solvent-affected soil and ground water includes 2 components:

1) In-situ source area bioremediation using HRC (Hydrogen release Compound) to enhance biodegradation of dissolved phase solvents.

2) Containment of solvent-affected ground water at the downgradient property boundary.

Actions to remediate solvent-affected soil and ground water to date include:

| Date                           | Activity  |
|--------------------------------|---|
| 1989                           | Solvent pit contamination discovered.   |
| 1993-November                  | South Yard ground water intercept system began operation.   |
| 1994-August                    | Remedial Action Plan submitted to NCDEHNR.  |
| 1994-November                  | NCDEHNR approve RAP.  |
| 1995-August to<br>1996-January | Source area remediation using in-situ volatilization (MecTool). 69 treatment columns completed. Between 1,250 and 1,900 lbs VOCs removed from soil and GW to a depth of 20 ft. BGS. Contaminant concentrations reduced by a factor of ten, but site stratigraphy was disturbed and solvent contamination was dispersed. |
| 1996-January to<br>1996-August | Source area dual-phase extraction and ground water pumping system construction and operation (North Yard ground water extraction system). Extraction from 7 shallow recovery wells (20 feet deep) and 4 deep recovery wells (35-75 feet deep). Extraction rate of 6 to 10 GPM.  |
| 1998-October                   | DPE pulsing implemented.  |
| 1999-December                  | DPE system shutdown because contaminants had reached asymptotic levels.   |
| 2001-July to<br>2001-November  | Zero-valent iron and molasses injection bioremediation pilot test conducted. 21 injection wells and hydraulic fracturing utilized. The pilot test indicated that in-situ bioremediation was applicable at the site, but would be more effective using HRC to enhance biodegradation of dissolved solvents.              |
| 2002-July                      | Remedial Action Plan Amendment submitted to NCDENR.   |
| 2002-October 15                | RAP amendment approved by NCDENR.   |
| 2002-November                  | Phase I in-situ treatment conducted. 39,600 pounds of HRC injected through 134 injection points in the source area over 16 days.  |

Remedial methods that have been attempted or implemented at the site to date include:

| <u>Date</u>  | <u>Remediation Method</u>                                     |
|--------------|---|
| 1993-present | Ground water extraction (pump and treat)                      |
| 1995-1996    | In-situ volatilization (MecTool)                              |
| 1996-1999    | Dual-phase extraction   |
| 1999         | Monitored natural attenuation                                 |
| 2001         | In-situ remediation - zero-valent iron and molasses injection |
| 2002-present | In-situ bioremediation - HRC injection                        |

According to a presentation prepared for Abbott laboratories in 2003, the remediation activities conducted to date have resulted in the removal of approximately 2,600 pounds of VOCs. Abbott estimates that another 5,000 pounds of VOCs remain in the subsurface. Trichloroethene (TCE) is the primary contaminant of concern at the site. The most recent TCE ground water plume map available is shown in Figure 6. Ground water quality monitoring and reporting is conducted semi-annually.

#### 4.1 *IN-SITU SOURCE AREA BIOREMEDIATION*

The NCDENR approved remedial action for the source area is enhanced in-situ biodegradation. HRC (Hydrogen release Compound) is being utilized to enhance biodegradation of dissolved solvents. The remedial objective of the source area remediation is contaminant mass reduction. The source area remedial action plan consists of the following:

##### *HRC Bioremediation Plan*

| Phase   | Start Date | Completion Date | Description                                     |
|---------|------------|-----------------|---|
| 1       | 2003-11    | 2004-06         | Source and north area treatment and monitoring. |
| 2       | 2004-06    | 2006-01         | Source and plum-wide treatment and monitoring.  |
| 3       | 2006-01    | 2007-06         | Residual treatment and monitoring.              |
| 4       | 2007-06    | 2010-06         | Post-remediation monitoring.                    |
| Closure | 2010-06    | 2011-01         | Petition NCDENR for site closure.               |

The initial injection of HRC (Phase I) was completed in November 2002 (see Figure 7). According to the First Quarter 2003 Progress Report (Matrix 4/24/2003), the initial post-injection monitoring event indicated the following:

- Methylene chloride is being effectively remediated by HRC.

- The lack of an increase in TCE degradation daughter products indicates that ground water is still being conditioned to optimal TCE degradation conditions. Minor TCE reduction was observed in two of the source area monitor wells.
- Treated portions of the aquifer are shifting to anaerobic conditions.

The current status of ground water quality at the source area is summarized below.

*Solvent Release Source Area Ground Water Contaminant Concentrations*

| <i>Sampled 2/2003</i><br>Compound | Maximum On-site<br>Concentration (ug/l) | T15A 2L<br>Standard (ug/l) |
|-----------------------------------|---|----------------------------|
| 1,1-Dichloroethene                | 1,300                                   | 7                          |
| Acetone                           | 31,000                                  | 700                        |
| cis-1,2-Dichloroethene            | 14,000                                  | 70                         |
| 2-butanone (MEK)                  | 19,000                                  | 170                        |
| Chloroform                        | 380J                                    | 0.19                       |
| 1,1,1-Trichloroethane             | 20,000                                  | 200                        |
| Trichloroethene                   | 270,000                                 | 2.8                        |
| Toluene                           | 9,400                                   | 1,000                      |
| Tetrachloroethene                 | 210J                                    | 0.7                        |
| Freon 113                         | NA                                      | 210,000                    |

J - Estimated concentration

Source: 2003-04-24, 1<sup>st</sup> Quarter 2003 Progress Report - Remedial Action Plan for Solvent Remediation, Matrix Environmental Southeast, Inc.

The concentrations of VOCs in ground water in the source area are indicative of the presence of dense non-aqueous phase liquids (DNAPL).

#### 4.2 GROUND WATER INTERCEPT SYSTEM PERFORMANCE

The ground water intercept (extraction) system has been in operation at the site since 1993. The remedial objective of the intercept system is containment of the dissolved phase contaminant plume. The capture zone for the extraction system is shown in Figure 8. Ground water is extracted from one recovery well, RW-7, screened within the lower aquifer (35-75 ft BGL). The current extraction rate is 10 GPM. Pre-treated effluent from the system is discharged to the public sewer system. A total of 1.1 million gallons of water was extracted from January through March 2003. The system did not have any downtime during this period.

Data presented in the first quarter 2003 progress report (Matrix, 4/24/2003) indicates that the remediation system influent meets T15A 2L VOC standards except for vinyl chloride and 1,2-DCA as summarized below.

*Ground Water Intercept System Influent Concentrations*

| Compound               | Max. On-site<br>Concentration (ug/l) | T15A 2L<br>Standard (ug/l) |
|------------------------|--------------------------------------|----------------------------|
| Vinyl Chloride         | 0.99J                                | 0.015                      |
| Trichlorofluoromethane | 0.8J                                 | 2,100                      |
| Trichlorofluoroethane  | 390                                  | 210,000                    |
| Acetone                | 5UJ                                  | 700                        |
| cis-1,2-Dichloroethene | 34                                   | 70                         |
| 1,2-Dichloroethane     | 0.52J                                | 0.38                       |
| Trichloroethane        | 2.5                                  | 2.8                        |

J - Estimated concentration

UJ - Constituent not reported above estimated reported value

Contaminant recovery during the first quarter 2003 was limited to 0.5 pounds of VOCs (0.44 lbs. cis-1,2-DCE). A total of 730 pounds of VOCs have been removed by the ground water extraction system to date, as summarized below.

