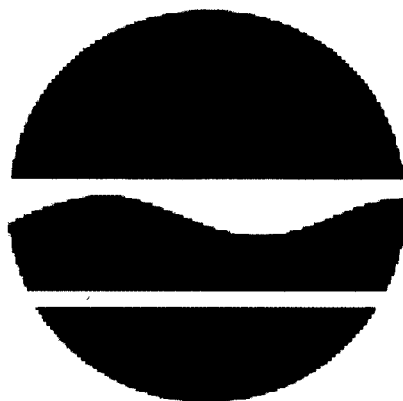


**Monitoring Plan
Saratoga Tree Nursery
Saratoga County
NYSDEC Site # 5-46-043**



**625 Broadway
Albany, NY 12233-7013
518-402-9812**

Date: January 7, 2005

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Back Cover

Electronic Files on CD

Section 1.0 Site Summary

Background Information

The Saratoga Tree Nursery is located on Route 50 in the City of Saratoga Springs, Saratoga County, NY. The nursery occupies approximately 130 acres, of which approximately 30 acres are actively being used by the NYSDEC. Nursery operations involve the production of tree and shrub seedlings for conservation plantings on both public and private lands. The nursery has been operating since 1910.

Historically, in addition to nursery operations, the facility served as the field headquarters for the bureau of Forest Insect and Disease Control from the mid-1940's through 1978. The two programs operated separately but shared the same facility until they were consolidated under the Bureau of Forest Resource Management in 1978. Insect control program operations involved the routine handling and application of a variety of pesticides.

It is known that the facility was used regularly for the seasonal mixing of DDT, in anticipation of aerial application in Saratoga and surrounding regions. This occurred for about 20 years.

Remedy

According to the Record of Decision (ROD), the remedy included soil excavation with transportation of the contaminated soil to a dedicated onsite staging area. After all soil with DDT concentrations greater than 10 ppm was removed, all of the surface soil within 15 feet of the excavation limits was also pulled into the excavation. This addressed any residual levels of DDT in adjacent surface soils.

The contaminated soil was treated by an on-site Thermal Desorption unit. Any air emissions from the process were condensed and treated by carbon adsorption before discharge. The removal of the contaminated soil was expected to mitigate the groundwater contamination.

The remedy also included the proper disposal of the two pesticide buildings located in Area of Concern 4 (AOC 4), (see section 3.1) as well as the decontamination of four tanks in AOC 2, with shipment off-site for recycling or disposal.

Section 2.0 Monitoring Requirements and Results

Groundwater / Soil Monitoring Requirements

To monitor the site's groundwater, 10 monitoring wells were drilled (see Section 4.1), including one shallow / deep well couplet. These wells are on residential property and should currently be monitored semi-annually, as approved by DEC. Monitoring has been conducted as planned. To date, collected samples have been analyzed by the DER laboratory. The carbon filter in the repair shop is also monitored semi-annually for pesticide residue.

Saratoga Tree Nursery - Nature and Extent of Contamination					
Media	Class	Contaminant of Concern	Concentration Range	SCG	Frequency Exceeding SCGs
Soil	Pesticides	DDT, DDD, DDE	ND->10,000 ppm	DDT: 2.1 ppm DDD: 2.9 ppm DDE: 2.1 ppm	155 of 418
	Metals	Lead	ND-11,000 ppm	500	1 of 47
		Arsenic	ND-3,800 ppm	SB	11 of 47
Sediment	Pesticides	DDT, DDD, DDE	ND-223 ppm	0.05 ppm	15 of 18
Groundwater	Pesticides	DDT	ND-0.44 ppb	ND	5 of 10
		DDD	ND-1.5 ppb	ND	4 of 10
		DDE	ND-0.06 ppb	ND	2 of 10
	Metals	Lead	ND	25 ppb	0 of 10
		Arsenic	ND	25 ppb	0 of 10
	Volatiles	Chloroform	ND-28 ppb	7 ppb	1 of 10
	Semi-volatiles	Phenanthrene	ND-48 ppb	50 ppb	0 of 5
		Various (non-target)	ND-630 ppb	50 ppb	2 of 5
Surface Water	Pesticides	DDT	ND	0.001 ppb (D)	0 of 2
		DDD	ND-0.015J ppb	0.001 ppb (D)	1 of 2
		DDE	ND-0.002J ppb	0.001 ppb (D)	1 of 2

KEY: SB - Site Background (Typ. Range for Albany Area - Arsenic: 0.1-6.5 ppm)

ND - Non Detect.

J - Value reported is an estimate.

D - SCG corresponds to Class D surface waters.

SCG - State standards, criteria and guidelines.

Groundwater Monitoring Results

The last time the site was monitored was June 2002. The data below shows the downward trend of groundwater contamination as a result of the remedy, as outlined in the ROD. Samples were collected on 9/1995, 5/1999, and 6/2002. Data is not available for soil contamination. The data below is based on average contaminant levels over the site.

Table 2- Data Summary from Saratoga Tree Nursery				
Contaminant of Concern	Standard	Monitoring Date		
		9/95	5/99	6/02
DDT (Soil)	2.1 ppm	NA	NA	NA
DDD (Soil)	2.9 ppm	NA	NA	NA
DDE (Soil)	2.1 ppm	NA	NA	NA
DDT (Groundwater)	ND	0.02	ND	ND
DDD (Groundwater)	ND	0.01	ND	ND
DDE (Groundwater)	ND	.004	ND	ND

* Data shown is the only data available for the site. It is based on site averages for all wells.

Bold = Groundwater contaminant levels are below the groundwater standard.

Shaded = Groundwater contaminant levels show a decreasing trend.

Discharge Monitoring Requirements

Discharge monitoring is not required.

