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Weiss Associates

Environmental Science, Engineering and Management

350 E. Middlefield Road, Mountain View, CA 94043-4004

Fax: 650-968-7034 Phone: 650-968-7000

TRANSMITTAL

301257003

TO: Mr. Ram Pergadia

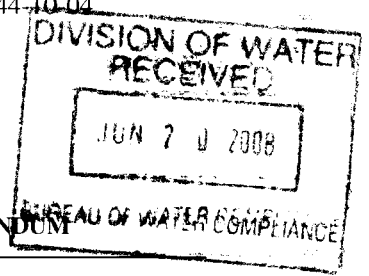
DATE: June 13, 2008

COMPANY: NYSDEC, Bureau of Water Compliance
625 Broadway, 4th Floor
Albany, New York 12233

PROJECT #: 363-1844-10-04

FROM: William McIlvride

PHONE:
FAX:



ENCLOSED PLEASE FIND: 2008 W-18A VICINITY INVESTIGATION WORK PLAN ADDENDUM

VIA:

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of pages: _____
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AS:

- Per our phone call
- You requested
- Is required
- We believe you may be interested

FOR:

- Your information
- Return to you
- Your action
- Your review & comments

COMMENTS:

Dear Ram –

This transmittal accompanies the 2008 W-18A Vicinity Investigation Work Plan Addendum prepared by Weiss Associates on behalf of Fairchild Semiconductor Corporation, for its former facility located at 91 All Angels Hill Road in Wappingers Falls, New York.

Please feel welcome to contact me at (607) 678-4098 should you have any questions or comments regarding the enclosed document.

Thanks!

Bill

Please call (650) 968-7000 if there are any problems with transmission.

FAX CONFIDENTIALITY NOTICE

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June 13, 2008

Mr. Ram Pergadia
New York State Department of Environmental Conservation
21 South Putt Corners Road
New Paltz, New York 12561

650 968 7003

Re: W-18A Vicinity Investigation
Work Plan Addendum
Former Fairchild Semiconductor Facility
91 All Angels Hill Road
Wappingers Falls, New York
Case No. 3-1152/8602

Dear Mr. Pergadia:

On behalf of Schlumberger Technology Corporation, Weiss Associates is transmitting the enclosed *W-18A Vicinity Investigation Work Plan Addendum* for the former Fairchild facility located at 91 All Angels Hill Road in Wappingers Falls, New York. This Addendum does not modify the overall goals of the original investigation described in the *W-18A Vicinity Investigation Work Plan* submitted September 27, 2007 (for subsurface investigation under and around the remnant floor slabs near well W-18A), but expands the Scope of Work (SOW) to include more detailed investigation of the immediate vicinity of W-18A.

As you know, a portion of the SOW from the original Work Plan was finished in October 2007, but the entire SOW could not be completed due to drilling refusal in hard materials at several of the boreholes. Work was stopped to assess results from the boreholes completed up to that point. These results were transmitted to you by email on November 21, 2007 and are summarized in this Addendum, and serve to guide the additional SOW.

The additional work is planned for implementation in July 2008, along with completing the scope of work in the original Work Plan. The Quality Assurance Project Plan and Health and Safety Plans will be retained from the original Work Plan and applied to the additional SOW. If you have any comments or questions concerning this Work Plan Addendum, please contact Tess Byler at (650) 968-7000 if before July 2, or me at (607) 678-4098 after July 2.

Sincerely,

William A. McIlvride
Project Manager

Enclosures: W-18A Vicinity Investigation Work Plan Addendum

cc: Joseph P. Crua, New York State Department of Health, Bureau of Environmental Exposure Investigation

WM:rk

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Weiss Associates

Environmental Science, Engineering and Management

350 E. Middlefield Road, Mountain View, CA 94043-4004

Fax: 650-968-7034 Phone: 650-968-7000

**W-18A VICINITY INVESTIGATION
WORK PLAN ADDENDUM**

for

**Former Fairchild Facility
91 All Angels Hill Road
Wappingers Falls, New York**

prepared for

Schlumberger Technology Corporation
225 Schlumberger Drive
Sugar Land, TX 77478

June 13, 2008





Weiss Associates

Environmental Science, Engineering and Management

350 E. Middlefield Road, Mountain View, CA 94043-4004

Fax: 650-968-7034 Phone: 650-968-7000

**W-18A VICINITY INVESTIGATION
WORK PLAN ADDENDUM**

for

**Former Fairchild Facility
91 All Angels Hill Road
Wappingers Falls, New York**

prepared by

Weiss Associates

350 East Middlefield Road
Mountain View, CA 94043

Weiss Project No. 363-1844-10-04

Weiss Associates work for Schlumberger Technology Corporation (Schlumberger) was conducted under my supervision. To the best of my knowledge, the data contained herein are true and accurate and satisfy the scope of work prescribed by the client for this project. The data, findings, recommendations, specifications or professional opinions were prepared solely for the use of Fairchild in accordance with generally accepted professional engineering and geologic practice. The Summary contained in this work plan serves as a complement to the entire work plan and should not be treated as a stand-alone document. The reader is referred to the detailed information provided within this work plan for additional data not contained in the Summary. We make no other warranty, either expressed or implied, and are not responsible for the interpretation by others of the contents herein.

William M. McIlvrde June 13, 2008

William McIlvrde, California P.G., C.E.G.
Sr. Project Hydrogeologist

CONTENTS

	Page
SUMMARY	v
1. INTRODUCTION	1
2. OCTOBER 2007 RESULTS	2
3. Additional WORK PLAN SCOPE, OBJECTIVES AND RATIONALE	3
3.1 Line Locating	3
4. Summary of Remainder of Original Work Scope	4
4.1 Soil Sampling	4
4.2 Ground Water Sampling	4
4.3 Piezometer Installation	4
4.4 Field Quality Assurance/Quality Control Sampling	5
4.5 Photographs	5
4.6 Investigation Derived Wastes	5
5. REFERENCES	6

FIGURES

- Figure 1. Site Location Map, Former Fairchild Facility
- Figure 2. Site Plan and Monitoring Well Location Map
- Figure 3. W-18A Vicinity Investigation Results
- Figure 4. Proposed Soil Vapor Sampling Locations in SB-4 and W-18A Vicinity

TABLES

- Table 1. Soil Vapor Survey Results from October 17, 2007 Sampling, Data for Detected Compounds Only
- Table 2. Soil Vapor Survey Results from October 17, 2007 Sampling, All Data
- Table 3. Volatile Organic Compounds in Soil and Groundwater, 18-19 October 2007
- Table 4. Ground Water Sampling Requirements
- Table 5. Soil Vapor Analytic Sampling
- Table 6. Soil Analytic Sampling Requirements

APPENDICES

- Appendix A. Table of Contents for W-18A Investigation Work Plan (Weiss, 2007)

SUMMARY

This W-18A Vicinity Investigation Work Plan Addendum (Addendum) was prepared by Weiss Associates (Weiss) on behalf of Schlumberger Technology Corporation (Schlumberger), for the former Fairchild facility located at 91 All Angels Hill Road in Wappingers Falls, New York (the Site). The original Work Plan (Weiss, 2007) focused on investigating whether or not a potential nearby source of contaminants is contributing to the presence of residual volatile organic compounds (VOCs), primarily trichloroethylene (TCE) in monitoring well W-18A, as suspected by the New York State Department of Conservation (NYSDEC). This Addendum does not modify the overall goals of the Work Plan (Weiss, 2007), but expands the Scope of Work (SOW) to include more detailed investigation of the immediate vicinity of W-18A.

