New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
50 Wolf Road
Albany, New York 12233-4015

Add X
Modify
Reclassify
Delist

ADDITIONS/CHANGES TO REGISTRY OF
INACTIVE HAZARDOUS WASTE DISPOSAL SITES

PLEASE EXPEDITE

Site Name Johnny Cake Road Farm **DEC ID Number** 622017

Site Address Johnny Cake Road, Danube **County** Herkimer

X **Add New Site:** (Potential hazardous waste site, Site Inspection Summary Report, EPA Preliminary Assessment Form and Registry Form must be completed and attached)

[Class 2]

New Site, 1990-'91

___ **Modify Registry data** (detail below)

___ **Reclassify from class** ___ **to class** ___. (justify below)

___ **Delist** (justify below)

Detail/Justification

The site consists of a house and garage located on approximately 2 acres along the south side of Johnny Cake Road in the Towns of Stark, Danube, and Little Falls in Herkimer County. In 1987 the U.S. Marshall's office seized the site due to the illegal cocaine refining laboratory which was operated in the house and garage building. Volatile organic solvents were stored in the garage and spent solvents were dumped in the driveway. Toluene, Trichloroethene, and Tetrachloroethene (in the groundwater and surface water) are in excess of New York State Ambient Water Quality Standards and NYSDOH groundwater/drinking water standards and/or guidance values.

- Confirmation of hazardous waste disposal; witnessed by U.S. Marshall's Office reps.
- Contravention of applicable g.w. standards has been confirmed thru sampling analysis

Prepared by Peter S. Ouderkirk Date: July 1, 1990

Approvals: TM Koch 7-26-90

Reg. Haz. Waste Eng. Darrell Suwardowski *** Date: 7-9-90 *** See attached sheet.

R. Tramontano NYSDOH [signature] Date: 9/11/90

R. Dana/DEE Richard H. Dana Date: 8/29/90

W. Demick/J. Swartwout/ D. Curtis Thomas A. Ramon Date: 8/9/90

R. Marino [signature] Date: 9/10/90

E. Barcomb [signature] Date: 9/19/90

NEW YORK STATE DEPARTMENTS OF ENVIRONMENTAL CONSERVATION AND HEALTH
INACTIVE HAZARDOUS WASTE DISPOSAL SITE PRIORITY RANKING WORKSHEET

SITE # 622017 SITE NAME Johnny Cake Rd. farm

° **Priority I** - Top priority sites; supersede all others. Priority I can be assigned if any of the following criteria is met: ☐

a) A sole source or primary aquifer, or a public or private water supply is being contaminated or threatened, or ☐

b) Human exposure to contaminants has been identified which represents a Significant health risk as determined by DOH, or ☐

c) There is a bioaccumulation of site contaminants in flora or fauna which results in a health advisory, or ☐

d) Site contaminants are at levels that are acutely toxic to fish or wildlife or have caused documented fish or wildlife mortality, or ☐

e) An expedient response could measurably reduce the threat to health or the environment, reduce the scope of a corrective action, or reduce potential remedial costs. ☒

° **Priority II** - Important sites. Priority II can be assigned if any of the following criteria is met: ☐

a) A Class AA or a Class A surface water body or a principal aquifer is being contaminated or threatened; however, no existing water supply has been contaminated, or ☐

b) There is a bioaccumulation of site contaminants in flora or fauna which results in advisory or actionable levels but below levels necessitating a health advisory, or ☐

c) Site contaminants are at levels chronically toxic to fish/wildlife, or ☐

d) Endangered, threatened or rare species, significant habitats, designated coastal zone areas or regulated wetlands are being impacted by releases from the site, or ☐

e) The site is identified by the International Joint Commission (IJC) as a component in a Remedial Action Plan (RAP), or ☐

f) The site is within a State Economic Development Zone or is targeted for local government supported development and the developer has expressed a willingness to enter into a consent order with DEC to finance investigation and remediation. ☐

° **Priority III** - General Site Category. Priority III will be assigned unless one or more of the site prioritization criteria, specified above, apply to a site. When resources become available, after remedial needs for Priority I and II sites have been accommodated, remediation of sites under this category can be considered. ☐

COMMENT Immediate removal of the contaminated septic system would significantly reduce contaminant migration.

Filled out by (Name): Cynthia L Whitfield Date: 9/26/90

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION 030497
INACTIVE HAZARDOUS WASTE DISPOSAL REPORT

CLASSIFICATION CODE: 2 REGION: 6 SITE CODE: 622016
EPA ID:

NAME OF SITE : Johnny Cake Road Farm Site
STREET ADDRESS: Johnny Cake Road

TOWN/CITY:	COUNTY:	ZIP:
Danube	Herkimer	13365

SITE TYPE: Open Dump- X Structure- Lagoon- Landfill- Treatment Pond-
ESTIMATED SIZE: 2 Acres

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: United States Marshall
CURRENT OWNER ADDRESS.: 213 Federal Building, 10 Broad St., Utica,
OWNER(S) DURING USE...: Not known
OPERATOR DURING USE...:
OPERATOR ADDRESS.....:
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From 1985 To 1987

SITE DESCRIPTION:
This site consists of a two-story farmhouse and garage located on a 377 acre dairy farm. The portion of property that was used for hazardous waste diposal is approximately two acres in area and is located along the south side of Johnny Cake Road near the southern boundary of the Town of Danube and the northern boundary of the Town of Stark. In 1985 an illegal cocaine refining laboratory was set up in the basement of the farmhouse. Large quantities of volatile organic solvents were used in the cocaine refining process. After use, the spent solvents were indiscriminately dumped down the drains that went to an on-site septic tank. Other solvents were dumped on the dirt floor of the basement, and on the grounds surrounding the house. Representatives of the U.S. Marshall's office witnessed disposal on a gravel driveway. The on-site disposal resulted in substantial contamination of soil, surface water, and groundwater. Sample analysis of soils revealed contamination by toluene and tetrachloroethene. Groundwater analysis indicated toluene, trichloroethane, and tetrachloroethene. These chemicals were present in concentrations which greatly exceed NYS groundwater quality standards and NYSDOH drinking water standards. In 1987, representatives of the U.S. Marshall's Office seized this property. The operators were arrested and the property is no longer being occupied. The USEPA is currently conducting remedial actions at this site.