Discharge Monitoring Results

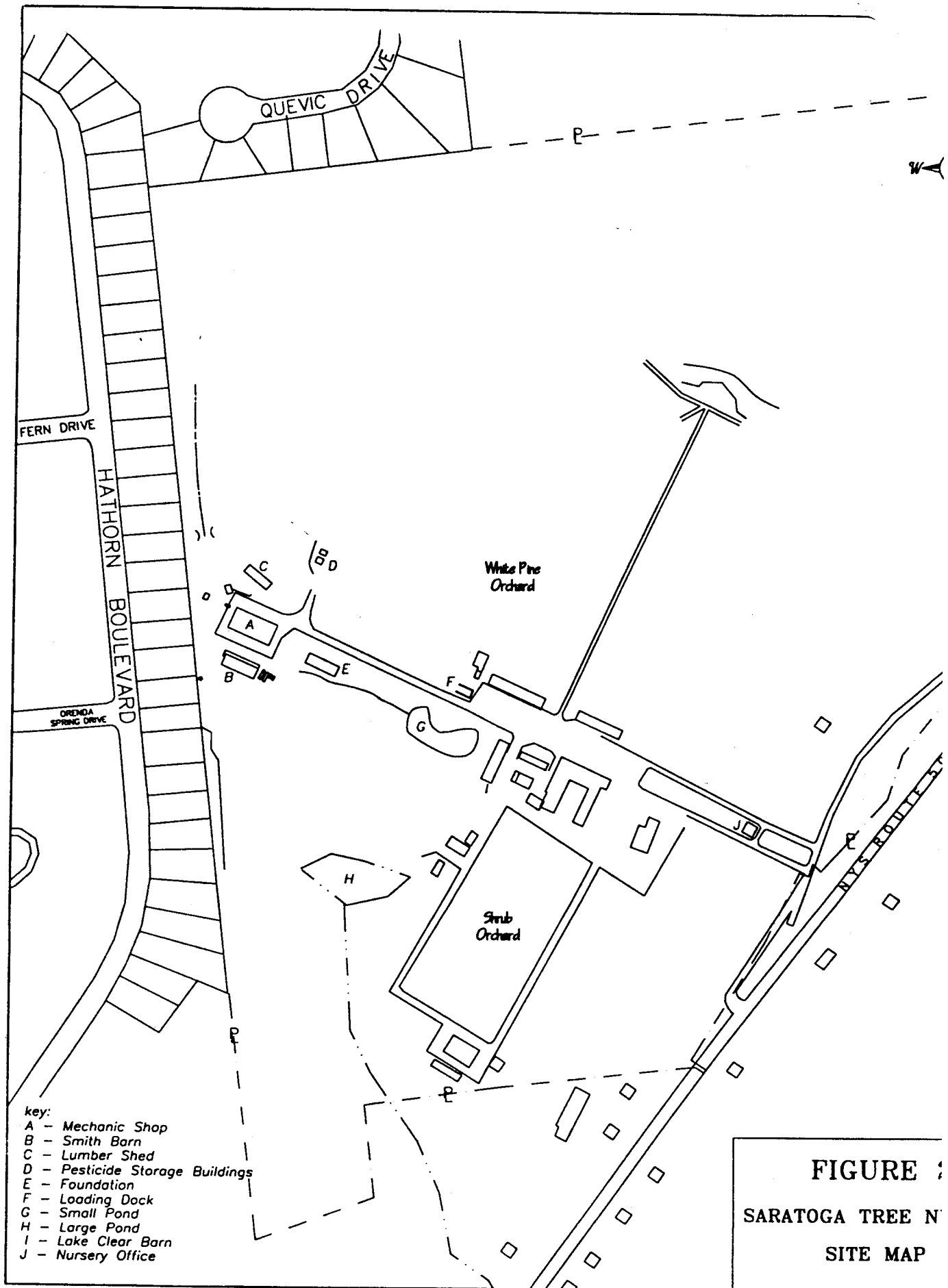
Discharge monitoring is not required.

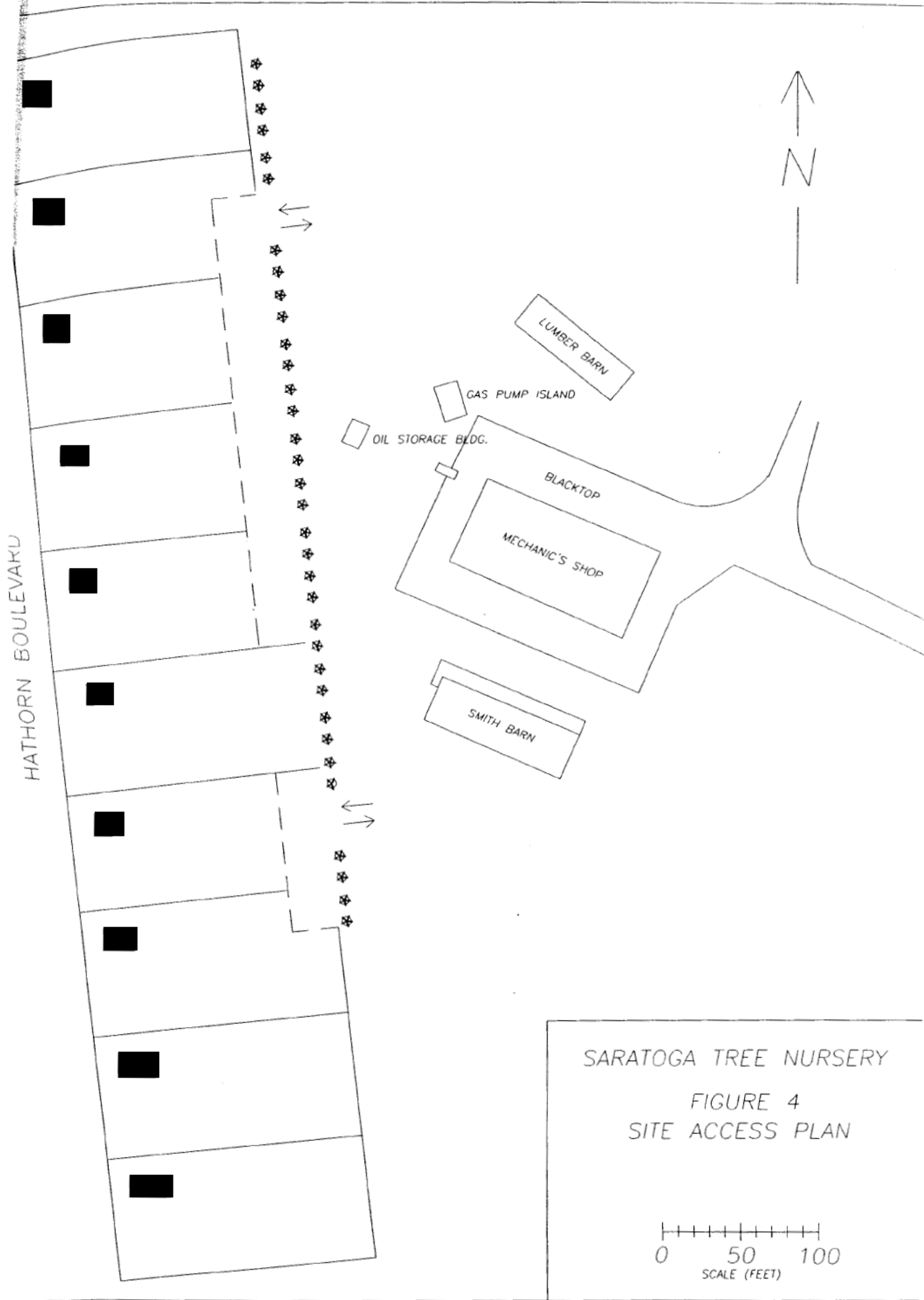
Section 3.0 - Site and Wells: Maps and Plans