*Ground Water Intercept System Contaminant Mass Removal*

| Compound              | VOC Mass Recovery (pounds) |                 |                           |
|-----------------------|----------------------------|-----------------|---------------------------|
|                       | 8/1996 - 12/2002           | 1/2003 - 3/2003 | Cumulative through 3/2003 |
| 1,1-Dichloroethene    | 2.8                        | 0.00            | 2.8                       |
| Acetone               | 7.1                        | 0.00            | 7.1                       |
| 1,2-Dichloroethene    | 112.7                      | 0.44            | 113.1                     |
| 2-butanone (MEK)      | 52.1                       | 0.00            | 52.1                      |
| Chloroform            | 1.4                        | 0.00            | 1.4                       |
| 1,1,1-Trichloroethane | 1.3                        | 0.00            | 1.3                       |
| Trichloroethene       | 240.3                      | 0.03            | 240.4                     |
| Toluene               | 5.3                        | 0.00            | 5.3                       |
| Methylene chloride    | 305.6                      | 0.00            | 305.6                     |
| 1,2-Dichloroethane    | 1.3                        | 0.01            | 1.3                       |
| Vinyl Chloride*       | 0.03                       | 0.01            | 0.04                      |
| Totals                | 729.9                      | 0.5             | 730.4                     |

\* - Not tracked prior to 9/2002

**4.3 SOLVENT RELEASE FINDINGS**

The solvent release soil and ground water quality data reviewed by ERM indicate the following:

- Abbott Laboratories has complied with North Carolina regulations for assessment and remediation resulting from operation of the solvent evaporation pit.
- The area of concern has been adequately characterized. No further assessment of solvent-affected soil and ground water, other than the current ground water monitoring program, appears to be necessary.

- The concentrations of VOCs in ground water in the source area are indicative of the presence of dense non-aqueous phase liquids (DNAPL).
- Numerous ground water remediation methods have been implemented at the site, at significant cost, with only moderate success. A total of 2,600 pounds of VOCs have been removed from the subsurface to date. However, an estimated 5,000 pounds of VOCs remain in the subsurface, and contaminant concentrations remain well above North Carolina ground water standards.
- Insufficient data are available to evaluate the effectiveness of the source area in-situ bioremediation that was initiated in November 2002. The amended RAP indicates that source area remediation will be completed by 2010. This estimate of the duration of remediation is considered by ERM to be optimistic.
- The ground water intercept system is effectively mitigating off-site migration of the solvent ground water plume. However, the downgradient migration of the solvent plume may actually be greater due to the operation of the system.

## 5.0 #2 FUEL OIL RELEASE

Approximately 1,500 gallons of #2 fuel oil were released from subsurface above-ground storage tank (AST) piping on January 30, 2001. The AST piping was cross-connected to abandoned UST piping that was uncapped and terminated at a depth of 8-10 ft below ground level at a former 10,000 gallon fuel oil UST basin. Initial abatement actions included free product recovery (1,600 gallons) and recovery of contaminated surface water and ground water (18,200 gallons). A total of 39 tons of contaminated soil were removed.

Soil quality data contained in the June 2003 CSA report (Matrix Environmental) indicates the following:

- Soil samples were collected from 25 gridpoint locations (release occurred at depth of 8 ft. BGS).
- Nine TPH-DRO detections exceed the regulatory limit of 40 mg/kg. Samples were collected from 7 to 9 ft. BGL and apparently within the capillary fringe.
- 1,2-DCA, naphthalene, and 2-methylnaphthalene were detected in concentrations above North Carolina soil-to-ground water risk-based standards.
- No further remedial action is proposed (i.e. natural attenuation).

Ground water quality data contained in the June 2003 CSA report (Matrix Environmental) indicates the following:

- Only two petroleum compounds exceed North Carolina ground water standards:

| Compound     | Maximum Concentration (ug/l) | T15A NCAC 2L Ground Water Standard (ug/l) |
|--------------|------------------------------|---|
| Benzene      | 47                           | 1   |
| Ethylbenzene | 46                           | 29  |

- The area of impacted ground water is 190 feet long, 60 feet wide, and 40 feet deep (see Figure 9).
- Monitored natural attenuation is recommended in the CSA report. ORC (Oxygen Release Compound) injection may be proposed to enhance the natural attenuation of ground water contaminants.
- Closure of the #2 fuel oil ground water incident is projected within 5 years.

#### 5.1 #2 FUEL OIL RELEASE FINDINGS

The #2 fuel oil soil and ground water quality data reviewed by ERM indicate the following:

- Abbott Laboratories has complied with North Carolina regulations for assessment, remediation, and reporting for the #2 fuel oil release.
- A corrective action plan (CAP) will be required to address soil and ground water contamination associated with the #2 fuel oil release.
- Monitored natural attenuation is an appropriate approach for soil and ground water remediation associated with the #2 fuel oil release.
- The projected five year duration of remediation is considered by ERM to be optimistic.