HAZARDOUS WASTE DISPOSED:

TYPE	QUANTITY (units)
Toluene	unknown
Trichloroethane (TCA)	unknown
Tetrachloroethene (PCE or "perc.")	unknown

SITE CODE: 622016

ANALYTICAL DATA AVAILABLE:
Air-X Surface Water-X Groundwater-X Soil-X Sediment-

CONTRAVENTION OF STANDARDS:
Groundwater-X Drinking Water-X Surface Water-X Air-

LEGAL ACTION:

TYPE..: State- Federal-
STATUS: Negotiation in Progress- Order Signed-

REMEDIAL ACTION:

Proposed-X Under design- In Progress- Completed-
NATURE OF ACTION: Soil Removal in contaminated areas- IRM

GEOTECHNICAL INFORMATION:
SOIL TYPE: Silt, sand and gravel overlying gray glacial till
GROUNDWATER DEPTH: Approximately 5-10 feet

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Soils, groundwater and surface water have been contaminated with spent solvents at this site.

ASSESSMENT OF HEALTH PROBLEMS:

Neighboring homeowners utilize groundwater sources as their domestic water. Sampling results have not revealed any private water impacts. Continued monitoring well sampling is recommended. The area is sparsely populated, and there is no evidence of tresspass.

MAP REFERENCE :
USGS 7.5 MIN. VAN HORNESVILLE QUADRANGLE , N.Y.
MAP DATED 1978

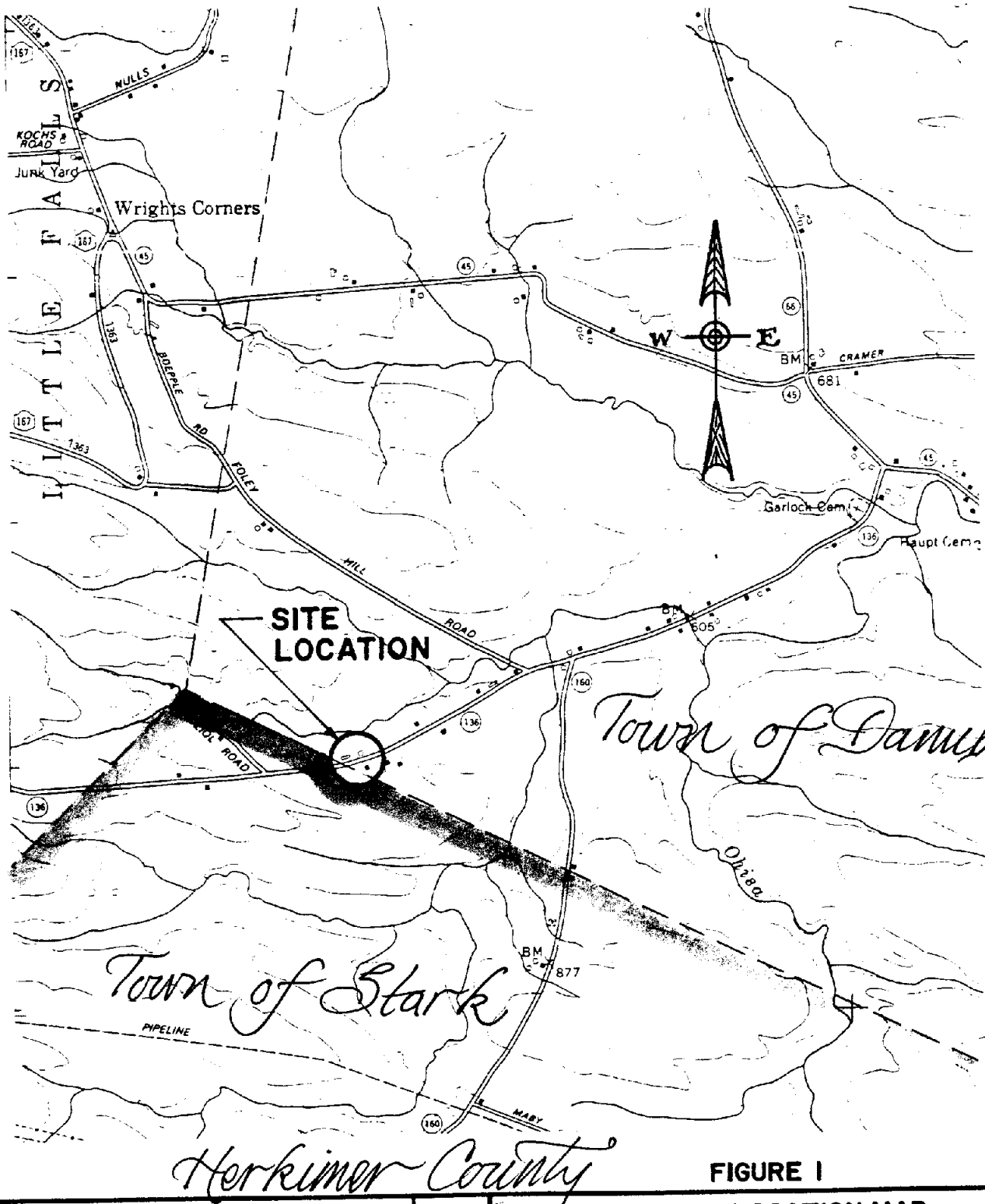


FIGURE 1

Date	RECORD OF WORK	Appr

after: E.E. | Checker:

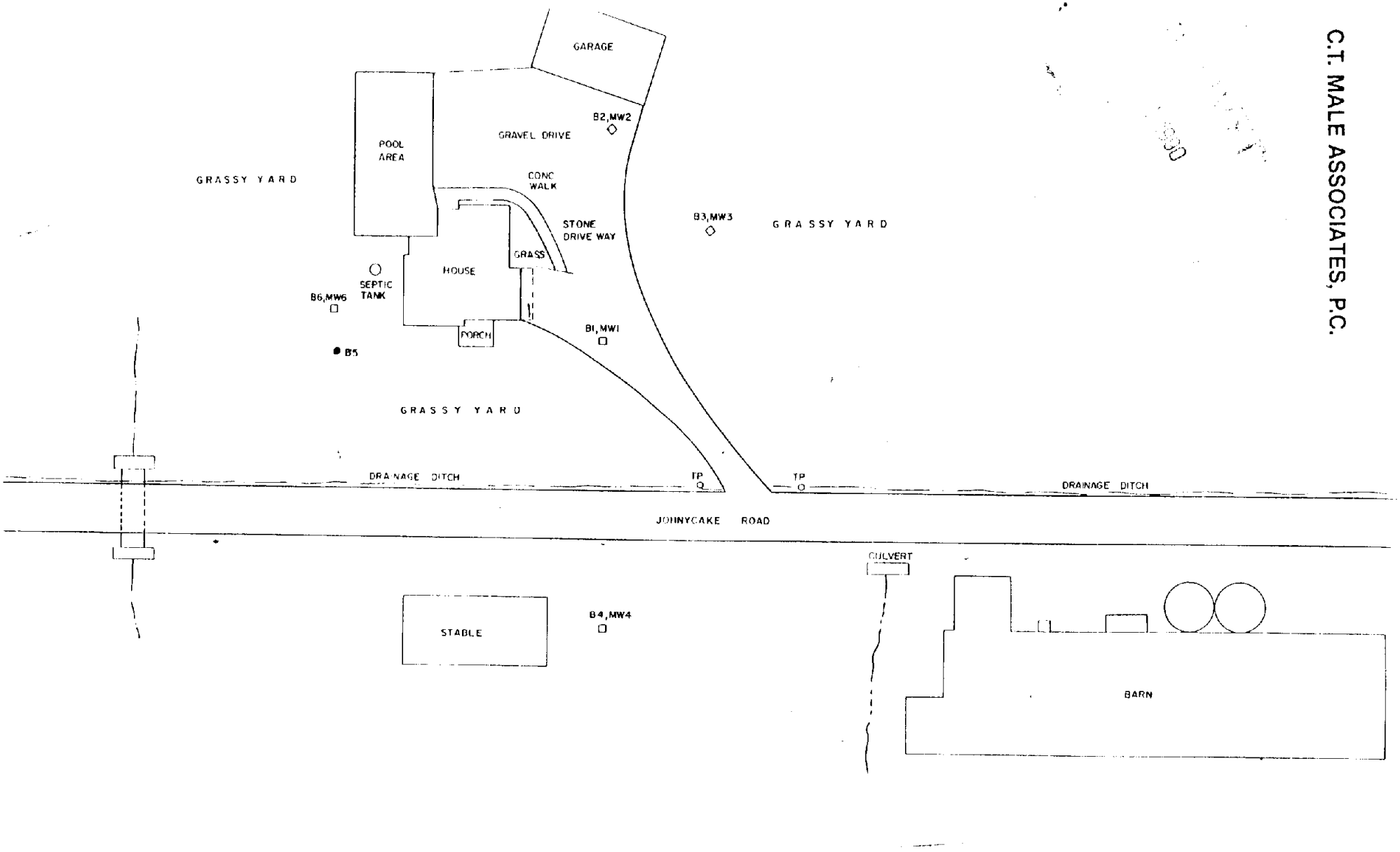
Appr. by: | Proj. No. 90.2851

SITE LOCATION MAP
SUBSURFACE INVESTIGATION
JOHNYCAKE ROAD FARM

TOWN OF DANUBE | HERKIMER COUNTY

C. T. MALE ASSOCIATES, P.C.
50 Century Hill Drive, P.O. Box 727, Latham, NY 12110
(518) 785-0976
Engineering Surveying Architecture Landscape Architecture
Laboratory Services Computer Services

SCALE: 1"= 2000' | DATE: 4/25/90



C.T. MALE ASSOCIATES, P.C.

NOTE:
THIS MAP IS INTENDED TO PROVIDE SCHEMATIC INFORMATION ONLY AND DOES NOT REPRESENT AN ACTUAL FIELD SURVEY

LEGEND
- ● TEST BORING
- □ MONITOR WELL

Preliminary Assessment

Johnny Cake Road farm
Johnny Cake Rd.
Town of Danube
Herkimer County
[Site ID No 62201-]

Not possible – probably 75° W

EPA

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION
01 STATE: XXXXX | 02 SITE NUMBER:

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site): Johnny Cake Road Farm	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER: Johnny Cake Road				
03 CITY: Danube	04 STATE: NY	05 ZIP CODE:	06 COUNTY: Herkimer	07 COUNTY CODE: 22	08 CONG DIST: —
09 COORDINATES LATITUDE: 42°58' 00"	LONGITUDE: 72° 51' 30"				

10 DIRECTIONS TO SITE (Starting from nearest public road)

III. RESPONSIBLE PARTIES

01 OWNER (if known): U. S. Federal Marshall	02 STREET (Business, mailing, residential): 213 Federal Building		
03 CITY: Utica	04 STATE: NY	05 ZIP CODE: 13501	06 TELEPHONE NUMBER: (315) 732-2123
07 OPERATOR (If known and different from owner):	08 STREET (Business, mailing, residential):		
09 CITY:	10 STATE:	11 ZIP CODE:	12 TELEPHONE NUMBER: ( )