Site Location Map.....3-1

Site Plan.....3-2

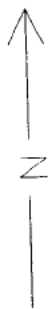
Site Access Plan.....3-3





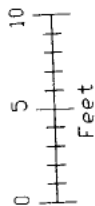
Section 4.0 - Sampling Locations

Residential Sampling Locations.....4-1

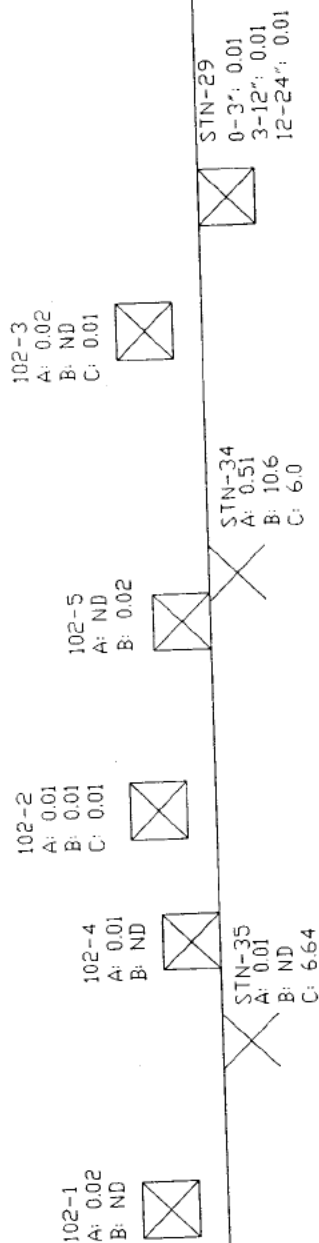


SARATOGA TREE NURSERY

SAMPLING LOCATIONS



A: 0-3" soil horizon
B: 3-12" soil horizon
C: 12-24" soil horizon

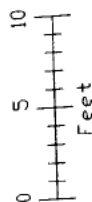


The numbers shown above denote approximate concentrations of DDT in soil. All levels noted are in parts per million (ppm).
The letter designations denote sample depths below ground surface (see key above).

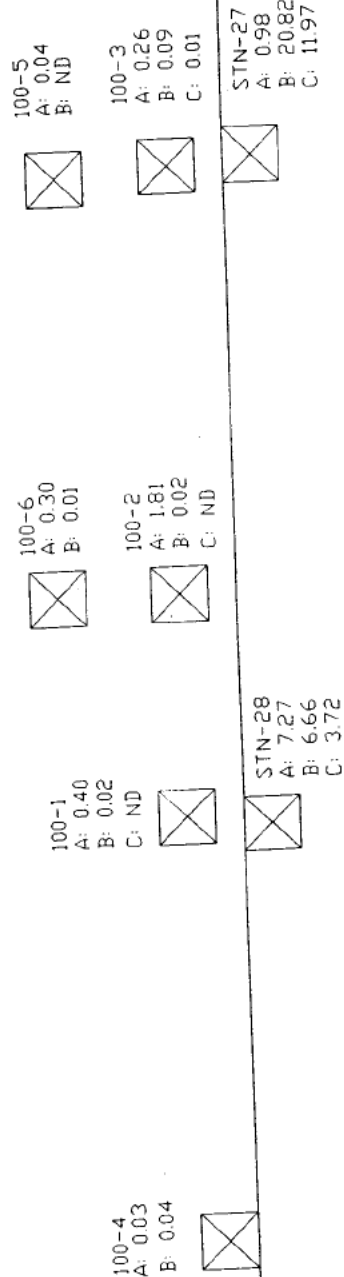


SARATOGA TREE NURSERY

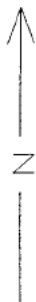
SAMPLING LOCATIONS



A: 0-3" soil horizon
B: 3-12" soil horizon
C: 12-24" soil horizon
ND: DDT not detected

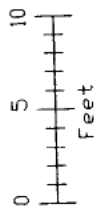


The numbers shown above denote approximate concentrations of DDT in soil. All levels noted are in parts per million (ppm).
The letter designations denote sample depths below ground surface (see key above).