#### 6.0 SUMMARY

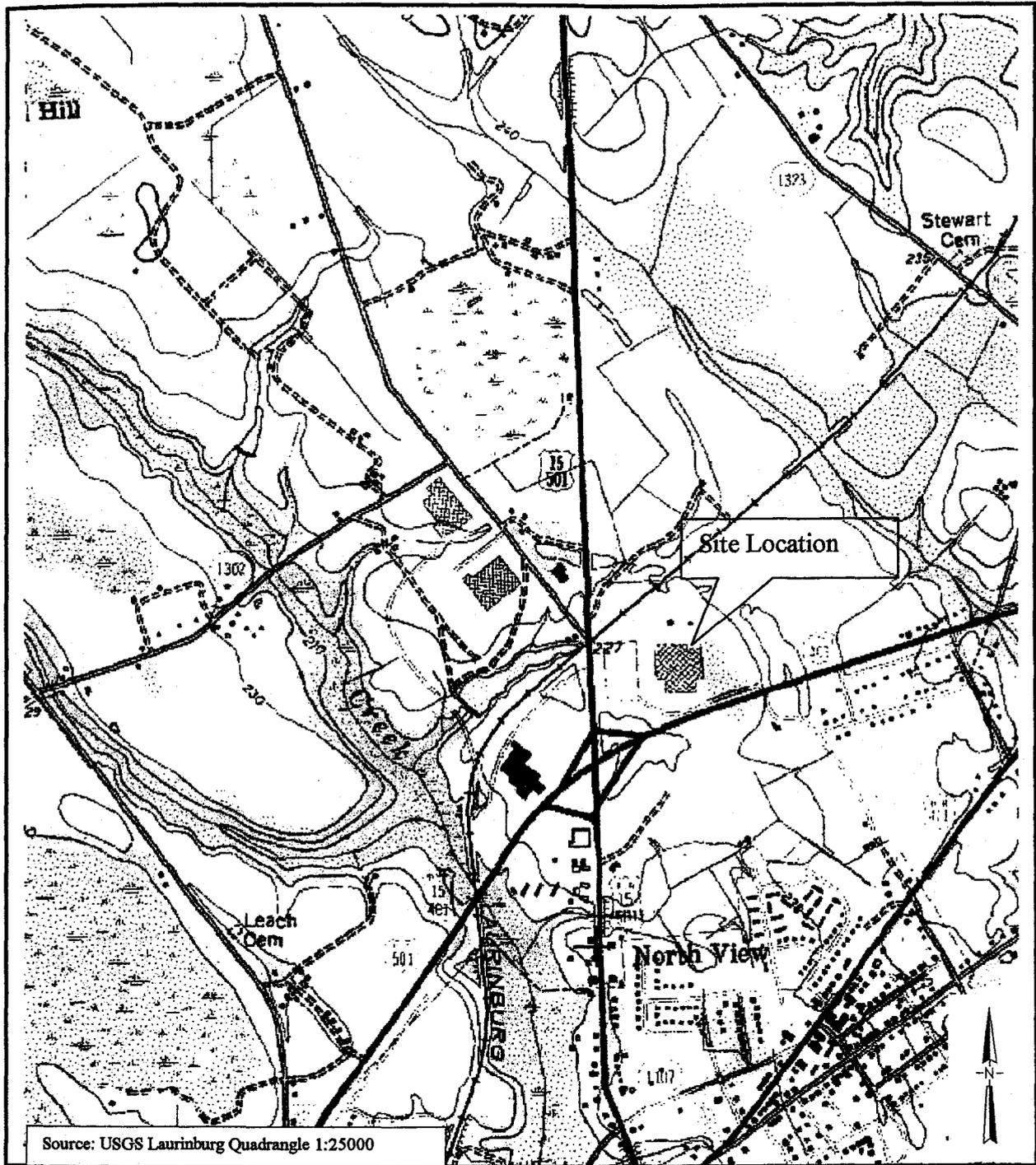
Two contaminant releases have occurred at the former Abbott Laboratories facility in Laurinburg, North Carolina associated with a solvent evaporation pit and a #2 fuel oil above-ground storage tank respectively. The releases resulted in soil and ground water contamination. ERM's findings from a review of the available documents that have been prepared for the site include the following:

### *Solvent Release*

- Abbott Laboratories has complied with North Carolina regulations for assessment and remediation resulting from operation of the solvent evaporation pit.
- The area of concern has been adequately characterized. No further assessment of solvent-affected soil and ground water, other than the current ground water monitoring program, appears to be necessary.
- The concentrations of VOCs in ground water in the source area are indicative of the presence of dense non-aqueous phase liquids (DNAPL).
- Numerous ground water remediation methods have been implemented at the site, at significant cost, with only moderate success. A total of 2,600 pounds of VOCs have been removed from the subsurface to date. However, an estimated 5,000 pounds of VOCs remain in the subsurface, and contaminant concentrations remain well above North Carolina ground water standards.
- Insufficient data are available to evaluate the effectiveness of the source area in-situ bioremediation that was initiated in November 2002. The amended RAP indicates that source area remediation will be completed by 2010. This estimate of the duration of remediation is considered by ERM to be optimistic.
- The ground water intercept system is effectively mitigating off-site migration of the solvent ground water plume. However, the downgradient migration of the solvent plume may actually be greater due to the operation of the system.

### *#2 Fuel Oil Release*

- Abbott Laboratories has complied with North Carolina regulations for assessment, remediation, and reporting for the #2 fuel oil release.
- A corrective action plan (CAP) will be required to address soil and ground water contamination associated with the #2 fuel oil release.
- Monitored natural attenuation is an appropriate remedial approach for soil and ground water quality.
- The projected five year duration of remediation is considered by ERM to be optimistic.