13 TYPE OF OWNERSHIP (Check one)
☐ A. PRIVATE XX B. FEDERAL: U.S. Federal Marshall (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER ____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply) — [crossed out]

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION: X YES ☐ NO DATE 6/6/90 (MONTH DAY YEAR)
BY (Check all that apply): ☐ A. EPA ☐ B. EPA CONTRACTOR X C. STATE ☐ D. OTHER CONTRACTOR ☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: ____ (Specify)
CONTRACTOR NAME(S): C. T. Male Associates

02 SITE STATUS (Check one): ☐ A. ACTIVE X B. INACTIVE ☐ C. UNKNOWN
03 YEARS OF OPERATION: 1985 (BEGINNING YEAR) | 1987 (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Drums of solvents containing Toluene, Trichloroethene, Tetrachloroethene, Methylene Chloride, Acetone, Trans 1,2-Dichloroethene, and 1,1-Dichloroethene.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Toluene, Trichloroethene and Tetrachloroethene are in the site soils and groundwater in excess of NYS groundwater and drinking water standards.

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) X D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT: Kim Baines	02 OF (Agency/Organization): C.T. Male Associates		03 TELEPHONE NUMBER: (518) 785-0976	
04 PERSON RESPONSIBLE FOR ASSESSMENT: Peter Ouderkirk	05 AGENCY: NYSDEC	06 ORGANIZATION: DHWR	07 TELEPHONE NUMBER: (315) 785-2513	08 DATE: 7/1/90 (MONTH DAY YEAR)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION
01 STATE | 02 SITE NUMBER
XXXX

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)
A SOLID
B POWDER, FINES
C SLUDGE
D OTHER _____ (Specify)
E SLURRY
F LIQUID
G GAS

02 WASTE QUANTITY AT SITE
(Measures of waste quantities must be independent)
TONS _____
CUBIC YARDS _____
NO. OF DRUMS _____

03 WASTE CHARACTERISTICS (Check all that apply)
A TOXIC
B CORROSIVE
C RADIOACTIVE
D PERSISTENT
E SOLUBLE
F INFECTIOUS
G FLAMMABLE
H IGNITABLE
I HIGHLY VOLATILE
J EXPLOSIVE
K REACTIVE
L INCOMPATIBLE
M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently used CAS Numbers)

CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
	Toluene	108883	Dumping	25400	ppb
	Trichloroethene		"	1280	ppb
	Tetrachloroethene		"	56000	ppb

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	FEEDSTOCK NAME	CAS NUMBER
FDS		
FDS		
FDS		
FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: XXXX | 02 SITE NUMBER:

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION | 02 ☐ OBSERVED DATE 4/25/90 | ☐ POTENTIAL | ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

Groundwater contaminated above NYS groundwater standards for Toluene, Tetrachloroethene, and Trichloroethene.

01 ☒ B. SURFACE WATER CONTAMINATION | 02 ☐ OBSERVED DATE 5/30/90 | ☐ POTENTIAL | ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

Surface water on site in drainage streams contaminated above NYS Ambient Water Quality Standards for Toluene, Trichloroethene and Tetrachloroethene.

01 ☐ C. CONTAMINATION OF AIR | 02 ☐ OBSERVED DATE 4/19/90 | ☐ POTENTIAL | ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

Volatile organic observed during drilling to levels of 300 ppm volatile organics and gaseous compounds in air.

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS | 02 ☐ OBSERVED DATE _____ | ☐ POTENTIAL | ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

01 ☒ E. DIRECT CONTACT | 02 ☐ OBSERVED DATE _____ | ☐ POTENTIAL | ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

Soil heavily saturated with solvents. Septic tank and swimming pool contamined with volatile organics.

01 ☒ F. CONTAMINATION OF SOIL | 02 ☐ OBSERVED DATE 4/19/90 | ☐ POTENTIAL | ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: _____ (Acres) | 04 NARRATIVE DESCRIPTION

Soil contaminated with Toluene, Trichloroethene, Tetrachloroethene, Methylene Chloride and Acetone.

01 ☐ G. DRINKING WATER CONTAMINATION | 02 ☐ OBSERVED DATE _____ | ☒ POTENTIAL | ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

01 ☐ H. WORKER EXPOSURE/INJURY | 02 ☐ OBSERVED DATE _____ | ☐ POTENTIAL | ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

01 ☐ I. POPULATION EXPOSURE/INJURY | 02 ☐ OBSERVED DATE _____ | ☒ POTENTIAL | ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ | 04 NARRATIVE DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: XXXX | 02 SITE NUMBER:

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include names(s) of species)

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
(Spills/runoff/standing liquids/leaking drums)
03 POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE 4/19/90) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

On site septic tank contaminated.

01 ☒ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Workers were seen dumping liquids in driveway during cocaine manufacturing.

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: _____

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

file

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233

Thomas C. Jorling
Commissioner

TO: Darrell Sweredoski, RHWRE, Region 6

RE: Cocaine Lab, Town of Stark, Herkimer County

DATE:

This is in response to your May 14, 1990 memorandum. You asked whether your office "should pursue this matter in the course of a normal investigation of an inactive hazardous waste site". The answer is yes.

In response to discussion between staff of the BHSC (Mr. Maddineni) and Peter Ouderkirk of Region 6, Mr. Ouderkirk has mailed to the Bureau all available information concerning the site. It is our understanding that pertinent facts regarding the site are as follows:

- The site was seized by the Federal Marshall's Office in 1987 at which time it was being used as a dairy farm and an illegal cocaine refining laboratory.
- Organic solvents were reportedly used and/or stored at the site.
- C.T. Male Associates, P.C. has been hired by the Federal Marshall's Office to perform a subsurface investigation.
- Mr. Ouderkirk will meet with the Federal Marshall for further information regarding the documentation of hazardous waste and any other pertinent information.
- The surface soils and the groundwater are contaminated with solvents as follows:

According to the EPA 2070-12 form; toluene is 25.4 & tetrachlor is @ 56.0.