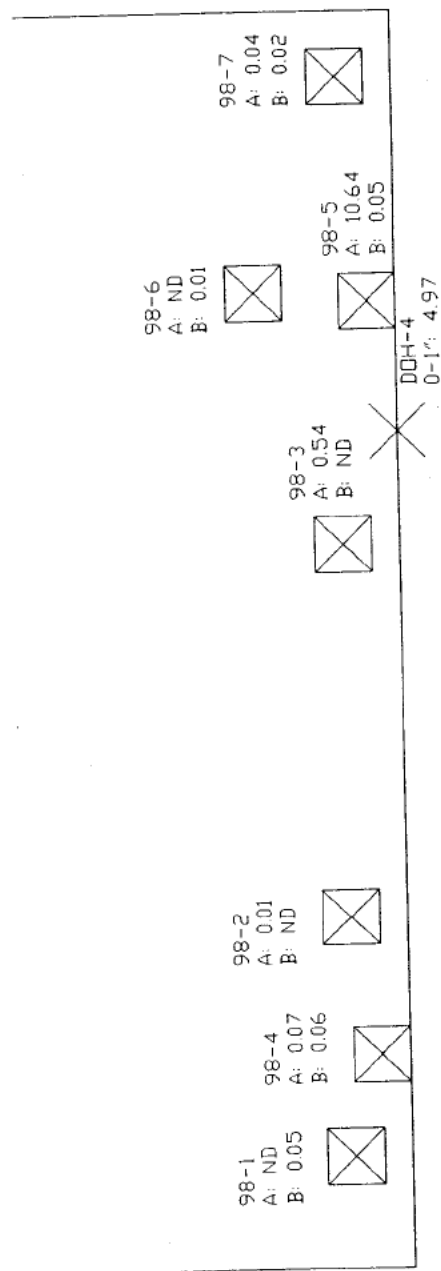


SARATOGA TREE NURSERY

SAMPLING LOCATIONS



A: 0-3" soil horizon
B: 3-12" soil horizon
C: 12-24" soil horizon
ND: DDT not detected

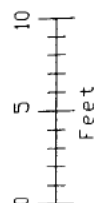


The numbers shown above denote approximate concentrations of DDT in soil. All levels noted are in parts per million (ppm).
The letter designations denote sample depths below ground surface (see key above).

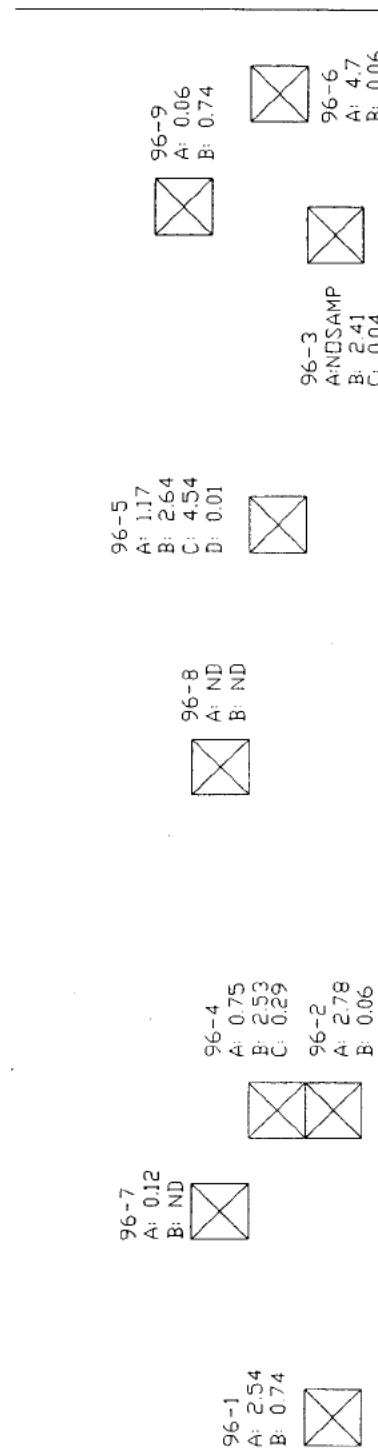


SARATOGA TREE NURSERY

SAMPLING LOCATIONS



A: 0-3" soil horizon (native soil)
 B: 3-12" soil horizon (native soil)
 C: 12-24" soil horizon (native soil)
 D: 24-36" soil horizon (native soil)
 ND: DDT not detected
 NOSAMP: no sample collected (imported fill encountered)

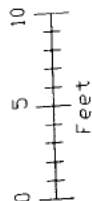


The numbers shown above denote approximate concentrations of DDT in soil. All levels noted are in parts per million (ppm).
 The letter designations denote sample depths below ground surface (see key above).

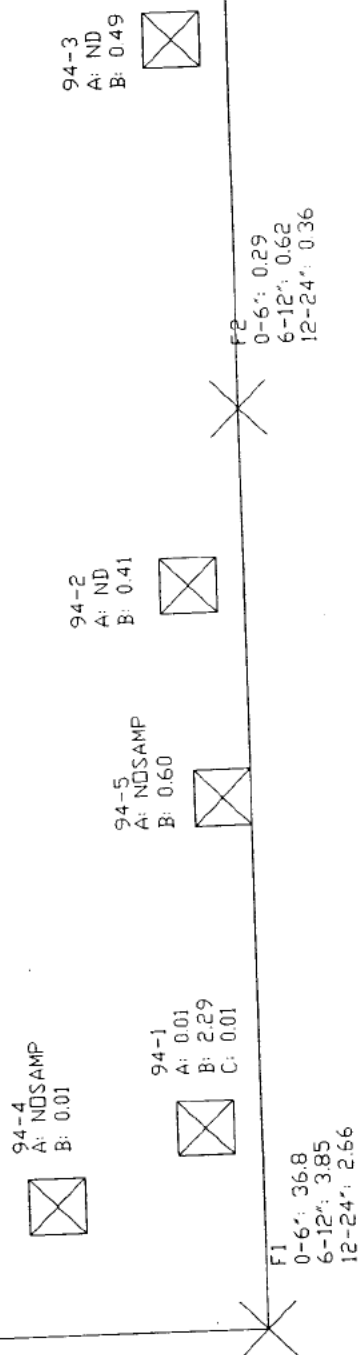


SARATOGA TREE NURSERY

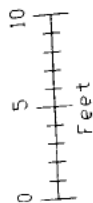
SAMPLING LOCATIONS



A: 0-3" soil horizon (imported fill)
B: 0-12" soil horizon (native soil)
C: 12-24" soil horizon (native soil)
ND: DDT not detected
NDSAMP: no sample collected (imported fill encountered)



The numbers shown above denote approximate concentrations of DDT in soil. All levels noted are in parts per million (ppm).
The letter designations denote sample depths below ground surface (see key above).