A portion of the SOW from the Work Plan (Weiss, 2007) was finished in October 2007, but the entire SOW could not be completed due to drilling refusal in hard materials at several of the boreholes. Work was stopped to assess results from the boreholes completed up to that point. These results are summarized in this Addendum, with observations and conclusions. In general these results indicate that it is unlikely there is a TCE source under the slab, but they show a relatively high concentration of TCE in soil at boring SB-4, between the slab and W-18A, although the SB-4 ground water TCE concentration is lower than in W-18A. This Addendum describes a SOW to add additional borings around SB-4 and in the immediate W18A vicinity to check for TCE in soil in more detail at these locations.

This Addendum only provides additional details relevant to the SB-4/immediateW-18A vicinity sampling, and assumes that the remainder of the investigation will proceed according to the original Work Plan (Weiss, 2007). The original Work Plan provides the

- Site description and history;
- the Quality Assurance Project Plan (QAPP); and,
- Site Health and Safety Plan (SHSP).

The Table of Contents of the original Work Plan is included in Appendix A. We anticipate the additional work and the work remaining from the original Work Plan (Weiss, 2007) will be completed in the summer of 2008, following approval of this Work Plan Addendum. Once all work is completed a report including all data from the W-18A investigation will be submitted.

1. INTRODUCTION

This W-18A Vicinity Investigation Work Plan Addendum (Addendum) was prepared by Weiss Associates (Weiss) on behalf of Schlumberger Technology Corporation (Schlumberger), for the former Fairchild facility located at 91 All Angels Hill Road in Wappingers Falls, New York (the Site, Figure 1). This Addendum describes sampling in the SB-4 and immediate W-18A areas that will be added to the original Work Plan (Weiss, 2007). That Plan contains a history of environmental investigation and remedial activities at the Site to date, scope, objectives and rationale for the elements of the W-18A vicinity investigation (Sampling and Analysis Plan for soil vapor, soil, and ground water), a Quality Assurance Project Plan (QAPP), Site Health and Safety Plan (SHSP), and qualifications of key personnel. The table of contents of the Work Plan (Weiss, 2007) is provided in Appendix A for reference.

A map depicting the locations of all ground water monitoring wells, extraction trenches, extraction sumps and inactive treatment plant is presented as Figure 2. Section 2 summarizes data collected from the part of the investigation completed in October 2007. Section 3 provides the scope, objectives and rationale for the added investigation elements to delineate TCE in the SB-4 area, and summarizes sampling equipment and field analytical procedure unique to the additional SOW

Project Organization and Subcontractor Responsibilities are as described in the Work Plan (Weiss, 2007). All analytical laboratories are certified by the New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) for all analytes analyzed for in this project.

2. OCTOBER 2007 RESULTS

The five soil vapor samples were collected as specified in the original Work Plan (Weiss, 2007). Soil borings SB-1, SB-2, and SB-4 with ground water samples were completed as planned, but the remaining borings, with the exception of the 8-ft sample at SB-8, could not be completed due to difficult drilling conditions. Chemical analytical results for the soil vapor samples are summarized in Tables 1 and 2, and for soil and groundwater in Table 3. Figure 3 shows the areal distribution of TCE for all media. Laboratory reports are presented in full in Appendix B. Key results and interpretations are:

1. At the five soil vapor sampling points, TCE in soil vapor was less than 2,000 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) (2 milligrams per cubic meter (mg/m^3)), the detection limit for the soil vapor survey conducted October 2001 (Locus, 2002), where up to 1,300 mg/m^3 TCE was detected.
2. Soil vapor sampling point V-5, furthest from W-18A, has the highest concentrations of VOCs of any of the vapor points, but the fewest types of VOCs.
3. Ground water results (Figure 3, Table 3) for TCE do not indicate any TCE source under the building slab for W-18A.
4. The TCE concentration in soil of 240 $\mu\text{g}/\text{kg}$ at SB-4 (Figure 3, Table 3) may indicate an area of residual TCE in soil that is feeding the W-18A area. This location coincides with the location of a former abandoned solvent tank. It is worth noting that the highest soil concentration detected in October 2001, at 0.150 mg/kg in location E4 (Locus, 2002), is lower than the SB-4 value, even though the 0.150 mg/kg value coincided with a soil vapor value of 970 mg/m^3 TCE (Locus, 2002).
5. TCE in soil vapor from under the slab is three orders of magnitude less than the highest concentrations in the October 2001 survey (Locus, 2002). The October 2001 concentrations were interpreted to be residual from the ground water, not believed to represent an independent source (Locus, 2002). If this interpretation is correct, it follows that the sub-slab soil vapor results do not indicate any significant source of TCE, or other VOCs, beneath the slab.
6. Ethylbenzene and xylenes in ground water at SB-2 may be residuals from the former solvent tank at that location. The initial investigations of the site in the mid 1980s (Canonie, 1987) found high concentrations of these compounds.

While the soil vapor results indicate it is unlikely that any significant source of VOCs exists under the slab, we recommend that to be thorough that we drill and sample the remaining boreholes (SB-3, SB-5, SB-6, SB-7, SB-8, and SB-9, Figure 3) as proposed in the original Work Plan (Weiss, 2007). In addition, this Addendum to the Work Plan (Weiss, 2007) is being submitted to describe the plan to further define TCE at the SB-4 area.

3. ADDITIONAL WORK PLAN SCOPE, OBJECTIVES AND RATIONALE

The additional work proposed in this Addendum to the original Work Plan (Weiss, 2007) is to further define the extent of TCE identified at SB-4, located between the former building slab and W-18A, and determine if any other “sources” exist in the immediate W18A vicinity. This section describes the specific Scope of Work (SOW), sampling objectives and rationale for the proposed samples.

The proposed sampling will begin with soil vapor screening sampling for TCE at the grid locations shown in Figure 4. Samples will be collected from a depth interval of 5 ft to 7 ft, just above the water table. Sampling will begin at the 20-ft grid spacing (rows 1, 3, 5, 7 and columns A, C, E, G [16 samples]) and at additional 10-ft grid intervals (4 samples: B6, B7, C6, and D6) in the immediate SB-4 vicinity, for a minimum of 20 samples. Results will be obtained immediately in the field using gas detection tubes such as those manufactured by Sensidyne[®] or Draeger[®], and additional 10-ft grid locations will be sampled as needed to give a full definition of any potential “hot spots” present. As many as 49 samples will be collected if the entire grid shown in Figure 4 is sampled. Once the TCE distribution is defined, four to six soil samples and grab ground water samples will be collected to provide confirmation.

The soil vapor screening sampling will employ an efficient and inexpensive method delineating a contaminated area laterally and vertically. A window sampler will be driven into the ground to a depth of 6 ft bgs (the approximate depth of the water table) with a hammer drill, and the soil at the interval exposed by opening the sampler tip. TCE will off gas from the walls of the borehole. A gas detector tube calibrated to detect TCE in the 2 – 250 ppm range is then inserted slowly to the depth interval opposite the exposed walls of the borehole. After a 5-minute waiting period to get a good signal (an error of 30-40% is no problem due to all holes having error, and the method is approximate), 100 ml of soil vapor is drawn through the gas detection tube over a 5-minute period with a calibrated pump. The tube is withdrawn and results read, and plotted onto a field map. Once the general pattern of contamination is discerned, four to six locations will be chosen for collecting soil samples for laboratory chemical analysis.