Surface soils	PPM
Toluene	43.2
Tetrachlorethene	215.0

Groundwater	PPM	NYS Standard/Guidance Values PPB
Toluene	15.2	50
Tetrachlorethene	16.3	0.70

If the site is a listable candidate upon completion of the investigation, please initiate the appropriate paperwork. Should you have any questions, please call Srikanth Maddineni at (518) 457-0638.

cc: D. Markell
G. Firth

TR:dl
bcc: M. O'Toole (2)
C. Goddard
E. Barcomb
T. Reamon
file

Michael J. O'Toole, Jr.
Director
Division of Hazardous Waste Remediation

JOHNYCAKE ROAD FARM SITE
ENVIRONMENTAL SUBSURFACE INVESTIGATION
TOWN OF DANUBE
HERKIMER COUNTY, NEW YORK
FEDERAL SEIZURE NO. 87-CV-980

JUNE 25, 1990

Prepared for:

UNITED STATES FEDERAL MARSHAL
Northern District of New York
213 Federal Building
10 Broad Street
Utica, New York 13501

Prepared by:

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive
P.O. Box 727
Latham, New York 12110
(518) 785-0976
CTMA Project No.: 90.2851

JOHNYCAKE ROAD FARM SITE
ENVIRONMENTAL SUBSURFACE INVESTIGATION
TOWN OF DANUBE
HERKIMER COUNTY, NEW YORK

TABLE OF CONTENTS

APPENDICES

JOHNYCAKE ROAD FARM SITE
ENVIRONMENTAL SUBSURFACE INVESTIGATION
TOWN OF DANUBE
HERKIMER COUNTY, NEW YORK

1.0 INTRODUCTION AND SITE DESCRIPTION

On April 16, 1990, C.T. Male Associates P.C. was retained by the United States Federal Marshal to perform a subsurface investigation at a former dairy farm property in the Town of Danube, Herkimer County New York. Deputy Marshal Robert Money indicated that the property had been seized by the Federal Government in 1987, because an illegal cocaine refining laboratory was in operation in the house and garage buildings at the site.

The site consists of approximately 377 acres of farmland along the north and south sides of Johnycake Road in the Towns of Stark, Danube and Little Falls, Herkimer County, New York. A two story farmhouse, a two bay garage building and a dairy barn are all located on the west side of the property along both sides of Johnycake Road. A drawing which shows the approximate layout of these buildings in relation to Johnycake Road has been prepared for schematic purposes and included in Appendix A of this report. The section of the property where the subject house and garage buildings are located is depicted on a USGS Topographic Quadrangle map, immediately north of the Danube/Stark Town Line in the Town of Danube. This investigation is assumed to have taken place in the Town of Danube. From this point forth in the report, "the site " will refer to this area immediately around the site buildings on the north and south sides of Johnycake road. A section of the Topographic Map showing the subject site has been included in Appendix A as a site location map, Figure 1.

According to the Marshal's office, volatile organic solvents were stored in drums inside the eastern bay of the garage building. These solvents were then used in the house cellar in the cocaine refining process and then may have been disposed of in a variety of ways. In at least one incidence, Federal Agents reportedly observed these liquids being dumped on the site driveway. Other means of disposal may have included dumping on the unpaved garage floor, dumping into the site septic tank through the house drains or sinks and runoff from the house basement floor to the driveway surface. An additional source of contamination may also include leakage or spillage of the drummed materials in the garage drum storage area. All of these source areas were identified to C.T. Male by the U.S. Marshals office.

The site slopes moderately downward from the potable water supply well just south of the two bay garage, to the north, across Johnycake Road and further downward to a tributary stream of the Ohisa Creek. This stream is approximately 400 to 500 feet north of the site building (the suspect contaminant source area) and topographically downgradient. The topographic relief in this distance, as it is shown on the USGS quadrangle map, is approximately 60 to 70 feet of elevation. The area in general around the subject site is very hilly, rolling topography with a well defined drainage valley north of the site and a steep upwardly sloping hill to the south of the site. Farms and residential dwellings are scattered sparsely through the surrounding area. A single farmhouse is located immediately east of the subject site on the south side of Johnycake Road.

2.0 SOIL INVESTIGATION

On April 19 and 20, 1989, C.T. Male Associates performed an investigation of the quality of soils, both surficial and subsurface, in areas suspected of being contaminated. The soil sampling program was divided into two different operations. Samples were collected with hand sampling tools in the soil floor of the garage building where drums of solvents had reportedly been stored, and samples were collected at vertical depth intervals in six test borings advanced with a drilling rig throughout the site property.

2.1 Garage Floor Investigation

On April 19, 1989, six soil samples were collected in the dirt floor of the garage, in the east garage bay. The west garage bay has a concrete floor and reportedly was not used to store the drummed chemicals. The samples were collected at 0-1 foot in depth with a hand shovel. At the one foot depth, impassable consolidated materials were encountered in all of the sample locations. The impassable surfaces encountered appeared to be large rocks and in some sample holes may have been buried concrete. This condition limited sampling to the 1 foot depth. Water infiltrated all of the sample holes from the surface down in the back (southern) section of the garage at 6 inches or less in the holes near the front (northern) section of the garage. In all cases, the soil samples were wet or damp.

Soil samples were collected in duplicate and one sample was screened with field instrumentation as they were collected. The samples were placed in clean glass jars and headspace analysis testing was performed in each sample jar. The headspace analysis measurement was performed with a Photovac Microtip® model photoionization detection meter, which reads total ionizable volatile organic compounds with an ionization potential of 10.6 ev. or less, in parts per million (ppm). This instrument was used throughout the investigation as an indicator of gross volatile organic contamination. No contamination was detected in any of the garage floor samples screened during the field sampling: Positive readings on this instrument identify areas of immediate concern, but often will not identify low levels of contamination.