miles 0 0.5 1.0

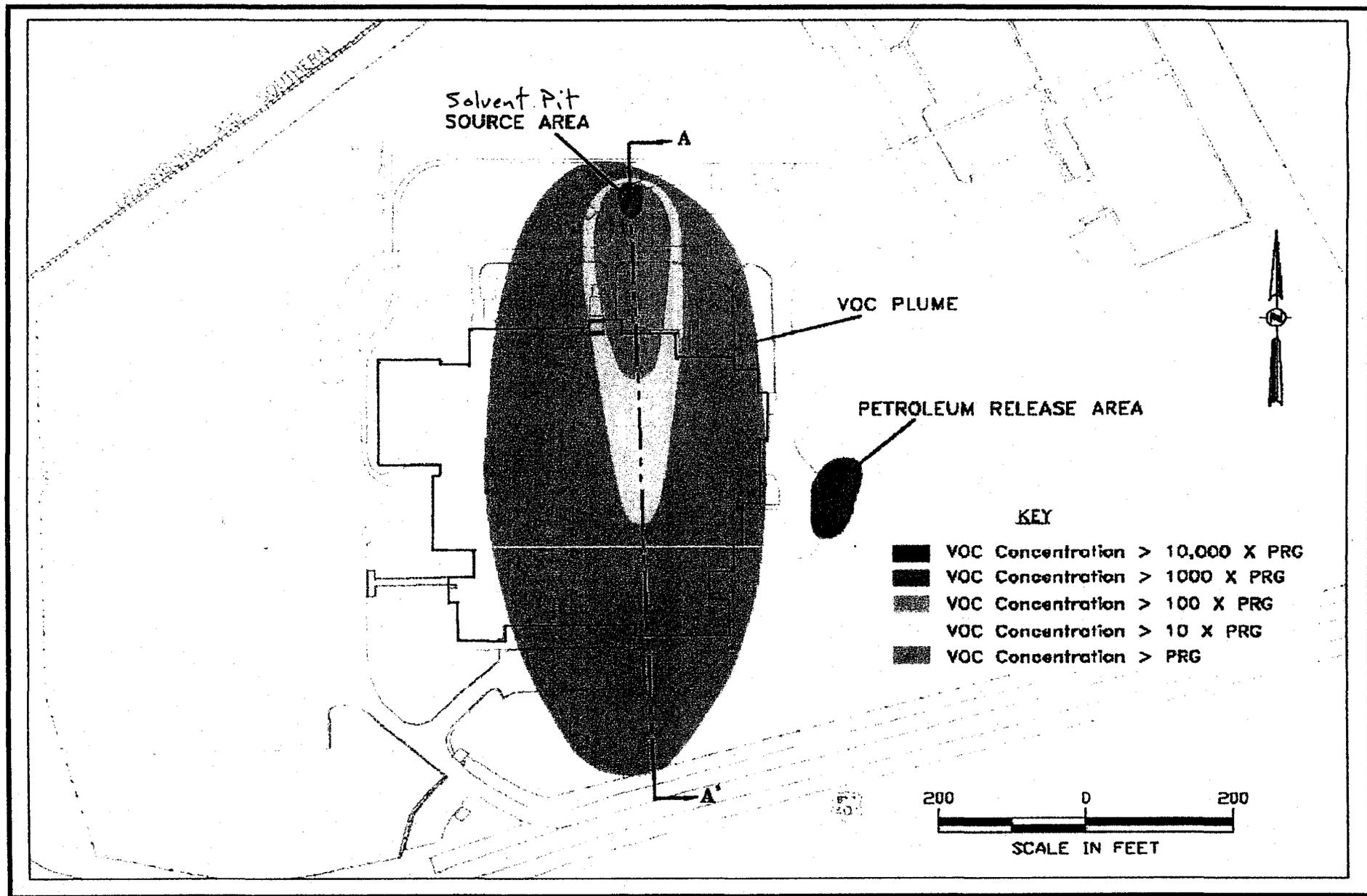
Figure E-1



**Matrix Environmental, Inc.**  
 355 North Milwaukee, Suite A  
 Libertyville, Illinois 60048

Site Location Map  
 Abbott Laboratories  
 Laurinburg, North Carolina

FIGURE 1



**Both releases are being remediated under the direction of CES**

FIGURE 2

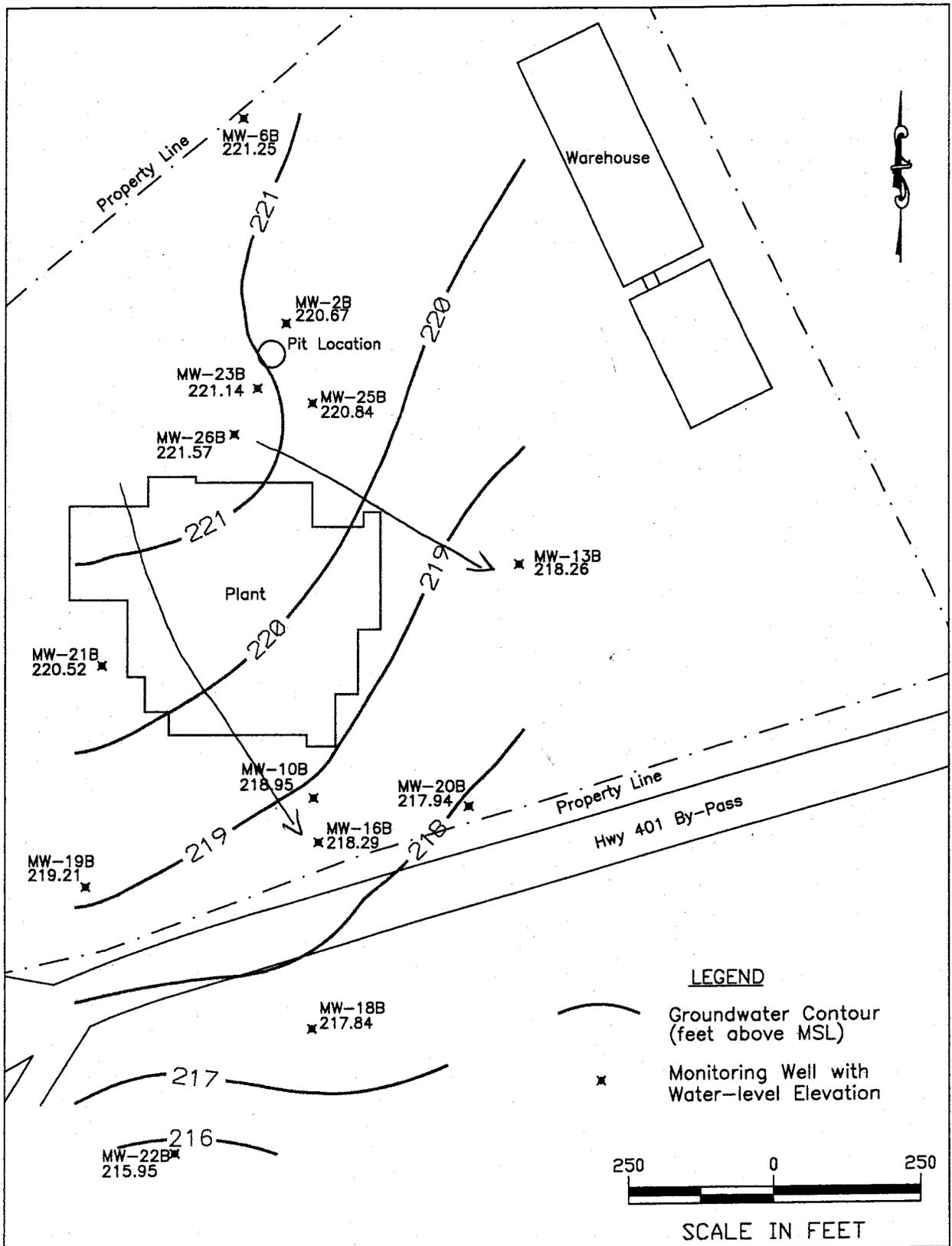
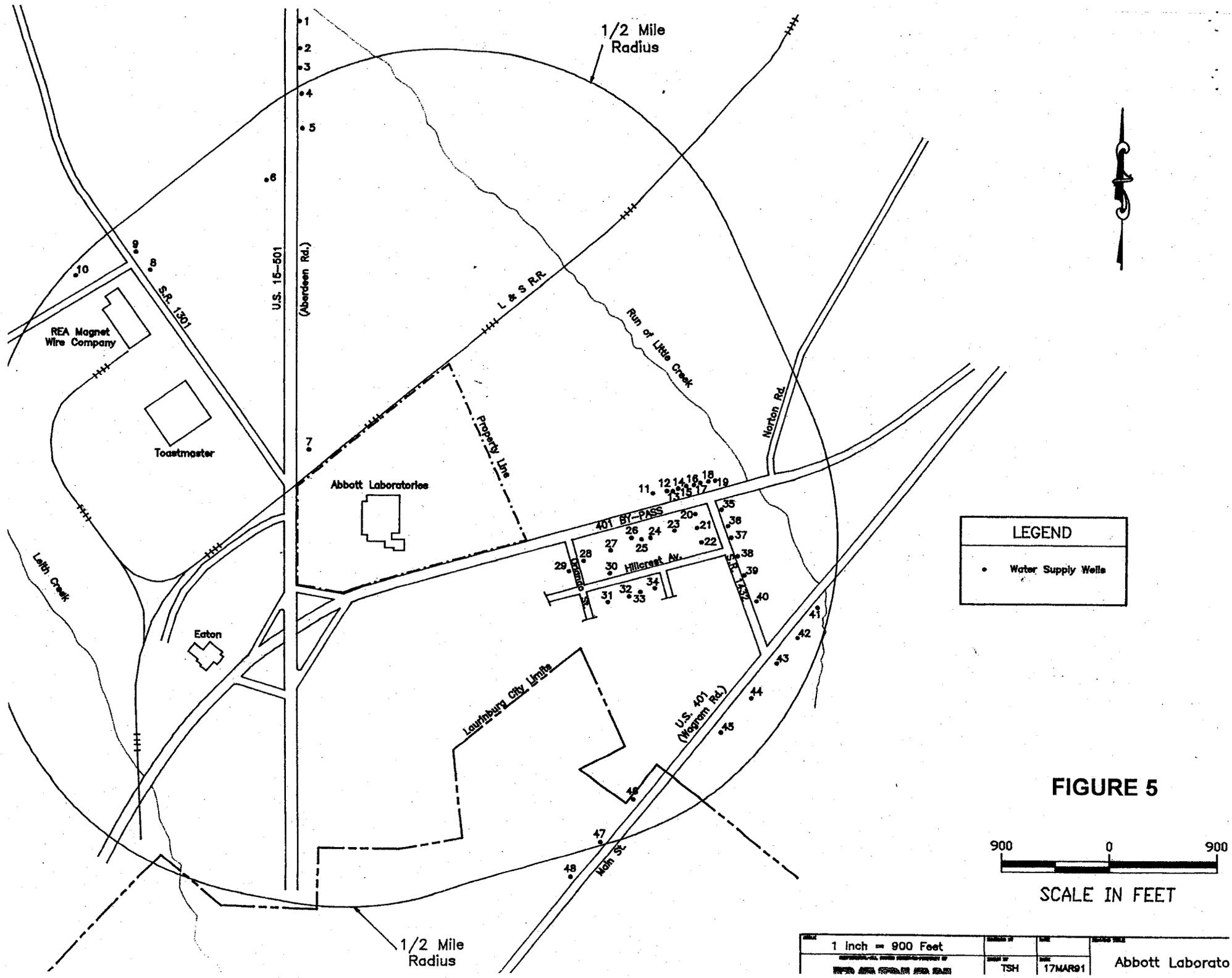