3.1 Line Locating

The proposed soil vapor grid and soil boring locations will be marked and Underground Service Alert (USA) will be contacted a minimum of two days before field activities commence to identify utility locations prior to beginning subsurface work. The only utility of concern is the municipal water main serving the fire hydrants around the building slab. A private utility locating service will also be contracted to verify the safety of the proposed boring locations. The final sample locations will depend on field conditions and the results of a subsurface utility survey.

4. SUMMARY OF REMAINDER OF ORIGINAL WORK SCOPE

The number of samples and analyses planned for primary and quality assurance/quality control (QA/QC) samples, including both the new samples and remaining samples from the uncompleted portion of the original Work Plan are summarized in Tables 4 through 6. Procedures for field and sampling activities are presented in the original Work Plan (Weiss, 2007).

4.1 Soil Sampling

Soil sampling will be conducted at the six remaining locations at the Site (SB-3, SB-5, SB-6, SB-7, SB-8, and SB-9). One soil sample will be collected from the unsaturated zone about 5 ft bgs at each location from continuous cores extending from the surface to a depth of 15 ft to 20 ft bgs, using either hollowstem auger drilling or downhole air hammer, depending of what is encountered in the till. The samples will be analyzed for VOCs by EPA Method 8021. Soil samples will be collected from each location using direct-push equipment and stored in the appropriate containers for their respective analyses. One glass jar full will be collected for each VOC sample.

4.2 Ground Water Sampling

Grab ground water samples will be collected from the first water-bearing zone in each of the six soil borings (Figure 3) at depths ranging from 10 to 25 ft bgs. Once ground water is reached, a temporary well casing with a 0.010-inch slotted screen will be lowered into the boring, and a bailer will be used to collect the water and pour into the collection vials. All ground water samples will be analyzed for VOCs by EPA Method 8021.

Ground water samples will be collected from each location using direct-push equipment and stored in the appropriate containers for their respective analyses. Three volatile organic analysis (VOA) bottles with hydrochloric acid preservative will be filled for each VOC sample. Ground water quality parameter (temperature, pH and specific conductance) field measurements will be made on bailed ground water from the nine grab ground water locations prior to sample collection.

4.3 Piezometer Installation

Three of the grab ground water sampling temporary casings, at locations SB-6, SB-8, and SB-9, will be cemented in place to serve as temporary piezometers. The top-of casing elevation will be surveyed to the nearest 0.01 ft, and water level measurements made after the level stabilizes. The purpose of these piezometers is to provide a more accurate assessment of the ground water flow direction in the W-18A vicinity.

4.4 Field Quality Assurance/Quality Control Sampling

QA/QC samples will be collected along with the environmental samples for each media sample and will be included with each sample shipment. Data from QA/QC samples will be used to evaluate the reliability of the environmental samples. One of every 10 samples will be a duplicate sample sent blind to the laboratory. Each of the QA/QC sample types with respect to laboratory data and laboratory QA/QC procedures is discussed in the QAPP. The QA/QC samples include trip blanks, QA/QC samples, rinsate samples and field blanks. These samples will be collected as shown in Tables 4 through 6.

The contract laboratory will be required to acknowledge sample receipt within 48 hours either by fax or by telephone. At that time, the contract laboratory will be required to communicate any other sample identification numbers assigned to samples upon arrival and will immediately notify Weiss of any handling problems such as insufficient sample volume, broken sample containers, etc. The contract laboratory will also retain sample numbers assigned by Weiss throughout the entire in-house tracking process. Weiss personnel will be able, by telephone and at any time during business hours, to track the progress of each sample through the contract laboratory using Weiss' sample identification numbers. Chain-of-custody (COC) procedures are discussed further in Section.

4.5 Photographs

Digital photos may be taken to document sampling events and field activities. Digital photos may be used to enhance written descriptions of the field sampling events in field logbook entries. If photos are taken they will be downloaded and stored in project files at Weiss offices.

4.6 Investigation Derived Wastes

Investigation-derived wastes (IDW) will consist of unused soil core from direct push boreholes, decontamination water, and used personnel protective equipment (PPE), such as gloves. The PPE will be disposed of as municipal trash. Soil will be screened using a PID, and both cuttings and decontamination water will be distributed onsite near the boreholes. This is appropriate because the Site has a maximum of about 80 ppb of TCE in groundwater, all known primary sources have been removed, and past IDW practice has been to dispose of all potentially contaminated drill cuttings, purge water and rinsate on the Site surface, usually near the borehole. This practice will be continued for this investigation, unless high concentrations (5 ppmv) of VOCs are detected by the organic vapor analyzer (OVA) during sampling. In this case, drill cuttings and rinsate will be contained in DOT-approved labeled 55-gallon steel drums. The labeled drums will be sampled and stored at the site in a storage container, pending laboratory analysis (Table 8). After reviewing the analytic results, Weiss will coordinate transportation and disposal of the investigation derived waste, if necessary.

5. REFERENCES

Weiss (Weiss Associates), 2007, Four-Year Evaluation of Enhanced In-Situ Bioremediation of Chlorinated Solvents in Ground Water, with 2006 Monitoring Results, for Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York, January 19, 2007.