SARATOGA TREE NURSERY

SAMPLING LOCATIONS

92-5
A: ND
B: 0.03



92-4
A: 0.01



A: 0-3" soil horizon
B: 3-12" soil horizon
C: 12-24" soil horizon

ND: DDT not detected
NDSAMP: no sample collected (imported fill encountered)
NR: data not received from lab as of 5/1/95

92-12
A: NDSAMP
B: ND



92-10
A: 2.61
B: 0.01



92-9
A: 0.08
B: 1.05



92-6
A: 1.87
B: 0.01



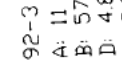
92-1
A: 0.48
B: 0.01



92-8
A: 4.63
B: ND
C: 0.01



92-3
A: 11
B: 57
D: 4.84
E: 2.37



92-11
A: 0.07
B: 0.04



92-14 (NR)



92-13
A: 11.6
B: 0.39



F3
0-6": 0.44
6-12": 0.43
12-24": 0.33



F4
0-6": 5.63
6-12": 0.69
12-24": 1.5

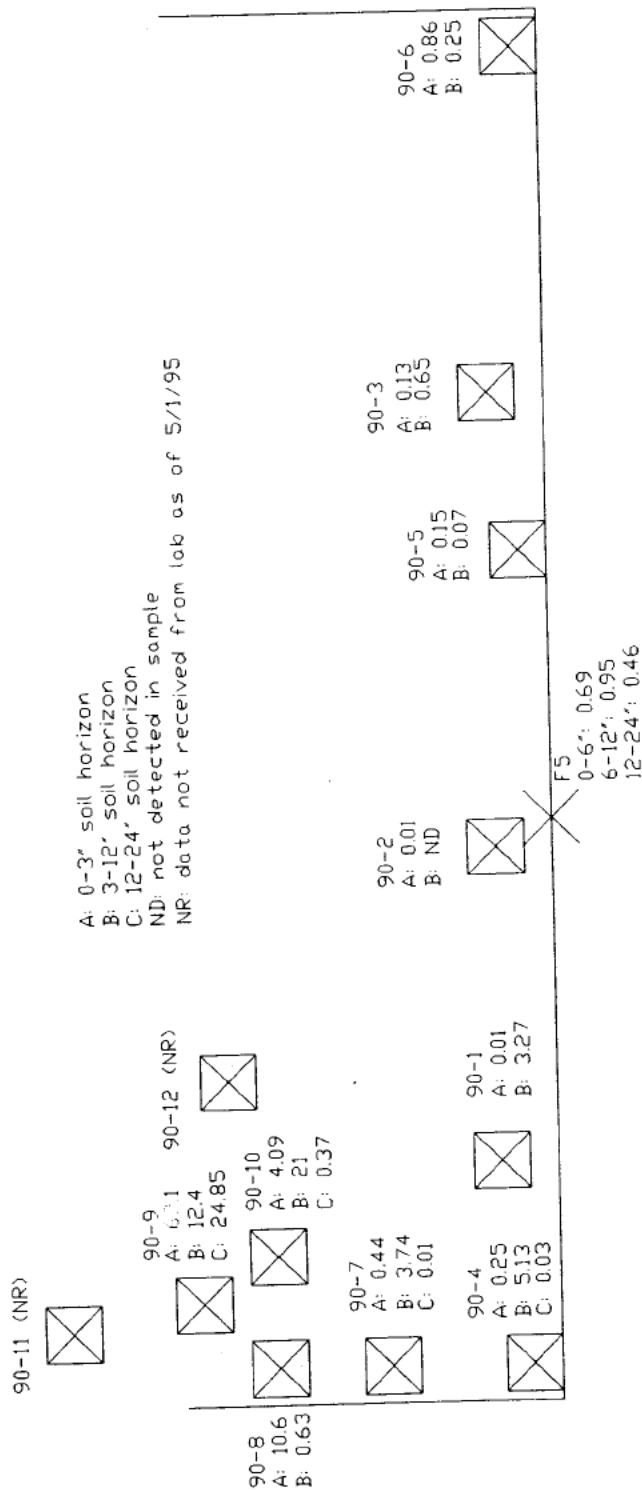
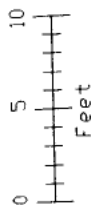


The numbers shown above denote approximate concentrations of DDT in soil. All levels noted are in parts per million (ppm).
The letter designations denote sample depths below ground surface (see key above).



SARATOGA TREE NURSERY

SAMPLING LOCATIONS

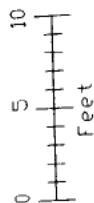


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 The letter designations denote sample depths below ground surface (see key above).