All samples collected from the garage floor were refrigerated at the site for transport and were subsequently submitted to CTM Analytical Laboratories Ltd. of Latham, New York, for analysis.

All samples were analyzed in the testing laboratory by EPA Method 8240 for Priority Pollutant Volatile Organic Compounds. Copies of the laboratory sample results have been included as Appendix E of this report. According to the laboratory data, trace concentrations of volatile organic solvent contamination were detected in samples S-1 and S-3. The contaminants detected were methylene chloride in sample S-1, and trichloroethene, and tetrachloroethene in sample S-3. No contaminants included in the EPA 8240 Priority Pollutant Scan were detected in any of the other four samples. Based on readings obtained with the field instrumentation during the sampling, and the confirmatory laboratory results, it appears that very little contamination is present in the first foot of soil, in the garage bay floor. Because the sampling was limited to the 0-1 foot level due to the presence of impassable rocks and possibly buried concrete, any additional exploration in this area would have to be performed with a backhoe or some other type of powered equipment.

2.2 Soil Boring Investigation

On April 19 and 20, 1990, soil borings were advanced into the groundwater table in six locations surrounding the site buildings. A site plan map showing the test boring locations has been included in appendix A. The borings were advanced by Empire Soils Investigations, Inc., Latham, New York with the use of a truck mounted "auger-type" drilling rig using 4-1/4 inch hollow stemmed augers. Samples were collected with 2 inch diameter stainless steel split spoon samplers, through the augers, continuously to the bottom of each boring. Samples were transferred into clean glass jars and

refrigerated for shipment to the testing laboratory. Replicate samples were used for field screening. The borings were located in areas which appeared to be either topographically or hydraulically downgradient of the suspected contaminant source areas or directly in the areas.

Samples were collected in duplicate and each was screened with a Photovac Microtip® volatile organic vapor meter for the presence of volatile organic contaminants. The duplicate samples were refrigerated for transport to the testing laboratory. Test boring logs and logs of the Microtip® field testing results have been attached in Appendices B and C respectively. As noted in these logs, indications of contamination were detected in all of the test borings at widely varying concentrations. Test borings B-1, B-2 and B-3 exhibited the highest levels of contamination.

In general, the soils observed in all of the test borings appeared to be non-sorted sand, silt and gravel over glacial till, which increased in density as the boring was advanced in depth. A weathered bedrock surface may have been encountered at the bottom of boring B-2, between 13 and 14 feet below grade.

The duplicate sample exhibiting the highest volatile compound contamination by head space analysis (i.e. field screening) and the sample from the bottom of each boring were submitted to the testing laboratory for analysis. Samples were selected to represent the highest potential concentration of volatile organic compounds in each boring and the quality of the soil at the bottom of each boring. These selections were based on field Microtip® readings. Laboratory results for the test boring samples have been included in Appendix D. According to the laboratory results, volatile organic solvent contamination was present in all of the submitted soil samples. The contaminants identified include; Trichloroethene, Tetrachloroethene, Toluene, Acetone, and Methylene Chloride. The levels of the contaminants ranged widely throughout the site and appeared to vary according to both boring location and sample depth. The soil boring sample results have been summarized below in Table 1.

TABLE 1
SUMMARY OF LABORATORY ANALYSIS RESULTS
FOR
TEST BORING SOIL SAMPLES
COLLECTED APRIL 19 AND 20, 1990

SAMPLE ID	DEPTH	TOL.	TCE	PCE	MC	ACT
B-1	2-4	ND	ND	3750	5440	ND
B-1	6-8	ND	ND	ND	ND	13
B-2	6-8	25	8	71	ND	17
B-2	12-14	ND	ND	41	ND	ND
B-3	4-6	ND	ND	294	ND	ND
B-3	12-14	ND	ND	ND	9	19
B-4	2-4	ND	ND	44	ND	ND
B-4	12-14	ND	ND	ND	9	ND
B-5	8-10	183	ND	174	8	74
B-6	4-6	ND	24	166	13	ND

SAMPLE ID IS NOTED AS B-1 = TEST BORING NUMBER 1
DEPTH = FEET BELOW THE EXISTING GRADE
TOL = TOLUENE CONCENTRATION IN MCG/KG OR PARTS PER BILLION (PPB)
TCE = TRICHLOROETHENE CONC. IN PPB
PCE = TETRACHLOROETHENE (PERCHLOROETHENE) CONC. IN PPB
MC = METHYLENE CHLORIDE CONC. IN PPB
ACT = ACETONE IN PPB

3.0 GROUNDWATER INVESTIGATION

On April 19 and 20, 1990, five of the six test borings performed at the subject site (described previously in section 2.2 of this report) were converted to groundwater monitor wells. Monitor wells are identified by converting the test boring number to the same monitor well number (ie. test boring B-1 = monitor well MW-1). No well was installed in boring B-5. The wells were constructed by installing 2 inch diameter Schedule 40 PVC slotted well screen and solid riser material though the hollow stemmed drilling augers. Ten feet of 0.010 inch slotted screen was set in the bottom of each well so that the top of each screened interval was approximately 1-2 feet above the observed groundwater table. The annular space of each well boring was packed to above the screened interval with clean silica sand, and then sealed with a two foot vertical bentonite seal to prevent surface

water infiltration. The wells were finished at the surface with locking steel enclosures which were cemented in place to protect the well installation. Installation diagrams for each of the wells have been included in Appendix B.

A map showing the locations of these wells in relation to the site buildings and Johnycake Road has been included as Figure 2 in Appendix A. The horizontal locations of the wells shown are approximate as they were located in the field with a tape measure. A formal topographic survey was not performed as a function of this phase of the investigation. The vertical well elevations were surveyed relative to a common benchmark, which was assumed to be 100.00 feet. This survey was performed only to determine the groundwater flow direction and establish a groundwater contour map representing conditions on the sampling date. The groundwater contour map is included as Figure 3 in Appendix A and indicates that the general groundwater flow is to the north in this area of the site.