FIGURES

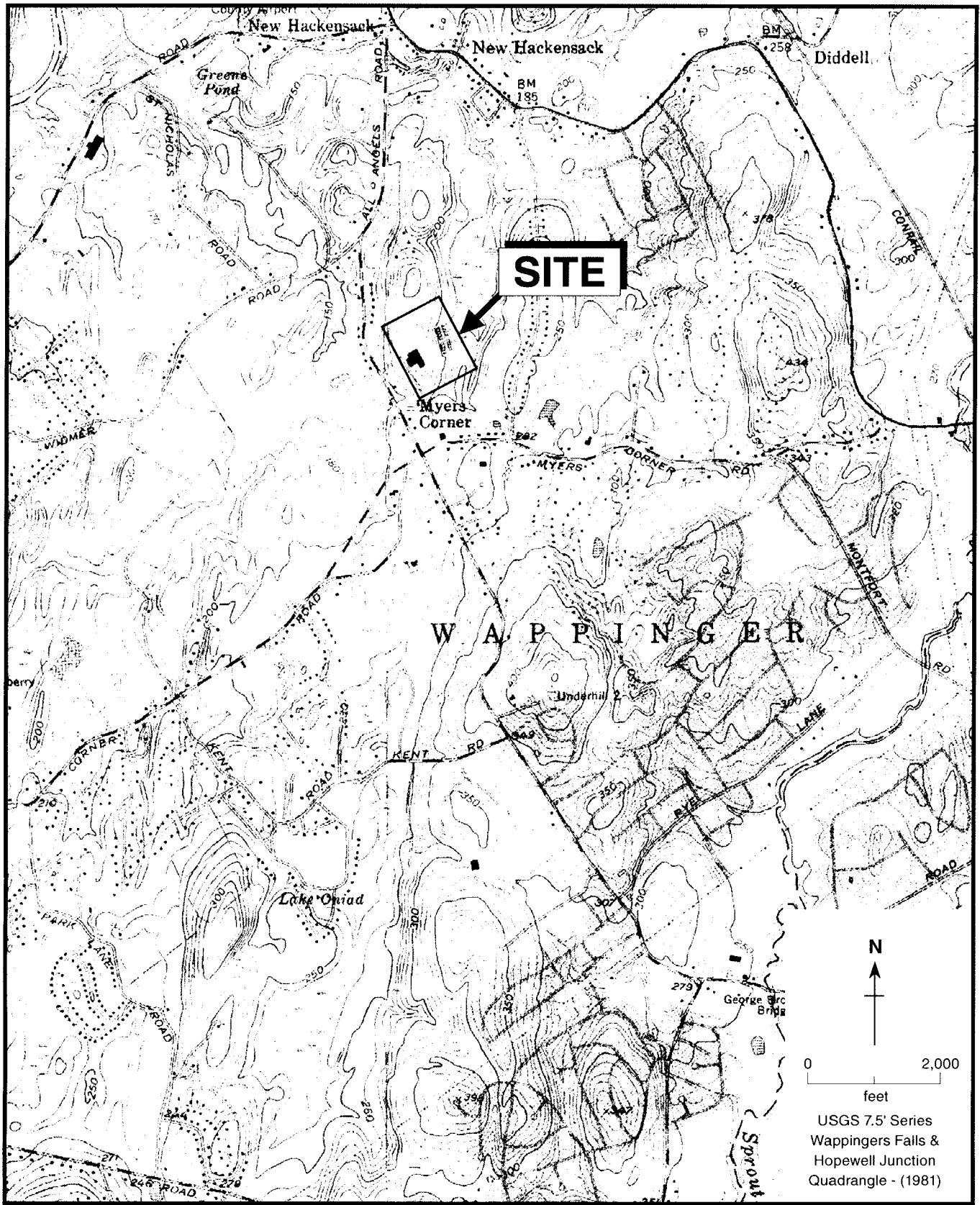
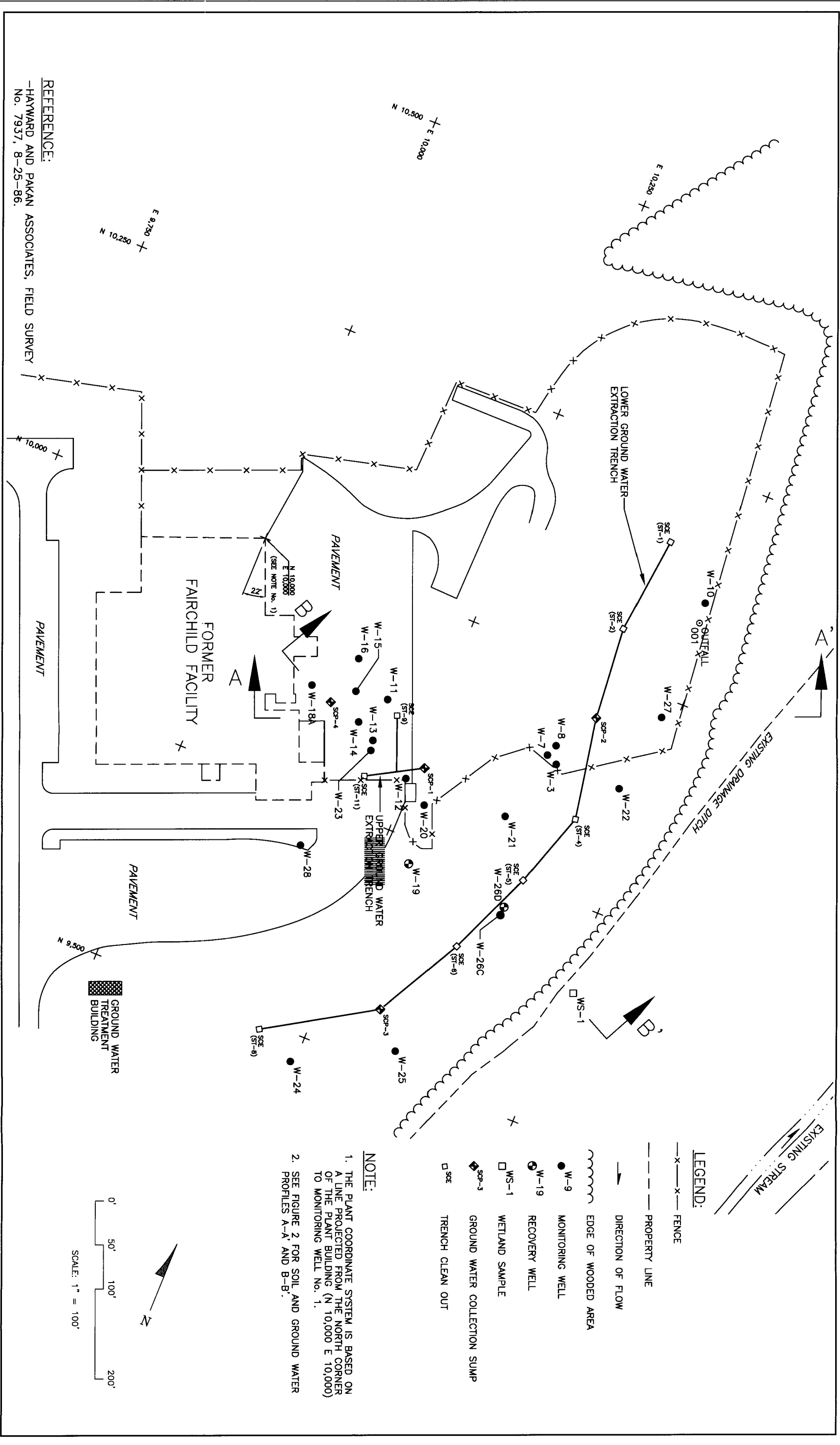


Figure 1. Site Location Map, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York

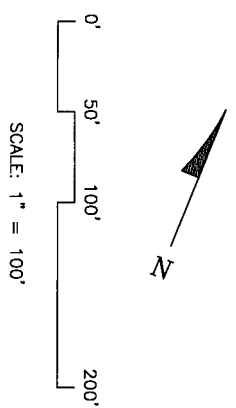


LEGEND:

- x-x-x- FENCE
- - - - - PROPERTY LINE
- DIRECTION OF FLOW
- ~~~~~ EDGE OF WOODED AREA
- W-9 MONITORING WELL
- W-19 RECOVERY WELL
- WS-1 WETLAND SAMPLE
- ◆ SCP-3 GROUND WATER COLLECTION SUMP
- SCP TRENCH CLEAN OUT

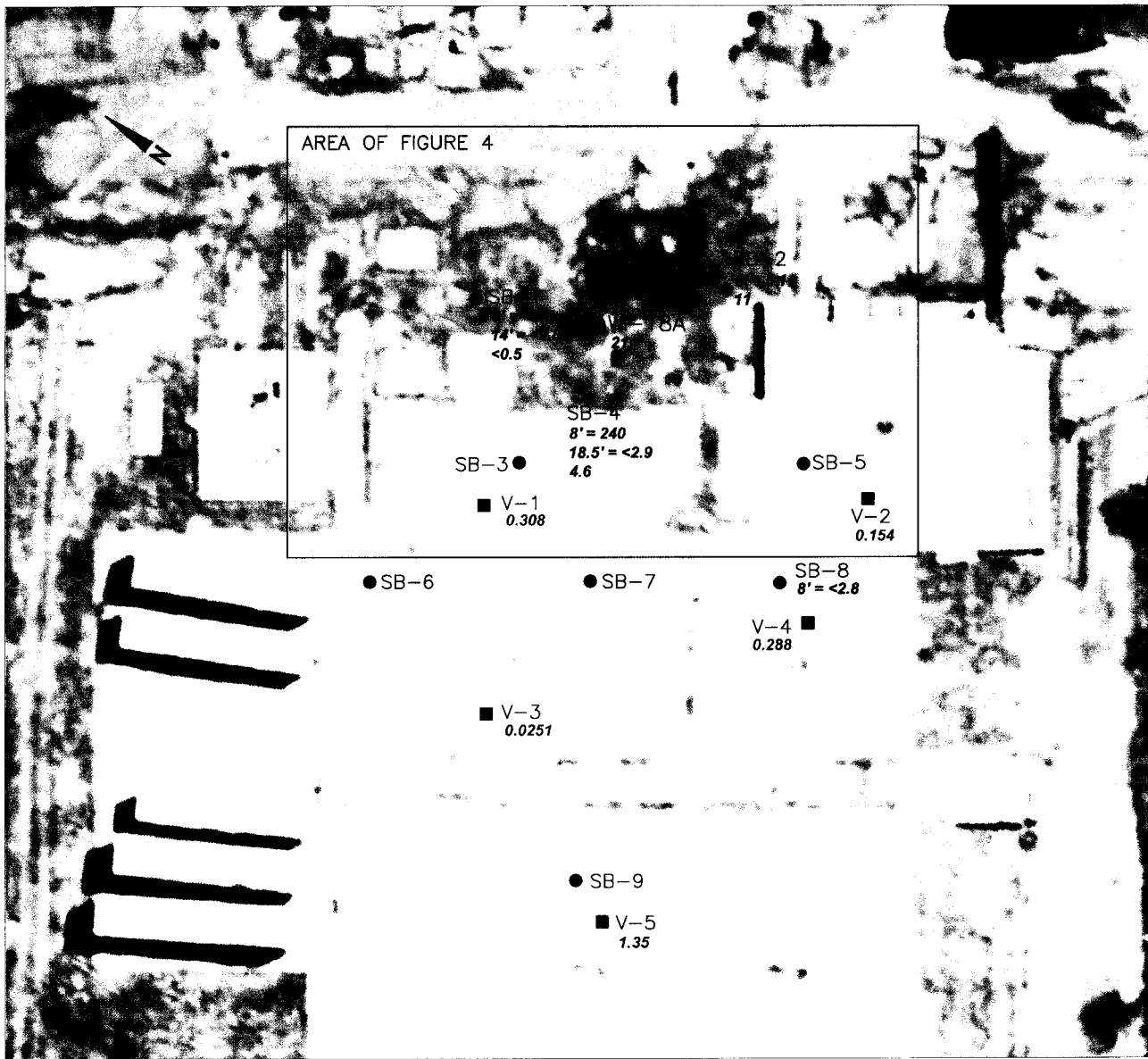
NOTE:

1. THE PLANT COORDINATE SYSTEM IS BASED ON A LINE PROJECTED FROM THE NORTH CORNER OF THE PLANT BUILDING (N 10,000 E 10,000) TO MONITORING WELL No. 1.
2. SEE FIGURE 2 FOR SOIL AND GROUND WATER PROFILES A-A' AND B-B'.



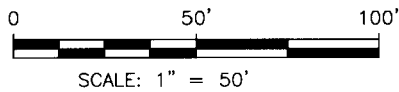
REFERENCE:
 -HAYWARD AND PAKAN ASSOCIATES, FIELD SURVEY
 No. 7937, 8-25-86.

Figure 2. Site Plan and Monitoring Well Location Map, Former Fairchild Facility, 91 All Angels Road, Wappingers Falls, New York



EXPLANATION

- 0.154 TCE IN SOIL VAPOR (mg/m³)
- 8' = 240 TCE IN SOIL, DEPTH IN FT (ug/kg)
- 21 TCE IN GROUND WATER (ug/L)



NOTES:

ALL DATA OCT 17-19, 2007 EXCEPT W-18A FROM APRIL 2007

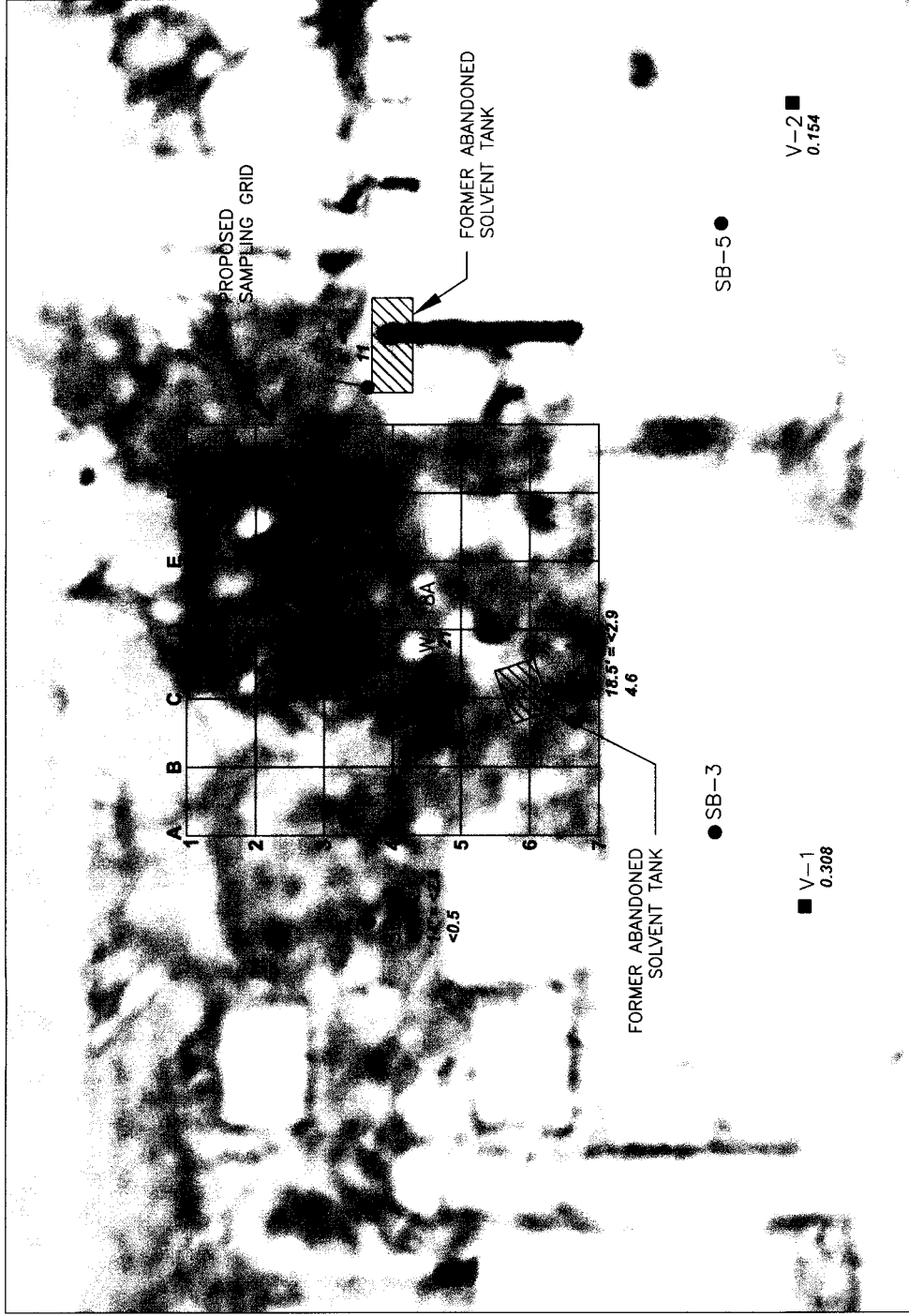
TCE WAS THE ONLY VOC DETECTED IN THE SOIL SAMPLES

ETHYL BENZENE AT 59 UG/L AND XYLENES AT 270 UG/L ALSO DETECTED IN SB-2 GROUND WATER

BORINGS WITH NO DATA: DRILL RIG COULD NOT PENETRATE THE ROCKY TILL

W-18A HAS HAD AROUND 20 TO 30 UG/L TCE SINCE 2003; IT WAS 21 UG/L IN APRIL 2007

Figure 3. W-18A Vicinity Investigation Results, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York



EXPLANATION

- 0.154 TCE IN SOIL VAPOR (mg/m³)
- 8' = 240 TCE IN SOIL, DEPTH IN FT (ug/kg)
- 21 TCE IN GROUND WATER (ug/L)

Figure 4. Proposed Soil Vapor Sampling Locations in SB-4 and W-18A Vicinity, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York

TABLES

Table 1. Soil Vapor Survey Results from October 17, 2007 Sampling, Data for Detected Compounds Only, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York

Sample Location	V-1	V-2	V-3	V-4	V-5
Analytes Detected					
1,1,1-Trichloroethane	282	134	3.98	69	51
1,1-Dichloroethane	10.9	<2.02	<2.02	<2.02	<10.1
1,2,4-Trimethylbenzene	<12.3	3.39	3.21	4.64	<12.3
2-Butanone	17.1	2.9	1.8	12.4	<7.37
Acetone	26.9	17	16.7	24.6	<23.7
Benzene	<7.98	<1.6	3.05	<1.6	<7.98
Bromodichloromethane	30.6	18.6	8.17	13.5	<16.7
Chloroform	56.2	25.9	9.66	13.1	<12.2
cis-1,2-Dichloroethane	11.6	<1.98	<1.98	<1.98	<9.9
Dibromochloromethane	21.8	9.15	6	6.68	<21.3
Dichlorodifluoromethane (Freon-12)	931	860	<4.94	5,690	10,700
Ethanol	<18.8	<3.76	<3.76	3.76	<18.8
Ethylbenzene	<10.8	4.08	5.08	18.9	<10.8
Freon-113	59.7	117	42.7	178	601
Isopropanol	<6.14	<1.23	<1.23	4.09	<6.14
p/m-Xylene	27.8	14.4	17.6	39.5	<21.7
o-Xylene	12	4.43	7.78	36.9	<10.8
Tetrachloroethene	24.9	3.79	7.55	<3.39	218
Toluene	52.2	15.7	46.7	35.1	19.2
Trichloroethene	308	154	25.1	288	1,350
Trichlorofluoromethane	22.6	5.5	98.4	8.25	<14

Notes:

Results shown for

<# = analyte not detected above detection limit

Highest Concentration Detection of VOCs at each location shown in **BOLD TEXT**

Table 2. Soil Vapor Survey Results from October 17, 2007 Sampling, All Data, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York

Location	Analysis	V-1	V-2	V-3	V-4	V-5
Parameter	Units	Units	Units	Units	Units	Units
1,1,1-Trichloroethane	TO-15	282	134	3.98	69	51
1,1,1-Trichloroethane	TO-15	51.6	24.5	0.731	12.7	9.35
1,1,2,2-Tetrachloroethane	TO-15	<17.1	<3.43	<3.43	<3.43	<17.1
1,1,2,2-Tetrachloroethane	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5
1,1,2-Trichloroethane	TO-15	<13.6	<2.72	<2.72	<2.72	<13.6
1,1,2-Trichloroethane	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5
1,1-Dichloroethane	TO-15	10.9	<2.02	<2.02	<2.02	<10.1
1,1-Dichloroethane	TO-15	2.69	<0.5	<0.5	<0.5	<2.5
1,1-Dichloroethane	TO-15	<9.9	<1.98	<1.98	<1.98	<9.9
1,1-Dichloroethane	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5
1,2,4-Trichlorobenzene	TO-15	<18.5	<3.71	<3.71	<3.71	<18.5
1,2,4-Trichlorobenzene	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5
1,2,4-Trimethylbenzene	TO-15	<12.3	3.39	3.21	4.64	<12.3
1,2,4-Trimethylbenzene	TO-15	<2.5	0.69	0.653	0.944	<2.5
1,2-Dibromoethane	TO-15	<19.2	<3.84	<3.84	<3.84	<19.2
1,2-Dibromoethane	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5
1,2-Dichlorobenzene	TO-15	<15	<3	<3	<3	<15
1,2-Dichlorobenzene	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5
1,2-Dichloroethane	TO-15	<10.1	<2.02	<2.02	<2.02	<10.1
1,2-Dichloroethane	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5
1,2-Dichloropropane	TO-15	<11.5	<2.31	<2.31	<2.31	<11.5