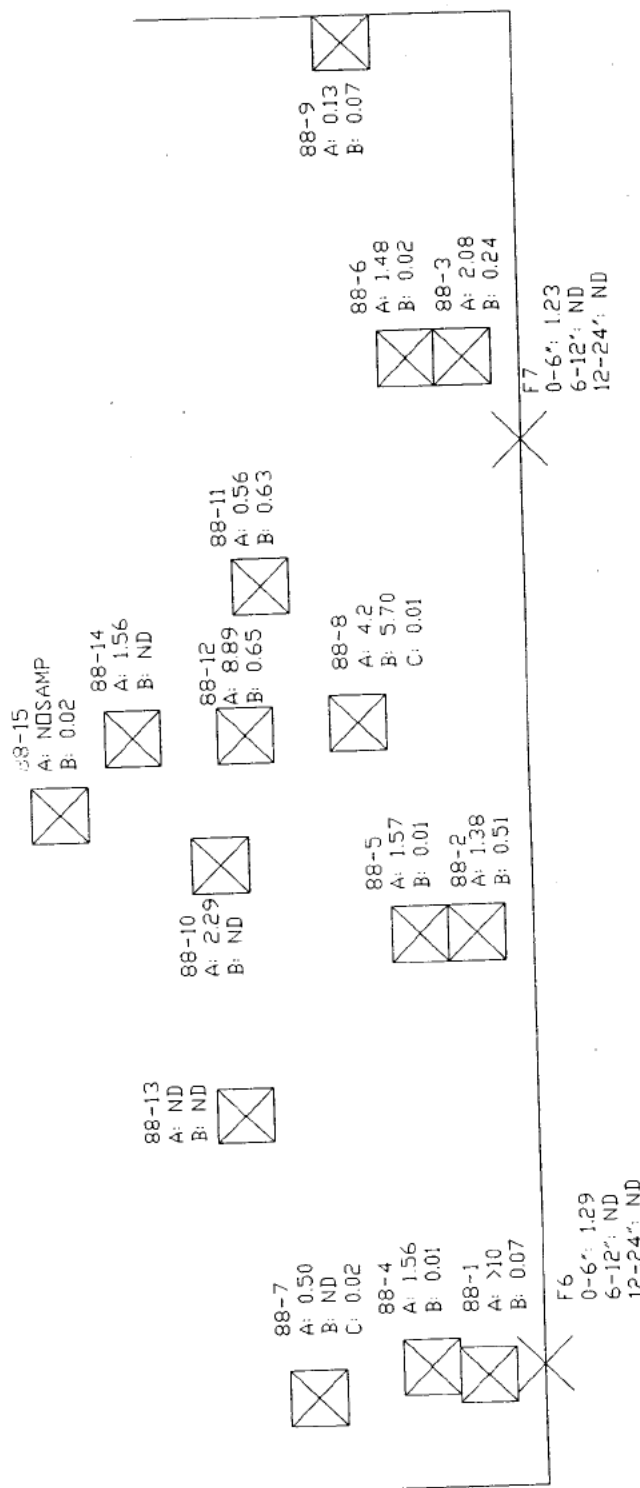


SARATOGA TREE NURSERY

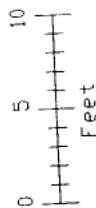
SAMPLING LOCATIONS



A: 0-3" soil horizon
 B: 3-12" soil horizon
 C: 12-24" soil horizon
 ND: not detected in sample
 NR: data not received from lab as of 5/1/95



The numbers shown above denote approximate concentrations of DDT in soil. All levels noted are in parts per million (ppm).
 The letter designations denote sample depths below ground surface (see key above).

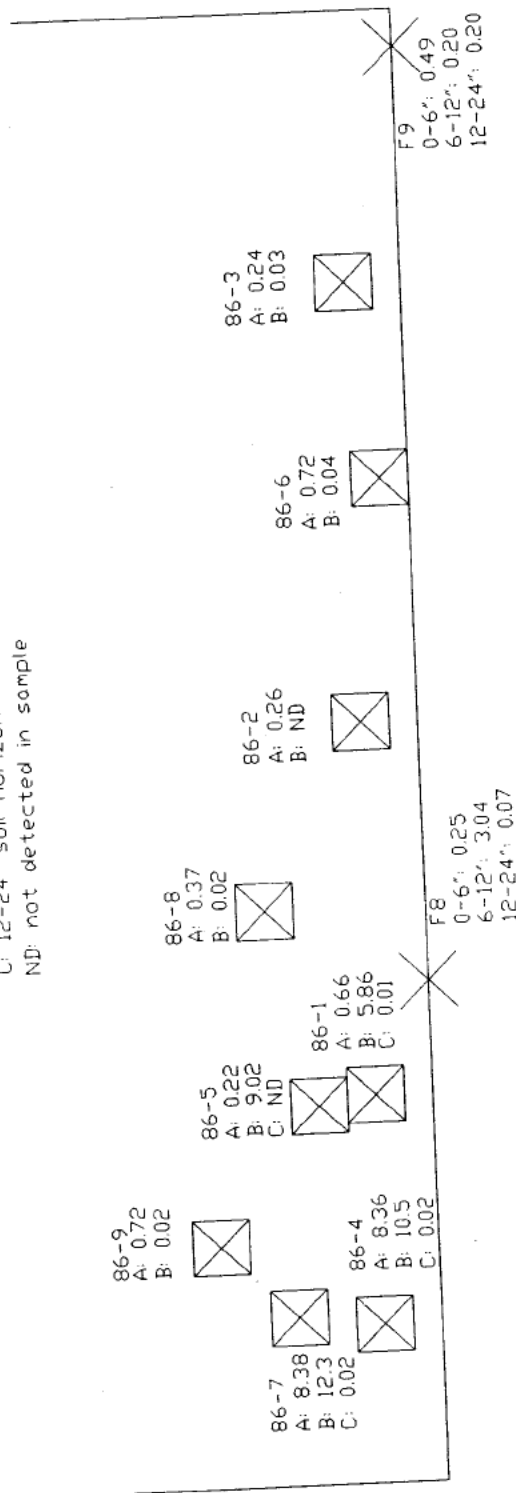


SARATOGA TREE NURSERY

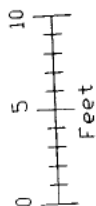
SAMPLING LOCATIONS



A: 0-3' soil horizon
B: 3-12" soil horizon
C: 12-24" soil horizon
ND: not detected in sample



The numbers shown above denote approximate concentrations of DDT in soil. All levels noted are in parts per million (ppm).
The letter designations denote sample depths below ground surface (see key above)