The wells were sampled on April 25, 1990, by CTM Analytical Laboratories LTD. Each well was developed prior to sampling. Discrete samples were collected, refrigerated and delivered to the testing laboratory for analysis. A water sample of the site potable supply well/spring was collected at the same time by sampling the overflow at the wellhead. This well consists of a shallow hole dug in the side of the hill topographically upgradient (to the south) of the site buildings. All samples were submitted to the CTM Analytical Laboratories, LTD in Latham, New York, for analysis.

The samples were analyzed by EPA Method 624 for Priority Pollutant Volatile Organic Compounds. Laboratory results have been included in Appendix E of this report. No contaminants included in the testing parameters were detected in the sample for the potable water supply well. All of the monitor well samples were contaminated with volatile organic solvents. Contaminants detected in these wells were Toluene, Tetrachloroethene, Trichloroethene, Methylene Chloride, and Acetone. Trace concentrations of Trans 1,2-dichloroethene and 1,1-dichloroethene were detected only in monitor well MW-4. Table 2 below summarizes the laboratory sample data for the groundwater samples.

The concentrations of Toluene, Trichloroethene, and Tetrachloroethene reported all exceed the New York State, Department of Environmental Conservation "Ambient Water Quality Standards And Guidance Values" (6 NYCRR Part 203.5, TOGS1.1.1) and NYSDOH (10 NYCRR Part 5 or Part 170) groundwater/drinking water standards and/or guidance values. These values are: Toluene = **10** Micrograms/Liter (ppb) (Standard); Trichloroethene = **10 PPB** (Standard); Tetrachloroethene = **0.7 PPB** (Guidance Value) **5 PPB** (DOH Standard).

TABLE 2
LABORATORY ANALYSIS DATA
FOR
GROUNDWATER SAMPLES
COLLECTED APRIL 25, 1990

SAMPLE ID	TOL.	TCE	PCE	T12	11D
HOUSE WELL	ND	ND	ND	ND	ND
MW-1	1120	91	971	ND	ND
MW-2	25400	ND	56000	ND	ND
MW-3	1730	ND	4350	ND	ND
MW-4	ND	1280	835	51	25
MW-6	15200	ND	16300	ND	ND

SAMPLE ID IS NOTED AS MW-1 = MONITOR WELL NUMBER 1
TOL = TOLUENE CONCENTRATION IN MCG/KG OR PARTS PER BILLION (PPB)
TCE = TRICHLOROETHENE CONC. IN PPB
PCE = TETRACHLOROETHENE (PERCHLOROETHENE) CONC. IN PPB
T12 = TRANS 1,2-DICHLOROETHENE CONC. IN PPB
11D = 1,1-DICHLOROETHENE CONC. IN PPB

4.0 SITE SEPTIC SYSTEM INVESTIGATION

On April 19, 1990, C.T. Male located the house septic tank, approximately 10 feet off the southeast corner of the house. The tank appears to be a 750 - 1000 gallon steel tank and was located with a metal detector. The top of the tank was encountered at approximately two feet below ground level. The steel cover was badly rusted and was easily punctured with a hand shovel.

On April 25, 1990, a field technician from the CTM Analytical Lab LTD sampled liquids from inside the septic tank by inserting a sampling device through the opening in the top of the tank. The sample was refrigerated and transported to the testing laboratory for analysis. The sample was analyzed by EPA Method 624 for Priority Pollutant Volatile Organic Compounds. A copy of the laboratory results for this sample has been included in Appendix F. The laboratory data indicates that high concentrations of Toluene and Tetrachloroethene were found in this sample. Approximately

one foot of water and 0.5 feet of sludge were present in the tank at the time of sampling.

5.0 SITE HOUSE INVESTIGATION

On April 19, 1990, the air quality in the house was screened for total volatile organic vapors with a Photovac Microtip® volatile organic vapor meter. The instrument has a detection limit of 0.5 parts per million and would therefore only detect solvent concentrations of 500 parts per billion or greater. No solvent contamination was detected in the air in any living spaces in the house or in the house cellar with this instrument.

As a second phase of C.T. Male's house investigation, a sample of charcoal-like residue was removed from the concrete basement floor and was submitted to the testing laboratory for analysis (EPA Method 624). The laboratory analysis results for this sample have been included in Appendix F of this report. The laboratory results indicate that the charcoal residue contained high concentrations of Toluene and Tetrachloroethene (Toluene = 43,200 ppb, Tetrachloroethene = 215,000 ppb). This charcoal substance was only observed in the basement of the house.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The first phase of investigation has been completed at this site. As noted in the introduction of this report, the purpose of this investigation was to identify a potential for organic solvent contamination which may have been introduced to the subject site as a result of chemicals used at an illegal cocaine refining laboratory, which previously operated on-site. Key potential source areas of contamination were investigated to determine if contaminants had been released. As a result of this investigation it has been determined that significant levels of organic solvent contaminants including hazardous wastes have been released to site soils and have subsequently contaminated groundwater in the area of investigations.

CONCLUSIONS

Based of field observations and laboratory analysis results from samples collected at the subject site, C.T. Male can offer the following information and assumptions about site conditions:

1. Widespread areas of organic solvent contaminated soil are present on the subject site. These areas appear to coincide with areas where solvents are believed to have been stored, used or disposed of. The soil contamination appears to be more concentrated in the shallow soil, but was also detected in soils from the deepest sampling depths (as deep or deeper than 12-14 feet below grade). Most of the contaminants identified in site soils are "listed hazardous wastes" as defined in Section 40 Part 261 of the Code of Federal Regulations, and 6 NYCRR Part 371.