1,2-Dichloropropane	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5
1,3,5-Trimethylbenzene	TO-15	<12.3	<2.46	<2.46	<2.46	<12.3
1,3,5-Trimethylbenzene	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5
1,3-Butadiene	TO-15	<5.53	<1.1	<1.1	<1.1	<5.53
1,3-Butadiene	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5
1,3-Dichlorobenzene	TO-15	<15	<3	<3	<3	<15
1,3-Dichlorobenzene	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5
1,4-Dichlorobenzene	TO-15	<15	<3	<3	<3	<15
1,4-Dichlorobenzene	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5
1,4-Dioxane	TO-15	<18	<3.6	<3.6	<3.6	<18
1,4-Dioxane	TO-15	<5	<1	<1	<1	<5
2,2,4-Trimethylpentane	TO-15	<11.7	<2.33	<2.33	<2.33	<11.7
2,2,4-Trimethylpentane	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5
2-Butanone	TO-15	17.1	2.9	1.8	12.4	<7.37
2-Butanone	TO-15	5.8	0.983	0.612	4.22	<2.5
2-Hexanone	TO-15	<10.2	<2.05	<2.05	<2.05	<10.2
2-Hexanone	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5
3-Chloropropene	TO-15	<7.82	<1.56	<1.56	<1.56	<7.82
3-Chloropropene	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5

Table 2. Soil Vapor Survey Results from October 17, 2007 Sampling, All Data, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York

Location	Analysis	V-1	V-2	V-3	V-4	V-5	Units
4-Ethyltoluene	TO-15	<12.3	<2.46	<2.46	<2.46	<12.3	ug/m3
4-Ethyltoluene	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5	ppbV
Acetone	TO-15	26.9	17	16.7	24.6	<23.7	ug/m3
Acetone	TO-15	11.3	7.16	7.03	10.4	<10	ppbV
Benzene	TO-15	<7.98	<1.6	3.05	<1.6	<7.98	ug/m3
Benzene	TO-15	<2.5	<0.5	0.955	<0.5	<2.5	ppbV
Benzyl chloride	TO-15	<12.9	<2.59	<2.59	<2.59	<12.9	ug/m3
Benzyl chloride	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5	ppbV
Bromodichloromethane	TO-15	30.6	18.6	8.17	13.5	<16.7	ug/m3
Bromodichloromethane	TO-15	4.58	2.78	1.22	2.02	<2.5	ppbV
Bromoform	TO-15	<25.8	<5.16	<5.16	<5.16	<25.8	ug/m3
Bromoform	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5	ppbV
Bromomethane	TO-15	<9.7	<1.94	<1.94	<1.94	<9.7	ug/m3
Bromomethane	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5	ppbV
Carbon disulfide	TO-15	<7.78	<1.56	<1.56	<1.56	<7.78	ug/m3
Carbon disulfide	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5	ppbV
Carbon tetrachloride	TO-15	<15.7	<3.14	<3.14	<3.14	<15.7	ug/m3
Carbon tetrachloride	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5	ppbV
Chlorobenzene	TO-15	<11.5	<2.3	<2.3	<2.3	<11.5	ug/m3
Chlorobenzene	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5	ppbV
Chloroethane	TO-15	<6.59	<1.32	<1.32	<1.32	<6.59	ug/m3
Chloroethane	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5	ppbV
Chloroform	TO-15	56.2	25.9	9.66	13.1	<12.2	ug/m3
Chloroform	TO-15	11.5	5.31	1.98	2.68	<2.5	ppbV
Chloromethane	TO-15	<5.16	<1.03	<1.03	<1.03	<5.16	ug/m3
Chloromethane	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5	ppbV
cis-1,2-Dichloroethene	TO-15	11.6	<1.98	<1.98	<1.98	<9.9	ug/m3
cis-1,2-Dichloroethene	TO-15	2.92	<0.5	<0.5	<0.5	<2.5	ppbV
cis-1,3-Dichloropropene	TO-15	<11.3	<2.27	<2.27	<2.27	<11.3	ug/m3
cis-1,3-Dichloropropene	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5	ppbV
Cyclohexane	TO-15	<8.6	<1.72	<1.72	<1.72	<8.6	ug/m3
Cyclohexane	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5	ppbV
Dibromochloromethane	TO-15	21.8	9.15	6	6.68	<21.3	ug/m3
Dibromochloromethane	TO-15	2.56	1.07	0.705	0.785	<2.5	ppbV
Dichlorodifluoromethane	TO-15	931	860	<4.94	5690	10700	ug/m3
Dichlorodifluoromethane	TO-15	188	174	<1	1150	2160	ppbV
Ethanol	TO-15	<18.8	<3.76	<3.76	3.76	<18.8	ug/m3
Ethanol	TO-15	<10	<2	<2	2	<10	ppbV
Ethyl Acetate	TO-15	<9	<1.8	<1.8	<1.8	<9	ug/m3
Ethyl Acetate	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5	ppbV

Table 2. Soil Vapor Survey Results from October 17, 2007 Sampling, All Data, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York

Location	Analysis	V-1	V-2	V-3	V-4	V-5	Units
Ethylbenzene	TO-15	<10.8	4.08	5.08	18.9	<10.8	ug/m3
Ethylbenzene	TO-15	<2.5	0.941	1.17	4.36	<2.5	ppbV
Freon-113	TO-15	59.7	117	42.7	178	601	ug/m3
Freon-113	TO-15	7.8	15.3	5.57	23.2	78.5	ppbV
Freon-114	TO-15	<17.5	<3.49	<3.49	<3.49	<17.5	ug/m3
Freon-114	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5	ppbV
Hexachlorobutadiene	TO-15	<26.6	<5.33	<5.33	<5.33	<26.6	ug/m3
Hexachlorobutadiene	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5	ppbV
Isopropanol	TO-15	<6.14	<1.23	<1.23	4.09	<6.14	ug/m3