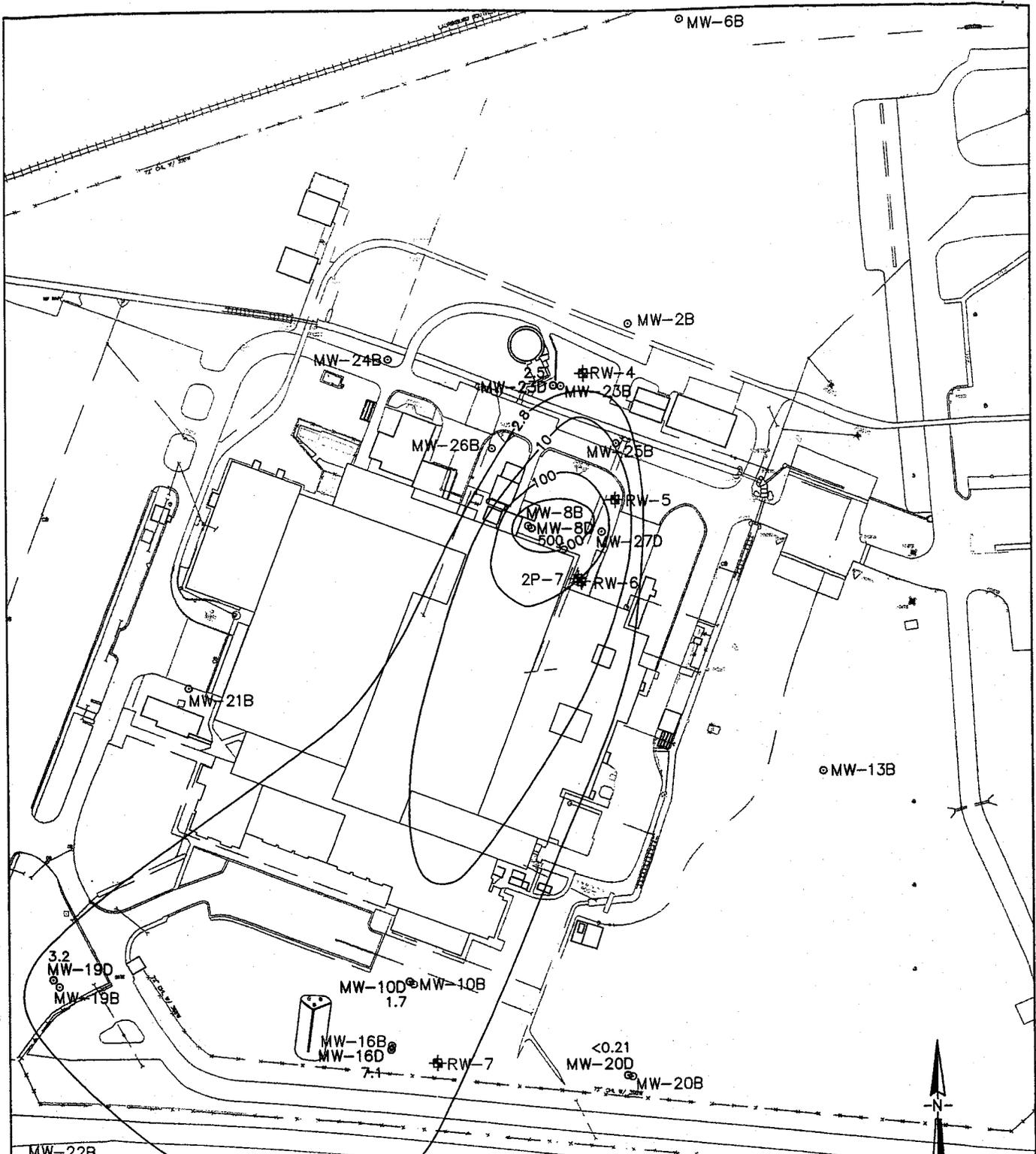
Figure 3-1. Groundwater Contour Map, September 24, 2001, Abbott Laboratories, Laurinburg, NC SEP01SHA

**FIGURE 4**



**FIGURE 5**

|   |  |         |                 |
|---|--|---------|-----------------|
| 1 inch = 900 Feet                             |  | DATE    | SCALE           |
| APPROVED FOR RELEASE BY THE NATIONAL ARCHIVES |  | DATE    | SCALE           |
| REF ID: A66384                                |  | DATE    | SCALE           |
| TSH   |  | 17MAR91 | Abbott Laborato |



**LEGEND**

- <0.21 TRICHLOROETHENE CONCENTRATION IN ug/L
- 2.8 ——— TRICHLOROETHENE CONCENTRATION CONTOUR



**NOTES:**

1. BASED ON SEPTEMBER 2002 ANALYTICAL RESULTS.
2. REMEDIATION GOAL FOR TRICHLOROETHENE IS 2.8 ug/L.

**FIGURE 2-4**



**Matrix Environmental Southeast, Inc.**  
 357 N. Milwaukee, Ave., Suite A  
 Libertyville, Illinois 60048

VOC Plume  
 Fuel Oil Release  
 Abbott Laboratories  
 Laurinburg, North Carolina