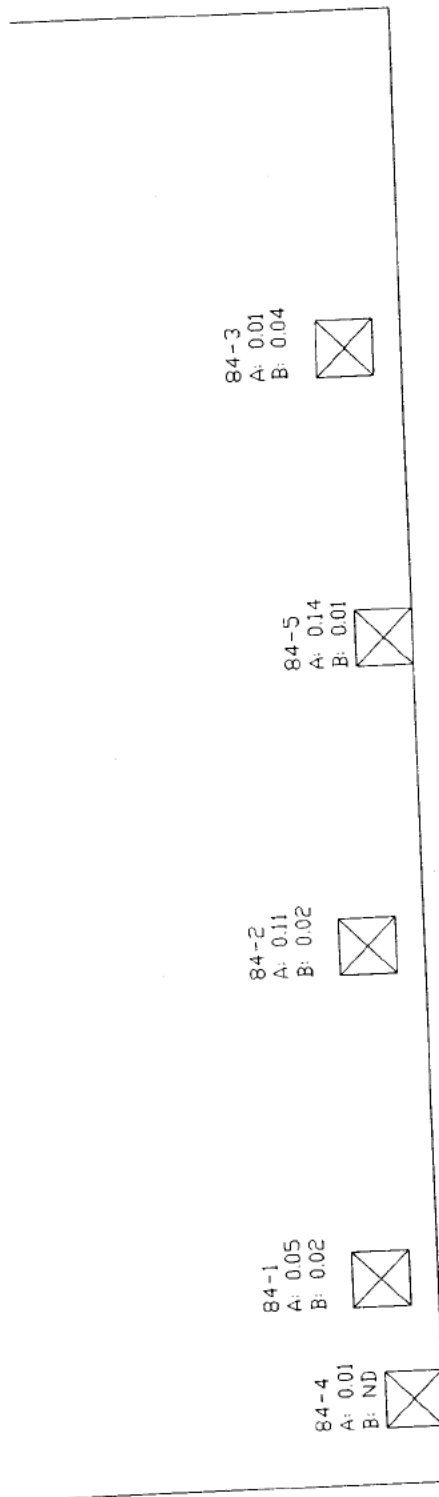


SARATOGA TREE NURSERY

SAMPLING LOCATIONS



A: 0-3' soil horizon
B: 3-12' soil horizon
ND: not detected in sample



The numbers shown above denote approximate concentrations of DDT in soil. All levels noted are in parts per million (ppm).
The letter designations denote sample depths below ground surface (see key above).

Section 5.0 - Health and Safety Plan

Emergency Planning, Contacts and Hospital Route Information.....5-1

Hospital Location Map.....5-4

SITE SAFETY PLAN

T&A Code B5B

Sample ID Nos. _____ - [01-]

Site Name: Saratoga Tree Nursery

Site Address: Rt 50

County: Saratoga Region: NY

Registry Status: ☒ existing site

☐ "P" site

☐ not listed

☐ "Brownfields" site

Site ID No.: 5-46-033

"P" Site ID No.: _____

Site ID No.: _____

Regional contact: Rich Wagner

Phone No.: 518-P97-1242

Plan prepared by: Bill Peters

Date: 1/10/05

Approved by: _____

• Section Representative: _____

Date: _____

• Section Chief: _____

Date: _____

Proposed date of sampling/investigation: Unknown

BACKGROUND INFORMATION

Information sources for background review:

☒ Routine O&M Sampling: Last sampled on: 6/10/02

☐ Phase I/Phase II Investigation: Date: _____

☐ Preliminary Site Assessment: Date: _____

☐ EPA/NUS Investigation Report: Date: _____

☐ RI/FS Reports: Date: _____

☐ Registry/File Review

☐ Other Reports/Studies: Date: _____ Type: _____

Site Status:

☐ Active

☒ Inactive

☐ Abandoned

☐ Unknown

Are there any unusual features on the site that may be of concern?

☐ Yes [describe below]

☒ No

Wastes of concern:

DDT, DDD, DDE, semi-volatile

Waste characteristics:

☐ Corrosive

☐ Ignitable

☐ Reactive

☒ Volatile

☒ Toxic

☐ Unknown

Overall hazard levels anticipated on-site:

☐ High

☐ Moderate

☒ Low

☐ None

☐ Unknown

Slip/trip hazards:

☒ Yes

☐ No

Describe: Tree Roots

Overall hazard assessment:

Site Hazardous

ON-SITE ACTIVITIES

Has this site been sampled and/or investigated before?

☒ Yes ☐ No

Has the site perimeter been identified?

☒ Yes ☐ No ☐ Unknown

Is the site fenced?

☒ Yes ☐ No ☐ Unknown

Is a site map/sketch available?

☒ Yes ☐ No [if yes, attach]

Have areas of contamination been identified?

☒ Yes ☐ No

Will air quality monitoring be done on-site?

☐ Yes ☒ No

Is sampling planned at this site?

☒ Yes ☐ No

Parameters to be analyzed for:

If yes: ☒ soil/sediment

☐ surface water

☒ groundwater

☒ waste product

DDT, DDE, DDD

" "

" "

" "

List the proposed on-site activities:

1. Sampling

2. Inspection

3.

4.

5.

6.

Will respiratory protection be required?

☐ Yes

☒ No

Level of respiratory protection anticipated.

- Level B [SCBA or supplied airline]
- Level C [Air purifying respirator]
- Level D [No external respiratory protection]

☐

☐

☒

Are Modifications to respiratory protection anticipated?

☐ Yes

☒ No

Describe:

Air quality monitoring equipment to be used (describe)

- ☐ Photo ionization detector
- ☐ Flame ionization detector
- ☐ Explosimeter/O₂ meter
- ☐ Other equipment

List of personnel anticipated to be on-site

	Name	Representing (DEC, DOH, etc./phone no.)
1.	John Strang	DEC 518-402-9622
2.	Bill Rika	DEC 518-402-7812
3.	James Riden	DEC 518-402-7812
4.	Ed Belmore	DEC 518-402-7812
5.		
6.		
7.		
8.		
9.		
10.		