Isopropanol	TO-15	<2.5	<0.5	<0.5	1.67	<2.5	ppbV
Methylene chloride	TO-15	<17.4	<3.47	<3.47	<3.47	<17.4	ug/m3
Methylene chloride	TO-15	<5	<1	<1	<1	<5	ppbV
4-Methyl-2-pentanone	TO-15	<10.2	<2.05	<2.05	<2.05	<10.2	ug/m3
4-Methyl-2-pentanone	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5	ppbV
Methyl tert butyl ether	TO-15	<9	<1.8	<1.8	<1.8	<9	ug/m3
Methyl tert butyl ether	TO-15	<2.5	ppbV	ppbV	ppbV	<2.5	ppbV
p/m-Xylene	TO-15	27.8	14.4	17.6	39.5	<2.5	ug/m3
p/m-Xylene	TO-15	6.41	3.32	4.06	9.1	<5	ppbV
o-Xylene	TO-15	12	4.43	7.78	36.9	<10.8	ug/m3
o-Xylene	TO-15	2.77	1.02	1.79	8.52	<2.5	ppbV
Heptane	TO-15	<10.2	<2.05	<2.05	<2.05	<10.2	ug/m3
Heptane	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5	ppbV
n-Hexane	TO-15	<17.6	<3.52	<3.52	<3.52	<17.6	ug/m3
n-Hexane	TO-15	<5	<1	<1	<1	<5	ppbV
Propylene	TO-15	<8.6	<1.72	<1.72	<1.72	<8.6	ug/m3
Propylene	TO-15	<5	<1	<1	<1	<5	ppbV
Styrene	TO-15	<10.6	<2.13	<2.13	<2.13	<10.6	ug/m3
Styrene	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5	ppbV
Tetrachloroethene	TO-15	24.9	3.79	7.55	<3.39	218	ug/m3
Tetrachloroethene	TO-15	3.67	0.559	1.11	<0.5	32.1	ppbV
Tetrahydrofuran	TO-15	<7.37	<1.47	<1.47	1.51	<7.37	ug/m3
Tetrahydrofuran	TO-15	<2.5	<0.5	<0.5	0.512	<2.5	ppbV
Toluene	TO-15	52.2	15.7	46.7	35.1	19.2	ug/m3
Toluene	TO-15	13.9	4.16	12.4	9.32	5.11	ppbV
trans-1,2-Dichloroethene	TO-15	<9.9	<1.98	<1.98	<1.98	<9.9	ug/m3
trans-1,2-Dichloroethene	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5	ppbV
trans-1,3-Dichloropropene	TO-15	<11.3	<2.27	<2.27	<2.27	<11.3	ug/m3
trans-1,3-Dichloropropene	TO-15	<2.5	<0.5	<0.5	<0.5	<2.5	ppbV
Trichloroethene	TO-15	308	154	25.1	288	1350	ug/m3
Trichloroethene	TO-15	57.3	28.7	4.67	53.6	251	ppbV

Table 2. Soil Vapor Survey Results from October 17, 2007 Sampling, All Data, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York

Location	V-1	V-2	V-3	V-4	V-5
Parameter	Analysis	Units	Units	Units	Units
Trichlorofluoromethane	TO-15	22.6	98.4	8.25	<14
Trichlorofluoromethane	TO-15	4.02	17.5	1.47	<2.5
Vinyl acetate	TO-15	<8.8	<1.76	<1.76	<8.8
Vinyl acetate	TO-15	<2.5	<0.5	<0.5	<2.5
Vinyl bromide	TO-15	<10.9	<2.18	<2.18	<10.9
Vinyl bromide	TO-15	<2.5	<0.5	<0.5	<2.5
Vinyl chloride	TO-15	<6.38	<1.28	<1.28	<6.38
Vinyl chloride	TO-15	<2.5	<0.5	<0.5	<2.5

Notes:

<# = analyte not detected above detection limit

Detections of VOCs shown in **BOLD TEXT**

TO-15 = EPA Air Analysis Method TO-15 (1 ppbV Standard)

ug/m3 = micrograms per cubic meter

ppbV = parts per billion by volume

Table 3. Volatile Organic Compounds in Soil and Groundwater, 18-19 October 2007, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York

Sample Location	Sample Depth (ft)	1,1-DCA	cis-1,2-DCE	1,1,1-TCA	TCE	PCE	Vinyl Chloride	Acetone	Ethyl Benzene	1,2-Dichlorobenzene	p/m-Xylene	o-Xylene
----- micrograms per kilogram (µg/kg) ----- >>												
SOIL												
SB-1	8	<4	<2.7	<2.7	<2.7	<2.7	<5.4	<27	<2.7	<13	<5.4	<5.4
SB-1	14	<4.3	<2.8	<2.8	<2.8	<2.8	<5.7	<28	<2.8	<14	<5.7	<5.7
SB-2	6-6.5	<4.3	<2.9	<2.9	5.1	<2.9	<5.7	<29	<2.9	<14	<5.7	<5.7
SB-4	8	<4.6	<3.0	<3.0	240	<3.0	<6.1	<30	<3.0	<15	<6.1	<6.1
SB-4	18.5	<4.4	<2.9	<2.9	<2.9	<2.9	<5.9	<29	<2.9	<15	<5.9	<5.9
SB-8	8	<4.2	<2.8	<2.8	<2.8	<2.8	<5.6	<28	<2.8	<14	<5.6	<5.6
----- micrograms per liter (µg/L) ----- >>												
GROUNDWATER												
SB-1	6-16	<0.75	<0.5	<0.5	<0.5	<0.5	<1	16	<0.5	<2.5	<1	<1
SB-1 duplicate	6-16	<0.75	<0.5	<0.5	<0.5	<0.5	<1	18	<0.5	<2.5	<1	<1
SB-2	6.5-16	1.4	10	0.87	11	1.9	1.1	<5	59	9.6	160	110
SB-4	6-20	<0.75	0.54	<0.5	4.6	<0.5	<1	18	<0.5	<2.5	<1	<1

Chemical Abbreviations:

- 1,1-DCA = 1,1-dichloroethane
- cis-1,2-DCE = cis-1,2-dichloroethene
- 1,1,1-TCA = 1,1,1-trichloroethane
- TCE = trichloroethene
- PCE = tetrachloroethene

Notes:

Detections of VOCs shown in **BOLD TEXT**

Table 4. Ground Water Sampling Requirements, Former Fairchild Facility,
91 All Angels Hill Road, Wappingers Falls, New York

Laboratory (and Extraction) Method and Analytic Parameters	Ground Water Samples	Quality Control Samples	Trip Blank	Total Analyses ^b
VOCs by EPA Method 8021	10-12	1 ^a	1	12-14
Field Parameters, pH, temperature, and conductivity	10-12	0	0 ^c	12-14

Notes

All analyses to be performed on standard turnaround time.

^aOne duplicate sample will be collected per 10 samples.

^bMaximum number of analysis to be performed.

^cOne trip blank will be collected on the day of ground water sampling.

Abbreviations