2. Groundwater in the area of investigation is contaminated with volatile organic solvents. The solvent contamination was not observed in the house potable water supply well. Because this well is located hydraulically upgradient of the suspect contaminant source areas, contamination was not anticipated. The levels of Trichloroethene, Tetrachloroethene, and Toluene contamination observed in all of the monitor wells exceed the State of New York DEC "Ambient Water Quality Standards And Guidance Values" (6 NYCRR Part 203.5, TOGS1.1.1) and NYSDOH (10 NYCRR Part 5 or Part 170) groundwater/drinking water standards and/or guidance values. The contaminant levels observed in many cases are orders of magnitude greater than the standards and guidance values.

3. Solvent contaminated wastes were observed in sediments on the concrete floor of the house basement, and in liquids in the septic tank for the house. The solvent levels observed in the septic tank liquid are significantly high and pose a threat to surrounding soils and groundwater if they are released. Contaminated sediments in the basement floor pose a similar threat.

4. Two of six samples collected from the garage floor showed very low levels of solvent contamination. Although these samples were not grossly contaminated, they represent only the 0-1 foot depth and therefore may be an indicator of deeper, more significant contamination.

5. A downgradient monitor well north of Johnycake Road is contaminated with solvents similar to those found in the house and garage areas. This may suggest that either the solvent contamination plume has travelled across the road, or an additional unidentified contaminant source or source area may be present north of the road.

RECOMMENDATIONS

It is evident that site groundwater and soils have been contravened by hazardous waste solvent contamination as a result of previous site use. Based on the findings to date, C.T. Male has the following recommendations for continued site investigation and remediation.

1. In order to establish the potential threat to public and/or livestock safety, samples should be collected at water supply wells neighboring the contaminated site area, and in surface water bodies adjacent to and topographically downgradient of the contaminated subject site area. The samples should be submitted to a New York State Department of Environmental Conservation and Department of Health certified testing laboratory, and analyzed for EPA Method 624 parameters (priority pollutant volatile organics).

2. The septic tank for the house is contaminated with high levels of waste toluene and waste tetrachloroethene solvents. This tank may be an active source of solvent leachate contamination and must be emptied as soon as possible. The tank contains both liquid and sludge waste. The tank contents should be transferred into a vacuum truck or drummed, and then transferred under manifest by a 6 NYCRR Part 364 permitted/certified hazardous waste hauler, to an approved/permitted hazardous waste treatment and disposal facility. The tank should be properly decontaminated and removed from the ground. Wastewater from the cleaning should be contained and tested for contamination. If the cleaning wastewater is contaminated, it should be handled and disposed of as a hazardous waste. All site work for this operation must be performed by contractors with updated OSHA approved hazardous waste site safety training required by 29 CFR Part 1910.120. The Excavation should then be backfilled with soil from the adjacent contaminated area to avoid additional soil contamination. The septic system should not be replaced until site soil and groundwater remediation has been completed.

3. All sediments on the concrete floor in the cellar of the house should be removed and drummed. The concrete floor should then be steam cleaned to remove any additional contamination. All cleaning water should be contained, sampled, and tested to determine if it is contaminated with solvent waste. All wastes determined to be hazardous as defined by 6 NYCRR Part 371 and 40 CFR Part 261, must be removed and transported under manifest by a

6 NYCRR Part 364 permitted/certified hazardous waste hauler, to an approved hazardous waste treatment and disposal facility.

4. Deeper test borings or test pits and a shallow groundwater monitor well should be installed in the dirt floor garage bay area to further investigate the magnitude of contamination in this area.

5. Four monitor wells should be installed in the uppermost bedrock aquifer, in the four most contaminated areas. These locations are identified on Figure 4, the proposed monitor well installation diagram in Appendix G. These wells should be installed to determine if the solvents have contravened the underlying bedrock aquifer. The wells must be installed in such a way that water from the overburden (shallow water) aquifer is not allowed to infiltrate into the bedrock aquifer either during the drilling, or after the well installation.

   The method of installation suggested would be to grout an oversized boring into the competent bedrock using a rotary drilling system, and then core through the grout seal using conventional casing and NX coring rods or roller cone bits. Air rotary coring would be preferred over water, so that waste water would not have to be collected for later disposal. The well should be screened in the bedrock starting below the competent rock. A sand pack should be placed around the annular space of the screened interval, and an additional bentonite seal should be installed above the sand pack. A diagram of this proposed installation is included in Appendix G. All future well installation work must be performed by drillers with the necessary OSHA hazardous waste site safety training, as it has been to date.

   The ambient air quality must be monitored with a photoionization detector (PID) volatile organic vapor meter (or equivalent) during drilling to ensure that solvent concentrations do not exceed threshold safety limits. Adequate respiratory protection and clothing, as defined by a site Health and Safety plan, must be used by the drillers.

   Six additional shallow (overburden) monitor wells should be installed in areas expected to be downgradient and "crossgradient" of the identified contaminated area. These wells will be necessary to define the horizontal limits of contamination and to quantify data for future remediation purposes.

   Proposed well locations are shown on Figure 4 in Appendix G. Additional wells installed on adjacent properties to the east of the site would be helpful.

Locations of such wells would be subject to approval by the adjacent property owners.

6. Upon completion of all necessary additional investigations, C.T. Male will recommend a method or methods of site groundwater and soil remediation. These methods will be dependant upon the outcome of the investigation, but may consist of some soil excavation in highly contaminated areas, and treatment and/or disposal of the contaminated soils, and on-site groundwater pumping and treatment.

7. As a result of the findings in this investigation, C.T. Male recommends that all future work at this site be performed in conjunction with and subject to the approval of the New York State Department of Environmental Protection. A formal Health and Safety program should be prepared for the site, and all future work should be performed within the guidelines of such a program, by contractors and/or persons with suitable O.S.H.A. "Hazardous Waste Site Safety Training" (40 hours minimum with 8 hour yearly updated training sessions).

The information presented in this report is limited to the investigations conducted and described, and is not necessarily all inclusive of conditions present at the subject site.

If you have any questions regarding this report, please contact this office at (518) 785-0976.

Respectfully submitted,

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KLB/DWR/cmc