RT 50 to RT 9 (Broadway)

From RT 6 to RT 9 (Broadway) to the Saratoga Hospital

Section 6.0 - Historic Maps

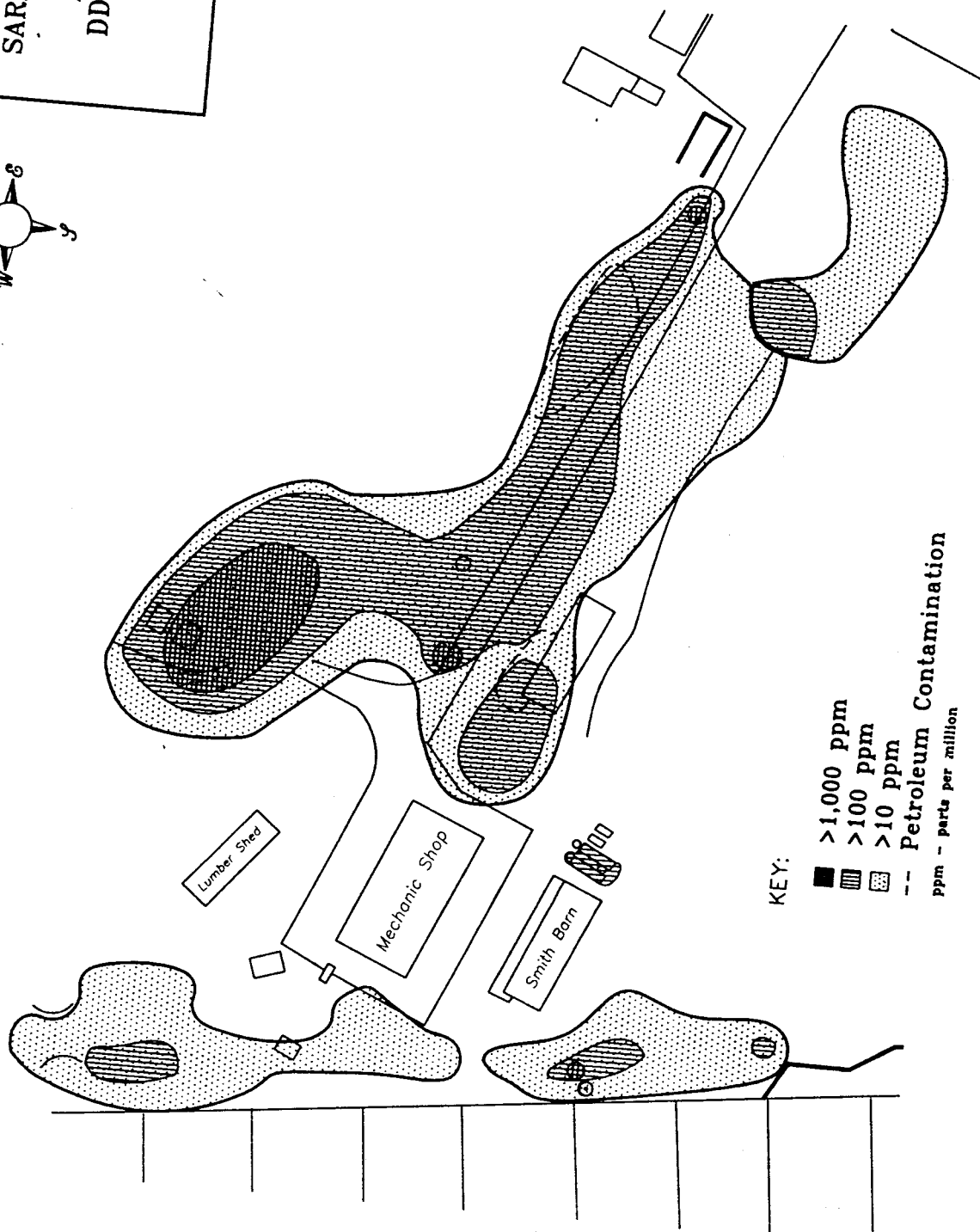
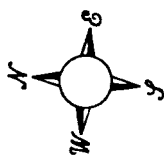
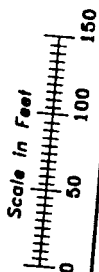
Aerial Extent of DDT Contamination.....6-1

Area of Excavation.....6-2

FIGURE 4

SARATOGA TREE NURSER

Aerial Extent of
DDT Contamination



KEY:

- >1,000 ppm
- >100 ppm
- >10 ppm
- Petroleum Contamination
- ppm - parts per million

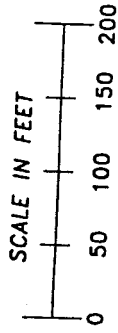
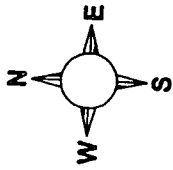


Section 7.0 - Historic Groundwater Contour Maps

Groundwater Flow and Quality Data.....	7-1
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FIGURE 5

SARATOGA TREE NURSERY
GROUNDWATER FLOW &
GROUNDWATER QUALITY DATA



White Pine Orchard

Parameter	Conc. (ppb)
DDT	ND
DDE	ND
DDD	ND

Parameter	Conc. (ppb)
DDT	0.02
DDE	0.004
DDD	0.01

Parameter	Conc. (ppb)
DDT	0.02
DDE	0.06
DDD	0.002

Parameter	Conc. (ppb)
DDT	0.44
DDE	ND
DDD	1.5

Parameter	Conc. (ppb)
DDT	ND
DDE	ND
DDD	ND

Parameter	Conc. (ppb)
DDT	ND
DDE	ND
DDD	ND

Parameter	Conc. (ppb)
DDT	0.06
DDE	ND
DDD	0.92
Chloroform	28

Parameter	Conc. (ppb)
DDT	ND
DDE	ND
DDD	ND

Parameter	Conc. (ppb)
DDT	ND
DDE	ND
DDD	ND

Parameter	Conc. (ppb)
DDT	0.01
DDE	ND
DDD	ND

ppb - parts per billion
ND - Compound Not Detected