VOCs = volatile organic compounds

EPA = US Environmental Protection Agency

Table 5. Soil Vapor Analytic Sampling Requirements, Former Fairchild Facility,
91 All Angels Hill Road, Wappingers Falls, New York

Method and Analytic Parameters	Soil Vapor Samples	Quality Control Samples	Trip Blank	Total Analyses ^b
Sensidyne [®] or Draeger [®] Gas Detection Tubes for TCE, 2 ppm - 250 ppm range	20-49	2-5 ^a	0 ^c	22-54

Notes

All analyses to be performed on standard turnaround time.

^aOne duplicate sample will be collected per 10 samples.

^bMaximum number of analysis to be performed.

^cNo trip blanks will be collected on the day of soil vapor sampling.

Abbreviations

TCE = trichloroethylene

ppm = parts per million

Table 6. Soil Sampling Requirements, Former Fairchild Facility,
91 All Angels Hill Road, Wappingers Falls, New York

Laboratory (and Extraction) Method and Analytic Parameters	Soil Samples	Quality Control Samples ^a	Trip Blank	Total Analyses ^b
VOCs by EPA Method 8021	10-12	1	0 ^c	11-13

Notes

All analyses to be performed on standard turnaround time.

^aOne duplicate sample will be collected per 10 samples.

^bMaximum number of analysis to be performed.

^cOne trip blank will be collected on the day of soil sampling.

Abbreviations

VOCs = volatile organic compounds

EPA = US Environmental Protection Agency

APPENDIX A

**TABLE OF CONTENTS FOR W-18A INVESTIGATION WORK PLAN
(WEISS, 2007)**

CONTENTS

	Page
SUMMARY	
1. INTRODUCTION	
1.1 Project Organization	
1.2 Subcontractor Responsibilities	
2. SITE HISTORY AND DESCRIPTION	
2.1 Site Location and Use	
2.2 Site Investigation and Remediation History	
2.3 Geology and Hydrogeology	
3. WORK PLAN SCOPE, OBJECTIVES AND RATIONALE	
3.1 Project Objectives	
3.2 Data Quality Evaluation	
3.3 Line Locating	
3.4 Soil Vapor Sampling	
3.5 Soil Sampling	
3.6 Ground Water Sampling	
3.7 Piezometer Installation	
3.8 Field Quality Assurance/Quality Control Sampling	
3.9 Photographs	
3.10 Investigation Derived Wastes	
4. SAMPLING EQUIPMENT AND PROCEDURES	

- 4.1 List of Field Equipment, Containers and Supplies
 - 4.1.1 Preservation Procedures and Holding Times
- 4.2 Sampling Procedures
 - 4.2.1 Soil Vapor Sampling Procedures
 - 4.2.2 Soil Sampling Procedures
 - 4.2.3 Ground Water Sampling Procedures
 - 4.2.4 Water Quality Parameters and Water Levels
 - 4.2.5 Sample Numbering
 - 4.2.6 Sample Chain-of-Custody Forms and Custody Seals
 - 4.2.7 Packaging and Shipment
- 4.3 Analytical Results Distribution
- 5. FIELD ANALYTICAL PROCEDURES
 - 5.1 Field Measurements
- 6. SCHEDULE AND COMPLIANCE MONITORING PROGRAM
 - 6.1 Schedule
 - 6.2 Compliance Monitoring Program
- 7. REFERENCES

FIGURES

- Figure 1. Site Location Map, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York
- Figure 2. Site and Monitoring Well Location Map, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York
- Figure 3. Ground Water Elevation Contour Map, April 28-29, 2007, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York
- Figure 4. Historical Ground Water Elevation Contours, August 19, 1985, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York (from Canonie, 1986)
- Figure 5. Historical Ground Water Elevation Contours, July 16-21, 1986, 91 All Angels Hill Road, Wappingers Falls, New York (from Canonie, 1987)
- Figure 6. Proposed Sample Locations, Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York

TABLES

- Table 1. Ground Water Sampling Requirements —Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York
- Table 2. Soil Vapor Analytic Sampling Requirements — Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York
- Table 3. Soil Analytic Sampling Requirements — Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York
- Table 4. Investigation-Derived Waste Sampling Requirements — Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York
- Table 5. Type and Number of Containers and Preservatives for Soil Vapor, Soil and/or Ground Water Samples — Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York
- Table 6. Field Measurement Instruments — Former Fairchild Facility, 91 All Angels Hill Road, Wappingers Falls, New York
- Table 7. Maintenance Schedule for Field Equipment

APPENDICES

Appendix A. 2007 Annual Report Selected Figures and Tables

Appendix B. Quality Assurance Project Plan

Appendix C. Site Health and Safety Plan

Appendix D. Qualifications of Project Personnel