**FIGURE 6**

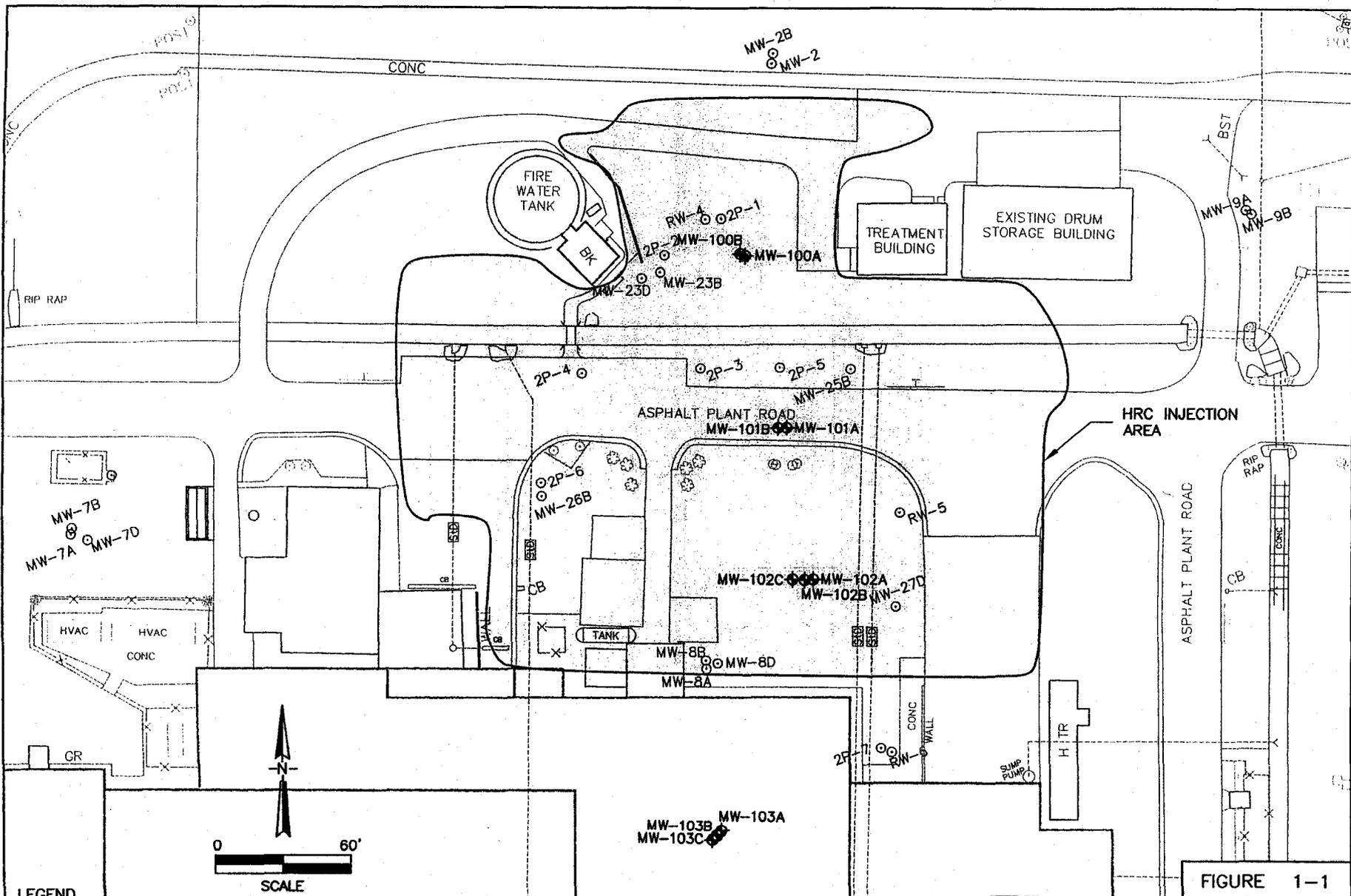


FIGURE 1-1

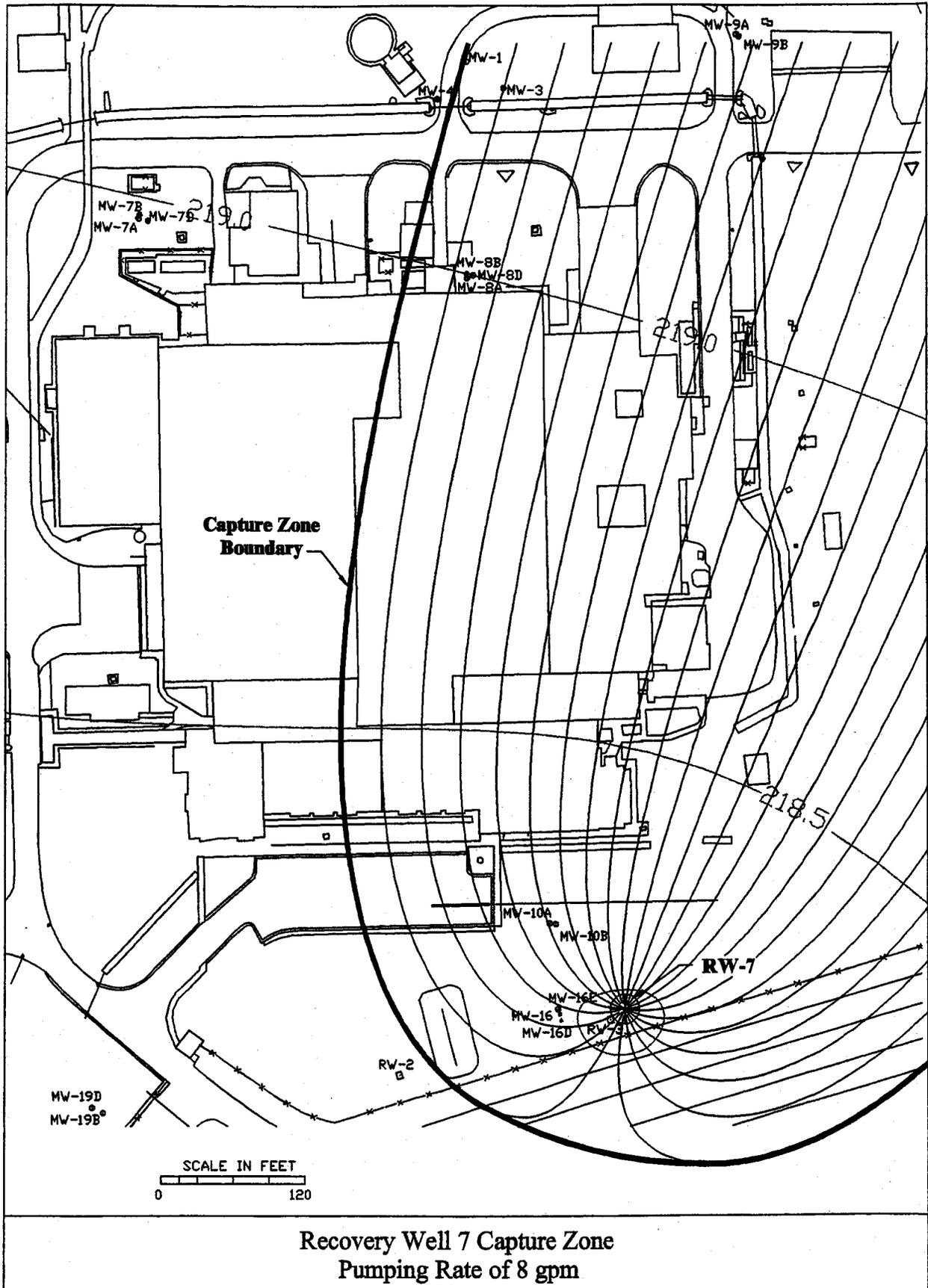
LEGEND  
 HRC MONITORING WELLS  
 HRC INJECTION AREA  
 NOTE:  
 HRC = HYDROGEN RELEASE COMPOUND



Matrix Environmental, Inc.  
 357 N. Milwaukee, Ave  
 Suite A, Libertyville, IL., 60048

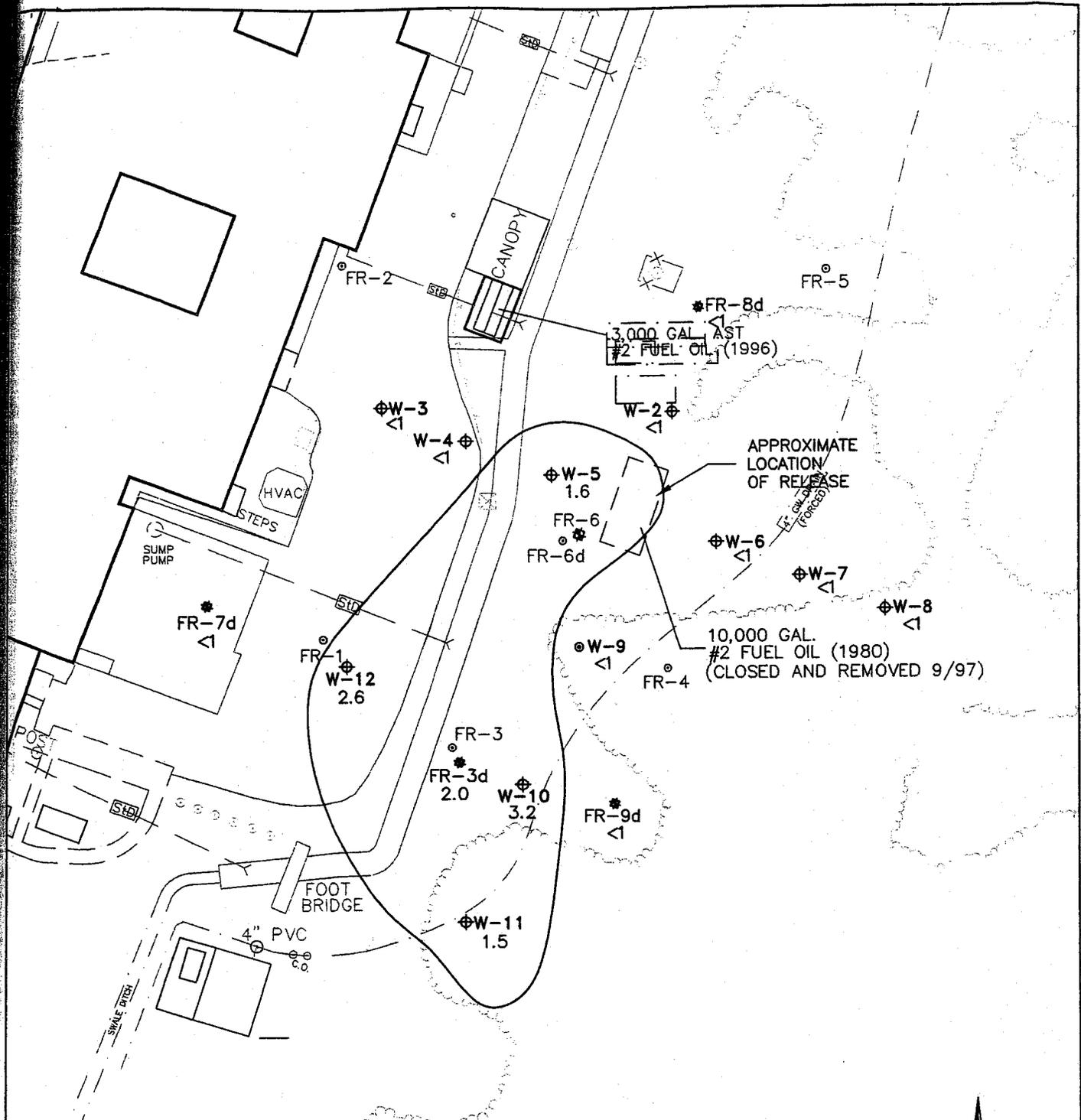
PHASE I HRC® GROUNDWATER MONITORING NETWORK  
 ABBOTT LABORATORIES  
 Laurinburg, North Carolina

FIGURE 7



12/15/2000 Radia

FIGURE 8



**NOTES:**  
 1. VALUES LISTED ARE BENZENE CONCENTRATIONS IN ug/L  
 2. MONITORING WELL DATA COLLECTED IN DECEMBER 2000.  
 3. DISCRETE GROUNDWATER SCREENING DATA COLLECTED IN OCTOBER 2000.

| LEGEND |   |
|--------|---|
| ○      | SHALLOW MONITORING WELL                           |
| ⊛      | DEEP MONITORING WELL                              |
| ⊕      | GROUNDWATER SCREENING SAMPLE LOCATION             |
| <1     | BENZENE CONCENTRATION IN ug/L                     |
| —      | BOUNDARY OF BENZENE PLUME AT 1 ug/L (2L STANDARD) |

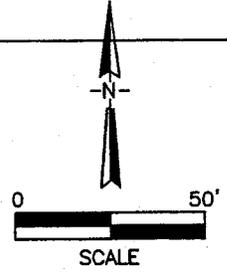


FIGURE 7-5



**Matrix Environmental Southeast, Inc.**  
 357 N. Milwaukee Ave., Suite A  
 Libertyville, Illinois 60048

2000 Benzene Groundwater Plume - 35 Feet BGS  
 Fuel Oil Release  
 Abbott Laboratories  
 Laurinburg, North Carolina

FIGURE 9

**TABLE 1. FORMER ABBOTT FACILITY ENVIRONMENTAL HISTORY**

| Date                        | Event   |
|-----------------------------|---|
| 1968-1969                   | Abbott purchased and constructed facility.  |
| 1970                        | Abbott began manufacturing operations at the facility.  |
| 1970-1976                   | Solvent evaporation pit in use.   |
| 1989                        | Solvent pit contamination discovered. NCDENR Division of Waste Management - Superfund Section Case # NO NCD 000 0040  |
| 1989-1992                   | Remedial investigation conducted. Approximately 21,000 yd <sup>3</sup> of impacted soil confirmed. Extent of impacted ground water is 1,000 feet long, 900 feet wide, and 70 feet deep.   |
| 1991-April 16               | Administrative Order on Consent (AOC) agreement for VOC contamination assessment and remediation became effective.  |
| 1993-February               | Remedial investigation report submitted to NCDENR.  |
| 1993-August                 | NCDENR provided risk-based cleanup goals for ground water.  |
| 1993-November               | South Yard ground water intercept system began operation.   |
| 1994-August                 | Remedial Action Plan submitted to NCDEHNR.  |
| 1994-November               | NCDENR approve RAP.   |
| 1995- Jan. 6,               | Remedial Action Plan approved by NCDEHNR provided risk-based cleanup goals for ground water.  |
| 1995-August to 1996-January | Source area remediation using in-situ volatilization (MecTool). 69 treatment columns completed. Between 1,250 and 1,900 lbs VOCs removed from soil and GW to a depth of 20 ft. BGS. Contaminant concentrations reduced by a factor of ten, but site stratigraphy was disturbed and solvent contamination was dispersed. |
| 1996-January to 1996-August | Source area dual-phase extraction and ground water pumping system construction and operation (North Yard ground water extraction system). Extraction from 7 shallow recovery wells (20 feet deep) and 4 deep recovery wells (35-75 feet deep). Extraction rate of 6 to 10 GPM.  |
| 1998-October                | DPE pulsing implemented.  |
| 1999-March                  | NCDENR approved reduction in post-closure monitor well sampling requirements.   |
| 1999-April                  | Monitored natural attenuation evaluated and rejected as a remedial alternative.   |
| 1999-December               | DPE system shutdown because contaminants had reached asymptotic levels.   |
| 2000-January 30             | 1,500 gallon #2 fuel oil release occurred.  |
| 2000-September              | Supplemental investigation conducted in the evaporation pit source area.  |
| 2001-September              | Supplemental investigation conducted in support of in-situ bioremediation pilot test.   |
| 2001-July to 2001-November  | Zero-valent iron and molasses injection bioremediation pilot test conducted. 21 injection wells and hydraulic fracturing utilized.  |
| 2002-July                   | Remedial Action Plan Amendment submitted to NCDENR.   |
| 2002-June                   | Abbott discontinued manufacturing operations at the facility.   |
| 2002-October 15             | RAP amendment approved by NCDENR.   |
| 2002-November               | Phase I in-situ treatment conducted. 39,600 pounds of HRC injected through 134 injection points in the source area over 16 days.  |
| 2003-July                   | Petroleum Release Comprehensive Site Assessment submitted to NCDENR. Area of impacted ground water is 190 feet long, 60 feet wide, and 40 feet deep.  |
| Pending                     | Petroleum release corrective action plan. Monitored natural attenuation is likely to be the selected remedy. In-situ bioremediation using ORC is under consideration as a contingent remedial alternative.  |

 **ABBOTT LABORATORIES**

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Curtis R. Michols  
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May 30, 2003

Ms. Peggy DiPaola  
GOJO Industries, Inc.  
One GOJO Plaza, Suite 500  
Akron, Ohio 44311

Re: Copies of Environmental Documents Prepared for the  
Abbott Laboratories, Laurinburg, North Carolina facility

Dear Ms. DiPaola:

Enclosed please find two copies of recent environmental documents that have been prepared addressing the volatile organic compound (VOC) and fuel oil releases at our Laurinburg, North Carolina facility. For the VOC release, these reports consist of the following:

1. *Administrative Order On Consent*, prepared by North Carolina Department of Environment, Health, and Natural Resources, dated April 1, 1991.
2. *Remedial Action Plan*, prepared by Rust Environment & Infrastructure, dated August 1994, Revision 1 November 1994.
3. *Semi-Annual Groundwater Monitoring Report and Semi-Annual Operations and Maintenance Report*, prepared by Radian Engineering, Inc. (Radian), dated June 2000.
4. *In Situ Remediation Pilot Test Work Plan*, prepared by Radian, dated September 26, 2000.
5. *Flow Modeling Results for RW-7*, prepared by Radian, dated December 15, 2000.
6. *In Situ Remediation Pilot Test Work Plan Letter*, prepared by North Carolina Department of Environment and Natural Resources (NCDENR), dated December 21, 2000.
7. *Semi-Annual Groundwater Remediation Report*, prepared by Radian, dated December 2000.
8. *Supplemental Investigation Report for the Source Area*, prepared by Radian, dated February 2001.
9. *Permit for Zero Valent Iron and Molasses Pilot-Scale Test*, prepared by Radian, dated March 2, 2001.
10. *Request for Approval: Use of Product Applied to Groundwater*, prepared by Radian, dated June 14, 2001.
11. *Semi-Annual Groundwater Monitoring Report and Semi-Annual Operations and Maintenance Report*, prepared by Radian, dated June 2001.

12. *Permit for the Construction and Operation of a Well for Injection*, prepared by NCDENR, dated July 16, 2001.
13. *Semi-Annual Groundwater Monitoring Report and Semi-Annual Operations and Maintenance Report*, prepared by URS Corporation – North Carolina, P.C. (URS), dated December 2001.
14. *In Situ Remediation Pilot Test Report and Site Closure Strategy*, prepared by URS, dated December 2001.
15. *Source Area Remediation Feasibility Study*, prepared by URS, dated February 2002.
16. *Site Closure Strategy and Conceptual Design*, prepared by URS, dated February 2002.
17. *Application for Permit to Construct and/or Use a Well(s) for Injection of HRC Application*, prepared by Matrix Environmental, Inc. (Matrix), dated May 2002.
18. *Semi-Annual Groundwater Monitoring Report and Semi-Annual Operations and Maintenance Report*, prepared by URS, dated June 2002.
19. *Supplemental Investigation Work Plan*, prepared by Matrix, dated June 17, 2002.
20. *Remedial Action Plan Amendment*, prepared by Matrix, dated June 2002.
21. *Remedial Action Plan Amendment Response to Comments Letter*, prepared by Matrix, dated August 15, 2002.
22. *Review of Remedial Action Plan Amendment Letter*, prepared by NCDENR, dated August 30, 2002.
23. *Approval of Remedial action Plan Amendment Letter*, prepared by NCDENR, dated October 15, 2002.
24. *Supplemental Investigation Findings*, prepared by Matrix, dated October 21, 2002.
25. *2<sup>nd</sup> and 3<sup>rd</sup> Quarter 2002 Progress Report*, prepared by Matrix, dated December 23, 2002.
26. *4<sup>th</sup> Quarter 2002 Progress Report*, prepared by Matrix, dated February 15, 2003.
27. *1<sup>st</sup> Quarter 2003 Progress Report*, prepared by Matrix, dated April 24, 2003.
28. *Indirect Discharge Monitoring Reports*, prepared by Radian, URS, and Matrix, for the years 2001 to year-to-date 2003.

For the fuel oil release, these reports consist of the following:

1. *Preliminary Site Characterization Report*, prepared by Radian, dated August 2000.
2. *Phase II Site Characterization Report*, prepared by Radian, dated February 2001.
3. *Semi-Annual Groundwater Monitoring Report*, prepared by Radian, dated June 2001.
4. *Semi-Annual Groundwater Monitoring Report*, prepared by URS, dated December 2001.
5. *Semi-Annual Groundwater Monitoring Report*, prepared by URS, dated June 2002.
6. *Petroleum Release Semi-Annual Groundwater Monitoring Report*, prepared by Matrix, dated December 2002.
7. *Comprehensive Site Assessment*, prepared by Matrix, dated June 2003

In addition, the following general documents are also provided for your review:

1. Phase I Environmental Site Assessment, prepared by URS, dated October 2001.
2. Presentation summarizing remedial activities conducted at the site, prepared by Abbott Corporate Environmental Services.